



**Action Plan for the
European Forest Fire Networks Projects
(EUFOFINET)**

NOVEMBER 2012





Contact details for further information

If you would like further information about the EUFOFINET Project and/or this Action Plan, please contact the officers from Northumberland Fire and Rescue Service listed below:

Paul Hedley, Assistant Chief Fire Officer

Email: paul.hedley@northumberland.gcsx.gov.uk

Dr. Robert Stacey, Project Officer

Email: robert.stacey@northumberland.gcsx.gov.uk

Ian Long, Station Manager

Email: ian.long@northumberland.gov.uk

Postal address for all officers above:

Northumberland Fire and Rescue Service HQ
West Hartford Business Park, Cramlington
Northumberland
NE23 3JP
UNITED KINGDOM

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List of Abbreviations and Acronyms

ACO	Assistant Chief Fire Officer
AGASP	The Galician Academy of Public Security (Spain)
CFO	Chief Fire Officer
CFOA	Chief Fire Officers Association
CRR	Community Risk Register
EA	Environment Agency
ERDF	European Regional Development Fund
EUFOFINET	European Forest Fire Networks Project
EWWF	England and Wales Wildfire Forum
FRA 2004	Fire and Rescue Service Act (2004)
LRF	Local Resilience Forum
NCC	Northumberland County Council
NE	Natural England
NFG	Northumberland Fire Group
NFRS	Northumberland Fire and Rescue Service
NNPA	Northumberland National Park Authority
NOG	National Operational Guidance
ONF	Office National des Forêts (France)
PEDA	The Association of Municipalities and Town Councils of Attica (Greece)
TOR	Terms of Reference
WSO	Wildfire Support Officer

1. Introduction

1.1 Purpose of this Action Plan

This document constitutes an Action Plan for Northumberland Fire and Rescue Service (NFRS) which fulfils, in part, NFRS's commitment to the co-financing agreement for the European Forest Fire Networks (EUFOFINET) Project.

This Action Plan details the measures that will be taken by NFRS in order to implement some of the good practice identified and exchanged during the EUFOFINET Project. The implementation of this good practice will help NFRS to further improve its response to wildfire incidents, the training it delivers to its personnel and to external agencies, and its collaborative partnership working towards wildfire prevention.

NFRS intends to implement the actions described within this plan between January 2013 and December 2015.

Wherever possible and appropriate, NFRS will liaise with external partners and local, regional and national stakeholders regarding the implementation of the actions outlined within this document.

1.2 Structure of this Action Plan

This document begins with this and two additional introductory chapters that all provide context to the development of NFRS's Action Plan. The following chapter provides an overview of the aims, themes, activities and deliverables of the EUFOFINET Project. Chapter 3 then outlines the process completed by NFRS to select six good practices that had been exchanged during the project for future transfer and implementation within Northumberland. Chapters 4 to 9 then present further specific details about the selected good practices, including timescales for completion of activities and the approximate budget anticipated for successful implementation. This Action Plan has been developed to be synergetic, supportive and complimentary to existing wildfire operational programmes within Northumberland and the UK, and these synergies are presented and described within Chapter 10. Chapter 11 then presents some general conclusions regarding NFRS's participation in the EUFOFINET Project. The document concludes with Chapter 12 which presents two signatures of *support in principle* for the implementation of the Action Plan.

2. The EUFOFINET Project

2.1 Project summary

The EUFOFINET (European Forest Fire Network) Project is being delivered as part the INTERREG IVC programme. The project is being delivered over a 26-month period, between October 2010 and December 2012. Of the total project budget of €2 million, approximately 75% is co-financed by the European Regional Development Fund (ERDF).

The overall aim of EUFOFINET is to improve and enhance regional and local approaches to wildfire prevention and suppression through European cooperation, collaboration and the exchange of good practice.

