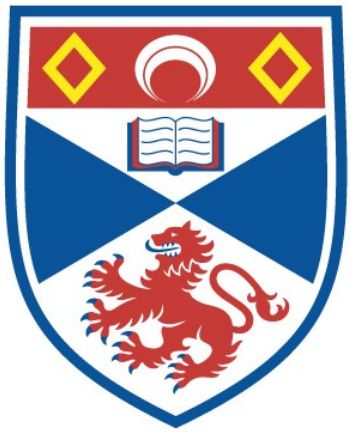
Marine protection in the European Union: how do social constructions of marine wilderness and nature influence policy?

Sašo Gorjanc

A thesis submitted for the degree of PhD
at the
University of St Andrews



2024

Candidate's declaration

I, Sašo Gorjanc, do hereby certify that this thesis, submitted for the degree of PhD, which is approximately 79.000 words in length, has been written by me, and that it is the record of work carried out by me, or principally by myself in collaboration with others as acknowledged, and that it has not been submitted in any previous application for any degree. I confirm that any appendices included in my thesis contain only material permitted by the 'Assessment of Postgraduate Research Students' policy.

I was admitted as a research student at the University of St Andrews in October 2020.

I received funding from an organisation or institution and have acknowledged the funder(s) in the full text of my thesis.

Date: 26.7.2023 Signature of candidate:

Supervisor's declaration

I hereby certify that the candidate has fulfilled the conditions of the Resolution and Regulations appropriate for the degree of PhD in the University of St Andrews and that the candidate is qualified to submit this thesis in application for that degree. I confirm that any appendices included in the thesis contain only material permitted by the 'Assessment of Postgraduate Research Students' policy.

Date: 26.7.2023 Signature of supervisor:

Permission for publication

In submitting this thesis to the University of St Andrews we understand that we are giving permission for it to be made available for use in accordance with the regulations of the University Library for the time being in force, subject to any copyright vested in the work not being affected thereby. We also understand, unless exempt by an award of an embargo as requested below, that the title and the abstract will be published, and that a copy of the work may be made and supplied to any bona fide library or research worker, that this thesis will be electronically accessible for personal or research use and that the library has the right to migrate this thesis into new electronic forms as required to ensure continued access to the thesis.

I, Sašo Gorjanc, confirm that my thesis does not contain any third-party material that requires copyright clearance.

The following is an agreed request by candidate and supervisor regarding the publication of this thesis:

Printed copy

No embargo on print copy.

Electronic copy

No embargo on electronic copy.

Date: 26.7.2023 Signature of candidate:

Date: 26.7.2023 Signature of supervisor:

Underpinning Research Data or Digital Outputs

Candidate's declaration

I, Sašo Gorjanc, hereby certify that no requirements to deposit original research data or digital outputs apply to this thesis and that, where appropriate, secondary data used have been referenced in the full text of my thesis.

Date: 26.7.2023 Signature of candidate:

Acknowledgements

The PhD journey as a lonely marathon that a PhD student has to run on their own. While it can certainly feel isolating, my journey has not been solitary.

Firstly, I want to thank my supervisors, Dr Tim Stojanovic and Dr Charles Warren. Academia is full of horror stories of supervisor-student relationships, while I could not be happier with my supervisors. I will be forever grateful for their patience with my stubbornness and essay-like emails. I appreciate how supportive they were in allowing me to carve my own path through this PhD, with an occasional and welcome challenge, of course.

Before they ever had to start putting up with me, this project would not have existed without long conversations with Dr Katja Klančnik, as well as support from Dr Monika Peterlin (European Environment Agency) and Dr Andreas Palialexis (then Joint Research Centre).

Undertaking this research would also have been impossible without selfless support of people who gave up their time and energy to participate in various research activities and helping me organise workshops. Given my limited budget, this would have been impossible without Dr Kalliopi Pagou, Nikos Streftaris, Dr Laura Boicenco, Nico Buytendiyk, and Marjoleine Karper. Additionally, I remain indebted to Dr Vedran Nikolić and Nina Schroeder for giving me particular opportunities to present my results at policy meetings.

The experience of running a seamlessly endless marathon would have been unbearable without the friends made along the way. Richard, Georg, Michaela, and Lele were my first anchors to sanity during the dark and long Scottish winter of COVID lockdowns. Joe, Aikerim, Madeleine, and Jess have also all become some of my favourite people, providing immeasurable levels of support. Juliette was there for hours of chaotic discussions about marine conservation and EU policies. And while they were at home, Jerca, Katja, and Vesna diligently listened to all my venting and complaints and helped provide perspective.

Here I also cannot go past the friendships made as part of the Europaeum Scholars programme. First, thanks have to go to Dr Tracey Sowerby and Dr Andrew Graham, for giving me a place among these incredible people and for the continued support, either in finding time for interviews or imparting life and career advice. But even more importantly, thanks to the other Scholars, I found an endless supply of inspiration, motivation, and drive. Johanna, Lena, Iris, Savannah-Rivka, Toine, Jens, Marie, and Sophie have thought me that group work can be enjoyable, productive, and stimulating and while this work put an additional strain on my PhD, at the same time I do not think that my PhD would have turned out the way it did without that experience.

Finally, but most importantly, my gratitude goes to my family for their unwavering support. The opportunities to talk their ears off about the challenges and tribulations of this journey, have been invaluable, while they also have unparalleled powers in keeping me grounded and somewhat humble. Without them not only would I never have embarked on the PhD journey, I, most certainly, would not be studying abroad.

This work was supported by Ad Futura Scholarship (Public Scholarship, Development Disability and Maintenance Fund of the Republic of Slovenia, contract no: 11010-346/2020). This work was supported by Robertson Scholarship (University of St Andrews, School of Geography and Sustainable Development).

Abstract

Marine biodiversity is diminishing globally. Due to the extent and transboundary nature of the seas, effective conservation can best be achieved through international cooperation and policies. The European Union (EU) has developed some of the most stringent, but also complex marine environmental policy frameworks in the world. However, their implementation has remained inconsistent and poorly coordinated. The gravity of the biodiversity crisis requires better implementation of policy objectives, if current targets are to be achieved. While most previous research has focussed on provision of better data and on supporting coordination activities, this study focusses on the social constructions held by key actors involved in EU policy interpretation and implementation. The new generation of ambitious EU conservation targets often provokes contentious ideas linked to the resurgence of wilderness discourses. This study combined three major phases of research to understand these issues. Firstly, a combination of interviews, literature and EU policy analysis were used to explore how key EU policy actors perceive the concepts of marine nature and wilderness, what their personal policy priorities are and why. Secondly, a Q methodological study identified the prevailing social constructions among policy actors. Thirdly, the identified social constructions were subsequently explored and validated further in Living Q workshops with key actors representing all EU Regional Seas. The thesis explores the differing social constructions of marine wilderness and nature amongst policy actors, and how these shape and are shaped by EU policies designed to achieve strict or effective protection of marine nature. The research revealed six distinct social constructions, and considerable divergence between the discourses used in policy texts and those employed by the key actors. The influence of these six social constructions on the understandings of science-policy interfaces and policy implementation are discussed. The results highlight a considerable challenge for the future implementation of EU marine conservation policies, and the thesis argues that this underlying diversity of perceptions needs to be recognised and engaged with.

Table of Contents

List of Figures

List of Tables

Abbreviations

ABIOMMED – Support coherent and coordinated assessment of biodiversity and measures across Mediterranean for the next 6-year cycle of MSFD implementation

ANT – Actor-Network Theory

AP – Action Plan

ART – Attention Restoration Theory

BBNJ – Biodiversity Beyond National Jurisdiction

BDS – Biodiversity Strategy

CBD – Convention on Biological Diversity

CFP – Common Fisheries Policy

CINEA – European Climate, Infrastructure and Environment Executive Agency

COVID-19 – Coronavirus disease 2019

DG – Directorate-General of European Commission

DG ENV – Directorate-General for the Environment

DG MARE – Directorate-General for Maritime Affairs and Fisheries

DG RTD – Directorate-General for Research and Innovation

EBM – Ecosystem-based Management

EC – European Commission

EEA – European Environment Agency

EEC – European Economic Community

EIA – Environmental Impact Assessment

EMFF – European Maritime and Fisheries Fund

EMSA – European Maritime Security Agency

eMSP NBSR – Emerging ecosystem-based Maritime Spatial Planning topics in North and Baltic Sea Regions

EP – European Parliament

ERDF – European Regional Development Fund

EU – European Union

GBF – Global Biodiversity Framework

GES – Good Environmental Status

GFCM – General Fisheries Commission for the Mediterranean

HBD – Habitats and Birds Directives

HELCOM – Helsinki Commission/Baltic Marine Environment Protection Commission

HOLAS – Holistic Assessment

ICES – International Council for Exploration of the Seas

IMP – Integrated Maritime Policy

IPBES – International Panel on Biodiversity and Ecosystem Services

IPCC – International Panel on Climate Change

IUCN – International Union for the Conservation of Nature

JRC – Joint Research Centre

MPA – Marine Protected Area

MS – Member State

MSFD – Marine Strategy Framework Directive

MSP – Maritime Spatial Planning

MS Teams – Microsoft Teams

NACES – North Atlantic Current and Evlanov Sea Basin Marine Protected Area

NADEG – Nature Directives Expert Group

Natura 2000 – Network of protected areas established under Habitats and Birds Directives

Nature Directives – Habitats Directive and Birds Directives

NGO – Non-Governmental Organisation

NTA – No-Take Area

OSPAR – Oslo and Paris Commission/Convention for the Protection of the Marine Environment of the North-East Atlantic

PA – Protected Area

PCA – Principal Component Analysis

PhD – Doctorate of Philosophy

RSC – Regional Sea Convention

SCM – Socio-cultural model

SDG – Sustainable Development Goal

SEA – Strategic Environmental Assessment

SSK – Sociology of Scientific Knowledge

SWD – Staff Working Document

Q&A – Questions and answers

QSR – Quality Status Report

TG SEABED – Technical group on seabed integrity

ToR – Terms of Reference

UK – United Kingdom

UN – United Nations

UNEP/MAP – United Nations Environment Programme/Mediterranean Action Plan

US – United States of America

WFD – Water Framework Directive

WG – Working Group

CHAPTER 1 – ADDRESSING MARINE BIODIVERSITY CRISIS: A MISSING LINK?

1.1 Global biodiversity crisis

The global biodiversity crisis is one of, if not the most, important environmental crises of our time (Rockström et al., 2009, Steffen et al., 2015). Models suggest that the loss of biodiversity is one of the planetary boundaries that has been most overshot and the estimations of how grave it actually is vary widely (Mace et al., 2014). While there is international recognition of the gravity of the crisis and there are important international agreements and meetings in place to stem the loss of biodiversity, the deteriorating trends of the status of biodiversity persist still (Turvey and Crees, 2019). The Rio Conference and the subsequent Convention on Biological Diversity (CBD) have charted a course to achieve reductions, halting, and reversing global biodiversity degradation. However, the global 2010 Biodiversity Target and the succeeding 2020 Aichi Targets have both been missed (Buchanan et al., 2020). Though there has been progress with national and international efforts, expansions in protected area coverage and increased funding for conservation, the progress has so far not yet changed the trajectory of the biodiversity status trends (Turvey and Crees, 2019). Given that the new Global Biodiversity Framework (GBF) under the CBD raises the ambition levels for 2030 even further, it is crucial to understand why the biodiversity targets so far have not been reached.

Biodiversity loss is evidently a considerable challenge, but within the flurry of activity it is often forgotten just how extensive and important marine ecosystems are. Marine ecosystems cover 71% of the Earth's surface and due to the three-dimensionality of the system represent more than 98.5% of biologically permanently inhabitable living space of the planet (Game et al., 2009, Thurber et al., 2014). However, as with most ecological and environmental crises facing the world, the complexity of ecological systems confounds the ability to manage, predict and offset the deleterious effects of anthropogenic activities (Boero et al., 2019). This is even more pronounced in the seas, due to their added complexity and poorer knowledge available. Marine ecosystems remain poorly understood, as they are difficult to access and considerably more complex than terrestrial systems. Marine space is three dimensional, with temporal patterns of ecosystem functioning adding an important fourth dimension (Boero et al., 2019, Game et al., 2009). Following terrestrial ecology approaches, marine ecosystems have tended to be studied as horizontal areas, focussing either on benthic communities or apex predators and other key species with their spatial distributions. Yet, the fact is that marine systems depend critically on the vertical processes taking place in the water column, which are, in turn, defined by both physical and biological factors (Hyrenbach et al., 2000). This intertwining of physical and biological parameters leads to a fuzzy seascape that is defined by connectivity (Boero et al., 2019, Game et al., 2009). Combined with frequently sparse or absent data about marine environments (Gollner et al., 2017), this added intricacy underscores the magnitude of any changes that occur in the ecosystem and its long-ranging consequences.

The issue of greater complexity and poorer knowledge is further confounded by the fact that people, generally, feel less connection to marine environments, due to their inhospitability to humans as a species (Brailovskaya, 1998, Jefferson et al., 2014). This more

pronounced disconnect between people and marine ecosystems has been an important impediment in both researching marine environments and conserving them (Brailovskaya, 1998, Jefferson et al., 2014). Jefferson et al. (2014) similarly note that the restoration potential of nature has mainly been researched on land and in coastal systems, while fully marine and underwater ecosystems have so far been largely ignored. It is due to this unfamiliarity with marine ecosystems that documentaries, such as Blue Planet II, had a noticeable and quantifiable effect on the scale of populations, so called Blue Planet effect. This effect described the heightened awareness of the lay population to marine issues, particularly to marine litter, and widespread demands for action (Dunn et al., 2020, Hynes et al., 2021). At any rate, such observations already underlie the issue of the influence of anthropogenic and individual familiarity with an environment on conservation actions within that environment, leading to the question of how much do such social influences matter?

1.2 Managing marine biodiversity loss

Most conservation, and particularly marine conservation, discussions are framed within the confines of natural sciences attempting to provide quantified and objective knowledge, which is to support the formation and implementation of policies (Claudet et al., 2020, Kørnøv and Thissen, 2000, Likens, 2010, Roehrl et al., 2020, Sokolovska et al., 2019). There is widespread agreement that to conserve biodiversity, both on land and in the seas, transboundary and coordinated actions are the most effective (Boero et al., 2019, Casado-Amezúa et al., 2019, Economou et al., 2020). While most biodiversity expands beyond national and other borders and thus requires cooperation to effectively conserve it, that is particularly true in the seas, where a very significant proportion of marine ecosystems lie beyond national jurisdictions, where the management of biodiversity and other marine natural resources becomes substantially more challenging (Cressey, 2016, Russ and Zeller, 2003). The international agreements, such as CBD, were supposed to provide the legal framework to support such conservation action, but the agreed policy targets have repeatedly been missed (Mace et al., 2018). These implementation failures can be linked to a number of factors, among them a lack of funding, insufficient data for evidence-based policy-making and implementation, insufficient political will, or ineffective enforcement of rules. Therefore, much of the last few decades has been spent addressing these challenges (Xu et al., 2021). It is yet to be seen, if such an approach simply needs decades to yield results or if it is misguided (Büscher et al., 2017, Büscher and Fletcher, 2019).

The EU is, theoretically, in an excellent position to counter biodiversity loss, with its extensive environmental policy frameworks, excellent data, enforcement mechanisms, as well as, at least nominal, political commitment to ambitious targets (Hermoso et al., 2022, Hix, 2011, Van Leeuwen and Kern, 2013). Moreover, the EU tends to present itself as a global environmental leader and uses its considerable political and economic influence to pursue its goals (Hix, 2011, Van Leeuwen and Kern, 2013). Within the same period of the last three decades, the EU has been passing and implementing an increasing array of environmental and conservation policies, which usually stemmed from preceding international agreements, described in the previous paragraph. This process started with the Nature Directives (Habitats and Birds Directives - HBD), which were then followed by more complex and holistic framework directives (Water Framework Directive - WFD, Marine Strategy Framework Directive - MSFD),

as well as overarching strategies and integrated policies (Integrated Maritime Policy - IMP, European Green Deal, Biodiversity Strategies – BDS, Boyes and Elliott, 2016). Nevertheless, the set policy objectives, even within the EU with all its resources, were not achieved (European Commission, 2020b). While some of these failures can be ascribed to unambitious, path-dependent adoption and implementation of policies (Bouwma et al., 2016), the question of why such inconsistencies persist remains. Could it be that the science supporting policies and their implementation has not yet been good enough? Or has implementation of these policies failed due to other reasons?

1.2.1 Ecosystem-based management and Marine Protected Areas

Most academic literature points towards Ecosystem-Based Management (EBM) as the best way forward. EBM builds on the foundation that humans are part of and dependent on dynamic ecosystems and should therefore both use and support ecological processes to continue using marine resources sustainably (Bastardie et al., 2020, Halpern et al., 2010, Hughes et al., 2005, Katsanevakis et al., 2011, Reker et al., 2019). EBM is an inherently holistic approach to the management of marine resources, which historically (and up to this day) has mainly been managed in a sectoral, single-species way or as a global commons, resulting in another tragedy of the commons, particularly in the high seas (Hughes et al., 2005, Katsanevakis et al., 2011, Rouillard et al., 2018b, Russ and Zeller, 2003). Katsanevakis et al. (2011) argue that this emerging paradigm, which has been increasingly written into different policies (e.g., fisheries, conservation, environmental, maritime spatial planning) integrates ocean management while recognising the entire variety of linkages within the marine ecosystem (Cressey, 2016, Rouillard et al., 2018a, Rouillard et al., 2018b). The holistic nature of EBM requires excellent integration of inter- and intra-related systems, involving different expert fields. While this makes sense, it is difficult to achieve due to specialisation of experts into particular fields and sectors (Elliott et al., 2020). EBM thus continues to be hindered by both institutional path dependency and lack of knowledge (Katsanevakis et al., 2011, Rouillard et al., 2018b). Even within the EU, which probably has some of the most comprehensive and detailed marine data available and EBM written into a variety of holistic and specific policies for more than a decade, the European Environment Agency (EEA) notes that policy still needs to be steered towards operational EBM (Reker et al., 2019).

One of the tools for achieving EBM goals, which has already been extensively used for both nature conservation and fisheries, are marine protected areas (MPAs, Katsanevakis et al., 2011). While the protected area logic predates EBM, it has been thoroughly integrated and plays an increasingly important role within it. MPAs aim to protect biodiversity, through a collection of spatially defined conservation areas that should benefit specific, usually endangered, species or habitats or ensure continued provision of ecosystem services, and should be representative of the marine biodiversity (Grorud-Colvert et al., 2014, Le Saout et al., 2013, Vandergast et al., 2008). On land, protected areas (PAs) have been shown to create positive impacts on the biodiversity they are supposed to protect (Gray et al., 2016). The designations of MPAs have lagged behind terrestrial PAs, and even after quite prolific designations over the last 10-15 years (Aichi Target 11 might be reached by 2024), MPAs are still largely confined to a coastal waters and seas under national jurisdiction and often criticised as being entirely ineffective (Benyon et al., 2020, Duarte et al., 2020, Game et al., 2009,

Grorud-Colvert et al., 2014, Johnson et al., 2019, Lovejoy, 2006, Wood et al., 2008; Figure 1.1). A review of MPAs in the EU shows that only a third of the MPA managers had reported any data on the efficacy of the protection regimes on the biodiversity (Day et al., 2002, Reker et al., 2019). Álvarez-Fernández et al. (2020) point out that while designation of more areas as MPAs is surely a positive development, this can be entirely eroded if those areas are not managed properly. Unfortunately, they also report that “paper parks” persist as the norm. Moreover, while Figure 1.2 shows that the EU has officially reached the Aichi Target 11, by protecting about 12% of its seas, only 1% of those MPAs were strictly protected (Reker et al., 2019; Figure 1.2).

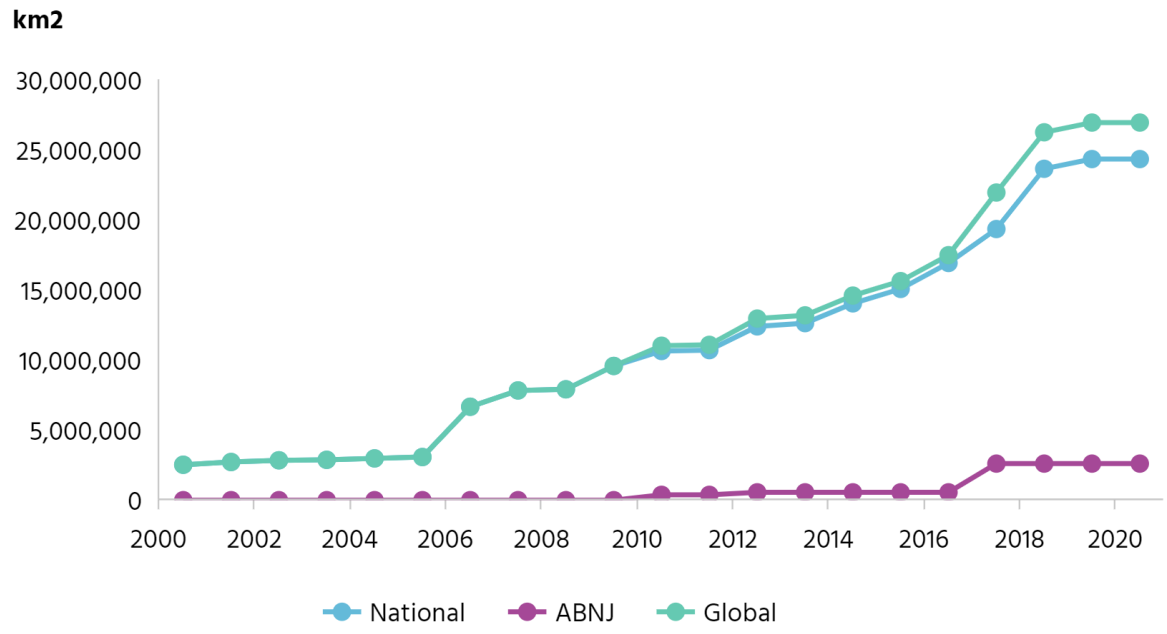


Figure 1.1: Growth of MPA coverage between 2000 and 2020 (source: Protected Planet database, https://www.protectedplanet.net/en/thematic-areas/marine-protected-areas, accessed: 18.2.2021)

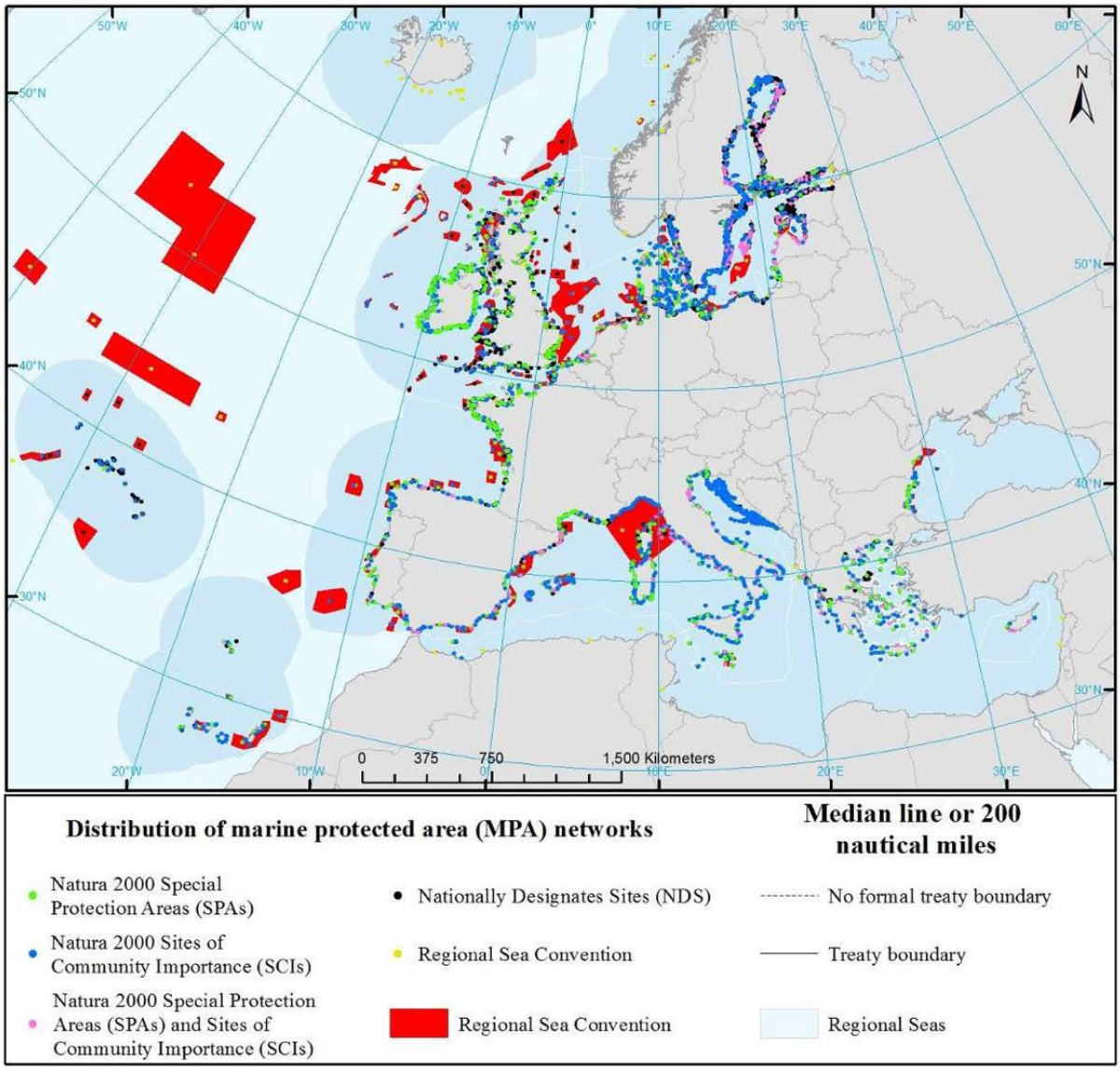


Figure 1.2: Distribution of EU MPAs, indicating a bias towards coastal and small MPAs (Reker et al., 2019)

The scientific literature seems to be moving more and more towards emphasising the benefits of no-take areas (NTAs). A significant portion of marine conservation literature, for example, with case studies, and later also meta-analyses and reviews, has found that marine reserves (e.g., NTAs) generally result in greater abundances of fish species, increased biomass, and fecundity (Claudet et al., 2006, Cote, 2001, Edgar et al., 2010, Fenberg et al., 2012, Grorud-Colvert et al., 2014, Guidetti and Sala, 2007, Halpern, 2003, Lester et al., 2009, Lubchenco et al., 2003, Molloy et al., 2009). Conservation benefits have been observed simultaneously, with returns of apex predators and some of the previous regime shifts reversing (Benyon et al., 2020, D'agata et al., 2016, Fenberg et al., 2012, Fraschetti et al., 2013, Guidetti and Sala, 2007, Huvenne et al., 2016, Lester et al., 2009, Roberts et al., 2017). Additionally, even small marine reserves tend to produce significant increases in biodiversity or biomass within a few years (Halpern, 2003, Howarth et al., 2011) and benefit the pelagic species (Benyon et al., 2020, Beukers-Stewart et al., 2005, Boerder et al., 2019, Claudet et

al., 2010, Di Lorenzo et al., 2016, Fenberg et al., 2012, Harrison et al., 2012, Hixon et al., 2013, Kaiser et al., 2007, Roberts et al., 2005, Stewart et al., 2020). The older reserves are showing trends of biodiversity and biomass growth which continue for years, and start to reach asymptotes only after several decades following protection (Frisch and Rizzari, 2019, Russ and Alcala, 2004; Figure 1.3).

Moreover, no-entry MPAs, where not only consumptive activities but also human presence are entirely prohibited, demonstrate significantly higher recovery rates, biodiversity, and biomasses than even NTAs (Frisch and Rizzari, 2019, Hasler and Ott, 2008, Mazaris et al., 2019, Thurstan et al., 2012, Worachananant et al., 2008, Zakai and Chadwick-Furman, 2002). Conservation literature would thus suggest that effective MPAs should be NTAs, well enforced, old (>10 years), large (>100 km2), and isolated or remote (Edgar et al., 2014, Roberts et al., 2017). However, it also has to be noted that these five criteria have also been criticised in the literature since. Halpern (2014) notes the limitations of the real world, as very few MPAs can realistically fulfil all five criteria and more research is needed into other variables that could affect MPA effectiveness, as well. Roberts et al. (2017) provide some such evidence with benefits observed for both biodiversity and climate change adaptation and mitigation of smaller marine reserves. Crucially, evidence points to multiple use MPAs, where a variety of, usually restricted, human activities still take place, often having no discernible improvements over surrounding seas. Consequently, according to marine conservation literature, multiple use MPAs are not found to be as effective or consistent in delivering biodiversity benefits and most future work should be focussed on delineation of strictly protected MPAs (Frisch and Rizzari, 2019, Hasler and Ott, 2008, Mazaris et al., 2019, Thurstan et al., 2012, Worachananant et al., 2008, Zakai and Chadwick-Furman, 2002).

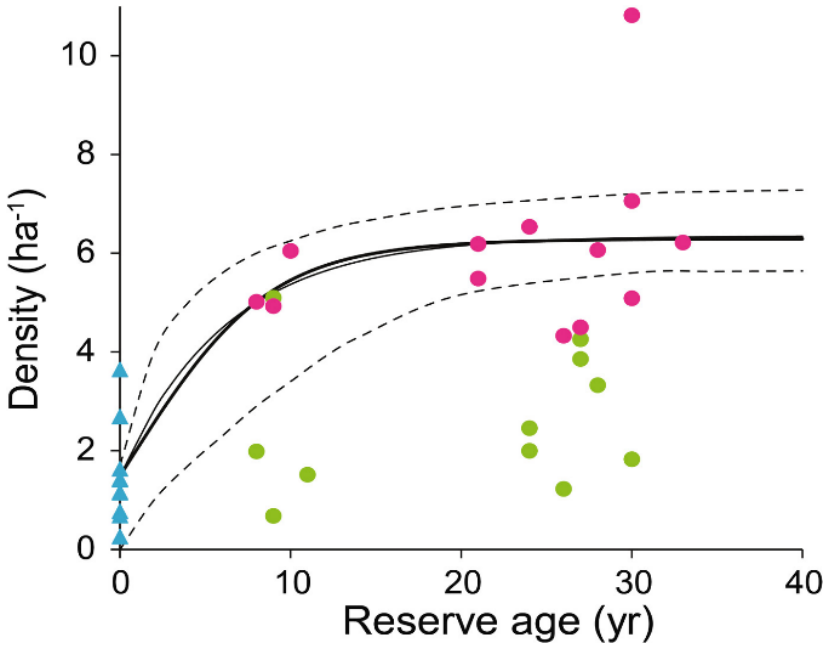


Figure 1.3: Inferred recovery trajectories based on estimates of density of reef sharks in no-entry reserves (pink circles), as a function of reserve age. Blue triangles represent reefs open to fishing. Thick lines are average weighted models, whereas thin lines are based models, and dashed lines are bootstrap 95% confidence intervals of best moderls. Green circles show data from no-take reserves for comparison. (Frisch and Rizzari, 2019)

The above definition of an effective MPAs corresponds closely with the IUCN definition of protected areas (PAs) in category I, which refer to “strict nature reserves” and “wilderness areas” (Dudley et al., 2013). IUCN altogether recognizes seven different protected area categories, which are then defined and implemented in a wide variety of protected area types (Table 1.1). Usually, the nature reserves or wilderness areas protect the most intact places and valuable species, as well as severely restricting human activities in an area. Marine environments are being protected with a similar variety of PAs. The term wilderness is rarely used, but there is a plethora of other designations being used, in often inconsistent ways. No-take zones (NTAs) and marine reserves tend to be used interchangeably and there is little variation within the literature about their definition. These types of PAs are generally smaller and often nested among the larger MPAs or marine sanctuaries (Alger and Dauvergne, 2017). The variety of terms for PAs, alongside the terms that are applied only in certain parts of the world (e.g. marine monuments in the US; Bruno et al., 2018) erode the ability for effective communication and global understanding of the protection levels given in different parts of the world, which has been one of the reasons for the adoption of the IUCN Protected Area Management classification (Dudley et al., 2013).

Table 1.1 IUCN PA categories with management aims and examples of corresponding MPA designations (based on the descriptions of IUCN categories in Dudley et al., 2013 and supplemented with academic literature mentioning different types of IUCN categories when discussing particular MPA types, like Bruno et al., 2018 with marine monuments in the US)

IUCN PA CATEGORIES

Categories		**Aim of protection/management**	**Association with types of MPAs**
Ia	Strict nature reserve	Managed mainly for science	No-take zones, marine reserves, No-entry areas
Ib	Wilderness area	Managed for wilderness protection	Marine wilderness, marine reserves, no-entry areas, no-take zones, very large MPAs
II	National park	Managed for ecosystem protection and recreation	MPAs, national monuments, marine sanctuaries, marine parks
III	Natural monument	Managed for conservation of particular natural and/or cultural features	Marine monuments, protected features
IV	Habitat/species management area	Managed for conservation through active management for particular species or habitats	Natura 2000
V	Protected landscape/seascape	Managed for land/seascape conservation recreation	Landscape parks, Regional parks
VI	Managed resource PA	Managed for sustainable use of ecosystems	Fishery Restricted Areas

1.2.1.1 Marine conservation and wilderness narratives in the EU

The knowledge of the benefits of MPAs, where well implemented, has been around since the early 2000s (Emslie et al., 2015, Harker et al., 2022). The EU policy has followed the calls for expansions of MPA networks and strict protection. While the global Aichi targets have been achieved in the EU's waters, the Union has agreed on an even more ambitious EU Biodiversity Strategy for 2030, which includes protecting 30% of EU waters, of which a third has to be strictly protected (European Commission, 2020a, European Commission, 2022a), However, given the overall biodiversity trends, it is likely that more than just pointing towards the benefits of MPAs will be needed, as achieving the Aichi targets has not reversed the biodiversity loss yet (Turvey and Cress, 2019). Jepson (2019) and Lorimer (2015), for example, argue that due to the advent of Anthropocene, new ways of engaging with nature and new conservation narratives are needed to be effective. Part of this move, they argue, is to focus more on optimistic narratives and open-ended conservation approaches, which are often linked to the ideas of rewilding and wild, self-willed natural processes taking over. Such arguments coincide with the resurgence and revival of wilderness discourses and initiatives across Europe in the last 15 years, where focus on large areas under strict protection, which would allow ecosystem functioning, is a main characteristic (Pettorelli et al., 2019, Wild Europe, 2013). This resurgence has been noticeable in a significant rise in wilderness certifications (e.g. european-wilderness.network), as well as civil society pressure to act on this. Several NGOs prepared a number of reports and actively lobbied the EU institutions to integrate wilderness protection into the EU legal framework (Fisher et al., 2010, PAN Parks Foundation, 2009, Watson et al., 2015, Wild Europe, 2013). In response to this pressure, the European Parliament adopted the European Wilderness Resolution (European Parliament, 2009), which led to the European Commission publishing guidelines on wilderness management within the Natura 2000 network (European Commission, 2013). Also, the European Council under the Czech presidency in 2009 organised a conference which produced *The Messages from Prague*, with recommendations for wilderness protection (Conference On Wilderness And Large Natural Habitat Areas, 2009). These represent the first definitions of wilderness in EU policy texts.

> *"A wilderness is an area governed by natural processes. It is composed of native habitats and species, and large enough for the effective ecological functioning of natural processes. It is unmodified or only slightly modified and without intrusive or extractive human activity"* (Guidelines on wilderness management within the Natura 2000 network, European Commission, 2013, pg. 10).

> *"Wilderness is defined as a large area of terrestrial and/or marine natural habitat and ecological processes substantially unaltered by the hand of a man."* (Conference On Wilderness And Large Natural Habitat Areas, 2009, pg. 1)

> *"10. Calls on the Commission and Member States to devote special attention to the effective protection of wilderness areas"* (European Parliament, 2009, pg. 3)

> *"Strictly protected areas are fully and legally protected areas designated to conserve and/or restore the integrity of biodiversity-rich natural areas with their underlying ecological structure and supporting natural environmental processes. Natural processes are therefore left essentially undisturbed from human pressures and*

threats to the area's overall ecological structures and functioning…" (Biodiversity Strategy for 2030, European Commission, 2022a, pg. 20)

The policy definitions above demonstrate the different wilderness definitions in EU policy documents, while also showing that the language in the wilderness definitions is similar to how the EU currently defines strictly protected areas. The concept of (terrestrial) wilderness has evolved through various meanings. Its popular conservation iteration tends to refer to aesthetically pleasing, remote, large areas, where people can feel connection to primordial nature. Admittedly, such areas might not be particularly biodiverse or most worthy of protection, but are often still much needed refuges for biodiversity, particularly species that require larger ranges or are less able to adapt to anthropogenic presence and pressures (Barr, 2001, Warren, 2020). The concept of "wilderness" has been both powerful and controversial, mainly in terrestrial conservation, and has been used in different ways since the first national parks were established in the United States in the 19th century. Following American independence and the onset of Romanticism, the term has been linked to sublime, untouched, and pristine spaces, which can elevate the human spirit and should be protected (Emerson, 2019, Thoreau, 1979). This new, often elitist, worldview provided the foundation for some of the world's first and still most well-known protected areas to be established. Unfortunately, with the growing global influence of the United States, this type of conservation spread around the world and resulted in numerous PAs often being established without local or indigenous support, in the fortress conservation style (Guha, 1989, Guha, 1998, Han, 2008, Johnson and Murton, 2007). Nevertheless, the romantic idea of untouched wilderness is still pervasive in Western culture (Tin et al., 2018) and people are still looking for those experiences and places.

Wilderness, thus, remains a word with a variety of divergent ideas about what it is, what is means to people, and whether and how it should be dealt with. This has been reflected in the existing literature on wilderness, which has not been coherent about what wilderness is, lacking consistent definitions of "wild" and "wilderness", and consequently a common understanding of wilderness continues to be elusive (Johnston et al., 2019). Regardless of EU policy definitions, the definitions in the academic and activist literatures tend to emphasise large areas governed by natural processes with a strong emphasis on strict protection (Barr, 2001, Bohnsack et al., 1989, Kelleher and Kenchington, 1991, McCloskey, 1965, Mittermeier et al., 2003, Wild Europe, 2013). In spite of strong criticism and opposition to wilderness due to its imperialistic, social equity and justice, and colonial histories, the concept retains an important and influential place within conservation thinking and practice, particularly in the Global North. Zanolin and Paül (2020) discuss its considerable power in discourses around the Val Grande National Park in Italy. Similarly, Petesen and Hultgren (2020) define multiple ways in which wilderness remains a relevant term to be used in 21st century conservation. Therefore, as long as the idea of wilderness retains such agency and consequently also significant power, continuing to shape the world through discourses in which it is used, it should still be accorded research interest.

However, the literature overall has been comparatively quiet on the topic of marine wilderness so far. There have been a few studies either mapping the global extent of remaining marine wildernesses from a purely quantitative perspective (Jones et al., 2018, Lesslie et al., 1992), some social investigations of acceptance of the term (Barr, 2001, Johnston et al., 2019, Johnston et al., 2020), and some discussions linked to describing the desired status of marine ecosystems (D'agata et al., 2016). This dearth of mentions of marine wilderness is even more apparent in policy-focussed literature, where there have been just a few mentions of it in the

context of wilderness conferences (Kelleher and Kenchington, 1991, Rodriguez Dowdell et al., 2012) and in IUCN's guidance documents (Dudley et al., 2013). While wilderness mentions have been rare, there exists an extensive literature on NTAs and no-go zones, as well as very large MPAs, which echo wilderness discourses (Claudet et al., 2008, Edgar et al., 2014, Frisch and Rizzari, 2019, Gell and Roberts, 2003, Grorud-Colvert et al., 2014, Singleton and Roberts, 2014). Therefore, giving more attention to marine wilderness and its potential to be used to reserve biodiversity trends in European seas is both needed and an aspect that has not received enough attention so far.

Another aspect of the resurgence of wilderness narratives has been observed in rewilding initiatives in Europe. While the rewilding movement refutes the associations with wilderness (Jepson and Blythe, 2020, Pettorelli et al., 2019), it does advocate for limiting human impacts and letting natural processes predominate, which is consistent with many wilderness discourses (Warren, 2020). Furthermore, rewilding can be seen as a subset of the ecological restoration movement (European Commission, 2022b). This includes passive restoration approaches in which natural processes restore biodiversity without human influences, thereby improving ecosystem functioning and resilience (Pettorelli et al., 2019), again closely linked to a number of wilderness-related discourses. Similarly, the wilderness logic is also clearly a constitutive part of the Half-Earth initiative (Wilson, 2016). While numerous of these initiatives do not mention wilderness directly, the discourses, narratives, and imaginaries remain the same.

Therefore, apart from just ecological literature, dealing with MPAs and IUCN protected area categories, elements of wilderness discourses and imaginaries have also been linked to a number of conservation initiatives linked to ecosystem restoration and sometimes rewilding initiatives, linked to more optimistic and multinatural turn in conservation in the Anthropocene (Jepson, 2016, Lorimer, 2012, Lorimer, 2017, Lorimer and Driessen, 2014, Marris, 2011, Pettorelli et al., 2019). As mentioned above, the wilderness resurgence, particularly in Europe, has resulted in a number of high-level policy documents in the EU, including the Resolution of the European Parliament (European Parliament, 2009), a position of the Council of the EU (Conference On Wilderness And Large Natural Habitat Areas, 2009), and European Commission's wilderness management guidelines (European Commission, 2013). Particularly, the latter definition was, according to minutes of technical meetings, instrumental in defining strictly protected areas under the new EU Biodiversity Strategy for 2030 (European Commission, 2022a). Given the presence of elements of wilderness or its narratives both in some academic literature and at least some of the EU policy documentation, particularly the EU Biodiversity Strategy for 2030, which will likely shape the direction of conservation across the continent in the current decade, it is important to study the influence of these discourses in more detail.

1.3 Where to next?

The work above has culminated in a series of papers outlining the way forward to rebuild marine life and avoid the worst effects of biodiversity crisis over the next few decades (Duarte et al., 2020). It is still widely accepted that the existing marine data are very limited, which also prohibits the identification of ecologically relevant baselines and reference conditions. Baseline and reference conditions generally refer to the conditions that prevail in

the absence or near absence of human disturbance and are as such important for benchmarking the changes in the environment, as well as measuring the effectiveness of various management actions (Alve et al., 2009). Given the mention of absence of human disturbance, both terms can sometimes be linked to wilderness discourses and even more commonly to strictly protected areas, where human disturbance is most dramatically minimised. However, going forward, it has been argued that the focus should be on habitat, species, and ecosystem restorations (Benyon et al., 2020, Duarte et al., 2020, Sheehan et al., 2013). MPAs are still seen as key measures to reach the goal of restoring marine life by 2050, yet the fact that 94% of existing MPAs allow fishing does not bode well (Duarte et al., 2020). On the other hand, the literature pointing to the expected climatic species range shifts (Alagador et al., 2014, Araujo et al., 2004, Casado-Amezúa et al., 2019, Rayfield et al., 2008, Regos et al., 2016, Strange et al., 2011, Zomer et al., 2015), and to the better biodiversity performance in no-entry and NTA MPAs (Frisch and Rizzari, 2019, Hasler and Ott, 2008, Mazaris et al., 2018, Thurstan et al., 2012, Worachananant et al., 2008, Zakai and Chadwick-Furman, 2002) points towards a shift to a more hands-off conservation, focussing on predominance of natural processes and ecosystem functioning, rather than a feature-based approach, focussing on species, habitats, and reference conditions (Rees et al., 2020). Aligned with these findings, recently large international policy goals have been agreed with GBF calling for 30% of land and sea to be protected by 2030, echoed also by the new Treaty of the High Seas (BBNJ Treaty – Biodiversity of Areas Beyond National Jurisdiction), which also calls for 30% of the high seas to be protected. This has already been taken up by the EU in its new BDS for 2030, which requires that Member States protect 30% of land and marine areas, of which a third has to be under strict protection (European Commission, 2020a).

Academic literature and policy texts consistently call for a coordinated approach to marine management as a vital component for the interventions to be successful, due to both the complexity of marine ecosystem functioning, as well as overlapping and often poorly understood nature of pressures on the seas (Aswani et al., 2018, Ballesteros et al., 2018, Boyes and Elliott, 2014, Boyes et al., 2016, Cavallo et al., 2018, Dom et al., 2016, Elliott et al., 2018, European Commission, 2020b, European Court of Auditors, 2020, Giakoumis and Voulvoulis, 2018, Gorjanc et al., 2020, Gorjanc et al., 2022, Hassler et al., 2019, Long et al., 2015, Murillas-Maza et al., 2020, Raicevich et al., 2017, Reker et al., 2019, Rouillard et al., 2018a,b, Tafon, 2018, Van Leeuwen et al., 2014, Van Tatenhove et al., 2014). Achieving such coordination in the marine environments can be particularly challenging. Not only does a wealth of different human activities has to be managed with detailed and wide-spanning policies, but policies also need to coordinate the different approaches to designation and management of spatial protection conservation measures to produce positive biodiversity outcomes. Adoption of a variety of supranational policy instruments has the potential to best address marine environmental issues (Economou et al., 2020). However, even this approach is not without its trials. Aichi Targets and Sustainable Development Goals are already not fully aligned (Rees et al., 2018b). The EU only slightly exceeded the Aichi Target 11 in the seas (12% protected by 2020) and less than 1% of EU seas is currently strictly protected, with large proportions of MPAs being “paper parks” (Reker et al., 2019). Therefore, there seems to be more at play than lack of knowledge, enforcement, and coordination. Since both global and EU conservation targets for 2030 are even more ambitious now, it is important to understand what else can be influencing policy implementation.

Social influences on the policy implementation are comparatively rarely addressed in academic literature, and even more rarely engaged with by policy actors (Turnhout et al.,

2019). This is especially striking when one considers the wealth of socio-psychological literature (see Chapter 2) that demonstrates various social and psychological influences on individuals and their decision-making behaviours. All the while, the idea that people are rational *Homo economicus*-type processors of information persists (Beers et al., 2006, Pierce et al., 2014, Steinacker, 2006). Sociology and psychology have shown the influences of values, worldviews, perceptions and attitudes over behaviours, often considering them as social constructions (Chapter 2). Studies have already demonstrated the influence of different framings and ways of constructing meaning on interpretation of reality, which can result in divergent policy implementation and fuel existing inequalities and new environmental conflicts (Turnhout et al., 2019). Therefore, there seems to be a solid foundation for a claim that social constructions and associated socio-psychological elements influence decision-making and by extension also policy interpretation and implementation. Yet, social scientific insights are often perceived as secondary to the natural scientific, quantitative environmental data (Bennett, 2019, Lahsen and Turnhout, 2021). Therefore, since most, at least European, policy implementation has been following a natural science-dominated, evidence-based implementation approach over the last few decades, while consistently failing to achieve agreed policy objectives, one can wonder if misconceptions about policies and their goals exist, which are influencing policy implementation. Thus, it is time to delve deeper into the social aspects framing the implementation of EU marine environmental policy implementation in the hopes of finding answers that could be important for environmental policy implementation in general.

1.4 Summary and research questions and aims

This study therefore focuses on EU marine environmental policies and how they are interpreted and implemented by the key policy actors in the hopes of finding pathways to catalyse the urgent action that is needed. This is particularly important since the complex marine ecosystems and their transboundary functioning still seem to require concerted policy action and implementation to allow for refuges of marine biodiversity to be maintained. Since wilderness is experiencing resurgence in terrestrial conservation by effectively galvanising peoples' imaginaries, and given that the concept of marine wilderness has seen only very occasional use in marine conservation literature, one might wonder why that is, given that the definitions and goals are similar both on land and in the seas (see Chapter 2)? And why is it that despite the rise of MPAs generally, most assessments are still showing decreasing trends in marine biodiversity? What socio-psychological influences could steer the implementation of existing EU policies astray (see Chapter 2)? This is particularly interesting in places where robust and comprehensive policy frameworks already exist alongside compliance instruments, such as the EU (Chapter 4). Despite all that, there are indications that even the EU Member States are still applying the common policies incoherently and in an uncoordinated way (Gorjanc et al., 2020, Milieu Ltd, 2018, Murillas-Maza et al., 2020).

This research, therefore, focuses on the social and psychological backgrounds of key decisions-makers across the EU, exploring the social constructions that they hold and the extent to which these can or do influence their decisions on policy implementation (Chapter 5), with a particular focus on the discursive definition of the meanings of concepts in group settings on regional scales (Chapter 6). The overall objective is to address the challenge of marine biodiversity loss from a social science perspective, which is often overlooked in favour of

natural science approaches, with the aim of providing new insights for better common understandings and consequently more coordinated and effective implementation of existing EU policies (Chapter 7, Table 1.2).

Table 1.2: Research questions and aims

RESEARCH QUESTIONS	RESEARCH AIMS
How do individual EU policy-makers and their expert advisors understand the concept of marine wilderness?	To explore the individual social constructions of marine wilderness and nature among the key policy-makers and their expert advisors
How are the meanings of marine wilderness and strict protection negotiated and defined among policy-makers and experts on the level of EU Regional Seas?	To investigate how the social constructions of marine wilderness and strict protection come into being in social spaces, which define regional and EU-level priorities and implementation guidelines

This thesis will address these two Research Questions in the remaining six chapters. Chapter 2 reviews the literature, starting by considering the potential role of wilderness in the conservation in the Anthropocene, before delving deeper into the socio-psychological literatures linked to human-nature interactions, with special focus on social constructions, as well as group dynamics and processes. The Chapter ends with onto-epistemological positioning of this research. The following Chapter 3 outlines the geographical scope and methods used in this research project, namely policy analysis, semi-structured interviews, Q methodology, and Living Q focus groups. The following three Chapters (4, 5, 6) each present a part of the results of this research. Chapter 4 focusses on policy analysis results, both on the presence of wilderness discourses in EU marine environmental policies and the interpretive policy analysis of EU documents on implementation of those same policies. Chapter 5 delves into individually held social constructions of wilderness and marine nature among the key policy actors in the EU, addressing both perceptions of wilderness among them and the way they understand marine environmental crisis and the appropriate policy responses to it. Finally, Chapter 6 addresses also the group dynamics and their influence on social constructions among the key policy actors on the level of European Regional Seas, while also delving into the understandings of science-policy interfaces. Last, but not least, Chapter 7 provides a summary of the thesis and conclusions.

CHAPTER 2 – COMPLEX SOCIO-PSYCHOLOGICAL REALITIES OF CONSERVATION IN THE ANTHROPOCENE

An increasingly strong scientific and empirical evidence base for addressing the biodiversity crisis, outlining both the necessity of action and how to go about it, has been around for decades, yet progress has been slow so far (Rees et al., 2014). As Chapter 1 demonstrates, this crisis is particularly dire in the seas. However, there has been less work done on the social dimensions of marine biodiversity policy implementation in the EU. While the EU arguably has some of the most stringent, all-encompassing, and continent-spanning environmental and conservation policies, its policy goals have also been missed (European Commission, 2020b). This literature review thus delves into the literature surrounding conservation challenges in the Anthropocene, wilderness definitions, and then especially into the social aspects and values of marine wilderness and nature, with emphasis on their impacts on human decision-making. The complexity of socio-psychological backgrounds to human cognitions and decision-making is emphasised and these socio-psychological perspectives inform and provide the foundation for this doctoral research.

2.1 The concept of wilderness – then and now

A wide variety of positions and arguments for the future of conservation exist, with some arguing for restoration approaches and rewilding, and others for protecting the ecological assemblages that have survived so far into the Anthropocene. Is there still a place for wilderness in mainstream conservation going forward? Two edited volumes *The Great New Wilderness Debate* (Callicott and Nelson, 1998) and *The Great Wilderness Debate Rages On* (Nelson and Callicott, 2008) present the different views on the position of wilderness in great detail and the following section broadly summarises those debates and argues that the term wilderness does come with significant baggage and needs to be reconceptualised if it is to serve a constructive purpose in the Anthropocene.

Warren (2020) describes the emergence of the concept of wilderness, claiming that originally the concept referred to unproductive, fear-inducing, and inhospitable places. Even the origin of the word, coming from old Anglo-Saxon, referred to savage beasts and areas where those beasts roamed. Wilderness was thus seen as the opposite of cultivated, safe countryside and civilisation (Warren, 2020). While some could think of wilderness as refuge, such as sometimes escaping slaves (Petersen and Hultgren, 2020), the negative connotations persisted into the 19th century (Warren, 2020). Therefore, this outlook also characterised much of early European imperialism and colonisation practices (Guha, 1989, Warren, 2020). However, in the 19th century, with the onset of romanticism, the term wilderness drastically altered its meaning, as wilderness areas suddenly became precious and valuable, associated with paradise. Wilderness was still to be separated from human civilisation, but against which civilisation could be compared and to provide areas where humans can get spiritually fulfilled (Emerson, 2019, Roosevelt, 1998, Thoreau, 1979, Warren 2020). This outlook defined Western attitudes to nature more broadly and paved the way for first protected areas and national parks, which often devolved into strict or fortress conservation across the world (Guha, 1989, Guha, 1998, Han, 2008, Johnson and Murton, 2007, Warren, 2020, Zanolin and Paül,

2020). The wilderness ideal kept growing throughout the 20th century and used to support a variety of protected areas, that can roughly be divided into four categories: areas for enjoyment and restoration (cathedral argument), areas to preserve reference or baseline conditions (laboratory argument), areas to provide genetic diversity for the rest of the planet (the silo argument), and areas for recreational activities (gymnasium argument), therefore extending the scope simply from large, strictly protected areas (Warren, 2020).

However, with the expansion of protected areas, the ideas of wilderness became the target of fierce (and very often justified) criticism, particularly since the turn of the 20th century (Callicott & Nelson, 1998, Cronon, 1992, McKibben, 1989, Nelson and Callicott, 2008, Warren, 2020, Woods, 2017). Currently, wilderness is undergoing a period of re-evaluation and potentially reconstruction, which could be observed in the emergence of the concepts of "wildness", as a quality that can be experienced both within wilderness areas and outside of them (Warren, 2020). Additionally, the concept of rewilding emerged in the last 25 years, which has been interpreted by some as cherishing wildness and pursuing some of the main goals of wilderness protection, namely large areas, where natural processes remain self-willed, and support greater biodiversity and functioning, although its direct associations with wilderness are sometimes refuted (Jepson, 2020, Lorimer and Driessen, 2014, Pettorelli et al., 2019, Warren, 2020). Particularly, the European rewilding models are more passive, following a "leave it to nature" philosophy, which aligns more closely with wilderness narratives (Warren, 2020). With rewilding associations, wilderness, or at least some of its ideas, can also be linked to ecological restoration projects, which are still gaining speed with the UN Decade on ecological restoration (Nsikani et al., 2023, Warren, 2020). Therefore, despite extensive and often ongoing critiques of wilderness, it seems to retain potency and is likely to do so for the immediate future (Zanolin and Paül, 2020, Warren, 2020, Tin et al., 2018).

Numerous authors have repudiated the validity of the wilderness concept, arguing that the global environmental changes resulting from anthropogenic activity and the use of lands by indigenous peoples mean that there is no longer anywhere on Earth which retains a wholly pristine and untouched character (Burnett et al., 1996, Cronon, 1992, Denevan, 1992, Denevan, 2011, Lorimer, 2015, Marris, 2011, Warren, 2020). Particularly, with the onset of the Anthropocene, it is argued that no pristine or untouched ecosystems are still beyond the reach of Society. Ergo, the wilderness as imagined by Muir and Thoreau does not exist, and conservation efforts should rather be directed elsewhere. Besides, wilderness can be clearly linked to a number of equity, social justice, and other issues, while also potentially inextricably linked to Nature-Society binaries, all of which have generated significant criticisms. The fortress conservation model that the North American idea of wilderness fuelled across the globe, with the potential unique exception of Europe, has caused human suffering, relocations, marginalisation of Indigenous peoples and often continues to uphold the Western values and regimes in the Global South (Büscher et al., 2017, Guha, 1989, Latour, 2010, Lorimer, 2015, Marris, 2011).

Others have also questioned the veracity of the idea of wilderness itself and suggested either that conservation should rephrase and distance itself from wilderness or pursue sustainable development ideals (Callicott, 1996, Callicott, 1998, Callicott, 2003, Cronon, 1992, Cronon, 2003). Those arguments were passionately and strongly fought by wilderness enthusiasts and opponents of the wise use movements, who claimed that that route would surely destroy the important remaining vestiges of nature (Foreman, 1995, Foreman, 1998, Rolston III, 1998, Snyder, 1994, Snyder, 1998). The emerging arguments that the wilderness

concept is socially constructed and as such pliable to alterations with changes in human society, have also been debated in detail (Crist, 2004, Sæþórsdóttir et al., 2011; Figure 2.1). Lorimer (2012, 2015, 2017), Marris (2011), and Latour (2004, 2010) argue that the Anthropocene has effectively signalled the death of Nature (and by extension of the wilderness ideal), and that conservation should move beyond the obsession with "last wildernesses" into a multinatural future, where appreciation for multiple and emergent natures can be fostered (Lorimer, 2012, Lorimer, 2017, Aswani et al., 2018). A new rethinking of how the biosphere is conceptualised and how conservation should be undertaken is necessary, despite the centrality of the old understanding of Nature to western thought and practice (Lorimer, 2012).

Yet, the ideas of Nature and wilderness still retain a significant sway over the consciousness of individuals and societies, particularly in the Global North. Woods (2017), for example, methodically delves into the main wilderness critiques and refutes them in a systematic way through the lens of environmental philosophy. He asserts that while certain arguments against the concept of wilderness and its preservation, such as the imperial and environmental justice arguments, have merit, the wilderness or other-than-human world, as he often refers to it, still has a place in the modern world. Zanolin and Paül (2020), for example, discuss the considerable power of the term wilderness in discourses around the Val Grande National Park in Italy, with some of them diverging quite far from the untouched and pristine Garden of Eden, that are traditionally associated with the word. They assume that while wilderness does not exist in its idealised form, it is still individually and collectively projected to particular places, which in turn changes their social and spatial context. Therefore, they deconstructed the narratives associated with wilderness in Val Grande and uncovered three emergent narratives, focussing on pure wilderness, local history, and mountaineering, all of which invoked the wilderness imaginaries.

Similarly, Petersen and Hultgren (2020) also forge ahead and define multiple ways in which wilderness remains a relevant term to be used in 21st century conservation. They argue that practically from the first spark of the so-called *Great Wilderness Debate,* both sides agreed on some common ground, which is that despite their disagreements, wilderness protection is valuable ecologically and wilderness is, at least partly, socially constructed. While Petersen and Hultgreen recognise that the past debates around wilderness were not always constructive, they outline a new wilderness ethic based on social-ecological connections, social justice, and re-commoning, by synthesizing constructivist and realist approaches around the identified common ground. Likewise, Aswani et al. (2018) also recognise a challenge in merging socially constructed perceptions of the seas with scientific biophysical causal links. Nevertheless, they still argue that peoples' perceptions and values play a vital role in definitions of seascapes. Therefore, given that the idea of wilderness retains such agency and consequently also significant power, continuing to shape the world through discourses in which it is used, it remains an important and active arena of research interest, irrespective of whether the concept should be abandoned in conservation due to its problematic baggage.

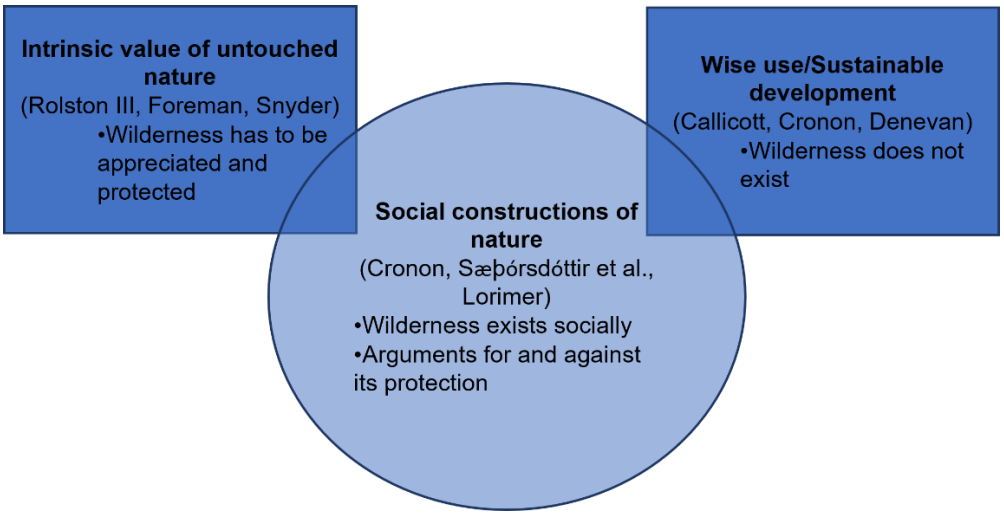


Figure 2.1: Diagrammatic scheme of different positions within philosophical wilderness debates

2.1.1 Marine wilderness

While wilderness and rewilding initiatives are experiencing a renaissance of sorts on land (Jepson, 2019, Lorimer, 2015), both terms are only recently started to making headway in marine conservation, with a variety of MPA designations also directly or indirectly evoke wilderness ideas (see Tables 1.1 and 2.2). Much of the existing literature therefore suggests that large, strictly protected marine protected areas are beneficial for retaining and restoring marine biodiversity and ecosystem functioning (Jones and Carpenter, 2009, Edgar et al., 2014, Roberts et al., 2017). More often than not, the exclusion of human activities pertains to fishing and mineral extraction, while a host of other activities, such as shipping and recreation can still take place (Frisch and Rizzari, 2019, Thurstan et al., 2012, Hasler and Ott, 2008, Zakai and Chadwick-Furman, 2002, Worachananant et al., 2008). This presents an interesting contrast to terrestrial PAs, where similar activities, such as major road or railway connections, heavy trading, and often significant economic use of the area, would not be permitted. Strictly protected MPAs are still largely lacking partly due to vested economic interests and partly due to jurisdictional and geopolitical rationales (Alger and Dauvergne, 2017).

The plethora of marine conservation designations is nevertheless used, in often inconsistent ways. Hoyt (2012), for example, defines marine sanctuaries as very large refuges from hunting, which usually tend to focus only on a subset of species, such as cetaceans or tuna, which are not dissimilar to large game reserves on land. However, at the same time, the US National Marine Sanctuaries Act considers term marine sanctuary to be entirely synonymous with MPAs (Brax, 2002), with a wide variety of restrictions or uses allowed within their boundaries. The fact that most areas perceived as wilderness also lie within marine sanctuaries, such as Florida Keys and Dry Tortugas, complicates the public understanding of the protection designations even more (Barr, 2001). No-take zones (NTAs) and marine reserves tend to be used interchangeably and there is little variation within the literature about their definition. These types of PAs are generally smaller and often nested among the larger MPAs or marine sanctuaries (Alger and Dauvergne, 2017). NTA protection regimes are very similar to strictly protected wilderness areas, and yet the term is only very rarely linked to them. As such, the literature provides indirect evidence that strict and large MPAs, which would be on a par with terrestrial wilderness areas and the rewilding movements, do provide significant

conservation benefits. No-entry MPAs, where not only consumptive activities but also human presence are entirely prohibited, demonstrate significantly higher recovery rates, biodiversity, and biomasses than even NTAs (Frisch and Rizzari, 2019, Thurstan et al., 2012, Hasler and Ott, 2008, Zakai and Chadwick-Furman, 2002, Worachananant et al., 2008, Mazaris et al., 2019).

The last 15 years have also seen a surge in the designation of extremely large MPAs, covering over 30,000 km2 and often above 100,000 km2 (Singleton and Roberts, 2014, Wilhelm et al., 2014). The first of these has been Great Barrier Reef Marine Park, which has been joined by the British Indian Ocean Territory with Chagos NTA, Papahānaumokuākea Marine National Monument in Hawaii, Phoenix Islands MPA, Mariana Trench MPA and others (Toonen et al., 2013, Sheppard et al., 2012, Graham and McClanahan, 2013). These reserves are often branded as the first large-scale wilderness preserves in the World Ocean, even if they are not in their entirety strictly protected. While Chagos NTA is an enormous marine reserve, only smaller parts of Papahānaumokuākea Marine National Monument and Great Barrier Reef, for example, are strictly protected, with majority of the area under protection still being multiple use (Singleton and Roberts, 2014). Afterall, this is to be expected, given that often these very large MPAs span over the entirety of the territories' EEZ. O'Leary et al. (2018) report that only 47,9% of the areas of very large MPAs enjoy significant protection, which still allows for restricted human use (including fisheries). Nevertheless, enforcing the protection regimes over such vast areas and wide-spread multiple-use regimes could significantly undermine the conservation potential of these very large MPAs. Within this context wilderness is mainly invoked as an evocative term for garnering attention and support of particular subsets of society and much more rarely as a conservation strategy for protection of marine ecosystems and preservation of their resilience (Singleton and Roberts, 2014, Wilhelm et al., 2014).

2.2 Conservation in the Anthropocene

Ambitious targets for the rebuilding of marine life require that the conservation movement shifts from defensive to proactive actions, offering more positive, optimistic narratives that would have more resonance with people and by extension decision-makers (Mittermeier et al., 2003, O'Leary et al., 2017). Most current conservation legislation is focussed on protecting extant species and habitats with known distributions and ranges, a so-called feature-based approach. Despite increasing conservation efforts, global biodiversity targets are still being missed[1] (Mace et al., 2018). There is a growing push towards more open-ended conservation, which would also move on from the crisis-oriented conservation biology with mainly doom-and-gloom messaging towards more proactive and optimistic conservation (Jepson, 2019). However, numerous questions remain about what is to be counted as more proactive and optimistic conservation. Some would argue for expanding existing feature-based approaches and better protecting existing species and habitats (Wilson, 2016), some would like to see more active restoration approaches (Pogoda et al., 2020), others would argue that

[1] For example, Sustainable Development Goal 14 (Life under water) targets for 2020 were not met. Including sustainable management and protection of marine and coastal ecosystems, ending overfishing, which persists as a major problem in vast majority of the seas. Conserving at least 10% of coastal and marine areas (congruent with Aichi Target 11 under Convention on Biological Diversity) was also not met. The UN Sustainable Development Goals Report (2020) notes that while progress is being made, it should be drastically enhanced.

strict protection should be extended (Benyon et al., 2020) or that a return to a reformulated version of wilderness is warranted to link with existing imaginaries of it (Noss, 1991b).

Wilderness and some nature ideas are still linked to ideas of pristineness and conserving existing and endangered ecosystems and their known functioning. Lorimer (2015) argues that protecting nature with illusions of pristineness, based on very limited knowledge, does not make sense any more in the age of the Anthropocene. He strongly supports a more multinaturalistic approach to conservation, going so far as to suggest replacing “nature” with “wildlife” in conservation debates to better represent the target of conservation action. Building on Cronon's (1992) critique of social construction of wilderness and transcending nature-society dualism, Lorimer posits that maintaining associations with wilderness is untenable in the era when humans are the driving planetary force of change. Lorimer’s thinking heavily draws on and is in agreement with Marris' (2011) arguments in *Rambunctious Garden*, where she also argues for finding, conserving, and even creating new natures everywhere around us. Both Marris (2011, 2021) and Lorimer, thus, urge conservation to move from protecting certain kinds of nature, where they also include wildernesses, towards protecting wildlife directly and everywhere. As such they call for a recalibration of what conservation usually does to fostering greater biodiversity, ecosystem functionality, and resilience through creation of novel ecosystems, which will, arguably, be better positioned to adapt to the expected environmental changes into the future. Therefore, while they argue against wilderness ideals and discourses, they also reject feature-based approaches to conservation and favour more flexible, adaptable, and open-ended style of conservation.

Aligned with the open-ended approach to conservation, both Lorimer (2015) and Jepson (2019) are advocates for rewilding approaches where environments are reimagined, often restored, and left to natural processes to evolve and adapt to the changing environmental conditions, which can lead to novel ecosystems. Therefore, they both still maintain that there is a place for “wild” nature in the Anthropocene. While they consider ecological baselines and preserving perceived, extant “natural” environments and species as passé, strictly protected areas are still very much needed, with the main goal being to eventually stop managing the environment and let the natural processes take over. Marris (2011) similarly argues for nature conservation in a “post-wild” world. However, her vision still includes protection of large tracts of relatively unimpacted land, such as Yellowstone, but combining it with creating “wild” lands all around us, from city centres to plantations. The ecological literature discussed in Chapter 1 already sets the foundation and demonstrates that such approaches can present a viable and effective conservation strategy (Bohnsack et al., 1989, Carilli et al., 2009, Folke et al., 2004, Game et al., 2008, Graham and McClanahan, 2013, Johnston et al., 2020). Therefore, it could be argued that such a strategy would be among the most suitable and cost-effective conservation approaches for the Anthropocene (Pettorelli et al., 2019).

Rewilding is on the rise in Europe. The approach, which allows for biodiversity-impoverished regions to recover some species and habitat richness and improve their ecosystem functioning, has produced a number of successful implementations, such as reintroductions of red kites in the UK (Evans et al., 1999), bears in the Pyrenees (Palazón, 2017), bison in the Carpathians (Vasile, 2018), lynx in Slovenia (Cop and Frkovic, 1998), as well as habitat restorations like Oostvaardersplassen in the Netherlands (Lorimer and Driessen, 2014) and continent-spanning initiatives such as the European Green Belt (Pieck and Havlick, 2019), to name just a few. The return of wildlife and “wilder” places also allows people in heavily urbanised countries to reignite their connections with nature and rewild their

consciousness (Bekoff, 2014, Miller, 2005, Monbiot, 2013). While most of rewilding literature is focussed on terrestrial ecosystems, there have been occasional forays into marine rewilding too (e.g., Williams et al., 2022). Jepson (2019) asserts that these more optimistic narratives of conservation successes are the way forward, which would also go a long way to engender broader public support for conservation. That is consistent with the findings of Westoby et al. (2020), who write that the negative feelings of fear, grief, and sadness about the Great Barrier Reef and its deteriorating condition, which dominated the news, restrict visitors' emotions and decrease their agency to act for positive changes. However, it is interesting that most scientists working on rewilding initiatives and science reject the concept of wilderness as such (Lorimer, 2015, Pettorelli et al., 2019). Most of them would claim that the wilderness construct is inextricably linked to pristine and untouched environments that simply do not exist anymore in a human-dominated world.

The other end of the spectrum in debates over the future of conservation is also still alive and kicking. Wilson (2016), in his book *Half-Earth*, strongly and explicitly rebukes the arguments outlined above and argues for a different type of conservation. He claims that the conservation efforts so far have reduced extinction levels by about 20%, while acknowledging that this falls massively short of the goals that should have been achieved. However, he is outright dismissive of the post-modernist and Anthropocene-focussed debates, which would allow formations of novel ecosystems and aim at finding coexistence between different natures and people. His approach is more deeply rooted in taxonomic and systematic approaches with a strong focus on ecological baselines. He asserts that the key to successful conservation and knowledge of biodiversity is through species identification and study, while he does not spend any time considering the ecosystem functions. *Half-Earth* argues for conserving all the extant species in their present assemblages and communities, without considering that in changing conditions and reformations of ecosystems, novel assemblages can provide same, or similar, ecosystem functions as currently present biotic communities. Therefore, his arguments maintain a more feature-based approach to conservation. Wilson invokes the terms wilderness and wildlands often, without delving into the issues that are often associated with those words. His appeal for strict protection and letting nature take over half of the Earth, while outlandishly ambitious, has been called for previously and seriously considered in a variety of different settings, as well as integrated into activist agendas (Büscher et al., 2017, Davis, 2020, Ellis, 2019, Noss, 1991a, b). The two directions thus stand in stark opposition, leaving uncertainty about the best way forward, while both argue for, at least some, strictly protected areas.

Half-Earth arguments versus finding a matrix of "wilder" areas and coexistence approaches between nature and people are also mirrored in the debates between land sparing and land sharing. Land sparing refers to preserving land strictly for conservation purposes and intensively using the rest, while land sharing argues for integrated human use that is wildlife friendly (Fischer et al., 2014, Green et al., 2005, Kremen, 2015, Scariot, 2013). This debate originated in debates over intensive agricultural production and the need to feed growing human populations on one side and averting a collapse of biodiversity on the other (Fischer et al., 2014, Green et al., 2005, Weinzettel et al., 2013). However, over the course of the last two decades, the debate has considered comparisons in land use, between a wider variety of different land uses and benefits for nature conservation (Edwards et al., 2014). Empirical and modelling studies across the world and considering different land uses, clearly demonstrated that land sparing approaches work better for biodiversity *per se* (Edwards et al., 2014, Hodgson et al., 2010, Hulme et al., 2013, Nagel et al., 2017, Phalan et al., 2011). Nevertheless, the latest literature on the topic calls for an integrated approach. All of the relatively intact habitats

should be “spared” and protected, but in order to avoid creating islands in the sea of intensive and deleterious human use, they should be connected, either through corridors, or landscape matrices of “shared” land to other PAs (Grass et al., 2019, Grass et al., 2020). Thus, both approaches seem to have merits and should be used in concert, while the resolution of the debate clearly calls for all remaining primary or wild areas to be afforded strict protection.

2.2.1 Terrestrial wilderness definitions

Wilderness is an evocative and complex term that does an impressive job at evading the efforts to pin it down and define it (Barr, 2001, Deary and Warren, 2017, Johnston et al., 2019). Given its history and recent rationale for its use, the concept caries both bio-ecological and socio-psychological components that are rarely addressed together. In terrestrial conservation, numerous definitions are currently in use, some scientific and others legislative or policy based (Table 2.1). Most of the definitions place the main emphasis on areas predominantly governed by natural processes (McCloskey, 1965, Wild Europe, 2013), with large size also often mentioned but then varying between the minimum sizes of 20 km^2 (Fisher et al., 2010) and 10,000 km^2 (Mittermeier et al., 2003). Some of the definitions only define the ecological conditions and specifically mention exclusion of human presence and impact, with the phrase “untrammeled by man” (from the seminal 1964 USA Wilderness Act) still retaining much of its original prominence within wilderness debates (McCloskey, 1965, Mittermeier et al., 2003, Wild Europe, 2013). Only a few definitions, such as the one in Fisher et al. (2010), also make direct linkages to human perceptions, by referencing “perceived naturalness” as one of the criteria for recognising wilderness (Figure 2.2). Thus, considerable variation in the definitions and understanding of terrestrial wilderness remains, even after many decades of fierce argument.

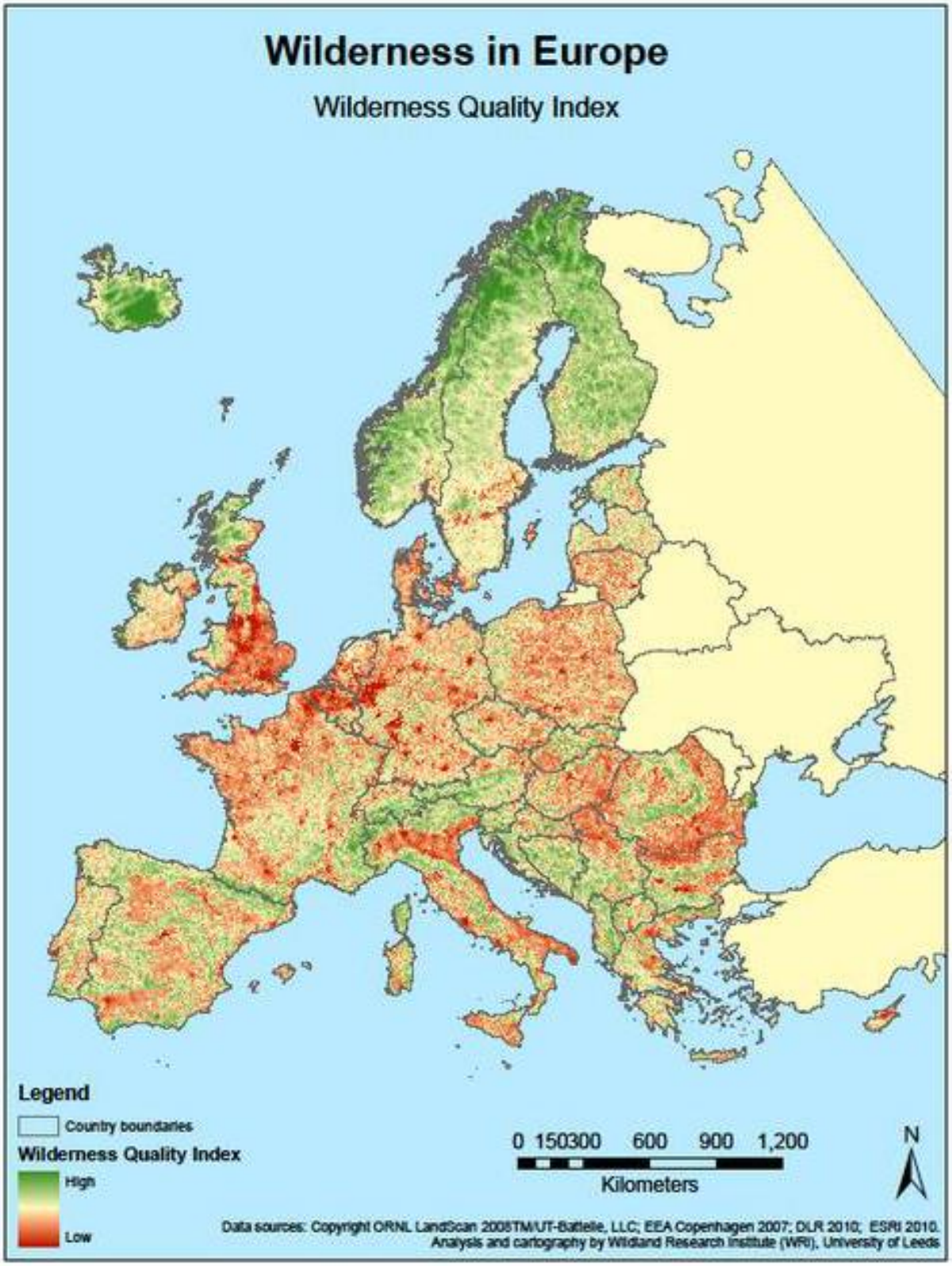


Figure 2.2: Wilderness Quality Index for European landmass, according to the Fisher et al. (2010) definition

Table 2.1: Wilderness definitions for terrestrial sites (table originally from European Commission (2013) and supplemented with additional papers), featuring sources of definitions, the full definition, as well as extracted key biological features and anthropogenic qualities contained within that definition. The bottom of the table provides some overall, simple summary statistics.

SOURCES	DEFINITIONS	KEY BIOLOGICAL FEATURES	ANTHROPOGENIC QUALITIES
US Wilderness Act (1964)	Wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognised as an area were the earth and its community of life are undisturbed by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitations, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.	• Untrammelled biophysical and biological elements • No human habitation or control • Primarily affected by natural forces • At least 5.000 acres (cca. 2.000 ha)	• Outstanding opportunities for solitude or a primitive and unconfined type of recreation
IUCN (Dudley et al., 2013)	A wilderness is a large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition	• Large area • Unmodified • No permanent habitation • Preservation of natural condition	
Fisher et al. (2010)	A wilderness is a landscape with a completeness of the native biophysical elements characteristic of the natural forces prevailing, as well as the geomorphological properties of the location such as water, geology, and land form.	• Completeness of biophysical elements • Completeness of geomorphological properties	

SOURCES	DEFINITIONS	KEY BIOLOGICAL FEATURES	ANTHROPOGENIC QUALITIES
		• Natural forces prevailing • Minimum size 2000 ha	
The Wild Foundation (Watson et al., 2015)	Wildernesses are the most intact, undisturbed wild natural areas left on our planet – those last truly wild places that humans do not control and have not developed with roads, pipelines or other industrial infrastructure. A core aspect of wilderness is biological intactness.	• Biological intactness • No human control • No infrastructure	
European wilderness WG (2011) (Wild Europe, 2013)	Wilderness areas are large unmodified or only slightly modified natural areas, governed by natural processes, without human intervention, infrastructure or permanent habitation, which should be protected and overseen so as to preserve their natural condition and to offer people the opportunity to experience the spiritual quality of nature.	• Large natural area • Predominance of natural processes • No human habitation • No intervention	• Experience of spiritual quality
PAN Parks Foundation (2009)	Wilderness areas can be described as large territories without major human interference, the lack of which allows for natural processes to occur and wildlife to thrive in their natural ecological state. The PA has an ecologically unfragmented wilderness area of at least 10.000 ha where no extractive uses are permitted and where the only management interventions are those aimed at maintaining or restoring natural ecological processes and the ecological integrity.	• Large territory • No human interference • Natural processes prevailing • Unfragmented core area of at least 10.000 ha • No extractive uses	
European Commission (2013)	A wilderness area is an area governed by natural processes. It is composed of native habitats and species, and large enough for the effective ecological functioning of natural processes. It is unmodified or only slightly modified and without intrusive or extractive human activity, settlements, infrastructure or visual disturbance.	• Predominance of natural processes • Presence of native habitats and species • Large natural area • No intrusive or extractive human intervention	• Qualities perceived by man are not directly in the scope of this document as they are strongly dependent on cultural conditions, vary between Member States and are not directly relevant for the

SOURCES	DEFINITIONS	KEY BIOLOGICAL FEATURES	ANTHROPOGENIC QUALITIES
		• Little human habitation	achievement of the general objectives of the Directives.
Mittermeier et al. (2003)		• Minimum size 10.000 km^2 • Intactness (70% of historical habitat still exists) • Less than 5 people/km^2	• Strong aesthetic, moral and spiritual values of wilderness
Lupp et al. (2011)	Wilderness lacks a common physical and spatial definition. There are strong ethical and religious, educational and cultural motifs in the demand for wilderness. Important factors, aside from natural features, are few human traces, little infrastructure and few persons using the area, so that visitors experience a feeling of solitude. European Wilderness is mainly a cultural phenomenon, a contrast to civilisation	• Remote • Roadless • Few human traces • Little infrastructure • Few visitors	• Ethical, religious and cultural motifs • Cultural phenomenon
Lesslie et al. (1988)	Wilderness quality is defined as the extent to which land is remote from and undisturbed by the influence of modern technological society.	• Remoteness from settlements • Remoteness from access • Aesthetic naturalness (lack of permanent anthropogenic structures) • Biophysical naturalness	
Hofmeister (2009)	Wilderness is a new form of the socialisation of nature as a highly complex social and cultural phenomenon.	• Untrodden and untouched terrain (*terra incognita)*	• Unfamiliar, the unrecognised

SOURCES	DEFINITIONS	KEY BIOLOGICAL FEATURES	ANTHROPOGENIC QUALITIES
			• The difference between knowledge and ignorance • Cultural value • Vivid cultural-symbolic notions
Sæþórsdóttir et al. (2011)	The identification of an area as wilderness is a culturally and historically contingent process that evolves over time.		• Cultural social construction • Historically malleable

OVERALL CONCLUSION (FREQUENCY OF COMMON DENOMINATORS)			
Key biological features		Anthropogenic qualities	
Untrammelled/uninhabited/unimpacted	8	Spiritual and cultural qualities	5
Primarily unaffected by people	7	Aesthetic values	2
“Large” areas (variously defined)	7	Opportunities for solitude and recreation	1
Untouched ecosystem elements/properties	5		
Remoteness	2		

2.2.2 Marine wilderness definitions

The concept of marine wilderness has been far less prominent in discussions of marine conservation than within terrestrial debates (Bohnsack et al., 1989). Even though strictly protected marine reserves, as described in Chapter 1, more or less correspond with IUCN definitions of wilderness reserves (IUCN Category Ia/b), the term 'marine wilderness' has seldom been used in marine conservation discourses (Graham and McClanahan, 2013, Johnston et al., 2019, Johnston et al., 2020). Some authors even claim that wilderness is an inherently terrestrial term (Johnston et al., 2019, Shafer and Benzaken, 1998). Nevertheless, some definitions of marine wilderness do appear in the literature (Table 2.2). The first definitions of marine wilderness define it simply as strictly protected MPAs, with no extractive uses (Bohnsack et al., 1989), thus entirely on a par with marine reserves (NTAs). Other definitions of marine wilderness seem like direct transpositions of terrestrial definitions into the marine environment (Barr, 2001, Graham and McClanahan, 2013), particularly by referencing pristine conditions (Kelleher and Kenchington, 1991). Several papers, like those of D'agata et al. (2016) and Jones et al. (2018), define marine wilderness solely in terms of its ecological impacts and GIS criteria (Figure 2.3). IUCN defines it as "relatively undisturbed seascape, significantly free of human disturbance" (Dudley et al., 2013: 57) but recognizes that effective management will likely be necessary. Very few definitions, such as one from the North American Intergovernmental Committee on Cooperation for Wilderness and PA Conservation, mention anything about intrinsic value and opportunities for human experiences in those spaces (Rodriguez Dowdell et al., 2012). Thus, the divergence among definitions of marine wilderness is even greater than in the terrestrial realms.

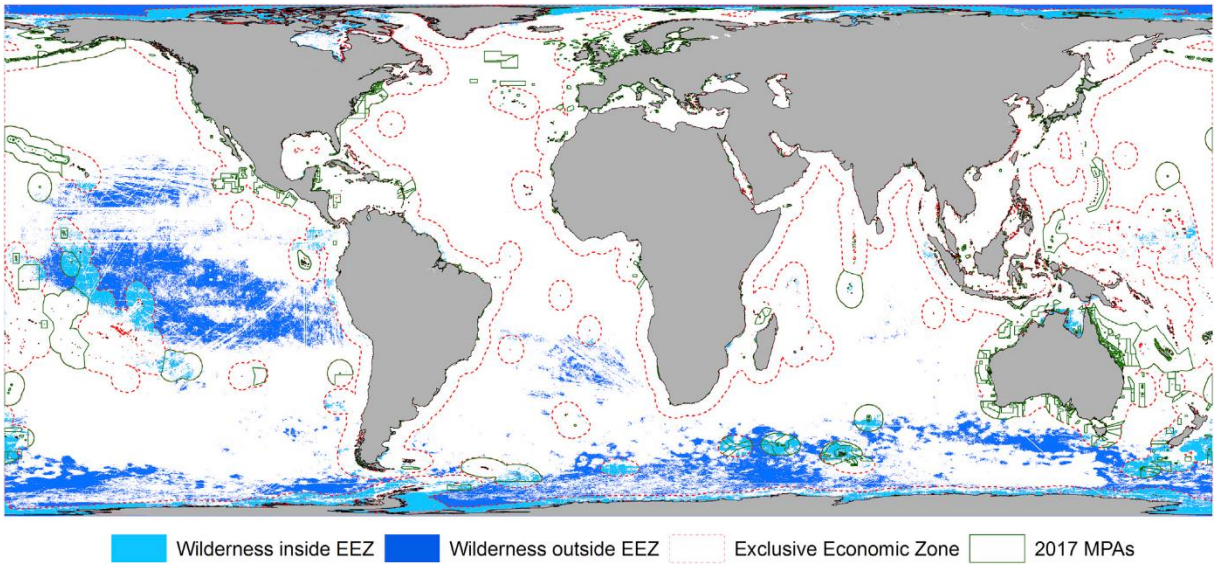


Figure 2.3: Marine wilderness modelling based on cumulative impact assessments (Jones et al., 2018)[2]

[2] The map has delineated an EEZ around the Antarctic continent, which according to the Antarctic Treaty does not exist and is therefore to be ignored.

Table 2.2: Wilderness definitions for marine sites, featuring sources of definitions, the full definition, as well as extracted key biological features and anthropogenic qualities contained within that definition. The bottom of the table provides some overall, simple summary statistics.

SOURCES	DEFINITIONS	KEY BIOLOGICAL FEATURES	ANTHROPOGENIC QUALITIES
Bohnsack et al. (1989)	A unique or representative ecosystem or subset with geographically defined boundaries that is "protected" for non-consumptive usage.	• Unique or representative ecosystem • Non-consumptive usage	
4th Wilderness Conference (1987) (Kelleher and Kenchington, 1991)	Marine areas where little or no evidence of human intrusion is present of permitted, so that natural processes will take place unaffected by human intervention.	• Little or no evidence of human impacts • Prevalence of natural processes	
IUCN (Dudley et al., 2013)	Marine wilderness should be sites of relatively undisturbed seascape, significantly free of human disturbance, …, works, or facilities and capable of remaining so through effective management.	• Undisturbed seascape • Effective management needed	
North American Intergovernmental Committee on Cooperation for Wilderness and PA conservation (Rodriguez Dowdell et al., 2012)	Marine and coastal areas that exist in a natural state or are capable of being returned to a natural state, are treasured for their intrinsic value and offer opportunities to experience natural heritage places through activities that require few, if any rudimentary facilities or services.	• Natural state • Few if any services (management)	• Opportunities to experience natural heritage • Intrinsic value
Johnston et al. (2019)	Perpetuating natural conditions and processes and restricting human activities (substantial overlap with marine reserves and terms are sometimes used synonymously)	• Natural conditions and processes • Restricted human activities	
Graham and McClanahan (2013)	Use Mittermeier et al. (2003) terrestrial definition Marine wilderness does promote a unique ecological community which smaller NTAs fail to attain and formal legislation is crucial to protect last marine wilderness areas	• Unique ecological community • Large size	

SOURCES	DEFINITIONS	KEY BIOLOGICAL FEATURES	ANTHROPOGENIC QUALITIES
Lesslie et al. (1992)	Australian GIS wilderness mapping: • Remoteness from settlement • Remoteness from access • Apparent naturalness • Biophysical naturalness	• Natural • Remote • Difficult to access	• Apparent/perceived naturalness

Barr (2001)	Wilderness is difficult to define.
	• Contains something bigger and meaner than you are, something that can kill you
	• Positive and negative connotations to the world
	  ○ Inhospitable, alien, mysterious, threatening
	  ○ Beautiful, friendly, capable of elevating and enlightening
	• More dominated by natural processes
	Do not know how to define wilderness, but we know it when we see it (gestalt approach)
		• Large areas
		• Dominated by natural processes
		• Gestalt approach
			• Includes human attitudes and perceptions of wilderness

Young et al. (2015)	Isolation can provide marine ecosystems with a refuge from human impacts	• Isolated areas	
Huettmann (2000)	Marine wilderness in the western north Atlantic, defined here as remote areas at sea, far away from shore.	• Remote areas	
D'agata et al. (2016)	Wilderness areas support unique ecological values with no equivalency as one gets closer to humans	• Unique ecological values • Important benchmark for other marine ecosystems	
Jones et al. (2018)	Marine wilderness are biologically and ecologically intact seascapes that are mostly free of human disturbance. Areas qualify if they can be sorted into the bottom 10% of each of 15 stressors assessed and bottom 10% for the cumulative scores at the global level.	• Biological and ecological intactness • Low impact scores	
Sloan (2002)	Wilderness concept, when applied to the sea, aims at preserving large areas from human effects (NTAs, refugia for fisheries). The marine wilderness idea borrowed directly from terrestrial conservation discourse and perhaps still carries too much terrestrial preservationist baggage.	• Enough habitat to sustain populations of the ecosystem's largest carnivores	• Emotional appeal of undisturbed ecosystems • Unresolved social objectives

SOURCES	DEFINITIONS	KEY BIOLOGICAL FEATURES	ANTHROPOGENIC QUALITIES
		(hard to apply in marine systems) • Ecosystem integrity maintained	
Davis (1999)	Areas of the sea where human influences are minimised and no extractive uses are allowed.	• Minimal human influences • No extractive uses	

OVERALL CONCLUSION (FREQUENCY OF COMMON DENOMINATORS)			
Key biological features		Anthropogenic qualities	
Prevalence of natural processes	7	Experience of natural heritage	1
Non-consumptive/extractive use	4	Intrinsic value	1
Low impactness	4	Perceived naturalness	1
Ecological representativeness	3	Emotional appeal	1
Large and remote	3		

2.2.3 Wilderness definitions and strictly protected area arguments

The wide variety of ideas and discourses used in the definitions of terrestrial and marine wildernesses indicate that not only is there little consensus about what wilderness is, but also that the ideas of wilderness are still linked to a number of dominant narratives and approaches in conservation at large. Not only are the definitions in the literature diverse, as Chapter 1 demonstrated the way the EU currently defines both wilderness areas and strict protection is almost interchangeable (see Subsection 1.2.1.1). This is particularly true when considering the pivot towards more open-ended conservation within which natural processes are supposed to predominate, which was described both by the proponents of rewilding, land sparing, and multinaturalism (see Section 2.1), as well as considerable natural scientific literature focussed on strict protection, passive restoration, and ecosystem resilience, and EU policy definitions of strict protection in the newest Biodiversity Strategy for 2030 (see Chapter 1). Marine conservation literature seldom uses the term wilderness, but it does often refer to strict MPAs, which often have similar conservation objectives as wilderness areas, aiming at protection of predominance of natural processes and their passive restoration potential (e.g., Frisch and Rizzari, 2019). A number of studies have shown that both the general public (Johnston et al., 2019, Johnston et al., 2020), place-users (Shafer and Benzaken, 1998), and experts (Barr and Kliskey, 2014a, Barr and Kliskey, 2014b) perceive parts of the seas as wilderness. However, the fuzzy, malleable, and very numerous different definitions of wilderness, as well as the urgency of the biodiversity crisis create a contested space for the application of not just the wilderness concept, but also other conservation actions that can be perceived as aligned with it. This can then further affect the implementation of identified conservation actions, particularly since most of natural scientific literature, as well as wilderness definitions, do not tend to engage with the socio-psychological aspects of it.

