

Sarah Marsden, University of St Andrews*

Daiana Marino, former University of St Andrews postgraduate student

Gilbert Ramsay, University of St Andrews

Title: Forest Jihad: Assessing the Evidence for ‘Popular Resistance Terrorism’

Short version of title for running head: Forest Jihad

Abstract

Despite increasing concern over the potential threat from ‘forest jihad’, there has been no systematic attempt to assess whether such attacks are in fact taking place. Drawing on principles from the geospatial profiling of terrorist events, fire-risk prediction data, and information on jihadist convictions, this paper offers a thorough review of the evidence to address this question. The available information suggests that so far, jihadists have not attempted to attack North American or European wildlands by means of arson. Despite calls for ‘popular resistance terrorism’ in the jihadist literature, and the apparently low costs associated with this type of attack, jihadists have so far shown little appetite for ‘forest jihad’.

* Corresponding author:

Sarah Marsden, Handa Centre for the Study of Terrorism and Political Violence, School of International Relations, University of St Andrews, New Arts Building, Library Park, The Scores, St Andrews, Fife, KY16 9AX, United Kingdom

sm992@st-andrews.ac.uk

One of the clichés of terrorism studies relates to the old question of the tree that falls, unseen, in the forest. If an act of terrorism is not witnessed, is it really terrorism? This question is given more than merely philosophical substance by the fact that certain terrorist propaganda texts do in fact call quite clearly for forms of action which, in this paper, are described as ‘popular resistance terrorism’. That is, destructive acts against property or even people which are carried out by clandestine actors, for ideological reasons which are explicitly understood by the perpetrators, but where the perpetrators need not make any claim of responsibility, and furthermore where the acts themselves are such as to resemble accidents, acts of nature, or common crimes.

Popular resistance terrorism, were it to exist, would be quite different to anonymous attacks, where an act of violence is relatively easily classifiable as one of terrorism, but for which the perpetrators, for whatever reason, do not claim responsibility. Abrahms has described anonymous attacks as one of the fundamental puzzles facing strategic models of terrorism.¹ Such strategic approaches assume that in order for militant actors to communicate with, or coerce their opponent into making policy concessions, the nature of the actor and their claims must be made clear – without an admission of responsibility, this is not possible. Operations made to look like accidents or sabotage not only fail to communicate the reasons for the attack, but also – assuming accidents are less inherently threatening than deliberate acts of violence – limit the psychological impact that perpetrators might achieve. Nevertheless, there have been calls for such acts of ‘popular resistance’ in jihadist targeting discourses, most notably by Abu Mus’ab al-Suri, and in *Inspire* magazine.² These have included proposals, for example, to destroy buildings by means of gas explosions in which the perpetrator is advised to ‘try to make the explosion look like an accident’, to torch parked cars, or to cause accidents by releasing oil onto the road.

This paper is concerned with a type of action which is distinguished both by the consistency with which it has been incorporated into calls for jihadist action, and its ostensible plausibility as a method of ‘popular resistance terrorism’: the deliberate creation of forest fires.

Such calls by jihadist sources such as *Inspire* magazine have been taken seriously by certain authorities. Alexander Bortnikov, the head of Russia's Federal Security Service, has suggested that this type of operation might be responsible for the spate of forest fires that occurred across Europe in 2012. Setting out some of the more attractive features of these operations, he argued that such a 'thousand cuts' strategy "allows [Al Qa'ida] to inflict significant damage on the economy and morale without any serious preparation, technical equipment or financial losses."³

The question remains however: have such attacks actually become part of the jihadist repertoire? Although most responses to Bortnikov's assessment of the threat of 'forest jihad' seemed to reject the idea that it has actually been put into practice,⁴ to date there has been no systematic investigation into whether or not jihadists have been carrying out acts of sabotage or arson. Notwithstanding the lack of obvious evidence, and the apparently greater threat posed by more 'traditional' acts of terrorism, which preoccupy most practitioners and academics, the lacuna in this area also reflects the significant challenges in trying to establish whether such attacks are in fact taking place. As perpetrators may not claim responsibility for an attack, and given the range of potential operations this type of tactic could potentially encompass, the analyst faces the challenge of proving a substantial negative: that no such events were caused by jihadists. Hence, the challenge is to demonstrate that, for example, a fire which appears to be an accident was in fact caused deliberately, that the reasons behind this went beyond the merely criminal or psychological to include political motivations, and that these were linked to the principles and practices of the global jihad. Given these challenges, it is perhaps not surprising that popular resistance terrorism has been neglected as an area of investigation.

Nonetheless, while determining whether or not jihadist forest fires actually have taken place is necessarily a difficult task, and a question that is unlikely to be answered definitively, it is perhaps not quite so impossible to shed light on as it might appear. Moreover, it would seem

to be a particularly promising case to investigate in relation to the wider question of the significance, and indeed the existence of popular resistance terrorism.

First, while forest fires need not in principle correspond to the pure conception of popular resistance terrorism as defined in this paper (for example, it would be possible to start forest fires in such a way as to be able to make a plausible claim of responsibility), the natural frequency of forest fires, the diversity of their causes, and (as the paper goes on to consider) the difficulty of identifying these, inherently seem to lend them to this class of action. Second, the substantial devastation which forest fires can lead to would appear to make them attractive to an actor motivated to cause purely material destruction. Third, the relative ease with which a forest fire can be started would seem to mean that, even assuming that only a very small number of people or groups were so motivated, they would be able, with sufficient determination, to make a noticeable impact on the occurrence of forest fires overall.

This assumption provides the methodological starting point for this paper. By closely examining the aetiology of large forest fires in North America and Western Europe the analysis which follows shall determine, as far as possible, whether or not jihadists are setting fires in the West. While it is not possible to achieve absolute certainty that no one has ever, acting on jihadist motivations, attempted to start a forest fire (indeed, two remotely possible cases of this are considered in the paper), it does seem possible to determine whether the forensic difficulties of investigating forest fires might be concealing an entire repertoire of hitherto unknown jihadist action. The paper concludes that there is, in fact, no evidence that violent jihad by forest fire is a real phenomenon in the West. The implications of this for our understanding of calls for such actions, and the contrast between these and the actual repertoire of jihadist violence in the West will then be briefly discussed.