2.2 Five themes of the EUFOFINET Project

In order to achieve the principal objective of the project, the EUFOFINET partnership has structured the project around five key thematic areas:

- ❖ Intervention strategies
 - 1 - Wildfire suppression - intervention techniques and tactics
- ❖ Technological innovation
 - 2 - Training using simulation tools
 - 3 - Territorial surveillance, detection and prevention strategies
 - 4 - Mapping hazards and fire risks
- ❖ Restoring fire-damaged terrain
 - 5-Techniques and procedures

2.3 The EUFOFINET Partnership

EUFOFINET is being coordinated by the Association of Municipalities of Attica in Greece (PEDA). The entire partnership includes:

- The Association of Municipalities and Town Councils of Attica (PEDA) (Greece)
- The Region of Tuscany (Italy)
- Office National des Forêts (ONF) (France)
- ENTENTE pour la Forêt Méditerranéenne (France)
- The National Forest Center (Slovakia)
- The Centre for Servicing Woods and Forests of Castilla y León (CESAFOR) (Spain)
- The Region of the North Aegean (Greece)
- The Region of Epirus (Greece)
- The Region of Thessaly (Greece)
- The Galician Academy of Public Security (AGASP) (Spain)
- Frederikssund-Halsnæs Fire and Rescue Service (Denmark)
- The Forest Research Institute (Poland)
- Northumberland Fire and Rescue Service (United Kingdom)

The involvement of a number of northern European partners (including NFRS) reflects the growing concerns about wildfire across the continent as a whole, and the accepted need for practitioners working in all regions of Europe to share good practice and collaborate across national borders.

2.4 Contribution and representation from the UK

NFRS is responsible for a number of key tasks within the EUFOFINET Project. NFRS is:

- Lead partner on the theme of Wildfire Suppression/Intervention
- Lead partner on the production of the *European Glossary for Wildfires and Forest Fires*
- Co-lead on the Communication component of the project

Northumberland Fire and Rescue Service is the sole organisation within the partnership to represent wildfire stakeholders within the UK. With broad experience and expertise with regards to wildfire, NFRS is in a strong position to represent the UK and to influence the development and improvement of local, regional and national policy on wildfire issues. Recognised as the UK's leading fire and rescue service for wildfire training and operational policy, NFRS has engaged extensively in partnership working at the local, national and international levels to improve cooperation, understanding and awareness of wildfire issues. The service currently holds the Chair of the Chief Fire Officers' Association's Wildfire Group and of the England and Wales Wildfire Forum – a national strategic advisory body to UK fire and rescue services and rural agency partners.

2.5 Activities and deliverables completed (to date)

As of 15th November 2012, the following activities have been completed during the EUFOFINET Project:

- Delivery of eight technical workshops:
 - “*Restoration of land burned by wildfires*” in Valabre (France), 16th-20th May 2011
 - “*Prevention of wildfires*” in Frederikssund-Halsnæs (Denmark), 19th-23rd September 2011
 - “*Training and simulation*” in Valabre (France), 1st-5th November 2011
 - “*Action planning*” in Athens (Greece), 17th-19th January 2012
 - “*Cartography of risks and hazards*” in Leon (Spain), 20th-24th February 2012
 - “*Wildfire suppression tactics*” in Northumberland (U), 19th – 23rd March 2012
 - “*Detection of wildfires*” in Zvolen (Slovak Republic), 20th-25th May 2012
 - “*Action planning*” in Firenze (Italy), 1st-5th October 2012.
- Delivery of 8 Steering Committee Meetings:
 - Athens (Greece), December 2012 (Kick-Off Meeting)
 - Brussels (Belgium), 2nd February 2011 (Supplementary Kick-Off Meeting)
 - Valabre (France), 19th May 2011
 - Frederikssund-Halsnæs (Denmark), 22nd September 2011
 - Leon (Spain), 23rd February 2012
 - Northumberland (UK), 21st March 2012
 - Zvolen (Slovak Republic), 23rd May 2012
 - Brussels (Belgium), 13th November 2012
- Delivery of 3 training workshop exchanges:
 - “*Wildfire Incident Command Training*” in Valabre (France), 9th-14th September 2012.
 - “*Training in Forest Fires*” in Pontevedra, Galicia (Spain), 27th-28th September 2012.
 - “*Training in Forest Fires*” in Tuscany (Italy) in October 2012.
- Publication of the *European Glossary for Wildfires and Forest Fires* – an important document containing more than 800 terms and definitions arranged within 13 thematic chapters.
- Publication of two newsletters concerning the project.