The great diversity of understandings and definitions of wilderness means that any codification of these principles into policies has been done in the absence of coherent background support (Barr, 2008), creating an open space for varied interpretations of the policies. That in itself is telling, as definitions, as dry as they can be, establish both management and conservation priorities and enact a common perception of what certain areas mean to society, what values they propagate, and how society should enjoy such places (Barr and Kliskey, 2014b, Pettorelli et al., 2019). The definition does not have to be global, as there are likely significant differences across cultures and nationalities in what is perceived as marine wilderness. However, without a common understanding, at least at some scales, wilderness simply becomes “what people think it is” (Barr and Kliskey, 2014a), thus remaining on the level of personal constructs, without recognizing the socially-held constructions. These subjective personal understandings can therefore influence decision-making and policy implementation when ideas linked to wilderness are invoked in policy texts. This calls for greater research into these so far overlooked social aspects of wilderness. The present research becomes even more important in marine environments, since due to the general unfamiliarity and the comparable complexity of the seas to the majority of people, it is crucial to understand how people and societies relate to marine nature and how that influences their behaviour and decision-making. Therefore, the variety and complexity of social and psychological elements influence human cognition and behaviour, and in turn affecting how these concepts influence the implementation of conservation actions, particularly through policies.

2.3 Policy review

2.3.1 Overview of main EU marine environmental policies

The EU marine environmental policy portfolio is vast and complex. The EU complies with the vast majority of international agreements pertaining to the marine environment, while it has also passed a wealth of its own policies to manage it. This is exemplified in the EU's marine policy portfolio. Bigagli (2015) analysed as many as 12.421 EU legal acts (Directives, Regulations and Decisions) that refer to EU marine management. Boyes and Elliott (2014) focussed more narrowly only on policies as Directives, which still included over 200 policy pieces (Bigagli, 2015, Boyes and Elliott, 2014). The vast majority of these policies are sectoral (Boyes and Elliott, 2014, Boyes and Elliott, 2016, Boyes et al., 2016, Elliott et al., 2018). However, in the last two decades, a new wave of more holistic policies has been adopted, following EBM (ecosystem-based management), aiming to comprehensively integrate the existing policies and measures under common umbrellas and manage the seas in a coordinated way. One of the approaches in this wave are the framework directives (Water Framework Directive and Marine Strategy Framework Directive), which aim to better cross-sectorally integrate existing policies and provide legislative umbrellas to allow for holistic EBM of European marine and freshwater environments. While this approach is sensible, it is also extraordinarily challenging. The host of sectoral policies often overlap or even have contradictory goals, which creates what Boyes and Elliott (2014) have termed the EU marine policy "horrendogram" (Figure 2.4). The paragraphs below briefly outline the main elements of the EU marine environmental policy landscape.

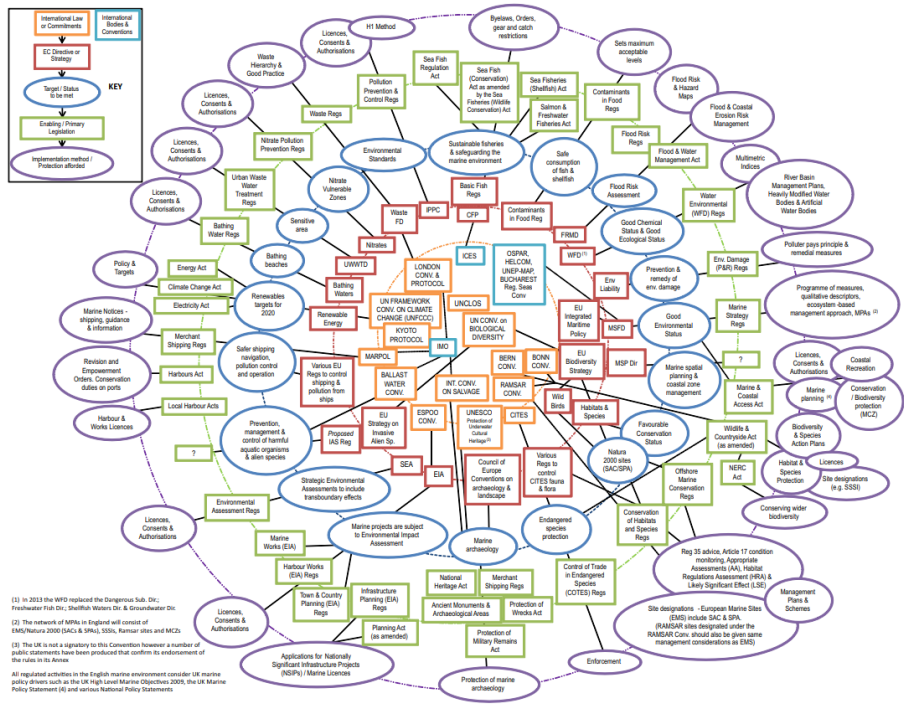


Figure 2.4: An overview of EU marine policies, arranged in a "horrendogram" (Boyes and Elliott, 2014)

Figure 2.4: An overview of EU marine policies, arranged in a “horrendogram” (Boyes and Elliott, 2014)

The foundations of EU conservation policies are the Habitats Directive (92/43/EC) and Birds Directive (2009/147/EC). These two Directives transpose the international law requirements (Bonn and Bern Conventions, CBD) into European law. Both Directives include lists of annexes of habitats and species of European importance which have to be conserved in *favourable conservation status,* thus clearly instituting a feature-based approach to European conservation policy. The Directives also institute a variety of protection areas to be implemented, which together form the Natura 2000 protected area network. This network is lauded as the largest and most extensive protected area network on the planet (Mazaris et al., 2018, Mazaris et al., 2019, Orlikowska et al., 2016). While it currently covers 18% of the EU’s land area and 8% of its marine territory[3], it is important to note that Natura 2000 is not a system of strict nature reserves, those constitute only a very small proportion of the entire Natura 2000 network (European Commission, no date). After lobbying by NGOs and the 2009 European Parliament Resolution on Wilderness in Europe, the European Commission did publish a Guidance Document about how to manage wilderness within Natura 2000 sites (European Parliament, 2009, European Commission, 2013). The Guidance has a strong terrestrial bias, but it does also refer to marine wilderness. The document outlines voluntary measures that Natura 2000 managers might want to consider for management, while making it clear that the Commission still expects the vast majority of the network to remain multiple-use. More recently, the Marine Messages II, a seminal EEA report, makes a number of direct suggestions for the integration of wilderness into the policies if the goals of existing EU policies are to be achieved (Reker et al., 2019). The report explicitly refers to rewilding projects and ecological restoration projects that should been implemented in order to support the recovery of marine environments and achieve the EU policy objectives. Therefore, these developments are also introducing elements of more open-ended conservation approaches into the EU conservation policies.

Apart from (strict) conservation policies, the EU environmental *acquis* includes a high number of policies, which manage different environmental aspects and sectors. The vast majority of these policies are highly sectoral and prescriptive (Bigagli, 2015, Boyes and Elliott, 2014). The variety of sectoral policies relevant to marine management is too broad to be fully presented here, and so only a brief selection of some of the more influential pieces is included. The EU strictly regulates pollution sources in great detail with a variety of Directives. The generally improved trends in EU seas (HELCOM, 2018, OSPAR, 2010, UNEP/MAP and PlanBleu, 2020) can be largely ascribed to successful implementation of the Waste Framework Directive (2008/98/EC), the Nitrates Directive (91/676/EEC), and the Urban Waste Water Treatment Directive (91/271/EEC), alongside many other policies regulating pollution and outflows of different industrial and chemical production facilities. The processes for reducing pressures of human activities are further supplemented by Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) processes, codified in the EIA Directive (85/337/EEC) and SEA Directive (2001/42/EC). While EU policies can be very effective, each of the above mentioned Directives results in national legislation and numerous regulations and rules that stem from them, further complicating the “horrendogram” (Bigagli, 2015, Boyes and Elliott, 2014). Moreover, a larger problem presents itself when the different sectoral policies start overlapping and/or have diverging objectives and aims. A clear example is the Europe’s Blue Growth Agenda, which aims to substantially enlarge the EU’s current maritime economy,

[3] Data available on this link: https://ec.europa.eu/environment/nature/natura2000/index_en.htm

by developing aquaculture, coastal tourism, marine biotechnology, ocean energy, and seabed mining (European Commission, 2017). Meanwhile, the EEA is still finding that the EU has not yet managed to decouple economic growth from increasing environmental pressures, and if this solution does not appear in near future, it is impossible for both the environmental and Blue Growth policy objectives to be achieved (Boyes et al., 2016, Reker et al., 2019).

The European marine environmental *acquis* has, however, been undergoing a process of more thorough integration in the last 15 years, under the umbrella of the Integrated Maritime Policy (IMP; Hassler et al., 2019). Before the IMP and the policies it covers, the only holistic policy managing EU seas was the Water Framework Directive (WFD, 2000/60/EC) which aims to achieve *good ecological status* of European waters. Although its primary focus is on freshwater bodies, its reach includes coastal waters up to a nautical mile from the coast. Despite having more than two decades of implementation behind it and a generally good knowledge base in aquatic ecology in Europe, Boon et al. (2020) still claim that the WFD approaches to dealing with alien species among the Member States are uncoordinated and disparate. Rouillard et al. (2018a) similarly argue that more coordination among and across overlapping policies is needed. The WFD was followed by the Marine Strategy Framework Directive (MSFD, 2008/56/EC), which also incorporates the logic of EBM, and aims to achieve *good environmental status* of marine waters (Breen et al., 2012). The MSFD thus covers waters from the coast to the edge of territorial seas, up to 12 nautical miles offshore. The MSFD officially represents the environmental pillar of the IMP and makes a clear reference for the establishment of new spatial protection measures for biodiversity in addition to the requirements of Natura 2000 Directives. The Directive aims to integrate all existing sectoral policies and bring them together in a coordinated manner (Cavallo et al., 2018, Machado et al., 2020). Additionally, the MSFD recognizes the transboundary nature of marine ecosystems and requires the Member States to coordinate their actions on regional and subregional levels, preferably through the work of RSCs (van Tatenhove et al., 2014).

A more recent development, with a lot of activity in recent years, is the Maritime Spatial Planning (MSP) Directive (2014/89/EU) and its power of bringing all the marine users together with environmentalists and produce sustainable maritime spatial plans that would satisfy everyone. The MSP should therefore also delineate areas for conservation and provide better distinction between areas that humans can use and where human use is minimised. Elliott et al. (2018) describe a successful MSP mechanism as one that understands and integrates complex networks of anthropogenic uses and their associated pressures together with environmental quality. The popularity and usefulness of MSP approaches is also reflected in RSCs integrating them into their policies and recommendations, particularly in the case of the Barcelona Convention (Manea et al., 2020) and the Helsinki Convention (Hassler et al., 2019). Because the implementation of the MSP Directive is still in its early stages, full assessment of its impact is not possible, but some academic critiques of its processes have already been launched (Tafon, 2018).

Another relevant international legal instrument is the Regional Sea Conventions (RSCs), as they have particular relevance to EU Directives and their implementation (particularly MSFD). The Conventions tend to function as frameworks, under which a set of protocols is then adopted to address more specific issues. The two policies' implementations (MSFD and RSCs) have thus evolved into a symbiotic relationship, with each supporting the other, and the approaches to assessing the marine status and implementing measures have been largely streamlined (van Tatenhove et al., 2014). Therefore, RSCs represent an

interesting policy anomaly, as they are both international treaties, hierarchically positioned above EU law, but also directly encoded within EU law, with the EU reshaping the Conventions to be more in line with their objectives (van Leeuwen et al., 2014, van Tatenhove et al., 2014). The RSCs bring together all riparian states of each of the four European regional seas: the Helsinki Convention for the Baltic Sea (HELCOM), the Oslo Paris Convention for the North-East Atlantic (OSPAR), the Barcelona Convention for the Mediterranean Sea (UNEP/MAP; Manea et al., 2020), and the Bucharest Convention for the Black Sea (Black Sea Convention; Katsanevakis et al., 2017). These conventions generally originated from countries banding together to combat marine pollution, mainly from land-based sources, but have since extended their remits to include the majority of marine environmental issues. RSCs cover marine areas that significantly overlap with EU waters, but they can be substantially larger and extend across the regional seas in their entirety, thus also covering waters of non-EU countries and international waters. All RSCs produce periodic reports addressing their progress and expert reports related to the implementation of their Protocols, Action and Strategic Plans. The RSCs themselves are thus pushing towards more comprehensive, effective, and stricter protection, within the confines of their original treaties (HELCOM, 2021, OSPAR, 2021).

2.3.2 Policy implementation

The EU marine environmental policy portfolio is regarded as well-developed, if complex, but implementing such a vast policy landscape is necessarily challenging (Boyes and Elliott, 2014). There are numerous examples of these challenges, such as the Natura 2000 network of protected areas has repeatedly been found to contain significant gaps in its spatial coverage (Mazaris et al., 2018, Orlikowska et al., 2016). Moreover, the Natura 2000 networks have also been implemented to varying extents between the Member States (European Commission, 2019). While the Aichi targets in the European seas have been reached (Reker et al., 2019), several studies suggest that the vast majority of marine Natura 2000 sites remain unmanaged and as such represent paper parks[4] (Adriaenssens et al., 2019). Similarly, while the MSP Directive was intended to provide a way for integration of different policies into a coherent approach, Hassler et al. (2019) note that in the Baltic region there are significant differences in MSP approaches between neighbouring countries, stemming from varying political, administrative, and jurisdictional systems. Unaligned implementation has also been widely observed in relation to the MSFD, in all four EU regional seas, despite considerable efforts to streamline approaches (Cavallo et al., 2018, Gorjanc et al., 2020, Murillas-Maza et al., 2020,). Last but not least, even in relation to CFP, which is within the exclusive competence of the EU, degrees of success vary between different regions. Raicevich et al. (2017) identify critical inconsistencies in the regional implementation of the MSFD in the Mediterranean, stemming from a lack of coordination and contradictions in the implementation of the MSFD and CFP. The extent of implementation failures in EU environmental policies, despite comparatively excellent data available and well-developed policy framework in place, points towards unaddressed aspects that influence policy implementation.

Academic critiques of the implementation of EU marine and environmental policies are plentiful. Beunen (2006), for example, argues that Nature Directives have shifted policy

[4] Paper parks are legally established protected areas where current protection activities are non-existent or insufficient to halt degradation.

implementation into the domain of both national and EU courts, which are now interpreting the often-vague EU policies in practice, moving the implementation from substantive to technical and procedural issues. A number of critiques of the implementation of policies focus on the insufficient ambition and the technocratic, "box-ticking" tendencies of Member States, also linking to the issue of avoidance of Commission pilot and infringement proceedings (Di Quarto and Zinzani, 2021, Dom et al., 2016). The set up of the EU environmental policy framework, with the subsidiarity principle and the shared competences between the EU and the Member States (Hix, 2011), means that the successful implementation of most policies depends on collaboration and coherence among Member States. Additionally, numerous studies have examined different aspects of coordination between the Member States, at different scales, finding it often limited or non-existent (Boon et al., 2020, Cavallo et al., 2018, Gómez-Limón et al., 2002, Gorjanc et al., 2020, Murillas-Maza et al., 2020, Rouillard et al., 2018a,b). Low coherence of approaches erodes the ability of policies to introduce the necessary changes in the environment and achieve the goals and objectives of the policies themselves. A lack of coordination can be linked to the sheer complexity and number of policies that have to be implemented in tandem, leading to what Boyes et al. (2016) termed the 'paradox of uncertain governance'. Moreover, the EU approach has often been described and criticised as techno- and meritocratic (Di Quarto and Zinzani, 2021, Giakoumis and Voulvoulis, 2018). These issues together have been linked, in some cases, to the issues of democratic deficit within the EU and legitimacy of EU policies (Turnhout et al., 2015), particularly when discussing the environmental policies.

While criticism of the policy implementation is expected from academia, the official EC assessments corroborate the main points. The MSFD assessments have found that Member States are often lacking ambition in the setting of their targets. Consequently, coherence among Member States, particularly in relation to biodiversity descriptors, is low in all Regional Seas. Additionally, the environmental monitoring is still not providing comparable and high quality data that would allow pan-European status assessments (European Commission, 2020b). Furthermore, the assessments and topical reports prepared by the EEA are showing that marine biodiversity continues to decline, and while there are some successes observed, the good environmental status, though being a target for 2020, is far from being achieved (Agnesi et al., 2017, Korpinen et al., 2019, Reker et al., 2019, Vaughan et al., 2019). Consequently, the environmental targets that the EU policies have set have been missed, which returns to Turnhout et al. (2015) pointing out that the EU policies rely on their perceived (cost) effectiveness to maintain legitimacy. Despite these failures, the prevalent sentiment is that the identified drawbacks and gaps can be overcome, by supporting more coordination, developing new tools, streamlining data streams, and raising awareness.

The EU has been trying to counter the trends of both biodiversity decline and incoherent policy implementation by investing in cooperation and coordination projects, monitoring programmes (see evidence of multiple projects shown in Appendix X), and collaboratively setting definitions and criteria through numerous working and technical groups. This process has resulted in more comparable data sets for EU-level assessments, better data for evidence-based policy-making, and commonly agreed thresholds, criteria, and definitions, indicating common understandings (European Commission, 2017). However, European Commission (2020b) assessments are still finding inconsistencies in the implementation of the policies, and there remain divergent understandings of the commonly agreed definitions and the way that they are supposed to be implemented (Raicevich et al., 2017). Giakoumis and Voulvoulis (2018) find that interpretations of the WFD have remained divergent since its negotiation, while

Di Quarto and Zinzani (2021) argue that the technocratic governance of its implementation marginalises conflicts and blurs democratic debates. Both studies support the assertion that in cases of contested and diverse perspectives, the standard rational and instrumentalist approach of knowledge provision for better policy implementation becomes limited in its effectiveness to solve the inherent challenges (Turnhout et al., 2015), which is aligned with the mostly ignored socio-psychological literature, as well (see Chapter 2).

Nevertheless, most academic and policy sources still subscribe to the rationalistic model, where more and better data are supposed to improve the quality of the decisions and improve implementation (Eisenhauer et al., 2000, Stedman, 2002, Stedman, 2003, van Leeuwen et al., 2014). This is a consequence of the fact that much of EU policy-making being based on the principles of evidence-based policy-making (Claudet et al., 2020, Head, 2008, Hulme et al., 2011, Janse, 2008, Klabbers et al., 1996, Likens, 2010, Roehrl et al., 2020, Sokolovska et al., 2019, Watson, 2005), requiring collections of large amounts of high quality data, which are thought to be needed to allow for proper policy implementation. However, Bennett (2019) and Turnhout et al. (2019) have been questioning the primacy of knowledge in policy-making and implementation. They point to a variety of social and political factors that play dominant roles, such as power dynamics and imbalances, justice concerns, political engagements, and recognition of different ways of perceiving biodiversity and environmental realities. Similarly, Barrett (2004) focusses on the role that the key actors in the policy process maintain through policy formulation and into the implementation phase, arguing that more emphasis should be placed on the power-interest structures and relationships between the actors in the implementation processes. Tafon (2018) also examines the role of power relations and social injustices in MSP implementation, consequently arguing that attention should rather be directed to the construction of narratives and imaginaries around the matters that policies regulate, and those represent more coherent plans, balancing of interests, and integration of knowledge. Both Tafon's and Barrett's arguments clearly outline a large and important gap in addressing the effectiveness of EU marine environmental policies.

Therefore, implementation failures in EU marine environmental policy are not only caused by lack of evidence, poor coordination efforts, insufficient funds or personnel, but are also likely due to the diverse and conflicting ways in which the issues are framed (Beunen et al., 2009, Rouillard et al., 2018b). A significant literature on this issue already exists, which identifies a number of primary factors that influence the implementation of policies. There has been significant work done on the role of knowledge and the ways key policy actors are influenced by different cognitions, which goes beyond the understanding of linear science-policy interfaces. Rayner (2012) discusses the roles played by social constructions within institutions in dealing with unwanted information. He outlines four strategies that are used: denial, dismissal, diversion, and displacement. All four result from the framing influence of social constructions on human behaviour and decision-making (Beers et al., 2006, Chirkov, 2020, Mohammed and Ringseis, 2001, Plotkin, 2011, Turnhout et al., 2019). On a related note, Dobbin et al. (2007) discuss the conditions for policymakers to learn and mention the barriers to learning such as adapting to policy shifts, which further complicate the social reality in which they operate. They argue that policy makers often rely on cognitive heuristics, which are again founded upon their social constructions. Likewise, Steinacker (2006) also emphasises the role of decision heuristics on changing perceptions, as well as challenging the assumptions of policy-makers making decisions based on data. On the topic of the role of knowledge and science in policy process, Ingram et al. (2007) claim that in the presence of well-established social constructions, science that goes against them will tend to be ignored, while knowledges

that reinforce existing beliefs will be used to support policies, while changing few minds in the process. Therefore, serious misconceptions seem to exist about how the policies are understood and implemented, which are not part of the policies themselves, but stem from the social interactions surrounding them.

2.4 Social dimensions of human-nature interactions

Social dimensions frame any concept with which people interact, which underlies the need for them to be studied and understood. As such the understanding of socio-psychological dimensions and relationships between people, particularly key policy actors, and natural environments, is important for setting and implementing the conservation actions which the natural scientific literature has been calling for. This is particularly true when those conservation measures are linked to fuzzily defined and often still controversial concepts, such as wilderness. So far, most of the relevant socio-psychological work has focussed on perceptions and attitudes towards nature (2.4.1.1) and wilderness, as well as restoration potential of natural environments and thus their effect on human wellbeing (2.4.1.2). While the extent of this work has been, arguably, too limited to ascertain the influences of these elements on the implementation of conservation actions in practice and has been even more limited in relation to marine environments, it is still worth reviewing the existing literature. However, a greater recognition of complexity of socio-psychological elements and their interactions is necessary to better inform and plan policy processes (2.4.2). These social dimensions can be further subsumed into the concept of social constructions (2.4.3). In order to work with a coherent concept, this thesis focuses on the use of social constructions and the way that they influence both personal conceptions and also group processes (2.4.4) among the policy actors.

2.4.1 Existing socio-psychological literature

2.4.1.1 Perceptions and attitudes

The majority of the work to date employs different versions of questionnaires and surveys, heavily relying on Likert scale assessments. Most of these studies either use online or mailed surveys (Barr and Kliskey, 2014b, Bjerke et al., 2006, Eisenhauer et al., 2000, Hawkins et al., 2016, Jefferson et al., 2014, Johnston et al., 2019, Johnston et al., 2020, Perry et al., 2017, Stedman, 2003, White et al., 2017, Yerbury et al., 2020). Sometimes, questionnaires are also combined with other, qualitative methods such as image surveys (Barr and Kliskey, 2014b, Felsten, 2009, Fyhri et al., 2009, Lutz et al., 1999) or interviews (Carrus et al., 2015, Engel et al., 2014, Evans, 2009, Wynne-Jones et al., 2018). Qualitative studies relying on more direct and in-depth methods for identification of deep-set cognitions are rarer (Bauer, 2005, Fulton et al., 1996, Kellert, 1996, Suman et al., 1999, Quinn et al., 2003,). Only a few papers have been identified so far that supplement their surveys with expert workshops in order to identify wider, socially-held values and constructions (Barr and Kliskey, 2014a, Deary and Warren, 2017, Deary and Warren, 2018, Jefferson et al., 2014). There has been limited work on human-nature relationships and how they vary between people with different cultural backgrounds (Pettorelli et al., 2019, Kellert, 1996). A gap currently exists for research

into more specific and powerful stakeholder groups and their shared values and constructions, alongside links to their actions.

This gap is especially pronounced when it comes to niche and controversial concepts, such as wilderness, and particularly marine wilderness. In the literature it has been argued that this gap has arisen because humans are not aquatic animals by nature and there remains a spatial and cognitive detachment between society and the seas, ultimately leading to the extinction of experience (Miller, 2005, Saunders, 2003). Jefferson et al. (2014) discover in the case study of the UK marine environments that the inaccessibility of marine environments presented the main obstacle for experiencing these ecosystems. Consequently, most respondents could relate to coastal ecosystems to some degree, but there was low level of knowledge and care exhibited towards deeper or open ocean ecosystems, which were unfamiliar and alien. Similarly, Ankamah-Yeboah et al. (2020) find significant differences in the perceptions of deep-sea coral ecosystems between Norway and Scotland, which they ascribe to different levels of awareness. Some studies have still assessed perceptions and attitudes towards wilderness. Lutz et al. (1999) found that, in British Columbia, there are distinct differences in what urbanites perceive as wilderness compared to rural populations, supporting the view that wilderness is strongly socially constructed and is associated with different places within discrete social groups. Limited and geographically dispersed studies have also evaluated attitudes towards marine wilderness in Australia (Shafer and Benzaken, 1998), Oregon (Johnston et al., 2019, Johnston et al., 2020), and generally among the global scientific community (Barr and Kliskey, 2014a, Barr and Kliskey, 2014b). While presenting valuable knowledge, these papers mainly focus on the question of whether people think marine wilderness exists at all and they scratch the surface when looking for what types of marine environments are perceived as wild, thus only moving slightly beyond quantified assessments of cumulative anthropogenic impacts on the marine environment. Therefore, this study works to further and deepen these understandings by going beyond the studies of perceptions and attitudes, and engage more deeply with socio-psychological cognitions.

2.4.1.2 Restorative potential of nature

A growing field within environmental psychology is evaluating the restorative properties of nature to people, with occasional reference to wilderness. This is a well-developed field of inquiry, which convincingly links people's experiences of nature with human wellbeing, not dissimilar to some of the wilderness definitions and expected benefits, mentioned above. Much of the work is centred around Attention Restoration Theory (ART; Kaplan, 1995), which evaluates the energy costs of directed attention, such as studying or concentrating, and the best ways to recover from ensuing mental fatigue. ART defines fascination, compatibility, getting away, and extent as the main determinants of the quality and rapidity of attention restoration (Kaplan, 1995, Felsten, 2009). Natural settings were found to hold a variety of fascination elements and rank among the preferred destinations for getting away, with Kaplan (1995) finding wilderness areas particularly conducive to restoration, as they also provide a wide extent. Nevertheless, there is also evidence that much smaller green areas, within cities and campuses, can also be widely beneficial (Bjerke et al., 2006, Carrus et al., 2015, Felsten, 2009, Kaplan, 1995). Studying the restoration of mental capacities of students, Felsten (2009) finds that if break rooms do not have a view of nature, students also perceived large murals of dramatic and wild nature highly restoring to look at. While nature's restoration potential may

be taken as a given, the field of environmental psychology is showing its direct and quantifiable effects on people, providing a wholly anthropocentric value for nature and wilderness in today's world, while also addressing the issue of connection between "wild" natures and people.

Such psychological findings have not gone unnoticed in other, more applied, fields, such as urban planning, landscape architecture, and forestry. These fields have taken on ART and tested it in the field. Carrus et al. (2015) explore the relationships between biodiversity, preferences, and psychological restoration, as the interrelations between those remain controversial. Their results demonstrate that the visitors of high biodiversity areas spent more time in them and built a stronger appreciation for nature, with possible links to pro-nature behaviours in general as well. In theory, people tend to prefer environments where dominance of natural processes can be observed (Strumse, 1994), but at the same time there have also been arguments from landscape ecology suggesting that very densely vegetated areas might seem unsafe to people (Table 2.3). Wyles et al. (2019) assess the recalled restoration potential and connectedness to nature across the UK, finding that rural and coastal locations were found to provide the greatest psychological benefits to Brits, regardless of their socio-economic status. This literature displays the connection and importance that people still accord to natural and nature-dominated systems, such as wilderness areas.

Table 2.3: Overview of input measures and studied outcomes in terrestrial ART studies, with added explanations of the outcomes.

INPUT	OUTCOME	EXPLANATION
Breakrooms with view of nature or a large mural	High restoration and wellbeing potential	Psychological effect of looking at nature instead of built environments is positive
High-quality green (peri)urban areas	Restorative effects	Appreciation of nature and perceived high biodiversity are restorative
Moderate vegetation density in parks	Preference for visiting	Dominance and possibility to observe natural processes is desired

The restoration potential of nature has mainly been researched in terrestrial and occasionally in coastal systems (Jefferson et al., 2014), while truly marine, underwater ecosystems remain largely ignored. Whilst it could be argued that due to the more pronounced disconnect between people and marine ecosystems (Brailovskaya, 1998, Jefferson et al., 2014), the seas cannot provide the same restorative properties like terrestrial landscapes do, the oceans still hold impressive fascination levels and enormous extent. Very few studies have focused on the effects of "blue space" on restorativeness of people, mainly looking into preferences for aquatic environments in a variety of landscapes (Völker and Kistemann, 2011, White et al., 2010,). These studies found that water and aquatic environments are one of the main physical and aesthetic landscape elements that people value and react to positively, with some limited results showing numerous effects for human health and wellbeing (Gascon et al., 2017, Pouso et al., 2021, White et al., 2020). Curtin (2009) studies the psychological benefits of marine wildlife encounters, mainly whales, finding great benefits and elation in participants in wildlife viewing tours. Similarly, there have been some studies of the (economic) valuations

of sea-based recreation activities linked to MPAs (Rees et al., 2010b). Nevertheless, underwater studies are almost non-existent. Scott et al. (2020) assess the perceived beauty of the Great Barrier Reef by analysing eye movements in people exposed to photographs of coral reefs, in order to establish what is beautiful in such environments. The results could be used in future as a foundation for ART related work, since sense of beauty can be linked to feeling whole, pleased, and thus lessening the feelings of anxiety and boosting awe, joy, excitement, relaxation, and contentment. Cracknell et al. (2017) provide the only study to date of the restorative potential of observing fish, although their research was limited to public aquaria exhibits. The ideas of Blue Health have received some more attention in recent years, with access to blue spaces linked to public health benefits (Grellier et al., 2017). The results show that for some, observing marine life in an aquarium could potentially be restorative, but more work is sorely needed (Table 2.4).

Table 2.4: Overview of input measures and studied outcomes in marine restoration studies, with added explanations of the outcomes.

INPUT	OUTCOME	EXPLANATION
Marine wildlife encounters	Wellbeing	Design, performance, and diversity of wildlife
“Blue” space views	Relaxation and restoration potential	Fascination with extensive blue vistas and coastal views
Colourful beauty of coral reefs	Feeling of wholeness, pleasure, lessening of anxiety	Beautiful things tend to relax people and inspire
Encountering aquaria fish	Potential for restoration	Some initial indications that observing fish in aquaria induces restoration

Despite the extensive critiques of both the concept of wilderness and of wilderness conservation practices, there is no denying that particular and especially natural, high-biodiversity, and perceived wild landscapes still engender both psychological and physiological responses in humans. In the increasingly urbanised, industrial, and fast-moving world of the Anthropocene, where humanity is rapidly losing its nature experiences and associated benefits (Miller, 2005), retaining areas where people can establish connections with nature in their everyday lives is of vital importance. While these benefits have been widely proven in terrestrial environment and with terrestrial wildlife encounters (Bell et al., 2015, Bell et al., 2018), there has been a notable scarcity of work on these topics in the marine realms. Still, the limited evidence available does point towards marine areas and wildlife being able to elicit similar responses and engender human health benefits, even though the reality of the disconnect of people from marine environments is pervasive. Therefore, wilderness areas and preserved biodiversity, both on land and in the seas, are not only needed from the ecological standpoint that was discussed above, but also from the social and psychological perspectives. The question is whether such widely recognised benefits of (wild) nature also influence decision-making at a policy level, and this is explored further through this study.

2.4.2 Psychological cognitive elements

The existing literature establishes a starting point for socio-psychological enquiries into the relationship between people, nature, and wilderness. However, the vast majority of presented work does not link identified perceptions and attitudes with the wider psychological framework within which they exist. Psychology distinguishes between a number of concepts including values, beliefs, worldviews, behaviours, norms, which interact with each other. The concepts represent different cognitions and interact with each other through the Theory of Cognitive Hierarchy (Figure 2.5). So, while individual cognitions are often studied, their role within this broader system is less engaged with. Values, for example, can be understood as the organising principle upon which the entire cognitive hierarchy structure hinges (Fulton et al., 1996). Consequently, values exert a considerable influence over the way people behave. However, values are also deep-set and most abstract of all the social cognitions and therefore difficult to evaluate (Jefferson et al., 2014). Beliefs represent the next stage within the cognitive hierarchy. Wolfe and Williams (2017) define beliefs as a subset of knowledge, which is linked to available information and the relationships individuals form. Some of the foundational socio-psychological theory posits that due to the interdependencies between attitudes, beliefs, perceptions, ideas, and behaviours, people strive for consistency between them, lest they experience cognitive dissonance (Festinger, 1957, Friedkin et al., 2016, Thagard and Verbeurgt, 1998). However, more recent literature disputed the universality of that claim, as people can sometimes hold contradictory cognitive elements simultaneously (Friedkin et al., 2016, Rawlings, 2020, Wolfe and Williams, 2017). This work accorded particular attention to small policy groups, whose decisions have an important bearing on the much larger populations, while also clearly showing the influence of the cognitions and group processes on policy implementation outcomes. This chain of arguments can be used as a lens through which to study how and why conceptions of wilderness vary between different societal groups and potentially cultures (Knowles et al., 2001) and how that affects and is affected by policy-making.

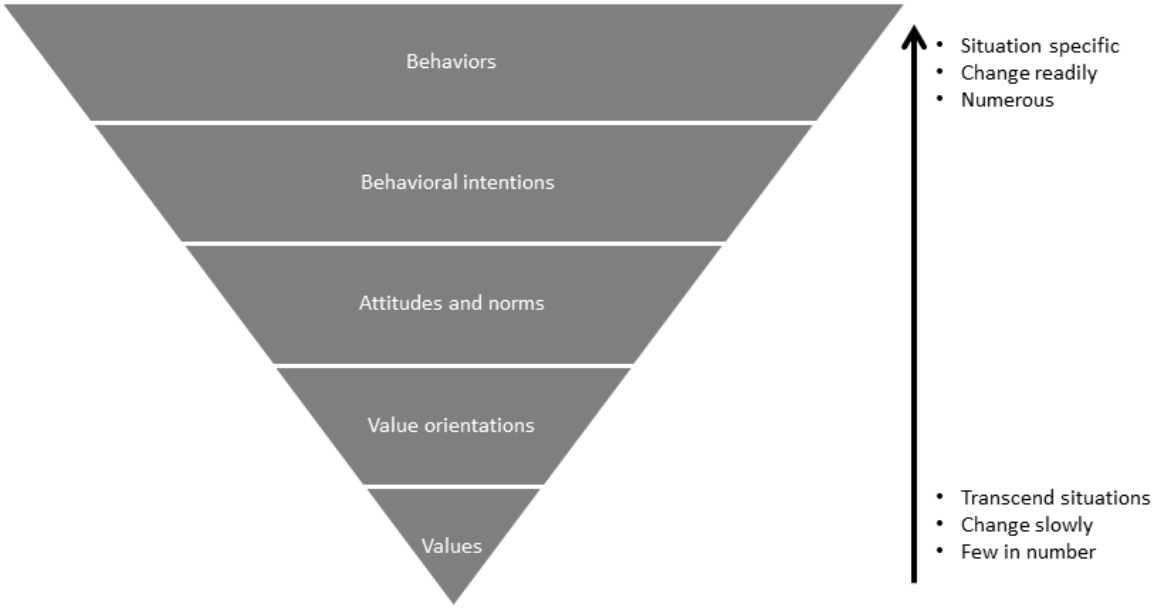


Figure 2.5: Diagram of the cognitive hierarchy model of human behaviour (Fulton et al., 1996)

While not part of the Fulton et al. (1996)'s Hierarchy of Human Behaviour, beliefs are also often discussed in relation to worldviews, although the level of integration of the two concepts varies. Particularly in recent years, there has been a growth in the literature discussing ecological worldviews (Ballew et al., 2019, Xiao et al., 2019, Wynveen et al., 2014). Scheitle and Corcoran (2020) conceive worldviews as composed of identities, orders, motivations, and meanings, which together provide people with a coherent and ordered world. They claim that such an ordered world is composed of commonly accepted definitions of reality. Their view is thus that the worldviews are lenses through which people interpret the surrounding world. On the other end of the spectrum, Wynveen et al. (2014) link environmental worldview to place attachments and place dependence. Xiao et al. (2019) nest their understanding of worldviews within Fulton et al.'s hierarchy. Worldviews, in their writing, are central idea-elements, anchoring belief systems and providing constraints and coherent interpretations that then influence cognitions further down in the hierarchy, such as perceptions, attitudes, and ultimately behaviours. Despite the vagueness of the definitions of worldviews, they influence societal perception of the world, whether or not they are nested within the cognitive hierarchy. Guo et al. (2021) discuss the importance of recognising their prevalence when setting policies or engaging different interest groups, defining them as culturally dependent. While, Scheitle and Corcoran (2020) claim that worldviews become more plausible and prevalent when a large proportion of the population and, importantly, of institutions support them. Therefore, worldviews do exert an impact on lower-level cognitions, including attitudes and perceptions, which are most often studied, and by extension influence behaviours.

Significant literature has also built up on the causal links between perceptions, attitudes, and their effect on behaviour. Early behaviour models, such as the ones from Ajzen and Fishbein (1980), in the Theory of Reasoned Action (Figure 2.6), proposed a relatively straightforward conception of decision chains, which are based on conscious and information-based decision-making and influenced by individual attitudes. This model has since often been disavowed and replaced with theories favouring subconscious factors, as in the Choice Architecture approach (Ölander and Thøgersen, 2014, Thaler and Sunstein, 2009). On the other hand, some authors, such as Kollmuss and Agyeman (2002), preferred to continue developing the original Theory of Reasoned Action and integrate a wider variety of psychological and sociological factors into the model, which consequently shifted the emphasis in decision-making away from information to socio-psychological processes taking place in individual and sometimes societal psyches. Therefore, they subdivided environmental consciousness into elements of knowledge, feelings of fear and emotional involvement, as well as values and attitudes, which all interact with each other. Additionally, they considered a range of external factors, such as infrastructure, political, social and cultural factors and economic situations, which are all thought to influence behaviour patterns and pro-environmental behaviour, alongside a number of barriers to it. The importance of individual elements, such as attitudes, intentions, perceptions, idiocultures, and beliefs is still heatedly discussed on both theoretical and empirical levels in psychological and sociological literature (Friedkin et al., 2016, Knowles et al., 2001, Rawlings, 2020, Wolfe and Williams, 2017). Despite being unable to currently explicate the exact interdependencies between different cognitions, it is clear they do have a pronounced effect on human behaviour and decision-making, affecting everything from personal, individual decisions, to the way how laws are conceived, argued for, and implemented.

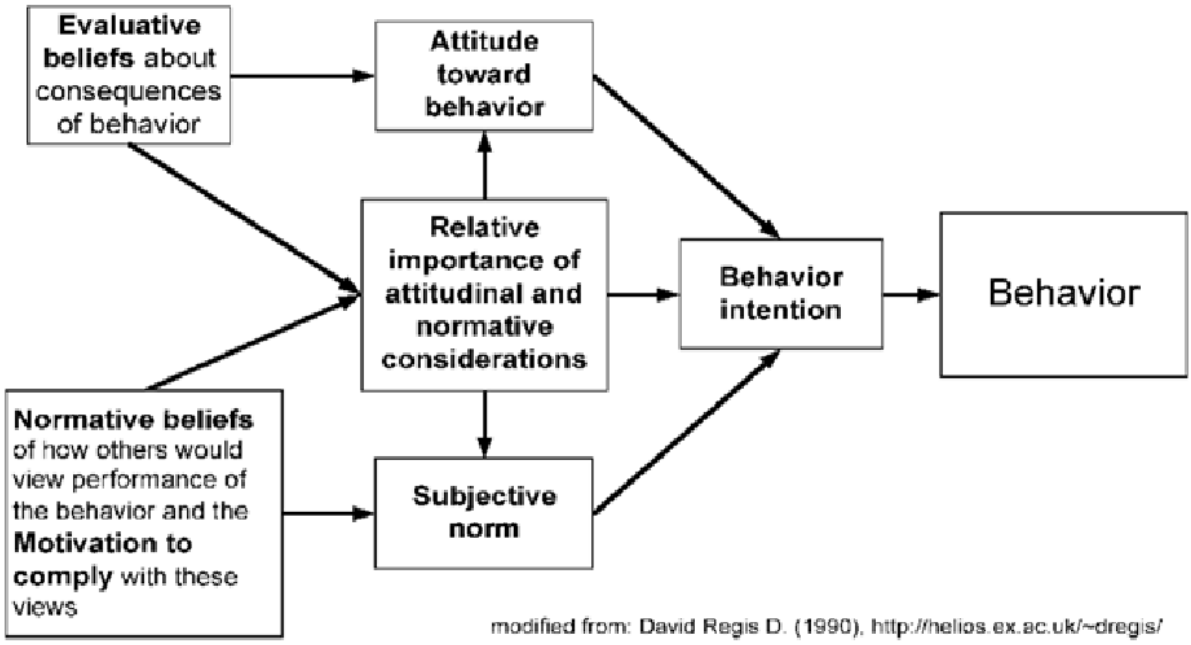


Figure 2.6: Model of the Theory of Reasoned Action by Ajzen and Fishbein (1980)

2.4.3 Social constructions

All of these cognitive elements and their influence on human cognition and decision making can be subsumed into the concept of social constructions. This concept first evolved within psychology and psycho-therapy literatures on the level of individuals. Kelly (1955) conceived of personal constructs as channels for one's mental processes to run in. Kelly already also externalised the constructs from individuals, by claiming that personal constructs can define the realities of others, as well. This theory also fits with the cognitive coherence and dissonance theories mentioned above, as it posits that every time people try to understand something, they construct an interpretation that fits with their cognitive elements best (Thagard and Verbeurgt, 1998). The concept of social constructions has since been extended and is now recognised as one of the main forces in human affairs and important in generating human diversity, and as such crucial for human culture (Plotkin, 2011). Social construction can also be understood as sociocultural models (SCMs), which are sets of scripts through which people understand and interact with the world, other people, and their communities and ultimately with themselves. SCMs are built on a proposition that every societal group builds a set of world representations, knowledge systems, categories, and values about the world around them. Therefore, social constructions are, by definition, psychological, cultural, and social phenomena and one of the distinguishing features between people and nonhuman nature (Figure 2.7). Apart from providing an interpretative lenses for the world around us, social constructions also provide a basic level of sociocultural regulation that underlies politics, economy, legislature, and day to day behaviours (Chirkov, 2020).

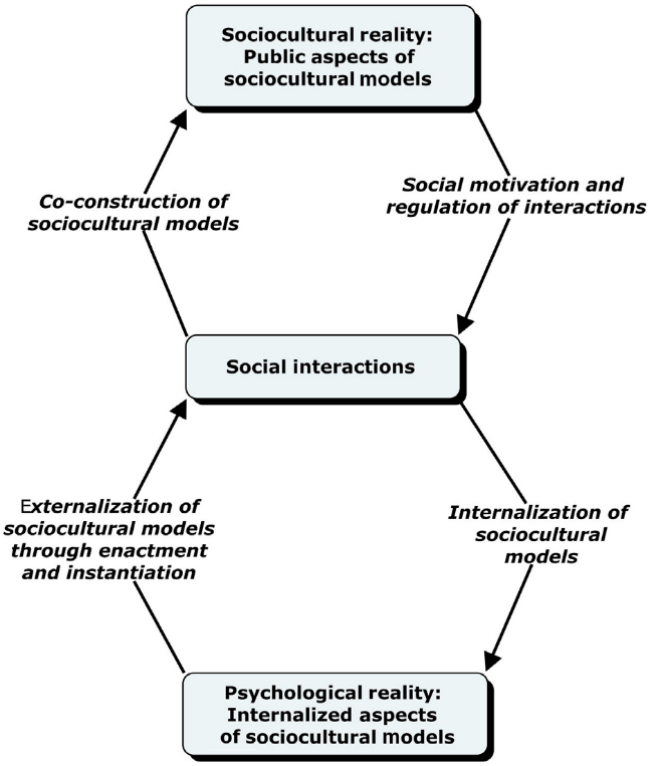


Figure 2.7: Simplified representation of the theory of sociocultural models, which is the basis for social constructions' creation (Chirkov, 2020)

It was only in subsequent integration of this theoretical foundation into sociological literature that social constructions of nature were born. Greider and Garkovich (1994), for example, focussed on symbolic meanings that are assigned to landscapes and affirmed that landscapes are merely reflections of societal identities, thus grounded in culture. They built on the work on social realities initiated by Berger (1967) who understood all social systems as being continually renegotiated within the specific cultural contexts. Thus, Greider and Garkovich (1994) followed that reasoning and stated that past, present, and future realities of a particular social group are continuously being redefined through their social interactions. Therefore, there can be numerous diverging and culturally defined social constructions of the same physical space, conceiving it in entirely different ways and theoretically also independent of the bio-physical characteristics of the space. These arguments stand somewhat in contrast to Stedman (2003)'s understanding of the human-environment interactions as being bounded by the physical characteristics of the place. Westerdahl (1992)'s understanding of cognitive landscapes in the maritime cultural spaces similarly tends to conform to the underlying physical characteristics of the space, even if he then argued that the best way for researching these issues was through focussing on cognitive perspectives of local traditions.

Regardless of where one stands on the spectrum of social constructions between physical environments being entirely socially constructed to physical reality bounding the possibilities of social constructions, the way social constructions come about is still important. Relph (1976) explained the concept of social constructions as identity constructions that are composed of complicated and changing observations that are being ranked and balanced with expectations and direct experiences of places, until a stable image is developed within a societal group. While these processes occur at an individual level, personal specificities,

attitudes, and perceptions are subsumed into the prevailing societal image, which is in line with foundational theory of Kelly (1955). He further claimed that for all intents and purposes the consensus image of a place becomes its identity, overlying any objective and physical characteristics of the place. Additionally, he identifies certain places of "high imageability", which tend to persist and engender similar experiences in people, regardless of their societal identity and throughout history. While the examples given in the book are mainly architectural marvels, such as the Acropolis or the Red Square, there is also space for natural areas, that hold significance for a wide variety of cultural groups, such as Niagara Falls, Yellowstone, Serengeti, Mount Fuji, and others. Areas that are often considered wilderness or having wilderness characteristics are therefore often socially constructed as important beyond their perhaps troubled history or being ecologically justifiable to protect.

Unsurprisingly, constructivist arguments have also received a fair amount of criticism. Social constructions of nature and the subsequent multinatural approach[5] to conservation with rejection of pristine nature were widely advocated by post-modernist environmental philosophers, such as Callicott (2003), Lorimer (2015), and Cronon (1992). Their desire to move away from dwelling on the past baselines and from idolising untouched landscapes by arguing that the reality of the areas considered pristine is not necessarily real and is perceived differently by different groups, has often been derided by environmentalists and nature conservationists (Crist, 2004, Snyder, 1998). Crist (2004) eloquently argued against the anthropocentric language of postmodern constructivism and understanding social constructions from a post-Christian viewpoint. She claimed that postmodern thought is just the latest way of people asserting their superiority over the world due to the knowledge that humanity possesses. Similarly, but much more derisively, Snyder (1998) claimed that not only is the debate about this a product of too many people in ivory towers, but that the ideas are directly detrimental to conservation efforts, as he saw them as opening the floodgates to economic exploitation of wild places. Johnson and Murton (2007), while advocating for more meaningful inclusion of indigenous knowledge into scholarship, also characterise social constructions as part of the systematic separation of society from nature, stemming from Enlightenment thinking.

Outside conservation circles, Baerveldt and Voestermans (2005) critique the concept from a psychological perspective, as not being reflective of cognitive complexity and additionally claiming that in arguing against the importance of physical reality and its agency, the social constructivist argument has lost its relatability with users, since nothing is considered real. Even authors who show how social constructions represent hegemonic discourses about particular environments and shape local behaviours in relation to that environment, are often uneasy and critical of the socially deterministic nature of the concept (Broto et al., 2007). Weigert (2008), also, disagrees with the notion that all phenomena are solely culturally and socially defined, asserting that physical laws define the world, regardless of the social constructions. Nevertheless, his own arguments also support a strong influence of the human aspects, through the emergence of symbolic meanings and individual, as well as societal, transformations in interactions with the environment. Therefore, institutions still construct the environments through symbolically conferred meanings and then interact with those

[5] Lorimer (2015) argues that in the Anthropocene nature cannot be understood as a pure, stable, and singular domain, removed from society. Rather he and other multinaturalist thinkers support a multinatural ontology, which rejects nature-society dualism, and recognises hybrid environments, as equally worthy of protection and appreciation.

constructions (Weigert, 2008). Evidently, considerable theoretical support exists for strong influence of social constructions on cultures and vice-versa. Therefore, while the criticisms levelled against constructivism are not without substance, they often critique radical social constructivism, which is rarely applied. Arguing that nature is socially constructed does not imply that nature is valueless or that it does not exist in physical reality. However, it highlights the contrasting valuations of nature in different societies, both historically and in today's world.

Social constructions and various cognitions markedly differ between cultures and are continuously being co- and re-produced by them (Wei et al., 2020). Chirkov (2020) contends that SCMs are in large part constructed by communities, not individuals and then perpetually co-constructed through interactions between community members. While all members of a community will never share the entirety of social constructions, the core elements have to be congruent for community to be able to persevere as a coherent social unit. Therefore, common interpretations of the core elements of social constructions are not only passed on, but often enforced through societal pressure (Chirkov, 2020, Fine, 1979). There is some sociological literature suggesting that past generations can structure life chances many generations later, affecting their education, occupation and wealth, within regions with very high mobility. Hällsten and Kolk (2020) illustrate those arguments in Northern Sweden, showing statistically significant effects as far as seven generations back (more than 200 years) and as wide as among fifth cousins. Therefore, it is not a stretch to expect that cultural conceptions of environments can also be passed down the generations for considerable time. Plotkin (2011) even claims that social constructions enable culture and conceived them as invented knowledge. His argument is that since through social constructions people "make things up" (Plotkin, 2011: 460), this new, invented knowledge presents one of the central tenets of human culture and an additional source of human diversity. He asserts that social constructions of human culture are at once both immensely influential and brittle, due to social facts being dependent on some degree of social agreement.

Theoretical arguments, outlined above, have also been empirically demonstrated in a number of case studies. Considerable evidence exists for different cultural conceptions between Western, American culture and Eastern cultures. This particular dichotomy has been studied because Western culture and society tend to emphasise personal agency of individuals, whereas collective conceptions are much more common in the East (Knowles et al., 2001, Morris et al., 2001). Morris et al. (2001) illustrate how this difference in cultural conceptions of agency between East and West manifests in both public and private fora. Knowles et al. (2001), in a similar comparison study between Western and Eastern cultures, determine that social behaviour, even when based on personal values, is a cultural phenomenon. Still, Morris et al. (2001) argue that cultural influences on cognitions should not be interpreted as permanent, but as continuously adapting to particular domains in which they exist. Specifically in human-nature relations, Kellert (1996) illustrates the differences in relationships between the United States of America, Japan, Germany, and Botswana. He demonstrates significant differences between Western and Eastern social constructions of nature among industrialised nations, as well as between industrialised and developing nations and additionally hunter-gatherers. Furthermore, Bauer (2005), report different conceptions of nature within smaller cultural groups previously thought to be more homogenous. There exist significant differences in attitudes towards wilderness between French, German, and Italian Swiss citizens, which affect conservation policies on cantonal and federal levels (Bauer, 2005). Clearly, social constructions of nature, wilderness, or any other factor should not be interpreted in a sweeping general way but examined through the lenses of cultural differentiation.

There is no reason to believe that marine environments are any less socially constructed than terrestrial ones, despite a paucity of literature on the topic. Steinberg (2001) specifically delves into the topic of the social construction of the Ocean (Figure 2.8). He describes three dominant models of oceanic social constructions, the so-called Indian Ocean, Micronesian, and Mediterranean constructions. The Indian Ocean was historically managed to ensure frictionless trade, and before the onset of European colonialism, the coastal states used it as a transportation-space, but none claimed the ocean for their own exclusive use. Alternatively, Micronesian societies tended to extend the terrestrial understanding of space into the sea, due to their common use and ultimate dependence on the seas. Finally, the Mediterranean model, which emerged distinctly during the height of the Roman empire, considered coastal waters to be under the jurisdiction of coastal states, whereas the more remote waters were seen as an area where political influences would be acted out. Thus, anyone could use these waters, but the dominant political power, at the time the Roman empire, could aggressively assert their power in that space, if they so wished. Steinberg then discusses the changing, predominant and global constructions of the oceans through the mercantilist era of the European colonial expansion, industrialisation, and finally post-modernist thought. Lastly, he claims: “For the sea remains – as it has been since the advent of the modern era – a space constructed amidst competing interests and priorities, and it will continue to be transformed amidst social change” (Steinberg, 2001: 207). Given that the anthropogenic uses of the ocean stem from predominant political and power-related conceptions of the space, the same constructions should also be examined in terms of their environmental impacts and effects on sustainability.

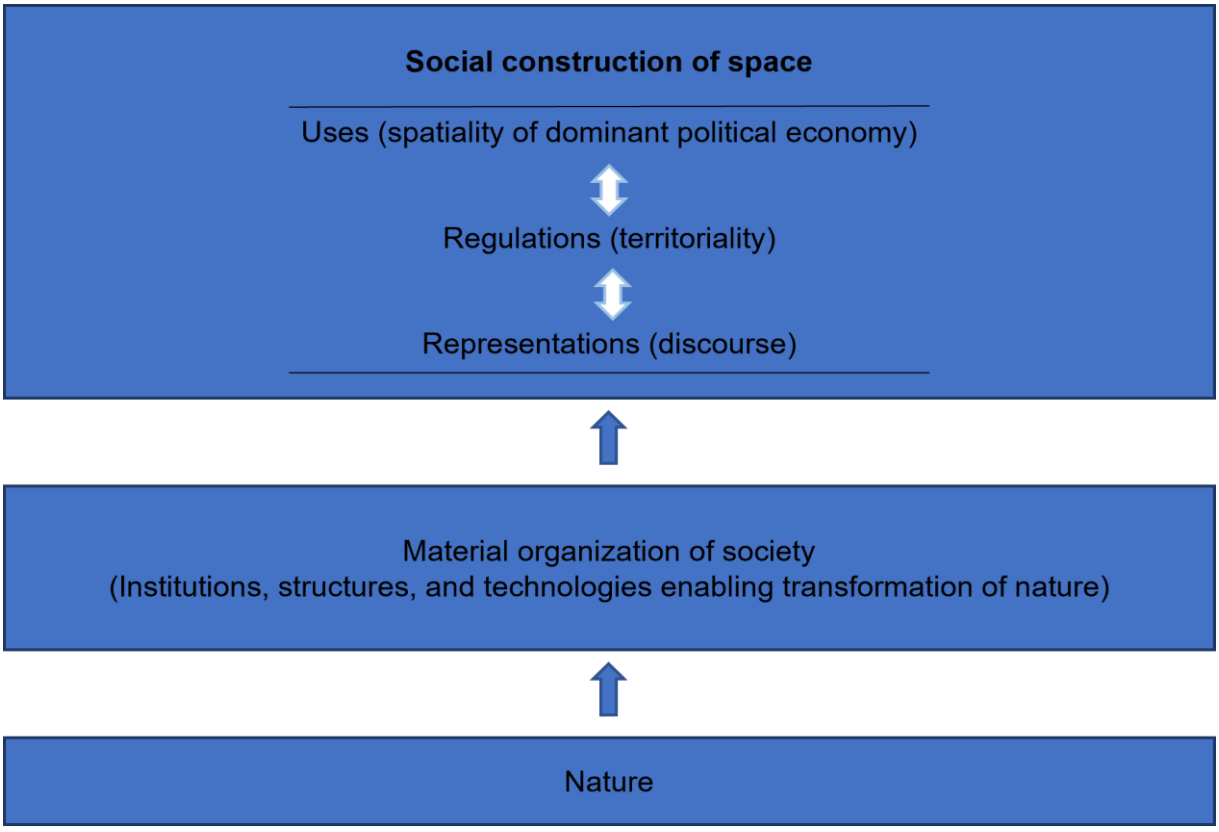


Figure 2.8: The territorial political economy model of the social construction of space (Steinberg, 2001)

The breadth of discussions surrounding social constructions also introduces a variety of different ways in which the concept has been utilised. Demeritt (2002) provides a comprehensive and in-depth overview of the differences in the usage of social constructions, distinguishing two different general ways of application of the concept with numerous different applications under each of them. He understands social constructions as either "construction-as-refutation" or "construction-as-philosophical-critique". The first is used to correct false views about the world. This use of social constructions is typically politically motivated and work through denaturalisation or deconstructions, usually to demonstrate that something considered natural, actually is not. Therefore, its users are often still supporting empirical, positivist, or critical realist positions. On the other hand, "construction-as-philosophical-critique" is targeted at challenging philosophical conceptions of objective truth and reality. As such, it has a pronounced post-modernist bend and can be further subdivided into a number of different constructionisms.

Demeritt (2002) distinguishes four different ways in which social constructions can be used as "construction-as-philosophical-critique". The first is phenomenological constructionism, which follows the work done by Greider and Garkovich (1994) and is based on the argument that groups construct and redefine realities through social interactions. This type of constructivism only describes the world but does not attempt to judge or change it. The second type is through Sociology of Scientific Knowledge (SSK), which focuses on analysing scientific beliefs, both those that are held to be true and those that are false. Third approach is discursive constructionism, which focusses on the role of language and Foucauldian ideas of power/knowledge relations (Foucault, 1979, Foucault, 2002, Rabinow et al., 2004). Lastly, Actor-Network Theory (ANT) represents the fourth way of using constructivism, which is inspired by the work of Deleuze (1994) and codified into theory by Latour (2005). ANT focusses on relational existences and are dependent on the strength of actor networks, which involve both human and non-human entities. This diversity of ways in which social constructions are used, and often also their combinations, regularly creates misunderstandings and misconceptions when talking about social constructions. Demeritt (2002) claims that while understanding social constructions of nature is important, the sharpness and impact of this theoretical insight has been dulled due to overuse and imprecise definitions. This work primarily assumes the discursive constructionism approach, with elements of ANT.

2.4.3.1 Social equity and justice implications

The variety of different social constructions of (marine) wilderness and nature also point towards the larger issue of whose voices and constructions are being taken into account (Lahsen & Turnhout, 2021, Tafon, 2018, Turnhout et al., 2020, Wesselink et al., 2013) and how this inevitably impact social equity and justice. Critiques of the *status quo*, hegemonic narratives and their influences on environmental policies have been launched against, for example, the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES, Lahsen and Turnhout, 2021), maritime spatial planning (Tafon, 2018), and more generally against conceptions of science-policy interfaces (Wesselink et al., 2013), as well as co-production initiatives in the environmental field in general (Turnhout et al., 2020), among others. All these examples point towards issues of equity and justice, by describing power dynamics, marginalisation of different groups, values, knowledges, and voices in these processes. Particularly, the conservation initiatives, with establishments of protected areas

being often linked to dispossession, which at least initially was often associated with wilderness imaginaries (Büscher et al., 2017, Guha, 1989), need to acknowledge the pervasive equity issues. Within the booming environmental justice and equity literatures, there is also significant growth in the literature linked to blue justice (Bennett et al., 2023, Blythe et al., 2023)

While the literature is rapidly growing, unsurprisingly, the marine related literature has been more limited, yet in a review paper, Bennett et al. (2023) find that there is wide spread evidence of marine environmental challenges being unequally dispersed and affecting a variety of social effects across age, racial, ethnic, gender and socio-economic groups. Another review by Blythe et al. (2023) concurs with that finding, while claiming that the disadvantaged groups are often also culturally and politically excluded from decision-making. Both reviews present a variety of case studies spanning marine environmental studies, from marine pollution, to development initiatives, ocean grabbing, and marine conservation and argue that more coordinated action will be needed to support communities against blue injustices and in particular to recognise their diverse aspirations and claims (Bennett et al., 2023, Blythe et al., 2023). Blythe et al. (2023) goes even further and delves into resistance and protest efforts. Ultimately, both reviews align themselves with wider literature on transformative social changes that are needed in environmental management (e.g., Lahsen and Turnhout, 2021, Turnhout et al., 2020), which would include recognising different value and knowledge systems, while decentring scientific knowledge (Bennett, 2019, Bennett et al., 2023, Blythe et al., 2023, Turnhout et al., 2020, Wesselink et al., 2013).

The environmental injustices of conservation initiatives have received considerable attention, which is also reflected in the literature of MPAs, in particular in relation to fisheries and have been targeted by political ecologists (Bennett, 2019). Largely, these case studies focus on the issues of disempowerment and displacement of local communities, as well as the associated risks for food security and poorer living quality (Bennett, 2019, Kamat, 2014, Kamat, 2018, Nowakowski et al., 2023). Kamat (2014, 2018) describe the way MPAs in Tanzania have marginalised local communities, undermined the food provision and, ultimately, led to dispossession of local populace. Similarly, Christie (2004) have termed MPAs in South-East Asia as a biological success, but social failure. A finding that is echoed by Bennet and Dearden (2014) in a study of Thai MPAs, which showcased exclusionary decision-making, resulting in undermining local support for conservation in general. Among other issues, Walker and Robinsen (2009) also demonstrated gendered impacts of MPAs in French Polynesia. While the vast majority of literature mentions deleterious impacts of MPAs like those described above, there is limited literature also showing that even highly protected MPAs with strict fishing restrictions can improve income and food security, as in the case of Mesoamerican reefs (Nowakowski et al., 2023). Similarly, although more broadly, Nsikani et al. (2023) argue for the ecological restorations in Africa to work in tandem with poverty alleviation, with the two strands of work feeding into each other.

It is clear that (marine) conservation and particularly wilderness movements can be linked to a number of equity and justice issues, which begs the question of whether the current, ambitious conservation targets and wilderness resurgence are ethically defensible? Both conservation field and wilderness advocates still, evidently, have a way to go to address the equity issues, some of which this sub-section highlighted, but there have been new approaches described to address this. Büscher and Fletcher (2019), for example, outlined an alternative vision for conservation as a whole, which would reorient it as a post-capitalist strategy with deep involvement of people in it. This, so-called, convivial conservation would promote radical

equity, structural transformation, as well as social justice, all in order to contribute to an overarching movement to create a more equal and sustainable world. Again, this is aligned with social transformation literature, where Lahsen and Turnhout (2021) for example claim that sustainability cannot happen without greater equity. While Büscher and Fletcher (2019) explicitly reject the neoprotectionist agendas with expansions of protected areas, that could still mean that the use of wilderness imaginaries should be discontinued. Yet, Petersen and Hultgren (2020) outlined a new wilderness ethic case for 21st century, which reckons with its problematic past, but outlines a possible way forward into the future. Both, the new wilderness ethic and convivial conservation, call for inclusion of multiple voices and deep democratic dialogue, while unequivocally rejecting neoliberal capitalism as the root cause of environmental and biodiversity degradation, positioning themselves as a radical alternative to it (Büscher and Fletcher, 2019, Petersen and Hultgren, 2020). In a way, this direction than returns to the question whether wilderness is a pure and pristine place, or areas where natural processes can go on in relatively unmodified conditions? If the latter, Petersen and Hultgren (2020) would claim that there is a way forward that would make wilderness just and equitable.

2.4.3.2 Social constructions and policy analysis

The discourses that social constructions inform evidently shape both political arenas and human conduct in general (Dempsey, 2021). Unsurprisingly, considerable attention has already been accorded to these themes. Lee et al. (2021) study the way high-level political targets are formed at global conventions, such as at Convention of Biological Diversity, where they analyse high-political speeches and the discourses behind them. They identify the regulatory discourse as the dominant one between institutions involved in global environmental governance. Similar work has also been undertaken on EU policies, with Di Quarto and Zinzani (2021) describing the way environmental issues shaped the discourses and agendas of EU institutions since 1972 UN Conference on the Environment and how this was translated into emerging EU policies. They focus particularly on the Water Framework Directive (WFD, 2000/60/EC), portraying the emergence of several actors, as well as new jurisdictions and responsibilities, alongside increased participation. They argue that WFD therefore exacerbates power and decision-making imbalances between stakeholders, as well as limits democratic debate and reduces possible dissent about the policy. Turnhout et al. (2015) embark on a similar analysis of European nature policy (Natura 2000, HBD), focussing on the issues of effectiveness, decentralisation, and legitimacy. They argue that despite the subsidiarity and participation procedures that are ingrained in the policies, power is still primarily exercised top-down, with technocratic decision making and power retained in the hands of a handful of people (Flannery et al., 2018, Turnhout et al., 2015). The legitimacy of Natura 2000 is thus perceived through its effectiveness and does not reside in EU documents but is constructed in the context of changing discourses. Contestation of meanings of policies, principles, and concepts is therefore a common occurrence, with wide ranging consequences (Hajer and Versteeg, 2005) and evidently can be productively applied to studies of environmental policies and their effects.

Linking social elements and particularly concepts as complex as social constructions directly to policies and their implementation can be challenging. There has been a limited amount of work so far on linking the two research domains, apart from applying the critical lenses of analysis on policy implementation. Most of the work directly linking social

constructions and policies is based on the framework developed by Ingram et al. (2007). Before their work, much of constructivist critique in the policy process has been shunned by the dominant academic scholars, like Sabatier (1999), due to the perceived relativistic and subjective conceptions of such work (Pierce et al., 2014). While Ingram et al. (2007) embrace the bounded rationality of actors and claim that knowledge is socially constructed, their work was deemed productive even by former sceptics. The assumptions in their work centre around mental heuristics through which individuals filter the information in a biased manner because of their social constructions and understanding of social reality as boundedly relative, is consistent with the claims made in the Frame Theory (Bennett, 2018, Chong and Druckman, 2007, Rein and Schön, 2013) and wider constructivist literatures on which this study is built (Berger, 1967, Chirkov, 2020, Eisenhauer et al., 2000, Greider and Garkovich, 1994, Kelly, 1955, Plotkin, 2011, Stedman, 2003). The focus of their framework is on how public policymakers socially construct the target populations for their policies, as well as how the policies then distribute benefits and burdens among those populations to maintain existing social constructions. They define different publics as 'advantaged', 'contenders', 'dependents', and 'deviants', based on their power and negative or positive social constructions associated with them, contending that policy impacts will differ based on the groups at which they are addressed and further deepen the entrenchment of how peoples in these groups are perceived, both by themselves and others.

This framework, which unambiguously links social constructions to policy analysis, has been used widely in different studies. Steinacker (2006) looks at how being classed into different categories affects the equity in the application of norms when considering externalities. Czech et al. (1998) apply the framework in the conservation policy field studying the constructions and classifications of non-human species in the US Endangered Species Act and the subsequent influence of those constructions onto the policy formulation and implementation. Pierce et al. (2014) present a review of the work using Ingram et al. (2007)'s framework, finding that the results suggest that the theory of combining social constructions with policy design has become clearly established as a credible way of studying policy processes. The use of this framework illustrates the way policies are perceived and deeply enmeshed in the social reality, extending beyond the discussions of just evidence bases for the formation and implementation of policy. Lejano (2006) concurs with these central assertions, while he did not use this framework, he still claims that the way collective identity is understood by stakeholders, and implemented, is an important facet that has to be considered. Particularly, since its link to effectiveness of policies and of multinational institutions, such as Regional Sea Conventions, that he studies, is direct. While the majority of this work is focussing on a different aspect of policy studies to the present work, namely the relationship between them and the subjects that they influence, both human and non-human, the validity of directly relating policy analyses with social constructions is still well established.

Work beyond applications of Ingram et al.'s framework has been somewhat rarer, particularly when it ventured beyond studying the effects of policies on populations, and also analysed the effects of different cognitions on the policies themselves. Steinacker (2006) analyses the applications of psychological theories, like prospect theory, common decision heuristics, and social constructions on the economic theories, particularly the work and conception of externalities and property rights. She follows the biases in policy attention and outcomes and links them directly to psychological theories, while rejecting the predominant economic assumptions in utility theory and the concept of *Homo economicus*, wherein people are expected to make rational decisions, based on data. Similarly, Dobbin et al. (2007) present

three different theoretical bases for understanding the global diffusion of public policies, which all disavow the predominant rationalistic and evidence-based model for these processes. When discussing constructivist bases for global diffusion, they acknowledge the role of norms, the social acceptance, experts and global organisations, as well as the bounded rationality and cognitive capacity of policy actors, concluding that policy makers learn only when lessons are congruent with their beliefs. This concept is also linked to so-called Bayesian updating, where people attach new knowledge to their existing beliefs. Swim et al. (2018) also study the diffusion of ideas and norms linked to climate change discussion, in a similar manner through the use of social constructions of climate change and how they influence the understanding of climate change and consequently also the related policies.

The critiques and evidence of incomplete EU marine environmental policy implementation and failure to reach the targets set for 2020 point to the need to devote more attention to the, so far under-researched, socio-psychological study domain. Particularly, as argued in this Chapter, the role of socio-psychological cognitions is likely to have a pronounced effects on peoples' behaviours and decision-making, which cannot be escaped even when one is in the role of a key policy actor. While analysing social constructions directly, and particularly their effects on policy texts, their interpretation, and finally implementation, is challenging, the analysis of discourses that are used both in policy texts and among the key actors is a good way to start.

2.4.4 Group dynamics and processes

Social constructions within the fields of sociology and psychology are also referred to by various different terms, such as cognitive frames, cognitive representations, cognitive maps, information processing and interpretation, and cognitive models (Beers et al., 2006, Brewer and Kramer, 1986, Clark et al., 2000, Mohammed and Ringseis, 2001, Tversky and Kahneman, 1981). All of these concepts still refer to the role of human cognitions, which form social constructions. As people make different interpretations of the environment and data with which they engage, they also bring these differing representations to their work in groups. Within group dynamics, these elements drive a number of highly studied group phenomena, such as groupthink (Eden, 1992, Friedkin, 2011, Janis, 1983, Syed, 2019, 't Hart et al., 1997), group cues (Djupe and Gwiasda, 2010), group identity (Djupe and Gwiasda, 2010), group heuristics (Brady and Sniderman, 1985, Djupe and Gwiasda, 2010, Lupia, 1994), group cohesiveness and diversity (Beers et al., 2006, Cartwright, 1968, Syed, 2019), group context (Friedkin, 2011), and others, such as the interactions between culture and group processes (Yuki and Brewer, 2014). These dynamics are important as working in groups is one of the defining features of the work of institutions, companies, and complex societies (Brauner et al., 2018, Peniwati, 2017, 't Hart et al., 1997). The disciplines of social psychology and sociology have been studying these dynamics with a variety of different approaches and identified a wide variety of different processes (Beers et al., 2006, Cartwright, 1968, Friedkin, 2011).

Social constructions, or cognitive frames, as they are more often known in group dynamics literature, provide an ordered and coherent understanding of (social) reality, therefore playing a key role also in group processes (Beers et al., 2006, Creed et al., 2002, Gamson, 2013, Jefferson et al., 2014, Nisbet and Mooney, 2007, Peniwati, 2017, Scheitle and Corcoran, 2020, Wei et al., 2020, Xiao et al., 2019, Yuki and Brewer, 2014,). Due to often poor

understandings of the way in which these personally held constructions differ, misunderstandings can arise, which are not necessarily recognised, leading to the phenomenon of "multiple ignorances" (Beers et al., 2006). In such cases, the group can seemingly reach consensus about how to proceed, while still fundamentally disagreeing on key tenets of their decision, which can sabotage the success of the implementation of the decision (Clark et al., 2000, Mohammed and Ringseis, 2001, Peniwati, 2017, Pfeffer, 1981, Walsh et al., 1988, Wooldridge and Floyd, 1989). Moreover, Brauner et al. (2018) claimed that high group productivity rate depends less on the competence of group members than on the way that they interact, and these interaction group processes are predicated on open and honest communication. The absence of cognitive consensus can result in group members only complying with the decision to distance themselves during the implementation phase (Mohammed and Ringseis, 2001, Perez et al., 2018, Vertzberger, 1995). It is crucial to recognise these misunderstandings and differences in framing and representations to avoid weak implementation later on.

2.4.4.1 Consensus seeking

Social influence directs groups towards uniformity through social interactions in which participants try to alter others' beliefs, attitudes, or behaviours (Cartwright, 1968). Individuals in groups exercise a number of different social influences on one another, as a pressure in an attempt to find uniformity. These processes can be further catalysed through use of group members' wealth, prestige, skills, or proficiency at tasks that are deemed relevant by the group, knowledge, physical strength, and ability to fulfil ego needs (recognition, affection, respect, accomplishment; Cartwright, 1968), and their social networks, which refer to complex relationships between members at different levels of social systems (Scott, 2017). The drive towards common group and unified approach seems to be inherent in the ordering processes of the groups and vital for their functioning, especially when groups try to settle on a decision (Clark et al., 2000, Friedkin, 2011, Mohammed and Ringseis, 2001, Syed, 2019). This process involves the establishment of common frames of reference, upon which shared knowledge and worldviews can be based (Beers et al., 2006, Bromme, 2000). Similarly, Clark et al. (2000) claim that when a decision has to be formulated by the group, the group first has to agree on making sense of preceding events and incoming information (Weick, 1995). However, most group encounters are multisided and group members' social constructions can present challenges for finding common ground (Beers et al., 2006, Hambrick et al., 1996, Jackson et al., 1995, Turnhout et al., 2019).

Nevertheless, the complexity of most challenges considered, particularly in the environmental field, necessitates rich conceptualisations and multidisciplinary, multi-stakeholder involvement, and the establishment of conceptual frameworks, which can accommodate different knowledge systems (Turnhout et al., 2019). A greater number of perspectives among group members has been demonstrated to lead to consideration of more alternatives and more creative solutions (Hambrick et al., 1996, Jackson et al., 1995, Syed, 2019, Yuki and Brewer, 2014). Yet, a multitude of different perspectives in a group can also undermine mutual understanding and knowledge sharing (Beers et al., 2006). 't Hart et al. (1997) describe the group processes in policy-making as a struggle to coordinate competing values. Still, the theory would suggest that the process of negotiating common ground itself can positively affect team decision making. Moreover, the inherent need, within constructively

engaging and functioning groups, to maintain some kind of a social order often also increases the commitment of group members to the groups (Beers et al., 2006, Bromme, 2000, Clark et al., 2000, Mohammed and Ringseis, 2001).

The process of negotiating common ground and establishing common frames of reference is complex, but is necessary to bridge the gaps between different perspectives and social constructions (Bechky, 2003, Beers et al., 2006, Clark et al., 2000, Courtney, 2001, Hasan and Gould, 2001, Syed, 2019). Most groups do share common aims towards which they are working, but their social constructions can interfere with their ability to cognitively view topics in similar ways (Beers et al., 2006, Dougherty, 1992, Douglas and Wildavsky, 1983, Mohammed and Ringseis, 2001, Van Asselt, 2000). This can impede reaching of common ground, also sometimes referred to as cognitive consensus (Bettenhausen, 1991, Eden et al., 1981, Jackson et al., 1995, McGrath, 1984, Mohammed and Ringseis, 2001, Perez et al., 2018, 1984). Mohammed and Ringseis (2001), for example, studied group processes and finding consensus among upper-level undergraduates at Penn State University and found that different predispositions, such as cooperativeness, variety of initial cognitive consensus levels, willingness to engage in debates, and the diversity of cognitive processes present in the group all affected the groups' ability to achieve cognitive consensus. A number of models of various complexities for reaching consensus exist (Clark et al., 2000, Mohammed and Ringseis, 2001, 't Hart et al., 1997). Perez et al. (2018), for instance, claim that consensus in group decision making can only be formed with extensive dialogue and deliberation between group members and needs to reflect the views of all participants. Other authors would point also to the importance of group interpretive processes for the achievement of group consensus (Corner et al., 1994, Daft and Weick, 1984, Hinsz et al., 1997).

Interpretation in psychology is understood as a process by which a group organises acquired data into meaningful structures on which it is possible to act (Corner et al., 1994, Daft and Weick, 1984, Hinsz et al., 1997). The first step of the interpretive process is for groups to start processing and interpreting information in a coherent way, lest the phenomenon of multiple ignorances develops (Beers et al., 2006). Clark et al. (2000), for example, describe the process of information processing occurring through steps of data scanning, interpretation, storage into memory, and retrieval from memory. These processes occur primarily on a personal level, but through deliberations in groups they start being applied in a wider manner. Group interpretation is challenging to achieve, particularly since there still exists a widespread (mis)conception that people process and compare information in a similar, rational and dispassionate way, as computerised information processors (Beers et al., 2006, Clark et al., 2000). Groups will therefore have to continuously renegotiate their views of reality, as developing this shared understanding is a core group process (Bettenhausen, 1991, Eden et al., 1981). Groups with more diverse cognitive frameworks will have to invest considerably more time and effort in recognising and aligning their divergent frames of references to find common ways of processing and interpreting information (Beers et al., 2006, Clark et al., 2000). In cases where groups establish common ground and build knowledge on top of it, this has been shown to broaden and deepen this common ground, together with participants showing more active commitment to maintaining the established common ground (Beers et al., 2006). Moreover, effective coordination of different representations can assist in going beyond incremental and piecemeal solutions (Beers et al., 2006, Dillenbourg et al., 1996, Vennix, 1996).

Cognitive consensus has proven to be a fruitful topic to research, with the topic being addressed from a variety perspectives such as the fields of management studies, psychology and group research, organisation studies, and sociology (Bettenhausen, 1991, Eden et al., 1981, McGrath, 1984). Mohammed and Ringseis (2001) discuss how group processes change under conditions of unanimity against majority rule decision making and describe how group process can move beyond just striving to reach decisions to discussing and understanding differing underlying assumptions. They find that while majority rule decision making is more effective in terms of time commitments (Friedkin, 2011, Hare, 1976, Kerr et al., 1976), groups with unanimity decision ruling achieved more cognitive consensus, as they were forced to move beyond discussing possible group decisions to assumptions underlying them. Perez et al. (2018) additionally assert that the quality of a decision reached is more important than the time needed to reach such a decision. This process led to greater understanding of participants' underlying preferences, which positively influenced also the implementation of decisions taken and satisfaction with the group work (Friedkin, 2011, Pfeffer, 1981, Walsh and Fahey, 1986, Wooldridge and Floyd, 1989). Greater focus on underlying assumptions is conducive to reaching agreements that are not possible at simply decision level (Mitroff and Emshoff, 1979). On the other hand, the majority rule groups tended to skip over the resolution of divergent preferences and move towards decisions (too) quickly (Castore and Murnighan, 1978, Harnett, 1967, Neale and Bazerman, 1992, Thompson et al., 1988). The unanimity rule forced longer and more in-depth discussions, which can result in promoting individual learning among group members to a greater degree than structured interventions (Harmon and Rohrbaugh, 1990, Rohrbaugh, 1979).

2.4.4.2 Group composition and diversity

Group cohesiveness or diversity also plays an important role in all group processes and is particularly important for establishing group consensus (Beers et al., 2006, Cartwright, 1968). There are clear indications that power dynamics in more cohesive groups change. Over longer time periods (i.e., weeks of intensive meetings or years for groups that meet less frequently), members of highly cohesive groups display similarities in their beliefs, attitudes, values, and worldviews, due to the pressures towards uniformity or through selective processes of recruitment and attrition. There also seems to be a positive correlation between greater group cohesiveness and the magnitude of influence that participants have over each other (Cartwright, 1968). But homogeneous group composition can also lead towards the phenomenon of groupthink (Eden, 1992, Friedkin, 2011, Janis, 1983, Syed, 2019, 't Hart et al., 1997), which is generally thought of as undesirable (Cartwright, 1968, Eden, 1992). Groupthink describes a situation where an abundance of similarity among participants leads to high level of confidence after considering only a narrow set of options, and underlying motives are not conceptualised in enough detail (Janis, 1983, Mohammed and Ringseis, 2001). Groupthink thus presents a situation where a group moves forward without thorough consideration of options and seeks consensus too soon. Friedkin (2011) identify group homogeneity, strong leadership, and high cohesion as catalysts of groupthink, while admitting that those are also characteristics of very effective groups.

Instead of forming cohesive, homogeneous, and seemingly effective groups, Janis (1983) claimed that having a range of perspectives represented is preferable to easy consensus, which links well with the work of Schneider and Angelmar (1993), as well as

Turnhout et al. (2019) and Lahsen and Turnhout (2021). Similarly, Walsh et al. (1988) argue that, particularly in early decision-making stages, it is crucial to increase the number of different social constructions present. Mohammed and Ringseis (2001) agree, claiming that greater cognitive diversity, or the variety of ways in which people think, at the beginning of the process, combined with reaching of cognitive consensus, during the process, is one of the preferred pathways leading to equivocality and mutual understanding (Perez et al., 2018). 't Hart et al. (1997), on the other hand, warn that while groupthink is a threat of group work, simply increasing the diversity of groups can paralyse the processes and result in stalemates. Given that more diverse group composition is often mentioned as an antidote to groupthink, the situation requires a careful balancing act. A diverse group with a variety of different social constructions that can coordinate effectively represents an ideal situation. Yet, if such coordination does not happen, the problem of multiple ignorances is a real risk (Beers et al., 2006, Jackson et al., 1995).

Group diversity can therefore lead towards productive results, but its success is dependent on the use of interpretive resolution strategies of information seeking dialogue, which affect decision quality, as described in the preceding section. It is often observed that such processes are particularly important in newly formed and/or very diverse groups, particularly at the start. Such groups are often characterised by lack of familiarity and consequently, poorer communication, which impedes the productive group processes (Asante and Davis, 1985, Byrne, 1971, Clark et al., 2000, Cox, 1994, 't Hart et al., 1997). Some group dynamics policy literature suggests that these problems can lead to lack of collegiality, and therefore instead of preventing groupthink, this can result in a complete breakdown of group dynamics and trust ('t Hart et al., 1997). Diverse groups also often feature multiple perceptions of the same data (Beers et al., 2006, Clark et al., 2000, Mohammed and Ringseis, 2001) and unless such differences are recognised can lead to widely agreed but poorly implemented group solutions (Clark et al., 2000, Mohammed and Ringseis, 2001, Peniwati, 2017, Pfeffer, 1981, Walsh and Fahey, 1986, Wooldridge and Floyd, 1989). Therefore, it is imperative for any group, but particularly very diverse groups, to reach points of participation and, at least some level of group interpretation process to begin working effectively (Brauner et al., 2018, Clark et al., 2000).

2.4.5 Social dimensions: Conclusions

Social dimensions, and by extension also social constructions, frame any concept that people interact with. While most of the conservation-related socio-psychological work to date has focussed on understanding perceptions, attitudes, and psychological restorative potential of nature, the actual complexity of socio-psychological domain is significantly more complex. This becomes even more important when engaging with understandings of nature, behaviours, policies and contested ideas and discourses, such as strict protection or wilderness. Social constructions of wilderness still exert power over both politics and policy (Bennett, 2019, Di Quarto and Zinzani, 2021, Lee et al., 2021, Salomaa et al., 2018, Turnhout et al., 2015). Bennett (2019) describes, in great detail, how various narratives and knowledges influence, control, and legitimise marine programmes, policies, and actions. He argues that the seas have to be repoliticised to avoid making ill-conceived decisions and policies. Bennett's arguments are in line with Latour (2004) thinking and illustrate the way power is linked to narratives, which

can be understood as anything from simple metaphors to complex social constructions. Salomaa et al. (2018) agree with Bennett (2019) assessment, contending that policies are created by the most powerful actors, which are in turn influenced by “representations” of nature, a concept linked to social constructions. These representations and relationships are predominantly individually-held, but they can be grouped among like-minded individuals, across cultures, ethnicities, or other elements and then studied on the level of societies. This is particularly important since most conservation actions, particularly the ones administered through policies, will also require coordination through groups. Group dynamic and processes thus introduce another level of socio-psychological complexity that should be taken into account.

2.5 Onto-epistemological positioning

The different social aspects have been, so far, discussed separately and individually, but they all deal with elements of inquiry that go beyond objective reality of natural environments and are dependent on the meanings, symbols, and consciousness that humans project into environments with which they interact. As such this creates a malleable and fuzzy world where environments shift both through ecological processes, as well as their representations, often independently from each other. The social aspects discussed in the preceding sections of this Chapter therefore do not work in isolation from each other and the ecological processes, creating an incredibly complex world that is practically impossible to disentangle and examine in parts. Therefore, since the meanings conferred to or associated with material phenomena, such as wilderness, vary between individuals and societies, this creates a much more complex world to understand and the resulting interpretations can never represent absolute truths, as the same physical phenomena are perceived differently among different people, consequently affecting their behaviour. As such the focus of social constructions and this research is solely on the social aspects of the studied phenomena, since this review also already demonstrated how these social phenomena play a pronounced role in psychological and physical wellbeing of people (Bjerke et al., 2006, Carrus et al., 2015, Curtin, 2009, Felsten, 2009) and also influence decision-making and behaviours (Fulton et al., 1996, Kellert, 1996, Kollmuss and Agyeman, 2002, Stedman, 2002, Steinberg, 2001).

This work mainly works with discursive social constructions, assuming an anti-essentialist ontology, which holds that the world is socially and discursively defined and ignores the material reality of the world, as it cannot be perceived and interacted with without considering its social embeddedness (Dempsey, 2021). However, this does not mean that the reality of the external world is questioned and that physical forces are entirely socially constructed, only that their meanings to individual people and communities are (Latour, 2004). Consequently, there exist multiple, socially constructed realities and not just one governed by immutable natural laws. The anti-essentialist ontology can also be closely linked to multinatural and object-oriented ontologies (Lorimer, 2012, Lorimer, 2017), which are well adapted to hybrid entities and dismantling empiricist and modern dichotomies between nature and societies (Latour, 2004). The pre-eminence of the academy and scientific knowledge is thus also eroded, as science is understood as always being socially embedded and entangled in power relations with other actors (Latour, 2004, Lorimer, 2012, Tanke, 2011). Whatmore (2009) thus describes the way that the contestation of scientific knowledge claims has become

common place, instead of being used to settle the disputes. The anti-essentialist ontological basis then allows the derivation of more specific epistemologies, that this research employs.

Addressing discursive social constructions can be studied through numerous approaches ranging from phenomenological discourse analyses to ethnographic methods and literary theories of textuality, as well as psychoanalysis. Dryzek (2005) defines a discourse as a common way of understanding the world, which is based in language. Discourses thus construct relations and meanings to compose common sense ideas and legitimate knowledges, all the while resting on assumptions, opinions, and contentions. All these different approaches to discursive social construction share their interest in power and their effects and how they shape the interactions among the key players in policy implementation context (Demeritt, 2002). Language shapes our view of the environment and reality, and thus reality is always socially interpreted through discourses. This is particularly the case in the field of environmental policy research where it is not environmental phenomena themselves taking centre stage, but the way in which society understands and interacts with those phenomena (Hajer and Versteeg, 2005). Discourse analysis is therefore useful when trying to understand complex situations, where there is a multitude of different perspectives about it. The linguistic component of discourse analysis lends itself well to Derrida's deconstruction approaches (Derrida, 1997). Derrida's deconstruction method reads against the grain to destabilise truth claims through erosion of logic of hierarchical oppositions that define the text and give it meaning (Demeritt, 2002, Derrida, 1997). The entire approach is based on the assumption that language, specifically the way we understand, interpret, discuss, and construct environmental problems, matters (Dempsey, 2021, Dryzek, 2005). Frame theory, a separate, but related social theory, also aligns with this ontology, as it regards frames as communication devices through which humans affect the attitudes of their listeners and the listeners interpret the incoming information. Frames are based on symbols, ideologies, and discourses (Chong and Druckman, 2007), and can therefore act as approximations of social constructions, which is how they are used in this study.

2.6 Conclusion

This research is focussed on understandings of socio-psychological backgrounds in decision-making during marine conservation policy interpretation and implementation in the EU, with particular emphasis on understanding the relationships of key actors with marine nature and wilderness. As this Chapter has shown, wilderness maintains considerable salience in general conservation discourses, even in the Anthropocene, whether appropriately or not. However, regardless of whether the term is used directly or not, there are considerable efforts afoot to expand strict protection, reduce human activities, and allow natural processes to predominate across substantial areas across Europe, and this is clearly aligned with pro-wilderness arguments. Since a coherent and widely accepted definition of wilderness does not exist and the concept is largely socially constructed, its continued influence is particularly interesting. Moreover, given that socio-psychological literatures have been pointing towards the pronounced effects of individual and social constructions, as well as group dynamics on behaviours and decision-making, it becomes even more important to investigate these understandings and their linkage with policy implementation to be aware of how the influences

might play out over the coming crucial decades for marine biodiversity conservation with all the currently agreed international policy targets.

CHAPTER 3 – METHODS AND MATERIALS

This study investigates the effects of ideas surrounding marine nature and wilderness on EU marine environmental policy implementation, through two main research questions (see Table 3.1), targeting key actors, such as policy-makers and experts, including those who transpose EU policy into practice, representatives of EU and Regional Sea Conventions (RSC) institutions. The overarching approach to addressing the research questions is through discourse analysis, but utilising a variety of methods, ranging from policy analysis to semi-structured interviews, Q-methodology, and focus groups (Living Q) with diagramming, supported by ethnographic and participant observations. The diversity of methods allows in-depth interrogation of the socio-psychological bases for the prevailing social constructions across the EU, as well as linking them to the ways in which the EU policies are interpreted and implemented. The research approach has been designed to allow methods and their results to inform one another in a clear and logical progression (Figure 3.1), consequently allowing the research to build on itself and adapt to emerging themes and results, thus integrating the principles of grounded theory (Newing, 2011, Creswell, 2007, Zabala et al., 2018).

Table 3.1: Research questions and methods

RESEARCH QUESTIONS	**METHODS**

How do individual EU key policy actors and their expert advisors relate to the concepts of marine wilderness?	Semi-structured interviews
	• Illustrative sample
	  ○ National policy-makers
	  ○ National experts
	  ○ Regional Sea Convention (RSC) representatives
	  ○ EU-level institutions (DG ENV, MARE, JRC, EEA)
	• Provide part of input for Q concourse
	
	Q-methodology
	• Concourse and Q set defined on the basis of literature, policies, and semi-structured interviews (above)
	• Q sort to be undertaken by a selection of experts and policy-makers for each of the 4 EU Regional Seas

How are the meanings of marine wilderness and strict protection negotiated and defined among the key policy actors on the level of EU Regional Seas?	Focus groups/Diagramming – 3 groups (all regional seas covered) • Derived from the results of Q sort • Mixed group of policy-makers & experts on regional level • Living Q methodology (Ripken et al., 2018) Semi-structured interviews and Q post-sort interviews

An integrated, multi-method approach used three distinct research phases focussing on the elaboration of social constructions of marine wilderness and nature in relation to EU marine environmental policies. These phases flow into one another (see Table 3.1, Figure 3.1) and are described in detail in sections 3.3-3.6. In parallel with those three research phases, described in the following paragraphs, policy analysis was undertaken (Figure 3.1). Policy analysis (Section 3.3) both informed each of the parallel research phases and was also shaped by the results and insights gained. The analysed texts were "deconstructed" and discursively analysed, in the French post-structuralist tradition (Deleuze, 1994, Derrida, 1997, Foucault, 1979) to identify the presence of different discourses and their influence (Creswell, 2007).

The first phase of research conducted semi-structured interviews, with a small, illustrative sample of policy-makers, experts, and representatives of EU and regional institutions (Section 3.4). The interviews followed the guidelines introduced by Newing (2011) for collecting qualitative data in conservation studies. Therefore, given that the interviewees are busy civil servants, the interviews were semi-structured, while giving a large degree of the control of the flow of the conversation to the respondents in order to most closely reflect the participants' knowledge, attitudes and opinions (Newing, 2011). The questions were focussed on the way in which interviewees experienced both policy processes and marine nature (Creswell, 2007). The interview results were used for direct comparisons with policy analyses, which were running in parallel with those.

The second phase centred on the use of Q methodology. The sample was larger, but still targeting the same types of participants as the interviews. The interviews and Q methodology focused on the personal social constructions of marine nature and wilderness and explored how individuals understand and relate to the seas, by focussing on their experience, memories, values, and beliefs, and by discussing their work motivations, challenges and future policy priorities. Q methodology with its ranking exercise can be counted among the relational methods described by Newing (2011). Additionally, both interviews and Q methodology are methods that are well-suited for social constructivist studies, as they provide insights into subjective meanings of individuals' experiences of certain objects and concepts. This allows the uncovering of the complexity of views, frames, or social constructions of the situations (Creswell, 2007). The Q study was partly based on results of policy analyses, interviews, and literature review, while its results also informed subsequent interpretive policy analysis.

The third phase provided an overview of ideas of social constructions and the most important issues and statements. These results were used to kick-start Living Q focus group discussions in a transboundary context for each of the four EU Regional Seas. Living Q methodology was used in the focus groups (Ripken et al., 2018), so that it was possible to build directly on the results of the earlier Q study. Living Q methodology (see Section 3.6.2.1) allows a direct insight into the process of presenting arguments and how compromises do or do not emerge when people who hold different understandings of the issue at hand discuss them (Creswell, 2007). The participants in those groups represented the same groups as above and were asked to discuss and debate the results provided by this research and their own ideas and conceptions of marine wilderness, nature, and EU policy. Living Q focus groups thus formed part of efforts to inform participants about the early results of this project and to build on them. Focus groups were used to not only provide data in the form of group interviews, as described by Newing (2011), but to explore the ways in which group dynamics affect the

previously identified social constructions. Given that the focus groups in this study were also composed of groups of people who meet together to plan the implementation of EU policies, their inability to generalise to a wider population (Newing, 2011) has been avoided.

The integrated, mixed-methods approach used in this study combines both qualitative (interviews, focus groups, partly Q methodology, policy analysis) and semi-quantitative (Q methodology, Living Q) elements. While Newing (2011) cautions against potential issues with fundamental onto-epistemological differences between quantitative and qualitative approaches, the Q methodology used in this study is fully aligned with the social constructivist epistemology that this study is utilising. On the other hand, Creswell (2007) claim that it is typical for qualitative researchers to use multiple methods to gather data, as different kinds of data allow better possibilities for reviewing and categorising them across data sources. Both Newing (2011) and Creswell (2007) suggest using grounded theory to guide the analysis of these data, and elements of constructivist grounded theory have been used through the discourse analysis employed here (Charmaz, 2014).