Pyro-Terrorism as Popular Resistance: Some Background

Although there has been a recent increase of interest in ‘forest jihad’, the use of arson for the purposes of raising political issues is not new. The Global Terrorism Database (GTD) has

reported attacks using incendiary devices since its inception, and fire has been used as a means of protest against ruling powers across the world for hundreds of years. Robert Kuhlken draws attention to, as he frames it, “settin’ the woods on fire”, as a tool of resistance and protest.⁵ Kuhlken looks at cases as varied as peasants rebelling against land reform and mechanisation in Victorian England, to arson attacks by Arab and Berber populations protesting against French colonial efforts at land control in North Africa in the late 1800s. However, the country perhaps most associated with wildfire used as a tool of political violence is Israel. Since the 1930s, Palestinians have used fire as a tactic, perhaps most notably during the First Intifada, in the course of which hundreds of fires were lit, destroying 10,000s of hectares of forest and wildlands.⁶ Hamas, Fatah and Hezbollah are all reported to have deliberately set fires in rural areas with the aim of inflicting damage on the Israeli state.⁷ As a consequence, the notion of an ‘arson intifada’ periodically reappears in the Israeli press.⁸ Jihadist groups have also claimed responsibility for similar types of attack in Israel. Most recently, Ma’sadat al-Mujahideen, a group based in the Gaza Strip, has claimed responsibility for a number of wildfire attacks in Israel over the last three years via jihadist fora.

Despite this recurrent use of arson as a tactic of political violence, there has been little systematic investigation of what has sometimes been labelled ‘pyro-terrorism’. Studies by Robert Baird⁹ and Nick Deshpande¹⁰ have looked at the issue in perhaps the most detail. Via a number of case studies, both draw attention to the potential for jihadist use of arson, however, their analysis finds no conclusive proof that this is in fact taking place. Indeed, despite selecting their cases on the basis of their terrorism-like characteristics, both authors highlight the difficulty of detecting an explicitly political motive behind wildfires. Even when fires have been claimed by militant actors – for example in Estonia by the ‘Forest Incinerators’, a group protesting about a Soviet monument in the capital – Deshpande seems reluctant to label them acts of terrorism. Baird instead focuses more on the level of threat and associated risk mitigation, rather than offering a clear assessment of whether jihadists are indeed setting fires in the West. Similarly, Jonathan Figchel outlines the jihadist discourse on forest jihad and sets

it in the context of arson as a weapon used against Israel by Palestinian militants and Hezbollah, yet, the author offers no concrete test of whether or not arson is being used by al-Qa'ida or its adherents.¹¹ As such, the question remains open as to whether or not Western-based jihadists have taken up the call to carry out forest jihad.

The jihadist discourse on 'forest jihad' is relatively limited, but largely consistent.

Publications have set out the theological underpinnings of such operations in an effort to establish their legitimacy, most recently in a 2012 article entitled *The Ruling of Burning the Forests in the Land of the Kuffar Enemies*, featured in *Inspire*,¹² although discussions on the legitimacy of such tactics have been circulating for a number of years on jihadist fora.¹³

Looking in more detail at what the jihadist literature says about this type of attack, it appears to have little in common with the types of operations that characterise jihadist attacks in the West. Popular resistance terrorism involves neither high profile, theatrical acts of terrorism specifically designed to cause mass casualties using explosions or martyrdom operations. Nor does it fit the model of 'grassroots' actors carrying out more discriminate acts such as the murder of Theo van Gogh. Were such 'civilian resistance' attacks to exist, they seem to demand the specification of a distinct type of potential operation. Based on discussion of popular resistance attacks in jihadist literature, it is possible to identify a number of characteristics by which they might be recognised:

1. De-privileging human targets: Although the killing civilians of enemy states is endorsed, such deaths are perhaps best characterised as welcome 'collateral damage', as mass casualties are not the primary aim.
2. Destruction of material targets: Such operations are defined by their aim of causing material and economic damage. Specified targets include forests, agricultural land, largely unspecified economic targets, and equally non-specific buildings.
3. Country profile: Such operations are called for against America, Britain, Israel, NATO countries and, more generally, European states, but also Russia and Australia.

4. Tactics: Characterised by al-Suri as ‘civil resistance action’, the discourse focuses primarily on arson but can include acts of sabotage.
5. ‘Low-fi’ operational profile: Such attacks would generally involve low costs, low sophistication and require limited preparation.
6. Perpetrator outcome: As there is no intrinsic demand to claim responsibility for such attacks, the perpetrator would have a far better chance of evading capture, a characteristic which seems to be a particular feature of these types of operation.

These characteristics have some puzzling features. In addition to Abrahms’ argument, that by failing to come forward, the perpetrators of such attacks have little opportunity to communicate their demands,¹⁴ this model fails to maximise the strategic impact of an attack. Although the ‘popular resistance’ model allows for targeting important sites, such as gas pipelines, in general, guidelines for targeting are vague. Looking in more detail at the main discussions of ‘forest jihad’, they suggest that the incendiary device should be placed where there is abundance of trees and in areas close to buildings, to capitalise on the potential to inflict casualties. However, there is no discussion of choosing specific sites, for example, with a view to impacting critical infrastructure, or key services. Rather, the call is of a more general kind, designed to have two main effects: economic and psychological. By burning forests, woodland industries and those that rely on them would be negatively affected, along with losses for individual homes and farms caught up in the blaze. In addition tourism may be impacted, and it may tie up emergency services, although these appear to be somewhat more peripheral benefits. Beyond this, the psychological costs are counted as important. As such, “spreading terror among the targeted community”¹⁵ is considered a primary aim. However, it would seem that in causing what could quite unproblematically be classified as an act of nature, or a genuine accident, the potential for generating fear is less acute than with a more stereotypical case of jihadist terrorism.