- Delivery of a final project conference for wildfire stakeholders in Europe – titled: “*Collaboration to face wildfire challenges in Europe*”. This event was held at the Committee of the Regions in Brussels (Belgium) on 12th November 2012.
- Publication of numerous technical articles and press releases detailing the project activities.

2.6 Planned activities and deliverables

- Completion and publication of 5 technical guides (one per theme) documenting best practice exchanged during the project.
- Publication of additional technical articles and press releases concerning the final project conference and culmination of the EUFOFINET Project.

2.7 Expected results

The expected final results of the EUFOFINET Project are:

- The exchange of models of good practice between the project partners;
- The updating and improvement of the good practice matrix created by the "INCENDI" project, a Regional Framework Operation co-funded by INTERREG IIC;
- The identification and promotion of common intervention procedures for forest fires and wildfires;
- The creation of a regional institutional network of expertise on the procedures to be implemented against forest fires and their control;
- The production of an operational Action Plan by each partner documenting the planned implementation of one or more good practices.

3. Selection of good practices to be transferred and implemented

3.1 The process of evaluating good practices to be transferred between project partners

During the course of the EUFOFINET Project, eight technical workshops were held in order to facilitate the presentation and discussion of good practices identified by the partners. The workshops involved a range of classroom and field-based lectures and discussion sessions.

During the workshops, subsequent meetings and email communication, partners interested in transferring all or part of a good practice were able to ask the partners donating the good practice to provide further information (i.e. financial, technical or organizational information).

A common evaluation framework was developed by the project partners in order to assess the suitability of transferring good practices to different partners. After requesting further details (as required) from the donor partners, each partner then followed the evaluation process by completing an “Evaluation of Transferability” form for each good practice they wanted to transfer. If after the completion of this form the partner concluded that all prerequisite criteria could be met, then the partner progressed to including the good practice within their Action Plan.



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3.2 Summary of the good practices selected for implementation by Northumberland Fire and Rescue Service

Following the completion of the evaluation process described in Section 3.1, NFRS selected six good practices for inclusion as key actions within its Action Plan. The good practices that were selected originated from multiple EUFOFINET partners and countries and have been identified as having potential benefits to wildfire suppression and prevention activities within Northumberland. Indeed all of the good practices identified are complimentary to a number of existing wildfire operational programmes within Northumberland and the UK¹.

In summary, the six good practices selected for implementation are:

1. **Integration and promotion of the EUFOFINET Glossary of Terminology**
2. **Joining/contributing to a European Forest Fire/Wildfire Prevention Network**
3. **Wildfire Incident Command Simulation Training for Officers from Northumberland Fire and Rescue Service**
4. **Research and trial of foams for wildfire fighting**
5. **Development of a pilot automatic detection system for the Northumberland National Park Area**
6. **Investigation into the potential for developing and delivering Wildfire Investigation Training in conjunction with UK Wildfire Partners**

The following six chapters will in turn provide a brief description of each good practice identified for implementation in part or in full by NFRS. The chapters will also include an overview of the different actions that will be taken by NFRS during the implementation and/or pre-implementation phases², and a summary overview of the quantitative indicators that will be used to monitor progress and measure the relative success of implementation.



© Photograph: Northumberland Fire and Rescue Service

¹ The synergies between the six good practices identified for implementation as key actions and the aims and objectives of existing operational programmes within Northumberland and the UK are discussed in more detail in Chapter 10.

² It should be noted that as of 3rd September 2012 NFRS was still completing some pre-implementation actions in order to assess whether some of the good practices identified are suitable and appropriate for implementation within Northumberland.