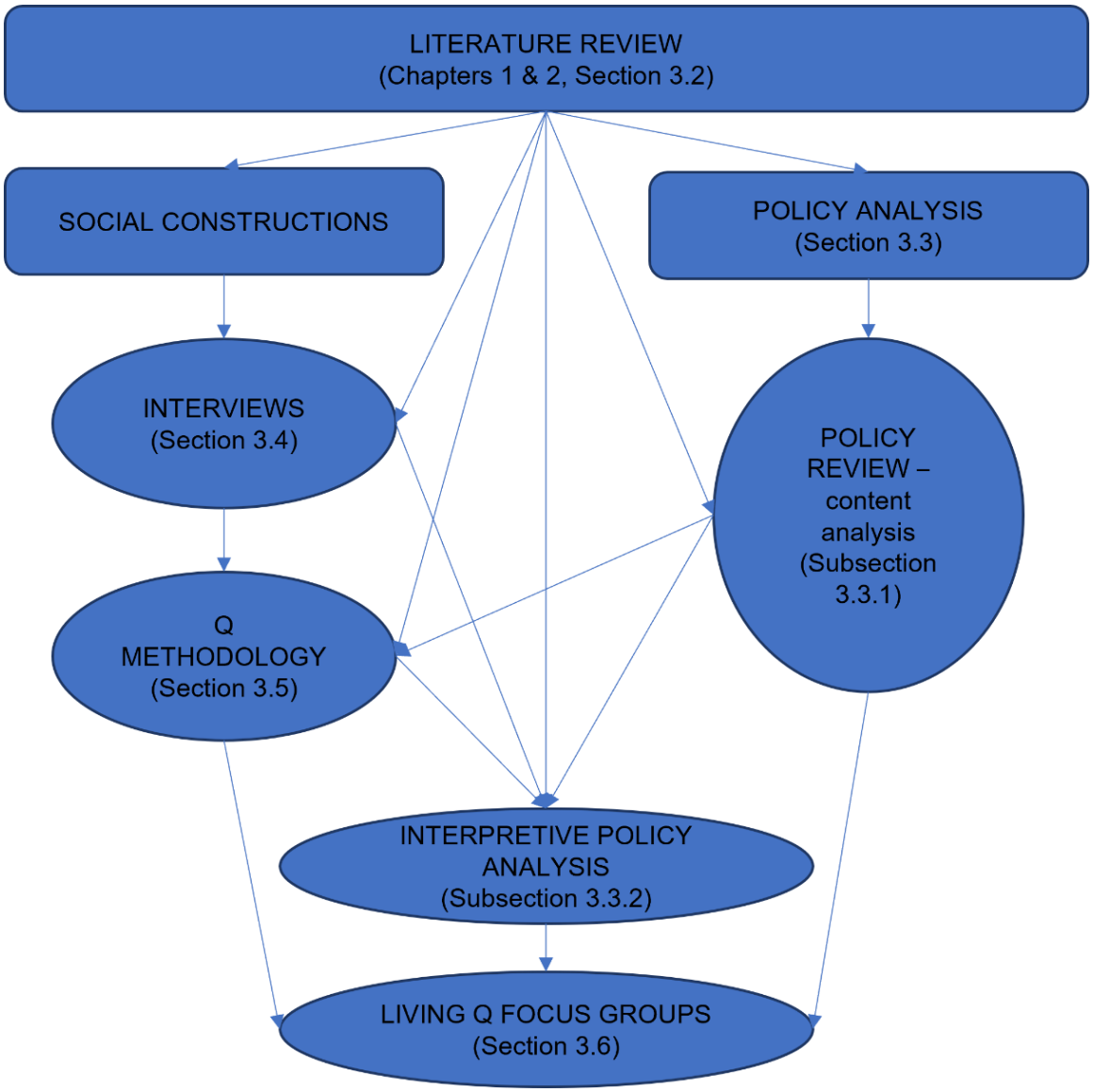


Figure 3.1: The methods used and the way their results feed into each other

3.1 Ethical considerations

Ethics approval was granted for this work according to the requirements of the University Teaching and Research Ethics Committee by the School of Geography and Sustainable Development Ethics Committee. The identified ethical risks were minor, related to the possibility of discussing disturbing memories and to low risk of career repercussions. These risks were mitigated by fully informing participants of the scope and aims of research, with written consent forms collected ahead of time. Additionally, the data collection was deemed confidential, and all recordings destroyed upon transcription, with pseudonymisation of identifying information and Chatham House rules applied during the focus groups (Appendix I).

3.2 Geographical scope

Europe is surrounded by a diverse set of marine areas, which are still under considerable anthropogenic pressure (Halpern et al., 2019, Korpinen et al., 2021), while being managed by some of the most stringent and well-enforced marine environmental legislation in the world (Bigagli, 2015, Boyes and Elliott, 2014). At the same time, it has to be acknowledged that this environmental legislation is relatively well implemented in EU's waters, while having deleterious consequences further afield (Okafor-Yarwood and Belhabib, 2020). This thesis will only discuss the interpretation, implementation, and effects of EU policies and its key actors on EU seas, without making any assumptions about the impacts of EU policies beyond EU waters. Since all EU Member States are bound by EU policies, the European seas offer a unique opportunity to study the way that common policies are being interpreted and implemented across the continent, as people who are working on them come from different backgrounds and have experiences of a variety of different EU seas, from the Baltic to the Mediterranean. Therefore, the issue of EU policy implementation can be considered across a range of scalar dimensions, from the supranational, to the level of regional seas, as well as national scale.

The EU seas include semi-enclosed seas, such as the Baltic, the Mediterranean, and the Black Seas but also the open ocean of the North-Eastern Atlantic. Moreover, European seas are diverse in their bio-physical characteristics. This is unsurprising since Europe's marine territories extend from the sub-arctic to sub-tropical seas with all the temperate variations in between. Additionally, the sea basins differ from the shallow and brackish Baltic Sea (Bastardie et al., 2020, Grönholm and Jetoo, 2019, Hassler et al., 2019), to the high salinity, warm, and deep waters of the Mediterranean and Black Seas (Rätz et al., 2010) to open oceanic and abyssal areas of the Atlantic (OSPAR, 2010). The physical diversity of the European Regional Seas is reflected also in their biodiversity. The brackish Baltic Sea supports very few species, which can occur in great abundance (HELCOM, 2018), while the Mediterranean is considered a global biodiversity and endemism hotspot (IUCN, 2016, Myers et al., 2000). Figure 3.2 shows the European seas divided into subregions. Celtic and Greater North Seas, together with Macaronesia and Bay of Biscay and the Iberian Coast represent the North-East Atlantic region. Western Mediterranean, Ionian Sea and Central Mediterranean, Adriatic, and Aegean-Levantine Seas compose the Mediterranean Regional Sea. The Baltic

and Black Seas are not subdivided into subregions by the EU marine reporting units, though divisions are possible.

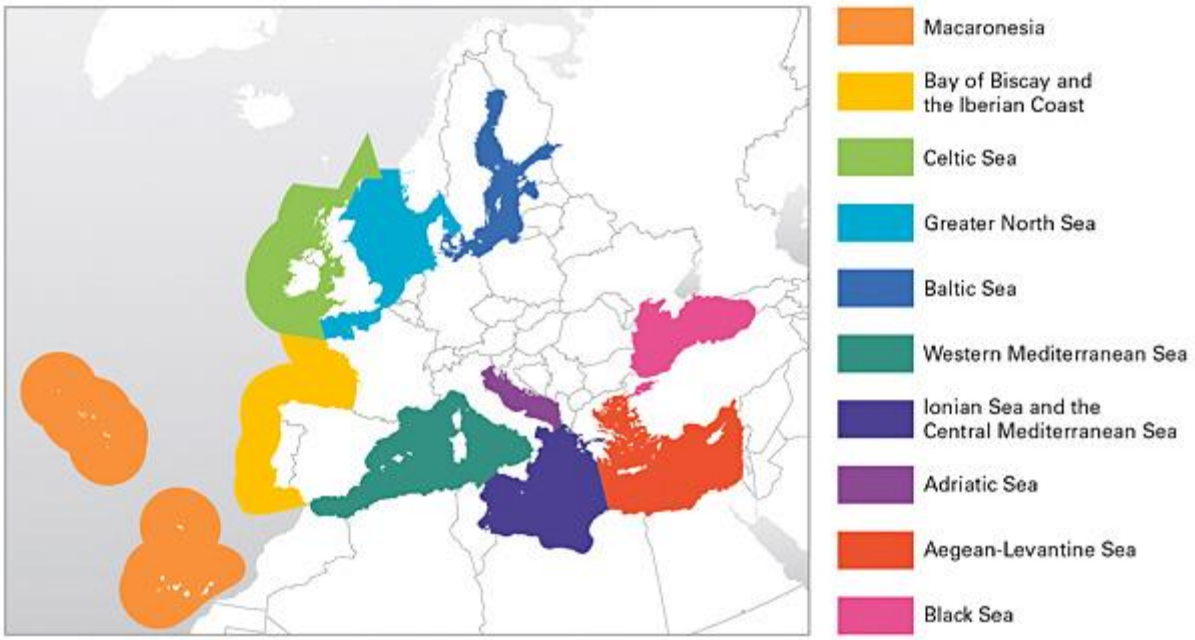


Figure 3.2: European sub-regional seas (source: https://www.spf.org/en/opri/newsletter/352_1.html?full=352_1, last accessed: 10.3.2021)

3.3 Policy analysis

Policy analysis is a tool to help build understanding of how and why certain policies are conceived, passed and implemented, and what kind of effects they have (Browne et al., 2019). It is important to carefully choose the type of policy analysis that would correspond with overall ontology and epistemology of research and most closely address the set research questions. This research project focusses on the social aspect of the topic. As such, the EU marine environmental policies, in this project, are not evaluated for their effectiveness or the network of actors and institutions that bring them to life, but rather mainly as source materials to study how policy-makers and their expert advisors across the EU perceive, interpret, and implement them. Policy analysis, within this context, must therefore firstly provide an opportunity to assess to what extent policies in question already address the ideas and discourses of marine wilderness, undertaking an analysis of content, both in their legal texts and the discourses that they generate in their implementation (implementation meetings, progress reports, state assessments, see Section 3.3.1). Additionally, the second part of policy analysis focusses on the interpretive analysis of EU policy implementation, as described in policy assessments and where more efforts should be directed in the future (Section 3.3.2).

Following Browne et al. (2019)'s typology of different policy analysis approaches, an interpretive orientation of policy analysis has been judged as the most appropriate due to its focus on representational questions, following the work of numerous policy analysts (Bacchi, 2009, Fischer, 2003, Hajer and Laws, 2006, Yanow, 2000). Among the interpretive

approaches, the deliberative and discursive approach, described by Fischer (2003) and Yanow (2000) and linked reflexive policy analysis (Rein and Schön, 2013) were identified as appropriate because of their focus on subjective motives and discursive social constructions that lie in the background of decision-making (Yanow, 2000). The key question is thus how policy issues are framed by different actors involved in them, which forms the basis of the interpretation. Such an analysis allows for following the way in which different interpretations of the situations lead to conflicting actions and consequently, how they shape the world, as the world changes based on how people see it and act on their beliefs.

Study of frames defining policy challenges, and varying understandings of key participants, is the foundation of interpretive analysis (Fischer, 2003). Frames can be functionally understood as social constructions, since they describe the ways in which issues are framed and thus interpreted, influencing the way people act and behave in relation to them. Frame reflexive policy analysis focusses on frames as ways to select, organise, and interpret complex realities, and is appropriate for studying policy discourses, as well as action and institutional frames (Browne et al., 2019). This study combined policy analysis with empirical results obtained through semi-structured interviews and Q methodological study to establish what the social constructions on this topic are across the four European regional seas, and thus identified framings in connection with EU marine environmental policies. The frames in this study (also referred to as framings and social constructions, aligned with the literature, see Chapter 2) were thus identified inductively from multiple forms of analysis and validated ex-post by considering common terminology used in the wider literature, to come up with mutually exclusive categorisation. The main element of their identification was through Q methodology (see Section 3.5), while the other methods qualitatively grounded them in wider discourses. Both of these methods provide empirical data which, together with information gathered in the literature review, can be compared with the overview of EU policies and their implementations, to provide credible and robust interpretations of how differing wilderness and nature imaginations across Europe influence common policy implementation.

3.3.1 Content analysis – wilderness discourses

Content analysis of wilderness discourses in policy texts was the first step of policy analysis that was undertaken. The policy documents were selected first based on the association with a subset of EU policies that were, based on the literature (see Chapter 2), judged as central for EU marine environmental policy portfolio. These policies were the Biodiversity Strategies (the new one for 2030, and the expired one 2010-2020), Common Fisheries Policy, Marine Strategy Framework Directive (MSFD, 2008/56/EC), Habitats Directive (HD, 92/43/EEC), and Birds Directive (BD, 2009/147/EC). Policy documents linked to Water Framework Directive were considered, but ultimately judged repetitions of Marine Strategy Framework Directive documents, as relevant (marine) parts of Water Framework Directive had to be fully integrated into Marine Strategy Framework Directive implementation. Additionally, Maritime Spatial Planning Directive was also considered, but given its early implementation stages and limited amount of documentation available, it was not included. Only EU-level policies were considered, as they are the same for all Member States, while their transposition into national legal frameworks was not considered. The focus was on the institutions tasked with their implementation, i.e., the executive branch of EU governance (the European Commission and in some cases Courts for infringement proceedings and overall

assessments of marine policy – European Court of Auditors) and the expert institutions which support the implementation of these policies. At the EU level, those are mainly the European Environment Agency and the Commission's Joint Research Centre. The period considered was from 2008 onwards, when the Marine Strategy Framework Directive was passed and the EU, for the first time, comprehensively covered the environmental issues of its seas with legislation.

The policies themselves (directives and strategies) were sourced from EUR-Lex platform (eur-lex.europa.eu), while the supporting documentation was sourced from the CIRCABC platform (Communication and Information Resource Centre for Administrations, Businesses and Citizens, circabc.europa.eu), where an ECAS (EU Login) profile has been created for free to access it. Within CIRCABC portal, the focus was on European Commission documents, as the legislative initiative and strategies fall within the Commission's purview. Further focus among the European Commission's CIRCABC areas was on the area of "Environment", "Maritime Affairs and Fisheries", "European Climate, Infrastructure and Environment Executive Agency (CINEA)", "European Court of Auditors (ECA)", and "Joint Research Centre". Within each of these areas biodiversity and particularly marine biodiversity sub-categories were explored and their libraries of documents, with a focus on finding documents linked to the above-mentioned policies. Technical documents, relevant meeting minutes, and assessment reports were collected and analysed. Additionally, also reports from European Environment Agency related to marine environment and biodiversity and European Commission-funded consultancy reports on assessments of MPAs were included. At the first instance, the documents were read and the ones that did not mention marine biodiversity protection directly were discarded.

The remaining 59 policy documents (list of analysed documents in Appendix II) were thematically coded, using NVivo, into six predominant themes associated with wilderness definitions that were identified in the literature and then discursively analysed. The analysis process involved iterative rounds of reading through the assembled policy documents and developing a deeper understanding about the information contained within them, including by comparing them with the insights from the interviews and literature review, which have been ongoing simultaneously (as per suggestions of Cresswell, 2007). Coding is a systematic way of annotating in which the policy texts, or parts of them, are marked as part of standardised codes, which indicate that they are thematically linked to them. This study used a Grounded Theory approach, where codes were allowed to emerge from the data to build the study's conceptual framework (Newing, 2011, Strauss and Corbin, 1990, Zabala et al., 2018). The codes, in this instance, were defined based on preceding literature review into different wilderness definitions and the discourses that were invoked in those definitions. Apart from the six wilderness discourses, additional codes were introduced to mark any explicit mention of wilderness, other potentially relevant conservation descriptions (linked to climate change solutions, ecosystem approach, emergence of pandemics, natural capital, representative PA networks, and sustainable use, which often appeared enmeshed with the conservation topics). Furthermore, the Ecosystem Functioning and Resilience code was subsequently subdivided, as the number of quotes in it was very high, into four subcodes (Ecosystem health, Functioning, Resilience, and Restoration). Therefore, some of the codes were introduced deductively, while some others, mainly sub-codes were defined after reviewing the policy texts, which is consistent with methodological literature, which claims that pre-defining a full set of codes is rare, with a more common approach in defining some broad codes and then developing more

specific ones that emerge from data (Newing, 2011). Coding, therefore, allows identification of key themes and patterns that emerge from data, with the grounded theory approach recognised as clear and systematic approach to qualitative data analysis (Newing, 2011, Strauss and Corbin, 1990). Regardless of the systematic approach to coding, this was qualitative and interpretive research, which meant that codes were assigned based on personal assessment to fit the descriptions in the literature (Cresswell, 2007). The quotes were assigned into codes by reading through the documents and highlighting the text that corresponded to the ideas and discourses as defined in the literature, in NVivo 12 software. If these phrases appeared in policy texts, the relevant part of the text was coded into the bespoke code. This process was iteratively repeated a few times until the coding three was fully developed.

The codes were then reviewed to identify different discourses present and how they link with different arguments used, as well as wider discussions in academic and activist literatures. Neither the general literature on wilderness nor the specific marine wilderness literature has been coherent about what wilderness is, as a common understanding of wilderness continues to be elusive. The variety of definitions and wilderness-related discourses, identified in academic, policy, and activist literatures, can be categorised into six overarching themes (Table 3.2). The table is based on a review of 157 papers and policy documents which mention wilderness or related concepts such as rewilding, wilding, wild nature, no-entry areas, strict protection, and land sparing. Additionally, 69 papers related to marine conservation, marine reserves, no-take areas, no-entry zones, marine resilience and functioning and very large marine protected areas (MPAs) were also reviewed to identify the presence of wilderness-related discourses in general marine conservation literature. The first grouping represents “Classical” definitions, mainly centring around pristine and undisturbed discourses and the culturally important values of wilderness. The other overarching category focusses more on “Future and open-ended” approaches to conservation which predominate in more recent conservation literature linked to ecosystem functioning and resilience (Warren, 2020).

3.3.2 Interpretive policy analysis – implementation focus

Interpretive policy analysis followed the content analysis. It included a detailed study of implementation reports and comparison with interviews and Q study results, employing Fischer (2003)’s interpretive approach and frame analysis. The documents were sourced in a similar manner as for the content policy analysis, with the difference that the focus was on documents detailing what has been done up to 2022 from 2008 onwards. The policy focus remained the same, as in the content analysis (see 3.3.1), although with a greater emphasis on Marine Strategy Framework Directive, given that Marine Strategy Framework Directive officially integrates and coordinates other EU marine environmental policies and policy objectives. Additionally, the scope has been broadened to also include academic literature and Regional Sea Conventions. The number of policies reviewed in this stage of policy analysis was thus greater compared to the content analysis, as it included all main EU marine environmental policies, besides the conservation-oriented ones that discussed wilderness or wilderness-related discourses. Altogether, 87 policy documents and 21 papers were initially identified, but the final list of documents reviewed grew to 150, as more sources were added also from

Regional Sea Conventions, which were not part of the initial set of documents derived from CIRCABC, when relevant documents were being identified in an earlier stage (see Section 3.3.1). These documents included both official reports and policy texts, academic papers, as well as meeting minutes of the relevant meetings, where implementation of policies was discussed. Given the number and the breadth of documents reviewed, it can be argued that this is a relatively comprehensive sample. The documents were found from three main sources (more detail below): Regional Sea Conventions documentation on implementation of their legal bases on the level of regional seas, the academic literature on EU policy implementation (see Chapter 2), and EU policy implementation reports, both official, as well as minutes of relevant technical, expert, and working group meetings and the supporting documentation that is publicly accessible.

The focus was still on CIRCABC and official policy assessments that the European Commission produces periodically, with particular attention to the implementation assessment documentation (MSFD Article 12 and 16 assessments, as well as reports, Staff Commission Documents, and relevant annexes intended for communication within European Commission, and with European Parliament and Council). Much of this assessment documentation is produced at Member State, regional, and EU levels. In order to keep the number of documents manageable, only documents referring to regional and EU levels were included in the analysis. Given that the focus of this analysis was on implementation discourses, particular attention has been paid to meeting minutes of different working and technical groups where issues of implementation and possible solutions are discussed first (especially Working Group Good Environmental Status - WG GES, Working Group on Economic and Social Assessment – WG ESA, Working Group Programmes of Measures, Economic and Social Assessment – WG POMESA, Expert Group on the Birds and Habitats Directives – NADEG, Marine Expert Group under the Birds and Habitats Directives – MEG, Technical Group on seabed habitats and sea-floor integrity – TG SEABED). The public access to the minutes of these meetings and the documentation around which the discussions were organised is provided on CIRCABC, but not always timely or in the same level of detail. All relevant documents that could be accessed were included. In addition to the implementation reports of EU policies, the assessment reports from the Regional Sea Conventions were also included (HELCOM, OSPAR, UNEP/MAP, Black Sea Convention). Within Helsinki Convention, the most available documentation referred to the implementation of Baltic Sea Action Plan (BSAP), which was thus included in this analysis. UNEP/MAP for the Barcelona Convention provides most information in terms of legal decisions and reports. In this context, most of the documents were related to the work of Regional Activity Centre/Special Protection Areas (RAC/SPA), which covers conservation issues. Additionally, a number of more overarching reports on Sustainable Development, such as State of the Environment and Development (SoED) have been included. OSPAR's annual assessments of their MPA network have been included, as well as the assessments linked to the Quality Status Report (QSR). Black Sea Convention offered less access to the documentation, but documents like Strategic Action Plans (SAPs) and State of the Environment (SoE) reports were accessed where possible and included. Finally, a number of academic papers that were reviewed in Chapter 2 and dealt with the topic of EU policy implementation were also included.

All documents were reviewed and their sections coded into four codes (see below). The code selection was discrete, but otherwise the process was identical as already described in Section 3.3.2. The four overarching codes (Assessments, Control & Compliance,

Coordination & Collaboration, and Successes and Gaps) were defined deductively in the Grounded Theory approach outlined earlier. After identifying the range of documents, all the documents were read and different arguments and themes that were presented as central or important for policy implementation were identified. Twenty-eight themes were identified (see below). Through iterative reading of policy documents and comparing it with these themes, the four overarching themes were deductively developed, so that they could contain the larger number of previously identified concepts within them. Coding then proceed as outlined before, wherein the presence of any of the 28 (sub)themes would require the relevant portion of the text to be coded into appropriate overarching code or theme. Some documents proved to be inappropriate for this analysis, as they either only described the status of the environment, discussed assessment methods or various formalities, but were not associated with implementation of EU policies directly. These documents were excluded as the analysis progressed. The final number of coded documents is 107 (list of coded documents in Appendix III). The coded statements within each (sub)theme were discursively analysed with succinct summaries produced, and these were then used for further reflexive analysis.

The following four themes for coding were used, with sub-themes as indicated. This coding approach allowed for comparison of how the assessments of the implementation of EU marine environmental policies relate to the three main elements that emerged from the coding analysis (Data, Enforcement, Cooperation), while also addressing some of their sub-themes, such as monitoring, reporting, and expertise, when talking about data, compliance and control in relation to enforcement, as well as cohesion and coordination in relation to cooperation.

1. Coordination & collaboration
    a. Calls for increased coordination between MSs, or EC and MSs, or MSs and RSCs
    b. Synergies between or integration of policies
    c. Working together (people, countries, expertise)
    d. Cooperation
    e. Harmonisation
    f. Facilitating dialogue/balancing different interests
    g. Coherence
    h. Mainstreaming/standardisation of efforts
    i. Addressing overlaps
2. Successes & gaps
    a. Cases where implementation has been successful and we can see or expect environmental improvements
    b. Limited personnel and funds
    c. Knowledge (enough or lacking)
    d. Transfers of experience & knowledge
    e. Hard vs soft law debates
    f. Implementation gap
    g. Ecosystem Approach
    h. Political willingness
    i. Public involvement
3. Control and compliance
    a. Infractions

    b. Enforcement
    c. Regulation/implementation/management or similar
    d. Effectiveness of implementation
    e. EU courts
4. Assessments
    a. Monitoring
    b. Indicators
    c. Thresholds
    d. Pressures
    e. Science-policy interface

3.4 Semi-structured interviews

3.4.1 Participant sampling

Semi-structured interviews were undertaken between 30.9.2021 and 19.11.2021 on a small, illustrative sample of EU national policy-makers and experts, as well as some representatives of EU and RSC-level institutions. The aims of these interviews were to understand the interviewees' personal relationship with marine nature and wilderness and the criteria which they used to set priorities within their work with EU marine environmental policies. All participants were identified based on the researcher's existing, professional networks and by using snowballing technique. The illustrative sample included 16 interviewees who were representatives of expert, EU, RSC, and policy-making institutions spanning three regional seas (there were no replies from the Black Sea region, despite efforts to reach them.) Tables 3.2 to 3.4 show the distributions of respondents.

Table 3.2: Number of respondents by type of key actor

Type of respondent	Number of respondents
National policy-maker	4
Experts	3
EU	6
RSC	3

Table 3.3: Number of respondents by EU Regional sea

Regional sea or EU affiliation	Number of respondents
Mediterranean	5
Black	0
Atlantic	5
Baltic	3
EU	6

Table 3.4: Number of respondents by their nationality

Nationalities represented	Number of respondents
Croatian	2
Slovenian	1
Spanish	2
Finnish	3
Danish	2
Greek	4
Dutch	1
French	1

The sample was kept small because the primary function of the interviews was to collect general themes and personal ideas to inform later stages of research. The interviews focussed on the personal social constructions of marine nature and wilderness and exploring how individuals understand and relate to the seas. This was achieved by focussing on their experience, memories, values, and beliefs and discussing their work motivations, challenges and plans for the future, as well as future policy priorities (see Interview Guide in Appendix IV).

3.4.2 Piloting and interview guide

The interviews were piloted on a small sample of five respondents before data collection started. The piloting respondents represented the same type of policy actors as were engaged for interviews, alongside experts in the use of semi-structured interviews, psychology, and conservation, to make sure that the questions posed were clear, understandable, and to make sure the timing of the interviews worked out. The final set of questions to lead discussion is in the Interview Guide (Appendix IV). The interviews were structured around three main sections. The first section focussed on interviewees' work, motivations for doing their job, perceptions of impact and interactions between expertise and policy world (science-policy interfaces and conflicts). The second part delved into the understandings and relationships with marine nature and wilderness (both marine and in general), the respondents' memories, experiences, and restoration potential of nature. The final part of the interview focussed on marine environmental policies and where policies priorities should lie, as well as where the gaps in implementation are currently.

3.4.3 Undertaking the interviews

The semi-structured interviews were designed to be free-flowing, with interviewees retaining a large degree of control over the flow of the discussions and being free to bring up any point that they deemed relevant, and with the researcher only prompting with occasionally steering questions to keep the discussion relevant. The focus of the interviews was on the identification of the social constructions of marine nature and wilderness, work motivations and drivers, and the views of participants on the role and use of EU policies. The participants thus offered glimpses into the psycho-sociological connections they formed with the marine environments. The interviews took between 35 and 55 minutes, with no preparation necessary for the participants. Qualitative data collected through interviews was audio-recorded and

transcribed. In some cases, these data were collected in native languages (e.g., Slovene, Croatian, French) and were translated by the researcher, as necessary. Interviews were undertaken online, through the use of MS Teams or Skype, depending on the preference of the respondents.

3.4.4 Interview analysis

The complex set up of the interview guide, which is based on a wide variety of theoretical foundations, made the analysis challenging. Consequently, the analysis proceeded in a number of steps. All transcripts were thematically coded into the six predominant wilderness discourses that were also used for discursive and content policy analysis (see section 3.3.1). This step predominantly focussed on the second section of the Interview Guide prompts, which were exploring the relationship with the seas, ideas of wilderness, and the restoration potential of (marine) nature. The second coding exercise mainly used the first and third sections of the Interview Guide, which delved into the policy work and priorities of the respondents. The coding for these sections identified different ways of addressing marine conservation and was used as one of the sources for the statements for the Q concourse (see section 3.5.3).

The design of the interview guide allowed interviewees to build on ideas and discourses throughout the interview, and many developed narratives throughout the duration of interview. Therefore, disaggregating the transcript into different discrete themes was too reductionist. Transcripts were thus analysed by linking and tracing personal/psychological themes throughout each individual transcript to analyse them in the context that each individual provided, while they were also linked to the ideas of wild nature and wilderness. Elements of how participants described their upbringing, education, motivations at work, hobbies and general worldviews were interlinked with the descriptions of nature and wilderness that they provided (Table 3.5). The illustrations of this, so-called, “linking” analysis can be found in Appendix XI.

Table 3.5: The coding themes and sub-themes for interview analysis

THEMES FOR CODING	UNDERLYING SUB-THEMES
GENERAL WORLDVIEWS	Positive, optimistic outlooks
	Negative, depressed, bleak
CONNECTION TO THE SEA	Growing up
	Education
	Choosing this work
	Diving
OUTLOOK ON EU POLICIES	EU policies a positive/progressive force
	EU policies a bother/too administrative
	Hard vs soft law approaches
	Appropriateness of ambition levels
	Guidance of EU policies on national or RSC levels
MAIN PROBLEMS WITH POLICIES/ACHIEVING GES	Funding
	Lack of knowledge

	Political will
WILDERNESS DEFINITIONS (VERY MUCH SIMILAR AS THE CODES FOR CONTENT POLICY ANALYSIS TO ALLOW FOR DIRECT COMPARISON)	Natural processes predominate
	Ecosystem functioning/resilience
	Undisturbed/pristine/primeval/intact
	Human imprint minimal/unnoticeable/no extractive uses
	Solitude/remoteness
	Spiritual
	Big animals (apex predators)
DATA SOURCES	
MOTIVATIONS & IMPACT	
PRIORITIES FOR ACTION	Working together
	MPAs
	Reducing pressures
	Just keep on working what we do now
SCIENCE-POLICY INTERFACE	

3.5 Q methodology

3.5.1 Q methodology background and theory

Q methodology was invented in the field of psychology in 1935 by William Stephenson, but its use has since expanded to a variety of fields which are interested in the scientific study of subjectivity through a mixed method approach, including both quantitative and qualitative elements (Watts and Stenner, 2012). Q methodology is an adaptation of Spearman's method of factor analysis. Q can identify the currently predominant social viewpoints and knowledge structures relative to a chosen subject matter. Linking to Foucault, a participant's Q sort was seen as an expression of their subject position, while the interpreted factors allow the researcher to understand and explicate the main discourses at work in the data (Watts and Stenner, 2012). The sorting process thus provides a representation of a participant's viewpoint on the issue under study (Stenner et al., 2003, Watts and Stenner, 2012).

3.5.2 Q question

According to Watts and Stenner (2012), Q methodological research questions can be roughly sorted into three categories: 1) representation of a subject matter; 2) understandings of it; 3) conduct in relation to it. A single Q study should avoid trying to address combinations of these questions, if the clarity and integrity of the study are to be preserved. The Q question for this study is: "How can EU policies be applied to provide strict or effective protection of marine nature?". As such, it falls most neatly into the third category of Q questions (conduct). Conduct questions address responses to a subject matter (what might be done about it? What constitutes proper behaviour? What kind of policy or legislative changes should we expect?).

3.5.3 Q concourse

The Q concourse is the overall population of statements from which a Q set (sorting statements, see 3.5.4) is selected. Within the logic of Q methodology (and in direct contrast to R methodological studies), final Q set statements represent the participants of the study, while the people sorting the statements are considered the variables (Watts and Stenner, 2012). Therefore, while the people sorting (the P-set, see 3.5.6) are sampled purposefully, the variables (i.e., the Q concourse) should be representative of the population from which they were sourced. The concourse is thus defined by the Q question and can be quite large. In this study, following good practice, the Q concourse was constructed by coding statements that were identified in the previously undertaken research methods (interviews, relevant literature, and policy analysis) into pre-defined themes. Themes were defined based on the data collected mainly in the interviews and partly by drawing on literature and policies (Table 3.9).

Interview transcriptions were coded into the six codes below (Table 3.9). Coding into categories was discrete. Altogether, 223 statements were extracted from the interviews for the Q concourse. There was a higher number of statements in the Value of EU Policies theme, as all interviews addressed this topic, while interviewees might not have mentioned other topics as often. The same coding was employed also for coding literature and policies. In terms of literature, the literature review was re-examined and 120 relevant papers from it were selected for review and coding. In the end, 90 papers were coded, while 30 were discarded as not relevant enough or not including statements that could be useful for answering the set Q question (list of coded documents in Appendix V). Altogether, 313 statements were selected for the Q concourse. Policies were also sorted into same themes. Altogether, 121 statements were selected for the Q concourse. The statements came from 39 different policy documents (list of coded documents in Appendix VI). Overall, the Q concourse thus consists of 657 statements. Table 3.6 shows the overall distributions of the number of documents and individual codes that were assigned into each theme.

Table 3.6: Q concourse coding themes, alongside the sources of them (interviews, literature, and policies), as well as number of document and quotes from each of the source categories per theme

No.	**Themes**	**Interview Codes**		**Literature**		**Policies**		**Total**
		No of transcripts	**No of codes**	**No of papers**	**No of codes**	**No of documents**	**No of codes**	
1	Fisheries management	11	32	17	28	12	17	77
2	Pollution and other cumulative pressures	13	32	14	19	4	8	59
3	Research (or needing knowledge)	5	8	19	23	4	4	39
4	Restoration vs Recovery debate (and	13	40	51	109	19	44	193

	other misc. conservation topics)							
5	Value of EU policies	16	81	27	76	18	30	187
6	Very strict protection (and wilderness mentions)	13	30	27	58	11	18	106

3.5.4 Q set

The Q set is broadly representative of the concourse (opinion domain, population) at issue, and so its selection follows the same basic premises as sampling in R methodologies. Q set must cover all the relevant ground in as thorough way as possible. The kind of representative and seamless coverage is usually meant, when people refer to balanced Q-sets, which should come very close to capturing the full spread of possible opinions and perspectives in relation to the set research question. In order to distil the large Q concourse in this study into a manageable Q set (40-60 statements), a series of steps was followed.

1. The statements in each of the themes and for each of the source materials (i.e., interviews, literature, policies) were studied and the duplicates or very similar opinions were removed or combined. Additionally, statements were considered in direct relation to the Q question, and some were removed, as they did not provide an answer to it. This process was followed for all of the six themes. This process yielded three distinct draft Q sets for each of the source materials (interviews, literature, policies) and reduced the overall number of statements considered to 133.

2. All of the remaining statements were combined into one list and the same processes was repeated, by distilling and combining ideas within the same themes but across the three source materials. After the end of this second phase, 60 statements remained.

3. That version of the Q set still included some of the opposing statements, which were originally retained to provide a balanced set. However, within the context of a Q sort, where each statement is ranked in terms of agreement and disagreement, these kinds of statements are still duplicates, as just one of them will give the same information by being sorted towards either end of the grid. Such statements were removed, which yielded the final draft Q set with 53 statements.

4. The piloting process (see below, Section 3.5.5) resulted in several further changes. Some statements were found to be confusing to some participants and the other significant consideration was simply that the software in the Q sort stage limits the amount of text that is shown on a “card”, which makes sorting of longer statements difficult. This necessitated considerable shortening and simplification of a number of statements, so that they would fit onto the card

and to make the process the simplest for the participants. The final length of the Q set is 50 statements (Table 3.7).

Table 3.7: Final Q set statements for Q sorting

	Q set statements
1	EU should make establishment of further Marine Protected Areas a legal requirement.
2	EU Common Fisheries Policy should be better integrated with EU environmental directives.
3	Bottom-contacting fishing gear is very damaging, and its use should be prohibited in EU seas.
4	EU fishery restrictions on catches or gears are more effective than spatial closures to fisheries.
5	EU needs to sustainably manage and use marine resources for the primary use of the people.
6	EU needs to raise general awareness about marine ecosystems and support more public involvement.
7	EU should require Marine Protected Areas to prohibit extractive activities (become No-Take Areas).
8	EU should focus on regulating human marine activities to manage diffuse pressures.
9	EU should focus on the species/habitats approach to reducing individual pressures.
10	EU should foster changes in citizens' way of life to alter modern production and consumption patterns.
11	EU Member States should prioritise protection of the most endangered habitats and species.
12	Achieving marine wilderness conditions should be a target of strict protection.
13	EU policy should prioritise protection of functional areas, important for biodiversity.
14	EU should prioritise passive restoration via strict protection over active restoration.
15	We need to go beyond policies and existing targets and be more dynamic and adaptable.
16	EU Member States should prioritise strictly protecting least impacted areas (pristine, last wildernesses).
17	EU should encourage Member States to establish ‘large’ Marine Protected Areas.
18	Multiple-use Marine Protected Areas should be preferred over the use of No-Take Areas.
19	EU should designate more no-take areas to enhance ecosystem resilience even to diffuse threats.
20	EU should regulate the design of Marine Protected Areas to manage resilience and sustain ecosystems.
21	Areas of high value to humans and more remote wildernesses should both be protected.
22	Reassessment of EU Natura 2000 marine sites is needed for them to yield conservation benefits.
23	Carbon-rich ecosystems should be strictly protected.
24	European Commission unduly pressures and controls Member States with EU policies.
25	EU should step back and let Member States take back control, with national laws taking precedence.

26	EU policies are providing the much-needed ambition and drive to go beyond national interests.
27	EU policies provide comprehensive data overviews needed for successful management.
28	EU policies should shift from hard to soft law, as hard law focusses on administrative compliance.
29	EU policies alienate actors and create opposition to conservation, particularly with strict protection.
30	Existing policies should be properly implemented.
31	There needs to be greater cross-border coordination around EU legal environmental instruments.
32	There is still insufficient EU marine legislation to manage the marine environment.
33	A regional approach of Regional Sea Conventions should be used to manage the marine environment.
34	Continuity and linkages among the EU Natura 2000 sites should be promoted with ecological corridors.
35	Political will to enforce Marine Protected Areas needs to cascade down from the EU.
36	Further regional integration within the EU should be promoted only with discretion.
37	Strengthening the EU legal framework with binding EU nature restoration law is very important.
38	EU should use diplomacy to broker agreements on strict protection beyond their waters.
39	Natura 2000 network should be completed in marine environments.
40	Potential of EU funding has to be maximised for increasing conservation benefits.
41	Wilderness management should be recognised as compatible with Natura 2000 objectives.
42	Strictly protected areas are an easy way to implement EU policy commitments.
43	Wilderness areas are essential for preserving viable population of fished species.
44	No-entry areas are more effective at restoring biodiversity than no-take areas.
45	New EU policy for marine wilderness protection is crucial to protect the last wildernesses.
46	Strongly protected areas should leave natural processes undisturbed (by non-intervention).
47	Enact EU Biodiversity Strategy 2030 goals (30:10 protection, improved management).
48	Exclusions of activities in strictly protected areas should be decided on a case-by-case basis.
49	EU does enough to support effective management of Marine Protected Areas.
50	European Commission should have more compliance mechanisms for steering Member States.

3.5.5 Piloting and Q sorting grid elaboration

After the review of the draft Q set and before starting the data collection with Q sorting, a piloting exercise was conducted. The study was set up in the Q Method Software (Lutfallah and Buchanan, 2019) and piloted on a small number of people (Q researchers, psychologists, marine policies and conservation experts, n=5) to see if the statements worked, how long the

exercise took, and if there were any technical issues. Additionally, post-sort interviews were also tried out, as set out in the Q study guide document (see Appendix VII). The statements and the study design were adapted between individual pilot Q sortings to try out different and improved version with each new pilot.

Different kinds of Q grids were tried out. Watts and Stenner (2012) suggest the general guidelines proposed by Brown (1980) for the range of options given. Q sets between 40-60 statements are thus suggested to use the ranking from -5 to +5 (11-point range). However, they also point out that the grids should adapt to the particular P-set, with grids with steeper curves (i.e., more options around 0 and usually several spaces at most extreme categories) being more appropriate for a more general P-set, thus allowing participants to be more ambivalent to a greater proportion of statements and make the sorting easier. On the other hand, flatter distributions, with more pronounced extremes were suggested for P-sets that mainly include experts or people who are expected to be able to define their viewpoints more specifically. Initially, an 11-point range was used and the sorting went well. However, considering the P-set of this particular study (see section 3.5.6), the participants should be expected to be able to articulate their priorities and viewpoints clearly, which is why a 13-point range (-6 to +6, Figure 3.3) was tried out, which also forces participants to choose just one most dis/agreeable statement. While it could be expected that such a grid is more challenging for participants, there were no changes in the time it took to finish sorting or any difficulties expressed by participants.

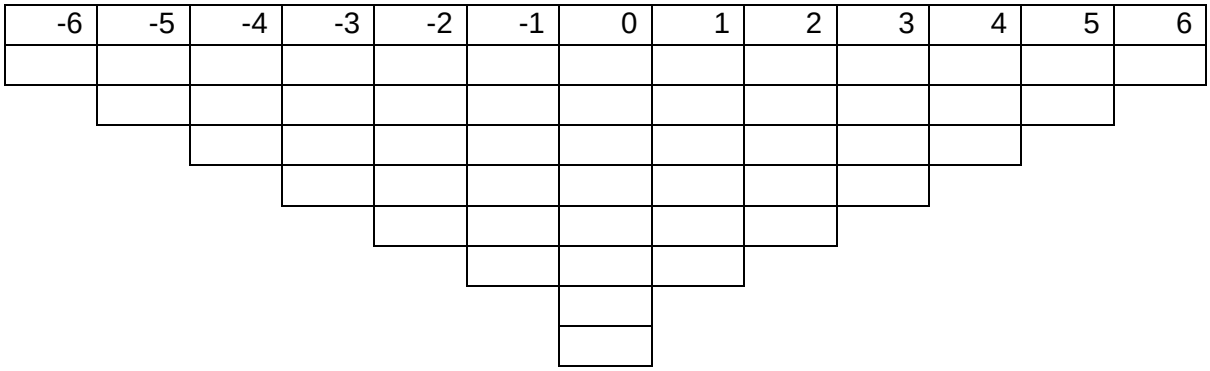


Figure 3.3: Q sorting grid (i.e., Q sort)

3.5.6 P-set

Altogether, 95 people from across Europe were invited to participate, with 34 confirming participation and 30 ultimately completing the Q sorting. Considering all invitees who responded (positively or negatively), the response rate was 37%. General coverage of EU coastal Member States and Regional Seas was good (Table 3.8). In the Baltic Sea, it was not possible to get any participant from Poland. Similar, situation in Portugal, where one of the people who initially agreed to participate later stopped responding to emails. The Mediterranean is slightly "overrepresented" due to a high proportion of EU institution employees who work on marine issues coming from Mediterranean countries. Invitees from Malta and Cyprus declined to participate. The coverage of the Black Sea was good. Q methodology does not require representative sampling and purposive sampling should be used (Watts & Stenner, 2012). The following participation data is presented in an effort to provide transparency and insights into the composition of P-set but should not be interpreted as justifying criteria of representativity. Therefore, when the terms of

representativeness are used, these mean that different nationalities and types of people participated who could in theory have very different opinions on the statements in the Q set.

Care was taken to invite participants who represent key policy actors with different educational and career backgrounds. While the majority work on different environmental issues that could be subsumed into Marine Strategy Framework Directive (invasive species, marine biology, oceanography, seafloor integrity, pollution, assessments, fisheries), there was also considerable inclusion of people working on Maritime Spatial Planning (six) and exclusively biodiversity topics (four, more linked to Natura 2000). While considerable effort was made to get participation also from the fishery sector and fishery scientists (Joint Research Centre, national, International Council for Exploration of the Seas, General Fisheries Commission for the Mediterranean), only one participant agreed to take part. Additionally, the educational background of participants was more diverse in this sample, compared to interviews. Most participants were still (marine) biologists, but there was also a number of lawyers, economists, engineers, and spatial planners included. Geographically, in the Baltic Sea, it was not possible to get any participation from Poland. Similarly, in Portugal, one of the people who initially agreed to participate later stopped responding to emails. The Mediterranean is slightly overrepresented due to a high proportion of EU institutions' employees who work on marine issues coming from Mediterranean countries. Invitees from Malta and Cyprus declined to participate. The coverage of the Black Sea was good considering the number of EU nations with jurisdiction there (Table 3.8). Lower participation from Regional Sea Conventions can be ascribed to the breakout of war in Ukraine, which made international cooperation in the Baltic and Black Seas regions difficult and paralysed the relevant Secretariats, while the North-East Atlantic Region was busy finalising the new Quality Status Report.

Table 3.8: P-set (Q-sorting participants or Q sorts) breakdown by type of participants and association with European Regional Seas.

Type of participant	Number of Q sorts	Regional Sea	Number of Q sorts
Policy-maker (national)	8	Baltic	7
Experts (national)	14	NE Atlantic	10
EU level institutions	7	Mediterranean	16
Regional Sea Conventions	1	Black	4

3.5.7 Q sorting

Q sorting can be understood as means of capturing subjectivity in a scientific manner, under controlled experimental conditions, and the subjectivity is captured in the form of the completed Q sort. Each participant sorted the statements into a grid (Section 3.5.5), with the use of Q Method Software web application (Lutfallah and Buchanan, 2019). The vast majority of participants undertook the sorting while on a web-call with the researcher and shared their screens with him, so that they could be led through the exercise. The sorting started with pre-sorting the statements into 'agree', 'disagree', and 'neutral' categories, before sorting them into a Q sorting grid. The sorting into the Q sorting grid forced further prioritisation among the agreeable and disagreeable statements and crystallisation of positions and priorities. Q sorting

took between 20 and 75 minutes, depending on the level of commenting that participants elected to provide and how much of a challenge the sorting process presented to them individually. The Q sorting was undertaken between 21.2.2022 and 17.5.2022.

3.5.8 Post-sort interviews

The Q sorting exercises with respondents were followed by short post-sort interviews. These interviews sought to gain better understanding of the reasons why participants sorted certain statements into their positions, with particular emphasis on the statements in the most agreeable and disagreeable positions, as well as if their priorities would shift if they considered sorting the same statements at different geographic scales. The interview also expanded on marine environmental topics beyond just conservation goals that the Q set statements addressed and enquired about the usefulness of the marine wilderness concept in relation to strict protection (see Appendix VII). With participants who also took part in earlier semi-structured interviews, the post-sort interviews were used to further expand on some of the discussions and how their positions evolved in the months between, while with other participants, some attention was given to understanding their relationship to marine nature, strict protection, and wilderness, to provide some insights that interviewees in the first research phase have already provided. Post-sort interviews lasted between five and 15 minutes and were audio-recorded, transcribed, and thematically coded in NVivo, with these data used when interpreting factors (Section 3.5.9).

3.5.9 Q factor analysis

Q factor analysis runs in a number of steps. The first step is the creation of a correlation matrix, which serves as the basis for the rest of the analysis. Pearson's correlations were calculated to establish simple measures of association between the variables. In this process, each variable (Q sort) is correlated to all others, pair by pair. Scores captured in each column of the data matrix must then be standardised to make them meaningful. This standardisation is done through calculation of z-scores, which are mathematical expressions of the distance between a particular absolute score and the mean average score of the measured sample, while being expressed proportionately. In turn, the standardisation allows for direct comparison of different units of measurement. The inverted logic of the Q approach compared to the R statistical approach means that standardisation is achieved relative to the entire population of scores for a single person. The application of correlation statistics to the rows of the matrix containing data makes it possible to assess the degree of agreement and disagreement between the entire set of item rankings produced by any two persons.

Q methodological factor analysis is then applied to the correlation matrix to reduce it to a smaller number of factors, with the focus on the groups of persons who have rank ordered the heterogeneous statements in a similar fashion. Each identified factor thus identifies a group of persons who share a similar perspective about the topic. The resulting correlation matrix represents 100% of the meaning and variability present in the study, which presents the study variance. Factor analysis is a way to account for as much of this study variance as is possible through the identification of any sizeable portions of common or shared meaning that are present in the data, which are known as factors. Factor analysis is thus a reduction technique.

Factor extraction follows, where first a choice between centroid extraction and principal component analysis (PCA) has to be made. PCA is not truly factor analysis and components are not factors and since it results in a single mathematically best solution, it precludes the possibility of engaging with the data and finding the solution combining both quantitative and qualitative data (Watts and Stenner, 2012). Therefore, centroid extraction was selected. Centroid factor analysis is the oldest factor extraction technique, renowned for its computational ease and simplicity. Two different ways of using centroid factor extraction are available: Brown (1980) and Horst 5.5 (1965). Horst's method uses a more refined approach in the way the diagonal entries in the correlation matrix are estimated, and it automatically calculates the optimal number of factors to be extracted, based on what Horst suggests as the limiting level of residual correlations. On the other hand, Brown's method allows the user to select how many factors to extract and then compare different factor solutions. Both methods were used in this study, Horst to identify the main prevalent factors and Brown to find the optimal factor solution that best explains the qualitative data. The end product of the factor extraction is a table of factor loadings indicating the initial association or correlation of each Q sort with each factor. This table also includes eigenvalues, which provide information of the communality in relation to each factor. Eigenvalue thus offers an indication of the strength and potential explanatory power of an extracted factor.

Factor extraction is followed by making a decision on how many factors to retain. A number of statistical criteria can be considered. Passing any of the statistical criteria is considered to be a sound way for deciding how many factors to retain, while the decision can also be taken on a theoretical basis (Watts and Stenner, 2012). Factors can also be retained for rotation and discarded after rotation, without any effect on the results.

1. Eigenvalues (Kaiser-Guttman criterion)
    a. Low eigenvalues (<1.00) are taken as cut-off points for the extraction and retention of factors, as eigen values below 1 indicate that less than one Q sort (participant) is significantly associated with a factor in question
    b. All factors that were retained for analysis and are presented in Chapter 5 fulfil this criterion. The factors that failed this criterion were omitted in the process either at this stage or after rotation.
2. Two (or more) significantly loading Q sorts (at P<0.01)
    a. Factors 1, 2, 3, and 4 fulfil this criterion. Factors 5a and 5b fail this criterion, as they only have one significantly loading Q-sort.
3. Humphrey's rule
    a. "Factor is significant if the cross-product of its two highest loadings (ignoring the sign) exceeds twice the standard error" (Brown, 1980: 223). There is also a less strict application, which requires that cross-products exceed only a standard error.
    b. Only Factor 1 passes the strict application of Humphrey's rule. Factors 2, 3, and 4 pass less strict application of the rule. Factors 5a and 5b do not pass the application of this test.
4. Scree test and Parallel analysis
    a. These two tests are also possible, but were not performed. The Cattell's scree test (1966) was designed for use only in the context of PCA. Therefore, as PCA extraction was not used in this study, this test was not applied. Horn's (1965) parallel analysis can only run if all Q sorts are reconfigured in entirely haphazard fashion

and is again linked to PCA extraction method, which is why it was not used in this study.

Kaiser-Guttman criterion was used when determining which factors to retain (any with eigenvalues lower than 1.00 were discarded, as they indicate that less than one Q sort is significantly associated with a factor in question). Other statistical rules such as the number of significantly loading Q sorts, Humphrey's rule, Scree test and Parallel analysis were also considered, but ultimately not used, as the factors identified with Kaiser-Guttman criterion were most appropriate for qualitative data. When completing the factor extractions within Q methodology, each Q sort (participant) is loaded onto the extracted factors. Before the final representative arrays for each factor are prepared, Q sorts that are significantly loaded onto factors have to be flagged to be included in preparation of representative arrays. However, it is possible for the same Q sort to be statistically significantly associated with more than one factor. Such split or confounded Q sorts are excluded from this last step in order for final arrays to crystallise the meaning and better differentiate among the final factors.

The retained factors were then rotated. All factors form dimensions of a space defined by meaning, making the space itself meaningful and can be referred to as a Hilbert space, where each factor represents one of the dimensions of the space. Factor rotation is used to get the viewpoints of the various factors suitably focused, in relation to the data collected. The rotation employed is varimax, which is orthogonal rotation, maintaining the 90-degree relationship, which ensures that each factor is statistically independent and that all are zero-correlated (Dancey and Reidy, 2011). Factor rotation alters the position of the factors and their viewpoints relative to the Q sorts, but the position of the Q sorts relative to one another was absolutely and permanently fixed by their unrotated factor loadings. Oblique rotations also exist but were not used. Even within orthogonal rotations there is a choice between judgemental/by-hand rotation and varimax rotation. While there are good arguments for using judgemental rotation (Brown, 1980), there are also criticisms, as it can introduce researcher bias into results and could be interpreted as subjective and unreliable. Alternatively, varimax is seen as objective and reliable, is widely accepted and is particularly good for following inductive analytic strategy or if identifying majority viewpoints of the group is the aim. Varimax operates according to Thurstone's (1947) principle of simple structure. The rotated factors and statistically significantly loading Q sorts on each of them ($P<0.01$) are presented in Chapter 5 (see Table 5.1). This table forms the basis for preparation of factor arrays, which are Q sorts configured to represent the viewpoint of a particular factor.

The final factor arrays are then examined and compared to qualitative data collected while Q sorting and during post-sort interviews. An iterative process was followed where the maximum number of factors was first extracted, analysed and compared with qualitative data, before extracting one factor less and repeating the process until only one factor was extracted and analysed. It was decided to choose a five factor solution where Factor 5 was bipolar and it was additionally split into two mirror factors. This solution allowed the retention of the two overarching factors that resulted from Horst 5.5 extraction process, as it was noticed that one of those factors appeared almost unchanged in all factor solutions derived from Brown's method, indicating that the other factor split. The differences among the five extracted factors were consistent with qualitative data, while the bipolar factor split allowed identification of a factor, which, on its own, did not fulfil statistical criteria to be considered a factor, but reflected well established critiques of the EU that are present in literature. Therefore, this factor was

retained as it is likely that its positions are present in EU discourses, just were not represented enough in the P-set of this study. All six factor arrays were then analysed based on the principles introduced by Watts and Stenner (2012).

3.6 Living Q focus groups

A Living Q methodology (Ripken et al., 2018) was used to build upon the results of the Q study and to facilitate interactions within the focus group. A Living Q methodology is an emerging method that has been developed and applied in the maritime spatial planning in the EU. This method structures the group discussions around a number of most salient or controversial statements, allow participants to express their (dis)agreement with them and then debate their positions. The methodology is sufficiently new that it has so far only been reported in a single paper by Ripken et al. (2018), but it builds on well-established principles of increasing engagement and interaction with stakeholders in consultation processes. Living Q is one the approaches that can be linked to the so-called Serious Games, which have been used in a few communication and stakeholder engagement projects, mainly on MSP in EU marine environmental policies (Abspoel et al., 2021, Behrendt et al., 2021, Keijser et al., 2018). Living Q is therefore an approach to engage with stakeholders' subjective positions in an engaging environment.

The results so far demonstrate that the systematic awareness of differing viewpoints in an interactive and communicative environment can improve communication and interaction among participants (Ripken et al., 2018). Living Q was used in this study because it offers a clear and structured way (see subsection 3.6.2) in which focus group participants can directly engage in Q study results, while the influence of the group dynamics and the power of rational arguments on the convictions held by participants can be directly observed. Living Q follows naturally from the preceding Q study and provides a tailor-made extension of the exploration of identified social constructions. While it does not allow for generalisation of the Q factors to wider populations in a way quantitative surveys would (Baker et al., 2010, Mason et al., 2018), Living Q does allow for deeper engagement with the factors in group setting, where the individualistic nature of the Q sorting application can be overcome.

Living Q focus groups were used to further build on the results from the above methods and to observe the influence of group dynamics on the processes of interpretation and implementation of EU marine environmental policies. The EU policy implementation is largely influenced by seeking consensus and agreement among the different actors or experts through working and technical groups and sectoral coordination. Therefore, it is likely that the meanings, values, and social constructions are also formed and changed in those settings. While the changed values and social constructions are likely to be captured by the individualistic methods described above, the process of their formation and negotiation is also interesting and impacts them.

3.6.1 Sampling and participants

Focus groups were organised as side events at larger meetings where participants from the first two methods were already in attendance. A selection of participants (11-27 per focus group) of the larger events was invited to take part in the focus groups. Participants were representing the same types of institutions as in the earlier research methods. The focus groups were organised together with project meetings of *ABIOMMED project* (Support coherent and coordinated assessment of biodiversity and measures across Mediterranean for the next 6-year cycle of MSFD implementation) in the Mediterranean (Anavyssos, Greece, 24.10.2022), *MarBlue22 conference* (Blue Growth: Challenges and Opportunities for the Black Sea) in the Black Sea (Constanţa, Romania, 26.-28.10.2022), while for the NE Atlantic and Baltic Seas the focus group was convened as a side event of the *eMSP NBSR project* (Emerging ecosystem-based Maritime Spatial Planning topics in North and Baltic Sea Regions, Paris, France, 19.-20.1.2023).

The composition of assembled focus group varied, as it was dependent on the larger meeting within which it was possible to organise Living Q focus group discussions and diagramming exercises. The Mediterranean workshop was organised as part of an expert and stakeholder meeting on a project focussing on the implementation of Marine Strategy Framework Directive in the EU part of the Mediterranean Sea. The participants to the workshops were mainly different experts specialising on marine environment, with one representative of the Mediterranean Regional Sea Convention and one national competent authority. The Black Sea workshop was organised as part of a sustainable development and Blue Growth focussed conference, with participation of different experts focussing on both marine environment and development, with two representatives of regional-level government. North and Baltic Sea Living Q focus group was organised without the diagramming activity, due to time and logistical constraints and with much larger group of participants, present both physically and online. This event was organised as part of a project meeting of an EU funded project on maritime spatial planning, with vast majority of participants coming from strictly spatial planning background, while representing a variety of expert institutions, regional sea conventions, and relevant national ministries.

3.6.2 Undertaking Living Q focus groups and diagramming exercises

Living Q requires participants to discuss the distinguishing and salient statements that emerged from the Q study. Those are the statements where the opinions of Q participants were most divergent, and the Living Q allows for people to position themselves along a sorting grid (Likert scale) and then discuss their positioning with other participants before being allowed to change positions if the arguments from other people have convinced them. The method thus provides structure for discussions and for debating differing perceptions and worldviews, as well as observing group dynamics and potential emergence of consensus points.

The Living Q workshop focussed on the following five statements (Table 3.9). Possible additional discussion prompts for each statement are included in the Living Q guide (see Annex XII).

Table 3.9: The chosen statements for ranking and discussion in the Living Q activity of focus groups

Bottom-contacting fishing gear is very damaging, and its use should be prohibited in EU seas.
Exclusions of activities in strictly protected areas should be decided on a case-by-case basis.
EU should require Marine Protected Areas to prohibit extractive activities (become No-Take Areas).
EU should prioritise passive restoration via strict protection over active restoration.
Achieving marine wilderness conditions should be a target of strict protection.

The statements were identified through a series of steps.

1. Statements with the highest statistical difference in the Q study are identified (Z-scores >1.00)
    a. 9 statements identified
2. Statements associated with the factors without statistically significant loading are removed.
    a. 7 statements remained
3. Opposing statements or statements that address the same larger issue are eliminated.
    a. 6 statements remained
4. Statements that are not directly relevant to the researched topic (wilderness or EU policies) are removed (qualitative decision)
    a. 5 statements remained
5. Statements that could be consensual if they were interpreted in a common way or that were judged not specified enough during Q sorting are removed (qualitative decision to foster more discussions)
    a. 3 statements remained
6. Wilderness-related statements added, to make sure Living Q discussions relate to Research Question 2.
    a. Final 5 statements included.

Participants were given the list of statements and were asked to rank them according to their personal levels of agreement or disagreement on a 5-point Likert scale (-2 to +2). They were not allowed to discuss them amongst themselves at this point but could ask clarification questions from the moderator.

After participants finished ranking the statements, each statement was projected onto a screen and participants were invited to assume positions around the room, where the ranking range was set down on the tables (A4 pieces of paper, each with printed one rank, i.e., “-2”, “-1”, “0”, “+1”, “+2”). The papers were set with enough distance between them to allow groups to form without participants spilling into different groups. Participants were then encouraged to explain to the rest of the group why they assigned their ranks and raise any issues that they

considered important. The moderator facilitated the discussion (tour-de-table method) and provided either further clarifications or added point of contention into the discussion (a set of possible prompts is available in the Living Q Guide, Appendix VIII). After the discussions, the participants were allowed to reposition themselves, if they were swayed by the arguments. The changes in positions and final "rankings" were noted by the moderator.

Qualitative data collected during the focus groups were audio-recorded, with participants given the option to decline participation before the focus group commenced but being unable to retract the consent after the discussion started. All of the notes, diagrams, and flipcharts were collected, photographed, transcribed, and analysed. The workshops were organised with three main elements. The three elements, described below were often spread through the day or over multiple days, in a way that was most convenient also for the main meeting organisers.

1. Presentation of preliminary results from previous research phases (10-15 min)
    - Integrated into the meeting's official agenda, maximising reach and including a Q&A session to kick-start discussions that continued through the breaks and next days.

2. Activity 1 – validation of factors exercise (20 min)
    - Posters with presentations of the factors and their main points were set around the room, with participants encouraged to circulate and discuss the factors amongst themselves, provide comments on them and identify one factor with which they personally most closely identify. The identification was done by marking the poster with a sticker, which was colour coded to reflect their position as a key actor (national expert or policy-maker, EU or RSC institutional representative).

    - This was done either in a break/lunchroom so participants could undertake the exercise at their leisure, or integrated into the focus group session, depending on time constraints. This Activity was not undertaken during the North & Baltic Sea workshop, due to logistical and time constraints.

3. Activity 2 – Living Q discussion (30-60 min)

3.6.3 Limitations

The organisation of workshops together with existing events and the resulting differing group composition in the focus group is a limitation that has to be clearly acknowledged. The advantage of this approach of organising focus group was that the focus groups could capture actually existing groups and their dynamics, instead of composing them somewhat artificially to fulfil representation criteria. Additionally, due to the financial constraints of this research, this was the only viable option. However, given that focus groups were integrated into existing events, the methodological approach was adapted to the needs of organisers each time. For example, the presentation, diagramming exercise, and Living Q discussion happened in the same day in the Mediterranean workshop, just interspersed throughout the day. During the Black Sea workshop, the presentation happened two days before the diagramming and Living

Q focus groups, which were undertaken together and were allocated more time, as well. The North and Baltic Seas workshop was much shorter, where the diagramming exercise was foregone, the presentation focussed more on the needs of the audience than PhD results and the Living Q discussion was shortened to three out of five statements. Additionally, the different participant composition (their backgrounds) during the three workshops also makes the results impossible to compare directly between the EU Regional Seas. Although this approach did provide insights into discussions among a wide variety of different policy actors (environmentalists, Blue Growth enthusiasts, and spatial planners), it is harder to compare the results from workshops with each other and generalise.

3.7 Conclusion

The integrated, mixed-method approach used in this study has allowed the generation of insights into the way marine wilderness and strictly protected areas are used both in the parlance of EU marine environmental policies and by the key actors who interpret and implement them. Policy analysis first produced insights into the constituent discourses of marine nature and wilderness in EU policies (Chapter 4). Interviews and Q methodological study revealed the ways in which key actors in the EU marine environmental policies socially construct the meanings and values of marine wilderness and strictly protected areas (Chapter 5). The Living Q focus groups further expanded on the social constructions and interrogated them in relation to group dynamic processes (Chapter 6). Finally, the methods presented here and their results allowed the preparation of policy recommendations and overall conclusions of this study (Chapter 7).

CHAPTER 4 – EU MARINE ENVIRONMENTAL POLICIES: OVERVIEW, WILDERNESS AND IMPLEMENTATION DISCOURSE ANALYSES

4.1 Introduction

The geographic and ecological complexity of European marine ecosystems and the wide variety of anthropogenic pressures on them, described in the preceding sections and chapters, require effective and transboundary actions to be taken in order to adequately protect them. However, that remains a challenge even in some of the world's richest and most industrialised nations (Andersen et al., 2020, Boyes and Elliott, 2016, Elliott et al., 2018, Gorjanc et al., 2020, Halpern et al., 2019, Korpinen et al., 2021, Murillas-Maza et al., 2020). Nevertheless, the wealthier countries are currently in the best position to take decisive and ambitious action to conserve marine environments, as they have both the resources and best available scientific knowledge available at their disposal (Ballesteros et al., 2018, Barale et al., 2018, Painting et al., 2020, Rätz et al., 2010). The EU, in particular, is arguably in a great position to affect policy-based changes in the seas (Hassler et al., 2019, Van Leeuwen and Kern, 2013). Not only does it have considerable legislative and executive powers across its Member States (Hix, 2011), but its considerable wealth and influence on the world stage also extends its reach across the globe and plays a major role in shaping global agreements (Hix, 2011, Van Leeuwen and Kern, 2013).

This chapter provides insights into the framework that the key actors in policy implementation have to navigate when they interpret and implement the EU policies. As discussed before, marine environments and areas that are still perceived to be wild hold both important ecological and social roles and need to be effectively managed and preserved. Does that mean prioritising the feature-based approach of protecting particular species and habitats, or following a more open-ended approach of letting natural processes predominate? This is particularly interesting in a time when there has been a resurgence in the perceived importance of wilderness protection across Europe in recent decades, with both academics and policy-makers starting to allude to or even explicitly mention wilderness or rewilding as part of the measures that need to be taken in the coming years to mitigate the variety of current, global environmental crises (Benyon et al., 2020, Deary and Warren, 2017, Deary and Warren, 2018, European Parliament, 2009, European Commission, 2013, Genes et al., 2019, Jones et al., 2018, Reker et al., 2019, Watson et al., 2016, Wynne-Jones et al., 2018). This chapter thus also explores the direct and indirect links of the marine EU marine environmental policies (such as Marine Strategy Framework Directive - MSFD, Habitats and Birds Directives - HBD, Common Fisheries Policy - CFP, EU Biodiversity Strategy for 2030 - BDS, Marine Spatial Planning Directive - MSP, and their supporting documentation) to marine wilderness and the way that these policies are implemented.

4.2 Results

This sub-section is based on the results obtained from content-based thematic, discourse policy analysis (see Section 3.3.1), which focussed on the collection of 58 publicly available policy documents, linked to the six predominant wilderness discourses and definition (selection criteria in Section 3.3.1, list of coded documents in Appendix II). The thematic analysis presents results on the presence of wilderness discourses in EU policies (Section 4.2.2). Additionally, this Chapter also presents the results of policy implementation analysis, which was based on interpretive policy analytical approach (see Section 3.3.2) and focussed on the review of 107 policy documents and academic papers (selection criteria in Section 3.3.2, list of coded documents in Appendix III). Policy implementation analysis results are presented in Section 4.2.3. Policy analyses were further corroborated with qualitative data from a series of semi-structured interviews with key actors involved in EU policy interpretation and implementation (see Section3.4).

4.2.1 Wilderness and marine nature conceptions in EU policies

Despite the failure to achieve the 2020 environmental policy targets, the EU has raised its ambitions even further for the current decade, in which, for example, 10% of EU waters have to be strictly protected (European Commission, 2020a), moving beyond the usual feature-based conservation actions towards more open-ended ones (Rees et al., 2020). Strictly protected areas, sometimes referred to or imagined as wildernesses, have been shown to be effective at conserving biodiversity and ecosystem functioning, while also carrying a problematic history and have had numerous critiques levelled against them (Frisch and Rizzari, 2019, Warren, 2020). Chapter 2 has already reviewed a variety of wilderness definitions that have been used across a variety of expert and academic literature (see Tables 2.1 and 2.2). While a coherent and widely accepted definition of the wilderness concept does not exist, the current variety of definitions is based on a number of themes, characterised by key phrases, thus forming discourses (see Table 4.1). The definitions from different sources can be grouped and related to each other. Based on the definitions in the literature (see last column of Table 4.1), wilderness can thus be conceived as being constructed through six predominant thematic discourses and narratives, which rarely appear in complete isolation from each other and can be further linked into two overarching categories. The first grouping represents ‘Classical’ definitions, mainly comprising pristine and undisturbed discourses and the culturally important values of wilderness. Nevertheless, numerous definitions of wilderness also intersect with prominent discourses from other fields, such as climate change adaptation or restoration studies, within the overarching theme of ‘Future & open-ended approach’ (Warren, 2020).

Table 4.1: The predominant themes in wilderness definitions in academic and policy literature, sorted into two overarching themes, together with key phrases that define the themes and some exemplar sources which feature these themes in their wilderness definitions

Overarching theme	Themes	Key phrases in wilderness definitions	Exemplar sources
Classical wilderness definition (pristine & frontier)	1 Undisturbed/pristine/ primeval/intact	Undisturbed by humankind Area retaining primeval character or influence Unimpaired condition	Watson et al. (2016) Hofmeister (2009) Jones et al. (2018)
	2 Solitude/remoteness	Opportunities for solitude Large territory without humans Remote Outback	Fisher et al. (2010) Wild Europe (2013) Lupp et al. (2011a) Young et al. (2015) Huettmann (2000)
	3 Spiritual	Valued for spiritual quality of nature Cultural phenomenon (counterweight to civilisation)	Wild Europe (2013) Mittermeier et al. (2003) Lupp et al. (2011) Hofmeister (2009) Sæþórsdóttir et al. (2011) Rodriguez Dowdell et al. (2012) Barr (2001) Sloan (2002)
Future & open-ended approach	4 Natural processes predominate	Natural processes to evolve & adapt to the changing environmental conditions Preserve natural conditions Primarily affected by forces of nature Natural processes take place unaffected Perpetuating natural conditions and processes	Dudley et al. (2013) Fisher et al. (2010) Wild Europe (2013) PAN Parks Foundation (2009) European Commission (2013) Kelleher and Kenchington (1991) Johnston et al. (2019) Barr (2001)
	5	Area without human habitation	Dudley et al. (2013)

Overarching theme		Themes	Key phrases in wilderness definitions	Exemplar sources
		Human imprint minimal/unnoticeable/no extractive uses	Imprint of man unnoticeable Unmodified or only slightly modified land Without major human interference No extractive uses permitted	Watson et al. (2016) Wild Europe (2013) PAN Parks Foundation (2009) European Commission (2013) Mittermeier et al. (2003) Lupp et al. (2011) Lesslie et al. (1988) Bohnsack et al. (1989) Kelleher and Kenchington (1991)
	6	Ecosystem functioning/resilience	Ecosystem functioning is preserved Ecological resilience is conserved Areas capable of being returned to a natural state	Sloan (2002)

In the last two decades, several different initiatives have emerged in Europe that evoke wilderness imaginaries, primary among them rewilding. While the rewilding movement refutes the associations with wilderness (Jepson, 2020, Pettorelli et al., 2019), it does advocate for limiting human impacts and letting natural processes predominate, which is consistent with many wilderness discourses and the open-ended conservation approach (Warren, 2020; see also Chapter 2). Furthermore, rewilding can be seen as a subset of the ecological restoration movement (European Commission, 2022b). This includes passive restoration approaches in which natural processes restore biodiversity without human influences, thereby improving ecosystem functioning and resilience (Pettorelli et al., 2019), again closely linked to a number of wilderness-related discourses. Similarly, the conservation debate between land sparing and land sharing has also been embroiled in a number of wilderness debates, with the land sparing strand arguing for large areas to be set aside for biodiversity protection, not dissimilar to wilderness descriptions. The land sparing logic is also clearly a constitutive part of the Half-Earth initiative (Wilson, 2016) in which ideas of wilderness and wildlands are prominent. While none of these developments mention wilderness directly, the discourses, narratives, and imaginaries remain the same.

Europe has experienced a significant rise in wilderness certifications of protected areas (e.g. european-wilderness.network), as well as pressure on the EU to act on this. In response to pressure from the public and NGOs in the 2000s, the European Parliament adopted the European Wilderness Resolution (European Parliament, 2009), which led to the European Commission (EC) publishing guidelines on wilderness management within the Natura 2000 network in 2013 (EuropeanCommission, 2013) and the Council of the EU under the Czech presidency in 2009 organising a conference producing *The Message from Prague*, with recommendations for wilderness protection (Conference On Wilderness And Large Natural Habitat Areas, 2009). Therefore, while references to wilderness in EU policies are somewhat rare, they have also achieved some prominence, with all three of the top EU institutions responding to the public and NGO pressure. Despite the publication of above-mentioned documents, wilderness has not been incorporated into core EU policies. However, after the adoption of the EU Biodiversity Strategy for 2030, the EC and the Member States spent a year and half in defining the meaning of strictly protected areas. The minutes of EC meetings with Member States from this period (e.g., NADEG meetings – Expert group on the Birds and Habitats Directives) show that the EC has referred back to the 2013 Guidance Document on Wilderness repeatedly and that the wilderness definition was influential in defining the strictly protected areas under the BDS. The 'Draft Technical Note on criteria and guidance for protected area designations' (2021) mentions:

> "*The concept of strict protection is also present in the IUCN "Guidelines for Applying Protected Area Management Categories", and it is often associated with the definitions of categories Ia, strict nature reserve,* ***Ib, wilderness area****, and II, national park.* ***It should be noted, however, that while the definition of categories Ia and Ib are largely in line with the objective specified in the Strategy, of leaving natural processes essentially undisturbed to respect the areas' ecological requirements****, the definition of category II allows for a process of zoning, in which strict protection does not necessarily applies to the whole protected area.*
>
> *In the context of wilderness areas,* ***the Commission has already developed guidelines on wilderness in Natura 2000****, which lists species and habitats protected under the Nature Directives that benefit from wilderness management.* ***This is not only relevant to areas with existing wilderness values but also applicable to areas with potential for rewilding***" (emphasis added, pg. 15 and 16).

The EC thus clearly links the concepts of wilderness, strict protection, and rewilding. The final EC Staff Working Document on 'Criteria and Guidance for Protected Area Designations' (European Commission, 2022a) provides the agreed definition of strictly protected areas, which uses much of the same language as the earlier EC wilderness definition, linking the wilderness conception with a current BDS target (European Commission, 2020a, European Commission, 2022a).

> *"A wilderness is an area governed by natural processes. It is composed of native habitats and species, and large enough for the effective ecological functioning of natural processes. It is unmodified or only slightly modified and without intrusive or extractive human activity…*" (Guidelines on wilderness management within the Natura 2000 network, European Commission, 2013, pg. 10)
>
> "*Strictly protected areas are fully and legally protected areas designated to conserve and/or restore the integrity of biodiversity-rich natural areas with their*

underlying ecological structure and supporting natural environmental processes. Natural processes are therefore left essentially undisturbed from human pressures and threats to the area's overall ecological structures and functioning…" (Biodiversity Strategy 2030, European Commission, 2022a, pg. 20)

A suite of EU environmental and conservation policies is therefore currently pushing for considerable increases in the areas under strict protection, with the definition of strictly protected area very closely echoing the earlier policy definition of wilderness areas (European Commission, 2013, European Commission, 2022), emphasizing the open-ended predominance of natural processes and importance of ecosystem functioning. This is a considerable departure from the way EU's main environmental policies so far have been formulated (Nature Directives, MSFD, WFD), with much greater emphasis on feature-based focus on particular species, habitats, and extant communities. Article 12 of the Habitats Directive does make provisions for strict protection, but the new BDS makes the demand for more strict protection more explicit. While BDS avoids the mention of the term wilderness in the definition of strictly protected areas, the final text of the Staff Working Document still explicitly mentions the linkage with the guidelines on wilderness in Natura 2000 (European Commission, 2022a). Given this rising ambition of EU policies, the complexity of the EU's environmental policy portfolio, and the often inadequate implementation of EU policies, it is worth examining the social components of this intersection more closely. This is particularly important when examining policies that are likely to be controversial, such as the ambitious targets for expansion of strictly protected areas, or ones that invoke contentious discourses, like the ones linked to wilderness. The remainder of this chapter explores the ways in which different discourses and social factors are intertwined with EU marine conservation and environmental policies, using thematic discursive policy analysis (see Section 3.3.1) to follow different wilderness discourses in EU policy documents (Section 4.2.2), before delving into an interpretive policy analysis (see Section 3.3.2) to delve into the EU policy implementation documentation (Section 4.2.3).

"I like the Green Deal. /…/ I like the especially the biodiversity and the zero pollution strategy and they are, of course, agreed and adopted because the Commission has clearly understood that the Water Framework Directive is not going to lead to good ecological status or good chemical status in Europe. The Commission also knows that the Marine Strategy Framework Directive will lead to progress, but we will not be meeting the objectives of a good environmental status." (Richard, expert, national)

4.2.2 Thematic policy analysis of wilderness discourses in EU policy

Discourses linked to all six wilderness discourses (Table 4.2) are present in a variety of EU environmental policy documents (identified using the methodology outlined in Section 3.3.1). Table 4.2 presents both the qualitative descriptions, as well as gives some quantitative indices of abundance of specific wilderness mentions both in the number of documents and specific references (codes or quotes) associated with each of them. It has to be noted though, that the numbers are derived from thematic coding exercise and only accompany the qualitative analysis, while they can also be misleading. The quantitative indices in this case do not reflect the policy significance of documents in which mentions of wilderness discourses are

found, nor do they reflect the trends in policy development and implementation cycles to which they are linked. Their use is, therefore, purely illustrative. Additionally, Figures 4.1 and 4.2 represent the timeline of the frequency of appearance of the mentions of all six wilderness discourses in EU marine environmental policy documents (Figure 4.1) and the number of specific references associated with them (Figure 4.2). The same qualification, as above, applies to these figures too. While both Figures show general upward trend towards the presence in the frequency of wilderness discourses, it has to be noted that a lot of it can be explained with policy cycles. The spike in 2013 correspond to a publication of European Commission's Wilderness Guidelines for Natura 2000 areas, which is a document dedicated to wilderness. The spikes in 2014 and 2020/2021 are linked to policy assessment cycles and development of new policies, which are often accompanied with a significant amount of auxiliary documentation for either the policy promotion or expert support. In 2014, the Habitats Directive was undergoing a review and a large number of reports was commissioned to develop methodologies and assess MPAs, while the recent spike is associated with the publication of the new Biodiversity Strategy for 2030, with new targets and the end of the second implementation cycle of Marine Strategy Framework Directive.

While explicit mentions of wilderness are somewhat rare in EU policy texts, wilderness-related discourses appear frequently. The classical discourses (Themes 1-3) are quite rare. EU policies seem to accept that all European ecosystems have been anthropogenically altered at some point and therefore references to protection of 'pristine' ecosystems do not have much traction. 'Pristine environments' do appear a few times in policy texts, although almost exclusively linked to remaining primary and old-growth forests and thus retaining a completely terrestrial focus. Similarly, EU policies tend to soften some of the terms ordinarily used in these narratives in wider literature. For example, the term 'undisturbed' has a softer definition in EU policy usage compared to those found in academic literature, referring to undisturbed areas being "free from modern human control or manipulation" (European Commission, 2013: 12), while not mentioning any historical use or impacts in the area. This is similar to the IUCN definitions of the strictest protected area categories (Ia and Ib, strict nature reserve and wilderness areas), which maintain the possibility that pristine conditions can be "restored" (Dudley et al., 2013: 13, 16, 17), thus dispensing with the need for wilderness area to be 'pristine' or 'untouched'. Similarly, EU policies barely mention the narratives of 'spiritual values' of wilderness and the importance of 'solitude and remoteness' from civilisation. 'Spiritual values' are only used in reference to the COVID pandemic and the importance of natural areas for mental health but remaining very general. The European Commission (2013) clearly states that "qualities perceived by man are not directly in the scope of this document (on wilderness management)" (pg. 14). There are a few mentions of natural areas providing recreation spaces and are thus linked to ecosystem services, but not linked to wilderness in any way. Thus, the only times when the language linked to this overarching narrative appears in EU policies, it tends to refer to those softer definitions and is then linked more closely to the aim of letting 'natural processes predominate'.

Table 4.2: Predominance of wilderness discourses in EU policies, with coding tree representation of number of quotes per (sub)theme of different wilderness discourses in EU policy documents. (The numbers presented are not used for analysis, only for representation that the themes selected were represented in a number of documents.)

Overarching theme	SUB-THEMES Themes		Predominance in policies	Number of documents	Number of quotes
Classical wilderness definition (pristine & frontier)	1	Undisturbed/pristine/primeval/intact	Very rare, only linked to primeval forests	20	38
	2	Solitude/remoteness	Some references to size, but vague	10	25
	3	Spiritual	Very rare, some mentions linked to recreation ecosystem services Cultural and spiritual values extremely rare, only linked to mental health during COVID-19	11	20
Future & open-ended approach	4	Natural processes predominate	The dominant discourse in EU policies and definitions in the last decade	12	37
	5	Human imprint minimal/unnoticeable/no extractive uses	Mentioned often, but usually in context of either theme 4 or 5	25	78

6 Ecosystem functioning/resilience	Ecosystem health	Most commonly explicitly mentioned discourse, and recently usually linked to theme 4	14	26
	Functioning		29	86
	Resilience		20	53
	Restoration		21	68
Explicit wilderness mentions			7	12
Other conservation descriptions	Climate change solutions		14	35
	Ecosystem approach		29	105
	Emergence of pandemics		4	6
	Natural capita		17	37
	Representative networks of MPAs		34	144
	Sustainable use		37	93

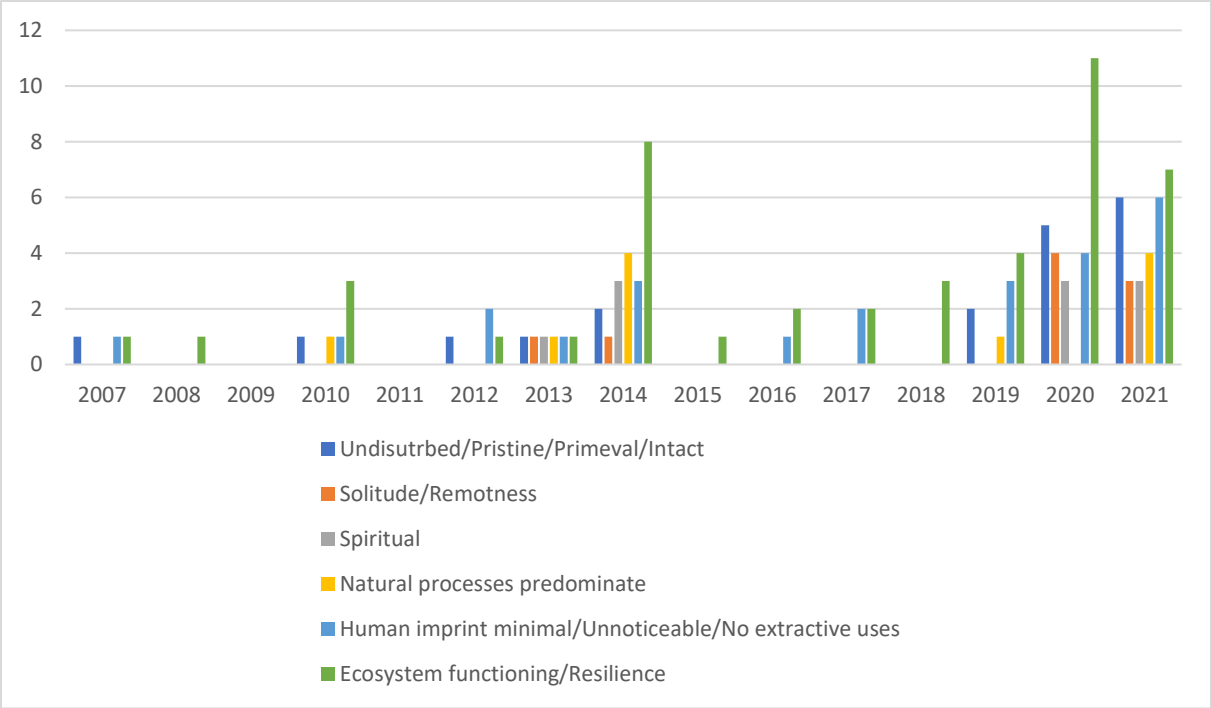


Figure 4.1: The timeline analysis of the number of EU policy documents that mention different wilderness-related discourses, published in a given year (based on the NVivo thematic analysis of EU policy documents)

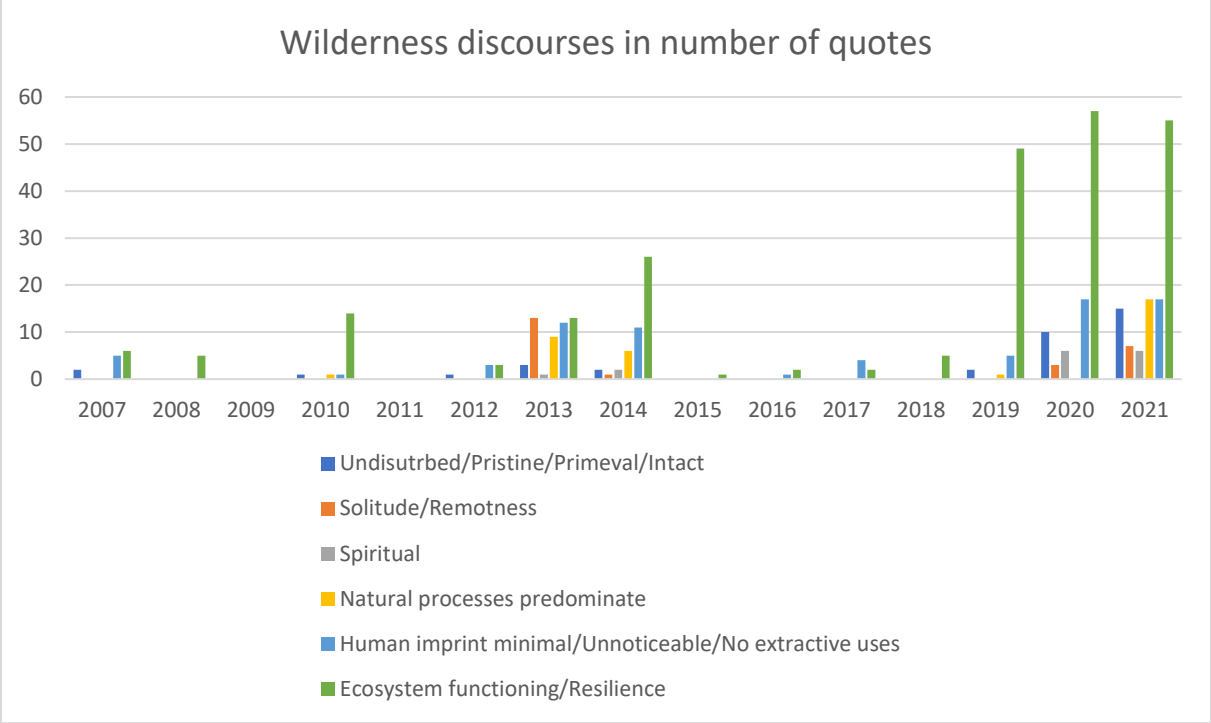


Figure 4.2: The timeline analysis of the number of mentions of wilderness-related discourses in EU policy documents (number of coded quotes) per publication year (Based on the NVivo thematic analysis of EU policy documents)

On the other hand, the narratives linked with the overarching theme of looking to the future and pursuing more open-ended, functional conservation, and the ideas of giving control back to nature are predominant in EU policy documents. This should not be seen to imply that any ideas linked to open-ended and functional conservation necessarily invoke wilderness, but that elements of those ideas have been often used to define wilderness. Therefore, this analysis is looking at possible links between them in policy documents. EU Biodiversity Strategy 2030 calls for strictly protected areas to allow 'natural processes to predominate' and take place unencumbered. This discourse first appeared explicitly in the European Commission's (EC) guidance document on wilderness management. This is quite telling, since this approach has repeatedly been linked to non-intervention management, often also referred to as wilderness management, and the EC has been referring back to the wilderness management guidelines in a number of meetings with Member States and stakeholders. The 'ecosystem functioning and resilience' arguments, which are often used in wilderness literature as being one of the main reasons for establishment of such areas, also appear in EU policies. The Table 4.3 presents a quantitative indication of the associations of the mentions of different wilderness discourses in policy texts, by tracking the number of quotes that were associated with multiple discourses at the same time. Again, due to the qualitative nature of this thematic policy analysis, the numbers should be only regarded as being illustrative and not interpreted apart from the qualitative descriptions. While the discourses of 'ecosystem functioning and resilience' are very often linked to the 'natural processes predominating' narrative, these concepts have also been linked to the economic case for greater conservation efforts, to ecosystem services, natural capital, and promoting resilience to climate change. MSFD has also been pursuing functional protection of marine ecosystem functioning, although this has only quite recently been linked to spatial protection measures, for example by forming Technical Group SEABED and discussing MPAs as one of the main tools to achieve good environmental status. The EU policies have thus clearly been moving towards more integrated, functional approaches to conservation, invoking the discourses of natural processes predominating and thus supporting greater resilience and better functioning of marine ecosystems. The two themes thus often occur in parallel and are often mutually dependent, although not always, as it is possible to increase resilience of ecosystems, without letting nature predominate (e.g., active restoration).

Table 4.3: The association analysis showing the number of quotes in policy documents that are simultaneously coded in different discourses, providing an indication of how closely related certain wilderness discourses are (based on series of queries performed in NVivo). The darker highlights draw attention to combinations that are showing greater levels of association (light blue for >10, blue for >13, dark blue for >15). The last column present the sums of the association scores, giving a crude approximation of which discourses are most often associated with others (light blue >30, blue >40, dark blue >50).

	UNDISTURBED	**SOLITUDE**	**SPIRITUAL**	**NATURAL PROCESSES PREDOMINATE**	**HUMAN IMPRINT MINIMAL**	**ECOSYSTEM FUNCTIONING**	**SUMS**
UNDISTURBED		3	1	14	16	8	42
Solitude	3		2	9	5	11	30
Spiritual	1	2		2	1	1	7
Natural processes predominate	14	9	2		16	12	53
Human imprint minimal	16	5	1	16		14	52
Ecosystem functioning	8	11	1	12	14		46

4.2.3 Interpretive policy analysis of EU policy implementation documents

The literature review of policy implementation literature (Sections 4.1.2 and 4.1.2.1) has identified a number of main elements to consider when assessing policy implementation. This section focusses on the interpretive policy analysis, described in Section 3.3.2. Unsurprisingly, those are also the elements that most policy assessments mainly focus on. As Beunen et al. (2009) argues, there is a significant focus on the various enforcement procedures (26 documents, 56 references, see Table 4.4.) that can be used in the EU, to assure both compliance among the Member States and exert control over policy implementation. Secondly, the set-up of both the marine environmental policy framework and the EU legal system in general (European Commission, 2020b, Hix, 2011) is supposed to foster cooperation, which is seen as a prerequisite for achieving coordination and cohesion in the implementation (73 documents, 290 references, see Table 4.4). Finally, aligned with the predominant linear SPI and rationalistic tendencies in both academic and policy documents (Claudet et al., 2020, Roehrl et al., 2020), policy implementation is considered to still require large amounts of high quality data for proper implementation (26 documents, 57 references, see Table 4.4). These data should be based on sound monitoring programmes, expertise, and should be linked to reporting so that they can be properly used. These three main elements and their sub-themes were thus identified in the literature as the main elements affecting the implementation of EU marine environmental policies and the discourse analysis of the policy texts focussed around them (Figure 4.2).

"(We need to) implement, not further regulate. The only thing that has to be done is implement the present regulations. They are fine enough. If you read the text they are brilliant, the MSFD, the Common Fisheries Policy, it's a very good piece of regulation but it has to be implemented for real, in the field. Yeah, I mean everybody shared their part but I think also the national governments have a long way to go to really implement in in the field." (Naomi, EU)

Table 4.4: Coding tree representation of number of quotes per (sub)theme of implementation categories mentioned in EU policy documents. (The numbers presented are not used for analysis, only for representation that the themes selected were represented in a number of documents.)

Theme	Sub-theme	No of documents	No of references
Assessments	Monitoring	17	32
	Reporting	7	9
	Status assessments	27	44
Control & compliance	Commission assessments	22	34
	Infringement & EU courts	13	18
	National courts	4	10
	RSC compliance	11	20
Coordination & collaboration	Aims & Aspirations	50	103
	Policy Assessments	35	212
	RSC coordination	33	70
Successes & gaps	Failures	51	157
	Progress made	33	57
	Success, but…	31	74

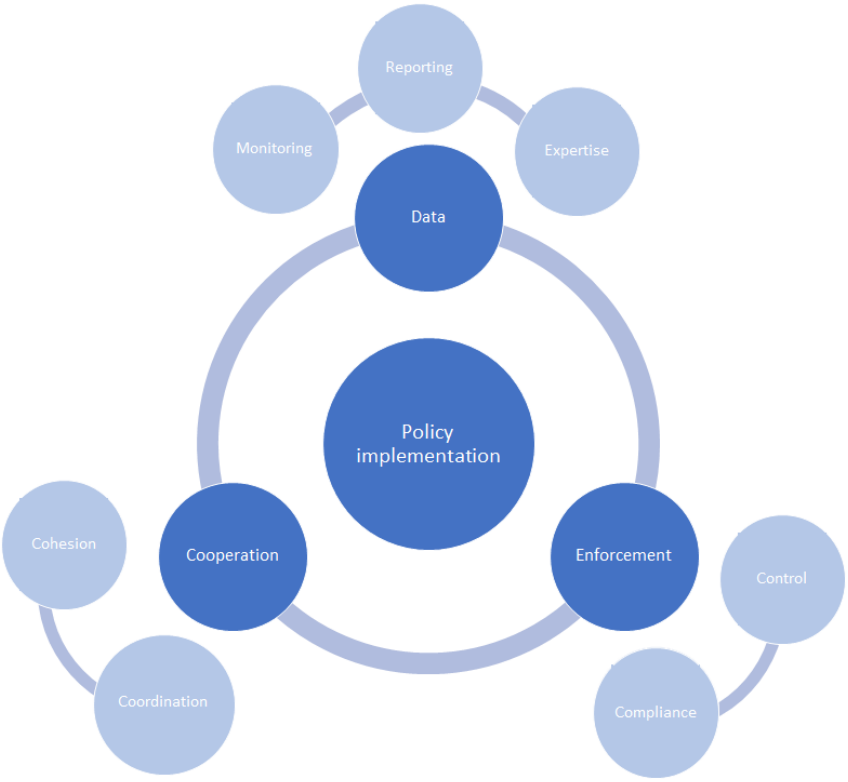


Figure 4.3: Conceptual diagram of the themes (dark blue) and their main elements (light blue) of policy implementation study.