The features of this type of operation present a particular challenge in ascertaining the prevalence and scale of such attacks. Firstly, the possibility that such operations are taking

place, without claims of responsibility, means the most common way of identifying whether a particular event constitutes an act of terrorism cannot be assumed to apply. Secondly, even if an individual were to take responsibility for a particular wildfire, the researcher would perhaps be presented with the somewhat unusual challenge of having to prove it was an act of terrorism. As such operations do not fit the traditional model of jihadist terrorism, any claim for responsibility would perhaps have to be more cogent, and have greater evidentiary weight to allow it to be incorporated into the jihadist repertoire by observers. If they failed in doing so, for example, if the authorities believed it to be a hoax, it would perhaps not be classified as an act of terrorism by major terrorism databases, or even by the media, making it harder for scholars of terrorism relying on such sources to identify it as a distinct type of operation, even if it were to exist.

Moreover, looking more closely at arson, conviction rates are extremely low; in the US, it is estimated that only 5-7% of arsons end in conviction.¹⁶ In the UK over the last four years, sanction detection rates for arson were around 14%,¹⁷ whilst actual conviction rates are generally much lower, around 5.5%.¹⁸ Given such low conviction rates, even if a claim of responsibility was made, it would be necessary to demonstrate that it was actually carried out by jihadists, rather than, for example, constituting an effort to capitalise on a natural disaster or accident. There is an intriguing example of just such a case when, in January 2012, Ma'sadat al-Mujahideen claimed responsibility for a wildfire in Reno, America, announcing "a war against the US by setting the forests of Nevada ablaze".¹⁹ Somewhat unusually in this case, it is possible to determine that the fire was not an act of terrorism. Very soon after it was extinguished, an elderly man turned himself in, admitting responsibility for causing the blaze by not discarding fire ashes properly.²⁰ However, this is a relatively unusual case, and significant obstacles remain in demonstrating whether or not such operations are indeed taking place. To address this question, what follows looks at the characteristics of wildfires in the United States and Western Europe. Using principles drawn from geospatial profiling and

fire risk forecasting, the data on wildfires is examined to explore the hypothesis that forest jihad has moved beyond the drawing board and is being practised by jihadists in the West.

Wildfires in the United States of America

Looking at data on wildfires in the United States, the first thing to note is the scale of the issue; in 2011 alone, more than 74,000 wildfires were reported across America, burning over 8.5 million acres.²¹ To address the scope of this challenge, the research progressed through a series of steps. Initially a search of media reporting was undertaken to identify whether there had been claims that jihadists were involved in fire-setting. The data on recent large-scale wildfires was then examined to try and determine whether jihadists may have been responsible for any of them. First this was done by comparing these fires with levels of fire risk in the area to identify whether there were any unusual or unexpected conflagrations, and second, by comparing the location of the fires with areas where jihadists are known to have been based, drawing on conviction data for relevant offences.

Using Lexis Nexis, a search of media output from 2007-2012 was undertaken, using keywords such as 'arson', 'fire,' 'wildfire' and 'terrorism' to identify reports of actions that might be classifiable as 'forest jihad'. These searches provided very little usable information; there were comparatively few relevant articles and the quality of information was very often best characterised as hearsay. The most cogent example of a wildfire plot was a report that a detained 'al-Qa'ida terrorist', claimed to have been planning a spate of wildfires across Colorado, Montana, Utah, and Wyoming.²² The report was based on an FBI memo, which stated that officers were unable to establish the veracity of the detainee's claims, and no further corroboration was identified through the research. As such, this did not seem to be sufficient evidence of a campaign of 'forest jihad' in America.

Using a similar approach, media reporting was searched for evidence of jihadist involvement in urban fires. Not only were there relatively few accounts of non-accidental fires with a motivation not clearly characterised as criminal, but those which did fit this profile were

largely claimed by groups such as the Earth Liberation Front. Although it is not impossible that environmental activists and jihadists are working together, this seems unlikely. Further, the targets of these attacks were generally related to environmental issues, for example setting fire to commercial logging equipment, or GM laboratories - targets which have shown little appeal for jihadists to date. A search of the GTD reveals a similar picture. Figure 1 illustrates the number of attacks carried out in the United States using incendiary devices and their perpetrators from 2000-2011. As the Figure shows, the main groups responsible for these attacks are primarily interested in environmental issues, with a more limited number instigated by anti-abortion activists and neo-Nazi groups.

- Figure 1 about here -

In sum, although there were suggestions that jihadists may be interested in instigating wildfires in America, this initial search found no conclusive evidence that such ambitions were being put into practice. Jihadists have made no credible claims of responsibility for fires in America in recent years, and no substantiated accusations have been made. It therefore seems possible to say that the call for 'forest jihad' has not been taken up with a view to publicising and promoting al-Qa'ida or its adherent's aims. From this starting point, the research turned to ascertaining whether such acts had been carried out but not claimed. That is, whether truly anonymous acts of popular resistance made to look like accidents were taking place.

After trying to identify from the 'bottom up' whether there was any evidence of jihadist involvement in arson by searching media reporting, the research then took a 'top down' approach to see whether, of the larger fires reported since 2007, there was any evidence of militant involvement. As already noted, the number of smaller fires can run into the 10,000s per annum, hence attention focused on those fires classified as 'significant'. Using the National Interagency Coordination Center (NICC) database, the research looked in more detail at fires that had spread over 40,000 acres. Although this eliminates a large number of

fires, it has the advantage of reducing the number to a more manageable size and focuses on more economically and psychologically damaging fires about which there is likely to be more information in the public domain. Furthermore, using existing databases not only meant it was possible to standardise the search, it also meant it was easier to exclude those fires which were determined to have a natural cause, such as lightning. Having narrowed down the parameters in this way, the research focused on those fires classified as having human or unexplained causes.