4. Key Action 1 - Integration and promotion of the EUFOFINET Glossary of Terminology

4.1 Summary Information for Key Action 1

Name of good practice	EUFOFINET European Glossary of Terminology for Wildfire
Lead/coordinating partner	Northumberland Fire and Rescue Service (UK)
Donor partners	All partners and a number of external experts collaborating to produce a European training and reference resource
Good practice presentations delivered during the EUFOFINET Project	<ul style="list-style-type: none"> • Workshop 5 – “Cartography”, hosted by CESAFOR in Leon (Spain), February 2012 • Workshop 6 - “Suppression Tactics”, hosted by Northumberland Fire and Rescue Service in Northumberland (UK), March 2012 • Workshop 7 - “Detection”, hosted by the National Forest Center in Zvolen (Slovakia), May 2012

4.2 Description of the good practice to be implemented for Key Action 1

During the early stages of the EUFOFINET Project, preliminary research by NFRS revealed that there are numerous existing glossaries of terminology on forest fire- and wildfire-related issues. Some of these glossaries have been developed for use by the research community, while others have been developed for the operational community. NFRS’s research revealed that there have been some attempts to harmonise terminology and definitions used in multiple countries; however, the project team could not identify a single existing glossary of terminology that could potentially be adopted by all of the project partners and/or within all of the project countries.

Following the completion and discussion of the initial research, NFRS devised a Terms of Reference (TOR) for the creation of a glossary of terms and definitions for EUFOFINET. The first draft was subsequently discussed, amended and finalised by all of the EUFOFINET Partners. The TOR stipulated that the objective for the glossary would be *“to produce a glossary of common terminology for forest fire intervention and prevention”*. The TOR also stipulated that the glossary would primarily focus upon operational issues, would be arranged in colour-coded thematic chapters, and that the terms selected for inclusion within the glossary would be those deemed to be most necessary for personnel from multiple countries to be able to use and understand to work together safely and effectively during wildfire incidents.

The final glossary document produced for EUFOFINET is divided into three key sections containing a total of thirteen thematic chapters:

- **Section 1 – Wildfire Environment**
 1. Fire Behaviour
 2. Fuel
 3. Topography
 4. Weather

- **Section 2 – Wildfire Suppression Operations**
 5. Safety
 6. Incident Command
 7. Tactics
 8. Cartography and Map Reading
 9. Equipment
 10. Aerial Operations

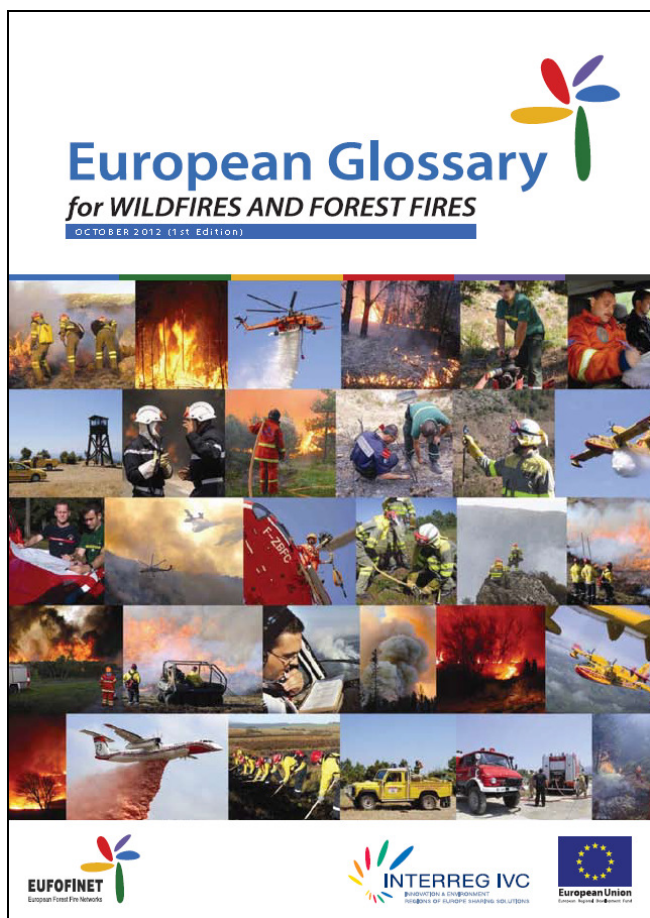
- **Section 3 – Wildfire Preparation, Prevention and Recovery**
 11. Prevention and Detection
 12. Fire Investigation
 13. Restoration

The front and back covers of the final glossary document are shown overleaf in Figure 1.