4.2.3.1 Data

The policy texts dealing with assessments of implementation of EU policies mainly deal with issues of monitoring data and reporting this information, without which the assessments could not even take place. These texts are very closely aligned with the classical science-policy interface ideas, professing linear understanding of this interaction, in which decisions cannot or should not be taken without a solid evidence base (Claudet et al., 2020). This is a narrative to which both experts (interviews, Chapter 5) and institutions (policy text analysis) still subscribe. Despite having, arguably, the best data and monitoring programmes in place in Europe, compared to the rest of the world, many of the implementation assessments emphasise the inadequate, incompatible, and inconsistent data, that ultimately frustrates robust status assessments and thus cannot provide a good enough evidence base for policy-makers (e.g. Murillas-Maza et al., 2020). Therefore, these documents call for better monitoring programmes to inform better assessments on which decisions can be based. Moreover, the policy implementation documents mention the need for new indicators for better reflection of currently lesser-known interactions to be developed. Particularly, they call more attention to the monitoring of the functioning of marine ecosystems and to marine invertebrates. The lack of comparable and good quality data is often identified as a critical deficiency to be addressed.

> *"Europe's biological ocean observation capability needs to be more integrated (across different countries and purposes), harmonised and strengthened. Support is needed in taxonomic expertise and in the use of new emerging technologies, data science and management."* (Commission Staff Working Document – Review of the

status of the marine environment in the European Union, accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive, European Commission, 2020, pg. 21)

"The fact that we are being able to assess, se we can at least to understand what is happening. This allows us to actually put in place measures that can actually revert certain trends." (Fran, expert, national)

"There are big gaps in (biodiversity) knowledge, some of species are reported in unknown status, out of those that are reported, most of them are doing bad." (Harry, EU)

The other narrative that is pervasive relates to how to produce better data. Most policy implementation assessment reports and documents call for better, more consistent, harmonised, and integrated monitoring programmes, both across topics, countries, and regions. Producing a coherent and harmonised picture of the state of EU seas is seen as a key foundation stone for building any EU action and one of the main barriers to it currently. There are still qualms about the quality of data reported, with a clear focus and preference expressed for "scientific", quantifiable data, from purpose-built monitoring programmes (e.g., Painting et al., 2020). But despite all this, there are some policy implementation documents claiming that the EU already has enough scientific knowledge already to act and that there should simply be more focus on just actioning existing knowledge.

"We are doing applied science, we are doing synthesis and integrated assessments. We are developing multimetric indicator-based assessment tools and these tools they are used by a competent authorities or international governments." (Richard, expert, national)

"This (implementation) gap is because of the gap in our knowledge to fully understand the complexity of this ecosystem and understand in which way we should act in order to achieve GES." (Alexander, EU)

4.2.3.2 Enforcement

While the implementation assessment documents often identify data as a key necessity for EU action, the EU policies also already feature a number of applied action and strategic documents, which are often not fully implemented. The assessment documents thus often focus also on the variety of control and compliance mechanisms. These include both hard law approaches, which are binding on the parties involved and are enforced through national and EU courts, and softer law approaches through steering mechanisms of Commission assessments and RSC recommendations that the EU has at their disposal (Hix, 2011). Most assessments from all levels are finding the current implementation efforts to be inadequate. This can be partly attributed to the procedural focus of enforcement of the EU's environmental directives, which shift the focus away from substantive issues to technicalities (Beunen et al., 2009), or to the reluctance to use existing sanctioning mechanisms, both within the RSC contexts or Commission-led infringement proceedings. At the same time, the EC continues to raise ambition levels and is increasingly threatening to follow up on those political commitments by using all legal instruments at their disposal. This is clearly exemplified in the new BDS for 2030 (European Commission, 2020a) and the AP on Protecting and restoring marine

ecosystems for sustainable and resilient fisheries (European Commission, 2023). Both documents outline much more ambitious conservation targets than the ones defined for 2010-2020 period (10% coverage of EU seas to be covered by MPA by 2020, but by 2030 there should be 30% coverage of MPAs, of which a third should be strictly protected and the AP wishes the banning of bottom trawling in all Habitats Directive Natura 2000 areas). While those targets are not binding on Member States, both documents outline an assessment period, after which they claim that the Commission reserves the right to introduce direct legislation. For now, however, most of the implementation remains at the Member State level, where implementation has been characterised as incoherent, uncoordinated, isolationist, and qualitative (for example see official MSFD implementation reports provided by the EC, e.g. European Commission, 2020b).

> *"The repeated delays in Member States' reporting and related infringement cases under the Directive demonstrate how difficult it has been for Member States to satisfy the requirements."* (Report from the Commission to the European Parliament and Council on the implementation of the Marine Strategy Framework Directive, European Commission, 2020b, pg. 24)

> *"There is a sort of mutually beneficial mechanism there, in that European instruments and the European Commission can be more binding on States and can chase after countries with a stick. Whereas the Regional Sea Conventions, when we develop new legislation, it is most of the time not legally binding. /…/ Since they are not legally binding and there is nobody chasing them with a stick, the countries might feel more comfortable raising the ambition level. So they might be willing to take a chance and might together negotiate upwards to set the ambition level. Whereas in a EU context when they know somebody will eventually chase them with a stick, they might rather negotiate down so that you put the boundary as low as possible so you can be sure that you can cross it."* (Brina, RSC)

> *"The problem is that is you cannot held the member responsible for not doing much. That's the problem of the directive, I think. You can maybe accuse them for not transposing the legislation, or for not cooperating, but you cannot really say that they haven't put the right measures in place."* (Simona, EU)

> *"I think there's lower bar for the implementation and that's why the European Court steps in."* (Gregory, EU)

4.2.3.3 Cooperation

Apart from providing data and enforcing the existing EU policy commitments, the transnational nature of both the EU environments and the policies in question require EU Member States to implement them in cooperative fashion. The EU policies and institutions aspire towards great coordination, collaboration, and cohesion in the implementation of policies[6]. One of the approaches that the EU has explicitly taken has been legislation to move

[6] For example, MSFD declares: »Since action at international level is indispensable to achieve cooperation and coordination, this Directive should further enhance the coherence of the contribution of the Community and its Member States under international agreements«. Additionally, Article 6 (Regional Cooperation) of the Directive states »2-For the purpose of establishing and implementing marine

beyond a sectoral approach, explicitly requiring different sectors and countries to work together (e.g., Katsanevakis et al., 2017). This has happened both through changes in legislation, such as the formulation of framework directives (Hassler et al., 2019) and through more sectoral legislation explicitly requiring integration with other sectors. Progress has nevertheless been assessed as bumpy and slow (Beunen et al., 2009, Cavallo et al., 2018, Dom et al., 2016, European Commission, 2020b, European Commission, 2022a, European Court of Auditors, 2020, Giakoumis and Voulvoulis, 2018, Gorjanc et al., 2020, Murillas-Maza et al., 2020, Rees et al., 2014, Reker et al., 2019). Certain EU regions, such as the Baltic and NE Atlantic, are seeing more coherent implementation of certain framework policies, building on previously successfully established cooperation procedures (European Commission, 2020b). On the other hand, the southern and eastern regions of Mediterranean and Black Seas struggle when there is no clear regulative framework for them to directly transpose, with cooperation between the countries there being less pronounced and well established.

> *"The implementation of the MSFD is challenging and requires cooperation within and between the marine regions. Therefore, the Commission and the EU Member States agreed to establish an informal co-operation under a so-called "Common Implementation Strategy" (CIS) since 2008. Other countries (EEA and Candidate countries), international organisations including the Regional Sea Conventions and relevant stakeholders and NGOs participate in this process."* (Commission Staff Working document – Annex accompanying the document Commission report to the Council and the European Parliament – The first phase of implementation of the Marine Strategy Framework Directive – The European Commission's assessment and guidance, European Commission, 2014, pg. 6)

> *"I think the 27 (Member States) together, we do much better and in marine it's obvious because there are no borders, no barriers. So only the regional international dimension makes protection work."* (Naomi, EU)

> *"I'm a firm believer in working together, across boundaries. Otherwise, especially the sea, but the environment will be the big loser. Could we implement faster? Yes. Would we have had a coherent network of protected areas, for example, would we have produced in new network to Baltic Sea outside EU law? Maybe, but I don't think so."* (Gregory, EU)

However, aspirations in the formulation of both policies and their assessments require better coordination and cohesion beyond the coordination among Member States, while striving for coherent implementation of various sectoral policies, through compromises, consensuses, and synergies (e.g. Gorjanc et al., 2020). Most assessment reports thus emphasise the lack of such integration, but they do not engage much in the discussions of trade-offs and potential losers among the established, existing policy objectives. So, the texts will still aim to reach all of the conservation, environmental, energy, and economic growth policy goals, with no mention of trade-offs between them, as they claim that there must be a way if only everyone would cooperate together well enough. A lot of the pressure to find those

strategies, Member States shall, within each marine region or subregion, make every effort, using relevant international forums, including mechanism and structures of Regional Sea Conventions, to coordinate their actions with third countries having sovereignty or jurisdiction over waters in the same marine region or subregion./…/Coordination and cooperation shall be extended, where appropriate, to all Member States in the catchment area of a marine region or subregion…«. Similar clauses are part of all major EU directives and feature prominently in assessment reports.

compromises is put on the RSCs and so this links back to the requirements of greater cooperation among Member States. The issue of this lack of coordination in certain Regional Seas is usually skirted around. Even in the contexts of better integrated northern and western Regional Seas, which feature well established cooperation on some topics, such as contaminant and nutrient pollution, similar cohesion has not been observed in relation to biodiversity topics yet. The existing assessments of coherence were produced at the EC level, but this is done in a technical way, without much engagement with substance.

> *"With the Marine Strategy (Framework Directive), we promote a lot more cooperation among Member States and everything is done together with the Member States and then, I think the most important thing is putting people to work together and that was also the aim of some projects that we had funded."* (Simona, EU)

> *"It's impossible for the Member States to coordinate themselves, even at regional level where we have the Regional Sea Conventions. So the directive (MSFD), in principle, comes from the top and coordinates things in a proper way, where the Member States are obliged by national laws."* (Alexander, EU)

4.2.4 Summary

When it comes to the effectiveness and impact of EU policies, the assessment documents thread a precarious line. On one hand, the positive impact and the progress made because of EU policies is almost always acknowledged, as it helps build legitimacy for those policies and the EU approach in general. The fact that progress has been made is undeniable, after all. MPAs have been expanded, EU policies have fostered collaboration, improved the knowledge available, and can be linked to certain improvements in the status of the environment and reduction in pressures. However, it is also clear that the goals of the EU policies have not been fulfilled and there is currently no clear timeline in which the fulfilment could be realistic. Moreover, it is not just that the goals have not been achieved; the policies were also implemented incoherently and often unambitiously by Member States that are struggling to keep up with the constant reporting requirements imposed by the same policies. Therefore, while there have indeed been successes and the situation would be much worse in the absence of EU policies, the failures to fully, coherently, or effectively implement EU policies so far are also considerable, as the status of the marine environment continues to degrade. This is particularly important for biodiversity, where apart from improved knowledge and extent of MPAs (on paper) little progress could be found. Thus, a question is posed about whether the EU can improve the implementation of policies or should continue to raise the ambition levels of newer policies to at least set the route of future developments.

> *"I am quite sure that the state of the marine environment would be worse (in the absence of EU policies)."* (Charles, expert, national)

> *"I think that the situation would be quite different. These (EU) policies truthfully contribute significantly to things moving into a better direction, than they would have otherwise"* (Aleja, expert, national)

4.3 Discussion

The majority of (marine) conservation literature has been pointing towards the fact that biodiversity continues to decline globally and that the results of both global and EU-level conservation policies has so far been missed (European Court of Auditors, 2020, Mace et al., 2018, Turvey and Crees, 2019). Even in the EU, where Aichi Targets for 2020 have been reached (Reker et al., 2019), the available data and scientific assessments suggest that most EU MPAs remain ineffective (Benyon et al., 2020, Duarte et al., 2020, Game et al., 2009, Grorud-Colvert et al., 2014, Johnson et al., 2019, Lovejoy, 2006, Wood et al., 2008). Something needs to change, but the literature goes into two directions in how to best address this issue. Jepson (2019) and Lorimer (2015), for example, claim that in the Anthropocene, new ways of engaging with nature and doing conservation need to be found, alongside different narratives, which can be linked to the resurgence of wilderness, rewilding, restoration, and open-ended conservation approaches (Pettorelli et al., 2019, Wild Europe, 2013, Tin et al., 2018). On the other hand, there exists also significant literature on policy implementation studies, the main limitations of it and how to move forward. This Chapter focussed on the marine environmental and policy context in the EU and analysed both the presence of these new conservation narratives in the form of wilderness discourses in EU policies, as well as delved into existing policy evaluation and assessment reports on EU level, to identify trends there. The following two sub-sections address each of these two strands in turn.

4.3.1 Wilderness discourses in EU marine environmental policies

The resurgence of wilderness discourses and ideas in Europe accompanied the ecological and conservation literatures, which outlined how ecosystems tend to function better in more strictly protected areas (e.g. Benyon et al., 2020, Claudet et al., 2006, Cote, 2001, D'agata et al., 2016, Edgar et al., 2010, Fenberg et al., 2012, Fraschetti et al., 2013, Grorud-Colvert et al., 2014, Guidetti and Sala, 2007, Halpern, 2003, Huvenne et al., 2016, Frisch and Rizzari, 2019, Lester et al., 2009, Lubchenco et al., 2003, Russ and Alcala, 2004). In the EU these developments were mirrored in the developments in the policy realm as well over the last decade, culminating in a guidance document for wilderness management (European Commission, 2013) and more recently the ambitious goals of the new BDS for 2030 (European Commission, 2020a), which requires 10% of EU land and sea to be strictly protected. The definition of strictly protected area in this context, is based on the definition of wilderness (European Commission, 2013, European Commission, 2022a). Therefore, a wider analysis of wilderness discourses in EU policy texts was warranted. The thematic, discursive policy analysis (Section 4.2.2) has demonstrated that various wilderness-related discourses are used throughout EU policy texts, even if explicit mentions of wilderness are very rare and the language is often softened and more pragmatic compared to publications by wilderness advocates, activists, and academics (European Commission, 2013, European Commission, 2020a, European Commission, 2022b). EU policies, particularly the more recent ones, tend to use discourses imbued with wilderness ideas, particularly linked to the predominance of natural processes and ecosystem functioning, and they often refer back to the European Commission's Wilderness Guidelines (European Commission, 2013). By contrast, the more commonly known themes of pristine and untouched conditions, together with large and remote

areas, are rarely engaged with. The end results are policy texts which engage with wilderness concepts and ideas but do so in a soft and non-binding manner, producing texts that are open to interpretation and often quite vague.

The linkages between discourses that have been closely associated with, at least some, wilderness definitions in the literature and EU policy texts are thus there. The EU conservation policy used to be closely associated with Habitats and Birds Directives (Bouwma et al., 2016, Turnhout et al., 2015), which institutes a feature-based approach to conservation, with lists of habitats and species that need to be kept in favourable conservation status (Mazaris et al., 2018, Mazaris et al., 2019, Orlikowska et al., 2016). However, given the continuing declining trends of marine biodiversity in Europe (Vaughan et al., 2019, Reker er al., 2019), the EU policies and their supporting documentation have started moving towards a more open-ended model of conservation. The seminal EEA report Marine Messages II thus calls for rewilding approaches of the seas and increases in marine protection (Reker et al., 2019), the Court of Auditors report also outlines the needs for expanded, more effective, and stricter protections (European Court of Auditors, 2020), and finally the new Biodiversity Strategy for 2030 (endorsed by the European Council) requires 10% of EU seas to be strictly protected (European Commission, 2020a), with the Commission guidelines defining strictly protected areas in a similar way to how wilderness is defined (European Commission, 2013, European Commission, 2022a). This definition invokes the discourses of ecological functioning and resilience, predominance of natural processes, and undisturbed conditions in areas of minimal human impact (European Commission, 2022a), which are four out of six discourses that commonly appear in wilderness literature. However, the fact that wilderness itself is rarely mentioned directly and that the individual wilderness-related discourses can also be linked to conservation and ecological literatures without calling for wilderness exactly creates an open space for interpretation of how these policy goals can be implemented.

This coheres with Beunen (2006)'s arguments about how the EU necessarily produces vague laws, due to the need for them to gain the consent of all Member States. Given the vagueness of policy texts, coupled with the subsidiarity principle and shared competences between the European Commission and Member States on most environmental policies (Hix, 2011), policy implementation is reliant on the interpretation of policy texts by key actors across different governance levels. Clear examples of this phenomenon are the framework directives, which establish a legally binding framework that the Member States have to comply with, but do not regulate the marine environment or its uses directly, while a number of key criteria and threshold levels are being defined through working and technical groups years after the adoption of the directives (Rouillard et al., 2018a). Even in the case of stricter directives, such as the Habitats and Birds Directives, it is often the courts that enforce and interpret the policies in the end (Beunen, 2006). This strongly coheres with Barrett (2004)'s argument about the significant influence of key or knowledgeable actors over the implementation of policies, an influence which continues even after the policies have already been agreed and adopted. While current policies (i.e., directives and regulations) do not explicitly call for wilderness protection, they reflect many of the same narratives, and the targets set could easily be interpreted in that light. On the other hand, since trends of uncoordinated implementation have already been observed and reported on in the case of MSFD implementation (Murillas-Maza et al., 2020), eroding its effectiveness (Gorjanc et al., 2022), it is important to consider how the engagement with different and often contentious ideas, narratives, and discourses could influence the implementation of EU marine environmental policies and whether wilderness is likely to play any role in the implementation of these policies in the future.

4.3.2 Implementation analysis of EU policies

The EU policy implementation documents tend to still align with a linear understanding of the science-policy interface, by emphasising the need for improving monitoring programmes, and establishing common thresholds and indicators, as the only ways to effectively support evidence-based policy and decision-making in the EU (Section 4.2.3). This is aligned with existing literature on reasons for why environmental, and in particular conservation, policy goals have not been achieved (Mace et al., 2018, Xu et al., 2021). Xu et al. (2021) outline lack of funding, insufficient data and political will, and lack of enforcement as the key reasons for policies failing to achieve their stated objectives, which is entirely aligned with EU policy implementation documents themselves. Additionally, calls for more and better data are pervasive in academic literature (e.g., Claudet et al., 2020) and considered a key component of EBM as well (Katsanevakis et al., 2011, Rouillard et al., 2018b). EBM literature also emphasises the need for more integration and cooperation (Elliott et al., 2020), while the transboundary and coordinated actions are considered necessary to address conservation issues (Boero et al., 2019, Casado-Amezúa et al., 2019, Economou et al., 2020). Therefore, the fact that EU policy implementation and assessment documents focus on these issues is unsurprising (European Commission, 2020b, Reker et al., 2019). The EU implementation documents tend to emphasise the need to reach common agreements both in how to monitor and assess the state of the seas and in how to implement measures to improve the environmental status of the seas (Section 4.2.3).

Additionally, the EU emphasis on coordinated and coherent implementation extends from monitoring and status assessments to overall implementation of EU policies. This focus is clear from a number of projects that relevant EC Directorates-General have been funding in recent years, aiming to support coherent implementation of EU policies (see Appendix X for just projects funded directly for support of the MSFD implementation by DG ENV, excluding other EU funding sources, other marine environmental policies, and other DGs). While some regional seas have exhibited greater levels of coherence, the EC assessments have not found any significant coherence in relation to biodiversity-related parameters (European Commission, 2020b). Partly, the lack of coherence can be linked to the sectoral implementation of policies. Regardless of the shift towards more integrated, holistic, and EBM-led policies in recent years (Hassler et al., 2019), this shift has not translated also into different, more integrated institutional set-up for their implementation, on either member state or the EU levels. Therefore, communication and other issues linked to funding and power imbalances persist among the competent authorities for different policies (Long et al., 2015). Besides, notwithstanding the change in EU policy-making towards integrated and framework directives, the earlier sectoral policies remain part of the EU marine policy “horrendogram” (Boyes and Elliott, 2014). Consequently, a variety of often competing policy objectives persist and make the implementation of the entire EU marine environmental policy portfolio that much harder.

Since environmental challenges often lack clear definition, as well as being contentious, full of uncertainty, and politically charged, Turnhout et al. (2019) argue that a linear, instrumentalist, and rationalist understanding of the science-policy interface is not viable anymore. Hulme (2009) and Bennett (2019) agree, claiming that science cannot exist in a detached and completely autonomous realm any longer. The acknowledgement of inherent

biases in data production and analyses (Turnhout et al., 2019) are absent from EU policy implementation documents, as well as any engagement with socio-psychological influences on policy implementation (Chapter 2). While Hulme (2009) suggests consensus-building as the way forward when discussing contentious scientific and policy-relevant topics, the role of subjectivity in science and the potential for exclusion of voices that are seen as unreasonable or uncooperative should be recognised while seeking consensus at the scale of the EU (Lahsen and Turnhout, 2021). Bennett (2019), in particular, argues for more engagement with political and social processes concerning the marine environment, where the growing number of uses and conflicts cannot be addressed otherwise. Lahsen and Turnhout (2021) contend that it is urgent to recognise the diversity of views and actions in biodiversity policy and science, if the creation of widely supported, ambitious, but poorly actionable conservation actions is to be avoided. This already seems to be the case in the EU, where environmental targets are widely supported, but routinely missed. Additionally, there are long histories of attempting to get to such unified approach on a number of EU environmental directives (15 years on MSFD, 23 years on WFD, and 44 years on Birds Directive), while pan-EU coherence has not been achieved on any of them. The importance of coproduction and contextualisation has also been recognised in reference to sustainable blue economies (Niner et al., 2022). Consequently, focussing on the deficiencies of existing monitoring programmes and lack of harmonised status assessments for the entire EU often detracts from acting, as the drive to seek more and more reliable data remains pervasive (Painting et al., 2020).

4.4 Conclusions

EU environmental policies are some of the most ambitious, wide-ranging, and stringent in the world. While these policies have achieved some widely celebrated successes (Rees et al., 2018a), it could be cynically argued that those successes fell short of the policy objectives necessary for continued viability of EU policies, particularly if one considers Turnhout et al. (2015)'s arguments on the need for demonstrated (cost)effectiveness to maintain legitimacy of EU policies. This failure is usually attributed to insufficient data supporting their implementation, inadequate cooperation between the Member States implementing them, and lack of enforcement, according to most policy implementation assessments. Most assessment documents and academic literature call for more coherence and a common, unified approach, as the best way to bridge this chasm. The current approach of trying to address the three main elements identified for improved policy implementation has not yet yielded sufficient results. However, the EU marine environmental policy framework is vast, complex, and often contradicting (Boyes and Elliott, 2014). Not only that, but besides differing policy objectives, the policies themselves build on a variety of often contentious discourses, while most literature and policy actors so far have not focussed on the role of influential and knowledgeable actors on policy implementation.

The analyses presented here invite reflection on both the presence and influence of wilderness-related discourses in EU environmental policies. While the presence of wilderness discourses has been established their significance to (marine) conservation is more opaque. It could be argued that since the EU definition of strict protection is based on the European Commission's definition of wilderness, with four of the influential wilderness discourses present in that definition, seems to point towards pronounced influence of wilderness ideas in EU policy

texts and that it will affect the way these policies are going to be implemented in this decade. At the same time, the fact that EU policy implementation to date has not been coherent and tended to diverge even in the presence of common understandings, numerous technical meetings, and guidance documents produced, raises the risk of having vague definitions, involving numerous discourses allowing more disparate implementation into the future. This is particularly problematic in marine conservation, where references to these discourses and wilderness in general have been much rarer in academic and expert literatures, allowing for wider array of interpretations given the novelty of the application of the concept to marine conservation. This provides ample ground for different and sometimes divergent interpretations of policies, which could lead to different implementation outcomes, even if all of the other gaps were to be closed. A variety of different wilderness discourses occur in EU policy documents is a clear example of the policy documents shifting focus from feature-based to open-ended conservation, but the question remain how these changes will be implemented.

Arguments for greater consideration of political ecology, social sciences, better positioning of research and practice, and acknowledgement of the framing of the facts have already been made, in order to tackle this issue properly (Bennett, 2019, Turnhout et al., 2019). It would be helpful for key actors to reflect on and recognise their own and collective values, which impact their work (Hulme, 2009). Given Barrett's (2004) arguments, it is crucial to consider the way key policy actors understand these discourses, the state of the EU seas, and what is to be done about them, in order to assess how the presence of wilderness discourses in EU policies might influence policy implementation, which has so far focussed entirely on more linear understanding of policy implementation and its interactions with science, thus not engaging with the qualitative studies of discourses constituting those policy texts. Therefore, the understanding of what narratives and discourses are used in EU policies, how they are interpreted and consequently implemented, is crucial for improving the future implementation and bringing about the much-needed marine conservation benefits.

CHAPTER 5 – INTERACTIONS OF KEY ACTORS' SOCIAL CONSTRUCTIONS WITH POLICIES AND THEIR PRIORITIES

5.1 Introduction

The previous chapters have established the continued influence of the wilderness concept on conservation discourses, policies, and practices, as well as the value of using social science approaches for studying these phenomena. Chapter 2 established that the wilderness concept remains a powerful if contested idea in terrestrial conservation and Western imaginations of nature. Indeed, it has seen something of a renaissance in Europe and parts of Northern America during the last decade, exemplified by a variety of different initiatives (rewilding, restoration projects, wilderness certifications). This trend can also be observed within EU policies, where despite few direct mentions of wilderness, there are increasingly frequent allusions to wilderness discourses and ideas within policy texts (Chapter 4). Thus, it is not wholly surprising that the newly agreed definition of strictly protected areas under the new Biodiversity Strategy (European Commission, 2022a) uses the same discourses and ideas as the earlier definition of wilderness (European Commission, 2013; see Chapter 4, also see Figure 5.1). However, while similar initiatives and strategies are being popularised in marine conservation as are familiar in the terrestrial realm (strictly protected areas, prevalence of natural processes, NTAs, ecosystem restoration), there is almost no discussion of marine wilderness (Bohnsack et al., 1989, Dudley, 2013, Johnston et al., 2019, Johnston et al., 2020, Jones et al., 2018; see Chapter 2). The absence of marine wilderness is even more apparent in policy-focussed literature (Dudley, 2013, European Commission, 2013, Kelleher and Kenchington, 1991, Rodriguez Dowdell et al., 2012).

Since the EU raised its current conservation ambition levels to include the 10% strict protection target, it would seem that wilderness imaginaries still play a role. However, the question of the implementation of these ambitious policy goals remains, particularly given that Chapter 4 has already demonstrated the complexity of the EU marine policy field and the challenges of its implementation. The implementation of the EU marine environmental policy framework is not just limited by evidence, coordination efforts, lack of funds or people power, but is also embroiled in numerous power relations and discourses (Beunen et al., 2009, Rouillard et al., 2018b). The role of discourses and narratives employed by different actors has an even greater role to play, when it comes to implementing contested and, often, controversial policies (Barrett, 2004, Turnhout et al., 2019). A better understanding of different social constructions and the way that they frame the problems and solutions in relation to marine biodiversity conservation, as well as how to resolve the conflicts between them, is thus much needed (Turnhout et al., 2019).

The aim of this chapter is to investigate the social constructions of marine wilderness and nature which are held by individual policy-makers and their expert advisors in order to understand how these influence their work and decision-making. As part of this, the extent to which social constructions of wilderness influence the policy sphere are investigated, and whether social constructions associated with wilderness are also relevant to marine nature. This exploration answers one of the research questions, namely "How do individual policy-makers and expert advisors understand the concept of marine wilderness?". While Chapter 6

delves into how the discourses and constructions evolve and change in group settings, this chapter focuses on the social constructions held by individuals.

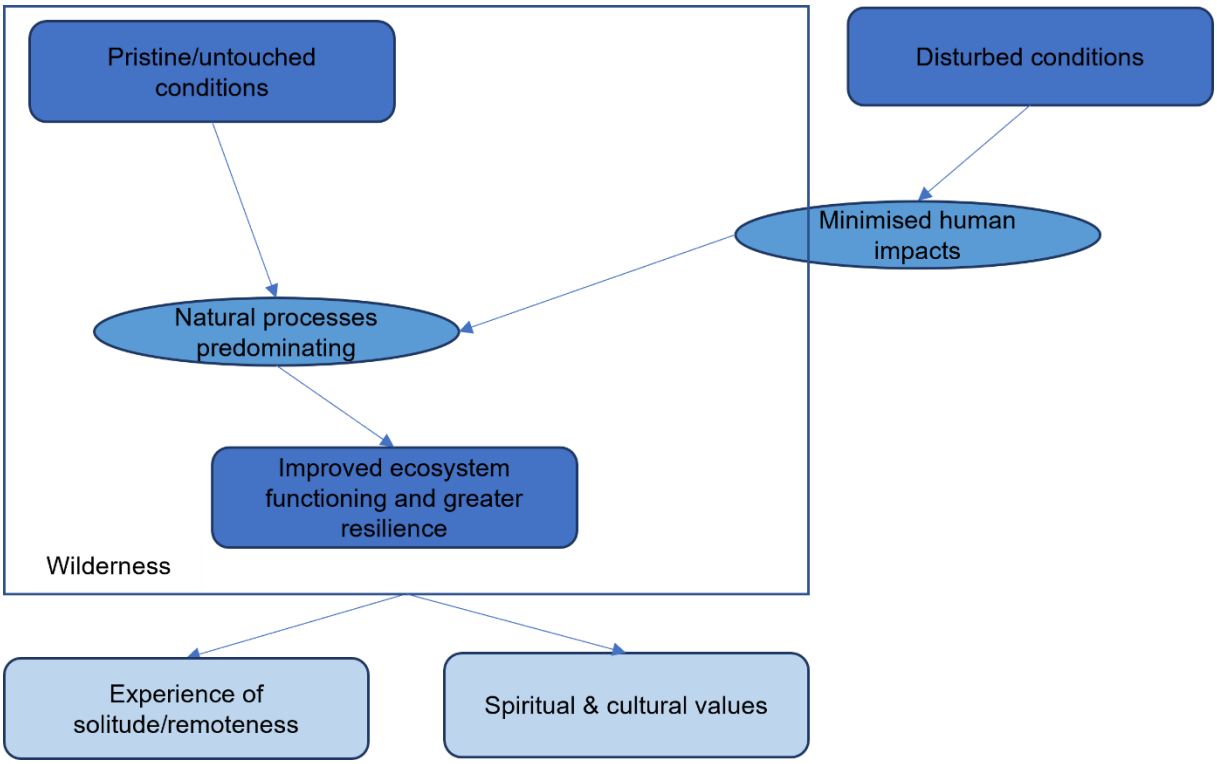


Figure 5.1: Conceptual diagram of interrelations between different wilderness discourses (dark blue for discourses linked to biophysical characteristics and light blue for anthropogenic qualities)

5.2 Results

The methods employed to interrogate this question were literature review (Chapters 1 and 2), a series of semi-structured interviews (Section 3.4), Q methodological study (Section 3.5), and content-based policy analysis (Section 3.3.1), as described in Chapter 3. The results of the analysis of semi-structured interviews are presented in Section 5.2.1 (and further details are in Appendix XI), while the Q study results can be found in Section 5.2.2. The results and interpretation of results from these methods have been compared with insights from literature review and content-based policy analysis, presented in the preceding Chapter (Sections 4.2.1 and 4.2.2).

5.2.1 Interviews: Individual social constructions of wilderness and their impact

Wilderness discourses, identified through the literature review (Chapter 3), are invoked in EU policies to different extents, with the discourses predominantly linked to future and open-ended approaches to conservation (Chapter 4). However, the policy texts need to be

interpreted before they can be implemented. Therefore, key actors retain considerable influence in this process and are still able to project their own conceptions and priorities onto policy texts, as argued by Barrett (2004) and Turnhout et al. (2019). If policy implementation and in this case, marine conservation approaches in the EU seas are to be coherent, the views of the main policy actors need to be aligned with the intentions and the texts of the policies that they have agreed to. In-depth, semi-structured interviews (Section 3.4) were employed to investigate the views of these policy actors.

5.2.1.1 Perceptions of wilderness in EU seas among key policy actors

The key actors in interviews mentioned all six different discourses of wilderness that are present in the literature, each participant defining wilderness in ways consistent with at least two of the discourses, with some mentioning as many as five. There is little coherence in the conception of what wild marine nature could be, paving the way for further misalignment between the key actors. The interview respondents considerably differed in their perceptions of wilderness, and of its use and importance in conservation actions, based on whether they have experienced wilderness, either in specific places or while doing certain things, or if they engaged with the concept only in an intellectual, theoretical way (discussed further in Sections 5.2.1.2, 5.3, and 6.3.1). The participants who have not experienced wilderness first hand were, for example, more likely to invoke classical wilderness definitions, compared to interviewees who experienced wilderness being, at least in theory, open to discussing wilderness as a conservation strategy. Moreover, key actors focussed more on discourses linked to pristine nature and experiences of wilderness, rather than the discourses of ecosystem functioning and natural processes predominating that pervade EU policy texts (Chapter 4, Appendix XI).

5.2.1.1.1 Classical wilderness definitions (pristine and frontier narratives)

Respondents identified classical wilderness definitions quite commonly. The ‘pristine and untouched’ definition of wilderness was mentioned in about half of the interviews, and in those cases it tended to be the first association with wilderness. Participants often refer to it, only to then discard it as fantasy, very much in line with Cronon's (1996) arguments about how any ideas of pristine and untouched character of the environment are necessarily socially constructed, since no areas are truly entirely untouched, particularly in the age of the Anthropocene. Later, as respondents elaborated on their understanding of the concept and their experiences of wilderness, other narratives proved to be more important. Although the vast majority of participants claimed to believe that truly pristine places no longer exist on the planet, and can be thus counted as a fantasy, most of them did have some experiences of what they described as wilderness. Nevertheless, this discourse appeared considerably more often in the discussions with key actors than it does in the EU policy texts (see Chapter 4).

Some participants stated outright that the concept of wilderness remains mainly linked to terrestrial environments, and a majority of others alluded to this association. Apart from four respondents, the predominant view was that marine ecosystems are interconnected and impacted by humans to such a degree that no real wilderness can still exist in the oceans, especially when holding on to the pristine discourse. Some can still conceive of marine

wilderness, but then often associate it with open ocean environments, while they argue that most conservation action should focus on the coastal seas. Apart from a few participants, who do not see any possibility of wilderness continuing to exist on Earth, almost all respondents linked it to both forested landscapes, sometimes in Europe, but mainly in the sub-polar regions (Lapland, Siberia, Alaska) and the tropics (African savannas and bush, tropical jungles), as well as mountainous regions (the Himalaya, Andes, and Alps).

Thus, the 'pristine' argumentation for wilderness seems to be applied more selectively and less often when describing terrestrial wilderness. While the pervasive anthropogenic impacts on the globe are acknowledged in both terrestrial and marine realms, interviewees were applying much higher criteria for defining pristine environments in the seas, compared to the land. The perception is that marine ecosystems are interconnected, complex, and that human pressures are so widespread, that there remain no areas that could still be considered as wilderness, in line with studies of the distribution of cumulative anthropogenic impacts (Halpern et al., 2019, Jones et al., 2018). Even minor anthropogenic impacts in the seas are perceived to rule out the existence of wilderness, and respondents seem to cling much more tightly to the language of cumulative anthropogenic impacts, thus also supporting more feature-based conservation approaches and active management. On the other hand, the historic alterations of the terrestrial environments, climate change impacts, and airborne pollution are not regarded as severe enough to prevent imagining terrestrial wildernesses. This raises a question about why marine wilderness is held to a different and stricter standard than terrestrial wilderness.

> *"Marine wilderness? Yeah, huh [laughter] It doesn't exist. You can't find a spot on this globe, in the sea… You can go to the even the most remote islands in the Pacific Sea and there is marine litter washed up on the shores. You can go through the deepest trenches, and you can see an empty beer bottle or whatever. Yeah, you can go through the Arctic, if you do measurements in water and fish, you can find the traces of contaminants which have ended up there due to long range transport." (Richard, expert, national)*

Yet, when talking about wilderness in general and usually linked to terrestrial environments, the participants defined it based on their experiences and feelings more often than by describing the biophysical characteristics of such places (Barr and Kliskey, 2014b, Cole, 2005). The perception of wilderness areas providing 'solitude', immersion in nature, of being on one's own, reliant on one's own skills, and potentially in some danger, was the discourse most often mentioned by respondents. Almost all participants linked wilderness with 'remote' areas, where they could be alone and away from other people or urban environments. Wilderness areas were consequently associated strongly with ideas of beauty, fascination, and relaxation. The experience of wilderness tended to predominate over the biophysical characteristics of what a wilderness is. The rationale was thus more about what feels like wilderness, than what actually is wilderness. Despite this broad support for and expressed importance for having such spaces for relaxation, very few participants described anything related to 'spiritual' or cultural experiences in wild nature. The link with Attention Restoration Theory is quite explicit, as respondents highly valued the restorative opportunities that areas perceived as being relatively unimpacted afforded them (Carrus et al., 2015, Kaplan, 1995). The areas that they mentioned were not necessarily very large but provided a sensation of being "immersed" in nature. Thus, people most often mentioned this wilderness discourse and talked about the "feeling" in wilderness as being a defining criterion.

„Very remote, but somehow quite relaxed in a way… I associate it with sitting, you know, by a small campfire with the fish that we just got from the stream and the berries I picked… Marine wilderness would be areas where you don't really see traces of people, and you see nature everywhere, but people can also be there" (Brina, Regional Sea Convention)

5.2.1.1.2 Future and open-ended approach narrative

The presence of future and open-ended approach narratives has also been increasing in wider conservation discourses in Europe in the last decade (Edgar et al., 2014, European Commission, 2013, European Commission, 2020b, European Commission, 2022a, European Parliament, 2009, Jepson and Blythe, 2020, Pettorelli et al., 2019, Reker et al., 2019, Roberts et al., 2017), as well as within EU policy texts (Chapter 4). Therefore, it is interesting that the two discourses linked with 'natural processes predominating' and 'ecosystem functioning and resilience' were mentioned less often by interviewees. Particularly, 'natural processes predominating' came up quite rarely and mostly from participants working at the EU level and usually from people involved in negotiations between the EC and Member States or in preparation of Biodiversity Strategy 2030, which commonly uses this discourse. On the other hand, 'functioning' was mentioned more, but quite often linked to the experience of seeing a complex system with numerous trophic levels in action, such as diving around coral reefs, which conjured up an image of a well-functioning and wild ecosystem in their minds. The narrative of 'human impacts being minimal/unnoticeable' has been linked with the overarching narrative of looking into the future and the more practical approach to conservation. The interviews mentioned this discourse only in relation to experiences of particular places, while not engaging with the historical disturbances that might have occurred there before.

"(talking about the Great Barrier Reef)…areas where the scuba divers go up and you can see all kinds of steps of the ecosystem that you read about in your books and in most cases you don't see them in the exploited sea, like sharks for example. You can actually see them doing their thing in the ecosystem, as they are supposed to do." (Ladon, EU)

Therefore, it seems that in the perceptions of key actors involved in the interpretation and implementation of EU marine environmental policies, this particular discourse is not really linked with the functional approach to conservation, but merely a description of a status in an area that is more likely to offer an experience or feel of wilderness. Most respondents would thus still use strictly protected areas for preservation of baseline conditions, and to benefit most endangered and rare species and habitats, continuing with a feature-based approach, rather than the open-ended, functional approach that the policy texts are calling for. It is an unresolved conundrum for EU conservation in general, but it has even more pronounced effects for marine conservation, since the area-based targets set for 2030 apply just as much to marine as terrestrial ecosystems. The feature-based approach and sectoral thinking remain prevalent. However, even if participants were unwilling to prioritise functional protection very highly, they recognised the intangible and very important role in allowing spaces for relaxation and restoration of the human mind, which could provide an avenue for further discussion to garner the needed support for achievement of EU policy goals as they are formulated in the policy texts.

5.2.1.2 Interviews: Conclusion

Key actors and their perceptions of wilderness are varied, internally incoherent and not consistent across the EU. These observations are based on in-depth, semi-structured interviews described in Section 3.4 (evidence of analysis in Appendix XI). They can be grouped around three main themes:

1. Policy actors tend to value experiences of wilderness, over any other characteristics. The areas perceived as wilderness are usually areas where the human impact is unnoticeable and are highly valued for the relaxing properties they provide. The experiences and feelings of solitude, of escaping civilisation, and potentially some elements of danger are the most powerful associations with wilderness, outweighing any bio-physical descriptions of wilderness.

2. The vast majority of participants associated wilderness only with terrestrial environments and considered marine ecosystems as too interconnected for any wilderness of any kind to still exist within them.

3. Participants see the aims of strictly protected areas differently to how they are defined in the policy documents. As Chapter 4 has shown, the policies mainly aim for strictly protected areas to be used to support natural functioning of ecosystems to build resilience and adaptation. Conversely, most participants saw their main value in establishing reference and baseline conditions for assessing the level of degradation and effectiveness of a variety of measures in the rest of the seas. Therefore, protected areas would need to stay in unchanged states to allow those comparisons, preventing the application of more functional conservation approaches. Also, numerous participants would still use strictly protected areas to conserve particular features of the ecosystems, specific habitats and species, preferring that approach over the more functional approaches that the newest policies are calling for.

Wilderness is weakly associated with marine environments, or regarded as irrelevant, by almost all participants, and therefore the use of this concept in EU marine conservation might be of limited use. However, the commonly agreed definition of strictly protected areas still explicitly calls for them to be defined as IUCN category I protected areas (strict nature reserves and wilderness areas) and provide functional protection. This seems to contradict the prevailing priorities among the key actors in EU marine environmental policy implementation, who emphasise the use of strictly protected areas for active management and conservation of most endangered and rare species and habitats, or for establishing and preserving baseline and reference conditions. The policies that currently define strictly protected areas as ones with minimal human impacts and the need for designations to be large enough to permit unfettered ecosystem functioning, do not specify how large those areas have to be. Nor is there any discussion of remoteness, which could provide the feelings of solitude, a break from urban lifestyles, and immersion in nature that respondents mentioned often. This could be one of the key issues to be addressed in order to bridge the existing gap between policy actors and policies themselves.

However, since the key actors are clearly unaligned with policy definitions and utilise different discourses and rationales to underline their interpretations compared to those used in policy texts, this begs the question of the extent to which conservation discourses among

the key actors in the EU marine environmental policy field diverge in relation to the role of EU policies in achieving strict and effective protections of European seas (see Section 3.5.2). A deeper and wider investigation of the existing viewpoints on this issue is needed, beyond just perceptions and social constructions of wilderness and marine nature (see Section 3.5 on Q methodology). Additionally, while the interviews demonstrated how the understandings and viewpoints diverge across the EU, there are likely areas of convergence as well among the policy actors, ways of grouping more like-minded actors together, which is what is investigated with a Q study.

5.2.2 Q study: Social constructions of the usefulness of wilderness in EU strict and effective protection of the seas

The Q study allows for identification of predominant framings and underlying rationales, thus providing a clear insight into existing social constructions on the issue of why and how to effectively and strictly protect marine nature in the EU. Since the methodology combines robust statistical analysis with qualitative data of the associated interviews and comments made while sorting the statements (Chapter 3), the results can be considered a rich and thorough representation of the predominant framings or individual social constructions.

5.2.2.1 Overarching social constructions

Statistical analyses (Horst factor extraction and tests for factor retention, see Chapter 3, Table 5.1) identify only two predominant and clearly defined social constructions, which are representative of almost the entire sample, apart from a very marginal view that will be referred to as Critique of EU Approach (explained further below). These two social constructions define a clear fault line among the key actors in EU marine policy implementation, as they delineate the camps that see the need for More Environmental Protection and the opposing side which argues for continued, but Sustainable Use of Marine Resources. While such a distinction might have been obvious and expected, delving into the consensus statements and the statements which distinguish between them illuminates the perceptions and thinking which inform these divergent positions.

Table 5.1: Factor loadings table, which includes individual Q-sorts (participants' individual grids with sorted statements, differentiating between national policymakers-P, participants from EU institutions-EU, Regional Sea Conventions-RSC, and national experts-E). For each individual Q-sort loadings onto each of the two identified framings are calculated (using Horst5.5 method), with significant loadings at P<0.01 denoted with an asterix (*)

Q-SORTS	MORE ENVIRONMENTAL PROTECTION	SUSTAINABLE USE OF MARINE RESOURCES
P2	0,45*	0,2587
EU3	0,6314*	0,083
E1	0,2428	0,275

RSC1	0,4753*	0,2796
E5	0,3485	0,3684*
E3	0,643*	0,3694
P3	0,2736	0,4193*
EU5	0,2885	0,6264*
EU1	0,6968*	0,008
E7	0,5438*	0,2438
E10	0,2387	0,4445*
E8	0,4855*	0,2158
EU4	0,6899*	0,2162
P1	0,5729*	0,116
P4	0,2771	0,1754
P6	0,6142*	0,1042
E9	0,0422	0,7871*
P5	0,3966	0,5339*
EU2	0,0926	0,6608*
E2	0,6571*	0,2553
P9	-0,0764	0,2706
E14	0,4548*	0,2001
P8	0,5503*	-0,073
EU7	0,3707	0,4302*
E12	0,5957*	0,2998
E11	0,5534*	0,2768
E17	0,6387*	0,2439
E16	0,6589*	0,3295
EU6	0,452*	0,4105
E15	0,3611	0,8517*
% EXPLAINED VARIANCE	32	38

The More Environmental Protection social construction is mainly held by the environmentalists, who perceive the current situation as a major environmental crisis which needs to be urgently addressed, and regard current efforts as falling far short of what the crisis demands. Therefore, in their view, the only way to effectively protect marine nature is through stricter implementation of existing environmental policies, expanding protection schemes, restoration, and strong support for BDS. Despite robust backing for conservation policies, the wilderness concept and functional protection are perceived as worthwhile goals but are far from priorities, with more emphasis given to currently employed approaches, which are more in line with the feature-based approach of the Habitats and Birds Directives (HBD). This viewpoint is also broadly supportive of introducing a bottom-trawling ban and of the strong EU approaches and presence.

> *"I think (the marine environmental status) is (…) pretty bad and anyone can see that. (…) Now we have just depleted most of the things but going beyond that to the pollution and its impact on all ecosystems, it's just not good. (…) We are certainly not doing*

enough, and we know that we are not doing enough. That is why we are upping the ambition so much, because there's practically very little done." (EU4)

Alternatively, the Sustainable Use of Marine Resources framing then represents the more sustainable development-oriented views, where the EU still retains a strong role and even newer conservation policies are supported, but with numerous caveats. As expected, support for wilderness is almost non-existent within this frame, while strict protection is garnering some support, the participants would like to see it applied on a case-by-case basis in a much more pragmatic way. People are seen as integral parts of the marine ecosystems and the best way forward is seen through sustainable use of the seas, through fisheries policies and maritime spatial planning, which can of course be improved to be more environmentally friendly. The desire within this construction is for more dynamism, adaptability, and also cooperation and regulation of extractive sectors.

"Because I think people are first in the ecosystems-based approach, the humans are integral part of it and I think, for me, the most important part. Some people argue that nature has an intrinsic value, I agree with that. But at the end, maybe people need to satisfy some needs, have to harvest or take what nature produces and, or delivers and if it's done in a sustainable manner, I think that this is a very coherent way of looking at the nature in the broad sense and then marine environment for that matter." (EU5)

Despite the clear distinctions between the framings, there are also considerable points of consensus (see Tables 5.3 and 5.4, where those statements are annotated with a C). The vast majority of respondents across the two social constructions strongly disagreed with any suggestion of reducing the EU's influence and opposed shifting towards softer law approaches, despite admitting that the current policy framework presents a considerable administrative burden for the national administrations. Thus, support for a strong EU in this respect was almost universal, with great appreciation for the EU efforts made thus far. There was also a strong consensus that existing policies should be properly implemented. In addition, there was quite widespread consensus on reassessing Natura 2000 sites for them to provide conservation benefits, as well as for more focus to be directed to carbon-rich ecosystems, in line with the Green Deal provisions, and that there needs to be more cross-border cooperation when implementing EU policies. Interestingly, these patterns hold regardless of the region of the EU or the governance level or position in which the participants worked.

While the vast majority of participants fall within one of the two above mentioned social constructions, there was one individual view which significantly diverged. This framing, named here Critique of the EU Approach, does not fulfil statistical benchmarks to be considered a resulting factor of the Q study, but it does raise pertinent questions and critiques that should be considered, although they were perhaps not shared within the sample of this study. However, this frame does align itself with a number of social equity and justice arguments, reviewed in Section 2.3.3.1. In this framing, the EU is seen as well-intentioned but bad at achieving its stated aims, and this therefore generates an argument for more integration of environmental and other policies, but also for the EU to take a step back and allow more solutions to be delivered through softer law approaches. Further, the argument is that the only way to improve the current status of the sea is to change behaviours, which can be done through awareness-raising and by redesigning the entire system, by putting environmental considerations at the centre of everything. This, however, is not an EU task, according to this framing, and the EU should not presume to impose more legislation or presume to dictate terms in how to implement existing policies. Within this line of thinking, the idea of wilderness

and strict protection are dismissed as imperialist and outdated. The solution lies in more flexible, participative, and collaborative solutions that should be developed on national or regional levels, while the EU approach so far has too often been too prescriptive, too strict, and ultimately colonialist. Therefore, while this factor is poorly represented among this study's P-set, it does reflect a number of crucially important considerations. Given that the entirety of the P-set works on EU policy implementation, it is not surprising that this view is not widely shared, but it is important for justice reflections nonetheless.

> *"So the first is this concept of wilderness, which is very kind of Sierra Club, late 19th century, based on the conquest of the continental United States. OK, now it also focuses on this philosophy (of) Europe in a post-industrialized world, so that focuses the thinking of the people designing the policy. Now, if you don't share their experience, this sounds tremendously like we want you to stay underdeveloped, while we continue with our level of activity in the centre. So that idea that there's wilderness far away on the edge and the centre then can be full of humans and very busy, seems to me to lack a level of natural justice." (P9)*

The predominant social constructions described above make sense both in qualitative and statistical senses, but the qualitative data collected also revealed additional diversity in viewpoints, as well as points of consensus and divergence around certain issues, providing deeper insights into the diversity of framings. A number of particularly salient statements emerged, which consistently generated a lot of feedback and discussion either during the sorting activity or in post-sort interviews. These statements concerned the degree to which the EU should shift towards softer law and whether EU policies provide comprehensive data overviews. As expected, discussions of whether bottom trawling should be banned in EU waters were polarising, as well as all statements considering wilderness, given that key actors are not particularly familiar or engaged with the concept (Chapter 5.2.1). Finally, the question of whether the role of Regional Sea Conventions (RSC) should be extended and how to incorporate this approach best with the EU approach was also pertinent. The commonalities and differences among the participants in how they positioned these statements, together with some relaxation of statistical benchmarks, allowed for more nuanced analysis of the results (Brown factor extraction, see Chapter 3).

Particularly, when comparing distinguishing statements with the post-sort interview data, it became clear that the Sustainable Use of Marine Resources construction brings together very different people (from fishery scientists and spatial planners to devoted conservationists), but that they remain very coherent in their problem and solution framing. Namely, they recognise that despite perhaps wanting more protection, the reality is that European seas have been used for millennia and working with other economic and extractive sectors is a necessity. On the other hand, the More Environmental Protection frame demonstrated more variability and the greater part of the disagreements around salient statements. The environmental framing could thus be differentiated into four distinct sub-framings (Figure 5.2). This indicates that the conservation/environmental key actors are sharing a widely similar goal, but then disagree on the specifics of how to achieve it. The five-factor solution allows for detailed examination of the main points of disagreement among the environmental viewpoint and could suggest ways for better understanding and for improving cohesion.

The sub-framings are often similar to each other and have more in common with each other than with the sustainable use viewpoint, but they diverge in relation to five main topics of

contention (See Figure 5.2). The expansion of spatial protection (MPAs) is seen as one of the solutions to the current environmental crisis, although the levels of agreement with this assertion vary. Moreover, the ways in which the expansion of MPAs should be conceived are also disputed (between strict and functional protection, hands off and active management approaches). The sub-framings also differ over whether the EU works best through hard laws (European Commission, 2022b) or soft policies (e.g. BDS), while also debating whether the existing EU policies are enough. Finally, there is also clear divergence over whether bottom trawling should be banned in EU waters or not. The tables (Table 5.1, 5.2, and 5.3) present the statistical results stemming from Q factor analyses. Table 5.1 shows the statistical loadings of each participant's Q-sort with each of the identified framings. Table 5.2 demonstrates the Z-scores for the positioning of each of the Q statements within each identified social construction. Finally, Table 5.3 illustrates similar data, indicating the positioning of each statement within the aggregated frame Q-sorts. While these distinctions in conceptualisations of the policy needs of marine conservation are interesting in their own right, the motivations that frame them illuminate the more deep-seated divisions among the conservation-minded key policy actors.

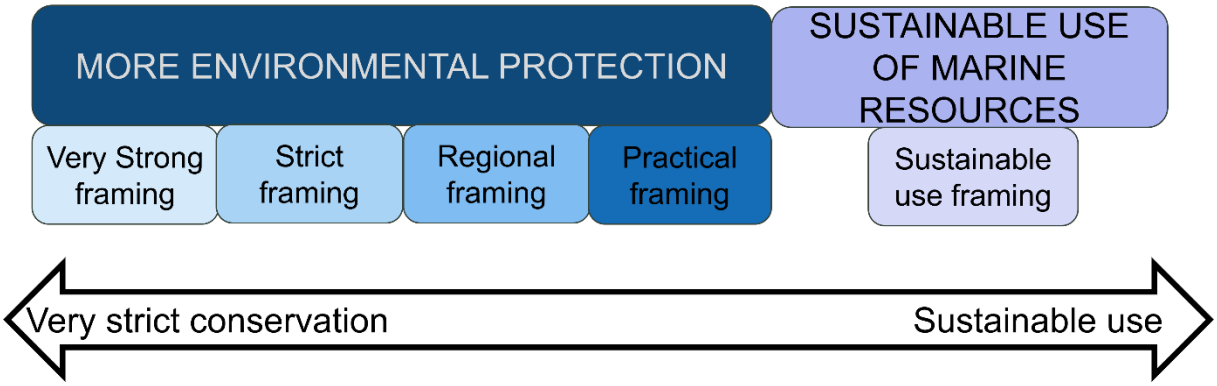


Figure 5.2: Representation of the factor solution, with each box representing a factor (or framing), on a scale of arguments between very strict conservation and supporting sustainable uses of the EU seas

Table 5.2: Factor loadings table, which includes individual Q-sorts (participants' individual grids with sorted statements, differentiating between national policymakers-P, participants from EU institutions-EU, Regional Sea Conventions-RSC, and national experts-E). For each individual Q-sort loadings onto each of the identified framings are calculated, with significant loadings at P<0.01 denoted with an asterix (*)

Q-sort	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
P2	0.0795	0.0999	0.1409	0.6229*	0.1104	-0.0795
EU3	0.5944*	0.4098*	0.0284	0.262	0.1118	-0.5944
E1	-0.1325	0.0256	0.4283*	0.2205	0.1732	0.1325
RSC1	0.1575	0.1962	0.3972*	0.2363	0.2224	-0.1575
E5	0.1265	0.7183*	0.0092	0.1188	0.2711	-0.1265
E3	0.2242	0.4481*	0.3426	0.3743*	0.2562	-0.2242
P3	-0.0276	0.15	-0.0791	0.6213*	0.2615	0.0276

Q-sort	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
EU5	0.1543	0.1963	0.1551	0.1725	0.6337*	-0.1543
EU1	0.5395*	0.2657	0.3189	0.2211	0.0362	-0.5395
E7	0.5907*	-0.1942	0.2079	0.3436	0.3654	-0.5907
E10	0.1922	0.0327	0.1352	0.144	0.4863*	-0.1922
E8	0.1314	0.4985*	0.0538	0.4405*	0.0564	-0.1314
EU4	0.5844*	0.3068	0.0202	0.4704*	0.2155	-0.5844
P1	0.3841*	0.5234*	0.2765	0.0583	0.104	-0.3841
P4	0.0659	0.1101	0.491*	-0.0691	0.1784	-0.0659
P6	0.0731	0.1802	0.5181*	0.4816*	-0.0588	-0.0731
E9	-0.1405	0.132	0.1903	0.0634	0.769*	0.1405
P5	0.168	0.236	0.2124	0.2629	0.5003*	-0.168
EU2	-0.1532	0.0381	0.3725*	0.0514	0.6366*	0.1532
E2	0.3777*	0.0827	0.3636	0.4448*	0.2267	-0.3777
P9	-0.3566	-0.0368	0.146	0.1884	0.1445	0.3566
E14	0.2228	0.0273	0.6276*	0.037	0.2307	-0.2228
P8	0.5046*	0.2008	0.26	0.0789	-0.0077	-0.5046
EU7	0.1192	0.0442	0.0714	0.5387*	0.3454	-0.1192
E12	0.0616	0.4424*	0.2631	0.5611*	0.0924	-0.0616
E11	0.2247	0.0211	0.4904*	0.3497	0.2372	-0.2247
E17	0.2463	0.137	0.2258	0.6745*	0.115	-0.2463
E16	0.3221	0.2765	0.3711	0.3766*	0.2714	-0.3221
EU6	0.2092	0.3984*	0.217	0.1957	0.364	-0.2092
E15	0.0505	0.2512	0.0915	0.481	0.7594*	-0.0505
% explained variance	9	8	9	13	12	9

Table 5.3: Full Q statement set with factor Z-scores (numerical measurements describing the statements relationship to the mean group) with significant distinguishing statements noted with asterixs (* for P<0.05, ** for P<0.01). Distinguishing statements denote statements that are particularly characteristic of a particular frame, having been ranked distinguishingly differently in that frame compared to the rest.Consensus statements are denoted with C at non-significance of P<0.01 and C* at non-significance of P<0.05 in the third column. The statistical non-significance denotes that all frames rank those statements similarly and indicates broad agreement on their position on the agreement-disagreement axis.

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
1	EU should make establishment of further Marine Protected	-0.05	1.22	-0.27	0.13	0.84	0.35

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	Areas a legal requirement.						
2	EU Common Fisheries Policy should be better integrated with EU environmental directives.	0.69	0.6	0.79	1.29	1.56	2.12
3	Bottom-contacting fishing gear is very damaging and its use should be prohibited in EU seas.	2.11	-1.64	1.78	-1.26	0.21	-0.35
4	EU fishery restrictions on catches or gears are more effective than spatial closures to fisheries.	-0.43	-1.3	-0.54	-0.92	0.38	-0.35
5	EU needs to sustainably manage and use marine resources for the primary use of the people.	0.83	0.31	0.15	-1.13	0.12	-0.71
6	EU needs to raise general awareness about marine ecosystems and support more public involvement.	-0.25	1.53*	0.24	-0.36	0.59	-0.35
7	EU should require Marine Protected Areas to prohibit extractive	1.71**	-0.1	-0.84	0.72*	-0.2	-1.77

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	activities (become No-Take Areas).						
8	EU should focus on regulating human marine activities to manage diffuse pressures.	0.68	-0.5	1.07	1.62	-0.15	-0.71
9	EU should focus on the species/habitats approach to reducing individual pressures.	0.64	0.4	0.33	-1.46	-1.28	-1.06
10	EU should foster changes in citizens' way of life to alter modern production and consumption patterns.	-0.75**	0.79	-1.67**	1.29	0.33	1.77
11	EU Member States should prioritise protection of the most endangered habitats and species.	0.96	-0.39	1.09	0.79	0.55	-0.35
12	Achieving marine wilderness conditions should be a target of strict protection.	0.18	0.01	-0.96	0.68	-0.74	-2.12*
13	EU policy should prioritise protection of functional areas,	1.43	-0.22	2	0.36	1.09	1.41

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	important for biodiversity.						
14	EU should prioritise passive restoration via strict protection over active restoration.	-0.41	-0.29	-0.83	0.34	-0.49	0.71
15	We need to go beyond policies and existing targets and be more dynamic and adaptable.	-0.19	-0.51	0.66	-0.48	1.48*	0.35
16	EU Member States should prioritise strictly protecting least impacted areas (pristine, last wildernesses).	0.67	0.51	-0.04	0.59	-0.95	-1.41
17	EU should encourage Member States to establish ‘large’ Marine Protected Areas.	0.98	0.39	0.22	0.69	-0.45*	0.71
18	Multiple-use Marine Protected Areas should be preferred over the use of No-Take Areas.	-1.51	-0.2	-0.16	-1.15	1.29	1.06
19	EU should designate more no-take areas to enhance ecosystem resilience even to diffuse threats.	0.67	-0.4	0.04	1.22	-0.64	-0.35
20	EU should regulate the	0.85	-0.1	0.77	-0.55	-0.24	-1.41

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	design of Marine Protected Areas to manage resilience and sustain ecosystems.						
21	Areas of high value to humans and more remote wildernesses should both be protected.	0.09	0.8	1.26	0.45	-0.14	0
22	Reassessment of EU Natura 2000 marine sites is needed for them to yield conservation benefits.	-0.18	0.42	-0.02	0.67	0.68	1.06
23	Carbon-rich ecosystems should be strictly protected.	0.51	0	0.82	0.59	0.34	1.06
24	European Commission unduly pressures and controls Member States with EU policies.	-1.44	-1.71	-1.89	-1.58	-1.4	1.41**
25	EU should step back and let Member States take back control, with national laws taking precedence.	-2.03	-1.5	-1.43	-2.32	-2.02	-0.71
26	EU policies are providing the much needed	-0.1	1.53	0.69	-0.32	-0.29	0.71

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	ambition and drive to go beyond national interests.						
27	EU policies provide comprehensive data overviews needed for successful management.	-1.87	-0.21	-0.37	-1.33	-0.85	-1.06
28	EU policies should shift from hard to soft law, as hard law focusses on administrative compliance.	-1.36	-1.71	-0.4*	-2.02	-1.92	0.71*
29	EU policies alienate actors and create opposition to conservation, particularly with strict protection.	-1.2	-1.53	-1.47	-0.59	-1.71	1.77**
30	Existing policies should be properly implemented.	2.28	1.5	1.4	1.59	1.59	1.06
31	There needs to be greater cross-border coordination around EU legal environmental instruments.	0.19	0.72	0.76	0.5	0.9	0
32	There is still insufficient EU marine legislation to manage the marine environment.	-1.83	-0.82	-0.85	-1.09	-1.39	0.71

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
33	A regional approach of Regional Sea Conventions should be used to manage the marine environment.	-0.61	-0.8	2.28	1.24	0.35*	1.41
34	Continuity and linkages among the EU Natura 2000 sites should be promoted with ecological corridors.	0.58	0.29	0.49	0.48	0.82	-1.06*
35	Political will to enforce Marine Protected Areas needs to cascade down from the EU.	-0.67	0.31	-1.46*	-0.13	0.11	-0.35
36	Further regional integration within the EU should be promoted only with discretion.	-1.45	-1.51	-1.35	-1.27	-0.21	0.35
37	Strengthening the EU legal framework with binding EU nature restoration law is very important.	0.7	1.22	-0.85	0.03	1.54	-1.06
38	EU should use diplomacy to broker agreements on strict protection beyond their waters.	-0.19	0.8	-0.45	0.59	0.17	0.35
39	Natura 2000 network should be completed in	0	1.4	0.02	0.61	0.96	0

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	marine environments.						
40	Potential of EU funding has to be maximised for increasing conservation benefits.	-0.26	1.61	0.66	0.2	1.19	0.35
41	Wilderness management should be recognised as compatible with Natura 2000 objectives.	-0.78	-0.11	-0.06	-0.88	-1.23	0
42	Strictly protected areas are an easy way to implement EU policy commitments.	0.65	0.9	-0.31	-0.87	-1.04	-1.77
43	Wilderness areas are essential for preserving viable population of fished species.	0.31	-0.21	0.35	0.36	-0.38	0
44	No-entry areas are more effective at restoring biodiversity than no-take areas.	-0.82	-0.4	-0.09	0.03	-0.62	0
45	New EU policy for marine wilderness protection is crucial to protect the last wildernesses.	0.6	-1.3	-0.72	1.34*	-1.4	0.35
46	Strongly protected areas should leave	0.69	-0.71	0.28	0.94	-0.67	-0.71

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	natural processes undisturbed (by non-intervention).						
47	Enact EU Biodiversity Strategy 2030 goals (30:10 protection, improved management).	-0.2	2.12*	0.8	0.49	1.21	0
48	Exclusions of activities in strictly protected areas should be decided on a case-by-case basis.	-0.94	-1.33	0.24	1.19	1.64	-0.71
49	EU does enough to support effective management of Marine Protected Areas.	-0.58	-0.9	-2.4*	-1.31	-0.5	-1.41
50	European Commission should have more compliance mechanisms for steering Member States.	1.07	1.01	0.24	-0.02	0.99	0

Table 5.4: Factor arrays for five study factors with distinguishing (P<0.05 - *, P<0.01 - **) and consensus statements (non-significance at P<0.01 - *, P<0.05 - **, noted with C) shown. This

table shows the position of each statement within the grid for each of the identified factors (or frames), while denoting distinguishing and consensus statement, as in Table 5.2.

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
1	EU should make establishment of further Marine Protected Areas a legal requirement.	0	3	-1	0	2	1
2	EU Common Fisheries Policy should be better integrated with EU environmental directives.	2	2	3	4	5	6
3	Bottom-contacting fishing gear is very damaging and its use should be prohibited in EU seas.	5	-5	5	-3	0	-1
4	EU fishery restrictions on catches or gears are more effective than spatial closures to fisheries.	-1	-3	-2	-2	1	-1
5	EU needs to sustainably manage and use marine resources for the primary use of the people.	3	1	0	-3	0	-2
6	EU needs to raise general awareness about marine ecosystems and support more public involvement.	-1	5*	0	-1	1	-1

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
7	EU should require Marine Protected Areas to prohibit extractive activities (become No-Take Areas).	5**	0	-2	2*	0	-5
8	EU should focus on regulating human marine activities to manage diffuse pressures.	2	-2	3	6	0	-2
9	EU should focus on the species/habitats approach to reducing individual pressures.	1	1	1	-4	-3	-3
10	EU should foster changes in citizens' way of life to alter modern production and consumption patterns.	-2**	2	-5**	4	1	5
11	EU Member States should prioritise protection of the most endangered habitats and species.	3	-1	4	3	1	-1
12	Achieving marine wilderness conditions should be a target of strict protection.	0	0	-3	2	-2	-6*

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
13	EU policy should prioritise protection of functional areas, important for biodiversity.	4	-1	5	0	3	4
14	EU should prioritise passive restoration via strict protection over active restoration.	-1	-1	-2	0	-1	2
15	We need to go beyond policies and existing targets and be more dynamic and adaptable.	0	-2	2	-1	4*	1
16	EU Member States should prioritise strictly protecting least impacted areas (pristine, last wildernesses).	2	1	0	1	-3	-4
17	EU should encourage Member States to establish ‘large’ Marine Protected Areas.	4	1	0	2	-1*	2
18	Multiple-use Marine Protected Areas should be preferred over the use of No-Take Areas.	-4	0	-1	-3	4	3
19	EU should designate more no-take areas to enhance ecosystem resilience even	2	-1	0	3	-2	-1

	Statement		Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	to diffuse threats.							
20	EU should regulate the design of Marine Protected Areas to manage resilience and sustain ecosystems.		3	0	2	-1	-1	-4
21	Areas of high value to humans and more remote wildernesses should both be protected.		0	2	4	0	0	0
22	Reassessment of EU Natura 2000 marine sites is needed for them to yield conservation benefits.	C	0	1	0	2	2	3
23	Carbon-rich ecosystems should be strictly protected.	C	1	0	3	1	1	3
24	European Commission unduly pressures and controls Member States with EU policies.		-4	-5	-5	-5	-4	4**
25	EU should step back and let Member States take back control, with national laws taking precedence.		-6	-4	-4	-6	-6	-2

	Statement		Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
26	EU policies are providing the much needed ambition and drive to go beyond national interests.		0	4	2	-1	-1	2
27	EU policies provide comprehensive data overviews needed for successful management.		-5	0	-1	-4	-2	-3
28	EU policies should shift from hard to soft law, as hard law focusses on administrative compliance.		-3	-6	-1*	-5	-5	2*
29	EU policies alienate actors and create opposition to conservation, particularly with strict protection.		-3	-4	-4	-2	-5	5**
30	Existing policies should be properly implemented.	C	6	4	4	5	5	3
31	There needs to be greater cross-border coordination around EU legal environmental instruments.	C*	0	2	2	1	2	0
32	There is still insufficient EU marine legislation to manage the marine environment.		-5	-2	-3	-2	-4	2**

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
33	A regional approach of Regional Sea Conventions should be used to manage the marine environment.	-2	-2	6	4	1*	4
34	Continuity and linkages among the EU Natura 2000 sites should be promoted with ecological corridors.	1	0	1	1	2	-3*
35	Political will to enforce Marine Protected Areas needs to cascade down from the EU.	-2	1	-4*	-1	0	-1
36	Further regional integration within the EU should be promoted only with discretion.	-4	-4	-3	-3	0	1
37	Strengthening the EU legal framework with binding EU nature restoration law is very important.	3	3	-3	0	4	-3
38	EU should use diplomacy to broker agreements on strict protection beyond their waters.	-1	2	-2	1	0	1
39	Natura 2000 network should be completed in	0	4	0	2	2	0

	Statement		Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	marine environments.							
40	Potential of EU funding has to be maximised for increasing conservation benefits.		-1	5	2	0	3	1
41	Wilderness management should be recognised as compatible with Natura 2000 objectives.		-2	0	0	-2	-3	0
42	Strictly protected areas are an easy way to implement EU policy commitments.		1	3	-1	-2	-3	-5
43	Wilderness areas are essential for preserving viable population of fished species.	C	1	-1	1	0	-1	0
44	No-entry areas are more effective at restoring biodiversity than no-take areas.	C	-3	-1	-1	0	-2	0
45	New EU policy for marine wilderness protection is crucial to protect the last wildernesses.		1	-3	-2	5*	-4	1
46	Strongly protected areas should leave natural		2	-2	1	3	-2	-2

	Statement	Very Strong	Strict	Regional	Pragmatic	Sustainable use	Critique
	processes undisturbed (by non-intervention).						
47	Enact EU Biodiversity Strategy 2030 goals (30:10 protection, improved management).	-1	6*	3	1	3	0
48	Exclusions of activities in strictly protected areas should be decided on a case-by-case basis.	-3	-3	1	3	6	-2
49	EU does enough to support effective management of Marine Protected Areas.	-2	-3	-6*	-4	-1	-4
50	European Commission should have more compliance mechanisms for steering Member States.	4	3	1	-1	3	0

5.2.2.2 Very Strong social construction

The Very Strong frame has an eigen value of 1.04 and explains 9% of study variance. Seven participants are significantly associated with it, out of which two are confounded with the Strict frame and two with the Pragmatic frame and thus not loaded onto this factor. This social construction is based on the belief that the current efforts to effectively protect marine nature have largely failed and that a lot more has to be done, compared to the current efforts. Feelings of pessimism, disgruntlement, and fatalism about the future are common. The positions presented from here on are accompanied with the number of the statements that support such assertions and their position within this framing (see Table 5.3). Therefore, more expansive actions are necessary with immediate effect, particularly the ‘EU should be doing a

lot more' and more decisively (25: -6; 28: -3; 24: -4). While the policy priorities that this framing identifies are the most restrictive of the ones identified and most disruptive to the current status quo, the positions taken are firmly rooted in the existing policy texts and commitments, and therefore they are merely arguing for full implementation of the promises already made.

This view's conception of wilderness is the most aligned with what the EU policies are calling for, as they want to leave natural processes undisturbed in strictly protected areas, claiming that eventually achieving wilderness conditions should be a target of strict protection and would also support additional EU legislation to better protect wilderness areas (7: +5; 13: +4; 16: +2; 19: +2; 45: +1; 43: +1; 12: 0; 47: -1; 21: 0; 14: -1; 44: -3; 41: -2). Therefore, this social construction supports more radical and expansive spatial protection action with immediate effect (17: +4). This includes making MPAs no-take zones and applying strict protection, where natural processes can predominate widely (13: +4; 7: +5; 46: +2). Besides properly implementing all existing EU policies, only hard laws are seen as viable, and thus despite being aligned with the ambitions of the BDS, considering them a bare minimum, the policy itself is seen as less important, due to its soft law nature (47: -1). A number of additional measures are also required, among them the bottom-trawling ban (3: +5).

While all existing policies should be properly implemented (30: +6; 2: +2) and revisions of existing policies are seen as wasteful, even if perhaps justified (22: 0), the conservation measures should be significantly stepped up. Accordingly, opposition to the preference for multiple-use MPAs is very strong (18: -4), as well as for the case-by-case approach to exclusions in strictly protected areas (48: -3). Also, this frame very strongly supports the assertion that MPAs should become NTAs (7: +5), at distinguishing level (i.e., compared to all other factors). Overall, this viewpoint is quite similar in its conservation orientation to the 'Strict' framing (see 5.2.2.3), but supportive of more disruptive actions and less bothered about whether certain actions are feasible, because they are considered urgently needed.

> *"All the strategies in the past, like the biodiversity strategy and all these soft approaches have not delivered. And I think we need more hard laws and less soft law." (EU4)*

5.2.2.3 Strict social construction

The Strict framing has an eigen value of 1.32 and explains 8% of the study variance. Seven participants are significantly associated with this factor, three of which are confounded with the Pragmatic frame and one with the Very Strong one, therefore not loading onto this factor. The Strict construction shares a number of policy priorities and their urgency with the Very Strong framing. However, the key distinction is that the Strict social construction is built on conviction that the responsibility for devastation of nature rests with people, who are therefore morally obliged to do their utmost to rectify the situation. This calls for active restoration and management approaches which are not compatible with wilderness and 'predominance of natural processes' approaches. This framing stems from similar despondency about the current situation, compared to the Very Strong frame, but wants to be more active and optimistic about the future. The key issue here is the value of education and raising awareness, which should remain an EU task (6: +5; 10: +2), which features statistically distinguishably highest support in this factor compared to all the rest.

This frame also highlights the need for greater expansion of MPAs and of strict protection, in line with BDS commitments. Strict protection is not linked to the idea of wilderness, as the focus should be on more active management and on the existing approaches, such as Natura 2000 (39: +4; 22: +1; 9: +1; 34: 0). As such, strictly protected areas should preserve the most important areas and keep them unharmed. The non-intervention management associated with wilderness is seen as just doing nothing. Overall, this view is not opposed to open-ended or wilderness conservation, but it does not consider it a high priority (21: +2; 12: 0; 7: 0; 41: 0; 43: -1; 44: -1; 19: -1; 46: -2; 45: -3).

While there is also strong belief that EU policies need to be properly implemented, this construction is less dismissive of soft law approaches, compared to the Very Strong frame and even positions BDS as the key policy and most important priority right now (47: +6), thus enjoying the highest (distinguishing) support in this factor. There is strong support for the EU to do even more in terms of supporting conservation and particularly spatial protection approaches, by introducing binding restoration legislation (37: +3), making the establishment of MPAs a legal obligation (1: +3), and to push for more strict protection around the world (38: +2; 42: 3; 48: -3). Despite support for quite drastic spatial protection measures, there is pronounced opposition to banning bottom trawling as an impractical and draconian measure that is unlikely to produce many benefits (3: -5).

> *"The bottom contacting fishing, I think, we're looking at sustainable use of the seas, so why would you exclude an activity forever from everywhere and consider this to be your solution to all of your problems? " (E5)*

5.2.2.4 Regional social construction

The Regional social construction has an eigen value of 9.44 and explains 9% of the study variance. Seven participants are significantly associated with this factor, although one of them is confounded with the Pragmatic frame and one with the Strict social construction. The confounded Q sorts were ultimately not loaded onto this factor. This factor represents the views of experts, Regional Sea Conventions, and national policy-makers, but does not have any representation from the EU level. The Regional frame still supports expansion of protected areas but moves away from ambitious and potentially more *status-quo*-disrupting policy priorities (i.e., very ambitious protection targets in BDS), while valuing the regional sea perspective over the EU approach. Generally, this construction also has the highest support of all factors to shifting to softer EU laws, although that support remains low (28: -1).

The Regional frame is a blend of the previous two sub-framings. It is highly supportive of functional protection and the regional approach, and also supports some more radical suggestions, but tends to avoid engaging with the concept of wilderness, preferring to use other terms which are seen to be more scientific and have expert validity behind them, rather than engaging in imaginaries of a fuzzy wilderness concept, such as ecosystem functioning (13: +5; 21: +4; 47: +3; 46: +1; 43: +1; 19: 0; 16: 0; 41: 0; 44: -1; 12: -3). While all factors represent the view that the EU is not doing enough to support effective management of MPAs, the disagreement is the strongest within this viewpoint at distinguishingly low level (49: -6). Bottom-trawling is recognised as damaging and needing to be banned (3: +5), thus illustrating very strong environmental and conservation interest.

The Regional factor still supports expansion of protected areas, but rather than focusing on restoration or strict protection, functional protection of areas that have the best possibility of maintaining ecosystem functioning are preferred. This is also a departure from the way that most EU policies (e.g., HBD and proposed EU Nature Restoration Law) are framed. Consistently, more influence should be accorded to RSCs instead of the EU (33: +6; 36: -3, 31: +2). The EU should focus on implementation of existing policy frameworks, while the RSCs can lead the more regionally focused and more ambitious actions (35: -4). Accordingly, there is more support for softer approaches, which are more characteristic of the RSCs. This framing still recognizes the severity of the marine environmental crisis and is appreciative of the EU efforts (30: +4) but argues that certain limits on its approaches should be imposed. The most notable example is the belief that education and fostering behaviour change are not and should not be within the competence of the EU, and that these should remain in the hands of the Member States (10: -5), distinguishingly lower than in all other factors. Notably, this refers mostly to OSPAR and HELCOM, with participants from other seas aspiring to that level of cooperation.

> *"How to raise citizens to be more environmentally friendly or where, for example, to do this strict protection areas, they should be on regional stage." (P4)*

5.2.2.5 Pragmatic social construction

The Pragmatic social construction has an eigen value of 1.33 and explains 13% of the study variance. Three Q sorts are confounded with the Strict frame and two with the Very Strong factor, as well as one with the Regional social construction, thus none of them have been loaded onto this factor. Fundamentally, this framing is based on the conviction that the main pressures on marine environment are diffuse and cannot be effectively addressed just with spatial protection. Therefore, the entire EU marine environmental *acquis* has to focus on closing the so-called 'implementation gap' and so address pressures on the marine environment in general (8: +6; 30: +5; 2: +4).

The most pragmatic of the environmental frames thus focuses on reducing the overall cumulative pressures on the marine environment. As such, the wilderness concept is seen as interesting and potentially useful but is not among the priorities (45: +5; 12: +2; 16: +1; 13: 0; 21: 0; 41: -2). While this frame is supportive of expansion of MPAs (19: +3), there is a lot more flexibility and permissiveness in uses of marine nature within MPAs. Therefore, there is opposition to a bottom-trawling ban (3: -3), which is seen as an unfeasible ambition, detracting from more important matters. The conception that the EU environmental *acquis* is good enough as it is, and its full implementation would achieve all the necessary goals is widespread. As such, the construction is generally more optimistic, seeing small successes occurring already and anticipating them snowballing in the future, if the momentum can be kept up.

> *"The pieces of legislation are numerous. What we really need to do is to integrate as much as possible, trying to, not exactly abolish legislation, this is not my intention to abolish legislation, but try to create a more flexible legislative coordination, to have a more flexible coordination of legislative items" (E3)*

5.2.2.6 Sustainable Use of Marine Resources social construction

The Sustainable Use of Marine Resources viewpoint has an eigen value of 1.89 and explains 12% of the study variance. Six participants are significantly associated with this factor, one of which is confounded with Regional frame, and thus not loaded onto this factor. This factor represents views from all regional seas and types of participants. This social construction is anchored around the fact that cooperation and more often than not better regulation of extractive and economic sectors in the EU seas is unavoidable (15: +4).

This framing sees people as part of the marine environment, and simply excluding them from it is not going to be a productive solution (2: +5; 4: +1, 5: 0). Therefore, there is strong opposition to blanket application of strict rules, particularly exclusions of economic activities, which if applied should only be applied on a case-by-case basis (48: +6; 21: 0). Thus, while there is support for spatial protection measures, these should mainly be multiple-use MPAs over NTAs (38: 0; 7: 0; 19: -2) and there is unease about encouraging the designation of "large" MPAs (17: -1), which is distinguishably lower than in other factors. Unsurprisingly, wilderness is quite strongly opposed as a concept to be used in EU policies or in achieving effective protection, either on a conceptual or practical basis (45: -4; 41: -3; 16: -3; 12: -2; 46: -2; 44: -2; 43: -1; 21: 0). Similarly, support for a bottom-trawling ban is low (3: 0), even though its damaging nature is not disputed.

While this frame remains coherent throughout the exploration of different factor solutions with Brown factor extraction technique and its description is characteristic of all six participants, the underlying reasonings for the positions taken, obtained through post-sort interviews, reveal existence of two distinct grouping of people that are associated with it. One is more focussed on sustainable development and people-centred approaches, so called non-conservation subscribers to this view. However, the second group is composed of devoted conservationists, who nevertheless have aligned policy priorities with the first group.

Among the non-conservation-related subscribers to this view (spatial planners, fishery scientists), a perception is maintained that sustainable use of the seas is possible, with environmental protection being achieved alongside continued economic growth. Admittedly, the economic and social perspectives that are driving the EC goal of doubling the size of the EU's Blue Economy are in the forefront. While no one would claim that the current consumption patterns are sustainable or that they do not contribute to continued environmental degradation, the key question is how to still use the seas, while protecting the natural capital. Thus, in this frame, EU environmental policies are welcome as they delineate the boundaries of what can be admissible, but they should not be prepared without engaging with the economic sectors as the decisive stakeholders.

While conservationists in this social construction see the fisheries and other extractive economic activities as the main degrading pressures on the marine environment, the solution is in better management and regulation of these sectors. While there is a lure of delineating areas where their activities are curtailed or prohibited, that does not address the underlying cause that leads these sectors to overexploit the seas, and therefore spatial protection just shifts pressures elsewhere. Any viable and sustainable solution will thus have to involve working with these sectors, cooperating with them and imposing more regulations on them, which is likely to happen outside the context of MPAs.

5.2.2.7 Confounded Q sorts

The Q study also yielded a significant proportion of Q participants which were not significantly loaded onto one of the six resulting factors. Therefore, these participants further illustrate the complexity of social reality highlighted by the results already presented in this chapter. In this study, a third of all Q sorts were confounded or split between factors (Table 5.4). In some cases, these Q sorts were even significantly and very highly loaded onto particular factors, but because they were also significantly loaded onto another factor, they were excluded from the final analysis. As can be observed from Table 5.4, the most commonly split factor is Pragmatic (7), followed by Strict (5), Very Strong (4), and finally the Regional and Sustainable Use (both 2). If only the higher of the two loadings are taken into account, three of these Q sorts would be sorted into Strict, two into Very Strong, Sustainable Use, and Pragmatic each, as well as one into Regional. Therefore, while the presented social constructions do illustrate the variability among key policy actors in the EU marine environmental policies, it has to be noted that there are actors who identify with more than one of them or remain in between, simultaneously agreeing with elements of different social constructions.

Table 5.5: The split Q sorts (individuals' Q grids) and the two sub-frames onto both of which they are significantly loaded, showing significant association with more than just one sub-frame.

Q-sorts	**Sub-frame 1**	**Sub-frame 2**
EU3	Strict	Very Strong
P1		
E3	Strict	Pragmatic
E8		
E12		
P6	Regional	Pragmatic
EU2	Regional	Sustainable Use
E15	Sustainable Use	Pragmatic

5.2.2.8 Q study: Conclusion

Despite some striking commonality of views across Regional Seas and the EU, as a whole, the divergence and distinctions outlined above are significant. While the identified social constructions are not linked to cultural, geographical, or national identities and appear across different EU regions and different governance levels, they do showcase a range of different ways of interpreting policies and setting policy priorities. In comparison with the interview results (section 5.2.1), the results of the Q study demonstrate the existence of groupings of like-minded policy actors and the ways in which they are interpreting policies and setting policy

priorities. Therefore, the focus moves from identifying misalignments between policy texts and individual key actors to greater understanding of how the policies are in fact understood. Particularly, on the role of wilderness that interviews focussed on, only one of these framings is aligned with wilderness imaginaries (Very Strong), while the rest are more ambivalent about the association with wilderness. Nevertheless, there is more widespread support of strict protection across framings, albeit with not always consistent definitions of what strict protection is.

The identified social constructions allow the key actors to interpret and implement the common EU policies differently based on their problem and solution framing and the way that they socially construct marine nature and current environmental crisis. The social constructions demonstrate that while the Sustainable Use of Marine Resources framing remains coherent, regardless of the actors' backgrounds, the More Environmental Protection construction fractures into four distinct sub-framings, which identify different conservation priorities and approaches as preferrable. The identified social constructions and their sub-framings thus illustrate the deep-seated divisions among the key policy actors and the "messy" aspects of social reality, with confounded and split Q-sorts present. Overall, the presented variety of social constructions offer a lens for considering EU marine environmental policy implementation, as it is clear that key policy actors in the EU are perceiving the role of policies and their priorities differently. The question of the extent to which such differences in framing influence how policies are implemented remains.

5.3 Discussion

5.3.1 The role of social constructions in achieving ambitious EU policy goals

The ambitious goals of EU marine environmental policies require the Member States and the EU, as a whole, to move in the direction of more environmental protection and better management of natural resources. This move will include a very significant expansion of protected areas if the target of protecting 30% of land and sea by 2030 is to be delivered. Moreover, a third of that area has to be protected strictly (European Commission, 2020b). While these targets are ambitious by any count, they are particularly stretching in the marine context (European Commission, 2022a). Although the Aichi target of 10% protection was reached (European Commission, 2022a), it was not exceeded by much, and so the total area protected so far will have to be tripled in just a few years, and as many MPAs as currently exist will have to be protected strictly. Since the EU's environmental policies have not been satisfactorily implemented to date (Chapter 4), it is pertinent to wonder whether and how the new, even more ambitious goals, such as the EU Green Deal and the Biodiversity Strategy 2030 will be influenced by the interactions between policies themselves and the key actors who will be implementing them across the EU.

As Chapter 4 has shown, the linkages between the discourses that the EC, in collaboration with the Member States, has used closely echo various wilderness discourses, and these have also been repopularised in European terrestrial conservation over the last decade, but there is limited literature on this within the marine realm (Chapter 2). Can we assume that, given this coherence of policy texts and high-level political commitments and

agreements among the EC and EU Member States, we will be seeing large areas of strictly protected seascapes, which would rival certified wilderness areas on land? Moreover, given the variety of discourses used in policy texts (Chapter 4) and the influences of socio-psychological elements on decision-making and behaviours (Chapter 2), can we expect current policy objectives to be fully and coherently implemented? According to Barrett (2004) and Turnhout et al. (2019), a key element to answering these questions is the perceptions of the key actors who are interpreting and implementing these policy texts.

5.3.2 Key actors' perceptions of marine wilderness

The variety of distinct and unaligned perceptions of the role of EU policies in strict and effective protection of marine nature, as well as the differing conceptions of wilderness illustrate that there are indeed various different social constructions of marine nature and wilderness held by the key actors who are implementing EU marine environmental policies. While it was expected that such differences would occur in relation to cultural differences (Bauer, 2005, Kellert, 1997, Knowles et al., 2001), or due to the north-south-east divisions within the EU (Kidd et al., 2011, Plechanovová, 2011), this does not seem to be the case. All five identified social constructions and perceptions of wilderness have some support in all four regional seas and there are no patterns linked to the nationality of participants.

Respondents did mention a variety of marine environments which can potentially be considered wild, most commonly describing them as areas where the ecosystem functioning is still relatively intact (e.g., coral reefs) and thus retaining the scientific, expertise-based language. This also aligns well with the 'Regional' social construction, as well as more indirectly with the 'Critique of the EU approach', since the EU seas do not feature any of those coral reefs, thus pointing towards the need to better protect the marine wilderness in tropical seas, where that protection is less (politically and economically) costly to the EU. Additionally, the 'Critique of the EU approach' framing also raises the social equity and justice issues of dispossession and underdevelopment, that are often inherently linked to wilderness imaginaries and conservation approaches, while maintaining the predominance of natural scientific approaches, which support the expansion of wilderness conservation (Bennett et al., 2023, Blythe et al., 2023, Büscher et al., 2017, Guha, 1989, Kammat, 2014, Kammat, 2018, Lahsen and Turnhout, 2021). Interestingly, this scientific discourse is more seldom applied among the marine policy experts when describing wilderness on land, where discourses of remoteness, solitude, and minimal human impacts predominate, which is aligned with most of the literature on the subject (Barr, 2001, Dudley, 2013, Hofmeister, 2009, Huettmann, 1998, Lesslie et al., 2009, Lupp et al., 2011, McCloskey, 1965, Mittermeier et al., 2003, PAN Parks Foundation, 2009, Watson et al., 2016, Rodriguez Dowdell et al., 2012, Sæþórsdóttir et al., 2011, Sloan, 2002, Wild Europe, 2013, Young et al., 2015).

Nevertheless, these other discourses are also present in the marine realm, as participants mentioned remote and empty open ocean environments as wilderness (Smith and Wilen, 2002), or simply claimed that they can recognise marine wilderness when they see it, alluding to the characteristic minimal human impact and in line with Barr and Kliskey (2014a). It has to be noted that marine associations with wilderness were still rare compared to terrestrial imaginations and if they were expressed by the interviewees, they predominantly came from divers. Therefore, the claim that the inaccessibility of marine environments prevents

people from engaging with them is still prevalent (Brailovskaya, 1998, Jefferson et al., 2014), even after 'the Blue Planet effect'[7] (Benyon et al., 2020, Hynes et al., 2021).

Most participants valued wilderness mostly for the experiences it provided them, the opportunities to escape human-dominated environments and relax in places surrounded with nature. These claims were often, at least initially, also linked to the ideas of pristine and untouched nature, where human influences are unnoticeable. The link with Attention Restoration Theory (ART) is quite explicit, as respondents highly valued the restorative opportunities afforded them by areas perceived as being relatively unimpacted (Carrus et al., 2015, Kaplan, 1995). The areas they mentioned were not necessarily very large but provided a sensation of being "immersed" in nature, talking about the "feeling" in wilderness as a defining criterion. While the feeling of immersion was often mentioned in reference to both marine and terrestrial wildernesses, it was particularly emphasised by divers, when being literally immersed in water, conveying a much more embodied experience that was felt to be deeply relaxing and meditative. Therefore, there is a widely recognised value for wild places both on land and in the seas. This is also consistent with literature on the importance of experiences of nature, much of it building on the work of Kaplan and Kaplan (1989) who claim that many want to connect with nature to escape modern urban environments and "disconnect". Another example of that is Clayton et al. (2017) asserting that people are seeking planned "experiences", providing individual well-being, escapes and satisfaction, which is coherent with descriptions of key actors who like to "escape and disconnect" in wild nature during their vacations.

> *"I think the sea always makes me slow down, and especially when you dive. For me it's a very meditative state. /…/ So I'll change my breathing. Usually like slows it down, and especially when you're diving, you sort of feel yourself lifting and sinking a little bit with your breath. Oh yeah, that's just lovely." (Brina, RSC)*

5.3.3 EU policy relevant social constructions of marine nature and wilderness

Various different understandings and perceptions of marine wilderness aside, most participants still mention at least some of the wilderness-relevant discourses when talking about marine nature and policy priorities. The challenge then becomes the misalignment of the discourses that key actors are using compared to policy texts. This is particularly noticeable given that interviewees emphasised solitude and remoteness discourses that are completely missing from policy documents, both when the latter discuss wilderness directly or in relation to strict protection. This is not unexpected and has been described in literature before in terms of various socioeconomic positions taken in respect to multiple-use MPAs in Europe (Rodríguez-Rodríguez et al., 2015). The EU policy texts only mention the social benefits of nature in relation to COVID pandemic and ecosystem services, but do not generally engage with those discourses. On the other hand, even key policy actors, mention those exact discourses most often when they describe why they value nature and what should be strictly protected. Therefore, when discussing policy priorities in marine conservation, wilderness protection was rarely mentioned and even then, the definition and purposes of strictly protected

[7] Blue Planet effect refers to raised awareness and a reduced consumption of plastic following the airing of *Blue Planet II* documentary.

areas often diverged from the logic included in the officially agreed definition (Chapter 4). The question of why and how this happens is important, as the policy texts were elaborated by the same key actors who are now distancing themselves from some of those discourses and using others. Is this simply linked to the politics of trying to be more ambitious and moving beyond the experts, while catering to the wishes and needs of the general public who focus more on the terrestrial ecosystems (Brailovskaya, 1998)? Or do key actors agree with the terminology used, but just interpret the same terms differently? Could the existence of (overly) numerous policy goals be to blame, as key actors only focus on the parts of policies that are relevant for them?

In fact, the different social constructions can be linked to the existence of a wide variety and number of EU marine policies (Boyes and Elliott, 2014), as different policies on which people work and around which institutions have formed do still have competing and contradictory objectives, which have some impact on their problem and solution framing. The Very Strong frame is fully aligned with the ambitions of the EU Biodiversity Strategy and the Green Deal, by extension, apart from believing that the soft law strategies should be made into hard law and its ambition to restrict fisheries is greater. On the other hand, the Sustainable Use framing, which is most sceptical of hard implementation of those ambitions, is still aligned with the objective of doubling the EU Blue Economy in the current decade and doing so sustainably. Despite the Green Deal claiming to bring both of these strands together in coordination, they remain distinct in the problem and solution framing amongst the key actors. However, even if participants were unwilling to prioritise functional protection very highly, they recognised its intangible and very important role in allowing spaces for relaxation and restoration of the human mind, which could provide an avenue for further discussion to garner the support needed for achievement of EU policy goals as they are formulated in the policy texts (Chapter 4).