After filtering out small fires and those attributed to natural causes, a more manageable dataset of 51 fires over the period 2007-2011 emerged. Of these fires, 49% were attributed to human causes, whilst 51% were unexplained. However, it is important to note that identifying a clear cause for any particular incident is problematic. Very often wildfires are not thoroughly investigated, and there is often disagreement between sources as to what may have been the cause. Turning to media reporting to try and gain further insight into how these fires started, it was possible to rule out 11 as potential jihadist attacks. These included fires started by campfires where the perpetrators were identified, and previously unidentified lightning strikes. Of the remaining 40 fires, 18 remain unexplained, whilst 22 were classed by the NICC as caused by humans. Only one of these was clearly attributed to an arson attack, this related to a fire begun in the hills around Los Angeles in 2009, which caused widespread damage and took the lives of two fire fighters.²³ The ensuing homicide investigation failed to identify the perpetrator, and although none of the media reporting suggested there was a political component, this clearly does not rule out such a motivation. Little further progress was possible in determining a satisfactory explanation for the remaining 39 fires; media reporting was sparse, and the causes remain opaque. Nevertheless, although jihadist involvement in these fires cannot be ruled out, it is possible to say that there were no serious accusations of terrorist intent.

Having exhausted official reporting and media sources, the next stage involved employing insights from the geospatial profiling of terrorist attacks. A recent report from START at the

University of Maryland, examined the geographical characteristics of terrorist events in America between 1972 and 2011.²⁴ The report revealed that for at least some of the preparation period, 35% of the perpetrators were based within 30 miles of the target location, and 66% within 270 miles. The research concluded that whilst terrorism is generally carried out further away from the perpetrator's home than is the case for 'ordinary crime', militant actors still maintain a comparatively local sphere of operations. Further, it seems jihadist terrorism is particularly geographically constrained; a greater proportion of jihadists lived within 30 miles of the target than any other type of militant actors, and carried out far more ancillary and preparatory activities within the same radius. In fact, 44% of all jihadist terrorism was carried out within 30 miles of the individual's home base, and 66% within 270 miles.²⁵

Drawing insights from these findings and looking again at the data on unexplained wildfires in the United States, the next stage of the research attempted to identify whether there was any relationship between human/unexplained significant fires, and areas where people who had been convicted for jihadist terrorism-related offences were based. Clearly, it is not possible to guarantee a relationship between those interested in setting fires and more standard forms of attack, nor is it wise to automatically assume that areas where jihadists were once based constitute 'hot spots' where other jihadists might be living. However, it does not seem an unacceptably tendentious premise to suggest there may be some relationship between areas where jihadists have been found in the past, and other kinds of jihadist activity. Pursuing this line of enquiry involved setting out the geographical scope of the remaining unattributed wildfires. This revealed that from 2007-2011, eight states experienced more than one major wildfire, which remain unexplained or deemed to be caused by humans: Arizona (2), California (8), Florida (2), Georgia (2), Idaho (2), New Mexico (4), Oklahoma (2), and Texas (13) whilst a further four experienced one significant wildfire: Kansas, Montana, Oregon and the state of Washington.

Examining the locations of these fires, in general, the south and west of the country experienced more large scale wildfires than elsewhere. Although the risk of wildfire changes from year to year and season to season across the United States, the data on this set of wildfires reflects the fact that, all things being equal, these regions are generally more prone to fire than other areas.²⁶ Texas has suffered particularly badly over the last few years, experiencing a total of 18 major wildfires, 13 of which remain unexplained or are believed to have been caused by people. The question remains, might these have been caused by jihadists? There seems to be evidence that a number of the fires could well be related to illegal activity, albeit of a non-political nature. At least two of the fires were started in areas known for illegal smuggling and immigration from Mexico, and although the authorities could not confirm whether those using the border area started them, they did not rule this possibility out.²⁷ In one case, police claimed that anything from ricocheting bullets, to welding machinery and campfires made by those trying to enter America could have caused the fires. More nefariously, smugglers have been accused of targeting remote border patrol sensors in order to destroy them and create a safe passage through the bush.²⁸

By using existing data on convictions for those professing a commitment to the ideas of the global jihad in America, it is possible to ascertain whether there is a relationship between areas where jihadists have been based and wildfires.²⁹ Existing analyses of convictions for violent offences were cross-checked with media reports to confirm the details of where the individual was based at the time of arrest. This information is presented in Table 1, which sets out where convicted jihadists were based, and compares these figures with levels of wildfire occurrence. Before examining any relationship between the location of jihadists and wildfires, it is interesting to note that only seven (16%) of the planned attacks were outside the state where the individual lived. Clearly, US states vary enormously in size, however, this does seem to support the findings of the START study that most jihadists largely carry out operations relatively close to where they live.³⁰

- Table 1 about here -

Comparing the location of convicted jihadists and the incidence of wildfires, Table 1 demonstrates that seven states have experienced both: California, Florida, Georgia, Idaho, Oregon, Texas and Washington. In total, 29 unexplained/human-caused fires occurred in these states from 2007-11. Whilst this is still a significant number of incidents spread over a substantial area, given the number of states that have seen jihadist convictions but no fire activity, these data seem to suggest the absence of any systematic relationship between jihadists' home state and wildfires in the US.