In addition to producing the thirteen thematic chapters of terms and definitions, NFRS has coordinated the production of an extended version of the *Restoration Chapter*. This chapter includes translations of terms and definitions into all of the EUFOFINET Project languages, and photographs, maps and illustrations to accompany individual terms. The purpose of developing this extended chapter was to show the European Commission and other stakeholders what can be achieved in the future with additional time and financing.

The final version of the EUFOFINET Glossary is an important legacy of the project. All of the EUFOFINET partners have committed to taking measures to implement the glossary within their own countries and regions and to promote the glossary to a wide audience of wildfire practitioners. The EUFOFINET partners ultimately believe that the wide adoption and implementation of the glossary will have significant positive benefits for cross-border communication, cooperation and interaction in Europe with regards to wildfires and forest fires. The glossary will also become a very important training resource for both new and existing personnel.

Figure 1 – The Front and Back Covers of the European Glossary for Wildfires and Forest Fires



4.3 Implementation measures and quantitative indicators for Key Action 1

The anticipated measures that are necessary for the successful implementation of Key Action 1 are:

- Integration of the glossary within the National Operational Guidance (NOG) for Wildfire which will be published by the Scottish Government³ and which will be adopted within England and Wales (June 2012)
- Circulation of initial draft of the glossary integrated within the NOG for Wildfire (August 2012).
- Collation and response to feedback received about the glossary via the consultation process (September 2012).
- Completion of final amendments to the glossary (as per feedback received) prior to publication (September – November 2012).
- Promotion of the integrated glossary to UK wildfire stakeholders, both pre- and post-publication (attendance at meetings of the EWWF, CFOA Wildfire Group and Northumberland Fire Group, and email circulations (December 2012 – June 2013).
- Promotion of the EUFOFINET glossary to NFRS's international contacts (December 2012-June 2013)

The estimated financial resources required to successfully deliver the measures listed above are outlined in Table 1 (overleaf).

³ Following its publication, the NOG for Wildfire will also be adopted within England and Wales.

Table 1 – Estimated financial resources required for the implementation of Key Action 1

Cost type	Description	Source of finance	Cost
Staff costs	Chief Fire Officer (CFO), Assistant Chief Fire Officer (ACO), Watch Manager and Project Officer to promote the glossary through existing networks and stakeholder groups in the UK and Europe.	NFRS	€4,052
Total anticipated costs for Key Action 1			€4,052

5. Key Action 2 – Joining/contributing to a European Forest Fire/Wildfire Prevention Network

5.1 Summary Information for Key Action 2

Name of good practice	European Forest Fire/Wildfire Prevention Network
Lead/coordinating partner	CESAFOR (Spain)
Completion period	September 2012- December 2019 ⁴ (upon successful application for external financing)
Associate partners	<p>CESAFOR (Spain), Northumberland Fire and Rescue Service (UK) and a selection of partners that have been involved in the following European collaboration projects:</p> <ul style="list-style-type: none"> • EUFOFINET • EFFMIS • FIRESMART • PYROSUDOE • FIRE PARADOX • PROMPT
Presentations delivered during the EUFOFINET Project	<ul style="list-style-type: none"> • Workshop 5 – “Cartography”, hosted by CESAFOR in Leon (Spain), February 2012 • Workshop 6 - “Suppression Tactics”, hosted by Northumberland Fire and Rescue Service in Northumberland (UK), March 2012 • Steering Committee Meeting held during Workshop 7 - “Detection”, hosted by the National Forest Center in Zvolen (Slovakia), May 2012

5.2 Description of the good practice to be implemented for Key Action 2

A key deliverable of the EUFOFINET programme is to create a European network of experts in forest fire prevention.