Based on the individual social constructions of the key actors in EU marine environmental policy implementation, marine wilderness is not a concept that is particularly salient or potent. While one of the identified social constructions (Very Strong sub-framing) is aligned with wilderness ideas, those are not central to framing and most participants associated with that framing would happily drop the term wilderness and engage only in the related discourses[8]. The marine wilderness concept is thus generally considered within very tight confines, such as completely untouched and pristine environments, which renders it apparently inapplicable to the far-from-pristine context of EU seas. The renaissance of the wilderness concept on land that moved beyond those confines and reformulated it around ecosystem functioning and the prevalence of natural processes, seems not to have been taken up yet within the marine realm. Therefore, the wilderness concept is not seen as relevant in the EU sea context, given the long history of intense use, by majority of the identified social constructions and individual participants in both interviews and the Q study. Additionally, despite the EC making it quite clear that the definition of strictly protected areas is derived from early wilderness definitions (Chapter 4), the key policy actors do not link the two. Moreover,

[8] "*I don't think we need another designation classification with wilderness. Because the sea will recover, if we remove the most destructive activities. So between the strict protection, the good environmental status, I think we should be able to achieve our policy ambitions. I think the ocean is the last wilderness and it's the coastal areas that will need the focused protection and then we have to realize that Europe is heavily populated continent so to have pure wilderness, in our coastal areas, is probably unachievable and to talk about it, we just make it dilute the concept. I think the wilderness is more appropriate on established and large land-based areas."* Gregory, EU1

given the diverse, fuzzy understandings of wilderness, the concept is often thought to only muddy the waters further, while the argument goes that there is a pronounced need for more coherence and coordination, and thus another poorly defined and contested term is unwelcome.

For now, the only explicitly recognised use for the marine wilderness concept is in communication purposes, where the term is considered less dry and more positive than strictly protected areas. The latter are associated with restrictions and exclusions amongst the stakeholders and the general public, whereas wilderness is thought to induce more wondrous imaginaries[9]. This again means that wilderness is predominantly not associated and linked to the critiques of the concept that are based on colonial and fortress conservation histories, but it retains generally positive associations, despite being generally regarded as inapplicable. Consequently, it is rarely accorded considerable significance or high priority, with the exception of the Very Strong framing, which does pursue similar goals, due to the strictest possible application of strictly protected areas.

Curiously, numerous discourses that are entangled with the wilderness concept in literature and even some policy definitions (European Commission, 2013), such as undisturbed ecosystem functioning and prevalence of natural processes, remain powerful and influential and generate little to no opposition among the key actors in this study. While the use of these discourses could be seen as only light engagement with these concepts, key actors do bring them up and consider them important, without trying to discourage their use, as is often the case with marine wilderness. Given that these discourses are linked to both wilderness and IUCN protected area categorisations on which most EU conservation policies are founded, it is paradoxical that they are widely applied on land, but not in the seas. Is this due to the inaccessibility of underwater ecosystems and the lack of general human connection with them? Is it due to the long history of anthropogenic use of the seas, while they defined the limits of human experience, or confined it to the sea surface only? Could it just be lack of interest in the seas or a weak environmental lobby meaning that the definitions are set based on prevalent terrestrial discourses, and then just applied to the seas, where key policy actors seem unfamiliar with them?

The diversity of social constructions of marine wilderness is reflected also in the way that key actors see the use of EU policies when trying to effectively or strictly protect marine nature. Out of the five identified predominant social constructions on this topic, only the Very Strong construction is consistently aligned with wilderness narratives and discourses, while the other four are much more ambivalent about them. Consequently, it is clear that even when the marine wilderness concept is viewed favourably, it is far from prioritised. While the Regional and Strict constructions are also supportive of a number of discourses that can be tightly linked with wilderness, such as functional protections and massive expansions of strictly protected areas, they quite explicitly refuse to align themselves with wilderness terminology.

[9] "*I think it would be better to use wilderness when we communicate. I think the concept is more understandable to people and people think about the things they see in documentaries, Africa, rainforest or something wild. So I think that would help because strict protection doesn't really strike, the average person as something very clear. And also it has a bit negative connotations means you know something is banned or forbidden."* (EU4)

5.3.4 The influence of social constructions on EU marine environmental policies

The existence of different social constructions and understandings of contested terms, such as wilderness, is not unexpected. However, what remains to be seen is the extent to which these personal and social cognitions influence policies themselves and their implementation? This and some of the previous chapters have demonstrated that the differing policy priorities among the key actors can be linked to divergent implementation of EU marine environmental policies. Unfortunately, based solely on the work in this study, these questions cannot be fully answered and will require more future work, but some overall trends can be established and discussed, while the limits of the results presented here should also be acknowledged so that they can be used in the most appropriate way.

The identified social constructions, from the present Q study, only point to their existence, while the results do not give indication of their prevalence among the sample or the general population. Moreover, both interviews and the Q study were derived based on participants personal views, while not taking account of additional complexities of institutional and political positions that respondents would be professionally committed to during the policy meetings. Additionally, the aim of factor analysis is to reduce variability within the sample into a manageable number of factors that can be compared. This means that the social complexity in the policy interpretation and priority setting is necessarily reduced, with the considerable proportion of split Q-sorts indicating that numerous policy actors are likely to be aligned with two social constructions and thus positioned between them. Finally, when linking policy analysis and implementation with social cognitions, it could be argued that links are primarily indirect, as the two domains operate on different time scales. Policies and their supporting documentation have been prepared and agreed over decades, and once published remain mainly unchanged, while the interviews and Q study captured the interpretations relevant to the policy actors current conceptualisations. Therefore, it is unclear whether at the time the policy documents were created, the social constructions among the key actors were different or not.

While the longevity of social constructions can be questioned, Steinberg (2001), for example, traces the prevailing social constructions of the ocean through history and illustrates their persistence and influence in societies over centuries. He conceptualises prevailing social constructions defining the world economic order as Mediterranean (during European Antiquity), the Polynesian (the social construction prevailing among the small island nations), and Mercantilist (during the European colonial period and the advent of trans-oceanic trade routes). While the social constructions identified in this work are not as overarching as the ones Steinberg describes, they are also not likely simply fads that change with every generation but will exert longer term influence over the people who identify with them. Similarly, Hällsten and Kolk (2020) show the influence of social influences extend through several generations. The social constructions are part of the “messy” social reality in which key policy actors act. This reality has been mainly ignored in favour of a “cleaner” linear science-policy interface understanding, and it has been engaged with quite rarely in the academic policy implementation literature (Bennett, 2019, Turnhout et al., 2019). While most academic and policy work so far has focussed on the interaction of policies with the physical reality, usually described by natural sciences, there have also been some forays into the interactions of the social reality with policies.

While it is not possible to claim with a high level of certainty which of the identified social constructions are more predominant than others, as Chapter 4 discussed, the dominant themes in the EU policy implementation documents are the ideas of coherence, coordination, and consistency, which all align well with the Pragmatic framing. It could be claimed that group dynamics (Beers et al., 2006, Bromme, 2000, Cartwright, 1968, Clark et al., 2000, Friedkin, 2011, Mohammed and Ringseis, 2001, Scott, 2017, Syed, 2019) will likely drive the groups towards the Pragmatic frame with the inherent move towards consensus and compromise, which would result in more flexible and often case-by-case consideration of issues, due to the socio-psychological forcings. Since the approaches to bring policy implementation together, to better coordinate and use the existing tools, were the ones that the EU has been pursuing the most over the last few decades, the likely predominance of the Pragmatic frame is not surprising. However, this also invites more reflection on whether this construction offers the best way forward, given the lack of significant improvements in either the environmental status of the EU seas (Korpinen et al., 2019, Reker et al., 2019, Vaughan et al., 2019) or in policy implementation trends, so far (Boon et al., 2020, Boyes and Elliott, 2014, Boyes et al., 2016, Cavallo et al., 2018, Dom et al., 2016, European Commission, 2020b, Giakoumis and Voulvoulis, 2018, Gómez-Limón et al., 2002, Gorjanc et al., 2020, Hassler et al., 2019, Murillas-Maza et al., 2020, Raicevich et al., 2017, Rouillard et al., 2018a, Rouillard et al., 2018b).

Following the unifying approach, while sidestepping the social aspects that frame the issue, can inadvertently create “confirmation bias” (Hulme, 2009), where actors unconsciously place greater weight on evidence that supports what they already believe. Despite the consensus approach being suggested as psychologically the preferred option (Beers et al., 2006, Clark et al., 2000, Mohammed and Ringseis, 2001, Pfeffer, 1981, Walsh et al., 1988, Wooldridge and Floyd, 1989) and the one that the EU and its Member States have been pursuing most prominently, there have also been critiques of it, with suggestions that pursuing both economic growth and environmental protection is impossible (Peterson et al., 2005). Peterson et al. (2005) launch a blistering critique on the consensus approaches, which they claim were supported by the general sustainable development discourse, where win-win situations would be possible. They claim that since consensus models are poorly defined, they risk dissolving into meaningless terms, which can stand for anything between actual consensus and simply legitimising dominant narratives by seeking some public support for them. Similarly, Rees et al. (2010a) examine the case of Lyme Bay strict MPA and find that while win-win discourse is common, it would be more useful as a long-term goal, as there are no short-term winners and no win-win situations for everyone involved. While such an assertion seemingly counters the psychological literature, this is not truly the case, as psychologists tend to differentiate between cognitive consensus, i.e., actual consensus, and processes that do not lead to cognitive consensus, but result in surface-level agreements. Group dynamic literature would thus claim that in the absence of cognitive consensus, there is a risk for subsequent distancing from the agreement and divergent interpretation and implementation of the decisions (Beers et al., 2006, Mohammed and Ringseis, 2001). Peterson et al. (2005) thus suggest that consensus processes will most often result in the perpetuation of the status quo. Instead, they suggest following an argument-based model, with greater emphasis on science and engaging with underlying assumptions and values that underpin powerful concepts, such as sustainable development.

Apart from references and discourses that can be linked to the Pragmatic framing, the policy texts also include a number of discourses linked to the other identified social constructions. These references include the calls for quickly banning bottom trawling in all

MPAs (European Commission, 2023) and calls for better data, which can be linked to the Very Strong and Strict framings. There is also a wide variety of calls for improvement and completion of the Natura 2000 network, as well as better integration with the work of RSCs or to focus on sustainable development, green and blue growth agendas, and the promises of ecosystem-based approach, which can be associated with positions of Sustainable Use, Regional and Strict sub-frames. Although it is rarer, while describing the failures to implement EU policies properly, there are also occasional phrases that capture the Critique of the EU ethos. This is not surprising, given that policy documents are always compromises among different actors and their frames. Nevertheless, the fact that the discourses linked to the identified framings can be found in the policies demonstrates that there is likely an influence between the two at play. However, it can be debated whether it is the existence of policies and their supporting documentation that influence the formation of framings among the key actors or the other way around.

The presence of a variety of different discourses, themes, and ideas linked with the identified frames is also a likely reason for differing interpretations of policy documents between the key actors. Different policy actors identify with different social constructions and use the discourses associated with them. This leads to different interpretations of the same policy texts. Given the influence that knowledgeable actors have over policies and their implementation (Barrett, 2004), it is not unexpected that policy texts are interpreted differently. The results presented here provide detailed insights into underlying assumptions among the key actors, their biases, and problem framings and provisionally link them to the interpretations of how EU environmental policies should be implemented, aligned with Rein and Schön (2013). While the linkage between the framings and policy implementation should be studied further, and in greater detail, the results here provide a solid basis for that work. The identified frames, their overlaps, and interpretations of policies that they influence are thus useful lenses for understanding social reality and the deep-rooted points of reference that key actors hold (Jefferson et al., 2014, Scheitle and Corcoran, 2020, Wei et al., 2020, Xiao et al., 2019). The identified frames outline some of the social dimensions through which any concept is framed, and affect the communication of topics, according to Frame Theory (Chong and Druckman, 2007). However, more work should be done on uncovering the wider symbols, ideologies, and discourses that form them.

5.4 Conclusion

The EU policy texts and actors define and use a variety of different discourses when it comes to discussing how to achieve the ambitious targets of the BDS to effectively and strictly protect the EU's marine nature. While both policy texts and actors do invoke a number of wilderness-related discourses, these discourses are not aligned, resulting in diverging priorities and agenda-setting, which can be implicated, to a degree, in the already incoherent and uncoordinated implementation of EU marine environmental policies. There are points of consensus among the key actors, such as the high levels of support for the EU and appreciation for the coordination of nationalistic approaches to environmental management, but the divergences remain significant.

The discourse of common, coordinated, and unified response to the environmental crisis is a dominant one for the EU, where (in theory, at least) rules are made, commonly

agreed and then implemented coherently across the Member States. While it is widely recognised that implementation is anything but coherent, the dream of its achievement remains potent. Alternatively, Lahsen and Turnhout (2021) claim that it is urgent to recognise the diversity of views and actions in biodiversity policy and science. This inclusion would require accommodation of various ways of knowing biodiversity, including conflicting interpretations of what the term even means, and consequently what is to be done about it. Failure to do so could result in well-known, but poorly actionable conservation actions. This is a situation that is all too familiar in the EU, where environmental targets are widely supported, but there is frequently a gulf between aspirations and achievements.

Calls for coherence and a common, unified approach are frequent, both in the academic literature and in policy circles, but it is clear that despite the efforts to agree on common goals and definitions, distinct differences persist, even among the relatively homogeneous group of people implementing them across the EU. The frames identified here all present internally coherent conceptions of marine nature, as well as of the challenges and solutions needed to address current challenges, based both on personal convictions and expertise, and yet they diverge significantly from one another. This suggests that it would be exceedingly difficult to bring them all under one roof. Perhaps rather than spending more time debating and agreeing common texts of definitions, which will ultimately be interpreted in different ways (Chapter 4 and 5), the EU should build on the common factors which already exist (see Tables 5.2 and 5.3, statements annotated with 'C'), such as broad support for the environmental policy agendas, and start moving towards finding ways in which differing implementations of these policies can still bring cumulative benefits to marine biodiversity.

It could be claimed that marine wilderness is a concept which is dead in the waters of the EU seas. Even while the wilderness-related discourses have considerable expert, scientific, and even policy text support (Chapters 1 & 4), the key actors in the EU marine environmental policy domain seem unaligned with this, preferring to continue focussing on species- and feature-based conservation approaches, which are enshrined in Nature Directives (HBD). There has been a policy move towards a more functional approach made with the new EU BDS 2030, but it seems that it has not (yet) been fully taken on board by the key actors. Moreover, the recently unveiled proposal for EU Nature Restoration Law (European Commission, 2022b), also established as part of the BDS actions, reverts back to species-based approaches, tightly linked to Natura 2000 practices. While feature-based approaches do have their advantages, particularly when they need to be implemented transnationally, they are largely incompatible with more flexible wilderness and ecosystem functioning approaches.

Therefore, with the various different social constructions relating to the perceptions of marine nature and wilderness in relation to EU marine environmental policies, some overarching questions remain. Wilderness, wild, and rewilded areas are increasing in their popularity on land, with wilderness discourses being widely used, suggesting that the concept can be useful, while considering certain limitations. Why is it, then, that the concept seems to be redundant in the seas? Does the difference only arise from the key actors in the two natural realms, with the marine sector more path dependent and loyal to the HBD feature-based conservation approaches? Is there a difference between the perceptions of marine wilderness held by the public and those held by key actors, fuelling a further technocratic chasm between the citizens and institutions of the EU? The respondents appear to believe that the best way

out of this environmental crisis is through coherent and unified, EU-led actions, but would that be any more viable than pursuing the wilderness ideal?

CHAPTER 6 - SOCIAL CONSTRUCTIONS AND GROUP DYNAMICS

6.1 Introduction

Much of the present study has focused on individually held social constructions and their influence over the interpretation and implementation of key EU marine environmental policies. The variety of social constructions relating to marine wilderness and strict protection of the EU seas was identified in Chapter 5, and the wide variety of policies is described in Chapter 4. However, at least some consideration of the role of group dynamics is necessary as well (see Chapter 2), since linking socio-psychological aspects and policy implementation cannot be considered comprehensive without engagement with group processes (Friedkin, 2011, 't Hart et al., 1997). This is particularly important, since six distinctly different social constructions have been clearly identified among the key policy actors in the EU (Chapter 5), which demonstrate different ways in which key policy actors frame the current environmental crisis and how to go about it. Therefore, the identified social constructions can also be considered frames, which is more closely aligned with group dynamics terminology (see Section 2.2.4). Groups in EU policy implementation tend to operate on political, policy, EU, RSC, national, and subnational governance levels, as well as through a variety of expert and technical fora. Given the complexity of most policy frameworks and the dynamics with which they are established and implemented, there has been surprisingly little literature on the linkage between group dynamics and policy processes, so far. Most existing literature focusses on the role of group dynamics in foreign policy-making and implementation. For example, Peniwati (2017) claims that in general due to highly complex and interdependent situations, preparing and implementing coherent policies is a virtual impossibility for decision makers. 't Hart et al. (1997) delve into this topic more, arguing for the importance of appreciating the complexity of the situations, their context, studying interaction patterns, and balancing between inclusion of as many possible viewpoints and the effectiveness of the group processes. However, there remains a dearth of literature on the role of group processes in the implementation of environmental policies.

Most environmental policies, particularly in the EU, still subscribe to the rationalistic and linear conceptions of the science-policy interface, as outlined in Chapters 4 and 5. Considerable literature, mainly from natural science backgrounds, still supports such understandings of the science policy interface, with Claudet et al. (2020), for example, identifying a number of areas where the scientific community should identify evidence-based solutions and improve its communication with policy and decision makers. The idea that the gaps in science-policy interfaces can be bridged through simply improved communication is seductive (Janse, 2008, Likens, 2010, Roehrl et al., 2020, Sokolovska et al., 2019, Watson, 2005). However, given the extensive socio-psychological literature pointing to the existence and influence of social constructions and associated different framings of the situations and the ways in which people interact and interpret their realities, it is important to see to what extent argumentation and provision of data and evidence actually do have a role in swaying opinions and affecting group consensus-seeking. This is particularly important since there are also many studies pointing out the more fundamental differences between experts and policy-makers, suggesting that the gap between them will not be easily bridged (Choi et al., 2005,

Head, 2008, Hulme et al., 2011, Klabbers et al., 1996, Kørnøv and Thissen, 2000, Kukkonen and Ylä-Anttila, 2020, Marmot, 2004, McCaughey and Bruning, 2010, Rose et al., 2020, Turnhout et al., 2020, van den Hove, 2007).

This chapter presents a study of these processes across different interest groups in EU marine policy and spanning all four EU regional seas. Admittedly, this research has been limited by a number of logistical limitations, and by funding and time constraints. The workshops and group studies were conducted by utilizing existing meetings, with pre-existing groups of participants, and therefore groups were of different sizes and different levels of diversity could be observed within them. There was often limited time available, and the methodological focus had to be adapted to the conditions and to the nature of meetings and the organisers' wishes in order to ensure co-benefits for both this research and the meeting organisers who were providing time and space on their agenda. This Chapter will be using the terms social construction, frame, and framing interchangeably, referring to the same phenomenon of a composition of different meanings, notions about the state of EU marine waters and what is to be done about them on the level of EU marine environmental policies. Nevertheless, the research presented in this chapter provides a first foray into this topic and outlines research directions for the future involving more focussed studies of group dynamics in EU marine environmental policy-making and implementation.

6.2 Results

This chapter focusses on Research Question 2: How is the meaning of marine wilderness negotiated and defined among policy-makers and experts on the level of EU Regional Seas? Living Q focus groups were combined with a diagramming exercise to interrogate this question and to study group dynamics (see Chapter 3). Additionally, since the discussions of science-policy interfaces became relevant, data were also taken from the previously undertaken semi-structured interviews, where a short section focussed on data and science-policy interactions, as well as any relevant discussions that emerged during Q-sorting and post-sort interviews (Chapters 3 and 5). Any mentions of these topics during the Living Q discussions or the general event within which these workshops were organised were also noted and incorporated here.

Given the need to adapt to the nature and aims of each meeting and their organisers there were differences in the implementation of research methodology between the different basins, which are noted within each set of results and in Chapter 3, where the methods used are described. Validation exercises were undertaken in the Mediterranean and Black Sea workshops only, due to the lack of time and appropriate space available during the North and Baltic Seas workshop. Table 6.2 shows the content of all six posters, each presenting one of the social constructions identified with Q methodology, as presented in Chapter 5, with Figure 6.1 additionally presenting an example of the poster design.

6.2.1 Validation exercise

6.2.1.1 Mediterranean workshop

In the Mediterranean workshop, the participants from RSC, expert, and policy-maker groups participated in the exercise and provided some comments, as well as identifying social constructions or frames that they most identified with, with results summarised in Table 6.1. Ten participants took part in this exercise, the majority of them experts (80%), with one representative of UNEP/MAP, as the RSC for the Mediterranean, and one representative of a national competent authority. The representatives of RSC and national policy-makers identified with the Strict frame, while a majority of the participants chose the Very Strong framing (50% overall and 62.5% of experts), followed by Regional (20% overall and 25% of experts), and Pragmatic (10% overall and 12.5% of experts). Nobody identified with the Sustainable Use or Critique of the EU framings. Participants noted that it was challenging to choose just one of the Environmental frames, and that even though some have ultimately chosen the Very Strong one, they did mention that their personal disagreement with the statements that the frame identifies as most disagreeable is less pronounced than indicated on the poster. There was one comment regarding the Sustainable Use social construction indicating strong disagreement with that frame in general but noting that the statements that this particular poster identified as strongly agreeable would fit into the Pragmatic frame, as well (which was ultimately chosen by this individual). The engagement with posters overall was quite low. Participants found the posters quite confusing, and also struggled to identify only one that they most agreed with.

6.2.1.2 Black Sea workshop

The Black Sea workshop validation exercise was undertaken by 18 participants, which predominantly featured experts (88.9% of all participants) and two representatives of a regional competent authority. Both policy-maker's representatives identified most closely with the Regional construction, while the experts exhibited more variety in their opinions. Sustainable Use was the most widely chosen frame (28% overall and 31.3% of experts), followed by Regional (33% overall and 25% of experts). Combining the results for the entire group, the Regional frame gathered most support overall (a third of all participants identified with it). Other framings gathered less support. The Very Strong, Strict, and Pragmatic social constructions were each supported by two experts (11% overall and 12.5% of experts for each frame). One person also identified themselves with the Critique of the EU framing. There was only one comment raised in relation to the Sustainable Use social construction and its flexible approach to spatial protection measures, which was a query about how decisions could then proceed on which MPAs should get more protection than the others.

Table 6.1: Numbers and percentage of the overall groups, identifying with each of the identified Q social constructions

	RSC				Expert				Policy-maker			
	Med		Black		Med		Black		Med		Black	
	No	%	No	%	No	%	No	%	No	%	No	%
Very Strong					5	50%	2	11%				
Strict	1	10%					2	11%	1	10%		
Regional					2	20%	4	22%			2	11%
Pragmatic					1	10%	2	11%				
Sustainable use							5	28%				
Critique of the EU							1	5%				

Table 6.2 Validation posters design. Table summarises the text on each poster with exemplar statements and a quote for the various positions that they represent. Figure 6.1 shows an example of design of one of the posters

VERY STRONG	
Overall quote	"The main priorities would be to limit bottom trawling because it's so disruptive and it would be to establish an enforced strict protected areas and it would be to move beyond the one species, one habitat designations that are the Natura 2000 and consider larger, untouched sites, I think they're easier to manage
Strongly agree statements	Existing policies should be properly implemented
	Bottom-trawling should be banned.
	All MPAs should prohibit extractive uses.
Agree statements	Prioritise functional protection
	Establish large MPAs.
	EU should get more competences and be more involved.
Disagree statements	Exclusions of activities in strict MPAs should be decided on case-by-case basis.
	EU policies should shift to soft law.
	RSC approach should be preferred.
Strongly disagree statements	EU should step back, allowing more Member State control.
	We need more marine legislation.
	Multiple-use MPAs should be preferred options.
STRICT	
Overall quote	"The name is protected areas and they should be protecting something. In fact, if they don't intervene and they don't remove pressure, they don't do anything. You let things happen. But this detracts from the target to protect something. I'm not sure I would let *Pinna* go. I'm not sure I would let coral go."
Strongly agree statements	Biodiversity Strategy goals should be implemented.
	More EU funding made available for conservation.
	EU should raise awareness about marine ecosystems.
	Existing policies should be properly implemented.

Agree statements	Focus on Natura 2000 network.
	The proposed Restoration Regulation is very important.
Disagree statements	EU should step back, allowing more Member State control.
	EU does enough to support MPA management,
	EU policies alinate actors.
Strongly disagree statements	EU policies should shift to soft law.
	Bottom-trawling should be banned.
	European Commission pressures Member States.
REGIONAL	
Overall quote	"How to raise citizens to be more environmental friendly or where to do strict protection area, this should be decided on regional stage. Always have to keep in mind the regional stage. We have very good cooperation region on regional stage, that's why I very appreciate this regional stage."
Strongly agree statements	RSC approach should be preferred.
	Prioritise functional protection.
	Bottom-trawling should be banned.
Agree statements	Existing policies should be properly implemented.
	Diffuse pressures should be addressed outside of MPAs.
	Protect both areas of high use (coastal) and remote wildernesses.
Disagree statements	EU should step back, allowing more Member State control.
	Political will for conservation comes primarily from the EU.
	EU policies alienate actors.
Strongly disagree statements	EU does enough to support MPA management.
	EU should educate and raise awareness.
	European Commission pressures Member States.
PRAGMATIC	
Overall quote	"We reached the point where we have more instruments than ever, more knowledge than ever and many more tools than ever to operationalize, and reach good environmental status, or at least to fight towards achieving good environmental status in reasonable temporal term"
Strongly agree statements	Diffuse pressures should be addressed outside of MPAs.
	Existing policies should be properly implemented.
	RSC approach should be used to supplement EU initiatives.
Agree statements	Better integrate different policy goals (environment vs. fisheries)
	Exclusions of activities in strict MPAs should be case-by-case.
	EU should raise awareness and educate citizens.
Disagree statements	EU does enough to support MPA management.
	Bottom-trawling should be banned.
	EU should focus on species/habitat approach to protection.
Strongly disagree statements	EU should step back, allowing more Member State control.
	European Commission pressures Member States.
	EU policies should shift to soft law.
CRITIQUE OF EU	
Overall quote	"EU does the right thing, but does it badly. If I go to the EU, the room doesn't seem to have all components for the conversation in it. It's this thing where we know we don't have everybody in the room, but we're pretending we do… If you look at the way the treaties of the European Union are designed, that is not distributing the justice equally across all Member States, but also

	across the sectors… The European Union it unintentionally I think engages in fact, I would call environmental imperialism"
Strongly agree statements	Better integrate different policy goals (environment vs. fisheries).
	EU should raise awareness and educate citizens.
	EU policies alienate people and actors.
Agree statements	European Commission pressures and controls Member States.
	RSC approach should be preferred.
	Functional protection should be prioritised.
Disagree statements	EU should regulate more in marine conservation.
	Marine ecological corridors should be established.
	The proposed Restoration Regulation is needed.
Strongly disagree statements	Achieving wilderness conditions should be a goal of strict MPAs.
	MPAs should prohibit extractive uses.
	Strict MPAs are an important policy goal to follow.
SUSTAINABLE USE	
Overall quote	"Because I think people are first in the ecosystems based approach, the humans are integral part of it and I think for me the most important part. Some people argue that nature has an intrinsic value, I agree with that. But at the end, maybe people need to satisfy some needs, have to harvest or take what nature produces and, or delivers and if it's done in a sustainable manner, I think that this is so that's very coherent way of looking at the nature in the broad sense and then marine environment for that matter."
Strongly agree statements	Exclusions in strict MPAs should be decided on case-by-case basis.
	Existing policies should be properly implemented.
	Differing policy objectives should be integrated (environment vs. fisheries).
Agree statements	Need to go beyond policies and be more dynamic.
	Multiple-use MPAs should be preferred option.
	European Commission should have more compliance mechanisms.
Disagree statements	There is not enough EU marine legislation yet.
	Wilderness should be among the strict protection goals.
	European Commission pressures and controls Member States.
Strongly disagree statements	EU should step back, allowing more Member State control.
	EU policies alienate people and actors.
	EU policies should shift to soft law.

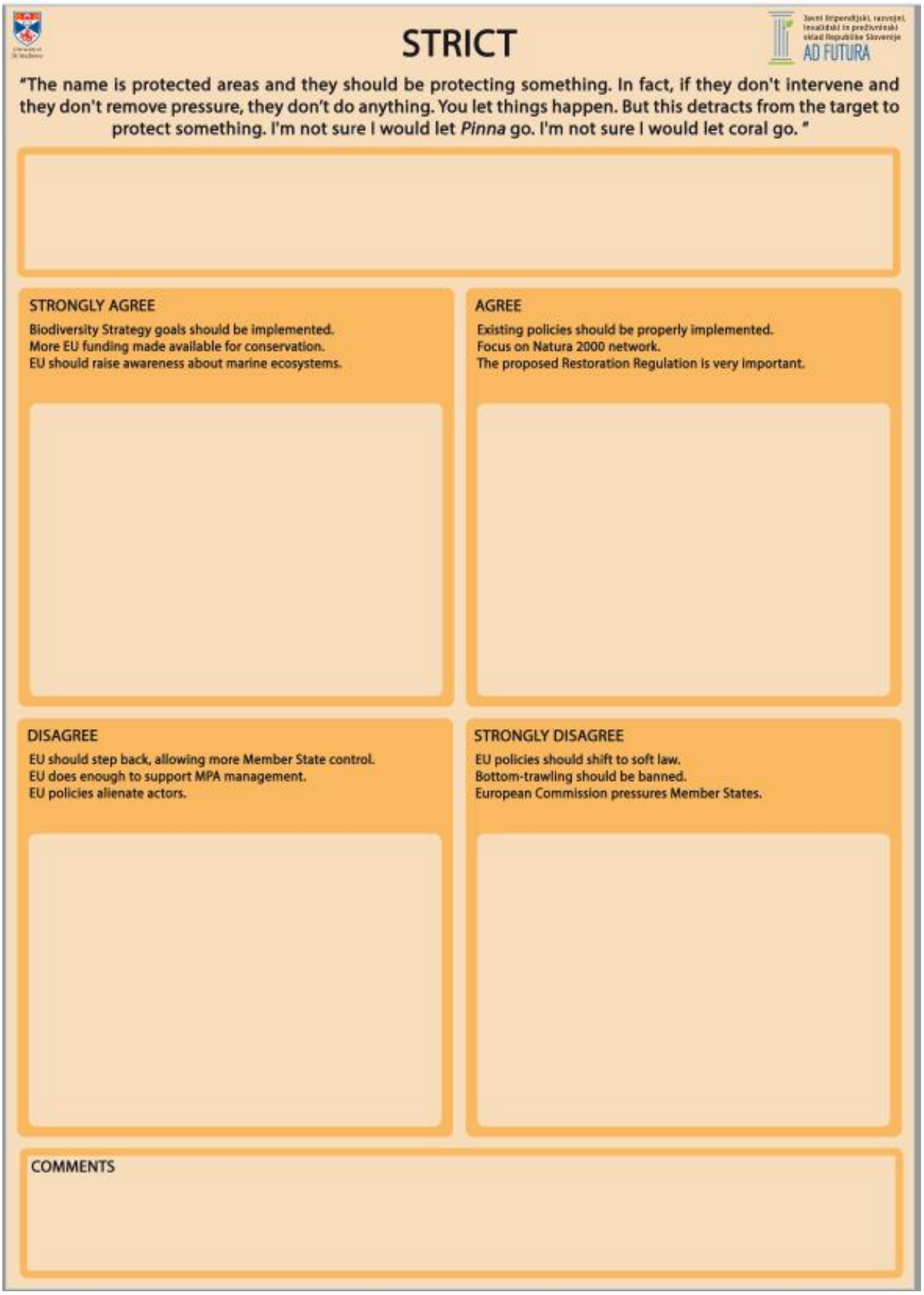


Figure 6.1: Example of a design of one of the validation posters, with elements outlined in Table 6.2. All posters were of the same design, only the colours changed

6.2.2 Discourse analysis of wilderness

6.2.2.1 Wilderness definitions

Unsurprisingly, wilderness proved to be a controversial and polarising concept, with a wide variety of definitions and understandings present among the focus group participants, confirming the spread of identified wilderness conceptions from semi-structured interviews. There is some agreement with the term and its use in the EU conservation strategies, which ranges from mild, uncommitted type of agreement to rarer, but more explicit support for wilderness preservation. Participants who tend to agree with the use of wilderness terminology often link it to strict protection in a similar way that the new Biodiversity Strategy for 2030 does, but not invariably. Wilderness is thus often used as a synonym for nature or strict protection, particularly if a significant reduction of human impacts on the natural environments is seen as a necessity.

On the other hand, there is a considerable amount of explicit disagreement with the use of the term wilderness. The disagreement most often stems from the **pristine** conception of what wilderness is, but critiques have also been levelled against wilderness (1) as being another way of establishing poorly implementable and not scientifically supported baselines, (2) because of the human construction of the term, or (3) questioning the feasibility of its implementation on the ground or within policies. Disagreement with the use of wilderness terminology has thus been much more pronounced than support for the concept. The lack of a clear, coherent, and overarching definition of what wilderness is further compounds these matters, prompting questions about how to use the concept if it is not even commonly defined.

> *"Wilderness is a concept linked to the exploration of the terrestrial areas of the USA. … So for me it can't be really objective for protection, but rather something that could happen, depending on where you put the strict protection, so they (wilderness and strict protection) are not connected to each other"* (E6, Mediterranean Sea)

The Living Q discussions thus featured the variety of wilderness discourses from the literature (Table 4.1) and observed during the semi-structured interviews, as well. Since all three workshops were preceded by a presentation that outlined the way that the European Commission's definition of wilderness is integrated into the agreed definition of strictly protected areas under the Biodiversity Strategy for 2030, it could be expected that there will be some conforming to those definitions. However, the discussions still closely reflected those in semi-structured interviews, despite some notable differences. The approach to argumentation and referring to **Spiritual** and **Remote** wilderness discourses was almost entirely absent during the three workshops (with only three participants mentioning something of the sort out of 48 participants overall). This could be attributed to the composition of the groups, where experts, mainly from natural sciences, predominated, therefore there is an implicit expectation that arguments based on data and evidence will have to be presented to sway others' opinions, while personal experiences and feelings would be considered too subjective and unreliable. Interestingly, while the **uninhabited and remote** areas on land were once again identified as wilderness areas, that conception did not extend to marine environments, where the connectivity of marine systems with ocean circulation seems to rule out any part of the oceans to be truly remote from anthropogenic impact.

"In the marine (environment), we have climate changes, it is everywhere, so you cannot say that we have wilderness. If we go down to the deepest part of the Mariana Trench, you will find plastic down there. Of course, it was not put there, but somewhere else and it was transferred. So, I am not sure how there could be wilderness" (G, Black Sea)

Most of the discussions centred around the controversies linked to the **pristine** definition of wilderness. This conception of wilderness remains the most prevalent among participants, together with the criticisms of it. While most participants define wilderness as **untouched and pristine** environments, most of them follow this definition up with the assertion that no such places exist on the planet, therefore wilderness itself has been rendered inapplicable. Some also explicitly link wilderness solely with the North American **pioneer** discourse and the conquest of the continental United States, arguing that this concept thus no longer has a place in this day and age. The concerns about excluding people from environments were also raised, criticising not only wilderness, but also the push for increase in strictly protected areas. On the other hand, there is a smaller group of participants who claim that **untouched nature** still exists or could be brought back through strict protection regimes. Again, the connectivity of marine ecosystems seems the main reason for the perceived impossibility for any **pristine** and thus wild marine environments to still exist.

"I read it as a kind of pristine nature, without any impact by humans, which is science fiction" (N6, North & Baltic Seas)

The other three wilderness discourses (**Natural Processes Predominating**, **Ecosystem Functioning**, and **Human Imprint Minimal**) were also all mentioned, although less often and in ways which blur the boundaries between them and in ways not consistent with how they are defined in the (policy) literature. The **Natural Processes Predominating** discourse, which is most aligned with the EC's definition of both wilderness and strictly protected areas, has been mentioned, although more often linked and agreed as a relevant definition for strictly protected areas, whereas the linkage to wilderness has been mentioned to not be technical enough. While this definition is used relatively often, it can be ascribed to the fuzzy definition of the concept, as participants linked very different concepts to predominance of natural processes. Some equate this with the Ecosystem Approach, widening the definition of it and claiming that in such a way people are part of wilderness and wilderness part of human uses. Such interpretation of the Ecosystem Approach is controversial on its own, as others would rely on the Ecosystem Approach to dispute the need for strict protection and wilderness. Some participants interpreted the **Natural Processes Predominating** approach as doing nothing, which is seen as wrong and strongly supported active restoration and rewilding actions, although they would then after the active intervention let the natural processes take over. The resulting ecosystems are not considered wilderness. A clear distinction has also been made to emphasise that while such a definition makes sense, it will not be feasible in more highly used and already degraded marine ecosystems, such as those of the North and Baltic Seas, where more active, sectoral management will be needed.

"I define wilderness more about the ecological processes, but not about what is or what should be wilderness. I think humans are part of the ecosystem and so we're part of wilderness. If we don't have any direct influence on ecological process, then we can consider it maintains wilderness /…/ The ecosystem approach is also this functional, I think both are complementary" (RSC1, Mediterranean Sea)

The **Ecosystem Functioning** discourse, which in literature and the European Commission's definition is closely related to **Natural Processes Predominating**, is less closely associated with those ideas among the focus groups participants. Participants mentioned it often in relation to the uses and resources that humans derive from functioning ecosystems, which links it more closely to the **Spiritual** discourse. Due to this interpretation, there is less of a necessity identified to strictly protect such kinds of environments and wildernesses. That being said, some participants still link that with **Natural Processes Predominating**, claiming that people are part of the ecosystem and thus also of wilderness, so the concepts of strict protection and people deriving some uses from such areas can coexist. An outlying definition was also linking harmony of people with functioning ecosystems, as an alternative to the way the EU requires the implementation of strict protection.

> *(Discussing wilderness as a goal of strict protection) "This is a much better definition to live in harmony with nature as established by the Convention of Biodiversity, then to take the option of no take, no go, no nothing zone. Because if nature can do what it can do, and we are being part of nature, this seems a more relevant way to achieve the goal"* (N4, North & Baltic Seas)

The discourse of **Human Imprint being Minimal** is variably associated with wilderness and is sometimes completely outside of wilderness context, but it does still represent one of the most common wilderness definitions and one of the most common reasons given for its strict protection. This discourse allows for clear distinction between human presence in such areas and anthropogenic activities taking place. There were very few participants who argued for complete exclusion of humans from strictly protected areas (four in the overall sample of 48 workshop participants overall). This discourse was also linked to ideas of beauty and ambition in policies and thus linking back to the Spiritual discourse of what participants get from strictly protected and wilderness areas.

6.2.2.2 Social constructions

Similar to wilderness discourses, the different social constructions or frames were also identified on an individual basis, while the validation exercise (previous section – 6.2.1) allowed focus group participants to identify which of the identified framings is the closest to them. The Living Q discussions therefore also allowed the identification of how participants justified their positions and if they changed due to engagement with other arguments and group dynamics. The more outspoken participants could be classified into particular frames, as well as tracking how consistent they were with their self-identified and classified frames throughout the discussion. It has to be noted, however, that the results presented below are based on a relatively short observation period (from 30 to 90 minutes), subject to the bias of more extroverted and outspoken participants being easier to classify. Ideally, these results would be followed up by a large-scale, pan-European survey, but that was outside the feasible scope of this study.

During the Living Q discussions, all the social constructions and the sub-framings revealed during the preceding research phase (Figure 5.2) were identified by participants, except the Regional one. Some of them, like Critique of the EU, were not identified as anyone's overall frame, but elements of them were present in some remarks. There were critiques of the

high-handedness of Brussels institutions, the inappropriateness of numeric and percentage-based targets that are applied across the board and imposed from above. Particularly in relation to strict protection, the perceived top-down imposition of such protection made some of the participants uncomfortable. However, regardless of some self-identification with Critique of the EU frame in the validation exercise, none of the participants could be classified into that frame based on their contributions to the debates.

> *(Criticising the proposed EU Nature Restoration Law) "Protected areas shouldn't be established in the first place only for the sake of the percentage. /…/ But the people from Brussels, I think are sleeping better, since the target was achieved" (B, Black Sea)*

The Sustainable Use social construction was also rarely represented, which could be a result of a number of different reasons and biases. One possibility is the selection bias of the participants who joined the workshops, who could be more environmentally inclined given that it was clear that strict protection and EU Biodiversity Strategy will be discussed, which could make participation less appealing to people with more focus on Blue Growth. However, the North and Baltic Seas workshop did include a large group of spatial planners working on Blue Growth and EU Green Deal, and therefore this possibility is likely not the only reason. Another reason could be due to some overlaps between Pragmatic and Sustainable Use social constructions, particularly when it comes to case-by-case, flexible approach to the implementation of strict protection, which both constructions share. Therefore, due to the limited time and opportunity to substantially develop their views during the discussion, participants could be classified into Pragmatic framing, as the one that broadly represented their views, but did not elaborate on specifics enough to distinguish if they would be closer to the Sustainable Use construction. Since the Q-derived social constructions are derived to be the most differing representations of the existing frames, there are areas where different framings in reality overlap Given the limited time and group setting, it is likely that identification of appropriate framing (particularly between Very Strong and Strict on one hand, and Pragmatic and Sustainable Use, on the other) is of low confidence, if the participant did not speak up repeatedly and thus averred their position more clearly and with greater nuance. Nevertheless, there were some participants who clearly supported continued human uses of the marine environment, a case-by-case approach, and displayed clear dislike of blanket bans or regulation imposition. They would argue that just because softer approaches have not worked so far for the environment, this is not reason enough to discard them now. They would prefer to focus on better communication, coordination and balancing of different needs, environmental, social, and economic.

> *"I don't think that (just) because we have failed to implement the softest protection, banning everything and having to police everything will somehow magically restore everything. I think it is an issue of communication and balancing needs, or because people's lives depend on some activities"* (A, Black Sea)

Strict and Very Strong social constructions garnered similar levels of support. Perhaps it is sometimes difficult to distinguish between them based on often short replies in the debate. Strict framing is often mentioned in the context of references to the Biodiversity Strategy goals. Participants supported the idea of strictly protecting marine environments and that such protection should be without exceptions to exclusions and properly implemented. However, the comments made by participants in focus groups also support the previously observed trend of broadening strictly protected area definition from what the European Commission has defined, in the same way as the interviews and Q study have already indicated. Strict protection

is thus not seen as just a way to protect areas for their ecological functions and predominance of natural processes but could also be targeted to specific species and habitats. This allowed some of the participants who were opposed to wilderness conception to support strict protection. Support for active restoration, which is indicative of Strict framing, has been harder to elicit from discussion linked with this frame, but it was clear in the majority of cases that it could be linked with the Strict framing.

In comparison to Strict framing assertions, the Very Strong construction goes beyond the calls for more strict protection (regardless of how strict protection is defined) and features less concern for feasibility of the actions that it supports. Given the pushback against wilderness use, there is a considerable amount of support for the Very Strong social construction, as there were quite a few participants arguing for not only complete prohibition of human activities in strictly protected areas and also most MPAs, but exclusions of human presence. One of the justifications given was due to the interconnectedness of marine ecosystems, which means that areas that are protected should be very strictly protected. Interestingly, this is the same reason given for the impossibility of existence of marine wilderness. This frame also features the highest support for the use of wilderness terminology and bans of bottom-trawling.

> *"Wilderness (and strict protection) is something that humans don't interact with at all. Completely off limits."* (E1, Mediterranean Sea)

The Pragmatic social construction was the most common view identified among workshop participants, linked to mentions of feasibility and practicality. These participants agreed with the need for strict protection, but acknowledged the other sectors and interests, thus tempering the levels of ambition. There was also an observed shift from focussing mainly on conservation policies to focussing on case-by-case approaches, maritime spatial planning, zoning, and other environmental priorities, that can be dealt with through sectoral policies and not necessarily via the overarching framework directives. Often when considering controversial and more absolutist statements, these participants would assume neutral positions. Nevertheless, even though there is more recognition of local and economic needs within this framing, there are also clear indications of certain thresholds when the environmental needs should be absolutely prioritised, and they seemed to strongly assent to the idea that established regimes and rules should be fully implemented, even if one disagrees with the general requirement.

> *"A rule is a rule. If you decided for protection, if it is strict protection, it is strict protection. That's it."* (E6, Mediterranean Sea)

> *"We do need to ban bottom trawling somewhere, but not everywhere and certainly not without consultation and offering alternatives, bearing in mind that there may be other technologies and things that are developing that are less damaging"* (N10, North & Baltic Seas)

6.2.3 Living Q results

6.2.3.1 Statistical analyses

During the Mediterranean Living Q workshop, participants assumed a wide range of positions, in most cases stretching between the two extremes for most statements. Table 6.2 demonstrates the observed variability both before and after discussion. The group as a whole initially exhibited general agreement with all but the third statement (i.e., on prioritisation of passive restoration over active restoration). After the discussion there was a tendency observed towards more neutral positioning, but usually remaining in weak agreement with the statement discussed, apart from the fourth statement (i.e., exclusions of activities should be decided on a case-by-case basis), where a move to neutral positioning was more pronounced, and final statement (i.e., bottom trawling should be banned), where there was no change in positioning at all. Participants mainly changed their positions because they initially misinterpreted part of the statement, which became clear during discussion and they therefore changed their position later. Therefore, the vast majority of movements observed were not because of arguments or people changing their opinions, but because they simply initially misunderstood the statement. The largest movements were thus observed in relation to the second and fourth statements (relating to exclusions of activities in all MPAs and strict MPAs), with very little movement otherwise (on average 15% of participants changed their position after discussion). Nevertheless, in relation to first and second statement there is a slight reduction in the variability of opinions observed after discussion, while there was no change in variability after discussion of the third and fifth statement and increased variability after the fourth (see Figure 6.2).

During the Black Sea Living Q workshop, similarly to the Mediterranean workshop, there was little movement observed and most of it came from the participants who were moving among the middle ground positions. The group as a whole exhibited generally neutral attitudes in relation to the first, third, and fourth statements, with no overall change after discussion, only slightly increased variability in the case of the first statement and slightly decreased variability in relation to the third statement. The group was in agreement with the second and fifth statements, with variability in relation to the second statement increasing after discussion, while there were no changes in relation to the fifth statement after discussion. There were again some movements because of initial misunderstandings of statements, but less pronounced than in the Mediterranean workshop. Overall, on average 13% of participants would change position after discussion (see Figure 6.3 and Table 6.2).

Due to time and organisational constraints during the North and Baltic Seas workshop, this Living Q workshop only considered three statements and included a much larger group (24 participants). Participants represented mainly maritime spatial planners, but included representation of the Baltic RSC, national competent authorities, and experts. In contrast to the Mediterranean and Black Sea workshops, participants tended to assume more extreme positions after the discussion in relation to the first statement, even though the overall movement between stations was still modest (on average about 10% of participants changed their positions). With the other two statements discussed, the groups' overall positioning did not change, but the variability in relation to the fourth statement increased (i.e., case-by-case approach). Thus, there was only one clear case in all three workshops where an argument

swayed a significant number of participants (14%) to change their positions. The average participant response overall was more coherent than the workshop groups described above, with lower overall variabilities and more clustering around neutral or agreeable positions (see Table 6.2 and Figure 6.4).

Table 6.3: Means and standard deviations observed in relation to each Living Q statement (S1-S5) before and after discussion at each of the three Living Q workshops.

		MEDITERRANEAN SEA (n=11)				**BLACK SEA (n=18)**				**NEA & BALTIC SEAS (n=24)**			
		Before		After		Before		After		Before		After	
		Mean	St. dev	Mean	St. dev	Mean	St. dev	Mean	St. dev	Mean	St. dev	Mean	St. dev
S1	Achieving marine wilderness conditions should be a target of strict protection.	0.91	0.94	0.64	0.50	0.15	1.14	0.00	1.22	0.50	0.88	0.80	1.01
S2	EU should require MPAs to prohibit extractive activities (become NTAs).	0.82	1.25	0.64	0.50	1.18	0.75	1.09	0.94				
S3	EU should prioritise passive restoration via strict protection over active restoration.	0.18	0.75	0.18	0.75	0.20	0.63	0.30	0.48				
S4	Exclusions of activities in strictly protected areas should be decided on a case-by-case basis.	0.73	1.42	0.18	1.66	0.40	1.65	0.10	1.66	1.45	0.63	1.16	0.90
S5	Bottom-contacting fishing gear is very damaging and its use should be prohibited in EU seas.	0.91	1.04	0.91	1.04	1.20	0.79	1.20	0.79	0.18	0.53	0.18	0.53

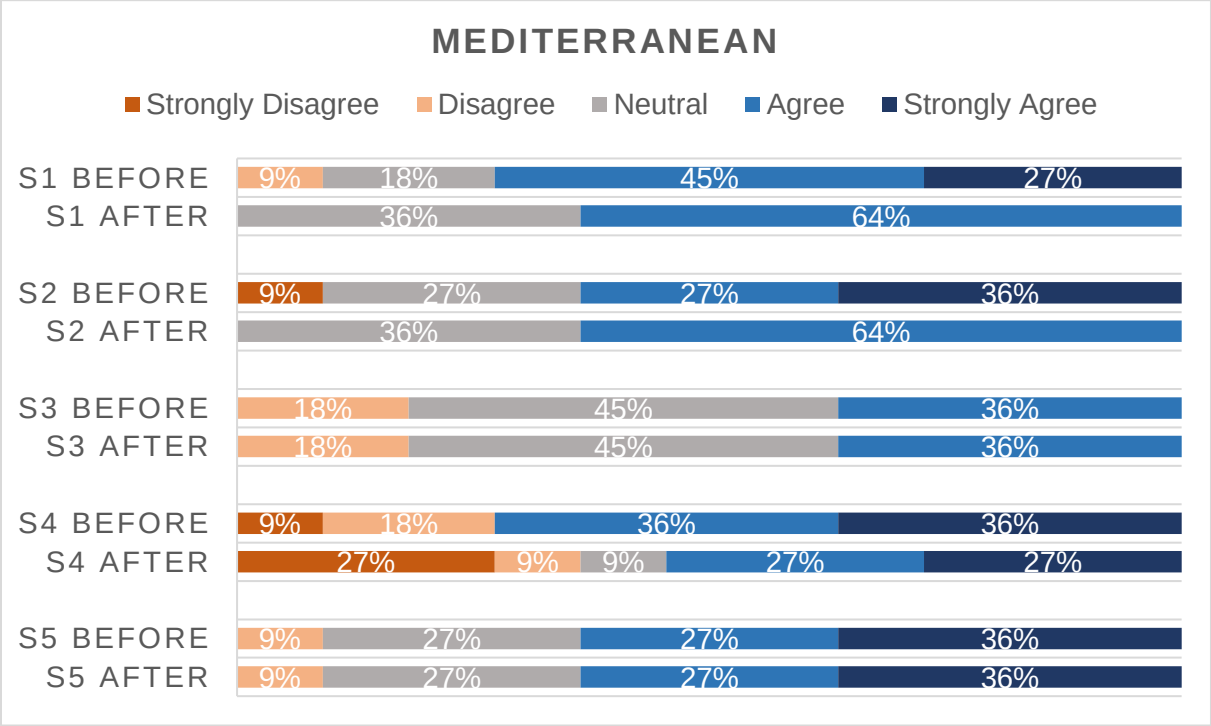


Figure 6.2: Changes in positioning of participants of the Mediterranean Living Q workshop for each of the Living Q statements (S1-S5) before and after discussion, with representation of the proportion of the entire group at each rank

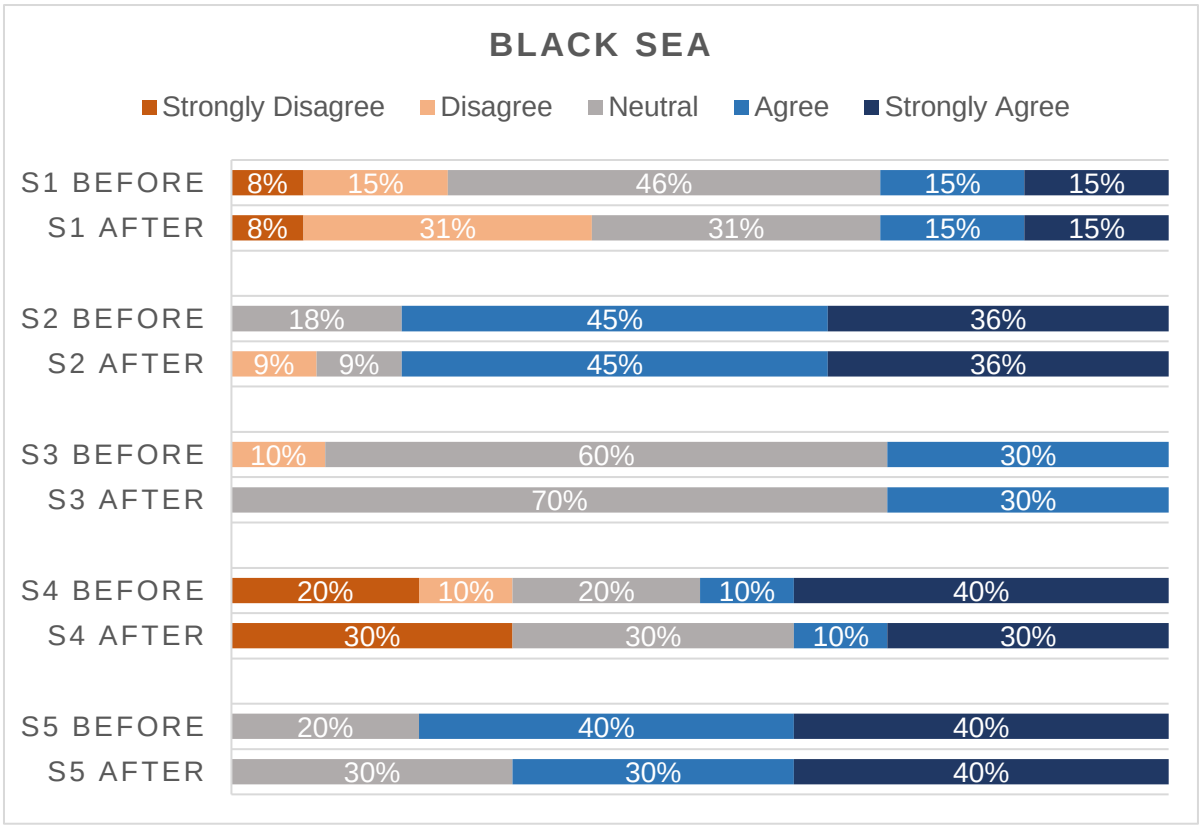


Figure 6.3: Changes in positioning of participants of the Black Sea Living Q workshop for each of the Living Q statements (S1-S5) before and after discussion, with representation of the proportion of the entire group at each rank

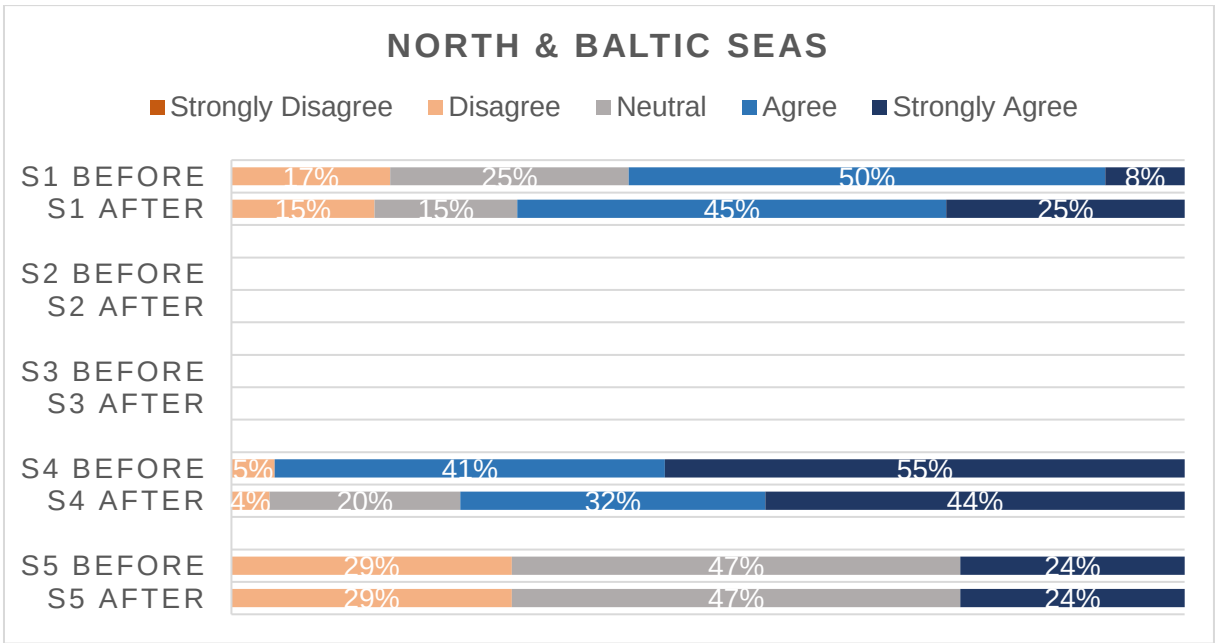


Figure 6.4: Changes in positioning of participants of the North and Baltic Sea Living Q workshop for each of the discussed Living Q statements (S1-S5) before and after discussion, with representation of the proportion of the entire group at each rank

6.2.3.2 Ethnographic observations

6.2.3.2.1 Mediterranean Sea

General observations during the meeting

The push for a more coherent and coordinated approach to EU policies seemed pervasive, while the same participants often also tend to support further regionalisation of targets and GES settings. The push towards quantification of everything, alongside an increase in monitoring and everything being economically cost-effective is still prevalent, and participants found it hard to disentangle themselves from this. Examples were given of having needed decades to agree on eutrophication indices and thresholds which are considered relatively straightforward and easy. Participants also readily admit that biodiversity assessments will be infinitely more complex, that climate change is already distorting the data, that those effects are going to get worse and that we do not have decades left anymore to spend on defining targets. And yet, to move away from this approach, which has, in numerous cases, dominated the decades-long careers of those present, was hard and inconceivable for some. There is some support for just moving on and start acting, potentially without perfect knowledge, but then the discussion almost invariably turned back towards “but we need data, otherwise we cannot define good measures” discourse.

It was pointed out that compared to most of the rest of the world, the EU has probably some of the best data, and therefore, if the EU is unable to define measures, what hope is there then for the rest of the planet? This was acknowledged, but participants quickly pushed back against the fact that there are data, by claiming they are often still patchy, unavailable and siloed, sidestepping the point that whatever is available is a lot more than in the rest of the world, and there is little time left to pursue meaningful action to avoid triggering feedback loops. The suggestion to just move to qualitative definitions of goals and targets was considered but mainly dismissed. Regardless of debates about whether a completely common approach is practicable, participants still believed that without a strong numerical, common EU-defined targets, Member States will have too much leeway and the whole implementation of EU policies will disintegrate even further. This point about the competence of the EU versus Member States was quite a prominent focus of discussions overall. Some participants mentioned that in practice, policy-makers often require quantitative targets and as a result targets are often haphazardly defined or defined without sufficient supporting data. Still, no one went as far as to question how much influence hard data has over the measures that are finally proposed and implemented.

Quite interestingly, this emphasis on numbers and quantification was half-jokingly attributed to biologists and their problems and fixation on numbers. However, it is undeniable that there is a large number of people involved in EU marine environmental policymaking who have some kind of biological background. While people bemoaned the complications because of the changing structures of Ministries, different competent authorities, the power of lobbies and swinging political tides, those influences are seen as making certain policy processes more challenging, but not as defining features of the implementation. The only real way out of the current stalemate was seen in strengthening environmental policy, for it to become more central and more unavoidable, with this having to happen at both EU and national levels.

Additionally, the need for more coordination was seen as vital, although there were also mentions that Member States are already overburdened with constant reporting and accepting any additional obligations would not be welcome. At the same time, there were quite frank admissions that Member States would simply not do anything that is not required by the EU, even if it would be good to do.

Observations during the Living Q workshop

During the Living Q workshop, the controversial nature of numerous statements meant that participants pushed back against the absolutist statements, although they would generally support the overall direction of development suggested by a statement. The division between biologists and fishery scientists was quite clear, with the people from fisheries backgrounds quite consistently ending up on the different side of the spectrum compared to the majority. Participants engaged in quite lively and non-judgemental ways about their positioning linked to everyone else, even though one of the more respected members of the group (leading research projects involving many others) was consistently quite far apart from everyone else. Therefore, it seems that his worldview is quite different from a lot of his co-workers.

6.2.3.2.2 Black Sea

General observations during the meeting

Much of the overall event, within which the Living Q workshop was organised, focussed on data collection, modelling, and research infrastructures, and sustainable development. It seems that in the Black Sea region the sustainable development discourse is much more prevalent, compared to the Mediterranean. Here, numerous presentations of fossil fuel explorations and the exploitation of gas hydrates were still common, with large prevalence of maritime spatial planning focus. Similarly, there were presentations of exploitation of gold in the sediments of the Black Sea. The discourses of keeping the fossil fuels in the ground or limiting dredging, bottom trawling, or beach nourishment were non-existent. The relevant Ministries of the Environment seemed fully on board with the sustainable development agenda, while at the same time emphasising the green and sustainable development of the Black Sea through MSP and MSFD Programmes of Measures, there is still space for fossil fuel extraction and directly recognised necessity of growth.

Data and knowledge focus was also highlighted as a theme, although framed differently than in Mediterranean. While in other Regional Seas it seems that there is a fair amount of focus on the remaining the gaps and incoherence in the data available, the Black Sea is more celebratory of the large progress made in the last decades, while acknowledging there is still a way to go, but the framing is much more positive. In line with this, there was a very strong natural science focus, where data and knowledge are seen as the holy grail. There was extremely little engagement with social sciences, and while they were not dismissed, those presentations were also given no preference (out of 50 presentations five could be roughly associated with social sciences, and out of 66 posters, six were from social fields). While there were some mentions of the importance of inter-, multi-, and trans-disciplinarity, there were

almost no examples of putting this into practice. The focus was thus on “pure” science, which provides foundation for everything else. There was a very classical understanding of the science-policy interface and the conception of objective science and reality. Therefore, while there are calls for more systemic, common, multisectoral, transdisciplinary data, this seemed to refer only to different strands of natural sciences. Even the representatives of the Ministries claimed that data are the basis for any decisions taken, while at the same time dismissing the NGOs and not funding the existent research institutes. This policy trajectory and data-oriented focus is not wholly surprising. The Black Sea region is known for needing to catch up with the rest of the EU both economically and in terms of increasing the amount known about the Black Sea ecosystems.

Observations during the Living Q workshop

During the Living Q workshop participants were happy to discuss, although they were more sedentary than they were in the Mediterranean. During the discussions it did emerge that people diverged on the key expected statements and concepts, such as wilderness and some were even critical of the very concept of strictly protected areas. There was quite a strong showing of people who were arguing for quite Strict or even Very Strong framings, although there was also a relatively strong moderate case-by-case group that was more cautious, but not unsympathetic to conservation approaches. Participants did not seem to change their opinions much, having heard arguments from the others. The only times they really changed positions was when certain parts of the statements were clarified, and they applied a new interpretation.

6.2.3.2.3 Baltic & North Seas

General observations during the meeting

During the Baltic and North Seas meeting in general, participants focussed more on the fact that people and communities and their uses of the seas should be respected than necessarily on environmental and conservation impacts of anthropogenic activities. On the edges of the meeting, during lunches and breaks, interesting debates also emerged. There was a debate about needing quantitative data to establish anything (from effectiveness of measures to future measures), with some participants going as far as claiming that this should be hard data and expert elicitation is not reliable enough. While they could admit that only pollutant and nutrient data are currently at that level of quality and accessibility and that other environmental descriptors are much more difficult, the requirement for having “hard” data remained. There was, on the other hand, also support for switching from focussing on data so much, to acting, even if there is not a rock-solid evidence-base yet, and importantly that came from someone who is working on Data Management/Monitoring learning strand in the project. So, while most participants seemed receptive to the acknowledgment of the influence of power on knowledge and knowledge production, they were unwilling to switch from business-as-usual thinking. Additionally, there was some veiled criticism of the environment and nature people in some national administrations, being painted as not doing enough and not proposing areas for

protection in the time that was available. Thus, these actors were painted as less reliable and uninterested. However, this discourse ignored the context of MSP getting a lot more attention and funds, since it is more closely linked to the objectives of Blue Economy/Growth, than the environmental legislation which is often perceived as more of an obstacle on that path.

Observations during the Living Q workshop

The Living Q group was much more homogeneous in terms of their maritime planning background than participants in either of the previous two workshops. This predictably led to slightly less diverse views, but they remained relatively diverse and there was still little overall movement after the discussion. Nevertheless, numerous participants noted that they found the exercise interesting, stimulating, and eye-opening to the significant role of emotions and values in making up one's mind, with numerous participants noting that they never considered that people might have very different values and that those would affect the way that they rationalise their positions.

6.2.4 Science-policy interface discussions (interviews, Q, and Living Q)

Given the importance that "hard", quantitative data was given in all three Living Q workshops and the events within which they were organised, as well as references that any policies and their implementation should be based on "solid science", it became important to engage more also with the way science-policy interfaces are conceived among the key policy actors and how they influence EU marine environmental policy implementation. A few common threads emerged from all the research phases, from semi-structured interviews, to thoughts during Q sorting and discussions that followed during the post-sort interviews, and finally as already mentioned during the Living Q phase as well.

> *"(Restoration) should be done with scientific reasons. Solid, scientific reasons."* (I, Black Sea workshop)

1. Most key policy actors do not engage directly with science and academic literature. Instead, preferences are given to aggregated reports (such as OSPAR QSR, HELCOM HOLAS, EEA, JRC & EC assessments, IPCC, IPBES) and official monitoring programmes.

   "The science has to be filtered to get to us. National reporting and agencies, EMSA, EEA. I do not look at individual scientific papers." (Naomi, EU)

2. Most policy institution directly commission and actively look for organisations and researchers who can provide the evidence-base that they seek to support their existing policy priorities.

   "It's not easy to find one person or organization that can deliver what we want. What we are trying to do is an expert proposal for policy." (Harry, EU)

   "We hire or we really pay universities and marine institutes to devote time to think about the questions that we asked them." (Luke, national)

3. The realities of the confines imposed on the policy process and the world are clearly recognised, very often also among the experts.

   "The timing is so crucial, the urgency of the things, and of course of formats, so the policy implementers need the precise information at that very moment. If we don't have that, then policies are done anyway. You cannot stop the train, the train has gone. So, if the policy evidence is not clear and ready, if it's ambiguous, if it's not there, then yes, it is not taken into account." (Naomi, EU)

4. Social sciences remain unfamiliar, with only a few policy actors ever engaging with them in detail.

   "I'm not used to social sciences. It's maybe the furthest part of science for me, that I know the least." (Andrea, national)

An interesting juxtaposition is thus created, in which most respondents profess the need for more science to support policy formation and implementation, as one of the best tools to streamline approaches, all the while they are very much aware of numerous constraints on those processes, as well. While the constraints are acknowledged and taken for granted, there seems to be little engagement in the way they influence the conception of linear science-policy interface and evidence-based policy-making that is otherwise supported.

6.3 Discussion

Working in groups is foundational for much EU policy work and yet, so far, there has been little explicit attention paid to the influences of group processes and dynamics on EU policy formation, interpretation, and implementation. While the results presented here are preliminary and limited in a number of ways, they do provide a starting point for a deeper investigation of these processes in the future and are based on the preceding results from interviews and Q study (Chapter 5). The present study had to be limited due to resource and practical constraints and can therefore serve illustrative purposes and as a basis for future work. The results build on the results of policy, interview, and Q studies, complementing them, but cannot stand on their own. Due to time, financial, and other limitations outside our control (e.g., impact of Russia's aggression in Ukraine on functioning of Regional Sea Conventions) only a limited number of workshops could be organised. The workshops were organised in collaboration with existing initiatives and projects, and therefore the workshop design and methodology were adapted to the needs of each meeting organisers and are thus not completely comparable. Additionally, given the wide variety of EU marine environmental policies (see Chapter 4), an effort was made to reach wide participation of different relevant policy objectives (environmental, Blue Growth, spatial planning), but it was not possible, financially, and timewise, to replicate different policy objectives for all regional seas. Therefore, while aware of these limitations, the analysis of the results, with certain interpretative leaps when classifying participants in Living Q discussions to identified social constructions, or when assessing why some people changed their positions or not, is still presented. This should provide ample ground for future research corroboration or falsification of the results presented here, which would be more than welcome.

6.3.1 Group dynamics and social constructions

The Q study identified six predominant social constructions or frames among the key policy actors but did not identify how prevalent they are or if some constructions are more predominant in different regional seas than others (Chapter 5). In lieu of undertaking a large-scale quantitative surveys, while also studying group dynamics, workshops with a poster diagramming exercise provided an opportunity to see if the identified framings resonate with policy actors. The Q-derived social constructions proved to be valid, as participants found them plausible and could identify with them. At the same time the complexity of the social reality was also shown, as participants often found it difficult to choose just one framing, underscoring the findings about confounded Q sorts (Section 5.2.2.7). No clear trends in preferences of certain social constructions could be established, due to divergent participant compositions in the Mediterranean and Black Seas workshops, which make direct comparisons of results impossible. Despite literature on the different social constructions which exist between different cultural or national groups (Bauer, 2005, Berger, 1967, Chirkov, 2020, Greider and Garkovich, 1994, Hällsten and Kolk, 2020, Kellert, 1996, Knowles et al., 2001, Morris et al., 2001, Yuki and Brewer, 2014, Wei et al., 2020), the emerging results here do not establish distinctly different conceptions between the EU Regional Seas, and they thus echo the results already presented in Chapter 5, with most social constructions having received support by a number of participants in each workshop.

Additionally, as the Living Q discussions demonstrated afterwards, a discrepancy between self-identified frames and the ones that seemed dominant in the discussions emerged. During Living Q discussions, it was possible to classify some of the participants into social constructions, based on the discourses that they were using. This discrepancy could have come from incomplete understanding of the framings as they were presented on the posters and from some participants speaking up less during the Living Q discussions. For example, there were a few participants in every workshop who assumed positions for each statement but either only agreed with what others said in their argumentation or chose to remain silent, and therefore it is impossible to assess which frame they are actually most associated with, apart from their self-identification. That could mean that there is more support for other framings amongst the participants who did not speak up, but that was not captured by this study. Both in the Mediterranean and Black Seas, there seems to be a trend that the positions expressed during discussions were more moderate than the ones anticipated based on the self-identification completed during the validation exercise. The psychological literature (Beers et al., 2006, Clark et al., 2000, Mohammed and Ringseis, 2001, Perez et al., 2018) suggests that groups inherently edge towards consensus as participants try to find common ground (consciously or subconsciously). Therefore, participants might have felt the compulsion to express views which were more moderate than their actual personal convictions, whereas the validation exercise, as well as the interviews and the Q study, captured those personally-held opinions more accurately due to the anonymity and individual nature of the methods. Although the Living Q design was developed in order to counteract this phenomenon, by asking participants to rank the statements without conferring with others and to focus on their personal opinions, it is conceivable that the effect still influenced the views expressed.

On the other hand, such a conclusion is not supported by the fact that there was little mobility observed between the initial positions assumed and the ones after discussion. Ripken et al. (2018) found more repositioning to have occurred. In their case, a quarter of participants

would change their positions after discussion, while we found less than 15% did. It is unclear why such a difference exists. Potentially, an answer could be found in the fact that some of the discussions were shorter in our study than in Ripken et al.'s studies due to the time limitations, and that some of the statements selected were controversial because of the fact that they could be interpreted in different ways, while Ripken et al. counsel that the statements should be self-explanatory and stand on their own. For the purposes of this study, some of the statements had to be less clear, as the ensuing debates about the different possible interpretations were one of the research focuses, but this might have inhibited the progression towards greater consensus within the group. Additionally, the limited amount of time for discussion reflects real-world scenarios, where policy groups are often comparatively large with packed agendas and little time to go into details.

The Living Q discussions showed that, regardless of the rational or emotional arguments presented, only a modest number of people were swayed by others' arguments. While there were cases of the group as a whole moving towards more moderate positions and the variability being reduced after discussions, these trends were not very strong. While more movement and changing of minds might have happened if more time was available for discussion and if groups were smaller (Beers et al., 2006, Clark et al., 2000, Mohammed and Ringseis, 2001, Perez et al., 2018, Ripken et al., 2018), the results also underline the points made in Chapter 5 about the deep-rooted nature of social constructions and how hard it would be to shift them. With only one clear case of an argument having an effect of changing people's minds, the appropriateness of relying on data and knowledge alone to shape policy-making can be questioned. Even in the case of the argument swaying a considerable number of the group members towards slightly changing their positions, the argument was mainly about semantics and did not change the meaning of the statement significantly, only its perception. This occurrence of semantic argument swaying the opinions of other participants could be due to a number of different reasons, from cultural differences to the presented, alternative wording still being vague enough that it could be supported with the same interpretation of the statement, as before, or due to participants wanting to be considerate of the person that was standing apart from the vast majority before the discussion and felt the need to include her more. More observation of such instances would have to be conducted to be able to discern which process is the most likely.

Another possible explanation for the change in self-identified framings or social constructions and the ones identified by the researcher during the discussions is biased self-perception of individuals (John and Robins, 1994). This psychological phenomenon suggests that participants often see themselves or their own views as more critical or extreme than they actually are or more positive than they are perceived as by their peers. Paulhus and John (1998) term such a phenomenon a moralistic bias, as individuals self-identify as more "sanctimonious" and pure than their actions would suggest. In any case, it is clear that even in coherent groups, where participants have already worked together for a while and trust has been established (such as in the Mediterranean and North and Baltic Seas workshops), divergences in positioning remain when it comes to more controversial policy statements. This illustrates the point made in socio-psychological literature that individuals bring their own social constructions into group work and are not always aware of this themselves. Given that such misunderstandings have already been linked to weak implementation, it is possible to suggest that this is one of the reasons why there has been such differing interpretation and implementation of EU policies across the four regional seas and between the Member States.

Apart from surprisingly little and inconsistent movement of opinions towards consensus, a predominant pattern emerged when discussing wilderness themes. While during the one-on-one discussions in semi-structured interviews (Chapter 5), key actors emphasised the experiential importance of wilderness and defined it along those terms, these discourses have all but disappeared in group discussions, with participants largely pivoting to the use of expert-based language and arguments. These discussions tended to result in value-based and semantic arguments, with the wilderness concept introducing confusion, which was not present when discussing strict protection. The latter term could still be polarising and interpreted in different ways, but key actors seemed to be clearer about where they stood in relation to it, at least. These results thus add to the impressions from Chapter 5 about usefulness of wilderness concept in EU seas. Therefore, despite the preliminary nature of these results, it can be concluded with confidence that the experiential value of wilderness, as emphasised during interviews, plays little role in group discussions, which ultimately define how policies are interpreted and implemented. Ergo, marine wilderness is unlikely to play a pronounced role in the way EU policies are implemented. Secondly, based on the results of this study, it is clear that the identified social constructions are not regionally-bound, as they all appeared in all three workshops.

More consistent with group dynamics literature was the smaller observed variability in the North and Baltic Seas workshop. Since the participants in that workshop shared a more consistent and uniform background, with vast majority being maritime spatial planners, the fact that they exhibited more aligned views is consistent with expectations where greater group cohesiveness can lead to consensus (Beers et al., 2006, Cartwright, 1968). Cartwright (1968) also claimed that in such groups participants have greater influence over each other, which could explain why this workshop witnessed the examples of arguments actually swaying a considerable proportion of participants. According to Friedkin (2011), group homogeneity and high cohesion are characteristic of high effectiveness, which could be observed during the meeting overall, but these same group traits can also lead to the phenomenon of groupthink (Cartwright, 1968, Eden, 1992, Friedkin, 2011, Janis, 1983). Based on the observations of the event and literature ('t Hart et al., 1997) such groups can make implementation of policies more effective, but are also prone to considering less options, reaching decisions without much engagement with underlying assumptions, and having high level of confidence in their decisions (Janis, 1983, Mohammed and Ringseis, 2001). While it would be unfair to claim that the North and Baltic Sea group exhibited the characteristics of groupthink yet, there were elements of it present, indicating that policy groups should indeed strive for greater diversity to avoid eventually sliding down the groupthink rabbit hole.

Finally, comments from participants both during and after the Living Q workshops indicated surprise about the level of influence of values on their own positions and the variability of opinions that their colleagues have expressed during the discussions. While this is aligned also with the findings of Ripken et al. (2018), it is still telling, particularly in the North and Baltic Sea and Mediterranean workshops, which both featured quite tight-knit groups. The former was a very efficient project group that has been collaborating intensively for several years, while the latter was mainly composed of actors who have been working together for close to a decade on a succession of EU funded projects. The consistent expression of surprises at the variety of positions and the reasons behind them, even among people who have known each other and worked together for a while, indicates the existence of “multiple ignorances” (Beers et al., 2006). Since participants were generally not aware of the different social constructions that their colleagues subscribed too, it is not surprising that

misunderstandings can arise, while the reasons for them are not recognised since the level of engagement does not move beyond surface-level consensus (Clark et al., 2000, Mohammed and Ringseis, 2001, Peniwati, 2017, Pfeffer, 1981, Walsh et al., 1988, Wooldridge and Floyd, 1989). In such absences of cognitive consensus, it is easy for key actors to comply with decisions taken and then distance themselves in the implementation phase (Mohammed and Ringseis, 2001, Perez et al., 2018, Vertzberger, 1995), a phenomenon not dissimilar to agreeing on common policies, which are then not implemented in the agreed upon manner.

6.3.2 Knowledge-policy interfaces in EU marine environmental policies

The assessments of policy implementation show that coordination and cohesion have not been achieved yet in the EU (European Commission, 2020b), despite quite concerted efforts. Therefore, the way science-policy interface functions in the EU should be examined further. Throughout this study, key actors maintained the "sanctity" of scientific evidence-bases and importance of having quantitative targets. Marine sciences and policy literature tend to still outline the ways in which science should and can lead policies in the current UN Ocean Decade, with the necessity of evidence-based policy-making emphasised (Claudet et al., 2020, Likens, 2010, Watson, 2005). While these texts tend to recognise some social complexities, those are usually framed as just an issue of imperfect communication (Janse, 2008, Likens, 2010, Sokolovska et al., 2019) or need for more participation from key actors, but within the confines of scientific discourse (Watson, 2005). Roehrl et al. (2020) similarly emphasised the need for objective scientific evidence to support the decisions taken during the COVID pandemic, exclusively focussing on "science". Since the vast majority of the policy actors in the marine environmental field have natural scientific backgrounds, it is not necessarily surprising that most of the respondents align with those literatures and claims. However, it is interesting that even though they have mainly been involved with the world of policy, where data is only one of the drivers of action, for years, they still maintain, what Turnhout et al. (2020) would term, "scientifically sanctioned rationality". This refers to situations where participants are expected to behave within the boundaries of what the scientific evidence deems reasonable, all the while scientists, as knowledge holders, retain a privileged position (Turnhout et al., 2020, van den Hove, 2007, Wesselink et al., 2013).

Throughout the different research stages of this study, participants clearly stated that they are much less familiar with social scientific work and approaches, while finding participation in this project interesting. This latter observation can, at least in part, be associated with the novelty of engaging in social sciences. When presenting the research results, the participants actively engaged with the identified social constructions, often noting that they instinctively make sense, and recognising the implications for policy implementation. However, during the discussions that followed clear path dependency and the primacy of "scientific knowledge" was still observed (Bouwma et al., 2016, Turnhout et al., 2020,). The social sciences are thus rarely engaged with in the EU environmental policy implementation discourses, as exemplified in this study, and in cases where they are they tend to refer to quantitative socio-economic data. Clear preferences have been expressed for numerical approaches, based on "hard" data, while disparaging expert judgement derived values, particularly in North and Baltic Seas event, but both Black Sea and Mediterranean events also maintained the importance of monitoring and improving quantitative data quality. This

evidence-based, rationalistic approach has been criticised in both science-policy interface literature and socio-psychological literature, as too simplistic and not sufficiently cognizant of the complex social phenomena and realities that are surrounding it, while privileging positivist science and diminishing the evidence provided outside of the frames of empirical and quantitative research realms (Bennett, 2016, Marmot, 2004, McCaughey and Bruning, 2010, Rose et al., 2020, Turnhout et al., 2020).

Regardless, of the perception of what the relationship between science and policy should be like, the gap between the two is also clearly acknowledged and has also been debated in detail in literature. Already in 1996, Klabbers et al. (1996) analysed the interactions between climate science and policy, finding that the linear rationalist approach to the science-policy interface does not work and encouraged scientists to get more actively involved in the public debates. This call has been echoed recently by Turnhout et al. (2019) and Bennett (2019), arguing that repoliticisation of science should occur and that the bubble of objective knowledge should burst (Rose et al., 2020). While Sokolovska et al. (2019) present a case for the scientific focus only on evidence and facts and policy-making on values, even they admit that, at least, some politicisation of research and democratisation of the environmental policy will be needed. The participants in the present study were clearly aware of the imperfect take up of scientific knowledge when it came to policy implementation, both in their own work and in general, for example in relation to climate change. At the same time, there was considerable mutual recognition of limitations that are imposed on policy-makers or on experts, by participants from different governance levels. Nevertheless, the expectation of policy-makers was still that experts should provide impartial advice and reckoning that scientific knowledge is not fully objective among experts has not been achieved yet.

Within the EU marine environmental policy actors, such situation is mainly taken as a given and expected, without being questioned. Apart from participants identifying with Critique of the EU social construction, everyone else considered that privileging science, both by paying it more attention and improving its funding, is needed to address the environmental and biodiversity crises. The calls for recognising positionality of science and democratisations of knowledge were rare during Living Q workshops and tended to come from participants that had some links with former European colonies. While these arguments were not dismissed by the rest of attendees, they were also not meaningfully engaged with. Turnhout et al. (2020) address this issue and assert that depoliticization tendencies in science, which try to cast science and academia as objective and neutral, actually reinforce existing unequal power dynamics. A position that is, less explicitly, supported also by van den Hove (2007). In the EU marine environmental policy reality though, a large proportion of key actors come from natural scientific backgrounds and actively portray themselves as a bridge between science and policy worlds, while they have not been trained and are not familiar with majority of social scientific approaches and their value within the policy process, nor is there much acknowledgment of the importance of how “hard” data is framed and how that influences decision making (Turnhout et al., 2019).

Though evidence-based policy-making makes intuitive sense, it represents a clear example of the linear science-policy interface model and does not take into account that simply what counts as evidence is different on both sides (Choi et al., 2005). While most participants still idealise linear science-policy interface, as the way the two realms should interact, the literature clearly points out the issues with such conceptions. Even in the health policy field, a field that is one of the most heavily dependent on evidence for making decisions (Roehrl et al.,

2020), McCaughey and Bruning (2010) argue that decisions are still influenced by individual subjective constructions or framings. Choi et al. (2005) emphasise that scientific evidence can conflict with policymakers' social constructions and that policymakers use scientific knowledge, not as objective truths, but to wield it in order to control problem definition and policy solutions. Thus, policy-makers are looking specifically for evidence that will support their claims, introducing a systematic bias. This claim has support in some of the claims captured during the present study as well, as numerous actors either directly questioned some data, or emphasised the need that data is produced to fit their needs and existing policy objectives. Cognitive information processing represents a way of conceptualising this impact of internal personal influences on the decisions taken (McCaughey and Bruning, 2010). Head (2008) agrees, claiming that there is never just one evidence-base, but several and the policy decisions do not arise simply from empirical analysis, but from politics, judgement, debate, and also data. This is consistent with socio-psychological assertions where all people are seen as being influenced by their backgrounds in their sense-making of the world, which can lead to misunderstandings (Beers et al., 2006). Therefore, Mohammed and Ringseis (2001) claim that to deal with this impasse, deliberations between key actors should move beyond reaching agreements to engaging with participants' underlying assumptions.

While science is one of the key elements influencing policy actions, the same evidence can be used to justify very different conclusions. Marmot (2004), for example, called attention to the fact that scientific or any other kind of evidence does not fall on blank minds, which change as a result. Kørnøv and Thissen (2000) also delved into the details of how rationality works in decision-making in the field of strategic environmental assessments, finding numerous limitations of the rational model around cognitive limitations, behavioural biases, ambiguity in data, variability in preferences, time component of decision-making, and the conception of decision-making as a long-term negotiation-led process. Living Q discussions around bottom-trawling bans illustrated this challenge clearly, where participants tended to use similar, if not the same, data sources, but using them to support very different courses of action, based on their priorities. For example, a participant in the Black Sea workshop, who prioritised work on marine litter, accepted the arguments about how damaging bottom-trawling is from his fellow participants, but insisted that the fact that trawls collect some litter from the seafloor make the activity worthwhile enough to oppose its ban. Similarly, during the Q study post-sort interviews (Chapter 5), there have been references to the CFP approach as both the solution, given the results from the Atlantic and Baltic regions, or the pathway to environmental destruction, based on the trends in the Mediterranean and Black Seas, with the key actors clearly aware of the data from all regional seas.

These different conceptions can stem from different elements. As mentioned before, this study did not find any conclusive regional, national, or cultural patterns that would define more or less prevalent social constructions. If one focusses only on policy-relevant distinctions, Choi et al. (2005) ascribe the identified gaps to the different goals, attitudes to data, languages, perceptions and career paths that diverge between the policymakers and scientists. Even further, Rose et al. (2020) continue the work on Kingdon's policy windows and claim that competing worldviews, interests, values, and norms should all be recognised in trying to predict the occurrence of policy windows within which evidence can play a role in swaying decisions. These sociological and psychological elements are therefore inescapable in any scientific practice. Consequently, evidence is never produced in a neutral way, as scientists have their own values, culture, and beliefs that influence their work, and the presence of the same cognitive elements among policy-makers also means that evidence does not always determine

policies either (Fine, 1979, van den Hove, 2007, Wesselink et al., 2013). While participants recognised that they exerted some agency over their research work or the way they engaged with data, the prevailing conception was still that they are able to detach from their subjective positioning.

Results in Chapter 5 and here, clearly demonstrate how the different framing lenses or social constructions that exist result in different ways in which the same data is perceived and used, and what policy priorities are thus supported and pursued. Therefore, despite most respondents mentioning the need to improve available knowledge to support policy implementation, it needs to be recognised that scientific knowledge alone does not lead to effective or even necessarily desirable policies (Kukkonen and Ylä-Anttila, 2020, Wesselink et al., 2013). Consequently, the rational choice principle that characterises evidence-based policies cannot fully explain the issues of bounded rationality, as decision-makers do not share the same cognitive abilities, and knowledge to commonly understand, process, and evaluate the validity of scientific evidence relevant to their policy decisions (McCaughey and Bruning, 2010, Simon, 1990, Thaler and Sunstein, 2021). The influence of framing of data and decisions (Chirkov, 2020) is thus crucial to recognise, as it provides insight into how evidence is subjectively interpreted and used. Sociological work has shown that framing can influence the way in which individuals not only relate to data and decisions, but how they perceive situations and what existing knowledge they recall (McCaughey and Bruning, 2010). Evidently, this process thus also shapes peoples' worldviews. Therefore, despite the existence of a widespread consensus on how EU marine environmental policies should be implemented in the future, among the key policy actors, the results of this study invite reflection on the six identified social constructions and the way they frame and influence the way they perceive the data and how they prioritise policy actions is necessary.

6.4 Conclusions

Much of EU policy-making remains focussed on a unified, coordinated, and common approach to setting policy objectives and how their implementation should ideally progress, while emphasising evidence-based policy-making, requiring (quantitative) data and following rationalistic tendencies (McCaughey and Bruning, 2010, Roehrl et al., 2020, Watson, 2005). This approach is not only evident from policies themselves, the recommendations flowing from assessment reports, but also came from all three of the Living Q workshops and the events within which they were organised clearly and the individual interviews. While the majority of this thesis has focused on individual social constructions and their influences on policy interpretation and implementation, this Chapter has engaged with group process, to understand how individual framings influence policy-making.

The results of this study, presented in previous chapter (Chapter 5) already demonstrate the existence of considerably divergent social constructions or framings among the key policy actors, on individual levels and the differing understandings of both specific definitions (like in relation to the definition of strictly protected areas and their aims) and where to put priorities among the expansive EU marine policy portfolio. This divergence indicates that it is highly likely that cognitive consensus has not been achieved and therefore that coherent implementation based on agreed decisions is unlikely (Mohammed and Ringseis, 2001). The results presented in this chapter further build on this. While the limitations and biases should

be firmly kept in mind, given the limited scope of the group dynamics studied here, a number of trends could be identified and future research should work on deepening understanding of these topics. Since working in groups is foundational for much of EU's policy work, it is important to note how the individual framings change in group setting. A clear example of that is the shift from experiential definitions of wilderness to more expert-based ones (in comparison with interview data) or how despite self-identification with a variety of different sub-framings, most participants seem to argue for Pragmatic discourses during group work.

All three Living Q workshops emphasised the need for better data and evidence-based policy-making. The Black Sea and North and Baltic Seas events especially emphasised the importance of having "sound" and "hard" data to underpin any and all decisions. The Mediterranean event was not as outspoken, but the discussions reported above, also demonstrate clear preference for quantifiable thresholds, targets, and data. Interestingly, when key actors were asked what kind of data they base their decisions on, during the interview phase (Chapter 5), they tended to favour aggregated reports (OSPAR's Quality Status Report, HELCOM's HOLAS, EEA and JRC assessments) and data from national monitoring programmes, despite acknowledged concerns about the quality of the underlying data, rather than referring to direct scientific outputs. This sets up an interesting conundrum for the EU marine science policy interfaces and their functioning. While such perceptions are congruent with earlier data from interviews, they also mask the importance of framing of data and more nuanced understandings of actual functioning of science-policy interfaces. Particularly, since the results presented here indicate only limited scope for arguments to sway key actors in their positions. Therefore, the issues of scientifically sanctioned rationality (Turnhout et al., 2019) and the dangers of the phenomenon of multiple ignorances (Beers et al., 2006) persist.

Given the nature of group work in most policy settings and at the EU level, it is worth noting that while longer and more in-depth discussions could potentially lead towards cognitive consensus (Mohammed and Ringseis, 2001), there is currently little scope for such deep engagement in the way that meetings are organised, with most groups being composed of a greater number of members, featuring less group cohesion, and not having significantly more time available to debate their positions. Greater institutional and political complexities and pressures affecting the positions that participants have to take into account have also not featured within this study design, but definitely have an influence in real world policy-making (Syed, 2019, 't Hart et al., 1997). Therefore, there is a need to re-evaluate the way that groups work and how they should function in order to establish common ground and cognitive consensus, as the results here clearly show that, although very different framings are at play, group members are often unaware of them. This can lead to weak implementation, "multiple ignorances", and problematic mid- to long-term viability and productivity of the groups (Beers et al., 2006, Friedkin, 2011, Mohammed and Ringseis, 2001, Perez et al., 2018, 't Hart et al., 1997).

CHAPTER 7 – SUMMARY, POLICY RECOMMENDATIONS, FUTURE RESEARCH, CONCLUSIONS

7.1 Summary

A global biodiversity crisis exists in the seas, as well as on land, and requires urgent action, as the safeguarding of marine biodiversity becomes increasingly important from both anthropocentric and moral grounds, while signs of stress are visible at all scales (Laffoley et al., 2019, Reker et al., 2019, Rishworth et al., 2020). However, due to the complex three-dimensionality of marine ecosystems, high connectivity and transboundary ecosystem functioning, combined with differing (as well as sometimes missing) competencies for managing marine environments, such action should ideally be internationally coordinated (Boero et al., 2019, Boyes and Elliott, 2014). Many different actions have been proposed in the literature, including sectoral regulations, ecosystem-based management, sustainable exploitation, and expanded spatial conservation areas (Benyon et al., 2020, Gell and Roberts, 2003, Katsanevakis et al., 2011, O'Leary et al., 2020), as summarised in Chapter 1. A considerable literature has been built around the establishment of marine protected areas, which are regarded as one of the best means of enabling marine biodiversity to rebound, provided they are effectively managed and properly protected (Balmford et al., 2004, Börger et al., 2016, Duarte et al., 2020, Johnson et al., 2019, Roberts et al., 2017). The literature points toward the realisation that marine biodiversity responds well even to small reserves, although the greatest biodiversity benefits are observed in strictly protected areas, both no-take and even more in no-go areas (Frisch and Rizzari, 2019). The growing evidence of the biodiversity benefits of strictly protected areas has also informed policies, as explored in Chapter 4. New global targets for expanding protected areas have been established (e.g., the new CBD Global Biodiversity Framework with the target of 30% protection by 2030, and the new Treaty on the High Seas, which also calls for 30% of them to be protected). Arguably, international policies offer the best hope of addressing this crisis, as they have the potential to apply coordinated measures among different countries, while providing an international legal framework and competences, as well (Boyes and Elliott, 2014).

The European Union, in particular, has been positioning itself as a global leader in this context. The EU is able to pass binding legislation for its 27 Member States, extending its jurisdiction over significant portions of European seas which are some of the most heavily used in the world (Bigagli, 2015, Boyes and Elliott, 2014, Korpinen et al., 2021). Additionally, the EU policies bind together one of the largest global economic powers and their actors, and thus their effect often reverberates beyond the borders of the EU (Van Leeuwen and Kern, 2013). As Chapter 4 notes, EU marine environmental policies are widely seen as some of the best in the world, as they are stringent, all-encompassing, and cover all aspects of the marine environment (Boyes and Elliott, 2014). Since they are also applied across very different European seas and by 22 coastal EU Member States, this offers an ideal opportunity to study how they are being implemented and what kind of impacts they are producing. Previous work has mainly focussed on the complexity of the EU marine policy arena, with an excess of 200 policies incorporating varying policy objectives, as well as quantitatively assessing the progression of European seas towards the targets of good environmental status (Boyes and Elliott, 2014). These assessments have largely concluded that while there has been

undeniable progress, the EU has fallen considerably short of the targets set and marine biodiversity continues to decline in its waters (Cavallo et al., 2018, Dom et al., 2016, European Commission, 2020b, Gorjanc et al., 2020). Therefore, the current data point towards a widespread implementation failure in achieving of EU environmental policies.