The final check available in attempting to ascertain whether jihadists were responsible for these fires, is to try and determine the relative risk of fire in the specific areas where the blazes occurred. If the fires had started in high-risk areas, it would support the conclusion that these events should not be regarded as particularly unusual or unexpected. Using monthly reports produced by the NICC and local government data which specified levels of fire risk, it was possible to identify the conditions in 24 out of the 29 regions where fires broke out over the five years.³¹ These fires are classified using a scale from below normal, normal, to above normal. Of the 24 fires, 20 occurred in areas classed as having above normal fire potential, whilst four were normal. Although clearly not conclusive, this does seem to suggest that the vast majority of fires took place in contexts characterised by greater than average chance of fire. Of course, jihadists could have taken the opportunity presented by conditions which favoured fire activity in order to disguise their activities and set more devastating fires – a strategy which the guidelines for such attacks encourage. Similarly, due to the selection criteria used in this study, which focuses on more significant fires, favourable conditions for fire are likely to have caused larger conflagrations, meaning these results have perhaps merely confirmed the relationship between large fires and higher fire risk. However, given the very limited number of ways by which it is possible to identify whether or not fires were being started a) deliberately, and b) by jihadists, it seems possible to say, at the very least, that these data do not suggest that there have been particularly unusual or suspicious patterns of fires, or fires occurring where they might not otherwise be expected.

Whilst tentative, a number of conclusions can be drawn from this analysis of American wildfires. First, there appears to be no evidence that fires have been claimed by jihadists in the United States (although, of course, this is strictly speaking to be expected for popular resistance terrorism); second, there is little evidence of any systematic relationship between locations where jihadists are known to have been based and significant fire activity; and finally, there is little evidence to suggest there have been any particularly unusual patterns of large-scale fire activity which might plausibly be attributed to a terrorist campaign. In the next section attention turns to the European case to ascertain if there is any evidence for ‘forest jihad’ across Europe.

Wildfires in Europe

For information on wildfires in Europe, the research used data provided by the European Commission’s European Forest Fire Information System (EFFIS). EFFIS has produced annual reports on the scale, location and response to fires across most of Europe since 2000.³² As in the American case, the number of fires that have occurred across Europe is significant, running into the hundreds of thousands. To narrow the search, two criteria were used. First, attention was directed towards those countries most prone to fire: Spain, Italy, Greece, Portugal, France; second, the scope of analysis was narrowed to focus on the last six years: 2007-12. Official data are available for 2007-11, whilst media reporting was used for 2012, as official statistics have yet to be released. Although this is not likely to be as comprehensive as the data collected by the European Commission, it seemed important to try and ascertain whether there was any evidence of militant involvement in the fires that have afflicted Europe in 2012, not least, as there has been explicit concern that jihadists might have been implicated in these events.

Looking first at the scale of the issue, the five countries under consideration have experienced approximately 50,000 fires from 2000-2011. In terms of terrorist attacks, the GTD identifies 345 operations using incendiary devices over the same period. Of these, Greece has suffered

the highest number of arson attacks, accounting for 56% of such operations since the turn of the century. Unpicking these data a little further, whilst the perpetrators of the majority of these attacks remain unknown, Table 2 illustrates the distribution of attacks by the primary ideological claims of groups known or suspected of having caused specific incidents. As the Table shows, anarchist groups shoulder much of the responsibility, along with Basque separatist groups, and a handful of left-wing and animal rights groups, with a single arson attack suspected of being carried out by those in sympathy with Rwandan Hutus in London.

- Table 2 about here -

The vast majority of these attacks are concentrated in towns and cities rather than rural areas. Although not listed on the GTD, an exception to this trend was a group called the Kurdistan Freedom Falcons, reportedly linked to the PKK, which took responsibility for a number of forest fires in Turkey in 2006.³³ Although there is nothing to suggest that jihadists are cooperating with Kurdish separatists, and whilst this is not the primary area of interest for the present purposes, it is interesting to note that setting fire to forests does seem to have been used as a method by contemporary militant groups beyond the Israel-Palestine context. However, it is important to remain aware that the Turkish Army has used forest fire as a counterinsurgency tactic against the PKK, making the real cause of some of the fires less clear.³⁴

Turning to media sources, searches of the electronic archives of major national newspapers in the countries of interest, supplemented by a search of Lexis Nexis, attempted to ascertain whether any links were reported between wildfires and jihadist militants.³⁵ In general, the data did not provide sufficient information to identify the cause of most fires. Where wildfires were reported, there was little further detail on the cause of the blaze, focusing mainly on their aftereffects, and with little longer-term follow up of cases where arson was suspected. The only specific report suggesting jihadist involvement in fire-setting was made by analysts at Balkan Analysis, a news and research organisation covering the region. In this case,

Ioannis Michaletos and Christopher Deliso quote an anonymous Greek intelligence officer who claimed that a Saudi citizen was arrested in possession of a device similar to that believed to have started a forest fire in Greece.³⁶ Furthermore, it was claimed that the device was similar to one used in the Madrid train bombings, which allowed the perpetrator to trigger the mechanism via mobile phone. Although interesting, there has been no further verification of these claims, limiting any conclusions it is possible to draw. Following the same approach as in the American case, the next stage of the research looked to see whether there was a relationship between fires and areas where jihadists have been arrested.

Data limitations meant that the analysis of European fires was somewhat more constrained than that of the American wildfires. Annual EFFIS reports do not list individual incidents, instead offering aggregate figures for the number of fires in each country. Equally, reports of levels of fire risk per geographical area were not as detailed, making it difficult to consistently identify whether areas where wildfires had occurred were at increased fire risk. Similarly, interpreting any possible relationship between wildfires and geographical areas that had seen jihadist activity was less straightforward. However, the EFFIS reports do provide some information on the regions where fires occurred, making it possible to cross-reference this information with the locations of jihadist arrests.

Again drawing on existing databases, in particular those compiled by Petter Nesser, who has catalogued all jihadist plots, plans and attacks across Europe since 2000, it was possible to determine that 19 operations had been reported in Spain, France and Italy, whilst no operations were reported as having taken place in Portugal or Greece.³⁷ The next stage involved examining the relationship between larger fires, defined by the European Commission as those over 500 hectares, and the locations where jihadists were arrested from 2007-2012. Conviction data drawn from Nesser's analysis was cross-checked with media reporting to identify, as far as possible, the locations where those arrested were based. Table 3 sets out the results of this analysis across the relevant regions and highlights overlaps between areas where jihadists have been arrested and significant wildfires. It is not possible however,

to state the number of fires occurring in each region, as EFFIS data lists aggregate numbers of fires only. The overall number of fires in each of these regions is detailed as being between 1 and 200.