The marine biodiversity crisis therefore remains to be effectively addressed and the urgency of doing so is increasing. The EU has thus invested in improving the knowledge bases for policy implementation and supported numerous coordination projects to foster more coordinated implementation of policies to achieve targets (European Commission, 2020b, Hassler et al., 2019). Additionally, more ambitious targets for the current decade have also been agreed, to ensure protection of 30% of EU seas, a third of which have to be strictly protected (European Commission, 2020a). Particularly, the strict protection targets are a new addition, which has been linked to the need to leave natural processes predominating and supporting restoration of ecosystems, which evokes wilderness discourses, which have been gaining in popularity in terrestrial conservation over the last two decades (European Commission, 2013, European Commission, 2022b). However, given that the 2020 targets have been missed (e.g., Good Environmental Status, Good Ecological Status, Biodiversity Strategy 2020 goals), there should be more interrogation of what exactly went wrong, beyond the realisation that the policy implementation has been uncoordinated. Why was it uncoordinated? Do gaps in marine knowledge fully explain the patterns in implementation failures? The influence of cognitions, social constructions, and group dynamics, reviewed in Chapter 2, particularly among the key actors in the EU tasked with interpretation and implementation of EU marine environmental policies have not been researched in detail.

This research has shown that the implementation failures in EU marine environmental policy are usually linked to the lack of knowledge, insufficient coordination, and limited resources (Chapter 4). Results presented in Chapters 5 and 6 demonstrate the influence of framings of key issues on policy prioritisation, interpretation, and implementation among the key policy actors across the EU governance scales. Among the key policy actors, misconceptions evidently exist about how the policies are understood by individuals and how they should be implemented. This is clearly exemplified in the case of strict protection, where the EU definition of strictly protected areas (agreed between the EC and Member States) clearly states that these areas are supposed to “support natural environmental processes” (European Commission, 2022a, pg. 20), while numerous policy actors intend to use them to protect reference and baseline conditions, with a focus on features delineated in Nature Directives. These misconceptions are not part of the policies themselves but arise from the social interactions. For example, different wilderness-related discourses are present in EU policy texts, but the key actors do not perceive marine wilderness as a credible and salient way forward, preferring to refer to more clearly defined strict protection (Chapter 5). There is a disjunct between enjoying wilderness characteristics (mainly on land) in their private free time and the policy priorities that they would support in their work. Also, the key actors diverge considerably on how strict protection, which has been commonly defined for the whole EU, should be applied, indicating a significant misalignment between their priorities and the policy definition. This raises the question of how the EU policies are meant to effectively or strictly protect marine nature.

The Q study uncovered the existence of six distinct social constructions (Chapter 5). All identified social constructions offer internally coherent conceptions of marine nature, as well as solutions to address the perceived challenges, suggesting that it would be nigh impossible

to bring them all under one roof. The social constructions thus demonstrate more deep-seated divisions among the key policy actors. The different identified social constructions pave the way for key actors to interpret and implement the common EU policies differently based on their individual framings and how they perceive marine nature and the biodiversity crisis. This is particularly significant, within the complex and wide-ranging EU policy arena with numerous different, and sometimes contradictory, policy objectives. The identified constructions thus allow key actors to pick and choose among the policy priorities that their framings identify as appropriate, while dismissing other measures and knowledges. For example, policy actors aligned with Sustainable Use framing will acknowledge the need for more protected areas, while at the same time disregarding both the definition of strictly protected area and the target established in BDS, because they will claim that sustainable use of European seas can be achieved through full implementation of CFP and MSP, based on fisheries data from the Atlantic and the Baltic Seas. At the same time, someone aligned with Very Strong framing might use the same fisheries report and point out that the data reported for Mediterranean and the Black Seas shows wide-spread overfishing therefore the only way forward is through expansive protection to reverse the trends in biodiversity loss. Importantly, both the sustainable use direction and expansive protection are codified in different EU policy goals for the current decade (e.g., doubling of Blue Economy by 2030 – European Commission, 2017 and 30:10 protection targets – European Commission, 2020a). Therefore, the identified social constructions allow key actors to choose to focus on some policy priorities, while disregarding the others, even if both can be supported with the same evidence. This additional complexity of this social reality is usually not acknowledged in policy circles (Chapter 5). This social reality and its influences on the policy processes are mainly sidestepped, as EU policy-making tends to be characterised as evidence-based, resting on the linear, rationalistic understanding of science-policy interfaces. Most EU policy implementation recommendations point towards the need for more and better (quantitative) data and a common, coordinated, and coherent approach to EU policy implementation (Chapters 4 and 5).

However, the results from the Living Q workshops presented in Chapter 6 demonstrate that neither expertise nor emotional-based arguments are very effective in making key actors change their minds, even in a group setting, where group dynamics would suggest that there is an inherent need to move towards consensus. This underlines the earlier assertion that identified social constructions are deeply rooted and unlikely to shift. At the same time, the results also show that even in well-established groups, different social constructions are at play, while the group members are often unaware of them. Altogether, these results indicate that social elements have an influence on policy implementation, and that this has not been accounted for or integrated into the policy process in order to better understand implementation patterns and to improve policy implementation trends. The results presented here provide a basis for key actors to recognise and engage with the wider social and psychological context, reflecting on their personal and collective values, as well as how these affect their work.

This thesis and its findings, contribute to the existing literature on the topics of EU marine environmental policy and wilderness. The findings can be summarised as marine wilderness seeming to not be a salient concept among the key policy actors working on EU marine environmental policies, while there exist numerous different framings of the state of the seas and what should be done about them, as well as pointing to the limited influence of data provision in policy group settings on the decisions taken. The findings are thus aligned with literatures on science and technology studies (Latour, 2005), political ecology (Bennett, 2019), and human geography (Lorimer, 2012), as well as more expansive group dynamics and

processes literatures (Beers et al., 2006). While the literature on the science-policy interfaces have long pointed towards the influences of other factors beyond data provision on how knowledge translates into policies (Turnhout et al., 2019, Wesselink et al., 2013), this thesis makes this explicit in the field of specific EU marine environmental policies with consequences for achievement of ambitious EU environmental and conservation targets. This study therefore applied a number of theoretical and academic critiques of science-policy interfaces to the specific policy context in the EU to demonstrate how they play out in reality. Additionally, the influence of framing (Turnhout et al., 2019) and social constructions on the way people act (Chirkov, 2020) has been known for a long time, but this thesis makes those different framings and their policy implications explicit in the field of EU marine environmental policies for the first time. Another contribution is also that this study presents the first application of Living Q methodology outside of the pioneering work of its inventors in MSP (Ripken et al., 2018). Last, but not least, discussions of marine wilderness have been rare in the academic and policy literatures so far. While the results here suggest that marine wilderness at this moment is not a particularly salient term among the EU key policy actors, this thesis still contributes to the literature exploring the perceptions and attitudes towards marine wilderness, among a very particular stakeholder group. Overall, the major contribution of this thesis is the call for more engagement with and recognition of socio-psychological factors in policy studies and implementation, supported with empirical evidence for why this is crucial. Such an argument is not necessarily new, but this thesis illustrates it in a very specific context.

7.2 Policy Recommendations

Some practical policy recommendations flow from the results of this research, which has been closely linked to EU environmental policy and practice (Policy Brief in Appendix IX). A number of changes in the way that EU policy processes are currently running would be needed in order to address the social influences on the policy process meaningfully. As Chapters 2, 4, 5, and 6 have shown, the EU policies, for all their comprehensiveness and complexity, still feature a number of interpretation and implementation challenges, that the research respondents have elaborated in interviews (both semi-structured and post-sort interviews) and Living Q workshops. While there have been some movements in the direction of the policies recommended below, these changes will need to be further expanded if more effective implementation is to be achieved. Given that the results here show the widespread divergence among understandings and policy prioritisations (Chapters 4 and 5 – for example the differences in the implementation of strict protection and the six social constructions emerging from the Q study), as well as a lack of awareness of the extent of this divergence among the policy actors (Chapter 6 – as noted by participants in all three Living Q workshops during the discussions or in their feedbacks), there is a need for better forms of engagement between these different understandings and prioritisations, more involvement of social sciences in the policy processes, and shifts in the overall approach to the implementation of EU policies. More specifically in relation to strict protection and wilderness, the results have clearly shown that there is little use for wilderness imaginaries in EU marine policies, and they should therefore be dropped.

7.2.1 Better engagement with underlying assumptions

First of all, in order to build consensus amongst the key actors, there is a need for better engagement with their underlying assumptions. Despite the EU policy process being very much focussed on coordinated, coherent, and comparable implementation (Chapter 4), the way that the technical groups and meeting cycles are currently set up does not actually foster the kind of engagement needed to achieve cognitive consensus (Beers et al., 2006, Mohammed and Ringseis, 2001). This observation was shared during numerous interviews (Chapters 4 and 5), particularly among the national experts and policy-makers. The key policy institutions (RSCs, EC) are already moving towards holding more meetings to foster more dialogue and engagement, exemplified with the upcoming Bioregional Seminars organised under BDS, or the announced Special Working Group on fisheries and restoration of marine ecosystems, linked to the new Action Plan on protecting and restoring marine ecosystems and sustainable fisheries (European Commission, 2023)[10]. Similarly, some RSCs are also introducing more interim meetings and taking advantage of the hybrid set-ups, while slowly returning to predominantly physical encounters following the COVID-19 pandemic (one such example is OSPAR's Biodiversity Committee, where this research was presented in April 2023). Respondents from RSCs often mentioned that the difference in their way of working, when compared to the EU processes was greater flexibility and more in-depth discussions, to which they attributed their effectiveness and ambition levels. This is a constructive step forward, but meetings are still planned with a limited number of participants per member state and as one-to-two-day meetings (in most cases, as in the example of Biogeographical Seminars organised by DG ENV in 2023 and 2024 – mentioned by one of the interviewees), with full agendas, which are not most conducive for more engagement among actors to uncover people's underlying understandings and assumptions. Therefore, while the EU is still pursuing a consensus-based and coordinated approach to the policy implementation, the supporting mechanisms and meetings are not yet tailored to achieving those goals, in the way in which socio-psychological literature would suggest they should be (Chapter 2). Unless this mismatch is addressed, it is likely that divergent and incoherent implementation will continue, and that environmental policy objectives will not be achieved.

Therefore, the first main recommendation is that policy-related meetings need to go beyond seeking surface-level consensus and engage with actors' underlying assumptions (as suggested by socio-pscyhological literature – Chapter 2). While this switch will require a number of structural and far-reaching changes to how policy meetings are organised and run, there are three key steps that can be taken to start moving into that direction.

1. *Policy meetings should include moderators to lead and manage the meetings, with a variety of methods to help actors openly engage and understand each other better*.

   Policy meetings are currently most often led and moderated by institutional officials (for example, the OSPAR Biodiversity Committee or the DG ENV's Marine Expert Group meetings – that were attended to present this research), who, despite their experience, are not trained to foster engagement based on insights into group dynamics and socio-psychological backgrounds. Additionally, most of the meetings run according to rigid procedural rules and Terms of Reference, with meeting participants balancing between roles of

[10] The planning for both the Bioregional seminars and the mentions of the Special working group were discussed during the Marine Expert Group meeting at European Commission's Directorate-General for Environment in March 2023 (with author attending the meeting as part of engagement and dissemination efforts).

representing their countries, institutions (sometimes several if they are delegated to speak on behalf of others), and their personal convictions (as some respondents noted in the interviews and based on observations during the meetings that were attended). The agendas tend to be packed full to maximise the time people are giving to the meetings, with also strictly defined roles for observers, stakeholders, lobbies, interest groups and so on, for whom engagement might be even more curtailed.

The use of professional moderators and facilitation techniques can be the first step to building more open rapport and better engagement among participants (Bryson, 2003, Golob et al., 2019, Ibisch and Hobson, 2014). Moderators should thus lead the meetings to prioritise the development of common frames of reference over the simplest integration of different viewpoints into positions which are acceptable for the majority, in line with group dynamics literature (Beers et al., 2006, Bromme, 2000, Clark et al., 2000, Mohammed and Ringseis, 2001, Turnhout et al., 2019). At the same time, the moderators are also there to ensure the delivery of results. Therefore, their involvement mainly requires just a change in the format of how the meetings are run. Given the presence of different social construction, it is crucial that they are recognised, in early stages, and that the process is inclusive of them (Beers et al., 2006, Hambrick et al., 1996, Jackson et al., 1995, Janis, 1983, Perez et al., 2018, Syed, 2019, Turnhout et al., 2019, Yuki and Brewer, 2014). This cognitive diversity can then help provide wider problem scopes and move the process beyond pursuing incremental policy solutions (Beers et al., 2006, Dillenbourg et al., 1996, Vennix, 1996, Mohammed and Ringseis, 2001), which are often the result of the current meeting processes.

2. *The meetings have to be longer to allow for the engagement to be meaningful.*

The policy meetings and their organisation will need be longer to allow for meaningful engagement (Beers et al., 2006, Clark et al., 2000, Perez et al., 2018, Chapter 2). This will include more time commitment by meeting organisers to properly engage moderators before the meeting. Also, the meetings themselves will have to be longer to allow for more open communication and personal connections, while the agenda might need to become a bit looser and less packed (Beers et al., 2006, Clark et al., 2000). All meeting participants will have to invest more time for the preparation, to ensure effective engagement, beyond just preparing the content of their interventions.

Literature has shown that unanimity decision-making[11] (Chapter 2), where decisions taken require unanimous approval of group members, provides a better space for discussion of minority points of view and engagement with underlying assumptions (Castore and Murnighan, 1978, Friedkin, 2011, Harmon and Rohrbaugh, 1990, Harnett, 1967, Mohammed and Ringseis, 2001, Neale and Bazerman, 1992, Perez et al., 2018, Pfeffer, 1981, Rohrbaugh, 1979,

[11] Unanimity decision-making required agreement by all group members before a decision can occur, making group decisions often more difficult to reach and require more discussion (Mohammed and Ringseis, 2001).

Thompson et al., 1988, Walsh and Fahey, 1986, Wooldridge and Floyd, 1989, Chapter 2). Groups should preferably be long-standing, thus continuing to engage among a similar participant structure. More and better feedback and meeting output phases will need to be incorporated into the process, beyond agreeing on and publishing meeting minutes and dividing tasks.

This longer time commitment could be criticised for siphoning away valuable time from busy people's schedules while there are urgent environmental crises that have to be addressed ('t Hart et al., 1997). However, this is not an argument that environmental policy goals should be postponed to allow for this engagement time; it is a proposal to change the process that has so far not delivered on the targets set, despite having been used for decades (European Commission, 2020b). Therefore, the increased time commitment in the engagement phase could well prove to be a more effective use of time compared to persisting with incoherent policy implementation and partial solutions.

3. *Consultation procedures (intra-institutional and public) need to be improved to foster better engagement and understanding of both actors and public.*

Different forms of public consultations are one of the cornerstones of how institutions engage with the publics and different stakeholders. However, the processes are often flawed, marginal, or tokenistic (Hierlemann et al., 2022, Kawamura, 2011). Better and more meaningful consultation procedures, particularly early on in the policy processes, will foster better engagement and understanding of the needs and wants of both actors and the public, moving beyond just providing information and asking for feedback.

Early consultations on ideas and needs, that are done not just within an institution or between various institutions, but with a wide spectrum of participants, would allow identification of different social constructions, understandings, as well as needs and wants (Bunea, 2017, Quittkat, 2011). The process followed in Chapter 5 with identifying different existing social constructions made it, for example, much easier to anticipate participants responses and engage with them constructively during the Living Q workshops (Chapter 6). Therefore, this could be a major step towards avoiding controversies and contentions that often accompany the more ambitious environmental targets (as could be seen in the recent discussions of the Restoration Law in the European Parliament, or the outcry over the Action Plan on sustainable fisheries and marine restoration[12]). Such a process would again require a larger time and resource commitment in that early stage, but would

[12] The proposed EU restoration law has been undergoing a public debate (Spring 2023), with pronounced activity on social media (e.g., Twitter account of the European Commissioner for Environment, Oceans and Fisheries Virginijus Sinkevičius - @VSinkevicius) and the press, for example Greenfield (2023) Flagship EU law to restore nature must not be derailed, warns environment chief. *The Guardian.* 16th May, https://www.theguardian.com/environment/2023/may/16/flagship-eu-law-restore-nature-must-not-be-derailed-warns-environment-chief-aoe (last accessed: 17.5.2023). The Action Plan is likewise being heatedly debated on social media and in meetings such as the Marine Expert Group meeting at the Directorate-General for the Environment in March 2023.

improve implementation efficiency and minimise the need for follow up meetings that often happen over spans of years (Beers et al., 2006, Clark et al., 2000). It would be beneficial for the success of this approach to have the number of different social constructions included in such processes maximised, to allow for the most inclusive solutions (Lahsen and Turnhout, 2021, Turnhout et al., 2019, Turnhout et al., 2020).

7.2.2 Better integration of social scientific insights into the policy processes

Secondly, besides more engagement during the policy meetings, much of EU policy-making and implementation is still based on the principles of evidence-based policy-making and linear, rationalist understanding of science-policy interfaces. The pervasiveness of this conceptualisation was observed in almost all interviews (Chapter 4), most Q sorts (Chapter 5), and quite often among focus group participants (Chapter 6). While these approaches have been subject to considerable academic critiques, and policy actors seem to be aware of at least some of the issues linked to them, these approaches remain predominant. At the same time, despite having some of the best marine environmental data on the planet, these data are interpreted and used to support divergent measures and approaches (as exemplified by the social constructions identified in Chapter 5 and limited degree of people changing their positions in Chapter 6), pointing to the importance of engaging more with social sciences to gain insights into how policies are implemented by the people involved with them. Instead, most of the discourse so far in EU policy circles is on improving the available data, their integration, and access to them (as shown by interpretive policy analysis in Chapter 4). At the same time, there is a very pronounced preference for quantitative natural science data, while social science insights are often side-lined.

Since different scientific disciplines employ a variety of different approaches, some focussing on quantitative and other on qualitative results, some on explanations and others on descriptions of phenomena, misunderstandings exist about how results are derived and how they can be used between the different approaches. Within these permutations, quantitative or explanatory approaches are often privileged (shown simply by composition of educational background of most policy actors involved in this research and the priorities they outlined in Chapters 4, 5, and 6), while other combinations and their contributions are often misunderstood (as some respondents admitted directly – see Chapter 6). Admittedly, social sciences and humanities do not always produce directly useful and feasible outcomes, and rather invite reflection on their findings. This can be challenging to use in a fast-moving policy realm. However, disengagement from social insights results in missing important trends that have significant influences on the way policies are being formulated and implemented. While during the course of this research there have been opportunities to present these results at various high-level policy meetings (such as OSPAR Biodiversity Committee and European Commission's Marine Expert Group meeting), these presentations have often been treated as non-essential, 'nice to have' additions to the agenda, or as a welcome break from all the other "real work" the participants have been doing. There is a need for better engagement with different bodies of knowledge to inform policy implementation, even if direct application of some research insights is not immediately apparent.

Thus, the second recommendation is that (critical) social sciences which enable questioning of fundamental assumptions, need to be more directly engaged in evidence-based policy-making and implementation, to address divergent understandings of data. The understandings of how policies are implemented and, perhaps even more importantly, why, by the people interpreting and implementing them, as well as the impacts of policies on the people, is crucial for improving the effectiveness of EU marine environmental policy implementation. Again, it is unlikely that this engagement with social sciences will happen quickly, especially since the entire set up and even recruitment into EU institutions prefers quantitative skills, but there are a number of actions that could be taken.

1. *More funding should be made available for social scientific research through adaptations of existing funding sources (EMFF, MSFD, Horizon, and other DG RTD schemes).*

   While there are numerous existing EU funds supporting research, social scientific research is currently drastically underfunded, especially when compared to natural scientific research (Lahsen and Turnhout, 2021). Horizon and other EU funds (e.g., ERDF – European Regional Development Fund) have already been improving and funding important interdisciplinary marine research and there are increasing number of incentives to fund more social and humanities-based research. However, often, even when funding exists, it is linked to larger natural scientific projects, which in the name of inter/trans/multidisciplinarity combine different methods and approaches, while expecting the social sciences to conform to the logic of natural sciences (Moon et al., 2019, Turnhout et al., 2019). Instead, more funding should be made available explicitly for social sciences (Turnhout et al., 2019), through adaptation of funding requirements and calls under existing funds administered by DG RTD (Directorate General for Research and Innovation) and CINEA (European Climate, Infrastructure and Environment Executive Agency), as well as EMFF (European Maritime and Fisheries Fund), MSFD, Horizon Europe, and other funds. The funding should directly support greater plurality and coproduction of knowledge to engage and integrate different ways of knowing, while also recognising the positionality of knowledge produced (Bennett, 2019, Lahsen and Turnhout, 2021, Turnhout et al., 2019, Turnhout et al., 2020, Wesselink et al., 2013).

2. *An identification of a range of social scientific work to be presented in policy meetings (at least one social science presentation/meeting) would be productive.*

   Beyond just producing and having more social scientific insights, such results also have to have relevant fora in which they can be presented, while overcoming the dismissiveness, which is often present, due to lacking understanding of social science approaches to scientific enquiry and analysis (Bennett, 2016, Bennett, 2019, Moon et al., 2019, Turnhout et al., 2019, Wesselink et al., 2013). A recommendation is therefore to introduce a quota system, in which each policy meeting should feature at least one relevant social scientific presentation (inclusive of quantitative, qualitative, and mixed method social sciences). This would lead towards normalisation of the status of social sciences and encourage productive discussions, without forcing social scientists to conform to the natural scientific norms.

Accompanying blunt impositions, such as the quota system, are the critiques and risks of tokenism (Rixom et al., 2023). While that is a valid argument, arguably the current practice has shown that there is little commitment to social sciences, besides calling for inter/trans/multidisciplinary science, in the policy processes. Therefore, in a situation where social sciences simply have little to no fora in which they can engage with policy processes, a quota system is the simplest and quickest method to begin rectifying such situation. One would hope that such a measure would only need to be temporary, until social sciences gain a more constant presence in policy discussions and their value is more widely recognised.

3. *It is important for social scientific evidence to be recognised as relevant and necessary to support policy implementation and processes.*

In many contexts, analysts report that evidence bases for policy processes are dominated by quantitative and natural science-derived data and this has also been noted as the current *status quo* in numerous interviews and was the predominant theme in the focus groups (Chapters 4 and 6). There is a pressing need to create avenues and require inclusion of social data as well (beyond being limited to economic and demographic data; Bennett, 2016). This would include, but is not limited to, perceptions, attitudes, and values that people attach to different environment and policy interventions (Moon et al., 2019). Likewise, it would be beneficial for social sciences and data to also be incorporated into policy assessment reviews, such as the ones provided by EC or the European Court of Auditors, in line with literature (Chapter 2).

7.2.3 Focus more on policy implementation outcomes rather than the process

Thirdly, the development of the EC publishing Strategies (European Commission, 2020a) and Action Plans (European Commission, 2023) with policy objectives for the short term, which remain non-binding, while reserving the right to introduce direct legislation later on, already indicates a shift away from the procedural approach to policy implementation that has been dominant in the last 20 years and that both literature (Chapter 2) and numerous respondents argued against during interviews and focus group discussions (Chapters 4 and 6). The EU policies and their implementation tend to be heavily procedural, defining steps that Member States have to take and the deadlines for their reporting to the relevant EU institutions. While this constitutes a common structure for all Member States to follow, it places a heavy reporting and administrative burdens on often under-funded and under-staffed environmental public institutions (as they often mentioned in one-on-one interactions during this research), and it has so far not facilitated the delivery of environmental targets (Chapters 1 and 2). The focus on procedures and repeating assessments redirects attention away from implementation of the measures. A clear example of this is the infringement proceedings under the framework directives and national court procedures under Nature Directives (Beunen, 2006, Beunen et al., 2009), which focus on procedural and technocratic aspects (Di Quarto and Zinzani, 2021), but do not meaningfully engage with content. This often results in “box-ticking” exercise with national competent authorities making their best to satisfy reporting requirements, as those are checked by the EC, while there is little meaningful assessment of often very extensive work

included in measures that are produced or their effectiveness on the ground. This is a shortcoming and a reality that was recognised in interviews with both national experts and policy-makers and some of the respondents at EU level.

On the other hand, there are several successful examples of RSCs achieving feats of coordinated implementation among their contracting parties, without having to resort to prescriptive actions and legally binding targets. The examples include OSPAR designating NACES MPA (North Atlantic Current and Evlanov Seabasin), the return of white-tailed eagles across the Baltic, and the high reputation of regional environmental assessments such as HELCOM's Holistic Assessments (HOLAS) and OSPAR's Quality Status Report (QSR). Admittedly, this is the case in the RSCs with a longer history and closer cooperation, but there are lessons to be learnt there.

Hence, the third recommendation is for the EU policy implementation process to focus less on procedure and more on outcomes. Currently, the main EU marine environmental policies, such as MSFD, focus heavily on implementation steps, as defined in the relevant directives, but the EU institutions are largely only checking technical compliance with the policies and not meaningfully with the measures that are being proposed, neither following up on their implementation trajectories.

1. *The EU should define a number of outcomes and interim targets that have to be achieved (hard law) and provide support for Member States to get there.*

    There is extraordinary support for the EU approach among the key actors, with a strong desire for the EU to keep pushing onwards and setting high ambitions (expressed throughout all stages of this research). These ambitions are seen as pushing the Member States in the right direction, even if the goals are not ultimately achieved (European Commission, 2020b). However, at the same time, it is acknowledged that the EU policies introduce high administrative burdens and can be merely box-ticking exercises (Di Quarto and Zinzani, 2021, Giakoumis and Voulvoulis, 2018). With yearly reporting of different elements and the requirements of policies like MSFD and WFD, it is easy for competent authorities to simply focus on reporting and less on actual implementation. Therefore, administrations are often doing just enough to avoid EC pilot and infringement proceedings.

    Instead, a more productive approach would be for the EU to define a number of outcomes and interim targets that have to be achieved (hard law) and provide support for Member States to get there, instead of "forcing" all countries to follow the same approach and assessing Member States' progression against a complex set of (technical) procedures. This does not mean that there should be no reporting or benchmarks in the process to follow compliance, but for the focus to shift from ensuring uniform compliance with technical implementation steps to focussing on progress made to achieve the overall policy targets. In this, the EC would then assume a role similar to the RSCs, which provide a platform for cooperation and support, while there would be a lessening of the constant threat of the "stick" approach. However, there would be a stricter follow up on the defined outcomes, which could include launching infringement proceedings if good environmental status is not achieved, even if all Member States fail to achieve it.

Arguably, that is similar to the approach the EC is currently taking with the way BDS and Action Plan on fisheries and marine environments are being implemented. While their targets are not legally binding (under this recommendation they would have to be), the EC has put in place both support and follow up mechanisms to steer Member States towards achieving the goals, while leaving the details of how exactly to go about achieving the targets to the Member States. The focus would thus move from the process of implementation, assessments, and reporting, to implementation of measures. This approach has already been mentioned in various meetings[13], but most policy and academic literature are still focussed mainly on pursuing a common and coherent approach to implementation, which in a conglomerate as diverse as the EU necessitates prescribed procedures (Cavallo et al., 2018, European Commission, 2020b, Gorjanc et al., 2020, Gorjanc et al., 2022, Murillas-Maza et al., 2020, Raicevich et al., 2017). The combination of prescribed legally-binding targets and reduced administrative burdens on the national competent authorities could thus counter the current often mainly technocratic and unambitious implementation of EU marine environmental policies.

2. *Policy approaches should avoid one-dimensional or single panacea approaches, given that environmental problems are multisided.*

There is a tendency to look for easy solutions that would incrementally fix a small component of the problem ('t Hart et al., 1997), driven by short political cycles. An example of that could be how the EU has passed complex and overarching legislation like the MSFD, but then, when it comes to actual regulations, it focusses on small components of the problems, like regulating single use plastics (as specifically discussed in some of the interviews at both the EU and national levels). However, environmental challenges are themselves complex and multisided, and that is often before one starts engaging with their equally complex social and political aspects (Lahsen and Turnhout, 2021, Turnhout et al., 2019).

A possible solution would be to move away from immediately going for the low hanging fruit and spending more time implementing more complex, but already recognised solutions to issues (i.e., increasing the protection levels of marine ecosystems, while engaging with its societal impacts), with a shift in expectations to focus beyond what any one politician can achieve during their term in office. While the overarching, framework directives in principle allow for that to happen, most current implementation is still siloed within sectoral departments with often adversarial positions taken between them (as evidenced by the debates following the publication of the Action Plan on fisheries and marine environment, which were debated during the Marine Expert Group meeting in detail). This issue persists on all governance levels from sub-national to the EU and still needs to be overcome. Therefore, aligned with the policy recommendations in Section 7.2.1, more (meaningful) engagement is needed between the different sectoral institutions, other bodies, and among the

[13] OSPAR Executive Secretary argued for such an approach during the EC's event Future of Our Seas on 17th December 2021 and similar ideas were often proposed during interviews, Q sorting, and events attended, such as Marine Expert Group meeting (March 2023) and OSPAR Biodiversity Committee meeting (April 2023).

governance levels in order to be able to elaborate more complex problem solutions.

7.2.4 Focus on strict protection, rather than wilderness imaginaries

Finally, and in addition to the three recommendations above, a large part of this study has also focused on the role of wilderness imaginaries in the understanding and implementation of strict protection in the EU (Chapters 2 and 4). Even though there are clear connections in policy texts between definitions of wilderness and strict protection, and even other EU policy texts engage in a number of discourses that have been constitutive of various wilderness definitions in the literature, the majority of key actors find the concept of wilderness unclear, often confusing, and irrelevant to marine environments. While many do personally appreciate environments with wilderness characteristics, those areas are predominantly terrestrial, and participants valued them for their spiritual and cultural values more than biophysical elements present (interviews in Chapter 4). Moreover, this effect is almost entirely gone when key actors discuss these topics in group setting (Chapter 6), where more expert-based discourses predominate and thus make wilderness even less credible.

These results clearly show that, as the final recommendation, wilderness as a concept or an imaginary is not constructive in European marine conservation policy. Strict protection should be prioritised, since there already exists a considerable body of academic literature on the benefits of such protection on marine biodiversity, while the concept also enjoys a considerable support among engaged key policy actors across the EU. Even if those targets are divergently interpreted, the nominal support provides grounds for moving forward. On the other hand, wilderness tends to introduce contention and controversy into debates, which then focus around the semantics, instead of focussing on the issues at hand, such as assuring protection of marine habitats and species, and halting biodiversity loss. The use of wilderness imaginaries among the key policy actors would most likely draw attention away from implementing strict protection and entangle them in discussions of definitions. At the same time, the (unhelpful) imaginaries of pristine nature are still strong and thus invite even more controversy to strict protection than this term itself already engenders. This recommendation might be different if the opinions of the general public were collected, but among the key policy actors the wilderness concept has little salience and a great potential for introducing further confusion. If and how the spread of rewilding movements and creation of “wilder” spaces around Europe will develop into the future will remain interesting to follow.

7.3 Future Research Recommendations

Large part of this study focussed on the role of wilderness imaginaries in the understanding and implementation of strict protection in the EU. Given the current push towards greatly expanding strict protection in the EU (European Commission, 2020a) and since the official policy definitions of both wilderness and strict protection are calling for the same type of protection (European Commission, 2013, European Commission, 2022a), it

seems that there is a good foundation for wilderness to make a comeback in the EU conservation. On land, this process is already underway, with a growing number of wilderness certifications (european-wilderness.network) and even UNESCO World Heritage sites expanding with similar objectives (Jovanović et al., 2019), however, the marine wilderness literature is a lot more constrained. Therefore, it seemed that there could be an entry point also for marine wilderness, particularly, since strict protection is often associated with negative connotations of restrictions and dispossession, while wilderness could provide a more positive spin on expansions of strict protection and make it more popular among the public[14]. Of course, such an approach would have to directly reckon with often problematic history of wilderness, but there are opportunities for learning from the successful rewilding and wilderness initiatives on land. The main barrier currently is that while the definitions of strict protection and wilderness are aligned, none of EU's binding policies require wilderness protection. Therefore, pursuing (marine) wilderness is up to the interpretive discretion of key policy actors, who are implementing the existing EU policy framework.

This thesis demonstrates that the majority of these key actors find the concept of wilderness unclear, often confusing, and irrelevant to marine environments. While many personally appreciate environments with wilderness characteristics, these areas are predominantly terrestrial and participants valued them for their spiritual and cultural values, more than biophysical elements present. Moreover, this effect is almost entirely gone when key actors discuss these topics in group settings, where more expert-based discourses predominate and thus make wilderness even less credible. Therefore, while more research is needed around the differences in perceptions of marine and terrestrial wilderness, as specified below, it seems that wilderness application would face a steep uphill battle among the very people who are in the best position to implement it. Given that the conservation literature is clear that more strict protection is needed to reverse the trends of biodiversity loss, it is currently imperative to make sure that the 10% target of BDS is implemented by 2030. Therefore, it would be more effective to focus on strict protection, which while still controversial enjoys at least nominal support in all identified framings, rather than lose precious time by discussing what marine wilderness could be. Perhaps in a decade, when strict MPAs have, at least locally, provided refugia for marine wildlife, the policy circles can revisit this debate and argue whether these areas can now be considered as wildernesses. For now, among policy actors, wilderness seems to be potentially most effective as a communication strategy, to make strictly protected areas more palatable.

The research presented here also invariably opened up many more research questions and avenues than it initially sought to answer. A greater consideration of disciplines like political ecology and other social sciences is needed, while also involving better positioning of research and practice. Furthermore, more attention should be devoted to the influence of the framing of the facts, to be able to address the challenges in policy implementation in the future (Bennett, 2019, Turnhout et al., 2019).

This study has explored wilderness, nature, and marine strict protection framings among the key policy actors involved in the implementation of the EU marine environmental *acquis*. While among the marine environmental policy actors it seems that wilderness introduces more problems than solutions, the participants did identify different terrestrial wildernesses that they still enjoy. It would be worth exploring in greater detail why pristine

[14] As mentioned in an interview (Harry, EU)

definitions are so much more prevalent in discussions of marine wilderness then they are when talking about wilderness in general. Does the difference only arise from the key actors in the two natural realms, with the marine sector more path dependent and loyal to the HBD feature-based conservation approaches? Are the same patterns also present among policy actors working on terrestrial conservation (i.e., they support wilderness privately, but not when it comes to their professional endeavours)? And, finally, where does the general public stand on this currently? Civil society around 2010 was very successful in eliciting official responses from all three main EU institutions, with wilderness advocates publishing widely on European wildernesses (PAN Parks Foundation, 2009, Wild Europe, 2013), which resulted in European Council's recommendations (Conference On Wilderness And Large Natural Habitat Areas, 2009), European Parliament Resolution on Wilderness in Europe (European Parliament, 2009), and EC's Guidelines on Wilderness Management in Natura 2000 (European Commission, 2013). However, there has not been a study of European attitudes towards the concept and its use in Europe. Could the potential difference between the perceptions of marine wilderness held by the public and those held by key actors fuel a further technocratic chasm between the citizens and institutions of the EU?

The social constructions identified by the Q study identify foundations for reflections among key actors and provide the basis for improving communication and making it more meaningful. However, the results of the Q study do not indicate the prevalence of particular constructions among the population. While merging Q methodological logic with quantitative survey designs is still a contested field, there have been interesting forays in that direction (Mason et al., 2018). The results of the Q study could, and perhaps should, therefore be followed up by a survey to see how prevalent the identified constructions and their discourses actually are on a representative sample of EU policy key actors. Additionally, it would be interesting to see whether the predominant social constructions among the key policy actors in the field of EU marine environmental policies also reflect those of wider EU publics, or other environmental and conservation actors, such as global actors or NGO and civil society organisations. How do these constructions change outside of the EU?

While this study has already tried to uncover the complexities of the social realities within which EU marine environmental policies are being interpreted and implemented, it has focussed on individual positions and perceptions. This has meant that, in the majority of cases, the greater institutional and political complexities and pressures affecting the positions that participants have to take into account have not featured. This is an aspect that should be explored in more detail in the future, as it does have an influence in the real world of policy-making (Syed, 2019, 't Hart et al., 1997). Therefore, research based on investigation of policymaking featuring more ethnography and participant observation throughout different policy meetings from national to international level, and from expert groups to the meeting of higher-level public officials (e.g., Marine Directors under the MSFD Common Implementation Strategy) could reveal the role of institutional and political aspects more clearly. If there would be sufficient funds, a large-scale study of group processes in policy meetings would also be warranted, with the study design replicating participant compositions across EU Regional Seas, as well as comparing single policy meetings (e.g., MSP or MSFD focussed meetings) with more diverse participation groups (such as at conferences).

7.4 Conclusions

The EU marine environmental and conservation policy arena is likely to remain difficult to navigate into the future. The environmental challenges ahead are daunting, given the continued loss of biodiversity, dwindling fish stocks, climate change impacts and acidification pressures, as well as the rush for more resources through seabed mining and extraction. The EU policies are supposed to chart a way through and to overcome these challenges. Although this thesis has often highlighted failures in policy implementation, it has not been its intention to argue against EU policies and their aims. Rather, it is an exploration of and a plea for more social insights into what happens during the crucial stages of policy interpretation and implementation among the key policy actors across different governance levels in the EU. The environmental, biodiversity, and climate crises facing us are daunting, and all the tools available will have to be used to navigate the oncoming environmental challenges.

Looking ahead, both in terms of ecological crises and in policy implementation, it seems at least counter-productive to disregard important knowledges and contributions coming from social sciences. This study has aimed to show that the existence and influence of different understandings and social constructions of policy implementation, previously a largely uncharted territory, is often ignored by key policy actors. The existence of different social constructions and their distinct prioritisations of policy objectives should at the very least provide grounds for reflection on the ways in which social elements do influence key actors in their daily work. Hopefully, this can lead towards improved understanding and better communication among the key actors, which would already be an improvement. Beyond just better understanding and reformulating the implementation of EU policies and the way meetings are run, there should be more (honest and meaningful) engagement with social sciences in the policy processes. Since why would one disregard useful, if different data, about how to proceed towards a more sustainable future?

References

ABSPOEL, L., MAYER, I., KEIJSER, X., WARMELINK, H., FAIRGRIEVE, R., RIPKEN, M., ABRAMIC, A., KANNEN, A., CORMIER, R. & KIDD, S. 2021. Communicating maritime spatial planning: the MSP challenge approach. *Marine Policy,* 132**,** 103486.

ADRIAENSSENS, V., BOERO, F., CASERMAN, H., CAMPOSTRINI, P., DALLANGELO, C., DE LEO, F., FRASCHETTI, S., GORJANC, S., INGROSSO, G., KYRIAKIDOU, C., REIZOPOULOU, S., ROMMENS, W., TSANGARIS, C. & VOLCKAERT, A. 2019. *Deliverable 2.3: Results of the management effectiveness analysis: Achieving coherent networks of marine protected areas: Analysis of the situation in the Mediterranean Sea (COHENET)*. Brussels: ARCADIS.

AGNESI, S., MO, G., ANNUNZIATELLIS, A., CHANIOTIS, P., KORPINEN, S., SNOJ, L., GLOBEVNIK, L., TUNESI, L. & REKER, J. 2017. *Spatial Analysis of Marine Protected Area Networks in Europe's Seas II.* ETC/ICM Technical Report. Magdeburg: European Topic Centre on inland, coastal and marine waters.

AJZEN, I. & FISHBEIN, M. 1980. Theory of Reasoned Action in understanding attitudes and predicting social behaviour. *Journal of Social Psychology*.

ALAGADOR, D., CERDEIRA, J. O., & ARAÚJO, M. B. 2014. Shifting protected areas: scheduling spatial priorities under climate change. *Journal of Applied Ecology,* 51 (3)**,** 703-713.

ALGER, J. & DAUVERGNE, P. 2017. The global norm of large marine protected areas: Explaining variable adoption and implementation. *Environmental Policy and Governance,* 27 (4)**,** 298-310.

ÁLVAREZ-FERNÁNDEZ, I., FREIRE, J., NAYA, I., FERNÁNDEZ, N. & SÁNCHEZ-CARNERO, N. 2020. Failures in the design and implementation of management plans of marine protected areas: an empirical analysis for the North-east Atlantic Ocean. *Ocean & Coastal Management,* 192**,** 105178.

ALVE, E., LEPLAND, A., MAGNUSSON, J. & BACKER-OWE, K. 2009. Monitoring strategies for re-establishment of ecological reference conditions: Possibilities and limitations. *Marine Pollution Bulletin*, 59(8-12), 297-310.

ANDERSEN, J. H., AL-HAMDANI, Z., HARVEY, E. T., KALLENBACH, E., MURRAY, C. & STOCK, A. 2020. Relative impacts of multiple human stressors in estuaries and coastal waters in the North Sea-Baltic Sea transition zone. *Science of the Total Environment,* 704**,** 135316.

ANKAMAH-YEBOAH, I., XUAN, B. B., HYNES, S. & ARMSTRONG, C. W. 2020. Public Perceptions of Deep-Sea Environment: Evidence from Scotland and Norway. Frontiers in Marine Science, 7, 137.

ARAÚJO, M. B., CABEZA, M., THUILLER, W., HANNAH, L. & WILLIAMS, P. H. 2004. Would climate change drive species out of reserves? An assessment of existing reserve-selection methods. *Global Change Biology,* 10 (9)**,** 1618-1626.

ASANTE, M. & DAVIS, A. 1985. Black and White communication: Analyzing work place encounters. *Journal of Black Studies,* 16 (1)**,** 77-93.

ASWANI, S., BASURTO, X., FERSE, S., GLASER, M., CAMPBELL, L., CINNER, J. E., DALTON, T., JENKINS, L. D., MILLER, M. L., POLLNAC, R., VACCARO, I. & CHRISTIE, P. 2018. Marine resource management and conservation in the Anthropocene. *Environmental Conservation,* 45(2) **,** 192-202.

BACCHI, C. 2009. *Analysing policy*, Pearson Higher Education AU.

BAERVELDT, C. & VOESTERMANS, P. 2005. Culture, emotion and the normative structure of reality. *Theory & Psychology,* 15 (4)**,** 449-473.

CALLICOTT, J. B. 1991. The Wilderness Idea Revisited: the Sustainable Development Alternative. *Environmental Professional,* 13 (3), 235-247.

BAKER, R., VAN EXEL, J., MASON, H. & STRICKLIN, M. 2010. Connecting Q & surveys: three methods to explore factor membership in large samples. *Operant Subjectivity,* 34 (1).

BALLESTEROS, M., CHAPELA, R., RAMÍREZ-MONSALVE, P., RAAKJAER, J., HEGLAND, T. J., NIELSEN, K. N., LAKSÁ, U. & DEGNBOL, P. 2018. Do not shoot the messenger: ICES advice for an ecosystem approach to fisheries management in the European Union. *ICES Journal of Marine Science,* 75 (2)**,** 519-530.

BALLEW, M. T., GOLDBERG, M. H., ROSENTHAL, S. A., GUSTAFSON, A. & LEISEROWITZ, A. 2019. Systems thinking as a pathway to global warming beliefs and attitudes through an ecological worldview. *Proceedings of the National Academy of Sciences,* 116 (17)**,** 8214-8219.

BALMFORD, A., GRAVESTOCK, P., HOCKLEY, N., MCCLEAN, C. J. & ROBERTS, C. M. 2004. The worldwide costs of marine protected areas. *Proceedings of the National Academy of Sciences,* 101 (26)**,** 9694-9697.

BARALE, V., DUSART, J., ASSOULINE, M. & NICETA, F. 2018. European Atlas of the Seas:"a picture is worth a thousand words". *Journal of Coastal Conservation,* 22**,** 105-113.

BARR, B. 2001. Getting the job done: protecting marine wilderness. *In:* HARMON, D. (ed.) *Crossing Boundaries in Park Management: Proceedings of the 11th Conference on Research and Resource Management in Parks and on Public Lands.* The George Wright Society, Hancock, MI, 13-18.

BARR, B. W. 2008. Oceans as wilderness: A global overview. *Wilderness, Wildlands and People: A Partnership for the Planet. Fulcrum Publishing, Golden, CO***,** 94-104.

BARR, B. W. & KLISKEY, A. D. 2014a. "I know it when I see it": Identifying ocean wilderness using a photo-based survey approach. *Global Ecology and Conservation,* 2**,** 72-80.

BARR, B. W. & KLISKEY, A. D. 2014b. Perceptions of wilderness and their application to ocean and coastal waters. *Ocean & Coastal Management,* 96**,** 1-11.

BARRETT, S. M. 2004. Implementation studies: time for a revival? Personal reflections on 20 years of implementation studies. *Public Administration,* 82 (2)**,** 249-262.

BASTARDIE, F., DANTO, J., RUFENER, M.-C., VAN DENDEREN, D., EIGAARD, O. R., DINESEN, G. E. & NIELSEN, J. R. 2020. Reducing fisheries impacts on the seafloor: A bio-economic evaluation of policy strategies for improving sustainability in the Baltic Sea. *Fisheries Research,* 230**,** 105681.

BAUER, N. 2005. Attitudes towards wilderness and public demands on wilderness areas. In: *Wild urban woodlands: New perspectives for urban forestry* (pp. 47-66)*.* Berlin: Springer.

BECHKY, B. A. 2003. Sharing meaning across occupational communities: The transformation of understanding on a production floor. *Organization Science,* 14 (3)**,** 312-330.

BEERS, P. J., BOSHUIZEN, H. P. A., KIRSCHNER, P. A. & GIJSELAERS, W. H. 2006. Common Ground, Complex Problems and Decision Making. *Group Decision and Negotiation,* 15**,** 529-556.

BEHRENDT, T., RIPKEN, M. & WARMELINK, H. 2021. Maritime Spatial Planning and Integrated Coastal Zone Management in Higher Education: Utilizing the MSP Challenge Serious Game. *INFORMATIK 2021*.

BEKOFF, M. A. 2014. *Rewilding our hearts : building pathways of compassion and coexistence* Novato, California: New World Library.

BELL, S. L., PHOENIX, C., LOVELL, R. & WHEELER, B. W. 2015. Using GPS and geo-narratives: a methodological approach for understanding and situating everyday green space encounters. *Area,* 47 (1)**,** 88-96.

BELL, S. L., WESTLEY, M., LOVELL, R. & WHEELER, B. W. 2018. Everyday green space and experienced well-being: the significance of wildlife encounters. *Landscape Research,* 43 (1)**,** 8-19.

BENNETT, J. 2018. Whose place is this anyway? An actor-network theory exploration of a conservation conflict. *Space and Culture,* 21 (2)**,** 159-169.

BENNETT, N. J. 2016. Using perceptions as evidence to improve conservation and environmental management. *Conservation Biology,* 30 (3)**,** 582-592.

BENNETT, N. J. 2019. In political seas: engaging with political ecology in the ocean and coastal environment. *Coastal Management,* 47 (1)**,** 67-87.

BENNETT, N. J., ALAVA, J. J., FERGUSON, C .E., BLYTHE, J., MORGERA, E., BOYD, D. & CÔTÉ, I. M. 2023. Environmental (in)justice in the Anthropocene ocean. *Marine Policy.* 147, 105383.

BENNETT, N. J. & DEARDEN, P. 2014. Why local people do not support conservation: Community perceptions of marine protected area livelihood impacts, governance and management in Thailand. *Marine Policy*, 44, 107-116.

BENYON, R., BARHAM, P., EDWARDS, J., KAISER, M. J., OWENS, S., DE ROZARIEUX, N. & ROBERTS, C. 2020. Benyon Review into Highly Protected Marine Area - final report.

BERGER, P. L. 1967. *The social construction of reality : a treatise in the sociology of knowledge*. Garden City, N.Y.: Doubleday.

BETTENHAUSEN, K. L. 1991. Five years of groups research: What we have learned and what needs to be addressed. *Journal of Management,* 17 (2)**,** 345-381.

BEUKERS-STEWART, B. D., VAUSE, B. J., MOSLEY, M. W. J., ROSSETTI, H. L., & BRAND, A. R. 2005 Benefits of closed area protection for a population of scallops. *Marine Ecology Progress Series*, 298, 89-204

BEUNEN, R. 2006. European nature conservation legislation and spatial planning: For better or for worse? *Journal of Environmental Planning and Management,* 49 (4)**,** 605-619.

BEUNEN, R., VAN DER KNAAP, W. G. & BIESBROEK, G. R. 2009. Implementation and integration of EU environmental directives. Experiences from The Netherlands. *Environmental Policy and Governance,* 19 (1)**,** 57-69.

BIGAGLI, E. 2015. The EU legal framework for the management of marine complex social–ecological systems. *Marine Policy,* 54**,** 44-51.

BJERKE, T., ØSTDAHL, T., THRANE, C. & STRUMSE, E. 2006. Vegetation density of urban parks and perceived appropriateness for recreation. *Urban Forestry & Urban Greening,* 5 (1)**,** 35-44.

BLYTHE, J. L., GILL, D. A., CLAUDET, J., BENNETT, N. J., GURNEY, G. G., BAGGIO, J. A., BAN, N. C., BERNARD, M. L., BRUN, V., DARLING, E. S., DI FRANCO, A., EPSTEIN, G., FRANKS, P., HORAN, R., JUPITER, S. D., LAU, J., LAZZARI, N., MAHAJAN, S. L., MANGUBHAI, S., NAGGEA, J., TURNER, R. A. & ZAFRA-CALVO, N. 2023. Blue justice: A review of emerging scholarship and resistance movements. *Cambridge Prisms: Coastal Futures*, 1, e15, 1-12.

BOERO, F., DE LEO, F., FRASCHETTI, S. & INGROSSO, G. 2019. The Cells of Ecosystem Functioning: Towards a holistic vision of marine space. In: *Advances in Marine Biology* (Vol. 82, pp. 129-153). Academic Press.

BOHNSACK, J. A., KUMPF, H., HOBSON, E., HUNTSMAN, G., ABLE, K. W. & RALSTON, S. 1989. Report on the Concept of Marine Wilderness. *Fisheries,* 14**,** 22-24.

BOON, P. J., CLARKE, S. A. & COPP, G. H. 2020. Alien species and the EU Water Framework Directive: a comparative assessment of European approaches. *Biological Invasions,* 22 (4)**,** 1497-1512.

BOERDER, K., SCHILLER, L. & WORM, B. 2019. Not all who wander are lost: Improving spatial protection fro large pelagic fishes. *Marine Policy,* 105, 80-90.

BÖRGER, T., BROSZEIT, S., AHTIAINEN, H., ATKINS, J. P., BURDON, D., LUISETTI, T., MURILLAS, A., OINONEN, S., PALTRIGUERA, L., ROBERTS, L., UYARRA, M. C. & AUSTEN, M. C. 2016. Assessing costs and benefits of measures to achieve good environmental status in European regional seas: Challenges, opportunities, and lessons learnt. *Frontiers in Marine Science,* 3**,** 192.

BOUWMA, I., LIEFFERINK, D., VAN APELDOORN, R. & ARTS, B. 2016. Following old paths or shaping new ones in Natura 2000 implementation? Mapping path dependency in instrument choice. *Journal of Environmental Policy & Planning,* 18 (2)**,** 214-233.

BOYES, S. J. & ELLIOTT, M. 2014. Marine legislation–the ultimate 'horrendogram': international law, European directives & national implementation. *Marine Pollution Bulletin,* 86 (1-2)**,** 39-47.

BOYES, S. J. & ELLIOTT, M. 2016. Brexit: the marine governance horrendogram just got more horrendous. *Marine Pollution Bulletin,* 111 (1-2)**,** 41-44.

BOYES, S. J., ELLIOTT, M., MURILLAS-MAZA, A., PAPADOPOULOU, N. & UYARRA, M. C. 2016. Is existing legislation fit-for-purpose to achieve Good Environmental Status in European seas? *Marine Pollution Bulletin,* 111 (1-2)**,** 18-32.

BRADY, H. E. & SNIDERMAN, P. M. 1985. Attitude attribution: A group basis for political reasoning. *American Political Science Review,* 79 (4)**,** 1061-1078.

BRAILOVSKAYA, T. 1998. Obstacles to Protecting Marine Biodiversity Through Marine Wilderness Preservation: Examples from the New England Region. *Conservation Biology,* 12 (6)**,** 1236-1240.

BRAUNER, E., BOOS, M. & KOLBE, M. 2018. *The Cambridge handbook of group interaction analysis*. Cambridge: Cambridge University Press.

BRAX, J. 2002. Zoning the oceans: using the National marine Sanctuaries Act and the Antiquities Act to establish marine protection areas and marine reserves in America. *Ecology LQ,* 29, 71.

BREEN, P., ROBINSON, L., ROGERS, S., KNIGHTS, A., PIET, G., CHURILOVA, T., MARGONSKI, P., PAPADOPOULOU, N., AKOGLU, E. & ERIKSSON, A. 2012. An environmental assessment of risk in achieving good environmental status to support regional prioritisation of management in Europe. *Marine Policy,* 36 (5)**,** 1033-1043.

BREWER, M. B. & KRAMER, R. M. 1986. Choice behavior in social dilemmas: Effects of social identity, group size, and decision framing. *Journal of Personality and Social Psychology,* 50 (3)**,** 543.

BROMME, R. 2000. Beyond one's own perspective: The psychology of cognitive interdisciplinarity. *Practicing Interdisciplinarity***,** 115-133.

BROTO, V. C., TABBUSH, P., BURNINGHAM, K., ELGHALI, L. & EDWARDS, D. 2007. Coal ash and risk: Four social interpretations of a pollution landscape. *Landscape Research,* 32 (4)**,** 481-497.

BROWN, S. R. 1980. *Political subjectivity: Applications of Q methodology in political science*, Yale University Press.

BROWNE, J., COFFEY, B., COOK, K., MEIKLEJOHN, S. & PALERMO, C. 2019. A guide to policy analysis as a research method. *Health Promotion International,* 34 (5)**,** 1032-1044.

BRUNO, J. F., SAUMWEBER, W., CROWDER, L. B., PENDLETON, L., ROADY, S. E., ROULEAU, T. & SAKASHITA, M. 2018. Safe harbors: the many benefits of marine monuments and sanctuaries. *Frontiers in Marine Science,* 5**,** 189.

BRYSON, P. 2003. 'Whatever you say... say nothing'. Youth for youth, reflections on a 2-year youth participation project. *Child Care in Practice,* 9 (3)**,** 217-227.

BUCHANAN, G. M., BUTCHART, S. H., CHANDLER, G. & GREGORY, R. D. 2020. Assessment of national-level progress towards elements of the Aichi Biodiversity Targets. *Ecological Indicators,* 116**,** 106497.

BUNEA, A. 2017. Designing stakeholder consultations: Reinforcing or alleviating bias in the European Union system of governance? *European Journal of Political Research,* 56 (1)**,** 46-69.

BURNETT, G., JOULIÉ-KÜTTNER, R. & KANG'ETHE, K. W. 1996. A willing benefactor: An essay on wilderness in Nilotic and Bantu culture. *Society & Natural Resources,* 9 (2), 201-212

BÜSCHER, B. & FLETCHER, R. 2019. Towards convivial conservation. *Conservation & Society,* 17 (3)**,** 283-296.

BÜSCHER, B., FLETCHER, R., BROCKINGTON, D., SANDBROOK, C., ADAMS, W. M., CAMPBELL, L., CORSON, C., DRESSLER, W., DUFFY, R., GRAY, N., HOLMES, G., KELLY, A., LUNSTRUM, E., RAMUTSINDELA, M. & SHANKER, K. 2017. Half-Earth or Whole Earth? Radical ideas for conservation, and their implications. *Oryx,* 51 (3)**,** 407-410.

BYRNE, D. E. 1971. *The attraction paradigm*, Academic press.

CALLICOTT, J. B. 1996. Should wilderness areas become biodiversity reserves? In: *The George Wright Forum* (Vol. 13, No. 1, pp.). George Wright Society.

CALLICOTT, J. B. 1998. That Good Old-Time Wilderness Religion (1991). In: CALLICOTT, J. B. & NELSON, M. P. (eds.) *The great new wilderness debate***,** 387. University of Georgia Press.

CALLICOTT, J. B. 2003. The Implication of the 'Shifting Paradigm'in Ecology for Paradigm Shifts in the Philosophy of Conservation. *Reconstructing conservation: Finding common ground***,** 239-262.

CALLICOTT, J. B. & NELSON, M. P. 1998. The great new wilderness debate, University of Georgia Press.

CARILLI, J. E., NORRIS, R. D., BLACK, B. A., WALSH, S. M. & MCFIELD, M. 2009. Local stressors reduce coral resilience to bleaching. *PLoS One,* 4 (7)**,** e6324.

CARRUS, G., SCOPELLITI, M., LAFORTEZZA, R., COLANGELO, G., FERRINI, F., SALBITANO, F., AGRIMI, M., PORTOGHESI, L., SEMENZATO, P. & SANESI, G. 2015. Go greener, feel better? The positive effects of biodiversity on the well-being of individuals visiting urban and peri-urban green areas. *Landscape and Urban Planning,* 134**,** 221-228.

CARTWRIGHT, D. 1968. *Group dynamics : research and theory*. London: Tavistock Publications.

CASADO-AMEZÚA, P., ARAÚJO, R., BÁRBARA, I., BERMEJO, R., BORJA, Á., DÍEZ, I., FERNÁNDEZ, C., GOROSTIAGA, J., GUINDA, X., HERNÁNDEZ, I., JUANES, J. A., PEÑA, V., PETEIRO, C., PUENTE, A., QUINTANA, I., TUYA, F., VIEJO, R. M. ALTAMIRANO, M., GALLARDO, T. & MARTÍNEZ, B. 2019. Distributional shifts of

canopy-forming seaweeds from the Atlantic coast of Southern Europe. *Biodiversity and Conservation,* 28**,** 1151-1172.

CASTORE, C. H. & MURNIGHAN, J. K. 1978. Determinants of support for group decisions. *Organizational Behavior and Human Performance,* 22 (1)**,** 75-92.

CAVALLO, M., ELLIOTT, M., QUINTINO, V. & TOUZA, J. 2018. Can national management measures achieve good status across international boundaries?-A case study of the Bay of Biscay and Iberian coast sub-region. *Ocean & Coastal Management,* 160**,** 93-102.

CHARMAZ, K. 2014. *Constructing grounded theory*, Sage.

CHIRKOV, V. 2020. An introduction to the theory of sociocultural models. *Asian Journal of Social Psychology,* 23 (2)**,** 143-162.

CHOI, B. C., PANG, T., LIN, V., PUSKA, P., SHERMAN, G., GODDARD, M., ACKLAND, M. J., SAINSBURY, P., STACHENKO, S., MORRISON, H. & CLOTTEY, C. 2005. Can scientists and policy makers work together? *Journal of Epidemiology & Community Health,* 59 (8)**,** 632-7.

CHONG, D. & DRUCKMAN, J. N. 2007. Framing theory. *Annual Review of Political Science,* 10**,** 103-126.

CHRISTIE, P. 2004. Marine protected areas as biological successes and social failures in Southeast Asia. *American Fisheries Society Symposium,* 42, 155-164.

CLARK, M. A., ANAND, V. & ROBERSON, L. 2000. Resolving meaning: Interpretation in diverse decision-making groups. *Group Dynamics: Theory, Research, and Practice,* 4 (3)**,** 211-221.

CLAUDET, J., BOPP, L., CHEUNG, W. W. L., DEVILLERS, R., ESCOBAR-BRIONES, E., HAUGAN, P., HEYMANS, J. J., MASSON-DELMOTTE, V., MATZ-LÜCK, N., MILOSLAVICH, P., MULLINEAUX, L., VISBECK, M., WATSON, R., ZIVIAN, A. M., ANSORGE, I., ARAUJO, M., ARICÒ, S., BAILLY, D., BARBIÈRE, J., BARNERIAS, C., BOWLER, C., BRUN, V., CAZENAVE, A., DIVER, C., EUZEN, A., GAYE, A. T., HILMI, N., MÉNARD, F., MOULIN, C., MUÑOZ, N. P., PARMENTIER, R., PEBAYLE, A., PÖRTNER, H.-O., OSVALDINA, S., RICARD, P., SANTOS, R. S., SICRE, M.-A., THIÉBAULT, S., THIELE, T., TROUBLÉ, R., TURRA, A., UKU, J. & GAILL, F. 2020. A Roadmap for Using the UN Decade of Ocean Science for Sustainable Development in Support of Science, Policy, and Action. *One Earth,* 2 (1)**,** 34-42.

CLAUDET, J., OSENBERG, C. W., DOMENICI, P., BADALAMENTI, F., MILAZZO, M., FALCON, J. M., BERTOCCI, I., BENEDETTI-CECCHI, L., GARCIA-BORBOROGLU, P., GONI, R., BORG, J. A., FORCADA, A., DE LUCIA, G. A., PEREZ-RUZAFA, A., AFONSO, P., BRITO, A., GUALA, I., LE DIREACH, L., SANCHEZ-MECA, J., SOMERFIELD, P. J. & PLANES, S. 2010. Marine reserves: Fish life history and ecological traits matter. *Ecological Applications,* 20 (3)**,** 830-839.

CLAUDET, J., PELLETIER, D., JOUVENEL, J. Y., BACHET, F. & GALZIN, R. 2006. Assessing the effects of marine protected area (MPA) on a reef fish assemblage in a northwestern Mediterranean marine reserve: Identifying community-based indicators. *Biological Conservation,* 130 (3)**,** 349-369.

CLAYTON, S., COLLÉONY, A., CONVERSY, P., MACLOUF, E., MARTIN, L., TORRES, A. C., TRUONG, M. X. & PRÉVOT, A. C. 2017. Transformation of experience: Toward a new relationship with nature. *Conservation Letters,* 10 (5)**,** 645-651.

COLE, D. N. 2005. Symbolic values: The overlooked values that make wilderness unique. *International Journal of Wilderness,* 11 (2)**,** 23-28.

CONFERENCE ON WILDERNESS AND LARGE NATURAL HABITAT AREAS 2009. POSELSTVI FROM PRAGUE: An Agenda for Europe's Wild Areas. *Conference On Wilderness And Large Natural Habitat Areas.* Prague.

COP, J. & FRKOVIC, A. 1998. The re-introduction of the lynx in Slovenia and its present status in Slovenia and Croatia. *Hystrix,* 10 (1)**,** 65-76.

CORNER, P. D., KINICKI, A. J. & KEATS, B. W. 1994. Integrating organizational and individual information processing perspectives on choice. *Organization Science,* 5 (3)**,** 294-308.

COTE, I., MOSQUEIRA, I. & REYNOLDS, J. D. 2001. Effects of marine reserve characteristics on the protection of fish populations: a meta-analysis. *Journal of Fish Biology,* 59**,** 178-189.

COURTNEY, J. F. 2001. Decision making and knowledge management in inquiring organizations: toward a new decision-making paradigm for DSS. *Decision Support Systems,* 31(1)**,** 17-38.

COX, T. 1994. *Cultural diversity in organizations: Theory, research and practice*, Berrett-Koehler Publishers.

CRACKNELL, D., WHITE, M. P., PAHL, S. & DEPLEDGE, M. H. 2017. A preliminary investigation into the restorative potential of public aquaria exhibits: a UK student-based study. *Landscape Research,* 42 (1)**,** 18-32.

CREED, W. D., LANGSTRAAT, J. A. & SCULLY, M. A. 2002. A picture of the frame: Frame analysis as technique and as politics. *Organizational Research Methods,* 5 (1)**,** 34-55.

CRESSEY, D. 2016. Talks aim to tame marine Wild West: nations debate how to protect biodiversity in the high seas. *Nature,* 532 (7597)**,** 18-20.

CRESWELL, J. W. 2007. *Qualitative inquiry & research design : choosing among five approaches*. Thousand Oaks: Sage Publications.

CRIST, E. 2004. Against the social construction of nature and wilderness. *Environmental Ethics,* 26 (1)**,** 5-24.

CRONON, W. 1992. *Uncommon Ground: Rethinking the Human Place in Nature and Nature*. Chicago: WW Norton & Company.

CRONON, W. 1996. The trouble with wilderness: or, getting back to the wrong nature. *Environmental History,* 1 (1)**,** 7-28.

CRONON, W. 2003. The riddle of the Apostle Islands. *Orion,* 22 (3)**,** 36-42.

CURTIN, S. 2009. Wildlife tourism: The intangible, psychological benefits of human–wildlife encounters. *Current Issues in Tourism,* 12 (5-6)**,** 451-474.

CZECH, B., KRAUSMAN, P. R. & BORKHATARIA, R. 1998. Social construction, political power, and the allocation of benefits to endangered species. *Conservation Biology,* 12 (5)**,** 1103-1112.

D'AGATA, S., MOUILLOT, D., WANTIEZ, L., FRIEDLANDER, A. M., KULBICKI, M. & VIGLIOLA, L. 2016. Marine reserves lag behind wilderness in the conservation of key functional roles. *Nature Communications,* 7 (1), 12000.

DAFT, R. L. & WEICK, K. E. 1984. Toward a model of organizations as interpretation systems. *Academy of Management Review,* 9 (2)**,** 284-295.

DANCEY, C. P. & REIDY, J. 2011. *Statistics without maths for psychology*. Harlow, England. New York: Prentice Hall/Pearson.

DAVIS, G. E. 1999 Why don't parks and sanctuaries protect marine fish too? In: *The George Wright Forum* (Vol. 16, No. 2, pp. 88-96). George Wright Society.

DAVIS, J. 2020. Towards a half wild Earth. *The Ecological Citizen,* 3**,** 39-45.

DAY, J., HOCKINGS, M. & JONES, G. 2002. Measuring effectiveness in Marine Protected Areas - principles and practice. In: *World Congress on Aquatic Protected Areas: what*

works best and how do we know? (Vol. 42, pp. 1-16) Cairns Convention Centre, Cairns, Queensland: Great Barrier Reef Marine Park Authority.

DEARY, H. & WARREN, C. R. 2017. Divergent visions of wildness and naturalness in a storied landscape: Practices and discourses of rewilding in Scotland's wild places. *Journal of Rural Studies,* 54**,** 211-222.

DEARY, H. & WARREN, C. R. 2018. Trajectories of rewilding: A taxonomy of wildland management. *Journal of Environmental Planning and Management,* 62 (3)**,** 466-491

DELEUZE, G. A. & GUATTARI, F. 1994. *What is philosophy?* London: Verso.

DEMERITT, D. 2002. What is the 'social construction of nature'? A typology and sympathetic critique. *Progress in Human Geography,* 26 (6)**,** 767-790.

DEMPSEY, B. 2021. Understanding conflicting views in conservation: An analysis of England. *Land Use Policy,* 104**,** 105362.

DENEVAN, W. M. 1992. The pristine myth: the landscape of the Americas in 1492. *Annals of the Association of American Geographers,* 82 (3)**,** 369-385.

DENEVAN, W. M. 2011. The "pristine myth" revisited. *Geographical Review,* 101 (4)**,** 576-591.

DERRIDA, J. 1997. Deconstruction in a nutshell : a conversation with Jacques Derrida (ed. CAPUTO, J. D.). New York: Fordham University Press.

DI QUARTO, F. & ZINZANI, A. 2021. European environmental governance and the post-ecology perspective: a critical analysis of the Water Framework Directive. *GeoJournal***,** 87 (4), 2849-2861.

DILLENBOURG, P., BAKER, M., BLAYE, A. & O'MALLEY, C. 1996. The evolution of research on collaborative learning, in eds P Reimann and H Spada. In: REIMANN, P. & SPADA, H. (eds.) *Learning in Humans and Machines. Towards an interdisciplinary learning science* (pp. 189-211). Oxford: Elsevier Science.

DI LORENZO, M., CLAUDET, J. & GUIDETTI, P. 2016. Spillover from marine protected areas to adjacent fisheries has an ecological and a fishery component. J*ournal of Nature Conservation,* 32, 62-66.

DJUPE, P. A. & GWIASDA, G. W. 2010. Evangelizing the Environment: Decision Process Effects in Political Persuasion. *Journal for the Scientific Study of Religion,* 49 (1)**,** 73-86.

DOBBIN, F., SIMMONS, B. & GARRETT, G. 2007. The global diffusion of public policies: Social construction, coercion, competition, or learning? *Annual Review of Sociology,* 33**,** 449-472.

DOM, A., BELIN, A. & FOURNIER, N. 2016. MSFD Programmes of Measures: An NGO Evaluation. Oceana. Seas at Risk.

DOUGHERTY, D. 1992. Interpretive barriers to successful product innovation in large firms. *Organization science,* 3 (2)**,** 179-202.

DOUGLAS, M. & WILDAVSKY, A. 1983. *Risk and culture: An essay on the selection of technological and environmental dangers*, University of California Press.

DRYZEK, J. S. 2005. *The politics of the earth : environmental discourses,* Oxford: Oxford University Press.

DUARTE, C. M., AGUSTI, S., BARBIER, E., BRITTEN, G. L., CASTILLA, J. C., GATTUSO, J. P., FULWEILER, R. W., HUGHES, T. P., KNOWLTON, N., LOVELOCK, C. E., LOTZE, H. K., PREDRAGOVIC, M., POLOCZANSKA, E., ROBERTS, C. & WORM, B. 2020. Rebuilding marine life. *Nature,* 580 (7801)**,** 39-51.

DUDLEY, N., SHADIE, P. & STOLTON, S. 2013. Guidelines for Applying Protected Area Management Categories. *Best Practice Protected Area Guidelines Series.* Gland: IUCN.

DUDLEY, N., SHADIE, P. & STOLTON, S. 2013. Guidelines for Applying Protected Area Management Categories. *Best Practice Protected Area Guidelines Series.* Gland: IUCN.

DUNN, M. E., MILLS, M. & VERÍSSIMO, D. 2020. Evaluating the impact of the documentary series Blue Planet II on viewers' plastic consumption behaviors. *Conservation Science and Practice,* 2 (10)**,** e280.

ECONOMOU, A., KOTSEV, I., PEEV, P. & KATHIOJOTES, N. 2020. Coastal and marine spatial planning in Europe. Case studies for Greece and Bulgaria. *Regional Studies in Marine Science,* 38**,** 101353.

EDEN, C. 1992. A framework for thinking about group decision support systems (GDSS). *Group Decision and Negotiation,* 1**,** 199-218.

EDEN, C., JONES, S., SIMS, D. & SMITHIN, T. 1981. The intersubjectivity of issues and issues of intersubjectivity. *Journal of Management Studies,* 18 (1)**,** 37-47.

EDGAR, G. J., LAST, P. R., BARRETT, N. S., GOWLETT-HOLMES, K., DRIESSEN, M. & MOONEY, P. 2010. Conservation of natural wilderness values in the Port Davey marine and estuarine protected area, south-western Tasmania. *Aquatic Conservation: Marine and Freshwater Ecosystems,* 20 (3)**,** 297-311.

EDGAR, G. J., STUART-SMITH, R. D., WILLIS, T. J., KININMONTH, S., BAKER, S. C., BANKS, S., BARRETT, N. S., BECERRO, M. A., BERNARD, A. T., BERKHOUT, J., BUXTON, C. D., CAMPBELL, S. J., COOPER, A. T., DAVEY, M., EDGAR, S. C., FORSTERRA, G., GALVAN, D. E., IRIGOYEN, A. J., KUSHNER, D. J., MOURA, R., PARNELL, P. E., SHEARS, N. T., SOLER, G., STRAIN, E. M. & THOMSON, R. J. 2014. Global conservation outcomes depend on marine protected areas with five key features. *Nature,* 506 (7487)**,** 216-20.

EDWARDS, D. P., GILROY, J. J., WOODCOCK, P., EDWARDS, F. A., LARSEN, T. H., ANDREWS, D. J., DERHÉ, M. A., DOCHERTY, T. D., HSU, W. W., MITCHELL, S. L., OTA, T., WILLIAMS, L. J., LAURANCE, W. F., HAMER, K. C. & WILCOVE, D. S. 2014. Land-sharing versus land-sparing logging: reconciling timber extraction with biodiversity conservation. *Global Change Biology,* 20 (1)**,** 183-191.

EISENHAUER, B. W., KRANNICH, R. S. & BLAHNA, D. J. 2000. Attachments to special places on public lands: An analysis of activities, reason for attachments, and community connections. *Society & Natural Resources,* 13 (5)**,** 421-441.

ELLIOTT, M., BOYES, S. J., BARNARD, S. & BORJA, Á. 2018. Using best expert judgement to harmonise marine environmental status assessment and maritime spatial planning. *Marine Pollution Bulletin,* 133**,** 367-377.

ELLIOTT, M., BOYES, S. J., BARNARD, S. & BORJA, Á. 2018. Using best expert judgement to harmonise marine environmental status assessment and maritime spatial planning. *Marine Pollution Bulletin,* 133**,** 367-377.

ELLIS, E. C. 2019. To conserve nature in the Anthropocene, half earth is not nearly enough. *One Earth,* 1 (2)**,** 163-167.

EMERSON, R. W. 2019. *Nature and other essays*, Gibbs Smith.

EMSLIE, M. J., LOGAN, M., WILLIAMSON, D. H., AYLING, A. M., MACNEIL, M. A., CECCARELLI, D., CHEAL, A. J., EVANS, R. D., JOHNS, K. A., JONKER, M. J., MILLER, I. R., OSBORNE, K., RUSS, G. R. & SWEATMAN, H. P. A. 2015. Expectations and Outcomes of Reserve Network Performance following Re-zoning of the Great Barrier Reef Marine Park. *Current Biology,* 25 (8), 983-992.

ENGEL, M. T., MARCHINI, S., PONT, A. C., MACHADO, R. & OLIVEIRA, L. R. D. 2014. Perceptions and attitudes of stakeholders towards the wildlife refuge of Ilha dos Lobos, a marine protected area in Brazil. *Marine Policy*, 45, 45-51.

EUROPEAN COMMISSION 2013. Guidelines on Wilderness in Natura 2000: Management of terrestrial wilderness and wild areas within the Natura 2000 Network. Luxembourg: Publications Office.
EUROPEAN COMMISSION 2017. Report on the Blue Growth Strategy: Towards more sustainable growth and jobs in the blue economy. *In:* COMMISSION, E. (ed.). Brussels: European Commission.
EUROPEAN COMMISSION 2019. Natura 2000 and Forests Part I-II. *In:* COMMISSION, E. (ed.). Brussels: European Commission.
EUROPEAN COMMISSION 2020a. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - EU Biodiversity Strategy for 2030: Bringing nature back into our lives. Brussels: European Commission.
EUROPEAN COMMISSION 2020b. Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC). Brussels: European Commission.
EUROPEAN COMMISSION 2022a. Commission Staff Working Document: Criteria and guidance for protected areas designations. *SWD(2022) 23 final.* Brussels: European Commission.
EUROPEAN COMMISSION 2022b. Proposal for a Regulation of the European Parliament and of the Council on nature restoration. *COM(2022) 304 final.* Brussels: European Commission.
EUROPEAN COMMISSION 2023. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries. Brussels: European Commission.
EUROPEAN COMMISSION. no date. *Natura 2000* [Online]. Available: https://ec.europa.eu/environment/nature/natura2000/index_en.htm [Accessed 25.1.2023 2023].
EUROPEAN COURT OF AUDITORS 2020. *Marine environment: EU protection is wide but not deep*. Luxembourg: European Court of Auditors.
EUROPEAN PARLIAMENT 2009. Wilderness in Europe: European Parliament resolution of 3 February 2009 on WIlderness in Europe. Strassbourg: European Parliament.
EVANS, I., SUMMERS, R., O'TOOLE, L., ORR-EWING, D. C., EVANS, R., SNELL, N. & SMITH, J. 1999. Evaluating the success of translocating Red Kites *Milvus milvus* to the UK. *Bird Study,* 46 (2)**,** 129-144.
EVANS, L. S. 2009. Understanding divergent perspectives in marine governance in Kenya. *Marine Policy,* 33 (5)**,** 784-793.
FELSTEN, G. 2009. Where to take a study break on the college campus: An attention restoration theory perspective. *Journal of Environmental Psychology,* 29 (1)**,** 160-167.
FENBERG, P. B., CASELLE, J. E., CLAUDET, J., CLEMENCE, M., GAINES, S. D., ANTONIO GARCÍA-CHARTON, J., GONÇALVES, E. J., GRORUD-COLVERT, K., GUIDETTI, P., JENKINS, S. R., JONES, P. J. S., LESTER, S. E., MCALLEN, R., MOLAND, E., PLANES, S. & SØRENSEN, T. K. 2012. The science of European marine reserves: Status, efficacy, and future needs. *Marine Policy,* 36 (5)**,** 1012-1021.
FESTINGER, L. 1957. *A theory of cognitive dissonance*, Stanford University Press.
FINE, G. A. 1979. Small groups and culture creation: The idioculture of little league baseball teams. *American Sociological Review***,** 733-745.

FISCHER, F. 2003. *Reframing public policy: Discursive politics and deliberative practices*, Oxford University Press.
FISCHER, J., ABSON, D. J., BUTSIC, V., CHAPPELL, M. J., EKROOS, J., HANSPACH, J., KUEMMERLE, T., SMITH, H. G. & VON WEHRDEN, H. 2014. Land sparing versus land sharing: moving forward. *Conservation Letters,* 7 (3)**,** 149-157.
FISHER, M., CARVER, S., KUN, Z., MCMORRAN, R., ARRELL, K. & MITCHELL, G. 2010. Review of status and conservation of wild land in Europe. Wildland Research Institute. 148, 131.
FLANNERY, W., HEALY, N. & LUNA, M. 2018. Exclusion and non-participation in marine spatial planning. *Marine Policy,* 88**,** 32-40.
FOLKE, C., CARPENTER, S., WALKER, B., SCHEFFER, M., ELMQVIST, T., GUNDERSON, L. & HOLLING, C. S. 2004. Regime Shifts, Resilience, and Biodiversity in Ecosystem Management. *Annual Review of Ecology, Evolution, and Systematics,* 35**,** 557-581.
FOREMAN, D. 1995. From scenery to nature. *Wild Earth,* 5 (4)**,** 9-16.
FOREMAN, D. 1998. Wilderness Areas for Real (1998). In: CALLICOTT, J. B. & NELSON, M. P. (eds.) *The great new wilderness debate***,** 395. University of Georgia Press.
FOUCAULT, M. 1979. *Power, truth, strategy*. Sydney: Feral Publications.
FOUCAULT, M. 2002. *Power*. London: Penguin.
FRASCHETTI, S., GUARNIERI, G., BEVILACQUA, S., TERLIZZI, A. & BOERO, F. 2013. Protection enhances community and habitat stability: evidence from a mediterranean marine protected area. *PLoS One,* 8 (12)**,** e81838.
FRIEDKIN, N. E., PROSKURNIKOV, A. V., TEMPO, R. & PARSEGOV, S. E. 2016. Network science on belief system dynamics under logic constraints. *Science,* 354 (6310)**,** 321-326.
FRIEDKIN, N. E. A. 2011. *Social influence network theory : a sociological examination of small group dynamics*. Cambridge: Cambridge University Press.
FRISCH, A. J. & RIZZARI, J. R. 2019. Parks for sharks: human exclusion areas outperform no-take marine reserves. *Frontiers in Ecology and the Environment,* 17 (3)**,** 145-150.
FULTON, D. C., MANFREDO, M. J. & LIPSCOMB, J. 1996. Wildlife value orientations: A conceptual and measurement approach. *Human Dimensions of Wildlife,* 1 (2)**,** 24-47.
FYHRI, A., JACOBSEN, J. K. S. & TØMMERVIK, H. 2009. Tourists' landscape perceptions and preferences in a Scandinavian coastal region. *Landscape and Urban Planning,* 91 (4)**,** 202-211.
GAME, E. T., GRANTHAM, H. S., HOBDAY, A. J., PRESSEY, R. L., LOMBARD, A. T., BECKLEY, L. E., GJERDE, K., BUSTAMANTE, R., POSSINGHAM, H. P. & RICHARDSON, A. J. 2009. Pelagic protected areas: the missing dimension in ocean conservation. *Trends in Ecology & Evolution,* 24 (7)**,** 360-369.
GAME, E. T., MCDONALD-MADDEN, E., PUOTINEN, M. L. & POSSINGHAM, H. P. 2008. Should we protect the strong or the weak? Risk, resilience, and the selection of marine protected areas. *Conservation Biolpgy,* 22 (6)**,** 1619-1629.
GAMSON, W. A. 2013. Constructing social protest. *Social movements and culture,* 4, 85-106.
GASCON, M., ZIJLEMA, W., VERT, C., WHITE, M. P. & NIEUWENHUIJSEN, M. J. 2017. Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies. *International Journal of Hygiene and Environmental Health.* 220 (8), 1207-1221.
GELL, F. R. & ROBERTS, C. M. 2003. Benefits beyond boundaries: the fishery effects of marine reserves. *Trends in Ecology & Evolution,* 18 (9)**,** 448-455.

GENES, L., SVENNING, J.-C., PIRES, A. S. & FERNANDEZ, F. A. S. 2019. Why we should let rewilding be wild and biodiverse. *Biodiversity and Conservation,* 28**,** 1285-1289.

GIAKOUMIS, T. & VOULVOULIS, N. 2018. The transition of EU water policy towards the Water Framework Directive's integrated river basin management paradigm. *Environmental Management,* 62**,** 819-831.

GOLLNER, S., KAISER, S., MENZEL, L., JONES, D. O. B., BROWN, A., MESTRE, N. C., VAN OEVELEN, D., MENOT, L., COLAÇO, A., CANALS, M., CUVELIER, D., DURDEN, J. M., GEBRUK, A., EGHO, G. A., HAECKEL, M., MARCON, Y., MEVENKAMP, L., MORATO, T., PHAM, C. K., PURSER, A., SANCHEZ-VIDAL, A., VANREUSEL, A., VINK, A. & MARTINEZ ARBIZU, P. 2017. Resilience of benthic deep-sea fauna to mining activities. *Marine Environmental Research,* 129**,** 76-101.

GOLOB, A., GORJANC, S. & BORDJAN, A. 2019. Common Strategy for Protection and Sustainable Use of Ecosystem Services in Karst Eco-Regions. *ECO KARST project, 86p*.

GÓMEZ-LIMÓN, J. A., ARRIAZA, M. & BERBEL, J. 2002. Conflicting implementation of agricultural and water policies in irrigated areas in the EU. *Journal of Agricultural Economics,* 53 (2)**,** 259-281.

GORJANC, S., KLANČNIK, K., MURILLAS-MAZA, A., UYARRA, M., PAPADOPOULOU, N., PARAMANA, T., SMITH, C., CHALKIADAKI, O., DASSENAKIS, M. & PETERLIN, M. 2020. Coordination of pollution-related MSFD measures in the Mediterranean-Where we stand now and insights for the future. *Marine Pollution Bulletin,* 159**,** 111476..

GORJANC, S., KLANČNIK, K., PAPADOPOULOU, N. K., MURILLAS-MAZA, A., JARNI, K., PARAMANA, T., PAVIČIĆ, M., RONCHI, F., UYARRA, M. C., KOREN, Š., DASSENAKIS, M., VIDJAK, O., SMITH, C. J. & SKEJIĆ, S. 2022. Evaluating the progress in achieving Good Environmental Status in the Mediterranean: A methodology to assess the effectiveness of Marine Strategy Framework Directive's Programmes of Measures. *Marine Policy,* 136**,** 104889.

GRAHAM, N. A. J. & MCCLANAHAN, T. R. 2013. The Last Call for Marine Wilderness? *BioScience,* 63 (5)**,** 397-402.

GRASS, I., BATÁRY, P. & TSCHARNTKE, T. 2020. Combining land-sparing and land-sharing in European landscapes. in: *Advances in Ecological Research* (Vol. 64, pp. 251-303). Academic Press.

GRASS, I., LOOS, J., BAENSCH, S., BATÁRY, P., LIBRÁN-EMBID, F., FICICIYAN, A., KLAUS, F., RIECHERS, M., ROSA, J., TIEDE, J., UDY, K., WESTPHAL, C., WURZ, A. & TSCHARNTKE, T. 2019. Land-sharing/-sparing connectivity landscapes for ecosystem services and biodiversity conservation. *People and Nature,* 1 (2)**,** 262-272.

GRAY, C. L., HILL, S. L. L., NEWBOLD, T., HUDSON, L. N., BÖRGER, L., CONTU, S., HOSKINS, A. J., FERRIER, S., PURVIS, A. & SCHARLEMANN, J. P. W. 2016. Local biodiversity is higher inside than outside terrestrial protected areas worldwide. *Nature Communications*, 7, 12306.

GREEN, R. E., CORNELL, S. J., SCHARLEMANN, J. P. & BALMFORD, A. 2005. Farming and the fate of wild nature. *Science,* 307 (5709)**,** 550-555.

GREIDER, T. & GARKOVICH, L. 1994. Landscapes: The social construction of nature and the environment. *Rural Sociology,* 59 (1)**,** 1-24.

GRELLIER, J., WHITE, M. P., ALBIN, M., BELL, S., ELLIOTT, L. R., GASCÓN, M., GUALDI, S., MANCINI, L., NIEUWENHUIJSEN, M. J., SARIGIANNIS, D. A., VAN DEN BOSCH, M., WOLF, T., WUIJTS, S., FLEMING, L. E. 2017. BlueHealth: a study programme

protocol for mapping and quantifying the potential benefits to public health and well-being from Europe's blue spaces. *BMJ Open,* 7 (6), e016188.
GRÖNHOLM, S. & JETOO, S. 2019. The potential to foster governance learning in the Baltic Sea Region: Network governance of the European Union Strategy for the Baltic Sea Region. *Environmental Policy and Governance,* 29 (6)**,** 435-445.
GRORUD-COLVERT, K., CLAUDET, J., TISSOT, B. N., CASELLE, J. E., CARR, M. H., DAY, J. C., FRIEDLANDER, A. M., LESTER, S. E., DE LOMA, T. L., MALONE, D. & WALSH, W. J. 2014. Marine protected area networks: assessing whether the whole is greater than the sum of its parts. *PLoS One,* 9 (8)**,** e102298.
GUHA, R. 1989. Radical American environmentalism and wilderness perservation: a third world critique. *Environmental ethics,* 11 (1)**,** 71-83.
GUHA, R. 1998. Deep ecology revisited. In: Callicott, J. B. & Nelson, M. P. (eds) *The Great New Wilderness Debate* (pp. 271-279), University of Georgia Press.
GUIDETTI, P. & SALA, E. 2007. Community-wide effects of marine reserves in the Mediterranean Sea. *Marine Ecology Progress Series,* 335**,** 43-56.
GUO, T., CAMPBELL-ARVAI, V. & CARDINALE, B. J. 2021. Why does the public support or oppose agricultural nutrient runoff regulations? The effects of political orientation, environmental worldview, and policy specific beliefs. *Journal of Environmental Management,* 279**,** 111708.
HAJER, M. & LAWS, D. 2006. *Policy Frame and Discourse*. Oxford: Oxford University Press.
HAJER, M. & VERSTEEG, W. 2005. A decade of discourse analysis of environmental politics: Achievements, challenges, perspectives. *Journal of Environmental Policy & Planning,* 7 (3)**,** 175-184.
HÄLLSTEN, M. & KOLK, M. 2020. The shadow of peasant past: Seven generations of inequality persistence in Northern Sweden. *American Journal of Sociology,* 128 (6), 1716-1760.
HALPERN, B. S. 2003. The impact of marine reserves: Do reserves work and does reserve size matter? *Ecological Applications,* 13 (sp1)**,** 117-S137.
HALPERN, B. S. 2014. Making marine protected areas work. *Nature*, 506, 167-168.
HALPERN, B. S., FRAZIER, M., AFFLERBACH, J., LOWNDES, J. S., MICHELI, F., O'HARA, C., SCARBOROUGH, C. & SELKOE, K. A. 2019. Recent pace of change in human impact on the world's ocean. *Scientific Reports,* 9 (1), 11609.
HALPERN, B. S., LESTER, S. E. & MCLEOD, K. L. 2010. Placing marine protected areas onto the ecosystem-based management seascape. *Proceedings of the National Academy of Sciences,* 107 (43)**,** 18312-18317.
HAMBRICK, D. C., CHO, T. S. & CHEN, M.-J. 1996. The influence of top management team heterogeneity on firms' competitive moves. *Administrative Science Quarterly***,** 659-684.
HAN, F. 2008. Cross-cultural confusion: Application of World Heritage concepts in scenic and historic interest areas of China. In: NELSON, M. P. & CALLICOTT, J. B. (eds.) *The great wilderness debate rages on: Continuing the great new wilderness debate* (pp. 252-263). University of Georgia Press.
HARE, A. P. 1976. *Handbook of small group research*. Free Press.
HARRISON, H. B., WILLIAMSON, D. H., EVANS, R. D., ALMANY, G. R., THORROLD, S. R., RUSS, G. R., FELDHEIM, K. A., VAN HERWERDEN, L., PLANES, S., SRINIVASAN, M., BERUMEN, M. K. & JONES, G. P. 2012. Larval export from marine reserves and the recruitment benefit for fish and fisheries. *Current Biology,* 22, 1023-1028.
HARKER, A. L., STOJANOVIC, T. A., MAJALIA, A. M., JACKSON, C., BAYA, S. & TSIGANYIU, K. D. 2022. Relationships between Livelihoods, Well-Being, and Marine

Protected Areas: Evidence from a Community Survey, Watamu Marine National Park and Reserve, Kenya. *Coastal Management,* 50 (6), 490-513.
HARMON, J. & ROHRBAUGH, J. 1990. Social judgment analysis and small group decision making: Cognitive feedback effects on individual and collective performance. *Organizational Behavior and Human Decision Processes,* 46 (1)**,** 34-54.
HARNETT, D. L. 1967. A level of aspiration model for group decision making. *Journal of Personality and Social Psychology,* 5 (1)**,** 58.
HASAN, H. & GOULD, E. 2001. Support for the sense-making activity of managers. *Decision Support Systems,* 31 (1), 71-86.
HASLER, H. & OTT, J. A. 2008. Diving down the reefs? Intensive diving tourism threatens the reefs of the northern Red Sea. *Marine Pollution Bulletin,* 56 (10)**,** 1788-1794.
HASSLER, B., BLAŽAUSKAS, N., GEE, K., LUTTMANN, A., MORF, A., PIWOWARCZYK, J., SAUNDERS, F., STALMOKAITĖ, I., STRAND, H. & ZAUCHA, J. 2019. New generation EU directives, sustainability, and the role of transnational coordination in Baltic Sea maritime spatial planning. *Ocean & Coastal Management,* 169**,** 254-263.
HAWKINS, J. P., O'LEARY, B. C., BASSETT, N., PETERS, H., RAKOWSKI, S., REEVE, G. & ROBERTS, C. M. 2016. Public awareness and attitudes towards marine protection in the United Kingdom. *Marine Pollution Bulletin,* 111 (1-2)**,** 231-236.
HEAD, B. W. 2008. Three Lenses of Evidence-Based Policy. *Australian Journal of Public Administration,* 67 (1)**,** 1-11.
HELCOM 2018. State of the Baltic Sea - Second HELCOM holistic assessment 2011-2016. *In:* BERGSTRÖM, L., AHTIAINEN, H., AVELLAN, L., ESTLANDER, S., HAAPANIEMI, J., HALDIN, J., HOIKKALA, L., RUIZ, M., ROWE, O. & ZWEIFEL, U. L. (eds.) *Baltic Sea Environment Proceedings.* Helsinki: HELCOM.
HELCOM 2021. Baltic Sea Action Plan 2021 Update. *In:* COMMISSION, B. M. E. P. (ed.). HELCOM.
HERMOSO, V., CARVALHO, S. B., GIAKOUMI, S., GOLDSBOROUGH, D., KATSANEVAKIS, S., LEONTIOU, S., MARKANTONATOU, V., RUMES, B., VOGIATZAKIS, I. N. & YATES, K. L. 2022. The EU Biodiversity Strategy for 2030: Opportunities and challenges on the path towards biodiversity recovery. *Environmental Science & Policy,* 127, 263-271.
HIERLEMANN, D., ROCH, S., BUTCHER, P., EMMANOUILIDIS, J., STRATULAT, C. & DE GROOT, M. 2022. Under construction: Citizen participation in the European Union. *European Policy Centre. accessed: July 2023*
HINSZ, V. B., TINDALE, R. S. & VOLLRATH, D. A. 1997. The emerging conceptualization of groups as information processors. *Psychological Bulletin,* 121 (1)**,** 43.
HIX, S. 2011. T*he political system of the European Union*. Basingstoke: Palgrave Macmillan.
HIXON, M. A., JOHNSON, D. W. & SOGARD, S. M. 2013. BOFFFs: on the importance of conserving old-growth age structure in fishery populations. *ICES Journal of Marine Science,* 71, 2171-2185.
HODGSON, J. A., KUNIN, W. E., THOMAS, C. D., BENTON, T. G. & GABRIEL, D. 2010. Comparing organic farming and land sparing: optimizing yield and butterfly populations at a landscape scale. *Ecology Letters,* 13 (11)**,** 1358-1367.
HOFMEISTER, S. 2009. Natures running wild: A social-ecological perspective on wilderness. *Nature and Culture,* 4 (3)**,** 293-315.
HOWARTH, L. M., WOOD, H. L., TURNER, A. P. & BEUKERS-STEWART, B. D. 2011. Complex habitat boosts scallop recruitment in a fully protected marine reserve. *Marine Biology,* 158**,** 1767-1780.

HOYT, E. 2012. *Marine Protected Areas for Whales, Dophins and Porpoises: A world handbook for cetacean habitat conservation and planning*. Routledge.

HUETTMANN, F. 1998 Seabirds in the Marine Wilderness of the Western North Atlantic. In: *Personal, Societal, and Ecological Values of Wilderness: Sixth World WIlderness Congress Proceedings on Research, Management, and Allocation* (Vol. 2, pp. 237-244). US Department of Agriculture, Forest Service. Rocky Mountain Research Station.

HUGHES, T., BELLWOOD, D., FOLKE, C., STENECK, R. & WILSON, J. 2005. New paradigms for supporting the resilience of marine ecosystems. *Trends in Ecology & Evolution,* 20 (7)**,** 380-386.

HULME, M. 2009. *Why we disagree about climate change: understanding controversy, inaction and opportunity*. New York: Cambridge University Press.

HULME, M., MAHONY, M., BECK, S., GORG, C., HANSJURGENS, B., HAUCK, J., NESSHOVER, C., PAULSCH, A., VANDEWALLE, M., WITTMER, H., BOSCHEN, S., BRIDGEWATER, P., CHIMEREDIAW, M., FABRE, P., FIGUEROA, A., HEONG, K. L., KORN, H., LEEMANS, R., LOVBRAND, E., HAMID, M. N., MONFREDA, C., PIELKE JR, R., SETTELE, J., WINTER, M., VADROT, A. B. M., VAN DEN HOVE, S. & VAN DER SLUIJS, J. P. 2011. Science-policy interface: Beyond Assessments. *Science,* 333 (6043)**,** 697-698.

HULME, M. F., VICKERY, J. A., GREEN, R. E., PHALAN, B., CHAMBERLAIN, D. E., POMEROY, D. E., NALWANGA, D., MUSHABE, D., KATEBAKA, R., BOLWIG, S. & ATKINSON, P. W. 2013. Conserving the birds of Uganda's banana-coffee arc: land sparing and land sharing compared. *PloS One,* 8 (2)**,** e54597.

HUVENNE, V. A. I., BETT, B. J., MASSON, D. G., LE BAS, T. P. & WHEELER, A. J. 2016. Effectiveness of a deep-sea cold-water coral Marine Protected Area, following eight years of fisheries closure. *Biological Conservation,* 200**,** 60-69.

HYNES, S., ANKAMAH-YEBOAH, I., O'NEILL, S., NEEDHAM, K., XUAN, B. B. & ARMSTRONG, C. 2021. The impact of nature documentaries on public environmental preferences and willingness to pay: entropy balancing and the Blue Planet II effect. *Journal of Environmental Planning and Management,* 64 (8)**,** 1428-1456.

HYRENBACH, K. D., FORNEY, K. A. & DAYTON, P. K. 2000. Marine protected areas and ocean basin management. *Aquatic Conservation: Marine and Freshwater Ecosystems,* 10 (6)**,** 437-458.

IBISCH, P. L. & HOBSON, P. R. 2014. MARISCO: adaptive MAnagement of vulnerability and RISk at COnservation sites. *A guidebook for risk-robust, adaptive and ecosystem-based conservation of biodiversity. Centre for Econics and Ecosystem Management, Eberswalde*.

INGRAM, H., SCHNEIDER, A. L. & DELEON, P. 2007. Social construction and policy design. *Theories of the policy process.* Routledge.

IUCN 2016. *A Global Standard for the Identification of Key Biodiversity Areas, Version1.0,* Gland, Switzerland and Cambridge, UK, IUCN.

JACKSON, S. E., MAY, K. E., WHITNEY, K., GUZZO, R. A. & SALAS, E. 1995. Understanding the dynamics of diversity in decision-making teams. *Team effectiveness and decision making in organizations,* 204**,** 261.

JANIS, I. L. 1983. *Groupthink*, Boston: Houghton Mifflin.

JANSE, G. 2008. Communication between forest scientists and forest policy-makers in Europe — A survey on both sides of the science/policy interface. *Forest Policy and Economics,* 10 (3)**,** 183-194.

JEFFERSON, R., BAILEY, I., RICHARDS, J. & ATTRILL, M. 2014. Public perceptions of the UK marine environment. *Marine Policy,* 43**,** 327-337.

JEPSON, P. 2019. Recoverable Earth: a twenty-first century environmental narrative. *Ambio,* 48 (2)**,** 123-130.

JEPSON, P. & BLYTHE, C. 2020. *Rewilding: The radical new science of ecological recovery*, Icon Books.

JEPSON, P. A. 2020. *Rewilding : the radical new science of ecological recovery*. London: Icon Books Ltd.

JOHN, O. P. & ROBINS, R. W. 1994. Accuracy and bias in self-perception: individual differences in self-enhancement and the role of narcissism. *Journal of Personality and Social Psychology,* 66 (1)**,** 206.

JOHNSON, D. E., REES, S. E., DIZ, D., JONES, P. J. S., ROBERTS, C. & BARRIO FROJÁN, C. 2019. Securing effective and equitable coverage of marine protected areas: The UK's progress towards achieving Convention on Biological Diversity commitments and lessons learned for the way forward. *Aquatic Conservation: Marine and Freshwater Ecosystems,* 29**,** 181-194.

JOHNSON, J. T. & MURTON, B. 2007. Re/placing native science: Indigenous voices in contemporary constructions of nature. *Geographical research,* 45 (2)**,** 121-129.

JOHNSTON, J. R., NEEDHAM, M. D., CRAMER, L. A., OLSEN, C. S. & SWEARINGEN, T. C. 2019. Public perceptions of marine wilderness as a marine protected area designation. *Ocean & Coastal Management,* 178, 104873.

JOHNSTON, J. R., NEEDHAM, M. D., CRAMER, L. A. & SWEARINGEN, T. C. 2020. Public Values and Attitudes toward Marine Reserves and Marine Wilderness. *Coastal Management,* 48 (2)**,** 142-163.

JONES, K. R., KLEIN, C. J., HALPERN, B. S., VENTER, O., GRANTHAM, H., KUEMPEL, C. D., SHUMWAY, N., FRIEDLANDER, A. M., POSSINGHAM, H. P. & WATSON, J. E. M. 2018. The Location and Protection Status of Earth's Diminishing Marine Wilderness. *Current Biology,* 28 (15)**,** 2506-2512 e3.

JONES, P. J. S. & CARPENTER, A. 2009. Crossing the divide: The challenges of designing an ecologically coherent and representative network of MPAs for the UK. *Marine Policy*, 33, 737-743.

JOVANOVIĆ, I., DRAGIŠIĆ, A., OSTOJIĆ, D. & KRSTESKI, B. 2019 Beech forests as World Heritage in aspect to the next extension of the Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe World Heritage site. *Zaštita prirode*, 69 (1-2), 15-32.

KAISER, M. J., BLZTH-SKYRME, R. E., HART, P. J. B., EDWARDS-JONES, G. & PALMER, D. 2007. Evidence for greater reproductive output per unit area in areas protected from fishing. *Canadian journal of Fisheries and Aquatic Sciences,* 64, 1284-1289.

KAMAT, V. 2014. The ocean is out farm: Marine conservation, food insecurity, and social suffering in southeastern Tanzania. *Human Organization,* 73 (3) 289-298.

KAMAT, V. 2018. Dispossession and disenchantment: The micropolitics of marine consevation in southeastern Tanzania. *Marine Policy,* 88, 261-268.

KAPLAN, R. & KAPLAN, S. 1989. *The experience of nature: A psychological perspective*, Cambridge University Press.

KAPLAN, S. 1995. The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology,* 15 (3)**,** 169-182.

KATSANEVAKIS, S., MACKELWORTH, P., COLL, M., FRASCHETTI, S., MAČIĆ, V., GIAKOUMI, S., JONES, P., LEVIN, N., ALBANO, P., BADALAMENTI, F., BRENNAN,

R. E., CLAUDET, J., CULIBRK, D., D'ANNA, G., DEIDUN, A., EVAGELOPOULOS, A., GARCÍA-CARTON, J., GOLDSBOROUGH, D., HOLCER, D., JIMENEZ, C., KARK, S., KIRK SØRENSEN, T., LAZAR, B., MARTIN, G., MAZARIS, A., MICHELI, F., MILNER-GULLAND, E. J., PIPITONE, C., PORTMAN, M., PRANOVI, F., RILOV, G., SMITH, R. J., STELZENMÜLLER, V., VOGIATZAKIS, I. N. & WINTERS, G. 2017. Advancing marine conservation in European and contiguous seas with the MarCons Action. *Research Ideas and Outcomes,* 3**,** e11884.

KATSANEVAKIS, S., STELZENMÜLLER, V., SOUTH, A., SØRENSEN, T. K., JONES, P. J. S., KERR, S., KATSANEVAKIS, S., STELZENMÜLLER, V., SOUTH, A., SØRENSEN, T. K., JONES, P. J. S., KERR, S., BADALAMENTI, F., ANAGNOSTOU, C., BREEN, P., CHUST, G., D'ANNA, G., DUIJN, M., FILATOVA, T., FIORENTINO, F., HULSMAN, H., JOHNSON, K., KARAGEORGIS, A. P., KRÖNCKE, I., MIRTO, S., PIPITONE, C., PORTELLI, S., QIU, W., REISS, H., SAKELLARIOU, D., SALOMIDI, M., VAN HOOF, L., VASSILOPOULOU, V., VEGA FERNÁNDEZ, T., VÖGE, S., WEBER, A., ZENETOS, A. & HOFSTEDE, R. T. 2011. Ecosystem-based marine spatial management: Review of concepts, policies, tools, and critical issues. *Ocean & Coastal Management,* 54 (11)**,** 807-820.

KAWAMURA, K. 2011. A model of public consultation: why is binary communication so common? *The Economic Journal,* 121 (553)**,** 819-842.

KEIJSER, X., RIPKEN, M., MAYER, I., WARMELINK, H., ABSPOEL, L., FAIRGRIEVE, R. & PARIS, C. 2018. Stakeholder engagement in maritime spatial planning: The efficacy of a serious game approach. *Water,* 10 (6)**,** 724.

KELLEHER, G. & KENCHINGTON, R. 1991. *Guidelines for establishing marine protected areas*, Gland: IUCN.

KELLERT, S. R. 1996. *The value of life : biological diversity and human socieyt*. Washington, D.C.: Shearwater Books.

KELLERT, S. R. 1997. *The value of life: Biological diversity and human society*, Island press.

KELLY, G. A. 1955. *The psychology of personal constructs*. New York: Norton.

KERR, N. L., ATKIN, R. S., STASSER, G., MEEK, D., HOLT, R. W. & DAVIS, J. H. 1976. Guilt beyond a reasonable doubt: Effects of concept definition and assigned decision rule on the judgments of mock jurors. *Journal of Personality and Social Psychology,* 34 (2)**,** 282.

KIDD, S., PLATER, A. & FRID, C. 2011. *The ecosystem approach to marine planning and management*, Routledge.

KLABBERS, J. H. G., SWART, R. J., JANSSEN, R., VELLINGA, P. & VAN ULDEN, A. P. 1996. Climate science and climate policy: Improving the science/policy interface. *Mitigation and Adaptation Strategies for Global Change,* 1 (1)**,** 73-93.

KNOWLES, E. D., MORRIS, M. W., CHIU, C.-Y. & HONG, Y.-Y. 2001. Culture and the process of person perception: Evidence for automaticity among East Asians in correcting for situational influences on behavior. *Personality and Social Psychology Bulletin,* 27 (10)**,** 1344-1356.

KOLLMUSS, A. & AGYEMAN, J. 2002. Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research,* 8 (3)**,** 239-260.

KØRNØV, L. & THISSEN, W. A. H. 2000. Rationality in decision- and policy-making: implications for strategic environmental assessment. *Impact Assessment and Project Appraisal,* 18 (3)**,** 191-200.

KORPINEN, S., KLANCNIK, K., PETERLIN, M., NURMI, M., LAAMANEN, L., ZUPANCIC, G., MURRAY, C., HARVEY, T., ANDERSEN, J. H., ZENETOS, A., STEIN, U., TUNESI, L., ABHOLD, K., PIET, G., KALLENBACH, E., AGNESI, S., BOLMAN, B., VAUGHAN, D., REKER, J. & ROYO GELABERT, E. 2019. Multiple pressures and their combined effects in Europe's seas. *ETC/ICM Technical Report.* European Topic Centre on Inland, Coastal and Marine waters.

KORPINEN, S., LAAMANEN, L., BERGSTRÖM, L., NURMI, M., ANDERSEN, J. H., HAAPANIEMI, J., HARVEY, E. T., MURRAY, C. J., PETERLIN, M., KALLENBACH, E., KLANČNIK, K., STEIN, U., TUNESI, L., VAUGHAN D. & REKER, J. 2021. Combined effects of human pressures on Europe's marine ecosystems. *Ambio***,** 1-12.

KREMEN, C. 2015. Reframing the land-sparing/land-sharing debate for biodiversity conservation. *Annals of the New York Academy of Sciences,* 1355 (1)**,** 52-76.

KUKKONEN, A. & YLÄ-ANTTILA, T. 2020. The Science–Policy Interface as a Discourse Network: Finland's Climate Change Policy 2002–2015. *Politics and Governance,* 8 (2)**,** 200-214.

LAFFOLEY, D., BAXTER, J. M., AMON, D. J., CURRIE, D. E. J., DOWNS, C. A., HALL-SPENCER, J. M., HARDEN-DAVIES, H., PAGE, R., REID, C. P., ROBERTS, C. M., ROGERS, A., THIELE, T., SHEPPARD, C. R. C., SUMAILA, R. U. & WOODALL, L. C. 2019. Eight urgent, fundamental and simultaneous steps needed to restore ocean health, and the consequences for humanity and the planet of inaction or delay. *Aquatic Conservation: Marine and Freshwater Ecosystems,* 30 (1)**,** 194-208.

LAHSEN, M. & TURNHOUT, E. 2021. How norms, needs, and power in science obstruct transformations towards sustainability. *Environmental Research Letters,* 16 (2)**,** 025008.

LATOUR, B. 2004. *Politics of nature : how to bring the sciences into democracy*. Cambridge, MA: Harvard University Press.

LATOUR, B. 2005. *Reassembling the social : an introduction to actor-network-theory*. Oxford : Clarendon.

LATOUR, B. 2010. An attempt at a" compositionist manifesto". *New Literary History,* 41 (3)**,** 471-490.

LE SAOUT, S., HOFFMANN, M., SHI, Y., HUGHES, A., BERNARD, C., BROOKS, T. M., BERTZKY, B., BUTCHART, S. H. M., STUART, S. N., BADMAN, T. & RODRIGUES, A. S. L. 2013. Protected Areas and Effective Biodiversity Conservation. *Science,* 342 (6160)**,** 803-805.

LEE, S. H., KANG, Y. H. & DAI, R. 2021. Toward a More Expansive Discourse in a Changing World: An Analysis of Political Leaders' Speeches on Biodiversity. *Sustainability,* 13 (5)**,** 2899.

LEJANO, R. P. 2006. The design of environmental regimes: Social construction, contextuality, and improvisation. *International Environmental Agreements: Politics, Law and Economics,* 6**,** 187-207.

LESSLIE, R., MACKEY, B. & PREECE, K. 1988. A computer-based method for the evaluation of wilderness. *Environmental Conservation,* 15 (2)**,** 225-32.

LESSLIE, R. G., ABRAHAMS, H. & MASLEN, M. 1992. *National Wilderness Inventory: Stage III: Wilderness Quality on Cape York Peninsula*, Australian Government Pub. Service.

LESSLIE, R. G., MACKEY, B. G. & PREECE, K. M. 2009. A Computer-based Method of Wilderness Evaluation. *Environmental Conservation*, 15, 225-232.

LESTER, S. E., HALPERN, B. S., GRORUD-COLVERT, K., LUBCHENCO, J., RUTTENBERG, B. I., GAINES, S. D., AIRAMÉ, S. & WARNER, R. R. 2009. Biological

effects within no-take marine reserves: a global synthesis. *Marine Ecology Progress Series,* 384**,** 33-46.
LIKENS, G. E. 2010. The role of science in decision making: does evidence-based science drive environmental policy? *Frontiers in Ecology and the Environment,* 8 (6)**,** e1-e9.
LONG, R. D., CHARLES, A. & STEPHENSON, R. L. 2015. Key principles of marine ecosystem-based management. *Marine Policy,* 57**,** 53-60.
LORIMER, J. 2012. Multinatural geographies for the Anthropocene. *Progress in Human Geography,* 36 (5)**,** 593-612.
LORIMER, J. 2017. The Anthropo-scene: A guide for the perplexed. *Social Studies of Science,* 47 (1)**,** 117-142.
LORIMER, J. & DRIESSEN, C. 2014. Wild experiments at the Oostvaardersplassen: Rethinking environmentalism in the Anthropocene. *Transactions of the Institute of British Geographers,* 39 (2)**,** 169-181.
LORIMER, J. A. 2015. *Wildlife in the Anthropocene : conservation after nature*. Minneapolis: University of Minnesota Press.
LOVEJOY, T. E. 2006. Protected areas: a prism for a changing world. *Trends Ecology & Evolution,* 21 (6)**,** 329-33.
LUBCHENCO, J., PALUMBI, S. R., GAINES, S. D. & ANDELMAN, S. 2003. Plugging a Hole in the Ocean: The Emerging Science of Marine Reserves. *Ecological Applications,* 13 (1)**,** S3-S7.
LUPIA, A. 1994. Shortcuts versus encyclopedias: Information and voting behavior in California insurance reform elections. *American Political Science Review,* 88 (1)**,** 63-76.
LUPP, G., HÖCHTL, F. & WENDE, W. 2011. "Wilderness"–A designation for Central European landscapes? *Land Use Policy*, 28, 594-603.
LUTFALLAH, S. & BUCHANAN, L. 2019. Quantifying subjective data using online Q-methodology software. *The Mental Lexicon,* 14 (3)**,** 415-423.
LUTZ, A. R., SIMPSON-HOUSLEY, P. & DEMAN, A. F. 1999. Wilderness: Rural and urban attitudes and perceptions. *Environment and Behavior,* 31 (2)**,** 259-266.
MACE, G. M., BARRETT, M., BURGESS, N. D., CORNELL, S. E., FREEMAN, R., GROOTEN, M. & PURVIS, A. 2018. Aiming higher to bend the curve of biodiversity loss. *Nature Sustainability,* 1 (9)**,** 448-451.
MACE, G. M., REYERS, B., ALKEMADE, R., BIGGS, R., CHAPIN III, F. S., CORNELL, S. E., DÍAZ, S., JENNINGS, S., LEADLEY, P., MUMBY, P. J., PURVIS, A., SCHOLES, R. J., SEDDON, A. W. R., SOLAN, M., STEFFEN, W. & WOODWARD, G. 2014. Approaches to defining a planetary boundary for biodiversity. *Global Environmental Change,* 28**,** 289-297.
MACHADO, I., MOURA, T., FIGUEIREDO, I., CHAVES, C., COSTA, J. L. & CABRAL, H. N. 2020. Effects of scale on the assessment of fish biodiversity in the marine strategy framework directive context. *Ecological Indicators,* 117**,** 106546.
MANEA, E., BIANCHELLI, S., FANELLI, E., DANOVARO, R. & GISSI, E. 2020. Towards an ecosystem-based marine spatial planning in the deep Mediterranean Sea. *Science of The Total Environment,* 715**,** 136884.
MARMOT, M. G. 2004. Evidence based policy or policy based evidence? *BMJ,* 328**,** 906-907.
MARRIS, E. A. 2011. *Rambunctious garden : saving nature in a post-wild world*. New York: Bloomsbury.
MARRIS, E. A. 2021. *Wild Souls: Freedom and flourishing in the non-human world.* NewYork: Bloomsbury.
MASON, H., COLLINS, M., MCHUGH, N., GODWIN, J., VAN EXEL, J., DONALDSON, C. & BAKER, R. 2018. Is "end of life" a special case? Connecting Q with survey methods to

measure societal support for views on the value of life-extending treatments. *Health Economics,* 27 (5)**,** 819-831.

MAZARIS, A. D., ALMPANIDOU, V., GIAKOUMI, S. & KATSANEVAKIS, S. 2018. Gaps and challenges of the European network of protected sites in the marine realm. *ICES Journal of Marine Science,* 75 (1)**,** 190-198.

MAZARIS, A. D., KALLIMANIS, A., GISSI, E., PIPITONE, C., DANOVARO, R., CLAUDET, J., RILOV, G., BADALAMENTI, F., STELZENMÜLLER, V., THIAULT, L., BENEDETTI-CECCHI, L., GORIUP, P., KATSANEVAKIS, S. & FRASCHETTI, S. 2019. Threats to marine biodiversity in European protected areas. *Science of The Total Environment,* 677**,** 418-426.

MCCAUGHEY, D. & BRUNING, N. S. 2010. Rationality versus reality: The challenges of evidence-based decision making for health policy makers. *Implementation Science,* 5 (1)**,** 1-13.

MCCLOSKEY, M. 1965. Wilderness Act of 1964: Its Background and Meaning, The. *Or. L. Rev.,* 45**,** 288.

MCGRATH, J. E. 1984. *Groups: Interaction and performance*. New Jersey: Prentice-Hall Englewood Cliffs.

MCKIBBEN, B. 2006. *The end of nature.*Random House Trade Paperbacks.

MILIEU LTD 2018. Support to the implementation of the MSFD: Article 16 technical assessment of Member States' programmes of measures. Brussels, Belgium.

MILLER, J. R. 2005. Biodiversity conservation and the extinction of experience. *Trends in Ecology & Evolution,* 20 (8)**,** 430-434.

MITROFF, I. I. & EMSHOFF, J. R. 1979. On strategic assumption-making: A dialectical approach to policy and planning. *Academy of Management Review,* 4 (1)**,** 1-12.

MITTERMEIER, R. A., MITTERMEIER, C. G., BROOKS, T. M., PILGRIM, J. D., KONSTANT, W. R., DA FONSECA, G. A. B. & KORMOS, C. 2003. Wilderness and biodiversity conservation. *PNAS,* 100 (18)**,** 10309-10313.

MOHAMMED, S. & RINGSEIS, E. 2001. Cognitive Diversity and Consensus in Group Decision Making: The Role of Inputs, Processes, and Outcomes. *Organizational Behaviour Human Decision Processes,* 85 (2)**,** 310-335.

MOLLOY, P. P., MCLEAN, I. B. & CÔTÉ, I. M. 2009. Effects of marine reserve age on fish populations: a global meta-analysis. *Journal of Applied Ecology,* 46 (4)**,** 743-751.

MONBIOT, G. 2013. *Feral : searching for enchantment on the frontiers of rewilding*. London: Allen Lane.

MOON, K., BLACKMAN, D. A., ADAMS, V. M., COLVIN, R. M., DAVILA, F., EVANS, M. C., JANUCHOWSKI-HARTLEY, S. R., BENNETT, N. J., DICKINSON, H., SANDBROOK, C., SHERREN, K., ST. JOHN, F. A. V., VAN KERKHOFF, L. & WYBORN, C. 2019. Expanding the role of social science in conservation through an engagement with philosophy, methodology, and methods. *Methods in Ecology and Evolution,* 10 (3)**,** 294-302.

MORRIS, M. W., MENON, T. & AMES, D. R. 2001. Culturally conferred conceptions of agency: A key to social perception of persons, groups, and other actors. *Personality and Social Psychology Review,* 5 (2)**,** 169-182.

MURILLAS-MAZA, A., UYARRA, M. C., PAPADOPOULOU, K. N., SMITH, C. J., GORJANC, S., KLANCNIK, K., PARAMANA, T., CHALKIADAKI, O., DASSENAKIS, M. & PAVICIC, M. 2020. Programmes of measures of the marine strategy framework directive: Are they contributing to achieving good environmental status in the Mediterranean? *Marine Pollution Bulletin,* 161**,** 111715.

MYERS, N., MITTERMEIER, R. A., MITTERMEIER, C. G., DA FONSECA, G. A. & KENT, J. 2000. Biodiversity hotspots for conservation priorities. *Nature,* 403 (6772)**,** 853-858.
NAGEL, T. A., FIRM, D., MIHELIC, T., HLADNIK, D., DE GROOT, M. & ROZENBERGAR, D. 2017. Evaluating the influence of integrative forest management on old-growth habitat structures in a temperate forest region. *Biological Conservation,* 216**,** 101-107.
NEALE, M. A. & BAZERMAN, M. H. 1992. Negotiator cognition and rationality: A behavioral decision theory perspective. *Organizational Behavior and Human Decision Processes,* 51 (2)**,** 157-175.
NELSON, M. P. & CALLICOTT, J. B. 2008. The wilderness debate rages on: Continuing the great new wilderness debate, University of Georgia Press.
NEWING, H. 2011. *Conducting research in conservation : social science methods and practice*. New York: Routledge.
NISBET, M. C. & MOONEY, C. 2007. Framing science. *Science,* 316 (5821)**,** 56-56.
NOSS, R. F. 1991a. Sustainability and wilderness. *Conservation Biology,* 5 (1), 120-122.
NOSS, R. F. 1991b. Wilderness recovery: Thinking big in restoration ecology. *Environmental Professional,* 13 (3)**,** 225-234.
NOWAKOWSKI, A. J., CANTY, S. W. J., BENNETT, N. J., COX, C. E., VALDIVIA, A., DEICHMANN, J. L., AKRE, T. S., BONILLA-ANARIBA, S. E., COSTEDOAT, S. & MCFIELD, M. 2023. Co-benefits of marine protected areas for nature and people. *Nature Sustainability,* 1-9.
NSIKANI, M. M., ANDERSON, P., BOURAGAOUI, Z., GEERTS, J., GORNISH, E. S., KAIRO, J. G., KHAN, N., MADIKIZELA, B., MGANGA, K. Z., NTSHOTSHO, P., OKAFOR-YARWOOD, I., WEBSTER, K. M. E. & PEER, N. 2023. UN Decade on Ecosystem Restoration: key considerations for Africa. *Restoration Ecology*, 31(3), e13699.
O'LEARY, B. C., HOPPIT, G., TOWNLEY, A., ALLEN, H. L., MCINTYRE, C. J. & ROBERTS, C. M. 2020. Options for managing human threats to high seas biodiversity. *Ocean & Coastal Management,* 187, 105110
O'LEARY, J. K., MICHELI, F., AIROLDI, L., BOCH, C., DE LEO, G., ELAHI, R., FERRETTI, F., GRAHAM, N. A. J., LITVIN, S. Y., LOW, N. H., LUMMIS, S., NICKOLS, K. J. & WONG, J. 2017. The Resilience of Marine Ecosystems to Climatic Disturbances. *BioScience,* 67 (3)**,** 208-220.
OKAFOR-YARWOOD, I. & BELHABIB, D. 2020. The duplicity of the EUropean Union Common Fisheries Policy in third countries: Evidence from the Gulf of Guinea. *Ocean & Coastal Management.* 184, 104953.
ÖLANDER, F. & THØGERSEN, J. 2014. Informing versus nudging in environmental policy. *Journal of Consumer Policy,* 37**,** 341-356.
ORLIKOWSKA, E. H., ROBERGE, J.-M., BLICHARSKA, M. & MIKUSIŃSKI, G. 2016. Gaps in ecological research on the world's largest internationally coordinated network of protected areas: A review of Natura 2000. *Biological Conservation,* 200**,** 216-227.
OSPAR 2010. *Quality Status Report 2010*. London: OSPAR.
OSPAR 2021. Strategy of the OSPAR Commission for the Protection of the Marine Environment of the North-East Atlantic 2030. *Agreement 2021-01: North-East Atlantic Environment Strategy.* Cascais: OSPAR Commission.
PAINTING, S. J., COLLINGRIDGE, K. A., DURAND, D., GRÉMARE, A., CRÉACH, V., ARVANITIDIS, C. & BERNARD, G. 2020. Marine monitoring in Europe: is it adequate to address environmental threats and pressures? *Ocean Science,* 16 (1)**,** 235-252.
PALAZÓN, S. 2017. The importance of reintroducing large carnivores: the brown bear in the Pyrenees. *High Mountain Conservation in a Changing World.* Springer, Cham.

PAN PARKS FOUNDATION 2009. As nature intended: Best practice examples of wilderness management in the Natura 2000 network. *In:* BORZA, E. & VANCURA, V. (eds.). Gyor, Hungary: PAN Parks Foundation.

PAULHUS, D. L. & JOHN, O. P. 1998. Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. *Journal of Personality,* 66 (6)**,** 1025-1060.

PENIWATI, K. 2017. Group Decision Making: Drawing out and Reconciling Differences. *International Journal of the Analytic Hierarchy Process,* 9 (3).

PEREZ, I. J., CABRERIZO, F. J., ALONSO, S., DONG, Y. C., CHICLANA, F. & HERRERA-VIEDMA, E. 2018. On dynamic consensus processes in group decision making problems. *Information Sciences,* 459**,** 20-35.

PERRY, E. E., NEEDHAM, M. D. & CRAMER, L. A. 2017. Coastal resident trust, similarity, attitudes, and intentions regarding new marine reserves in Oregon. *Society & Natural Resources,* 30 (3)**,** 315-330.

PETERSEN, B. & HULTGREN, J. 2020. The Case for a 21st Century Wilderness Ethic. *Ethics, Policy & Environment***,** 23 (2), 222-239.

PETERSON, M. N., PETERSON, M. J. & PETERSON, T. R. 2005. Conservation and the myth of consensus. *Conservation Biology,* 19 (3)**,** 762-767.

PETTORELLI, N., DURANT, S. M. & DU TOIT, J. T. E. 2019. *Rewilding.* New York, Cambridge University Press.

PFEFFER, J. 1981. *Power in Organizations,* Marshfield, MA, Pitman Publishing.

PHALAN, B., ONIAL, M., BALMFORD, A. & GREEN, R. E. 2011. Reconciling food production and biodiversity conservation: land sharing and land sparing compared. *Science,* 333 (6047)**,** 1289-1291.

PIECK, S. K. & HAVLICK, D. G. 2019. From Iron Curtain to Green Belt: Considering Central Europe as a Mnemonic Ecosystem. *Society & Natural Resources,* 32 (11)**,** 1312-1329.

PIERCE, J. J., SIDDIKI, S., JONES, M. D., SCHUMACHER, K., PATTISON, A. & PETERSON, H. 2014. Social construction and policy design: A review of past applications. *Policy Studies Journal*, 42, 1-29.

PLECHANOVOVÁ, B. 2011. The EU Council enlarged: north-south-east or core-periphery? *European Union Politics,* 12 (1)**,** 87-106.

PLOTKIN, H. 2011. Human nature, cultural diversity and evolutionary theory. *Philosophical Transactions of the Royal Society B: Biological Sciences,* 366**,** 454-463.

POGODA, B., BOUDRY, P., BROMLEY, C., CAMERON, T. C., COLSOUL, B., DONNAN, D., HANCOCK, B., HUGH-JONES, T., PRESTON, J., SANDERSON, W. G., SAS, H., BROWN, J., BONACIC, K., VON NORDHEIM, H., ZU ERMGASSEN, P. S. E. 2020. NORA moving forward: Developing an oyster restoration network in Europe to support the Berlin Oyster Recommendation. *Aquatic Conservation: Marine and Freshwater Ecosystems,* 30 (11)**,** 2031-2037.

POUSO, S., BORJA, Á., FLEMING, L. E., GÓMEZ-BAGGETHUN, E., WHITE, M. P. & UYARRA, M. C. 2021. Contact with blue-green spaces during the COVID-19 pandemic lockdown beneficial for mental health. *Science of The Total Environment,* 756, 143984.

QUINN, C. H., HUBY, M., KIWASILA, H. & LOVETT, J. C. 2003. Local perceptions of risk to livelihood in semi-arid Tanzania. *Journal of Environmental Management,* 68 (2)**,** 111-119.

QUITTKAT, C. 2011. The European Commission's online consultations: a success story? *JCMS: Journal of Common Market Studies,* 49 (3)**,** 653-674.

RABINOW, P., ROSE, N., RABINOW, P. & ROSE, N. 2004. The Essential Foucault: Selections from Essential Works of Foucault, 1954-1984. 1**,** 116-118.

RAICEVICH, S., BATTAGLIA, P., FORTIBUONI, T., ROMEO, T., GIOVANARDI, O. & ANDALORO, F. 2017. Critical inconsistencies in early implementations of the marine strategy framework directive and common fisheries policy objectives hamper policy synergies in fostering the sustainable exploitation of mediterranean fisheries resources. *Frontiers in Marine Science,* 4**,** 316.

RÄTZ, H.-J., DÖRNER, H., SCOTT, R. & BARBAS, T. 2010. Complementary roles of European and national institutions under the Common Fisheries Policy and the Marine Strategy Framework Directive. *Marine Policy,* 34 (5)**,** 1028-1035.

RAWLINGS, C. M. 2020. Cognitive Authority and the Constraint of Attitude Change in Groups. *American Sociological Review***,** 85 (6), 992-1021.

RAYFIELD, B., JAMES, P. M. A., FALL, A. & FORTIN, M. J. 2008. Comparing static versus dynamic protected areas in the Québec boreal forest. *Biological Conservation,* 141 (2)**,** 438-449.

RAYNER, S. 2012. Uncomfortable knowledge: the social construction of ignorance in science and environmental policy discourses. *Economy and Society,* 41 (1)**,** 107-125.

REES, S. E., FOSTER, N., LANGMEAD, O., GRIFFITHS, C., FLETCHER, S., PITTMAN, S. J., JOHNSON, D. E., ATTRILL, M. 2018. Bridging the divide: A framework for social-ecological coherence in Marine Protected Area network design. *Manuscript.*

REES, S. E., ATTRILL, M. J., AUSTEN, M. C., MANGI, S. C., RICHARDS, J. P. & RODWELL, L. D. 2010a. Is there a win–win scenario for marine nature conservation? A case study of Lyme Bay, England. Ocean & Coastal Management, 53, 135-145.

REES, S. E., FLETCHER, S., GALL, S. C., FRIEDRICH, L. A., JACKSON, E. L., RODWELL, L. D. 2014. Securing the benefits: Linking ecology with marine planning policy to examine the potential of a network of Marine Protected Areas to support human wellbeing. *Marine Policy*, 44, 335-341.

REES, S. E., FOSTER, N. L., LANGMEAD, O., PITTMAN, S., JOHNSON, D. E. 2018. Defining the qualitative eleents of Aichi Biodiversity Target 11 with regard to the marine and coastal environment in order to strengthen global efforts for marine biodiversity conservation outlined in the United Nations Sustainable Development Goal 14. *Marine Policy,* 93, 241-250.

REES, S. E., RODWELL, L. D., ATTRILL, M. J., AUSTEN, M. C., MANGI, S. C. 2010. The value of marine biodiversity to the leisure and recreation industry and its application to marine spatial planning. *Marine Policy,* 32 (5), 868-875.

REES, S. E., SHEEHAN, E. V., STEWART, B. D., CLARK, R., APPLEBY, T., ATTRILL, M. J., JONES, P. J. S., JOHNSON, D., BRADSHAW, N., PITTMAN, S., OATES, J., SOLANDT, J. -L. 2020. Emerging themes to support ambitious UK marine biodiversity conservation. *Marine Policy.* 117, 103864.

REGOS, A., D'AMEN, M., TITEUX, N., HERRANDO, S., GUISAN, A. & BROTONS, L. 2016. Predicting the future effectiveness of protected areas for bird conservation in Mediterranean ecosystems under climate change and novel fire regime scenarios. *Diversity and Distributions,* 22 (1)**,** 83-96.

REIN, M. & SCHÖN, D. 2013. *Reframing policy discourse*: *The argumentative turn in policy analysis and planning.* Duke University Press.

REKER, J., MURRAY, C., ROYO GELABERT, E., ABHOLD, K., KORPINEN, S., PETERLIN, M., VAUGHAN, D. & ANDERSEN, J. H. 2019. Marine messages II: Navigating the course towards clean, healthy and productive seas through implementation of an

ecosystem-based approach. *EEA Report.* Copenhagen: European Environment Agency.
RELPH, E. 1976. *Place and placelessness*. London: Pion.
RIPKEN, M., KEIJSER, X., KLENKE, T. & MAYER, I. 2018. The 'living q'—an interactive method for actor engagement in transnational marine spatial planning. *Environments,* 5 (8)**,** 87.
RISHWORTH, G. M., ADAMS, J. B., BIRD, M. S., CARRASCO, N. K., DÄNHARDT, A., DANNHEIM, J., LEMLEY, D. A., PISTORIUS, P. A., SCHEIFFARTH, G. & HILLEBRAND, H. 2020. Cross-continental analysis of coastal biodiversity change. *Philosophical Transactions of the Royal Society B,* 375 (1814)**,** 20190452.
RIXOM, J. M., JACKSON, M. & RIXOM, B. A. 2023. Mandating diversity on the board of directors: Do investors feel that gender quotas result in tokenism or added value for firms? *Journal of Business Ethics,* 182 (3)**,** 679-697.
ROBERTS, C. M., HAWKINS, J. P. & GELL, F. R. 2005. The role of marine reserves in achieving sustainable fisheries. *Philosophical Transactions of the Royal Society of London B*, 360, 123-132
ROBERTS, C. M., O'LEARY, B. C., MCCAULEY, D. J., CURY, P. M., DUARTE, C. M., LUBCHENCO, J., PAULY, D., SAENZ-ARROYO, A., SUMAILA, U. R., WILSON, R. W., WORM, B. & CASTILLA, J. C. 2017. Marine reserves can mitigate and promote adaptation to climate change. *Proceedings of the National Academy of Sciences,* 114 (24)**,** 6167-6175.
ROCKSTRÖM, J., STEFFEN, W., NOONE, K., PERSSON, Å., CHAPIN III, F. S., LAMBIN, E., LENTON, T. M., SCHEFFER, M., FOLKE, C. & SCHELLNHUBER, H. J., NYKVIST, B., DE WIT, C. A., HHUGHES, T., VAN DER LEEUW, S., RODHE, H., SÖRLIN, S., SNYDER, P. K., CONSTANZA, R., SVEDIN, U., FALKENMARK, M., KARLBERG, L., CORELL, R. W., FABRY, V. J., HANSEN, J., WALKER, B., LIVERMAN, D., RICHARDSON, K., CRUTZEN, P. & FOLEY, J. 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecology and society,* 14 (2), 32.
RODRÍGUEZ-RODRÍGUEZ, D., REES, S. E., RODWELL, L. D., ATTRILL, M. J. 2015. Assessing the socioeconomic effects of multiple-use MPAs in a European setting: A national stakeholders' perspective. *Environmental Science & Policy*. 48, 115-127
RODRIGUEZ DOWDELL, N., GARCIA SAEZ, C., ZURICK, D., ROEPER, N., GUDE, A., WOLFE, B., MCCREDDY, C., CROSS, J. & RANDALL, J. A. 2012. Conserving marine wilderness. North American Intergovernmental Committee on Cooperation for WIlderness and PA conservation.
ROEHRL, R. A., LIU, W. & MUKHERJEE, S. 2020. The COVID-19 pandemic: a wake-up call for better cooperation at the science-policy-society interface. United Nationas Department of Economic and Social Affairs.
ROHRBAUGH, J. 1979. Improving the quality of group judgment: Social judgment analysis and the Delphi technique. *Organizational Behavior and Human Performance,* 24 (1)**,** 73-92.
ROLSTON III, H. 1998. The Wilderness Idea Reaffirmed In: CALLICOTT, J. B. & NELSON, M. P. (eds.) *The great new wilderness debate***,** 367. University of Georgia Press.
ROOSEVELT, T. 1998. The American wilderness: Wilderness hunters and wilderness game. In: Callicott, J. B. & Nelson, M. P. (eds) *The Great New Wilderness Debate* (pp. 271-279), University of Georgia Press.
ROSE, D. C., MUKHERJEE, N., SIMMONS, B. I., TEW, E. R., ROBERTSON, R. J., VADROT, A. B. M., DOUBLEDAY, R. & SUTHERLAND, W. J. 2020. Policy windows for the

environment: Tips for improving the uptake of scientific knowledge. *Environmental Science & Policy,* 113**,** 47-54.

ROUILLARD, J., LAGO, M., ABHOLD, K., ROESCHEL, L., KAFYEKE, T., KLIMMEK, H. & MATTHEIß, V. 2018a. Protecting and Restoring Biodiversity across the Freshwater, Coastal and Marine Realms: Is the existing EU policy framework fit for purpose? *Environmental Policy and Governance,* 28 (2)**,** 114-128.

ROUILLARD, J., LAGO, M., ABHOLD, K., RÖSCHEL, L., KAFYEKE, T., MATTHEIß, V. & KLIMMEK, H. 2018b. Protecting aquatic biodiversity in Europe: How much do EU environmental policies support ecosystem-based management? *Ambio,* 47**,** 15-24.

RUSS, G. R. & ALCALA, A. C. 2004. Marine reserves: long-term protection is required for full recovery of predatory fish populations. *Oecologia,* 138**,** 622-627.

RUSS, G. R. & ZELLER, D. C. 2003. From *Mare Liberum* to *Mare Reservarum*. *Marine Policy,* 27 (1)**,** 75-78.

SABATIER, P. A. 1999. *Theories of the policy process*. Boulder, CO: WestviewPress

SÆÞÓRSDÓTTIR, A. D., HALL, C. M. & SAARINEN, J. 2011. Making wilderness: Tourism and the history of the wilderness idea in Iceland. *Polar Geography,* 34 (4)**,** 249-273.

SALOMAA, A., PALONIEMI, R. & EKROOS, A. 2018. The case of conflicting Finnish peatland management–Skewed representation of nature, participation and policy instruments. *Journal of Environmental Management,* 223**,** 694-702.

SAUNDERS, C. D. 2003. The emerging field of conservation psychology. *Human Ecology Review***,** 137-149.

SCARIOT, A. 2013. Land sparing or land sharing: the missing link. *Science,* 334**,** 593-594.

SCHEITLE, C. P. & CORCORAN, K. E. 2020. More than Nothing: Examining the Worldview Influences of Nonreligious College Students. *Review of Religious Research,* 62 (2)**,** 249-271.

SCHNEIDER, S. C. & ANGELMAR, R. 1993. Cognition in organizational analysis: who's minding the store? *Organization Studies,* 14 (3)**,** 347-374.

SCOTT, J. A. 2017. *Social network analysis*. Thousand Oaks, California: SAGE Publications Inc.

SCOTT, N., LE, D., BECKEN, S. & CONNOLLY, R. M. 2020. Measuring perceived beauty of the Great Barrier Reef using eye-tracking technology. *Current Issues in Tourism,* 23 (20)**,** 2492-2502.

SHAFER, C. S. & BENZAKEN, D. 1998. User perceptions about marine wilderness on Australia's Great Barrier Reef. *Coastal Management,* 26 (2)**,** 79-91.

SHEEHAN, E. V., COUSENS, S. L., NANCOLLAS, S. J., STAUSS, C., ROYLE, J. & ATTRILL, M. J. 2013. Drawing lines at the sand: Evidence for functional vs. visual reef boundaries in temperate Marine Protected Areas. *Marine Pollution Bulletin,* 76, 194-202

SHEPPARD, C. R., ATEWEBERHAN, M., BOWEN, B. W., CARR, P., CHEN, C. A., CLUBBE, C., CRAIG, M. T., EBINGHAUS, R., EBLE, J., FITZSIMMONS, N., GAITHER, M. R., GAN, C. H., GOLLOCK, M., GUZMAN, N., GRAHAM, N. A., HARRIS, A., JONES, R., KESHAVMURTHY, S., KOLDEWEY, H., LUNDIN, C. G., MORTIMER, J. A., OBURA, D., PFEIFFER, M., PRICE, A. R., PURKIS, S., RAINES, P., READMAN, J. W., RIEGL, B., ROGERS, A., SCHLEYER, M., SEAWARD, M. R., SHEPPARD, A. L., TAMELANDER, J., TURNER, J. R., VISRAM, S., VOGLER, C., VOGT, S., WOLSCHKE, H., YANG, J. M., YANG, S. Y. & YESSON, C. 2012. Reefs and islands of the Chagos Archipelago, Indian Ocean: why it is the world's largest no-take marine protected area. *Aquatic Conservation*, 22, 232-261.

SIMON, H. A. 1990. Bounded rationality. *Utility and probability***,** 15-18.

SLOAN, N. 2002. History and application of the wilderness concept in marine conservation. *Conservation Biology,* 16 (2)**,** 294-305.
SMITH, M. D. & WILEN, J. E. 2002. The marine environment: fencing the last frontier. *Applied Economic Perspectives and Policy,* 24 (1)**,** 31-42.
SNYDER, G. 1994. The Rediscovery of Turtle Island. *A place in space: Ethics, aesthetics, and watersheds.* 236-251.
SNYDER, G. 1998. Is nature real? *Resurgence,* 190**,** 32.
SOKOLOVSKA, N., FECHER, B. & WAGNER, G. G. 2019. Communication on the Science-Policy Interface: An Overview of Conceptual Models. *Publications,* 7 (4), 64.
STEDMAN, R. C. 2002. Toward a social psychology of place: Predicting behavior from place-based cognitions, attitude, and identity. *Environment and Behavior,* 34 (5)**,** 561-581.
STEDMAN, R. C. 2003. Is it really just a social construction?: The contribution of the physical environment to sense of place. *Society & Natural Resources,* 16 (8)**,** 671-685.
STEFFEN, W., RICHARDSON, K., ROCKSTRÖM, J., CORNELL, S. E., FETZER, I., BENNETT, E. M., BIGGS, R., CARPENTER, S. R., DE VRIES, W., DE WIT, C. A., FOLKE, C., GERTEN, D., HEINKE, J., MACE, G. M., PERSSON, L. M., RAMANATHAN, V., REYERS, B. & SÖRLIN, S. 2015. Planetary boundaries: Guiding human development on a changing planet. *Science,* 347 (6223)**,** 1259855.
STEINACKER, A. 2006. Externalities, prospect theory, and social construction: When will government act, what will government do? *Social science quarterly,* 87 (3)**,** 459-476.
STEINBERG, P. E. A. 2001. *The social construction of the ocean*. Cambridge: Cambridge University Press.
STENNER, P. H., COOPER, D. & SKEVINGTON, S. M. 2003. Putting the Q into quality of life; the identification of subjective constructions of health-related quality of life using Q methodology. *Social Science & Medicine,* 57 (11)**,** 2161-2172.
STEWART, B. D., HOWARTH, L. M., WOOD, H., WHITESIDE, K., CARNEY, W., CRIMMINS, E., O'LEARY, B. C., HAWKINS, J. P & ROBERTS, C. M. 2020. Marine conservation begins at home: how a local community and protection of a small bay sent waves of change around the UK and beyond. *Frontiers in Marine Science,* 7, 1-14.
STRANGE, N., THORSEN, B. J., BLADT, J., WILSON, K. A. & RAHBEK, C. 2011. Conservation policies and planning under climate change. *Biological Conservation,* 144 (12)**,** 2968-2977.
STRUMSE, E. 1994. Perceptual dimensions in the visual preferences for agrarian landscapes in western Norway. *Journal of Environmental Psychology,* 14 (4)**,** 281-292.
SUMAN, D., SHIVLANI, M. & MILON, J. W. 1999. Perceptions and attitudes regarding marine reserves: a comparison of stakeholder groups in the Florida Keys National Marine Sanctuary. *Ocean & Coastal Management,* 42 (12)**,** 1019-1040.
SWIM, J. K., GEIGER, N., SWEETLAND, J. & FRASER, J. 2018. Social construction of scientifically grounded climate change discussions. In: *Psychology and climate change* (pp. 65-93). Academic Press.
SYED, M. 2019. *Rebel ideas: The power of diverse thinking*, Hachette UK.
TAFON, R. V. 2018. Taking power to sea: Towards a post-structuralist discourse theoretical critique of marine spatial planning. *Environment and Planning C: Politics and Space,* 36 (2)**,** 258-273.
TANKE, J. J. 2011. *Jacques Rancière : an introduction*. New York: Continuum.
THAGARD, P. & VERBEURGT, K. 1998. Coherence as constraint satisfaction. *Cognitive Science,* 22 (1)**,** 1-24.

THALER, R. H. & SUNSTEIN, C. R. 2009. *Nudge: Improving decisions about health, wealth, and happiness*, Penguin.
THALER, R. H. & SUNSTEIN, C. R. 2021. *Nudge: The final edition*, Yale University Press.
'T HART, P., STERN, E. K. & SUNDELIUS, B. 1997. *Beyond groupthink : political group dynamics and foreign policy-making*. Ann Arbor: University of Michigan Press.
The Wilderness Act (1964). *In:* 88TH CONGRESS, S. S. (ed.) *Public Law 88-577 (16 U.S.C 1131-1136).* Washington, D.C.
THOMPSON, L. L., MANNIX, E. A. & BAZERMAN, M. H. 1988. Group negotiation: Effects of decision rule, agenda, and aspiration. *Journal of personality and social psychology,* 54 (1)**,** 86.
THOREAU, H. D. 1979. *Walking*, Egmont: SAGA.
THURBER, A. R., SWEETMAN, A. K., NARAYANASWAMY, B. E., JONES, D. O. B., INGELS, J. & HANSMAN, R. L. 2014. Ecosystem function and services provided by the deep sea. *Biogeosciences,* 11 (14)**,** 3941-3963.
THURSTAN, R. H., HAWKINS, J. P., NEVES, L. & ROBERTS, C. M. 2012. Are marine reserves and non-consumptive activities compatible? A global analysis of marine reserve regulations. *Marine Policy,* 36 (5)**,** 1096-1104.
TIN, T., O'REILLY, J., PEDEN, J., PINKALLA, S., KELLY, M., LARREA, K., HAUGEN, B., HAUN, A. & JANSSEN, G. 2018. Perceptions of wilderness and the Antarctic: case studies from the United States. *The Polar Journal,* 8 (2)**,** 364-385.
TOONEN, R. J., WILHELM, T., MAXWELL, S. M., WAGNER, D., BOWEN, B. W., SHEPPARD, C. R., TAEI, S. M., TEROROKO, T., MOFFITT, R., GAYMER, C. F., MORGAN, L., LEWIS, N., SHEPPARD, A. L., PARKS, J., FRIEDLANDER, A. M. & BIG OCEAN THINK TANK 2013. One size does not fit all: the emerging frontier in large-scale marine conservation. *Marine Pollution Bulletin*, 77, 7-10.
TURNHOUT, E., BEHAGEL, J., FERRANTI, F. & BEUNEN, R. 2015. The construction of legitimacy in European nature policy: expertise and participation in the service of cost-effectiveness. *Environmental Politics,* 24 (3)**,** 461-480.
TURNHOUT, E., METZE, T., WYBORN, C., KLENK, N. & LOUDER, E. 2020. The politics of co-production: participation, power, and transformation. *Current Opinion in Environmental Sustainability,* 42**,** 15-21.
TURNHOUT, E., TUINSTRA, W. & HALFFMAN, W. 2019. *Environmental expertise: connecting science, policy and society*, Cambridge University Press.
TURVEY, S. T. & CREES, J. J. 2019. Extinction in the Anthropocene. *Current Biology,* 29 (19)**,** R982-R986.
TVERSKY, A. & KAHNEMAN, D. 1981. The framing of decisions and the psychology of choice. *Science,* 211v(4481)**,** 453-458.
UNEP/MAP & PLANBLEU 2020. *State of the Environment and Development in the Mediterranean*. Nairobi: UNEP/MAP.
VAN ASSELT, M. 2000. *Perspectives on uncertainty and risk: the PRIMA approach to decision Support*, Springer Science & Business Media.
VAN DEN HOVE, S. 2007. A rationale for science–policy interfaces. *Futures,* 39 (7)**,** 807-826.
VAN LEEUWEN, J. & KERN, K. 2013. The external dimension of European Union marine governance: institutional interplay between the EU and the International Maritime Organization. *Global Environmental Politics,* 13 (1)**,** 69-87.
VAN LEEUWEN, J., RAAKJAER, J., VAN HOOF, L., VAN TATENHOVE, J., LONG, R. & OUNANIAN, K. 2014. Implementing the Marine Strategy Framework Directive: A policy

perspective on regulatory, institutional and stakeholder impediments to effective implementation. *Marine Policy,* 50**,** 325-330.

VAN TATENHOVE, J., RAAKJAER, J., VAN LEEUWEN, J. & VAN HOOF, L. 2014. Regional cooperation for European seas: governance models in support of the implementation of the MSFD. *Marine Policy,* 50**,** 364-372.

VANDERGAST, A. G., BOHONAK, A. J., HATHAWAY, S. A., BOYS, J. & FISHER, R. N. 2008. Are hotspots of evolutionary potential adequately protected in southern California? *Biological Conservation,* 141 (6)**,** 1648-1664.

VASILE, M. 2018. The vulnerable bison: practices and meanings of rewilding in the Romanian Carpathians. *Conservation and Society,* 16 (3)**,** 217-231.

VAUGHAN, D., KORPINEN, S., NYGARD, H., ANDERSEN, J. H., MURRAY, C., KALLENBACH, E., JENSEN, N. J., TUNESI, L., MO, G., AGNESI, S., KLANCNIK, K., HEBRON, C., SINGLETON, R. L., PAGOU, K., BORJA, A. & REKER, J. 2019. Biodiversity in Europe's seas. *ETC/ICM Technical Report.* Magdeburg: European Topic Centre on Inland and Marine Waters.

VENNIX, J. A. M. 1996. *Group Model Building: Facilitating Team Learning Using System Dynamics* Chichester, John Wiley and Sons.

VERTZBERGER, Y. Y. 1995. Rethinking and reconceptualizing risk in foreign policy decision-making: A sociocognitive approach. *Political Psychology***,** 347-380.

VÖLKER, S. & KISTEMANN, T. 2011. The impact of blue space on human health and well-being–Salutogenetic health effects of inland surface waters: A review. *International Journal of Hygiene and Environmental Health,* 214 (6)**,** 449-460.

WALKER, B. L. E. & ROBINSON, M. A. 2009. Economic development, marine protected areas and gendered access to fishing resources in a Polynesian lagoon. *Gender, Place & Culture: A Journal of Feminist Geography*, 16 (4), 467-464.

WALSH, J. P. & FAHEY, L. 1986. The role of negotiated belief structures in strategy making. *Journal of Management,* 12 (3)**,** 325-338.

WALSH, J. P., HENDERSON, C. M. & DEIGHTON, J. 1988. Negotiated belief structures and decision performance: An empirical investigation. *Organizational Behavior and Human Decision Processes,* 42 (2)**,** 194-216.

WARREN, C. 2020. Wildness. *In:* KOBAYASHI, A. (ed.) *Encyclopedia of Human Geography.* 2nd ed.: Elsevier.

WATSON, A., CARVER, S., KRENOVA, Z. & MCBRIDE, B. 2015. Science and stewardship to protect and sustain wilderness values. Tenth World Wilderness Congress symposium. *Proceedings RMRS-P-74.* Fort Collins, CO: US Department of Agriculture, Forest Services, Rocky Mountain Research Station. 208, p. 74..

WATSON, J. E. M., SHANAHAN, D. F., DI MARCO, M., ALLAN, J., LAURANCE, W. F., SANDERSON, E. W., MACKEY, B. & VENTER, O. 2016. Catastrophic Declines in Wilderness Areas Undermine Global Environment Targets. *Current Biology,* 26 (21)**,** 2929-2934.

WATSON, R. T. 2005. Turning science into policy: challenges and experiences from the science-policy interface. *Philosophical Transactions of the Royal Society B: Biological Science,* 360 (1454)**,** 471-477.

WATTS, S. & STENNER, P. 2012. *Doing Q Methodological Research: Theory, Method and Interpretation*. London: Sage.

WEI, C., DAI, S., XU, H. & WANG, H. 2020. Cultural worldview and cultural experience in natural tourism sites. *Journal of Hospitality and Tourism Management,* 43**,** 241-249.

WEICK, K. E. 1995. *Sensemaking in organizations*, Sage.

WEIGERT, A. J. 2008. Pragmatic thinking about self, society, and natural environment: Mead, Carson, and beyond. *Symbolic Interaction,* 31 (3)**,** 235-258.

WEINZETTEL, J., HERTWICH, E. G., PETERS, G. P., STEEN-OLSEN, K. & GALLI, A. 2013. Affluence drives the global displacement of land use. *Global Environmental Change,* 23 (2)**,** 433-438.

WESSELINK, A., BUCHANAN, K. S., GEORGIADOU, Y. & TURNHOUT, E. 2013. Technical knowledge, discursive spaces and politics at the science–policy interface. *Environmental Science & Policy,* 30**,** 1-9.

WESTERDAHL, C. 1992. The maritime cultural landscape. *International Journal of Nautical Archaeology,* 21 (1)**,** 5-14.

WESTOBY, R., BECKEN, S. & LARIA, A. P. 2020. Perspectives on the human dimensions of coral restoration. *Regional Environmental Change,* 20**,** 1-13.

WHATMORE, S. J. 2009. Mapping knowledge controversies: science, democracy and the redistribution of expertise. *Progress in Human Geography,* 33 (5)**,** 587-598.

WHITE, M. P., ELLIOTT, L. R., GASCON, M., ROBERTS, B. & FLEMING, L. E. 2020. Blue space, health and well-being: A narrative overview and synthesis of potential benefits. *Environmental Research,* 191, 110169.

WHITE, M., SMITH, A., HUMPHRYES, K., PAHL, S., SNELLING, D. & DEPLEDGE, M. 2010. Blue space: The importance of water for preference, affect, and restorativeness ratings of natural and built scenes. *Journal of Environmental Psychology,* 30 (4)**,** 482-493.

WHITE, M. P., WEEKS, A., HOOPER, T., BLEAKLEY, L., CRACKNELL, D., LOVELL, R. & JEFFERSON, R. L. 2017. Marine wildlife as an important component of coastal visits: The role of perceived biodiversity and species behaviour. *Marine Policy,* 78**,** 80-89.

WILD EUROPE 2013. A Working Definition of European Wilderness and Wild Areas.

WILHELM, T. A., SHEPPARD, C. R. C., SHEPPARD, A. L. S., GAYMER, C. F., PARKS, J., WAGNER, D. & LEWIS, N. A. 2014. Large marine protected areas - advantages and challenges of going big. *Aquatic Conservation: Marine and Freshwater Ecosystems,* 24, 24-30.

WILLIAMS, C., REES, S., SHEEHAN, E. V., ASHLEY, M., DAVIES, W. 2022. Rewilding the Sea? A rapid, low cost model for valuing the ecosystem service benefits of kelp forest recovery based on existing valuations and benefit transfers. *Frontiers in Ecology and Evolution*, 10, 642775.

WILSON, E. O. A. 2016. *Half-earth: our planet's fight for life*. London: Liveright Publishing Corporation.

WOLFE, M. B. & WILLIAMS, T. J. 2017. Effects of text content and beliefs on informal argument evaluation. *Discourse Processes,* 54 (5-6)**,** 446-462.

WOODS, M. A. 2017. *Rethinking wilderness*. Peterborough, Ontario: Broadview Press.

WOOLDRIDGE, B. & FLOYD, S. W. 1989. Research notes and communications strategic process effects on consensus. *Strategic Management Journal,* 10 (3)**,** 295-302.

WORACHANANANT, S., CARTER, R., HOCKINGS, M. & REOPANICHKUL, P. 2008. Managing the impacts of SCUBA divers on Thailand's coral reefs. *Journal of Sustainable Tourism,* 16 (6)**,** 645-663.

WYLES, K. J., WHITE, M. P., HATTAM, C., PAHL, S., KING, H. & AUSTEN, M. 2019. Are some natural environments more psychologically beneficial than others? The importance of type and quality on connectedness to nature and psychological restoration. *Environment and Behaviour,* 51 (2), 111-143.

WYNNE-JONES, S., STROUTS, G. & HOLMES, G. 2018. Abandoning or Reimagining a Cultural Heartland? Understanding and Responding to Rewilding Conflicts in Wales - the Case of the Cambrian Wildwood. *Environmental Values,* 27 (4)**,** 377-403.

WYNVEEN, C. J., KYLE, G. T. & SUTTON, S. G. 2014. Environmental worldview, place attachment, and awareness of environmental impacts in a marine environment. *Environment and Behavior,* 46 (8)**,** 993-1017.

XIAO, C., DUNLAP, R. E. & HONG, D. 2019. Ecological worldview as the central component of environmental concern: Clarifying the role of the NEP. *Society & Natural Resources,* 32 (1)**,** 53-72.

XU, H., CAO, Y., YU, D., CAO, M., HE, Y., GILL, M. & PEREIRA, H. M. 2021. Ensuring effective implementation of the post-2020 global biodiversity targets. *Nature Ecology & Evolution,* 5 (4)**,** 411-418.

YANOW, D. 2000. *Conducting interpretive policy analysis*, Sage.

YERBURY, R., BOYD, W. & WEILER, B. 2020. Marine Wildlife Experiences and Beliefs: Towards Reciprocal Benefits. *Ecopsychology,* 12 (3)**,** 209-221.

YOUNG, M. A. L., FOALE, S. & BELLWOOD, D. R. 2015. The last marine wilderness: spearfishing for trophy fishes in the Coral Sea. *Environmental Conservation,* 43 (1)**,** 90-95.

YUKI, M. & BREWER, M. 2014. *Culture and group processes*. New York: Oxford University Press.

ZABALA, A., SANDBROOK, C. & MUKHERJEE, N. 2018. When and how to use Q methodology to understand perspectives in conservation research. *Conservation Biology,* 32 (5)**,** 1185-1194.

ZAKAI, D. & CHADWICK-FURMAN, N. E. 2002. Impacts of intensive recreational diving on reef corals at Eilat, northern Red Sea. *Biological Conservation,* 105 (2)**,** 179-187.

ZANOLIN, G. & PAÜL, V. 2020. Exploring the Sustainability of Wilderness Narratives in Europe. Reflections from Val Grande National Park (Italy). *Geographical Review,* 112 (3), 444-465.

ZOMER, R. J., XU, J., WANG, M., TRABUCCO, A. & LI, Z. 2015. Projected impact of climate change on the effectiveness of the existing protected area network for biodiversity conservation within Yunnan Province, China. *Biological Conservation,* 184**,** 335-345.

APPENDIX I – Ethics Approval

University of St Andrews | FOUNDED 1413

School of Geography & Sustainable Development Ethics Committee

Dear Saso

Thank you for submitting your ethical application which was considered at the School Ethics Committee meeting on 12th May 2021.

The School of Geography & Sustainable Development Ethics Committee, acting on behalf of the University Teaching and Research Ethics Committee (UTREC), has approved this application:

Approval Code:	GG15487	**Approved on:**	1st June 2021	**Approval Expiry:**	1st June 2026
Project Title:	Social constructions of marine wilderness in Europe: How do they influence marine policy interpretation and implementation?				
Researcher(s):	Saso Gorjanc				
Supervisor(s):	Dr Tim Stojanovic				

The following supporting documents are also acknowledged and approved:

1. Participant Information Sheet
2. Participant Consent Form
3. Participant Debrief Form
4. Interview questions/focus group guide

Approval is awarded for 5 years, see the approval expiry data above.

If your project has not commenced within 2 years of approval, you must submit a new and updated ethical application to your School Ethics Committee.

If you are unable to complete your research by the approval expiry date you must request an extension to the approval period. You can write to your School Ethics Committee who may grant a discretionary extension of up to 6 months. For longer extensions, or for any other changes, you must submit an ethical amendment application.

You must report any serious adverse events, or significant changes not covered by this approval, related to this study immediately to the School Ethics Committee.

Approval is given on the following conditions:

- that you conduct your research in line with:
    - the details provided in your ethical application
    - the University's Principles of Good Research Conduct
    - the conditions of any funding associated with your work
- that you obtain all applicable additional documents (see the 'additional documents' webpage for guidance) before research commences.

You should retain this approval letter with your study paperwork.

Yours sincerely,

Dr Antje Brown

SEC Convener

cc. Supervisor (if a student)

School of Geography & Sustainable Development Ethics Committee
Dr Antje Brown
Telephone: 01334 462394 Email: ggethics@st-andrews.ac.uk

APPENDIX II – Content Analysis – list of coded documents

European Commission (2021) An Advocacy Toolkit for Nature. Biodiversity loss, nature protection, and the EU strategy for nature. Brussels, European Union.

European Commission (2020) COM(2020) 380 final. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. EU Biodiversity Strategy for 2030. Bringing nature back into our lives. Brussels, European Union

European Commission (2020) The business case for biodiversity. The European Green Deal. Brussels, European Union.

European Commission (2020) Bringing nature back into our lives. EU 2030 Biodiversity strategy. Brussels, European Union.

European Commission (2020) EU Biodiversity Strategy. Bringing nature back into our lives. Luxembourg, Publications Office of the European Union.

Marine Expert Group under the Birds and Habitats Directives (2021) Draft Minutes. Meeting of the Marine Expert Group (MEG). 22-23 February 2021, online meeting (Webex).

European Commission (2020) Questions and Answers: EU Biodiversity Strategy for 2030 – Bringing nature back into our lives. Brussels, European Union.

European Commission (2021) EU Biodiversity Strategy for 2030. Bringing nature back into our lives. Luxembourg, Publications Office of the European Union.

European Commission (2015) The international dimension of the EU Common Fisheries Policy. Luxembourg, Publications Office of the European Union.

Regulation (EU) 2016/2336 of the European Parliament and of the Council of 14 December 2016 establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic and provisions for fishing in international waters of the nort-east Atlantic and repealing Council Regulation (EC) No 2347/2002.

European Commission (2021) SWD(2021) 111 final. Commission Staff Working Document. Executive summary of the evaluation of the Regulation (EU) 2016/2336 of the European parliament and of the Council of 14 December 2016 establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic and provisions for fishing in international waters of the north-east Atlantic and repealing Council Regulation (EC) No 2347/2002.

European Commission (2020) Facts and Figures on the Common Fisheries Policy. Basic statistical data – 2020 edition. Luxembourg, Publications Office of the European Union.

Deltares (2015) Proposal for an assessment method of the ecological coherence of networks of marine protected areas in Europe. Deltares.

Vaughan, D., Korpinen, S., Nygard, H., Andersen, J.H., Murray, C., Kallenbach, E., Norrevang Jensen, J., Tunesi, L., Mo, G., Agnesi, S., Klancnik, K., Vina-Herbon, C., Singleton, G., Pagou, K., Borja, A., Reker, J. (2019) Biodiversity in Europe's seas. ETC/ICM Technical Report 3/2019> European Topic Centre on Inland and Marine Waters, 92pp.

Agnesi, S., Mo, G., Annunziatellis, A., Chaniotis, P., Korpinen, S., Snoj, L., Globevnik, L., Tunesi, L., Reker, J. (2017) Assessing Europe's marine protected area networks – proposed methodologies and scenarios, ed. Kunitzer, a. ETC/ICM Technical Report 2/2017, Magdeburg: European Topic Centre on inland, coastal and marine waters, 71pp.

European Environment Agency (2019) Marine messages II: Navigating the course towards clean, healthy and productive seas through implementation of an ecosystem-based approach. EEA Report No 17/2019.

Korpinen, S., Klancnik, K., Peterlin, M., Nurmi, M., Laamanen, L., Zupancic, G., Murray, C., Harvey, T., Andersen, J.H., Zenetos, A., Stein, U., Tunesi, L., Abhold, K., Piet, G., Kallenbach, E., Agnesi, S., Bolman, B., Vaughan, D., Reker, J., Royo Gelabert, E. (2019) Multiple pressures and their combined effects in Europe's seas. ETC/ICM Technical Report 4/2019: European Topic Centre on Inland, Coastal and Marine waters, 164 pp.

European Commission (2020) COM(2020) 259 final. Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC). Brussels.

Deltares (2014) Analysis and comparison of criteria used by Member States for establishing coherent, adequate and representative networks of marine protected areas. Deltares.

European Commission (2020) SWD(2020) 62 final. Commission Staff Working Document. Background document for the Marine Strategy Framework Directive on the determination of good environmental status and its links to assessments and the setting of environmental targets. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2020) SWD(2020) 61 final. Commission Staff Working Document. Review of the status of the marine environment in the European Union. Towards clean, healthy and productive oceans and seas. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2020) SWD(2020) 60 final. Commission Staff Working Document. Key stages and progress up to 2019. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2014) SWD(2014) 49 final. Commission Staff Working Document. Annex. Accompanying the document Commission Report to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) – The European Commission's assessment and guidance.

European Court of Auditors (2020) Marine environment: EU protection is wide but not deep. Luxembourg.

Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).

Workshop on coordinated implementation of nature, biodiversity, marine and water policies (2014) Summary report. 2-3 December 2014, Brussels.

Martin-Roumegas, L. (2016) Marine Strategy Frameworks Directive: Toward a sustainable development of marine coastal & river activities. EEB Water working group meeting 18 April 2016, Brussels.

OSPAR (2014) OSPAR regional plan to improve adequacy and coherence of MSFD implementation 2014-2018.

European Commission (2018) COM(2018) 562 final. Report from the Commission to the European Parliament and the Council assessing Member States' programmes of measures under the Marine Strategy Framework Directive. Brussels.

European Commission (2014) COM(2014) 97 final. Report from the Commission to the Council and the European Parliament. The first phase of implementation of the Marine Strategy

Framework Directive (2008/56/EC). The European Commission's assessment and guidance. Brussels.

Cardoso, A.C., Cochrane, S., Doerner, H., Ferreira, J.G., Galgani, C., Hagebro, C., Hanke, G., Hoepffner, N., Keizer, P.D., Law, R., Olenin, S., Piet, G.J., Rice, J., Rogers, S.I., Swartenbroux, F., Tasker, M.L., van de Bund, W. (2010) Scientific support to the European Commission on the Marine Strategy Framework Directive. Management Group Report. JRC Scientific and Technical Reports.

European Commission (2018) SWD(2018) 393 final. Commission Staff Working Document. Accompanying the document Report from the Commission to the European Parliament and the Council assessing Member States' programmes of measures under the Marine Strategy Framework Directive. Brussels.

European Commission (2014) SWD(2014) 49 final. Commission Staff Working Document. Annex. Accompanying the document Commission Report to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) – The European Commission's assessment and guidance. Brussels

Rogers, S., Casini, M., Cury, P., Heath, M., Irigoien, X., Kuosa, H., Scheidat, M., Skov, H., Stergiou, K., Trenkel, V., WIlner, J., Yunev, O. (2010) Marine Strategy Framework Directive Task Group 4 Report. Food webs. JRC Scientific and Technical Reports.

Deltares (2014) Workshop document of the MEG workshops, 6th of May, Brussels. Workshop report of Marine Expert Group. Deltares.

Cochrane, S.K.J., Conner, D.W., Nilsson, P., Mitchell, I., Reker, J., Franco, J., Valavanis, V., Moncheva, S., Ekebom, J., Nygaard, K., Serrao Santos, R., Narberhaus, I., Packeiser, T., van de Bund, W., Cardoso, A.C. (2010) Marine Strategy Directive. Task Group 1 Report. Biological Diversity. JRC Scientific and Technical Reports.

European Environment Agency. Developing a 2020 biodiversity sub-target based on conservation status assessment under Art17 (Habitats Directive): Proposed methodology and results. Note 02 sub target EEA 12-07.

Tucker, G., Stuart, T., Naumann, S., Stein, U. Landgrebe-Trinkunaite, R., Knol, O. (2019) Study on identifying the drivers of successful implementation of the Birds and Habitats Directives under contract ENV.F.1/FRA/2014/0063. Final Report. Institute for European Environmental Policy.

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. Official Journal of the European Union.

Expert group on the Birds and Habitats Directives ("NADEG") (2018) Measuring progress under Target 1 of the EU 2020 biodiversity strategy. Document No: Doc NADEG 19-05-06

Marine Expert Group under the Birds and Habitats Directive. Meeting of the Marine Expert Group (MEG) (2019). European Commission, DG Environment. Minutes.

Expert group on the Birds and Habitats Directives ("NADEG") (2019) Discussion paper on the shared responsibility of Member States in implementing measures under Article 6(1) and (2) of the Habitats Directive in the context of the procedure under Article 11 of Regulation (EU) 1380/2013. Document No: Doc NADEG 19-11-06-2

Expert group on the Birds and Habitats Directives ("NADEG") (2021) Ad-hoc meeting DRAFT MINUTES. Document No: Doc NADEG 21-08-18

Marine Expert Group under the Birds and Habitats Directive. Meeting of the Marine Expert Group (MEG) (2017). Minutes Meeting of the Marine Expert Group 15 December 2017. European Commission, DG Environment.

European Commission (2021) Draft technical note on criteria and guidance for protected area designations. ENV.D.3/JC. Brussels.

European Commission (2015) Report from the Commission to the Council and the European Parliament. The State of Nature in the European Union. Report on the status of and trends for habitat types and species covered by the Birds and Habitats Directives for the 2007-2012 period as required under Article 17 of the Habitats Directive and Article 12 of the Birds Directive. COM(2015) 219 final. Brussels.

The N2K Group (2012) Common methodology for assessing the impact of fisheries on marine Natura 2000. A proposal of methodology for the Marine Expert Group, for the European Commission, Directorate General Environment, B3 Unit in the framework of the Service Contract No. 070307/2010/578174/SER/B3

Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. Final version, 2017.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities.

Convention on the conservation of European wildlife and natural habitats (2018) Standing Committee, 38th meeting. Pan-European Action Plan for Sturgeons. Strasbourg.

Marine Strategy Coordination Group (2012) Links between MSFD and the Nature Directives. DG Environment (B3).

European Commission (2016) European Red List of Habitats. Part 1. Marine habitats. Luxembourg: Publications Office of the European Union.

Expert group on the Birds and Habitats Directives ("NADEG") (2021) 16th Meeting DRAFT MINUTES. Document No: Doc NADEG 21-04-09

European Environment Agency (2014) Measuring progress under Target 1 of the EU biodiversity strategy.

MacSharry, B. (2021) Current State of protected areas in the EU: A network of over 108000 protected areas across 27 countries protecting Europe's biodiversity. NADEG meeting. European Environment Agency.

European Environment Agency (2020) State of nature in the EU: Results from reporting under the nature directives 2013-2018. EEA Report No 10/2020

Sovinc, A. Strict protection in natural ecosystems and managed landscapes: IUCN protected area categories with explanatory notes.

European Commission (2013) Guidelines on Wilderness in Natura 2000: Management of terrestrial wilderness and wild areas within the Natura 2000 network. Technical Report – 2013 – 069.

APPENDIX III – Interpretive Analysis- list of coded documents

European Commission (2021) An Advocacy Toolkit for Nature. Biodiversity loss, nature protection, and the EU strategy for nature. Brussels, European Union.

European Commission (2020) COM(2020) 380 final. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. EU Biodiversity Strategy for 2030. Bringing nature back into our lives. Brussels, European Union

European Commission (2020) The business case for biodiversity. The European Green Deal. Brussels, European Union.

European Commission (2020) Bringing nature back into our lives. EU 2030 Biodiversity strategy. Brussels, European Union.

European Commission (2020) EU Biodiversity Strategy. Bringing nature back into our lives. Luxembourg, Publications Office of the European Union.

Marine Expert Group under the Birds and Habitats Directives (2021) Draft Minutes. Meeting of the Marine Expert Group (MEG). 22-23 February 2021, online meeting (Webex).

European Commission (2020) Questions and Answers: EU Biodiversity Strategy for 2030 – Bringing nature back into our lives. Brussels, European Union.

European Commission (2021) EU Biodiversity Strategy for 2030. Bringing nature back into our lives. Luxembourg, Publications Office of the European Union.

European Commission (2015) The international dimension of the EU Common Fisheries Policy. Luxembourg, Publications Office of the European Union.

Regulation (EU) 2016/2336 of the European Parliament and of the Council of 14 December 2016 establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic and provisions for fishing in international waters of the nort-east Atlantic and repealing Council Regulation (EC) No 2347/2002.

European Commission (2021) SWD(2021) 111 final. Commission Staff Working Document. Executive summary of the evaluation of the Regulation (EU) 2016/2336 of the European parliament and of the Council of 14 December 2016 establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic and provisions for fishing in international waters of the north-east Atlantic and repealing Council Regulation (EC) No 2347/2002.

European Commission (2020) Facts and Figures on the Common Fisheries Policy. Basic statistical data – 2020 edition. Luxembourg, Publications Office of the European Union.

Deltares (2015) Proposal for an assessment method of the ecological coherence of networks of marine protected areas in Europe. Deltares.

Vaughan, D., Korpinen, S., Nygard, H., Andersen, J.H., Murray, C., Kallenbach, E., Norrevang Jensen, J., Tunesi, L., Mo, G., Agnesi, S., Klancnik, K., Vina-Herbon, C., Singleton, G., Pagou, K., Borja, A., Reker, J. (2019) Biodiversity in Europe's seas. ETC/ICM Technical Report 3/2019> European Topic Centre on Inland and Marine Waters, 92pp.

Agnesi, S., Mo, G., Annunziatellis, A., Chaniotis, P., Korpinen, S., Snoj, L., Globevnik, L., Tunesi, L., Reker, J. (2017) Assessing Europe's marine protected area networks – proposed methodologies and scenarios, ed. Kunitzer, a. ETC/ICM Technical Report 2/2017, Magdeburg: European Topic Centre on inland, coastal and marine waters, 71pp.

European Environment Agency (2019) Marine messages II: Navigating the course towards clean, healthy and productive seas through implementation of an ecosystem-based approach. EEA Report No 17/2019.

Korpinen, S., Klancnik, K., Peterlin, M., Nurmi, M., Laamanen, L., Zupancic, G., Murray, C., Harvey, T., Andersen, J.H., Zenetos, A., Stein, U., Tunesi, L., Abhold, K., Piet, G., Kallenbach, E., Agnesi, S., Bolman, B., Vaughan, D., Reker, J., Royo Gelabert, E. (2019) Multiple pressures and their combined effects in Europe's seas. ETC/ICM Technical Report 4/2019: European Topic Centre on Inland, Coastal and Marine waters, 164 pp.

European Commission (2020) COM(2020) 259 final. Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC). Brussels.

Deltares (2014) Analysis and comparison of criteria used by Member States for establishing coherent, adequate and representative networks of marine protected areas. Deltares.

European Commission (2020) SWD(2020) 62 final. Commission Staff Working Document. Background document for the Marine Strategy Framework Directive on the determination of good environmental status and its links to assessments and the setting of environmental targets. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2020) SWD(2020) 61 final. Commission Staff Working Document. Review of the status of the marine environment in the European Union. Towards clean, healthy and productive oceans and seas. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2020) SWD(2020) 60 final. Commission Staff Working Document. Key stages and progress up to 2019. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2014) SWD(2014) 49 final. Commission Staff Working Document. Annex. Accompanying the document Commission Report to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) – The European Commission's assessment and guidance.

European Court of Auditors (2020) Marine environment: EU protection is wide but not deep. Luxembourg.

Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).

Workshop on coordinated implementation of nature, biodiversity, marine and water policies (2014) Summary report. 2-3 December 2014, Brussels.

Martin-Roumegas, L. (2016) Marine Strategy Frameworks Directive: Toward a sustainable development of marine coastal & river activities. EEB Water working group meeting 18 April 2016, Brussels.

OSPAR (2014) OSPAR regional plan to improve adequacy and coherence of MSFD implementation 2014-2018.

European Commission (2018) COM(2018) 562 final. Report from the Commission to the European Parliament and the Council assessing Member States' programmes of measures under the Marine Strategy Framework Directive. Brussels.

European Commission (2014) COM(2014) 97 final. Report from the Commission to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC). The European Commission's assessment and guidance. Brussels.

Cardoso, A.C., Cochrane, S., Doerner, H., Ferreira, J.G., Galgani, C., Hagebro, C., Hanke, G., Hoepffner, N., Keizer, P.D., Law, R., Olenin, S., Piet, G.J., Rice, J., Rogers, S.I., Swartenbroux, F., Tasker, M.L., van de Bund, W. (2010) Scientific support to the European Commission on the Marine Strategy Framework Directive. Management Group Report. JRC Scientific and Technical Reports.

European Commission (2018) SWD(2018) 393 final. Commission Staff Working Document. Accompanying the document Report from the Commission to the European Parliament and the Council assessing Member States' programmes of measures under the Marine Strategy Framework Directive. Brussels.

European Commission (2014) SWD(2014) 49 final. Commission Staff Working Document. Annex. Accompanying the document Commission Report to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) – The European Commission's assessment and guidance. Brussels

Rogers, S., Casini, M., Cury, P., Heath, M., Irigoien, X., Kuosa, H., Scheidat, M., Skov, H., Stergiou, K., Trenkel, V., WIlner, J., Yunev, O. (2010) Marine Strategy Framework Directive Task Group 4 Report. Food webs. JRC Scientific and Technical Reports.

Deltares (2014) Workshop document of the MEG workshops, 6th of May, Brussels. Workshop report of Marine Expert Group. Deltares.

Cochrane, S.K.J., Conner, D.W., Nilsson, P., Mitchell, I., Reker, J., Franco, J., Valavanis, V., Moncheva, S., Ekebom, J., Nygaard, K., Serrao Santos, R., Narberhaus, I., Packeiser, T., van de Bund, W., Cardoso, A.C. (2010) Marine Strategy Directive. Task Group 1 Report. Biological Diversity. JRC Scientific and Technical Reports.

European Environment Agency. Developing a 2020 biodiversity sub-target based on conservation status assessment under Art17 (Habitats Directive): Proposed methodology and results. Note 02 sub target EEA 12-07.

Tucker, G., Stuart, T., Naumann, S., Stein, U. Landgrebe-Trinkunaite, R., Knol, O. (2019) Study on identifying the drivers of successful implementation of the Birds and Habitats Directives under contract ENV.F.1/FRA/2014/0063. Final Report. Institute for European Environmental Policy.

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. Official Journal of the European Union.

Expert group on the Birds and Habitats Directives ("NADEG") (2018) Measuring progress under Target 1 of the EU 2020 biodiversity strategy. Document No: Doc NADEG 19-05-06

Marine Expert Group under the Birds and Habitats Directive. Meeting of the Marine Expert Group (MEG) (2019). European Commission, DG Environment. Minutes.

Expert group on the Birds and Habitats Directives ("NADEG") (2019) Discussion paper on the shared responsibility of Member States in implementing measures under Article 6(1) and (2) of the Habitats Directive in the context of the procedure under Article 11 of Regulation (EU) 1380/2013. Document No: Doc NADEG 19-11-06-2

Expert group on the Birds and Habitats Directives ("NADEG") (2021) Ad-hoc meeting DRAFT MINUTES. Document No: Doc NADEG 21-08-18

Marine Expert Group under the Birds and Habitats Directive. Meeting of the Marine Expert Group (MEG) (2017). Minutes Meeting of the Marine Expert Group 15 December 2017. European Commission, DG Environment.

European Commission (2021) Draft technical note on criteria and guidance for protected area designations. ENV.D.3/JC. Brussels.

European Commission (2015) Report from the Commission to the Council and the European Parliament. The State of Nature in the European Union. Report on the status of and trends for habitat types and species covered by the Birds and Habitats Directives for the 2007-2012 period as required under Article 17 of the Habitats Directive and Article 12 of the Birds Directive. COM(2015) 219 final. Brussels.

The N2K Group (2012) Common methodology for assessing the impact of fisheries on marine Natura 2000. A proposal of methodology for the Marine Expert Group, for the European Commission, Directorate General Environment, B3 Unit in the framework of the Service Contract No. 070307/2010/578174/SER/B3

Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. Final version, 2017.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities.

Convention on the conservation of European wildlife and natural habitats (2018) Standing Committee, 38th meeting. Pan-European Action Plan for Sturgeons. Strasbourg.

Marine Strategy Coordination Group (2012) Links between MSFD and the Nature Directives. DG Environment (B3).

European Commission (2016) European Red List of Habitats. Part 1. Marine habitats. Luxembourg: Publications Office of the European Union.

Expert group on the Birds and Habitats Directives ("NADEG") (2021) 16th Meeting DRAFT MINUTES. Document No: Doc NADEG 21-04-09

European Environment Agency (2014) Measuring progress under Target 1 of the EU biodiversity strategy.

MacSharry, B. (2021) Current State of protected areas in the EU: A network of over 108000 protected areas across 27 countries protecting Europe's biodiversity. NADEG meeting. European Environment Agency.

European Environment Agency (2020) State of nature in the EU: Results from reporting under the nature directives 2013-2018. EEA Report No 10/2020

Sovinc, A. Strict protection in natural ecosystems and managed landscapes: IUCN protected area categories with explanatory notes.

European Commission (2013) Guidelines on Wilderness in Natura 2000: Management of terrestrial wilderness and wild areas within the Natura 2000 network. Technical Report – 2013 – 069.

APPENDIX IV – Interview Guide

Semi-structured interview aide memoir

The interview is semi-structured but designed in a way to be free-flowing and with the interviewee controlling the flow of the discussion and bringing up the points they deem relevant, with question being meant mainly as prompts to steer the discussion into a few general directions. The numbered questions will be the starting ones, with the second tier questions used as potential prompts, if the discussion flow lulls.

Part 1 – Introduction and work

1. Can you tell me a bit about your work?
    a. How long have you been here?
    b. What do you do? What does your work entail?
    c. Who do you mostly work with within and outside your institution?
    d. At which (governance) level do you mostly work?
2. Do you enjoy your work?
    a. What motivates your work here?
    b. Why do you keep working here?
    c. Do you think your work has an impact? Why and how?
3. Can you tell me more about your work on marine policies?
    a. Which policies do you work with? Which ones affect your work and which other sectors cover them?
    b. What effect do you see EU marine environmental policies having on the environment?
        i. Do you think, the situation would be different in the absence of EU policies?
    c. Who do you work with on these policies? Do you get advice/support? What kind of advice or from whom is best for you?
4. How do you balance expert inputs with policy and political requirements?

Part2 – Social constructions of nature

Introduction

1. Can you tell me your first associations with the following words?
    a. Nature, wilderness, ocean, sea, marine environment, marine wilderness
2. If you'd have to, how would you describe or define marine wilderness?
3. Have you ever experienced a place or had an experience that you would describe with the term wild or that represent marine wilderness to you?
4. If you try to think about marine wilderness, are there any places that come to mind?
    a. Real or imagined?

Restorative potential of nature

1. Which kind of places do you tend to frequent for relaxation or for holidays?
2. Tell me about any experience that you associate with the sea. Go into as much detail as you wish
    a. How did you feel?

b. Why did you go?
c. Would you go/do it again?
d. Where did this happen?

3. Do you find particular marine places or experiences particularly relaxing? Can you tell me about them?

Sense of place

1. If you imagine yourself in a specific wild marine place (favourite marine/coastal spot) that you described, can you tell me how you feel there? What are the things that you like or particularly treasure?
    a. Did you have any meaningful experiences in that place? Care to share some of them?
    b. Can you elaborate why that particular place holds a specific meaning for you?
    c. Do you think that your type of attachment is common among others as well or that you are more of an outlier?
    d. Do you notice or can think of any differences in your behaviours or thoughts when you are in this place?

Social constructions

1. Could you tell me about some of your earliest memories associated with the sea?
    a. Who brought you to the coast first?
    b. Where/When did you learn most about the sea?
    c. Which experience(s) do you think shaped you most in relation to your current attitude towards the seas?
        i. Was there anyone in particular involved in that?
2. Do you think your perception of the sea is much different from your parents/grandparents/children?

Part 3 – Policy/Conservation

1. What is the environmental status of the sea right now?
    a. Do you think we are doing enough? Too much, too little? What more should be done?
2. What do you think the state of marine biodiversity is right now?
    a. Is conservation doing enough?
    b. What more could be done in your opinion?
3. What role do EU and other international policies have in addressing these issues?
    a. Which ones are the main ones, in your opinion?
    b. Can you expand on the role of these policies?
    c. How are they implemented in your country?
        i. Is this good enough? Would you change anything?
4. Talk me through the main steps in the interpretation and transposition of these supranational policies into national context. What is the most important thing to consider?
    a. In your opinion, was the transposition of main policies done well, or would you, personally, change any aspect of it?
        i. What could be improved?
        ii. Why did the gaps occur? (speculations)

5. In terms of how the requirements of these policies are now transposed in national law, would you change anything in the implementation within these bounds?

   a. What and why?

APPENDIX V – Q Concourse – list of coded documents – academic articles

ÁLVAREZ-FERNÁNDEZ, I., FREIRE, J., NAYA, I., FERNÁNDEZ, N. & SÁNCHEZ-CARNERO, N. 2020. Failures in the design and implementation of management plans of marine protected areas: an empirical analysis for the North-east Atlantic Ocean. Ocean & Coastal Management, 192, 105178.

BARR, B. 2001. Getting the job done: protecting marine wilderness. In: HARMON, D. (ed.) 11th Conference on Research and Resource Management in Parks and on Public Lands. The George Wright Society.

BARRETT, S. M. 2004. Implementation studies: time for a revival? Personal reflections on 20 years of implementation studies. Public administration, 82, 249-262.

BASTARDIE, F., DANTO, J., RUFENER, M.-C., VAN DENDEREN, D., EIGAARD, O. R., DINESEN, G. E. & NIELSEN, J. R. 2020. Reducing fisheries impacts on the seafloor: A bio-economic evaluation of policy strategies for improving sustainability in the Baltic Sea. Fisheries Research, 230, 105681.

BENYON, R., BARHAM, P., EDWARDS, J., KAISER, M. J., OWENS, S., DE ROZARIEUX, N., ROBERTS, C. & SYKES, B. 2020. Benyon Review into Highly Protected Marine Area. In: BENYON, R. (ed.).

BEUNEN, R. 2006. European nature conservation legislation and spatial planning: For better or for worse? Journal of environmental planning and management, 49, 605-619.

BEUNEN, R., VAN DER KNAAP, W. G. & BIESBROEK, G. R. 2009. Implementation and integration of EU environmental directives. Experiences from The Netherlands. Environmental policy and governance, 19, 57-69.

BIGAGLI, E. 2015. The EU legal framework for the management of marine complex social–ecological systems. Marine Policy, 54, 44-51.

BOTSFORD, L. W., BRUMBAUGH, D. R., GRIMES, C., KELLNER, J. B., LARGIER, J., O'FARRELL, M. R., RALSTON, S., SOULANILLE, E. & WESPESTAD, V. 2008. Connectivity, sustainability, and yield: bridging the gap between conventional fisheries management and marine protected areas. Reviews in Fish Biology and Fisheries, 19, 69-95.

BOYES, S. J. & ELLIOTT, M. 2014. Marine legislation–the ultimate 'horrendogram': international law, European directives & national implementation. Marine pollution bulletin, 86, 39-47.

BOYES, S. J., ELLIOTT, M., MURILLAS-MAZA, A., PAPADOPOULOU, N. & UYARRA, M. C. 2016. Is existing legislation fit-for-purpose to achieve Good Environmental Status in European seas? Marine Pollution Bulletin, 111, 18-32.

CAVALLO, M., ELLIOTT, M., QUINTINO, V. & TOUZA, J. 2018. Can national management measures achieve good status across international boundaries?-A case study of the Bay of Biscay and Iberian coast sub-region. Ocean & coastal management, 160, 93-102.

CLAUDET, J., OSENBERG, C. W., DOMENICI, P., BADALAMENTI, F., MILAZZO, M., FALCON, J. M., BERTOCCI, I., BENEDETTI-CECCHI, L., GARCIA-BORBOROGLU, P., GONI, R., BORG, J. A., FORCADA, A., DE LUCIA, G. A., PEREZ-RUZAFA, A., AFONSO, P., BRITO, A., GUALA, I., LE DIREACH, L., SANCHEZ-MECA, J., SOMERFIELD, P. J. & PLANES, S. 2010. Marine reserves: Fish life history and ecological traits matter. Ecological Applications, 20, 830-839.

COTE, I. M. & DARLING, E. S. 2010. Rethinking ecosystem resilience in the face of climate change. PLoS Biol, 8, e1000438.

CRESSEY, D. 2016. Talks aim to tame marine Wild West. Nature, 532, 18-19.

D'AGATA, S., MOUILLOT, D., WANTIEZ, L., FRIEDLANDER, A. M., KULBICKI, M. & VIGLIOLA, L. 2016. Marine reserves lag behind wilderness in the conservation of key functional roles. Nature Communications, 7.

DAVIS, G. E. Why don't parks and sanctuaries protect marine fish too? The George Wright Forum, 1999. JSTOR, 88-96.

DEARY, H. & WARREN, C. R. 2017. Divergent visions of wildness and naturalness in a storied landscape: Practices and discourses of rewilding in Scotland's wild places. Journal of Rural Studies, 54, 211-222.

ECONOMOU, A., KOTSEV, I., PEEV, P. & KATHIOJOTES, N. 2020. Coastal and marine spatial planning in Europe. Case studies for Greece and Bulgaria. Regional Studies in Marine Science, 38, 101353.

EDGAR, G. J., LAST, P. R., BARRETT, N. S., GOWLETT-HOLMES, K., DRIESSEN, M. & MOONEY, P. 2010. Conservation of natural wilderness values in the Port Davey marine and estuarine protected area, south-western Tasmania. Aquatic Conservation: Marine and Freshwater Ecosystems, 20, 297-311.

EDGAR, G. J., STUART-SMITH, R. D., WILLIS, T. J., KININMONTH, S., BAKER, S. C., BANKS, S., BARRETT, N. S., BECERRO, M. A., BERNARD, A. T., BERKHOUT, J., BUXTON, C. D., CAMPBELL, S. J., COOPER, A. T., DAVEY, M., EDGAR, S. C., FORSTERRA, G., GALVAN, D. E., IRIGOYEN, A. J., KUSHNER, D. J., MOURA, R., PARNELL, P. E., SHEARS, N. T., SOLER, G., STRAIN, E. M. & THOMSON, R. J. 2014. Global conservation outcomes depend on marine protected areas with five key features. Nature, 506, 216-20.

EDWARDS, D. P., GILROY, J. J., WOODCOCK, P., EDWARDS, F. A., LARSEN, T. H., ANDREWS, D. J., DERHÉ, M. A., DOCHERTY, T. D., HSU, W. W. & MITCHELL, S. L. 2014. Land-sharing versus land-sparing logging: reconciling timber extraction with biodiversity conservation. Global change biology, 20, 183-191.

ELLIOTT, M., BOYES, S. J., BARNARD, S. & BORJA, Á. 2018. Using best expert judgement to harmonise marine environmental status assessment and maritime spatial planning. Marine pollution bulletin, 133, 367-377.

EUROPEAN COMMISSION 2013. Guidelines on Wilderness in Natura 2000: Management of terrestrial wilderness and wild areas within the Natura 2000 Network.

FENBERG, P. B., CASELLE, J. E., CLAUDET, J., CLEMENCE, M., GAINES, S. D., ANTONIO GARCÍA-CHARTON, J., GONÇALVES, E. J., GRORUD-COLVERT, K., GUIDETTI, P., JENKINS, S. R., JONES, P. J. S., LESTER, S. E., MCALLEN, R., MOLAND, E., PLANES, S. & SØRENSEN, T. K. 2012. The science of European marine reserves: Status, efficacy, and future needs. Marine Policy, 36, 1012-1021.