- Table 3 about here -

As the Table demonstrates, there were arrests in seven of the 16 areas where there had been significant fires, with Spain demonstrating the most consistent pattern of jihadist activity and wildfires. However, there were similar numbers of wildfires in most of the regions across Spain over the years of analysis, so it is very difficult to say whether or not there is a relationship between the two phenomena. Beyond this, there is little evidence for a systematic relationship between areas where jihadists were arrested and large-scale fires, with France entirely absent of wildfires in relevant regions, and only one area in Italy highlighted.

Interestingly, there is some information on the level of fire risk in 2007 when a significant fire near Naples occurred. At the time, most of the country was deemed at high risk of wildfire, including the Campania region (which includes Naples). Indeed, Italy suffered large-scale fires across most regions in 2007, a substantial number of which were identified as arson attacks in the EFFIS report; 76% in Campania alone.³⁸ Although there has been limited analysis of the causes of fires in Europe, via a Delphi procedure, Raffaella Lovreglio and colleagues examined this question in Italy in more detail.³⁹ They found that their expert panel attributed most fires in Campania to negligence, for example stubble burning, whilst arson was far less widely recorded as a possible cause. Where deliberate fire-setting was listed, the main reason given was for seasonal workers trying to retain employment. Nowhere in Lovreglio et al.'s analysis were terrorist motives suggested. As such, there seems little or no evidence either that jihadists are taking credit for setting wildfires in these European countries, or that experts believe this to be the cause, at least in Italy.

Conclusion

In conclusion, it seems there is little substantive evidence to suggest that jihadists are carrying out acts of ‘forest jihad’ in the United States or in those Western European countries most prone to wildfires. This research has certainly found no evidence that jihadists within Europe or the US have claimed responsibility for such attacks – although as already observed, in strict examples of popular resistance terrorism such claims may not be expected anyway. Further, there is also no evidence to suggest that there is any systematic relationship between wildfire activity and areas where known jihadists have been based. Finally, in general, the research found no large-scale wildfires in areas which were not considered at some risk of fire due to climate and conditions on the ground. Of course, as stressed throughout the paper, the data and methods available are somewhat limited. However, given the lack of systematic analysis to date, and the increasing attention paid to the question of ‘forest jihad’, this represents a necessary and important response to whether or not ‘popular resistance terrorism’ is a real phenomenon, and offers the most comprehensive test of the thesis to date.

Moreover, as observed at the outset, the ostensible strategic purpose of forest jihad seems to require that it not be a merely occasional activity, merging indistinguishably into the existing figures for forest fires, but that it represent a meaningful economic cost for the countries in which it takes place. If this is indeed what jihadist ideologues are hoping for in calling for attacks of this sort, the evidence presented in this paper amply shows that they have failed.

From this observation, two possible sets of conclusions may be drawn, each of which would appear to have interesting implications for our understanding of jihadism, and its on-going development.

The first possibility is that the primary purpose of exhortations to acts of popular resistance terrorism is what it appears to be – that is, to propose actions which stand a reasonable chance of actually being performed. If this is so, then it would seem that the authors of jihadist propaganda publications such as *Inspire* have quite seriously misunderstood their audience.

Compared to other possible forms of jihadist attack, the advantages of forest fires would seem to be as follows.

In addition to the relatively low practical costs involved, forest fires offer perpetrators a relatively risk free way of contributing to the jihad. All things being equal, they stand a better chance of escaping, offering more opportunities to carry out further attacks, or return to normal life. Indeed, al-Suri seems to recognise the potential attractions of this type of operation when he argues that such ‘civil resistance action’ allows the mujahid to “practice individual jihad on his land, where he lives and resides, without the jihad costing him the hardship of traveling, migrating, and moving to where direct jihad is possible”.⁴⁰ Such a model also therefore promises a less arduous way of contributing to the jihad, with comparatively lower chances of interdiction. Because security monitoring is likely to be significantly lower in the wilderness than at targets in urban centres or surrounding critical infrastructure, there is less chance of being caught surveilling or carrying out an attack. Moreover, as there is no inherent need to source specialist components, the perpetrator is less likely to be identified when gathering the necessary materiel.

Against these relatively low costs and barriers to entry, there would seem to be three potential (subjectively constructed) benefits to starting forest fires from the individual point of view. First, assuming that causing economic and environmental damage to the enemy is seen as a good in itself, forest fires seem to offer a lot of ‘bang for the buck’. To quote the opening words of *Inspire 9*’s article on firebombing:

On December 2002 and in the south of Australia, flames of fire cause the eruption of 79 conflagrations in New South Wales, it spread to its environs. There were more than 4,500 firefighters struggling to stop fires burning. Those crews were even backed up with helicopters’ support. It is considered the worst event of wild fires during 30 years. 19 houses were damaged at first and then, the fire went towards Sydney city where a firestorm erupted. It burnt down more than 500 houses. In that

horrifying day, this firestorm released a heat energy equal to that of 23 nuclear bombs.⁴¹

Second, whether or not it is witnessed by the public, the jihadist who starts a forest fire is supposed to believe that God is watching with approval. To quote again the same article:

Ask for the assistance of Allah. It is the most important step of all in the operation of jihad, as Allah is the one who facilitates the suitable circumstances and times. He – glorified is He above all – is the one who orders the fire to burn and to spread, and also to stop.⁴²

Third (and not mentioned explicitly) it seems plausible to speculate that a conceivable positive inducement could be the sheer excitement and (if done in a group) sense of camaraderie likely to be engendered by a campaign of illegal, underground sabotage against the unbelieving power. Indeed, a possible latent motivation for groups such as Al Qa'ida in the Arabian Peninsula in trying to instigate campaigns of this sort could be the possibility of creating such low threshold campaigns as a behavioural stepping-stone towards higher-risk and more visible actions.