FISCHER, J., ABSON, D. J., BUTSIC, V., CHAPPELL, M. J., EKROOS, J., HANSPACH, J., KUEMMERLE, T., SMITH, H. G. & VON WEHRDEN, H. 2014. Land sparing versus land sharing: moving forward. Conservation Letters, 7, 149-157.

FISHER, M., CARVER, S., KUN, Z., MCMORRAN, R., ARRELL, K. & MITCHELL, G. 2010. Review of status and conservation of wild land in Europe. Wildland Research Institute.

FOLKE, C., CARPENTER, S., WALKER, B., SCHEFFER, M., ELMQVIST, T., GUNDERSON, L. & HOLLING, C. S. 2004. Regime Shifts, Resilience, and Biodiversity in Ecosystem Management. Annual Review of Ecology, Evolution, and Systematics, 35, 557-581.

FRASCHETTI, S., GUARNIERI, G., BEVILACQUA, S., TERLIZZI, A. & BOERO, F. 2013. Protection enhances community and habitat stability: evidence from a mediterranean marine protected area. PLoS One, 8, e81838.

FRISCH, A. J. & RIZZARI, J. R. 2019. Parks for sharks: human exclusion areas outperform no-take marine reserves. Frontiers in Ecology and the Environment, 17, 145-150.

GAME, E. T., GRANTHAM, H. S., HOBDAY, A. J., PRESSEY, R. L., LOMBARD, A. T., BECKLEY, L. E., GJERDE, K., BUSTAMANTE, R., POSSINGHAM, H. P. & RICHARDSON, A. J. 2009. Pelagic protected areas: the missing dimension in ocean conservation. Trends in Ecology & Evolution, 24, 360-369.

GAME, E. T., MCDONALD-MADDEN, E., PUOTINEN, M. L. & POSSINGHAM, H. P. 2008. Should we protect the strong or the weak? Risk, resilience, and the selection of marine protected areas. Conserv Biol, 22, 1619-29.

GELL, F. R. & ROBERTS, C. M. 2003. Benefits beyond boundaries: the fishery effects of marine reserves. Trends in Ecology & Evolution, 18, 448-455.

GENES, L., SVENNING, J.-C., PIRES, A. S. & FERNANDEZ, F. A. S. 2019. Why we should let rewilding be wild and biodiverse. Biodiversity and Conservation, 28, 1285-1289.

GRAHAM, N. A. J. & MCCLANAHAN, T. R. 2013. The Last Call for Marine Wilderness? BioScience, 63, 397-402.

GRASS, I., BATÁRY, P. & TSCHARNTKE, T. 2020. Combining land-sparing and land-sharing in European landscapes.

GRORUD-COLVERT, K., CLAUDET, J., TISSOT, B. N., CASELLE, J. E., CARR, M. H., DAY, J. C., FRIEDLANDER, A. M., LESTER, S. E., DE LOMA, T. L., MALONE, D. & WALSH, W. J. 2014. Marine protected area networks: assessing whether the whole is greater than the sum of its parts. PLoS One, 9, e102298.

GUIDETTI, P. & SALA, E. 2007. Community-wide effects of marine reserves in the Mediterranean Sea. Marine Ecology Progress Series, 335, 43-56.

HALPERN, B. S. 2003. The impact of marine reserves: Do reserves work and does reserve size matter? Ecological Applications, 13, S117-S137.

HALPERN, B. S., LESTER, S. E. & MCLEOD, K. L. 2010. Placing marine protected areas onto the ecosystem-based management seascape. Proc Natl Acad Sci U S A, 107, 18312-7.

HASLER, H. & OTT, J. A. 2008. Diving down the reefs? Intensive diving tourism threatens the reefs of the northern Red Sea. Marine Pollution Bulletin, 56, 1788-1794.

HASSLER, B., BLAŽAUSKAS, N., GEE, K., LUTTMANN, A., MORF, A., PIWOWARCZYK, J., SAUNDERS, F., STALMOKAITĖ, I., STRAND, H. & ZAUCHA, J. 2019. New generation EU directives, sustainability, and the role of transnational coordination in Baltic Sea maritime spatial planning. Ocean & coastal management, 169, 254-263.

HOFMEISTER, S. 2009. Natures running wild: A social-ecological perspective on wilderness. Nature and Culture, 4, 293-315.

HOWARTH, L. M., WOOD, H. L., TURNER, A. P. & BEUKERS-STEWART, B. D. 2011. Complex habitat boosts scallop recruitment in a fully protected marine reserve. Marine Biology, 158, 1767-1780.

HUGHES, T., BELLWOOD, D., FOLKE, C., STENECK, R. & WILSON, J. 2005. New paradigms for supporting the resilience of marine ecosystems. Trends in Ecology & Evolution, 20, 380-386.

HUVENNE, V. A. I., BETT, B. J., MASSON, D. G., LE BAS, T. P. & WHEELER, A. J. 2016. Effectiveness of a deep-sea cold-water coral Marine Protected Area, following eight years of fisheries closure. Biological Conservation, 200, 60-69.

JOHNSTON, J. R., NEEDHAM, M. D., CRAMER, L. A., OLSEN, C. S. & SWEARINGEN, T. C. 2019. Public perceptions of marine wilderness as a marine protected area designation. Ocean & Coastal Management, 178.

JOHNSTON, J. R., NEEDHAM, M. D., CRAMER, L. A. & SWEARINGEN, T. C. 2020. Public Values and Attitudes toward Marine Reserves and Marine Wilderness. Coastal Management, 48, 142-163.

JONES, K. R., KLEIN, C. J., HALPERN, B. S., VENTER, O., GRANTHAM, H., KUEMPEL, C. D., SHUMWAY, N., FRIEDLANDER, A. M., POSSINGHAM, H. P. & WATSON, J. E. M. 2018. The Location and Protection Status of Earth's Diminishing Marine Wilderness. Curr Biol, 28, 2506-2512 e3.

JONES, P. J. S. & CARPENTER, A. 2009. Crossing the divide: The challenges of designing an ecologically coherent and representative network of MPAs for the UK. Marine Policy, 33, 737-743.

KATSANEVAKIS, S., STELZENMÜLLER, V., SOUTH, A., SØRENSEN, T. K., JONES, P. J. S., KERR, S., BADALAMENTI, F., ANAGNOSTOU, C., BREEN, P., CHUST, G., D'ANNA, G., DUIJN, M., FILATOVA, T., FIORENTINO, F., HULSMAN, H., JOHNSON, K., KARAGEORGIS, A. P., KRÖNCKE, I., MIRTO, S., PIPITONE, C., PORTELLI, S., QIU, W., REISS, H., SAKELLARIOU, D., SALOMIDI, M., VAN HOOF, L., VASSILOPOULOU, V., VEGA FERNÁNDEZ, T., VÖGE, S., WEBER, A., ZENETOS, A. & HOFSTEDE, R. T. 2011. Ecosystem-based marine spatial management: Review of concepts, policies, tools, and critical issues. Ocean & Coastal Management, 54, 807-820.

LE SAOUT, S., HOFFMANN, M., SHI, Y., HUGHES, A., BERNARD, C., BROOKS, T. M., BERTZKY, B., BUTCHART, S. H. M., STUART, S. N., BADMAN, T. & RODRIGUES, A. S. L. 2013. Protected Areas and Effective Biodiversity Conservation. Science, 342, 803-805.

LESSLIE, R., MACKEY, B. & PREECE, K. 1988. A computer-based method for the evaluation of wilderness. Environmental Conservation, 15, 225-32.

LOVEJOY, T. E. 2006. Protected areas: a prism for a changing world. Trends Ecol Evol, 21, 329-33.

LUPP, G., HÖCHTL, F. & WENDE, W. 2011. "Wilderness"–A designation for Central European landscapes? Land Use Policy, 28, 594-603.

MACE, G. M., BARRETT, M., BURGESS, N. D., CORNELL, S. E., FREEMAN, R., GROOTEN, M. & PURVIS, A. 2018. Aiming higher to bend the curve of biodiversity loss. Nature Sustainability, 1, 448-451.

MACHADO, I., MOURA, T., FIGUEIREDO, I., CHAVES, C., COSTA, J. L. & CABRAL, H. N. 2020. Effects of scale on the assessment of fish biodiversity in the marine strategy framework directive context. Ecological Indicators, 117, 106546.

MAZARIS, A. D., ALMPANIDOU, V., GIAKOUMI, S. & KATSANEVAKIS, S. 2018. Gaps and challenges of the European network of protected sites in the marine realm. ICES Journal of Marine Science, 75, 190-198.

MAZARIS, A. D., KALLIMANIS, A., GISSI, E., PIPITONE, C., DANOVARO, R., CLAUDET, J., RILOV, G., BADALAMENTI, F., STELZENMÜLLER, V. & THIAULT, L. 2019. Threats to marine biodiversity in European protected areas. Science of The Total Environment, 677, 418-426.

MILLER, J. R. 2005. Biodiversity conservation and the extinction of experience. Trends in ecology & evolution, 20, 430-434.

MITTERMEIER, R. A., MITTERMEIER, C. G., BROOKS, T. M., PILGRIM, J. D., KONSTANT, W. R., DA FONSECA, G. A. B. & KORMOS, C. 2003. Wilderness and biodiversity conservation. PNAS, 100, 10309-10313.

MOLLOY, P. P., MCLEAN, I. B. & CÔTÉ, I. M. 2009. Effects of marine reserve age on fish populations: a global meta-analysis. Journal of Applied Ecology, 46, 743-751.

O'LEARY, B. C., BAN, N. C., FERNANDEZ, M., FRIEDLANDER, A. M., GARCIA-BORBOROGLU, P., GOLBUU, Y., GUIDETTI, P., HARRIS, J. M., HAWKINS, J. P., LANGLOIS, T., MCCAULEY, D. J., PIKITCH, E. K., RICHMOND, R. H. & ROBERTS, C. M. 2018. Addressing Criticisms of Large-Scale Marine Protected Areas. Bioscience, 68, 359-370.

ORLIKOWSKA, E. H., ROBERGE, J.-M., BLICHARSKA, M. & MIKUSIŃSKI, G. 2016. Gaps in ecological research on the world's largest internationally coordinated network of protected areas: A review of Natura 2000. Biological Conservation, 200, 216-227.

PAN PARKS FOUNDATION 2009. As nature intended: Best practice examples of wilderness management in the Natura 2000 network. In: BORZA, E. & VANCURA, V. (eds.). Gyor, Hungary: PAN Parks Foundation.

RAICEVICH, S., BATTAGLIA, P., FORTIBUONI, T., ROMEO, T., GIOVANARDI, O. & ANDALORO, F. 2017. Critical inconsistencies in early implementations of the marine strategy framework directive and common fisheries policy objectives hamper policy synergies in fostering the sustainable exploitation of mediterranean fisheries resources. Frontiers in Marine Science, 4, 316.

RASSWEILER, A., COSTELLO, C. & SIEGEL, D. A. 2012. Marine protected areas and the value of spatially optimized fishery management. Proc Natl Acad Sci U S A, 109, 11884-9.

ROBERTS, C., BOHNSACK, J. A., GELL, F. R., HAWKINS, J. P. & GOODRIDGE, R. 2001. Effects of Marine Reserves on Adjacent Fisheries. Science, 294, 1920-1923.

ROBERTS, C. M., O'LEARY, B. C., MCCAULEY, D. J., CURY, P. M., DUARTE, C. M., LUBCHENCO, J., PAULY, D., SAENZ-ARROYO, A., SUMAILA, U. R., WILSON, R. W., WORM, B. & CASTILLA, J. C. 2017. Marine reserves can mitigate and promote adaptation to climate change. Proc Natl Acad Sci U S A, 114, 6167-6175.

ROUILLARD, J., LAGO, M., ABHOLD, K., ROESCHEL, L., KAFYEKE, T., KLIMMEK, H. & MATTHEIß, V. 2018a. Protecting and Restoring Biodiversity across the Freshwater, Coastal and Marine Realms: Is the existing EU policy framework fit for purpose? Environmental Policy and Governance, 28, 114-128.

ROUILLARD, J., LAGO, M., ABHOLD, K., RÖSCHEL, L., KAFYEKE, T., MATTHEIß, V. & KLIMMEK, H. 2018b. Protecting aquatic biodiversity in Europe: How much do EU environmental policies support ecosystem-based management? Ambio, 47, 15-24.

RUSS, G. R. & ALCALA, A. C. 2004. Marine reserves: long-term protection is required for full recovery of predatory fish populations. Oecologia, 138, 622-627.

SÆÞÓRSDÓTTIR, A. D., HALL, C. M. & SAARINEN, J. 2011. Making wilderness: Tourism and the history of the wilderness idea in Iceland. Polar Geography, 34, 249-273.

SHEPPARD, C. R., ATEWEBERHAN, M., BOWEN, B. W., CARR, P., CHEN, C. A., CLUBBE, C., CRAIG, M. T., EBINGHAUS, R., EBLE, J., FITZSIMMONS, N., GAITHER, M. R., GAN, C. H., GOLLOCK, M., GUZMAN, N., GRAHAM, N. A., HARRIS, A., JONES, R., KESHAVMURTHY, S., KOLDEWEY, H., LUNDIN, C. G., MORTIMER, J. A., OBURA, D., PFEIFFER, M., PRICE, A. R., PURKIS, S., RAINES, P., READMAN, J. W., RIEGL, B., ROGERS, A., SCHLEYER, M., SEAWARD, M. R., SHEPPARD, A. L., TAMELANDER, J., TURNER, J. R., VISRAM, S., VOGLER, C., VOGT, S., WOLSCHKE, H., YANG, J. M., YANG, S. Y. & YESSON, C. 2012. Reefs and islands of the Chagos Archipelago, Indian Ocean: why it is the world's largest no-take marine protected area. Aquat Conserv, 22, 232-261.

SINGLETON, R. L. & ROBERTS, C. M. 2014. The contribution of very large marine protected areas to marine conservation: giant leaps or smoke and mirrors? Mar Pollut Bull, 87, 7-10.

SLOAN, N. 2002. History and application of the wilderness concept in marine conservation. Conservation Biology, 16, 294-305.

TAFON, R. V. 2018. Taking power to sea: Towards a post-structuralist discourse theoretical critique of marine spatial planning. Environment and Planning C: Politics and Space, 36, 258-273.

THURSTAN, R. H., HAWKINS, J. P., NEVES, L. & ROBERTS, C. M. 2012. Are marine reserves and non-consumptive activities compatible? A global analysis of marine reserve regulations. Marine Policy, 36, 1096-1104.

TIN, T., O'REILLY, J., PEDEN, J., PINKALLA, S., KELLY, M., LARREA, K., HAUGEN, B., HAUN, A. & JANSSEN, G. 2018. Perceptions of wilderness and the Antarctic: case studies from the United States. The Polar Journal, 8, 364-385.

TOONEN, R. J., WILHELM, T., MAXWELL, S. M., WAGNER, D., BOWEN, B. W., SHEPPARD, C. R., TAEI, S. M., TEROROKO, T., MOFFITT, R., GAYMER, C. F., MORGAN, L., LEWIS, N., SHEPPARD, A. L., PARKS, J., FRIEDLANDER, A. M. & BIG OCEAN THINK, T. 2013. One size does not fit all: the emerging frontier in large-scale marine conservation. Mar Pollut Bull, 77, 7-10.

VAN LEEUWEN, J. & KERN, K. 2013. The external dimension of European Union marine governance: institutional interplay between the EU and the International Maritime Organization. Global Environmental Politics, 13, 69-87.

VAN TATENHOVE, J. P., RAMÍREZ-MONSALVE, P., CARBALLO-CÁRDENAS, E., PAPADOPOULOU, N., SMITH, C. J., ALFERINK, L., OUNANIAN, K. & LONG, R. 2020. The governance of marine restoration: insights from three cases in two European seas. Restoration Ecology.

WARREN, C. 2020. Wildness. International Encyclopedia of Human Geography.

WATSON, J. E. M., SHANAHAN, D. F., DI MARCO, M., ALLAN, J., LAURANCE, W. F., SANDERSON, E. W., MACKEY, B. & VENTER, O. 2016. Catastrophic Declines in Wilderness Areas Undermine Global Environment Targets. Curr Biol, 26, 2929-2934.

WILD EUROPE 2013. A Working Definition of European Wilderness and Wild Areas.

WILHELM, T. A., SHEPPARD, C. R. C., SHEPPARD, A. L. S., GAYMER, C. F., PARKS, J., WAGNER, D. & LEWIS, N. A. 2014. Large marine protected areas - advantages and challenges of going big. Aquatic Conservation: Marine and Freshwater Ecosystems, 24, 24-30.

WORACHANANANT, S., CARTER, R., HOCKINGS, M. & REOPANICHKUL, P. 2008. Managing the impacts of SCUBA divers on Thailand's coral reefs. Journal of Sustainable Tourism, 16, 645-663.

YOUNG, M. A. L., FOALE, S. & BELLWOOD, D. R. 2015. The last marine wilderness: spearfishing for trophy fishes in the Coral Sea. Environmental Conservation, 43, 90-95.

ZAKAI, D. & CHADWICK-FURMAN, N. E. 2002. Impacts of intensive recreational diving on reef corals at Eilat, northern Red Sea. Biological Conservation, 105, 179-187.

APPENDIX VI – Q Concourse – list of coded documents – policies

European Commission (2021) An Advocacy Toolkit for Nature. Biodiversity loss, nature protection, and the EU strategy for nature. Brussels, European Union.

European Commission (2020) COM(2020) 380 final. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. EU Biodiversity Strategy for 2030. Bringing nature back into our lives. Brussels, European Union

European Commission (2020) The business case for biodiversity. The European Green Deal. Brussels, European Union.

European Commission (2020) Bringing nature back into our lives. EU 2030 Biodiversity strategy. Brussels, European Union.

European Commission (2020) EU Biodiversity Strategy. Bringing nature back into our lives. Luxembourg, Publications Office of the European Union.

Marine Expert Group under the Birds and Habitats Directives (2021) Draft Minutes. Meeting of the Marine Expert Group (MEG). 22-23 February 2021, online meeting (Webex).

European Commission (2020) Questions and Answers: EU Biodiversity Strategy for 2030 – Bringing nature back into our lives. Brussels, European Union.

European Commission (2021) EU Biodiversity Strategy for 2030. Bringing nature back into our lives. Luxembourg, Publications Office of the European Union.

European Commission (2015) The international dimension of the EU Common Fisheries Policy. Luxembourg, Publications Office of the European Union.

Regulation (EU) 2016/2336 of the European Parliament and of the Council of 14 December 2016 establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic and provisions for fishing in international waters of the nort-east Atlantic and repealing Council Regulation (EC) No 2347/2002.

European Commission (2021) SWD(2021) 111 final. Commission Staff Working Document. Executive summary of the evaluation of the Regulation (EU) 2016/2336 of the European parliament and of the Council of 14 December 2016 establishing specific conditions for fishing for deep-sea stocks in the north-east Atlantic and provisions for fishing in international waters of the north-east Atlantic and repealing Council Regulation (EC) No 2347/2002.

European Commission (2020) Facts and Figures on the Common Fisheries Policy. Basic statistical data – 2020 edition. Luxembourg, Publications Office of the European Union.

Deltares (2015) Proposal for an assessment method of the ecological coherence of networks of marine protected areas in Europe. Deltares.

Vaughan, D., Korpinen, S., Nygard, H., Andersen, J.H., Murray, C., Kallenbach, E., Norrevang Jensen, J., Tunesi, L., Mo, G., Agnesi, S., Klancnik, K., Vina-Herbon, C., Singleton, G., Pagou, K., Borja, A., Reker, J. (2019) Biodiversity in Europe's seas. ETC/ICM Technical Report 3/2019> European Topic Centre on Inland and Marine Waters, 92pp.

Agnesi, S., Mo, G., Annunziatellis, A., Chaniotis, P., Korpinen, S., Snoj, L., Globevnik, L., Tunesi, L., Reker, J. (2017) Assessing Europe's marine protected area networks – proposed methodologies and scenarios, ed. Kunitzer, a. ETC/ICM Technical Report 2/2017, Magdeburg: European Topic Centre on inland, coastal and marine waters, 71pp.

European Environment Agency (2019) Marine messages II: Navigating the course towards clean, healthy and productive seas through implementation of an ecosystem-based approach. EEA Report No 17/2019.

Korpinen, S., Klancnik, K., Peterlin, M., Nurmi, M., Laamanen, L., Zupancic, G., Murray, C., Harvey, T., Andersen, J.H., Zenetos, A., Stein, U., Tunesi, L., Abhold, K., Piet, G., Kallenbach, E., Agnesi, S., Bolman, B., Vaughan, D., Reker, J., Royo Gelabert, E. (2019) Multiple pressures and their combined effects in Europe's seas. ETC/ICM Technical Report 4/2019: European Topic Centre on Inland, Coastal and Marine waters, 164 pp.

European Commission (2020) COM(2020) 259 final. Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC). Brussels.

Deltares (2014) Analysis and comparison of criteria used by Member States for establishing coherent, adequate and representative networks of marine protected areas. Deltares.

European Commission (2020) SWD(2020) 62 final. Commission Staff Working Document. Background document for the Marine Strategy Framework Directive on the determination of good environmental status and its links to assessments and the setting of environmental targets. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2020) SWD(2020) 61 final. Commission Staff Working Document. Review of the status of the marine environment in the European Union. Towards clean, healthy and productive oceans and seas. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2020) SWD(2020) 60 final. Commission Staff Working Document. Key stages and progress up to 2019. Accompanying the Report from the Commission to the European Parliament and the Council on the implementation of the Marine Strategy Framework Directive (Directive 2008/56/EC)

European Commission (2014) SWD(2014) 49 final. Commission Staff Working Document. Annex. Accompanying the document Commission Report to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) – The European Commission's assessment and guidance.

European Court of Auditors (2020) Marine environment: EU protection is wide but not deep. Luxembourg.

Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive).

Workshop on coordinated implementation of nature, biodiversity, marine and water policies (2014) Summary report. 2-3 December 2014, Brussels.

Martin-Roumegas, L. (2016) Marine Strategy Frameworks Directive: Toward a sustainable development of marine coastal & river activities. EEB Water working group meeting 18 April 2016, Brussels.

OSPAR (2014) OSPAR regional plan to improve adequacy and coherence of MSFD implementation 2014-2018.

European Commission (2018) COM(2018) 562 final. Report from the Commission to the European Parliament and the Council assessing Member States' programmes of measures under the Marine Strategy Framework Directive. Brussels.

European Commission (2014) COM(2014) 97 final. Report from the Commission to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC). The European Commission's assessment and guidance. Brussels.

Cardoso, A.C., Cochrane, S., Doerner, H., Ferreira, J.G., Galgani, C., Hagebro, C., Hanke, G., Hoepffner, N., Keizer, P.D., Law, R., Olenin, S., Piet, G.J., Rice, J., Rogers, S.I., Swartenbroux, F., Tasker, M.L., van de Bund, W. (2010) Scientific support to the European Commission on the Marine Strategy Framework Directive. Management Group Report. JRC Scientific and Technical Reports.

European Commission (2018) SWD(2018) 393 final. Commission Staff Working Document. Accompanying the document Report from the Commission to the European Parliament and the Council assessing Member States' programmes of measures under the Marine Strategy Framework Directive. Brussels.

European Commission (2014) SWD(2014) 49 final. Commission Staff Working Document. Annex. Accompanying the document Commission Report to the Council and the European Parliament. The first phase of implementation of the Marine Strategy Framework Directive (2008/56/EC) – The European Commission's assessment and guidance. Brussels

Rogers, S., Casini, M., Cury, P., Heath, M., Irigoien, X., Kuosa, H., Scheidat, M., Skov, H., Stergiou, K., Trenkel, V., WIlner, J., Yunev, O. (2010) Marine Strategy Framework Directive Task Group 4 Report. Food webs. JRC Scientific and Technical Reports.

Deltares (2014) Workshop document of the MEG workshops, 6th of May, Brussels. Workshop report of Marine Expert Group. Deltares.

Cochrane, S.K.J., Conner, D.W., Nilsson, P., Mitchell, I., Reker, J., Franco, J., Valavanis, V., Moncheva, S., Ekebom, J., Nygaard, K., Serrao Santos, R., Narberhaus, I., Packeiser, T., van de Bund, W., Cardoso, A.C. (2010) Marine Strategy Directive. Task Group 1 Report. Biological Diversity. JRC Scientific and Technical Reports.

European Environment Agency. Developing a 2020 biodiversity sub-target based on conservation status assessment under Art17 (Habitats Directive): Proposed methodology and results. Note 02 sub target EEA 12-07.

Tucker, G., Stuart, T., Naumann, S., Stein, U. Landgrebe-Trinkunaite, R., Knol, O. (2019) Study on identifying the drivers of successful implementation of the Birds and Habitats Directives under contract ENV.F.1/FRA/2014/0063. Final Report. Institute for European Environmental Policy.

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. Official Journal of the European Union.

Expert group on the Birds and Habitats Directives ("NADEG") (2018) Measuring progress under Target 1 of the EU 2020 biodiversity strategy. Document No: Doc NADEG 19-05-06

Marine Expert Group under the Birds and Habitats Directive. Meeting of the Marine Expert Group (MEG) (2019). European Commission, DG Environment. Minutes.

Expert group on the Birds and Habitats Directives ("NADEG") (2019) Discussion paper on the shared responsibility of Member States in implementing measures under Article 6(1) and (2) of the Habitats Directive in the context of the procedure under Article 11 of Regulation (EU) 1380/2013. Document No: Doc NADEG 19-11-06-2

Expert group on the Birds and Habitats Directives ("NADEG") (2021) Ad-hoc meeting DRAFT MINUTES. Document No: Doc NADEG 21-08-18

Marine Expert Group under the Birds and Habitats Directive. Meeting of the Marine Expert Group (MEG) (2017). Minutes Meeting of the Marine Expert Group 15 December 2017. European Commission, DG Environment.

European Commission (2021) Draft technical note on criteria and guidance for protected area designations. ENV.D.3/JC. Brussels.

European Commission (2015) Report from the Commission to the Council and the European Parliament. The State of Nature in the European Union. Report on the status of and trends for habitat types and species covered by the Birds and Habitats Directives for the 2007-2012 period as required under Article 17 of the Habitats Directive and Article 12 of the Birds Directive. COM(2015) 219 final. Brussels.

The N2K Group (2012) Common methodology for assessing the impact of fisheries on marine Natura 2000. A proposal of methodology for the Marine Expert Group, for the European Commission, Directorate General Environment, B3 Unit in the framework of the Service Contract No. 070307/2010/578174/SER/B3

Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC. Final version, 2017.

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities.

Convention on the conservation of European wildlife and natural habitats (2018) Standing Committee, 38th meeting. Pan-European Action Plan for Sturgeons. Strasbourg.

Marine Strategy Coordination Group (2012) Links between MSFD and the Nature Directives. DG Environment (B3).

European Commission (2016) European Red List of Habitats. Part 1. Marine habitats. Luxembourg: Publications Office of the European Union.

Expert group on the Birds and Habitats Directives ("NADEG") (2021) 16th Meeting DRAFT MINUTES. Document No: Doc NADEG 21-04-09

European Environment Agency (2014) Measuring progress under Target 1 of the EU biodiversity strategy.

MacSharry, B. (2021) Current State of protected areas in the EU: A network of over 108000 protected areas across 27 countries protecting Europe's biodiversity. NADEG meeting. European Environment Agency.

European Environment Agency (2020) State of nature in the EU: Results from reporting under the nature directives 2013-2018. EEA Report No 10/2020

Sovinc, A. Strict protection in natural ecosystems and managed landscapes: IUCN protected area categories with explanatory notes.

European Commission (2013) Guidelines on Wilderness in Natura 2000: Management of terrestrial wilderness and wild areas within the Natura 2000 network. Technical Report – 2013 – 069.

APPENDIX VII – Q Post-Sort Interview Guide

Q GUIDE

BEFORE Q sorting

Respondent briefing and consent
Participants will be sent the PIS and consent forms ahead of the Q-sorting exercise and have opportunity to ask any questions before the sorting date is set. Nevertheless, before the actual start of the Q-sort, I will again summarise the information given in PIS and the conditions of consent. This will be followed by another chance to ask questions, before the Q-sort starts in earnest. Even if written consent has already been obtained, the participant will be asked again if they are happy to proceed and if they are happy to be audio/video-recorded. I will be clear that recorded data will be transcribed and then the audio/video-files destroyed.

Recording:
If participants have *not* consented to be recorded, I will take notes as best as I can in real time and then augment them afterwards. I will be keeping notes in any case, but less intensively, if consent to recording is given.

Q-sorting procedure

Despite it being a common practice, no pre-sorting information will be collected from participants (demographic, personal, etc.), as these data are deemed irrelevant for the interpretation of factors in this particular study. The preceding interviews already produced some data on the diversity of the values in the background and the factors emerging from Q study will be interpreted against EU sea regions, positions that participants hold (policy-maker, expert, EU, RSC), and policies that they work on. These data will already be known to the researcher before the participants will be invited to participate.

The Q-sorting will be done online and with the use of QMethodSoftware. A date and time will be agreed with participants and a video-call arranged (through MS Teams or Skype). Based on the conditions of the individual consents, the call will either be video or audio recorded or not at all. Participants will also be told ahead of time, that they will be asked to share their screen during the Q-sort and that they should preferably use Chrome as their browser for this exercise. The entire exercise is done online, without any need to download anything to their own computers. They will also be asked to connect to the call from their laptops or desktops, as the sorting exercise would be difficult to undertake on smaller screens.

At the beginning of the call and after affirming the conditions of consent, participants will be sent a link to the Q-sort (within QMethodSoftware) and a code to access the exercise. After accessing the study webpage, they will be asked to share their screens, so that the researcher can help them in case of any questions. The researcher will talk them through the exercise, while there will also be written instructions on the page. The participants will be encouraged to share their thoughts on the statements and their relative importance as they go through the exercise, but they will also be free to complete the exercise in silence, if they find it easier to concentrate in that way.

The software will first present the participants with the assorted statements, and they will sort them into three piles (agree, disagree, indifferent). Participants will be asked to sort the items based on the scale on which they mainly work (national policy-makers and experts-national seas, RSCs-regional EU seas, EU-the whole of EU seas). Participants will be assured that this first stage of sorting is provisional and they will be able to sort the statements in more detail later on and that they will still be able to change the position of the statements. After all statements have been provisionally sorted, the software will present the participants with a Q-sort grid, which will be explained to them as a way to sort their statements relative to each other on the axis from most agree (+6) to least agree (-6), with the grid forcing them to choose the relative position of statements, with only a few options for strong agreement and disagreement and more for more indifferent positions. Participants will then be able to open up all the statements within each of the provisionally sorted piles and asked to sort them onto the grid. After the grid is complete, they will be asked to review it and make sure that all statements are in the correct position. The participants will be asked not to finish the sorting, before the post-Q sort interview can take place. However, if they do, that will not present a significant problem, as the researcher will be able to access the finalised sort immediately from his side and share the screen with the participant.

The sorting will be followed by a post sort interview, which will be structured around a few key questions, but those will be dependent on the final, individual Q sorts, with a few avenues for free expansion (dependent on the participant and time remaining). The aim of the interview is to explore each participant's wider understanding of the issue, to discover why they have sorted the items as they have and to get them to focus on the meaning and significance of particularly important and salient items. First the extremes of the distribution will be explored. After that the conversation will shift to items in the distribution that either the researcher or the participant want to talk about, with the emphasis on the personal significance of each item to them. Placements of statements that will be considered counter-intuitive will be also explored. Participants will also be asked about their experience of going through the sorting exercise and if their answers would change if they were answering with a different scale in mind.

Questions:

1. You sorted X statement(s) into the most agree position. Can you tell me why do you think this is the most important issue to address?
    a. What does this statement mean to you personally?
2. You sorted X statement(s) into the most disagree position. Can you elaborate why do you disagree with this statement so strongly?
    a. What does this statement mean to you personally?
3. If you would be sorting these statements with a different scale in mind (all of EU seas, regional sea, national seas), would you sort them any different? What would be the major changes?
    a. Why do you think your priorities would shift?
4. Why do you think X issues is more/less important than Y issue, based on your Q sort?
5. How did you find the experience of the sorting?
6. This Q sort focussed on the use of EU policies for a relatively narrow nature conservation goal, without this restriction, what would you say is the main challenge that we need to address in the marine environment and how?
7. Do you think the concept of marine wilderness could be useful to achieving strict protection goals?
    a. Why yes/no and in what way?
8. (for people who haven't taken part in the interviews) How would you define a strictly protected area?
    a. How would you define marine wilderness?

AFTER the Q sort

After the Q sorting and post-sort interview, I will send a thank you email to the participant, with a short debrief summarising how the collected data will be analysed and used, as well as a reminder until when they can retract their consent. I will also outline the next steps in the research. The email will also include a provision that they can let me know and I will stop contacting them altogether.

APPENDIX VIII – Living Q Guide

FOCUS GROUPS MODERATION GUIDE

LIVING Q WORKSHOP

Introduction
Set up some drinks and snacks in the room (buy before – juice, fruits)

Official things

Greet all participants and thank them for their time after a long day. Remind them that there are Participant Information Sheets available and ask them to sign the consent sheets provided. Emphasise that complete anonymity cannot be assured due to the group format, but that the event should be considered to be under Chatham House rules and that everyone is asked not to discuss anything that could be linked to any one person specifically outside of this group. The event will be audiorecorded, but everyone will be pseudonymised in any and all publications. The recordings will be transcribed as soon as possible and the recording then destroyed.

Content introduction

The aim of the focus group is to have a discussion about certain things that came up in the preliminary results in a group setting, as a contrast to the individualistic methods used so far. We will be using a method called Living Q. In the morning all the viewpoints identified so far have already been presented, everyone had a chance to familiarise themselves more with the viewpoints during lunch with posters in the lobby and those posters are also around here too. Now we will be focusing on just a few of the most discussed statements from the Q study. Each participant will get a page with these 5 statements and everyone is asked to rank them on a Likert scale, based on how much they personally agree or disagree with them. This part should be done individually and without discussing the statements, if they aren't clear, I can be asked to clarify them, but generally this is to be done on one's own. The same rank can be accorded to more than one statement (for those who have done Q before). Both introductions to be done in 5 minutes. I will be noting down any particular points that people will make throughout the event, but there is also the so-called "Parking Spot" poster, where people are free to use post-its to add any comments that they want to make, but it maybe doesn't quite fit the discussion that is currently happening, or if they feel like they would prefer not to speak out and so the comment remains more anonymous. If I ever forget or miss anything when writing things down or if the text is misrepresented, do let me know and I will adapt as needed.
As soon as people have finished ranking (max 5 minutes), we will start with Living Q activities. The first statement is projected onto the screen and participants are asked to assume the position that corresponds to the ranking on their piece of paper, with the rankings positioned on the floor. In a tour-de-table manner, everyone is asked to explain (shortly) why they have chosen specific ranks.

There is an option given then to participants to debate their positioning, based on arguments from others. This is supposed to be relatively freeflowing, but can be prompted. 5-10 minutes is used for this activity per statement

a. Achieving marine wilderness conditions should be a target of strict protection.
    i. What is marine wilderness? What conditions define it?
    ii. Do you see any linkage between the definition of strictly protected area and wilderness definition? Where are the differences between the two?
    iii. What should be targets of strict protection?

b. EU should require Marine Protected Areas to prohibit extractive activities (become No-Take Areas).
    i. What restrictions have to be in place for an MPA to not be just paper park?
    ii. If MPAs become NTAs, what is the difference there with strictly protected areas?
    iii. How to make MPAs effective?

c. EU should prioritise passive restoration via strict protection over active restoration.
    i. Why one over the other? Or what kind of mix would be best?
    ii. How does this correspond with your understanding of the proposed EU Restoration Law?
    iii. How does passive restoration differ from wilderness conditions?

d. Exclusions of activities in strictly protected areas should be decided on a case-by-case basis.
    i. What exclusions are needed in the first place? Are there negotiable and non-negotiable exclusions? If so, which are which?
    ii. How does your interpretation of what should be excluded correspond with the EU common definition of strictly protected area? If the definitions aren't congruent, how and why do you justify the difference?
    iii. What is the right balance between flexible case-by-case approach and more hardline but commonly applied approach? Any impact on effectiveness of policies?

e. Bottom-contacting fishing gear is very damaging and its use should be prohibited in EU seas.
    i. Is banning bottom trawling viable? At all? Or at least in some areas? If so which?
    ii. Is fishing unsustainable at all? How else to limit negative impacts of fishing?
    iii. What else needs prohibiting?

After the initial round of discussions, the participants will be allowed to reposition themselves, if they were swayed by the arguments. Participants are again invited to comment on why they have or have not changed their positions and what convinced them (or not). The changes in positions and final "rankings" are noted by the moderator.

Summary and farewell

Last 5 minutes of the workshop
Thank everyone for coming and for persevering even after the official end of the agenda. Outline the logistical plans for dinner and the finalisation of the PhD project (i.e., how the results will be used). Focus groups like this will be organised for each Regional Sea and one at EU level, although their exact format is slightly adapted for each meeting. They will be transcribed, the recordings destroyed and then compared with Q, interview and policy analysis results. Once the data will be analysed, short results summary briefs will be produced and sent to everyone who participated in whatever part of data collection (interviews, Q, focus groups). The thesis is supposed to be written up by mid-summer and PhD defended by end of 2023. If people wish, they can always reach me on the email on the slide, and I can also continue sending any publications from this project, if they are interested. I will still be around for dinner tonight, so if anyone wants to more informally discuss anything with me, I will be happy to do so.

VALIDATION EXERCISE

Instructions

Posters with presentations of the main factors, which are linked to the presentation from earlier today are arranged around the room.

- 6 posters set around the room, with enough room for people to crowd around them

Participants are encouraged to wander around the room and read some of the more illustrative statements of the viewpoints. There will be post-it notes provided, as well as pens/pencils. Participants will be encouraged to provide their comments in general to the viewpoints, i.e. what they think of the viewpoints in general and why they are or they are not practical for EU policy implementation.
At the same time, each participant can choose one sticker in an appropriate colour to choose one of the 6 viewpoints that most closely represents their viewpoint.

- Blue – EU representatives
- Red – Competent Authorities
- Green – experts and advisors
- Yellow – RSC

However, since it might be that there are things where participants differ from the statements that are expressed on the posters, even where they in general agree with the overall message, they have space to provide their comments in the categories too.

I will be circling around to try and make sure things are clear.

APPENDIX IX – Policy Brief

EU MARINE CONSERVATION POLICIES: USING SOCIAL INSIGHTS TO IMPROVE IMPLEMENTATION

SUMMARY

Marine biodiversity is diminishing globally. Due to the extent and transboundary nature of the seas, their effective conservation can best be achieved through international cooperation and policies. The European Union (EU) has developed some of the most wide-ranging, stringent, but also complex marine environmental policy frameworks in the world. However, their implementation has remained inconsistent and poorly coordinated. Research revealed six distinct understandings of policy objectives and considerable divergence in the discourses used by policy texts compared to those employed by the key actors. This points to a considerable challenge for the future implementation of EU marine conservation policies if this underlying diversity of perceptions is not recognised and engaged with. To address this, it would be helpful for EU policy actors to develop a fuller understanding of the influence of social dimensions on their work, engage better with each other, and overall focus more on policy implementation outcomes, rather than the fulfilment of procedural steps along the way.

CONTEXT ASSESSMENT

1. The continued decline of marine biodiversity requires urgent, transboundary action, through concerted and effective policies. The continued extensive anthropogenic uses of the EU seas continue to threaten and pressure marine biodiversity. Economic growth has not been decoupled from environmental degradation.

2. The EU has some of the most stringent, all-encompassing, and continent-spanning environmental and conservation policies in the world. But these policies have not halted the biodiversity degradation trends, and their implementation has been incoherent and ineffective. The social dimensions and insights into the implementation failures so far have not yet been sufficiently addressed.

3. We need more extensive and effective biodiversity protection. The EU has adopted new, ambitious policies (such as the Biodiversity Strategy for 2030 – BDS) to stem the loss of marine biodiversity. The highly ambitious targets (30% protection, 10% strict protection) require comprehensively improved implementation.

RESEARCH FINDINGS

4. Policy actors have considerable influence over policy implementation. Our results show clearly that they are not aligned with policy definitions, particularly on strict protection.

5. Policy actors interpret and implement policies differently based on their framing of problems and solutions. At least six different, coherent, and deeply-rooted understandings of marine nature and policy prioritisations exist across the EU.

6. The current EU approach of providing more scientific knowledge does not lead to more effective policy implementation. Less than 15% of key actors change their opinions based on provision of empirical, scientific arguments.

POLICY RECOMMENDATIONS

(A) Policy-related meetings need to go beyond seeking surface-level consensus and engage with actors' underlying assumptions.

7. Context: the current set up of policy meetings allows only for surface-level consensus seeking, but does not engage with underlying assumptions and interpretations. This leads to poor implementation.
8. Actions Recommended: inclusion of moderators to lead and manage the meetings, with a variety of methods to enable participants to openly engage and understand each other better will contribute towards better engagement.
9. For this engagement to be meaningful, meetings need to be longer.
10. Consultation procedures (intra-institutional and public) need to be improved to foster better engagement and understanding of both actors and public.

(B) To address divergent understanding of data, social sciences need to be directly engaged in evidence-based policy-making and implementation.

11. Context: much of EU policy-making and implementation is founded on evidence-based policy-making and a linear, rationalist understanding of the science-policy interface. Environmental data are interpreted and used to support divergent measures. This points to the importance of engaging with social sciences to understand how policies are implemented by the people involved with them.
12. Actions Recommended: social scientific research needs to be better resourced through adaptations of existing funding sources (EMFF, MSFD, Horizon, and other DG R&D schemes).
13. A quota system of presentations of social scientific work in policy meetings (at least one social science presentation per meeting) needs to be introduced. While the risk of tokenism is acknowledged, given the current levels of engagement with social sciences in policy process, quota system is seen as the most immediate step to rectify the situation.
14. Social scientific evidence needs to be recognised as a relevant and necessary element of the evidence-based policy implementation framework.

(C) The EU policy implementation process needs to focus more on outcomes, rather than on the implementation procedure.

15. Context: EU policies are heavily procedural. This introduces heavy reporting and administrative burdens on often under-funded and under-staffed environmental public institutions. The focus on procedures and repeating assessments diverts attention from implementation of the measures.
16. Actions Recommended: EU needs to define a number of outcomes and interim targets that have to be achieved (hard law) and provide support for Member States to get there.
17. Complex solutions should be prioritised over easy solutions, given that environmental problems are multifaceted.

CONCLUSIONS

18. Together, these recommendations will normalise social scientific contributions, improve communication among key actors, and reformulate implementation of EU policies, thus improving the chances to improve the status of EU marine biodiversity and meet both EU and international conservation targets.

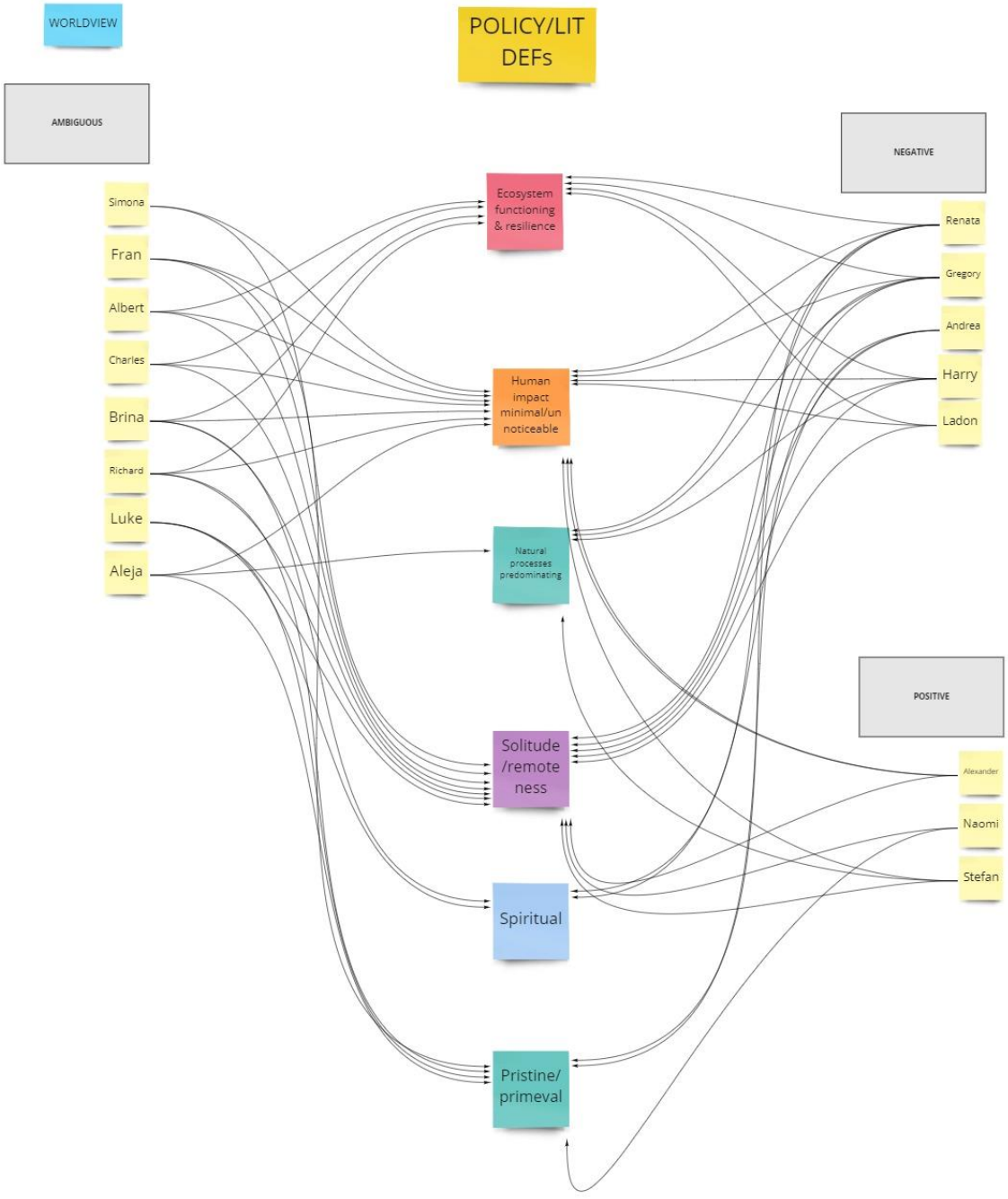
APPENDIX X – Projects funded by DG ENV to support implementation of MSFD in EU seas

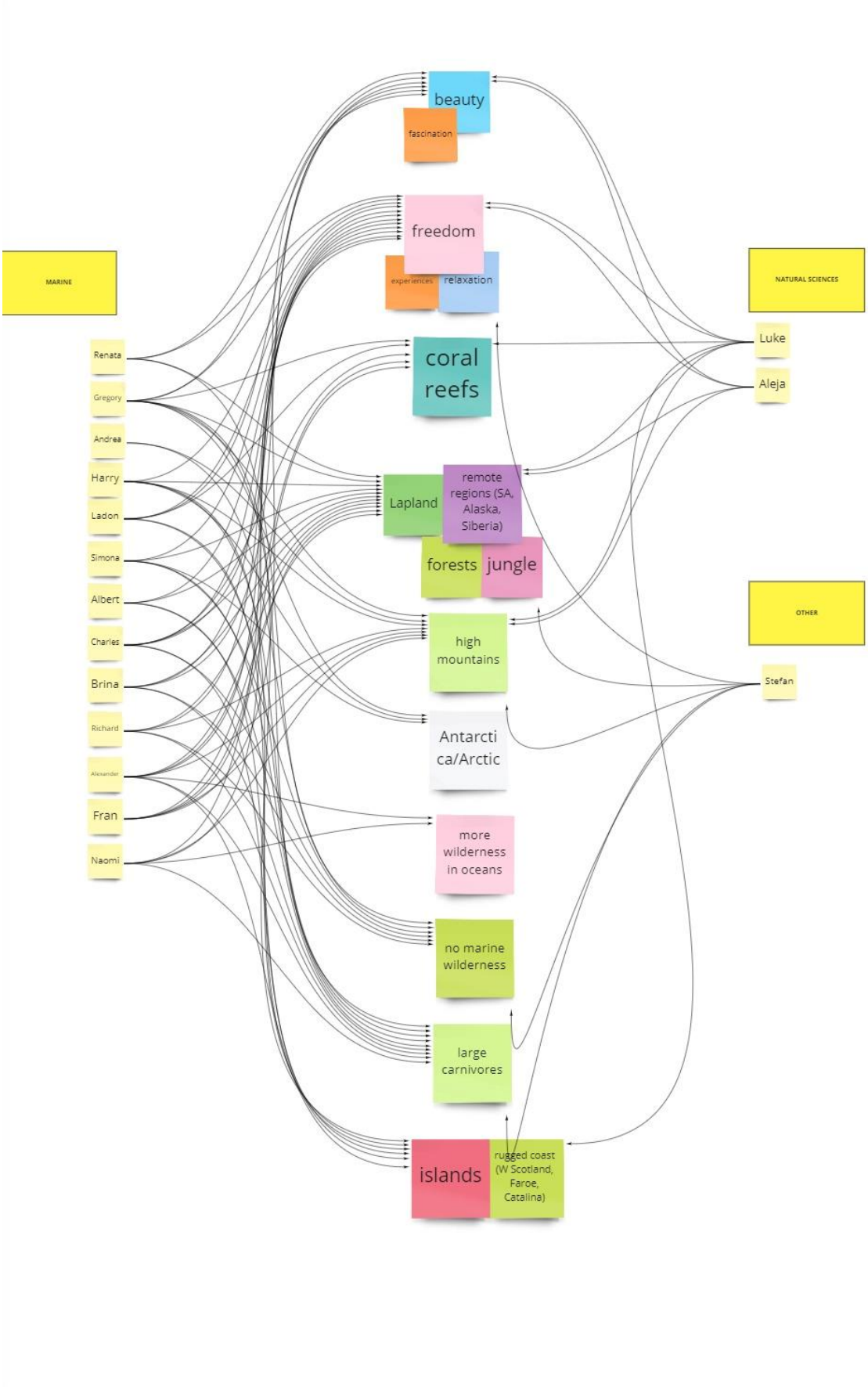
PROJECT ACRONYM	PROJECT TITLES
ABIOMMED (DG ENV, 2020 call)	Support coherent and coordinated assessment of biodiversity and measures across Mediterranean for the next 6-year cycle of the MSFD implementation
QUIETSEAS (DG ENV, 2020 call)	Assisting (sub) regional cooperation for the practical implementation of the MSFD second cycle by providing methods and tools for D11 (underwater noise)
HELCOM BLUES (DG ENV, 2020 call)	HELCOM biodiversity, litter, underwater noise and effective regional measures for the Baltic Sea
NEA-PANACEA (DG ENV, 2020 call)	North East Atlantic project on biodiversity and eutrophication assessment integration and creation of effective measures
CETAMBICION (DG ENV, 2020 call)	Coordinated Cetacean Assessment, Monitoring and Management Strategy in the Bay of Biscay and Iberian Coast sub-region
HARMONIZE	Towards the cross-regional unification and harmonization of applicable assessment approaches for D11 in regard of special requirements from EU Subregions
HELCOM ACTION (DG ENV, 2018 call)	Actions to evaluate and identify effective measures to reach GES in the Baltic Sea marine region
QUIETMED II (DG ENV, 2018 call)	Joint programme for GES assessment on D11-noise in the Mediterranean Marine Region
MEDREGION (DG ENV, 2018 call)	Support Mediterranean member states towards implementation of the marine strategy framework directive new GES decision and programmes of measures and contribute to regional/subregional cooperation
CENOBS (DG ENV, 2018 call)	Support MSFD implementation in the Black Sea through establishing a regional monitoring system of cetaceans (D1) and noise monitoring (D11) for achieving GES
INDICIT II (DG ENV, 2018 call)	Implementation of the indicator “Impacts of marine litter on sea turtles and biota” in RSC and MSFD areas
RAGES (DG ENV, 2018 call)	Risk-based Approaches to Good Environmental Status

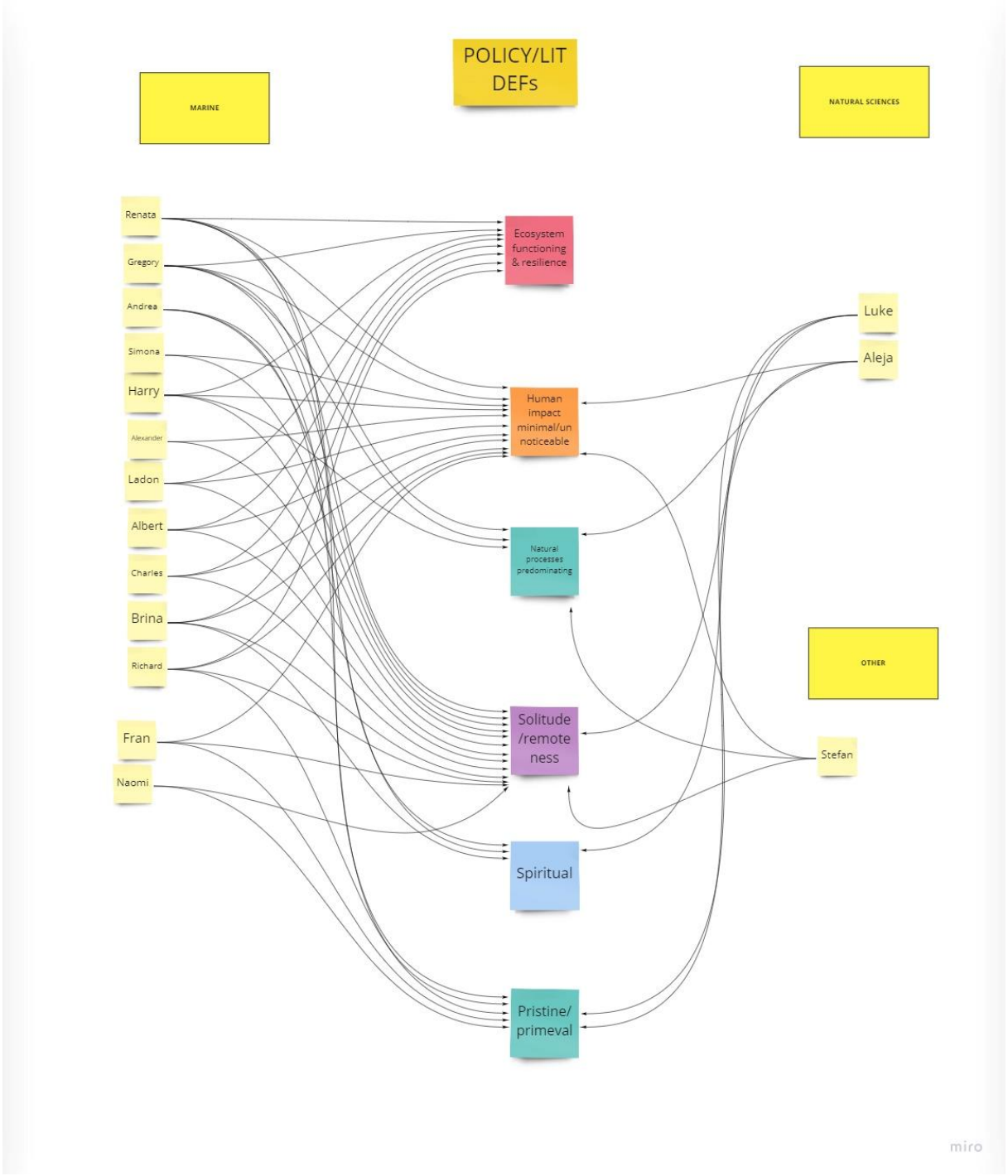
MISTIC SEAS III (DG ENV, 2018 call)	Developing a coordinated approach for assessing Descriptor 4 via its linkages with D1 and other relevant descriptors in the Macaronesian sub-region
MEDCIS (DG ENV, 2016 call)	Support Mediterranean Member States towards coherent and Coordinated Implementation of the second phase of the MSFD
SPICE (DG ENV, 2016 call)	Implementation and development of key components for the assessment of Status, Pressures and Impacts, and Social and Economic evaluation in the Baltic Sea marine region
IDEM (DG ENV, 2016 call)	Implementation of the MSFD to the deep Mediterranean Sea
JMP EUNOSAT (DG ENV, 2016 call)	Joint Monitoring Programme of the EUtrophication of the NOrth-Sea with SATellite data
MISTIC SEAS II (DG ENV, 2016 call)	Applying a subregional coherent and coordinated approach to the monitoring and assessment of marine biodiversity in Macaronesia for the second cycle of the MSFD
QUIETMED (DG ENV, 2016 call)	Joint programme on noise (D11) for the implementation of the Second Cycle of the MSFD in the Mediterranean Sea)
ECAPHRA (DG ENV, 2014 call)	Applying an Ecosystem Approach to (sub) Regional Habitat Assessment
BALTIC BOOST (DG ENV, 2014 call)	Baltic Sea project to boost regional coherence of marine strategies through improved data flow, assessments and knowledge base for development of measures
MISTIC SEA (DG ENV, 2014 call)	Macaronesia Islands Standard Indicators and Criteria: Reaching Common Grounds on Monitoring Marine Biodiversity in Macaronesia
ACTIONMED (DG ENV, 2014 call)	Action Plans for Integrated Regional Monitoring Programmes, Coordinated Programmes of Measures and Addressing Data and Knowledge Gaps in Mediterranean Sea
BALSAM (DG ENV, 2012 call)	Baltic Sea Pilot Project: Testing new concepts for integrated environmental monitoring of the Baltic Sea
IRIS-SES (DG ENV, 2012 CALL)	Integrated Regional monitoring Implementation Strategy in the South European Seas

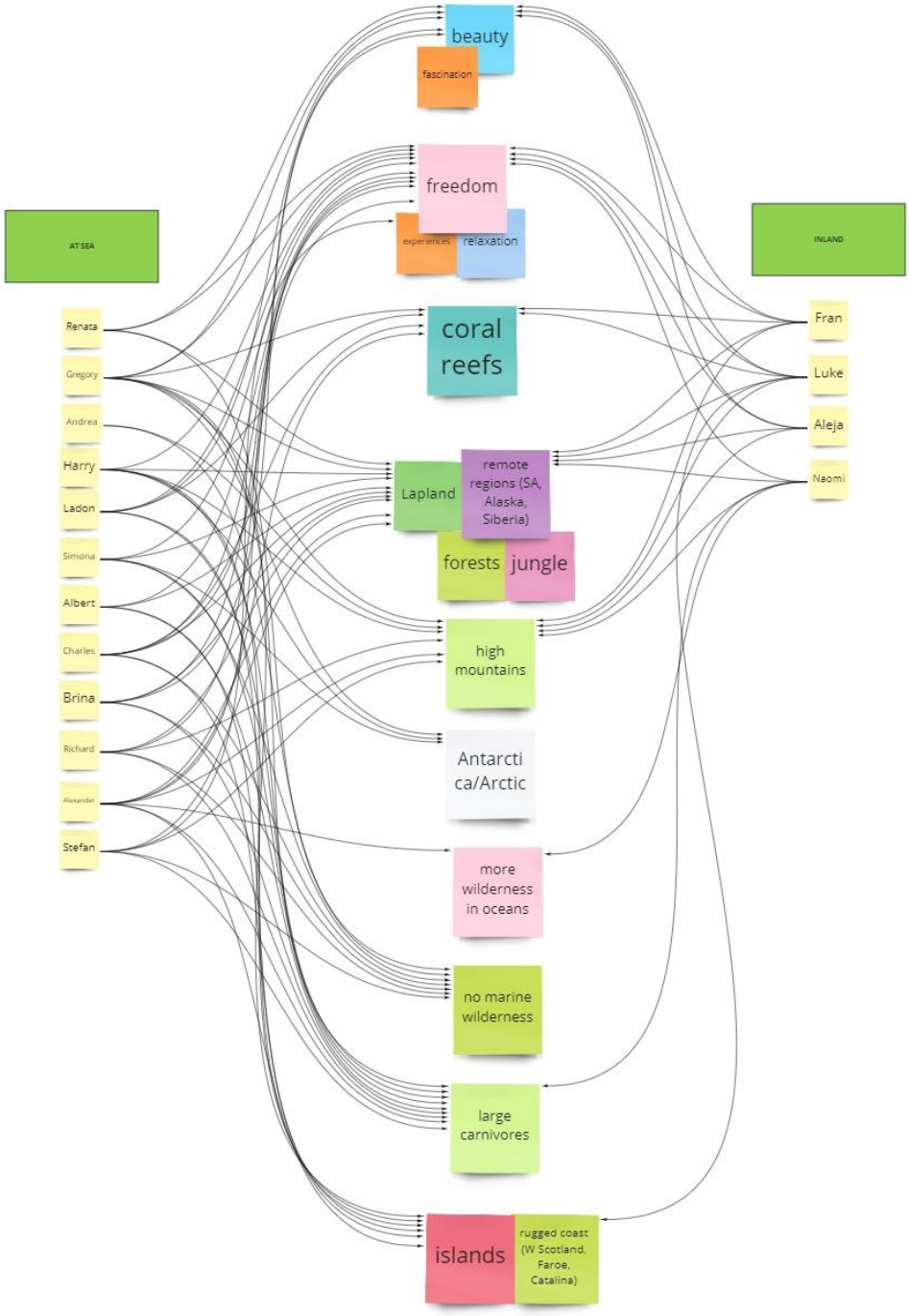
APPENDIX XI – Illustrations of “linking” analysis of semi-structured interviews

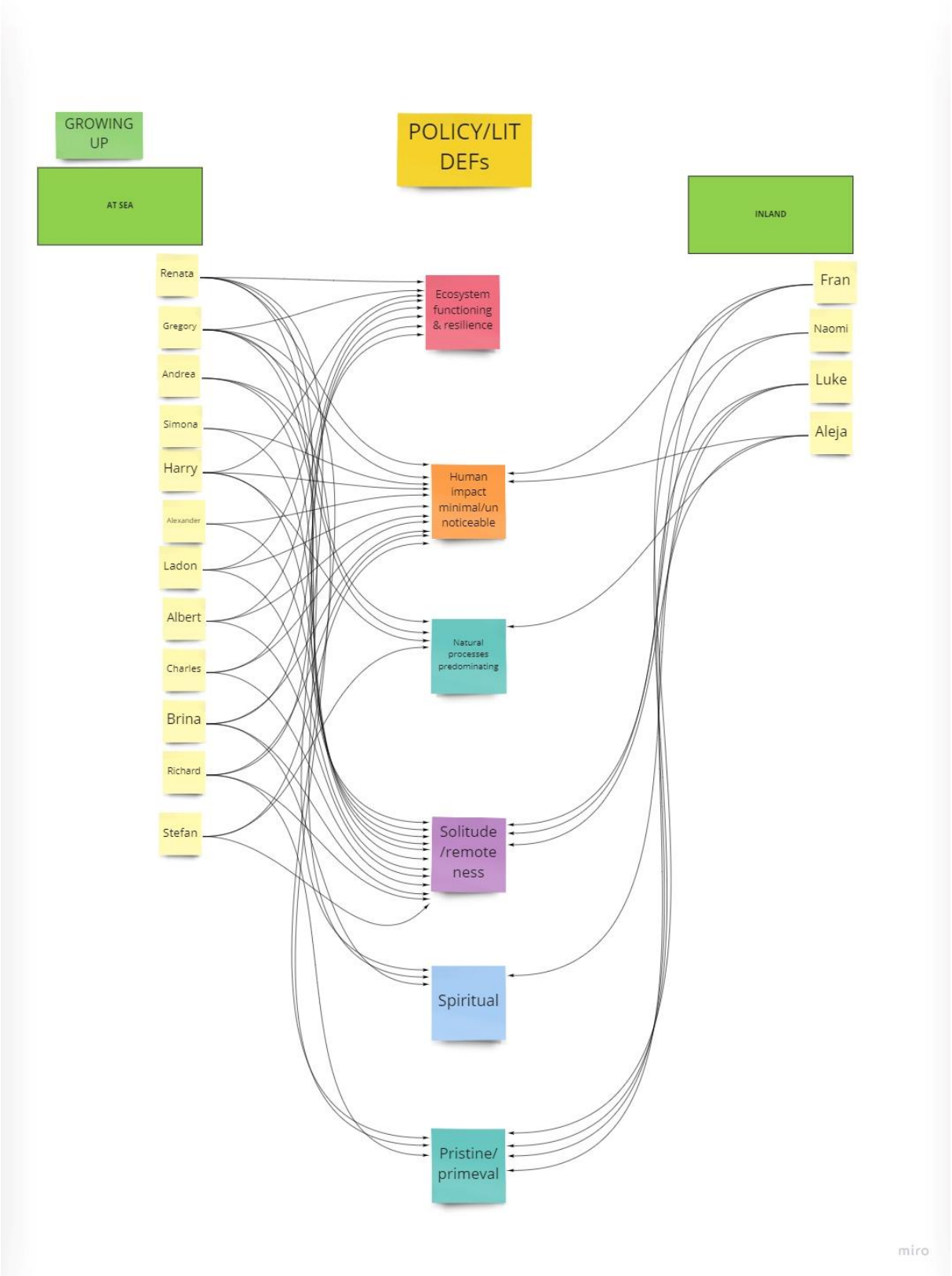
The “linking” analysis was performed based on the themes that emerged from literature (e.g. policy and literature definitions of wilderness), as well as themes emerging from iterative readings of the interview transcripts. The links were made in the Miro software, that allows repositioning of elements, without the links being lost in an interactive setting. All these illustrations are also available to view online at https://miro.com/welcomeonboard/RnZmSDc3Sk1mdUV4aXRZamN6SDJYZkU2Ulc0bDk2dkNoSlZxcTRFY3VUSXVOOHY2aE5rcDlBbDJ0WTg1WFBPOXwzMDc0NDU3MzUzMTc3NDc4NzY4fDI=?share_link_id=67805558093

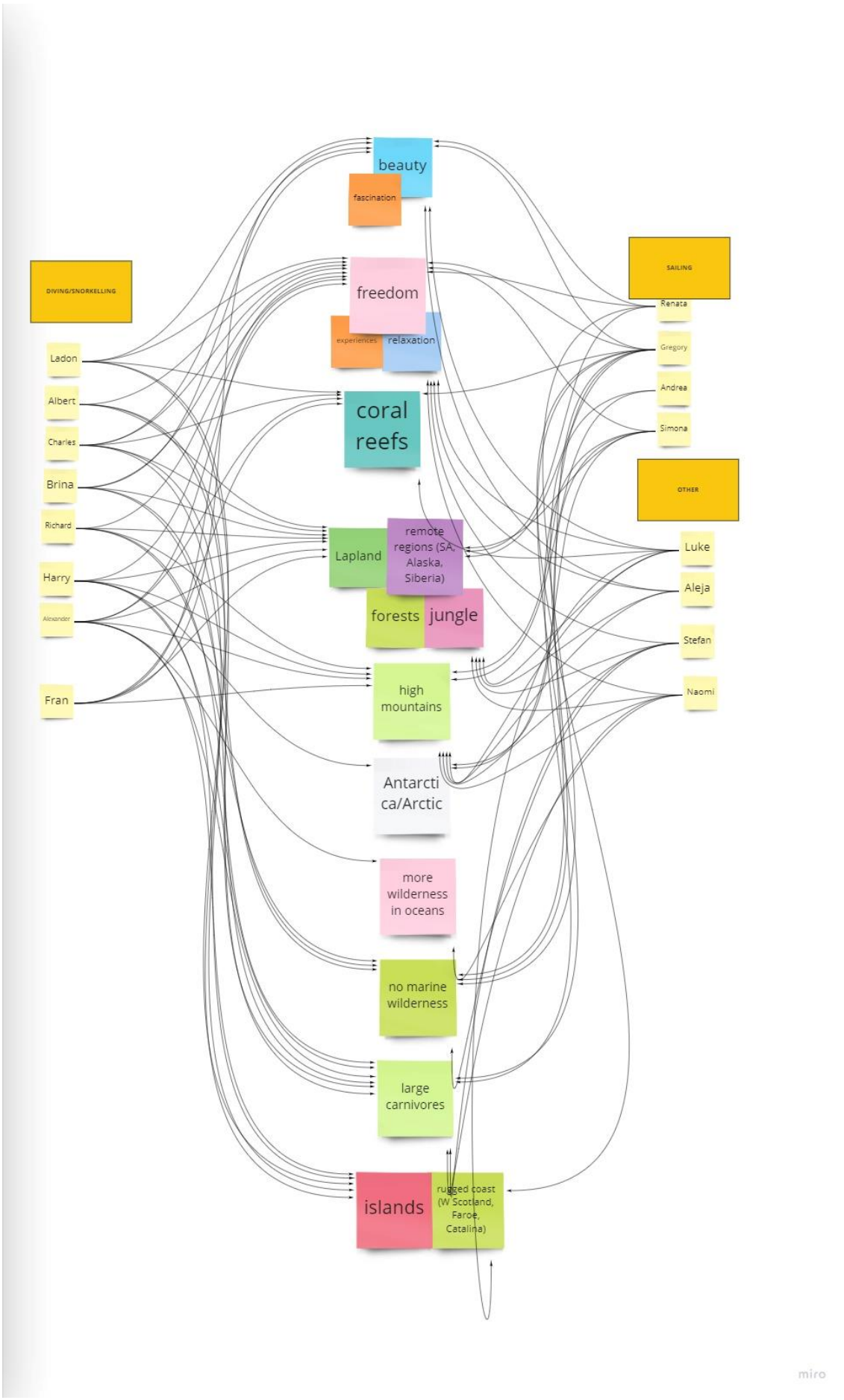

WORLDVIEW
POLICY/LIT DEFs
AMBIGUOUS
NEGATIVE
POSITIVE
Simona
Fran
Albert
Charles
Brina
Richard
Luke
Aleja
Ecosystem functioning & resilience
Human impact minimal/un noticeable
Natural processes predominating
Solitude /remote ness
Spiritual
Pristine/ primeval
Renata
Gregory
Andrea
Harry
Ladon
Alexander
Naomi
Stefan
miro

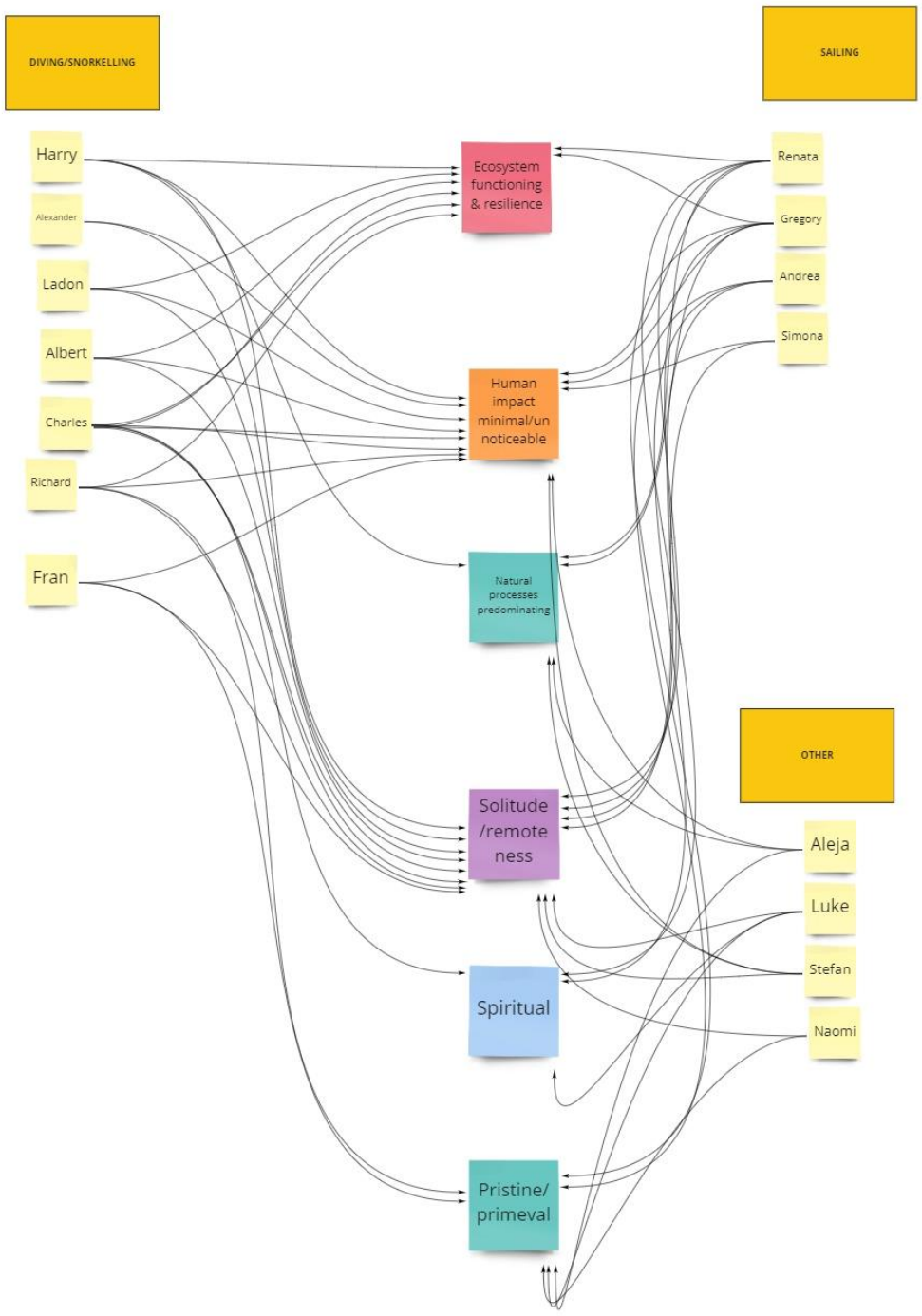

MARINE
Renata
Gregory
Andrea
Harry
Ladon
Simona
Albert
Charles
Brina
Richard
Alexander
Fran
Naomi
beauty
fascination
freedom
experiences
relaxation
coral reefs
Lapland
remote regions (SA, Alaska, Siberia)
forests
jungle
high mountains
Antarctica/Arctic
more wilderness in oceans
no marine wilderness
large carnivores
islands
rugged coast (W Scotland, Faroe, Catalina)
NATURAL SCIENCES
Luke
Aleja
OTHER
Stefan
miro

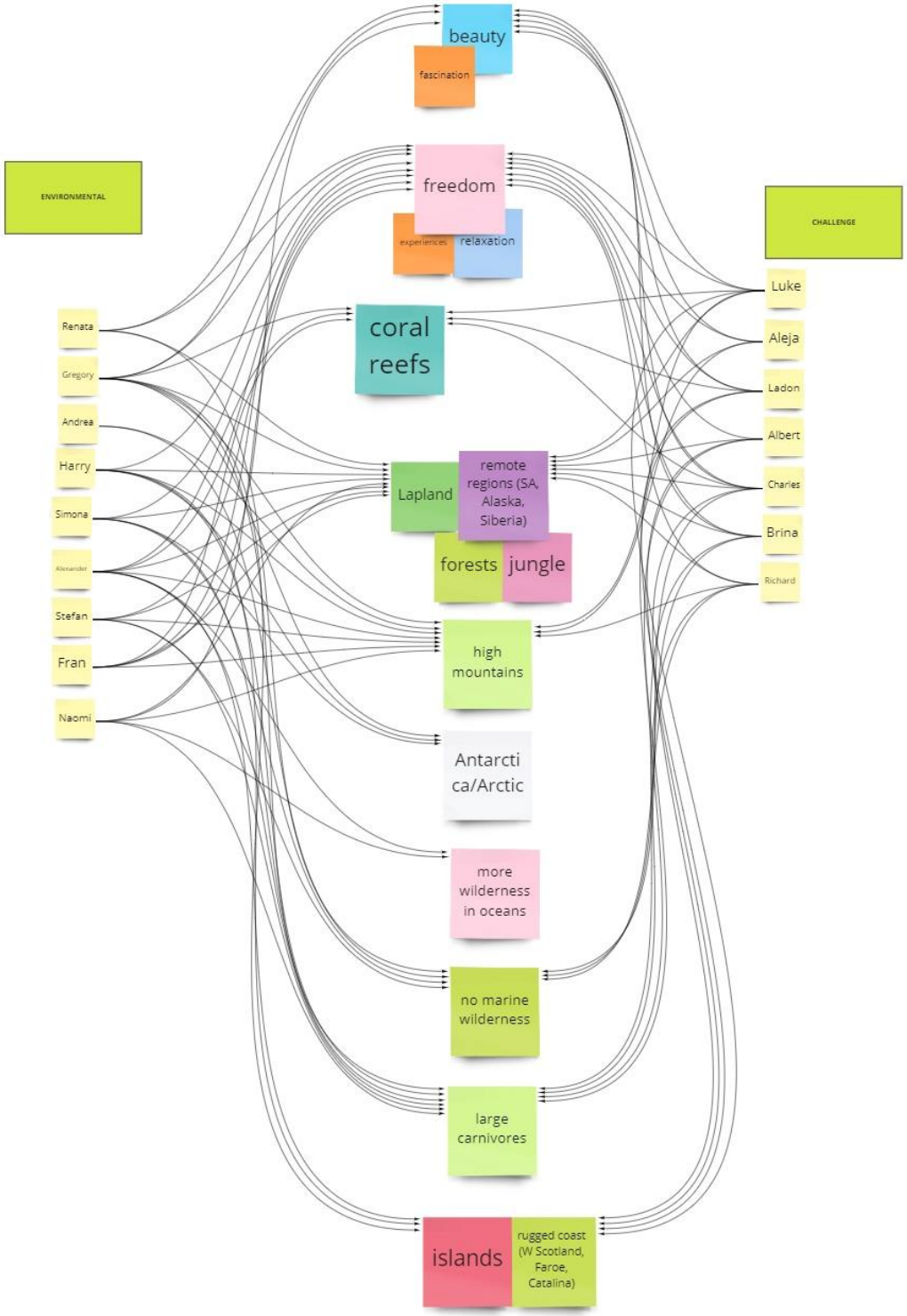

POLICY/LIT DEFs
MARINE
NATURAL SCIENCES
OTHER
Renata
Gregory
Andrea
Simona
Harry
Alexander
Ladon
Albert
Charles
Brina
Richard
Fran
Naomi
Ecosystem functioning & resilience
Human impact minimal/un noticeable
Natural processes predominating
Solitude /remote ness
Spiritual
Pristine/ primeval
Luke
Aleja
Stefan
miro

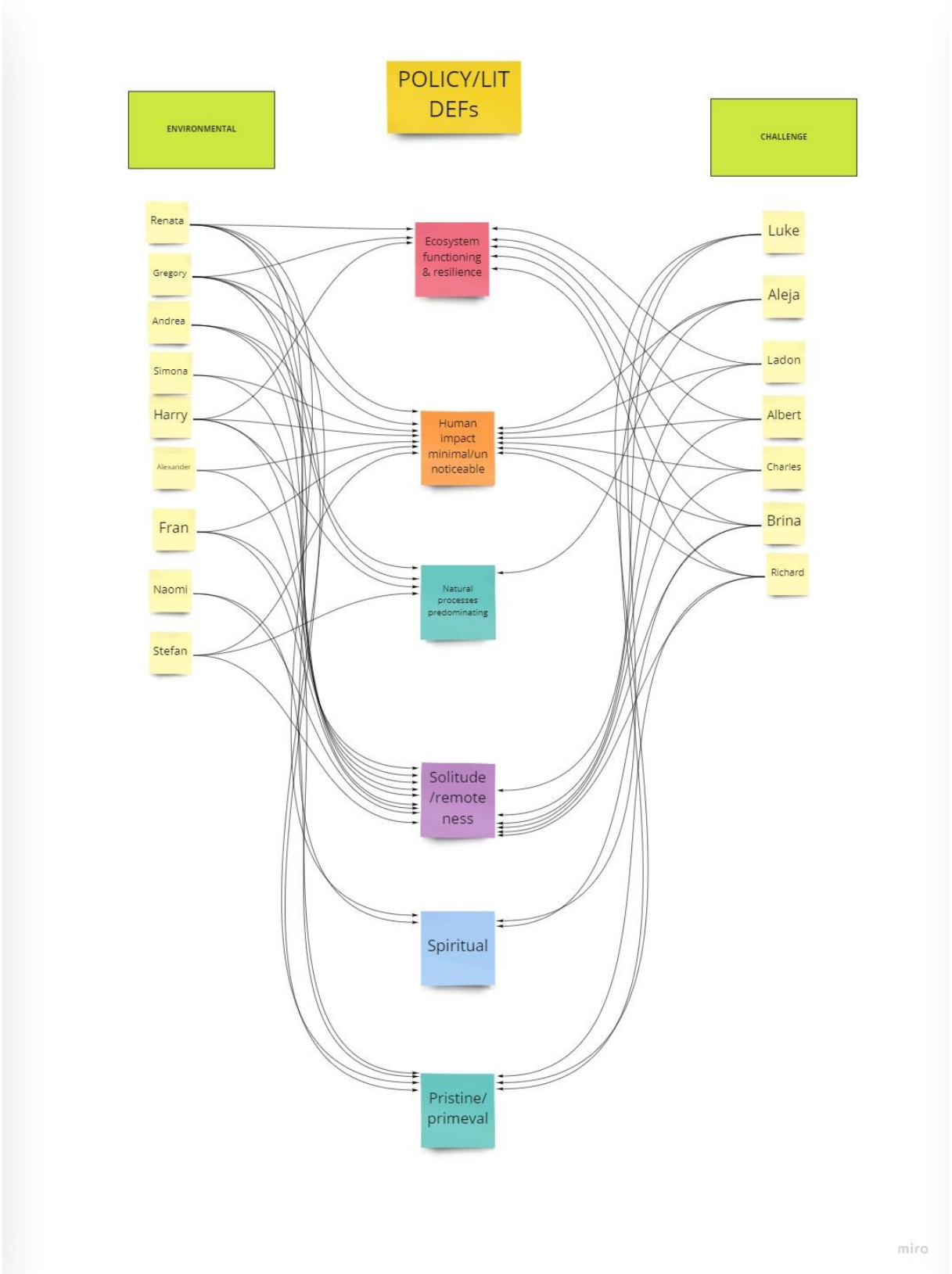

AT SEA
INLAND
Renata
Gregory
Andrea
Harry
Ladon
Simona
Albert
Charles
Brina
Richard
Alexander
Stefan
Fran
Luke
Aleja
Naomi
beauty
fascination
freedom
experiences
relaxation
coral reefs
Lapland
remote regions (SA, Alaska, Siberia)
forests
jungle
high mountains
Antarctica/Arctic
more wilderness in oceans
no marine wilderness
large carnivores
islands
rugged coast (W Scotland, Faroe, Catalina)
miro

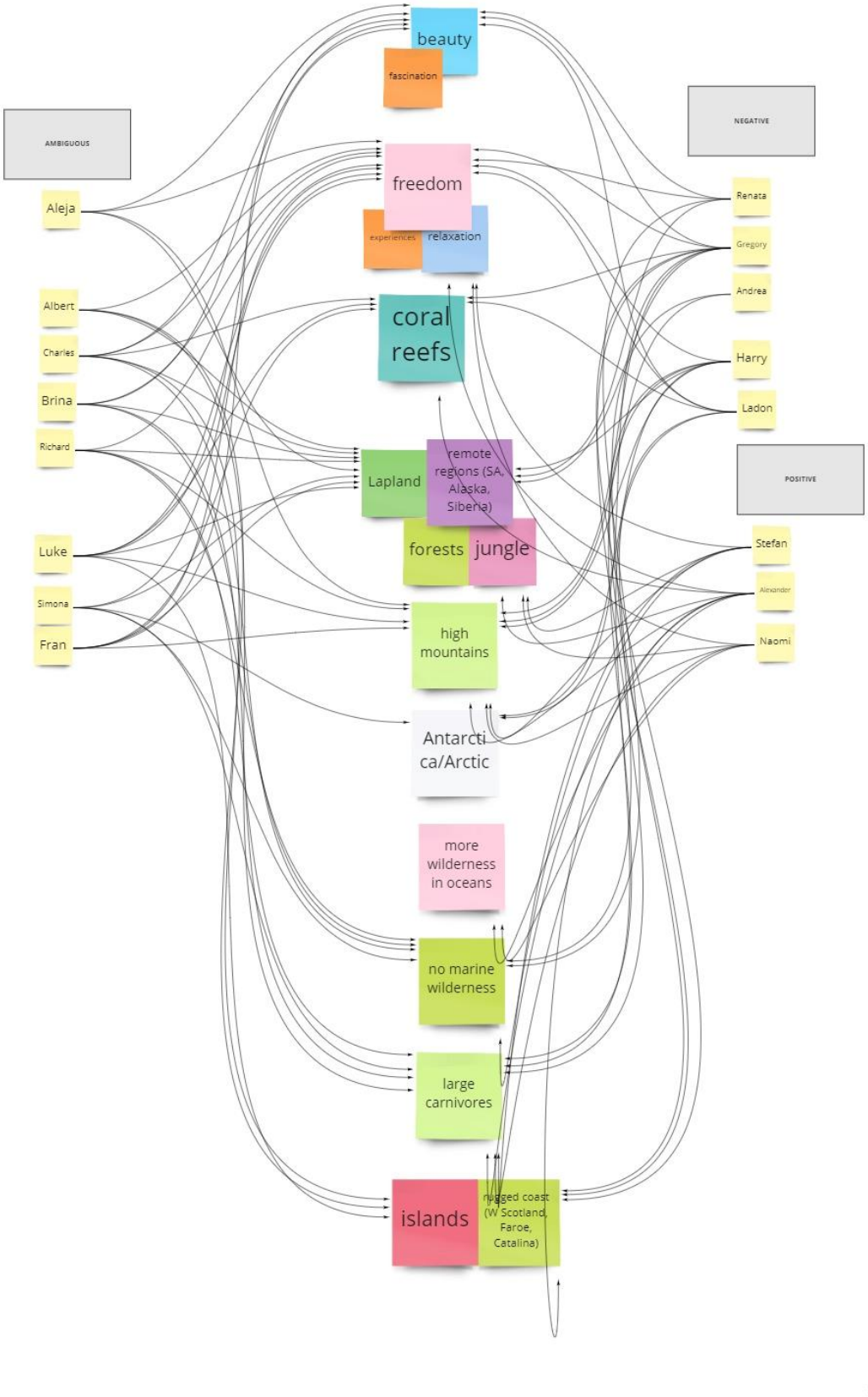

GROWING UP
AT SEA
POLICY/LIT DEFs
INLAND
Renata
Gregory
Andrea
Simona
Harry
Alexander
Ladon
Albert
Charles
Brina
Richard
Stefan
Ecosystem functioning & resilience
Human impact minimal/un noticeable
Natural processes predominating
Solitude /remote ness
Spiritual
Pristine/ primeval
Fran
Naomi
Luke
Aleja
miro

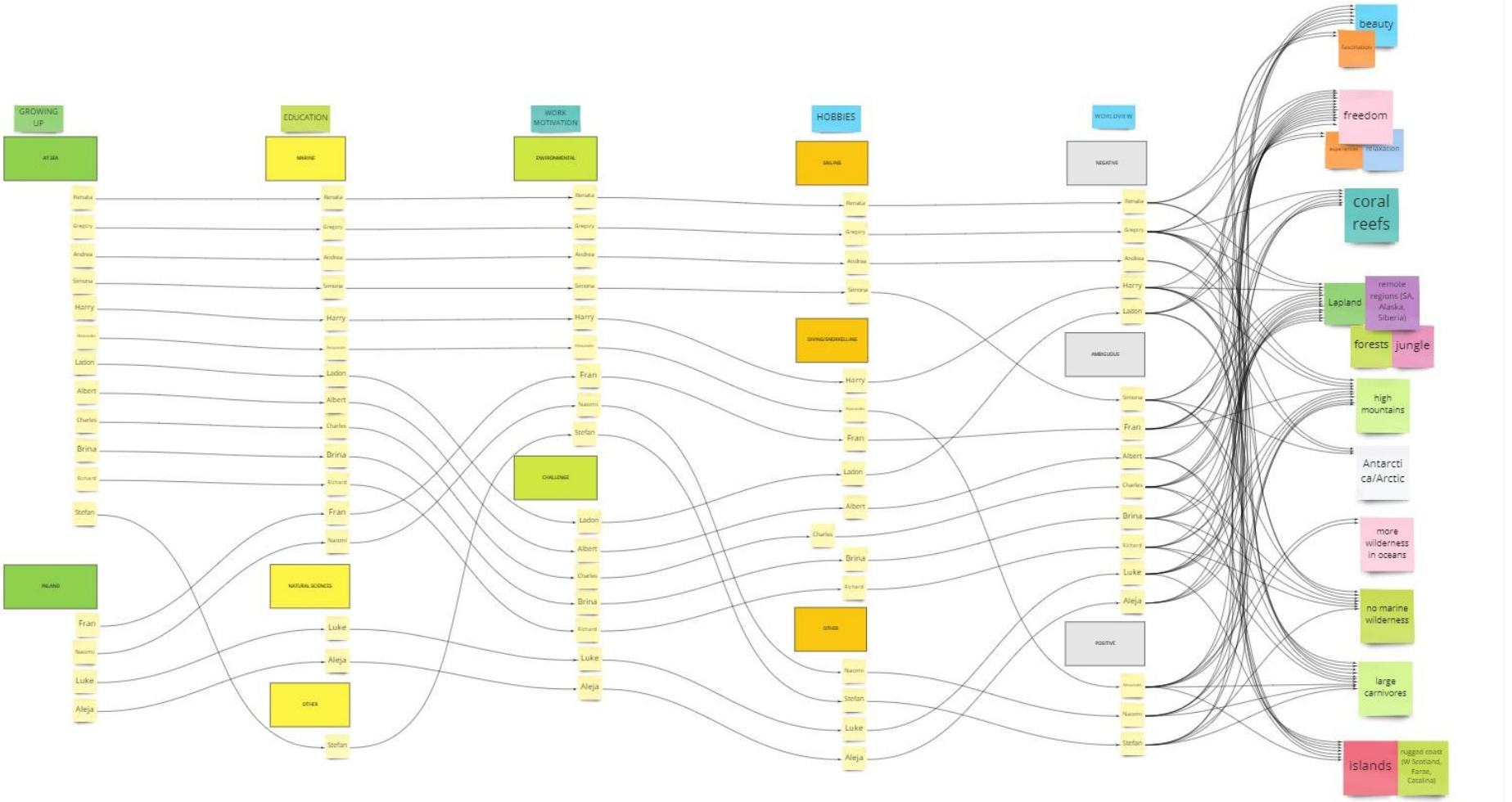

beauty
fascination
freedom
experiences
relaxation
coral reefs
Lapland
remote regions (SA, Alaska, Siberia)
forests
jungle
high mountains
Antarcti ca/Arctic
more wilderness in oceans
no marine wilderness
large carnivores
islands
rugged coast (W Scotland, Faroe, Catalina)
DIVING/SNORKELLING
Ladon
Albert
Charles
Brina
Richard
Harry
Alexander
Fran
SAILING
Renata
Gregory
Andrea
Simona
OTHER
Luke
Aleja
Stefan
Naomi
miro


DIVING/SNORKELLING
SAILING
Harry
Alexander
Ladon
Albert
Charles
Richard
Fran
Ecosystem functioning & resilience
Human impact minimal/un noticeable
Natural processes predominating
Solitude /remote ness
Spiritual
Pristine/ primeval
Renata
Gregory
Andrea
Simona
OTHER
Aleja
Luke
Stefan
Naomi
miro


ENVIRONMENTAL
CHALLENGE
beauty
fascination
freedom
experiences
relaxation
coral reefs
Renata
Gregory
Andrea
Harry
Simona
Alexander
Stefan
Fran
Naomi
Lapland
remote regions (SA, Alaska, Siberia)
forests
jungle
high mountains
Antarcti ca/Arctic
more wilderness in oceans
no marine wilderness
large carnivores
islands
rugged coast (W Scotland, Faroe, Catalina)
Luke
Aleja
Ladon
Albert
Charles
Brina
Richard
miro


POLICY/LIT DEFs
ENVIRONMENTAL
CHALLENGE
Renata
Gregory
Andrea
Simona
Harry
Alexander
Fran
Naomi
Stefan
Ecosystem functioning & resilience
Human impact minimal/un noticeable
Natural processes predominating
Solitude /remote ness
Spiritual
Pristine/ primeval
Luke
Aleja
Ladon
Albert
Charles
Brina
Richard
miro


AMBIGUOUS
NEGATIVE
POSITIVE
beauty
fascination
freedom
experiences
relaxation
coral reefs
Lapland
remote regions (SA, Alaska, Siberia)
forests
jungle
high mountains
Antarcti ca/Arctic
more wilderness in oceans
no marine wilderness
large carnivores
islands
rugged coast (W Scotland, Faroe, Catalina)
Aleja
Albert
Charles
Brina
Richard
Luke
Simona
Fran
Renata
Gregory
Andrea
Harry
Ladon
Stefan
Alexander
Naomi
miro


GROWING UP
AT SEA
Renata
Gregory
Andrea
Simone
Harry
Alexander
Ladon
Albert
Charles
Brina
Richard
Stefan
INLAND
Fran
Naomi
Luke
Aleja
EDUCATION
MARINE
NATURAL SCIENCES
OTHER
WORK MOTIVATION
ENVIRONMENTAL
CHALLENGE
HOBBIES
SAILING
DIVING/SNORKELLING
OTHER
WORLDVIEW
NEGATIVE
AMBIGUOUS
POSITIVE
beauty
fascination
freedom
experience
relaxation
coral reefs
Lapland
remote regions (SA, Alaska, Siberia)
forests
jungle
high mountains
Antarctica/Arctic
more wilderness in oceans
no marine wilderness
large carnivores
islands
rugged coast (W Scotland, Faroe, Catalina)
miro