What the absence of this phenomenon in Western countries would appear to show is that, whatever the (no doubt heterogeneous) incentive structures are that account for jihadists' choices of target and operation, they are not these. In other words, those jihadists who do move to physical action are not deterred by concerns about taking human life or about personal safety; or to put it differently, those with similar sympathies who are so constrained are seldom if ever attracted by lower-cost alternatives. This would in turn seem to imply one of two things. Either there is something discontinuous about the process of disinhibition towards violence in jihadist cases, or the positive inducements that might lead people to take up popular resistance actions such as forest jihad do not provide a subjectively sufficient motivation – as opposed, perhaps, to the moral meaning and notoriety that come from more conventional forms of terrorism.

This leads in turn to the second point that the absence of a forest fire jihad seems to raise: the question of why such attacks are proposed in the first place. As noted above, one possibility is simply that organisations like Al Qa'ida in the Arabian Peninsula do not have a sufficient understanding of their audience to know what sorts of action they will be attracted to. This could be because – as noted above – ‘forest jihad’ has actually been practiced in the Middle East. Alternatively, it could be that propagandists are simply trying everything blindly in the hope that something will catch on. There is, however, another possibility (not mutually exclusive with the one above), which is that calls for jihadists to involve themselves in causing disasters that happen anyway like forest fires, gas explosions and road accidents is simply an attempt to create spurious fears in Western countries about a hidden jihadist hand behind the occasional carnage of everyday life. If so, it may be worth asking whether methods of this sort need to be analysed as a radical repertoire in their own right.

This paper's evaluation of the prevalence of a possible form of ‘popular resistance terrorism’ has on the one hand offered a relatively straightforward, if necessarily limited test of an important and intriguing hypothesis. On the other, it has suggested something interesting about how and why violence emerges as it does from particular radical environments. That jihadists in the West choose not to carry out operations such as ‘forest jihad’ and appear more interested in carrying out operations which are more lethal, more ambitious, and more risky than is strictly necessary to fulfil the obligations of the jihad, demands an explanation. There is much further work to do in answering this question. This paper perhaps offers one parameter which might help inform a cogent response. Specifically, that there appears to be a lower threshold with respect to the actions Western jihadists are motivated to commit. This is a reminder to look beyond simple cost-benefit calculations and reevaluate how best to understand targeting and tactical preferences. The conclusions this paper draws represent an invitation to look again at how to interpret individual decisions to move towards action are made and ask by what measures, and influenced by what factors jihadists choose to practise violence in the way they have done to date.

-
- ¹ Abrahms, Max. "What Terrorists Really Want: Terrorist Motives and Counterterrorism Strategy." *International Security* 2, no.4 (2008): 89-90.
- ² al-Suri, Abu Mus'ab. *Da 'wat al-Muqawamat al-Islamiyya al-'Alimiyya*. [The Global Islamic Resistance Call], 2005. Available at: www.tawhed.ws/r?i=wksgfnyz.; Malahem Staff. "Interview with Shaykh Abu Basir: The head of al-Qa-idah in the Arabian Peninsula." *Inspire* 1, (2010): 17.
- ³ Elder, Miriam. "Russia Accuses al-Qaida of 'Forest Jihad' in Europe." *The Guardian*, 3 October 2012. Available at: <http://www.guardian.co.uk/world/2012/oct/03/russia-al-qaida-forest-jihad>. para. 3.
- ⁴ Ibid. para. 6-7.
- ⁵ Kuhlken, Robert. "Settin 'the Woods on Fire: Rural Incendiarism as Protest." *Geographical Review* 89, no. 3 (1999): 343-363.
- ⁶ Kliot, Nurit. "Forests and Forest Fires in Israel." *International Forest Fires News*, no. 15 (1996): 2-6. Available at: http://www.fire.uni-freiburg.de/iffn/country/il/il_3.htm.
- ⁷ Figchel, Jonathan. "The 'Forest Jihad'." *Studies in Conflict & Terrorism* 32, no. 9 (2009): 802-810.
- ⁸ For example see: Akiva Novick, "Military Officials warn of 'Arson Intifada'." *YNetnews*, 2 August, 2011. Available at: <http://www.ynetnews.com/articles/0,7340,L-4103257,00.html>.; and Yaakov Katz, "Fire Chief warns of 'Arson Intifada'." *The Jerusalem Post*, 21 April, 2004. Retrieved from LexisNexis Academic database.
- ⁹ Baird, Robert Arthur. "Pyro-terrorism—the Threat of Arson-Induced Forest Fires as a Future Terrorist Weapon of Mass Destruction." *Studies in Conflict & Terrorism* 29, no. 5 (2006): 415-428.
- ¹⁰ Deshpande, Nick. "Pyro-Terrorism: Recent Cases and the Potential for Proliferation." *Studies in Conflict & Terrorism* 32, no. 1 (2009): 36-44.
- ¹¹ Figchel, "Forest Jihad," 802-810.
- ¹² Al-Nadari, Harith. "The Ruling of Burning the Forests in the Land of the Kuffar Enemies." *Inspire* 9, (2012): 45-48.
- ¹³ See: Figchel, "Forest Jihad," 806-809.
- ¹⁴ Abrahms, "What Terrorists Really Want," pp. 89-90.
- ¹⁵ Inspire. "It is of your Freedom to Ignite a Firebomb: The AQ Chef." *Inspire* 9, (2012): 36.
- ¹⁶ Hall, John Raymond. *Intentional Fires and Arson*. National Fire Protection Association, 2007. Available at: <http://www.nfpa.org/assets/files/MbrSecurePDF/OS.arson.pdf>. p.26.
- ¹⁷ Flatley, John, Chris Kershaw, Kevin Smith, Rupert Chaplin, and Debbie Moon. *Crime in England and Wales 2009/10: Findings from the British Crime Survey and Police Recorded Crime*. London: Home Office, 2010. Available at: <http://webarchive.nationalarchives.gov.uk/20110218135832/rds.homeoffice.gov.uk/rds/pdfs10/hosb1210.pdf>. p.160; Taylor, Paul and Steve Bond. *Crimes Detected in England and Wales 2011/12*. Home Office Statistical Bulletin 08/12. London: Home Office (2012). Available at:

<http://www.homeoffice.gov.uk/publications/science-research-statistics/research-statistics/crime-research/hosb0812/hosb0812?view=Binary>. p19.

¹⁸ Dickens, Geoff, and Philip Sugarman. "Differentiating Firesetters: Lessons from the Literature on Motivation and Dangerousness." In *Firesetting and Mental Health: Theory, Research and Practice*, edited by Geoff Dickens, Philip Sugarman and Theresa Gannon, 48-68. Glasgow: The Royal College of Psychiatrists, 2012.

¹⁹ International Institute for Counter-terrorism. *Periodical Review: Summary of Information from Jihadi web Forums*. Jihadi websites monitoring group, (February 2012). Available at: <http://www.ict.org.il/LinkClick.aspx?fileticket=vD9fBsu6Kw0%3D&tabid=344>. p.20.

²⁰ Associated Press. "Remorseful man Admits he Caused big Reno Blaze." 21 January, 2012. Retrieved from LexisNexis Academic database.

²¹ National Interagency Coordination Center. *Wildland Fire Summary and Statistics Annual Report 2011*, 2012. Available at: http://www.predictiveservices.nifc.gov/intelligence/2011_statsumm/intro_summary.pdf. p.8.

²² Associated Press. "FBI: Al-Qaeda Detainee Spoke of Fire Plot." 11 July, 2003. Retrieved from LexisNexis Academic database.

²³ O'Connor, Anahad. "Los Angeles fire was Arson, Officials say." *The New York Times*, 4 September, 2009. Available at: http://www.nytimes.com/2009/09/04/us/04fires.html?_r=0.

²⁴ Smith, Brent, Paxton Roberts, and Kelly Damphousse. *Update on Geospatial Patterns of Precursor Behaviour Among Terrorists*. Report to Human Factors/Behavioral Sciences Division, DHS Science and Technology Directorate. College Park, MD: START, 2012.

²⁵ Ibid. p. 16.

²⁶ Bradshaw, Karen and Dean Lueck. *Wildfire Policy: Law and Economics Perspectives*. New York: RFF Press, 2012.

²⁷ Beal, Tom. "Human Cause Cited in big 2011 Wildfires." *Arizona Daily Star*, May 15, 2012. Available at: http://azstarnet.com/news/local/wildfire/human-cause-cited-in-big-wildfires/article_1ec9661b-d4a3-53ab-8906-d6415b2c3fcd.html.

²⁸ McCombs, Brady. (2011, June 12). "Many in South Arizona fire zone Blame Border Crossers." *Arizona Daily Star*, 12 June, 2011. Available at: http://azstarnet.com/news/local/border/article_559f6633-2149-5db9-b404-286fd61bd296.html.

²⁹ This section of analysis relied on: Bjelopera, Jerome. P. and Mark A. Randol. *American Jihadist Terrorism: Combating a Complex Threat*. Congressional Research Service R41416 Report for Congress, 2010. Available at: <http://www.fas.org/sgp/crs/terror/R41416.pdf>.

³⁰ Smith, Roberts and Damphousse. *Update on Geospatial Patterns*. p. 4.

³¹ Data available at: <http://www.nifc.gov/nicc>. It was not possible to locate reports for 2008, and the beginning of 2007, periods when five fires occurred, four in Texas and one in Florida.

³² Data available at: <http://forest.jrc.ec.europa.eu/effis/>.

³³ Agence France Press. "Kurdish militants claim forest fires in Turkey." 23 August, 2006. Retrieved from LexisNexis Academic database.

³⁴ Van Etten, Jacob, Joost Jongerden, Hugo J. de Vos, Annemarie Klaasse, and Esther C.E. van Hoeve. "Environmental Destruction as a Counterinsurgency Strategy in the Kurdistan Region of Turkey." *Geoforum* 39, no. 5 (2008): 1786-1797.

³⁵ Media searches of major national newspapers were completed in English, French, Italian and Spanish.

³⁶ Michaletos, Ionnis and Christopher Deliso. "New Security Threats, Trends in Global Intelligence Influence Greek Reforms." *Balkananalysis.com*, 16 February, 2008. Available at: <http://www.balkananalysis.com/blog/2008/02/16/new-security-threats-trends-in-global-intelligence-influence-greek-reforms/>.

³⁷ Nesser, Petter. *Chronology of Jihadism in Western Europe Update 2008-2010*. FFI, 2010. Available at:

<http://www.ffi.no/no/Projekter/Terra/Publikasjoner/Documents/Petter%20Nesser%20-%20Chronology%20of%20Jihadism%20in%20Western%20Europe%20Update%202008-2010%20for%20FFI%20web.pdf>; Nesser, Petter. "Chronology of Jihadism in Western Europe 1994-2007: Planned, Prepared and Executed Terrorist Attacks." *Studies in Conflict and Terrorism* 31, no. 10 (2008): 924-946.

³⁸ Joint Research Council. *Forest fires in Europe 2007*. Italy: Office for Official Publications of the European Communities, 2008. Available at:

http://forest.jrc.ec.europa.eu/media/cms_page_media/9/01-forest-fires-in-europe-2007.pdf. pp. 22-27.

³⁹ Lovreglio, Raffaella, Vittorio Leone, P. Giaquinto and Alessandra Notarnicola. "Wildfire Cause Analysis: Four Case-Studies in Southern Italy." *iForest: Biogeosciences and Forestry*, 3 (2010): 8-15.

⁴⁰ al-Suri, *Da'wat al-Muqawamat al-Islamiyya al-'Alimiyya*.

⁴¹ Inspire. "It is of your Freedom to Ignite a Firebomb," p.30.

⁴² Ibid. p. 31.