The primary purpose of creating this network is to bring together a range of European experts and expertise related to wildfire. In order to do this, the EUFOFINET partners are uniting partners

⁴ This completion period is based on a successful application for external financing. If the application is unsuccessful, the completion period may be amended and/or other elements associated with Key Action 2 may be revised.

that have worked on EU co-financed projects related to wildfire and forest fires over the last 5 to 10 years. Once the network has been formed and has successfully applied for co-financing from the European Union, partners will work together to:

- Contribute to the creation of an integrated policy proposal on forest fire prevention and create a sustainable network to provide a source of information and contributions to EU policy (*Component 1*).
- Develop pilot territorial prevention plans, the results of which will be assessed with regards to effectiveness and efficiency (*Component 2*).
- Adapt the FAO voluntary prevention guidelines for the European context and present recommendations and findings to stakeholders with the ultimate aim of reaching a common European definition of forest fire prevention that integrates different sectorial policies and instruments (*Component 3*).
- Develop training protocols specializing in forest fire prevention (*Component 4*)

5.3 Implementation measures and quantitative indicators for Key Action 2

NFRS is committed to providing support for the creation and implementation of the proposed network, and, depending on the financial considerations, will engage as a partner within or a contributor to this network.

CESAFOR (Spain) is currently writing a proposal for submission to the European Commission Directorate-General for Environment's LIFE+ Programme. NFRS is supporting this application and has formally joined the application as a partner.

Pending the creation of the European wildfire prevention network, NFRS will continue to network and collaborate on wildfire issues with partners and stakeholders at the local, regional, national and international levels. NFRS will consider joining new collaborative projects on wildfire issues, particularly those that will complement the current priorities outlined within NFRS's IRMP and those that will compliment or assist in the successful implementation of this Action Plan.

The estimated financial resources required to successfully deliver the measures listed above are outlined in Table 2 (overleaf).

Table 2 – Estimated financial resources required for the implementation of Key Action 2

Cost type	Description	Source of finance	Cost
Staff costs	Costs for NFRS staff to complete actions outlined within the project proposal.	EU Life+ Programme Grant and NFRS	€192,294
Travel and accommodation costs	Travel and accommodation costs for NFRS officers to attend workshops and meetings held during the Life Under Fire Project.	EU Life+ Programme Grant and NFRS	€62,960
External expertise	<p>Including:</p> <ul style="list-style-type: none"> • Travel and accommodation for external experts to attend project workshops. • Costs for organising and hosting two dissemination events in Brussels (Belgium). • Graphic design and printing costs for key deliverables of the project. • Costs for completion of financial audits of NFRS's involvement in the project. 	EU Life+ Programme Grant and NFRS	€120,100
Overheads	Calculated as a flat rate of direct costs associated with the project.	EU Life+ Programme Grant and NFRS	€25,898
Total anticipated costs for Key Action 2			€401,252

6. Key Action 3 – Wildfire Incident Command Simulation Training for Officers from Northumberland Fire and Rescue Service

6.1 Summary information concerning Key Action 3

Name of good practice	Wildfire Incident Command Simulation Training
Donor partner	ENTENTE pour la Forêt Méditerranéenne (France)
Completion period	November 2012 - December 2013 ⁵
Presentations delivered during the EUFOFINET Project	<ul style="list-style-type: none"> • Workshop 3 – “Training and Simulation”, hosted by ENTENTE in Valabre (France), November 2011 • “Training Workshop” for NFRS (UK), Frederikssund-Halsnæs Fire and Rescue Service (Denmark) and the Slovak Fire Brigade (Slovakia) which was coordinated and hosted by ENTENTE in Valabre (France), September 2012

6.2 Description of the good practice to be implemented for Key Action 3

ENTENTE pour la Forêt Méditerranéenne is a governmental agency which has been established to protect 15 departments covering four regions within the South of France (Provence Alpes Côte d’Azur, Languedoc-Roussillon, Corsica and Rhône-Alpes) against forest fires. The four key objectives of ENTENTE are:

- (i) To help all actors involved in forest protection against fire to use new technologies of information and communication;
- (ii) To study forest fire protection means and test equipment and fire-fighting techniques;
- (iii) To train forest fire suppression personnel through the Interregional Civil Protection Training Centre in Valabre;
- (iv) To inform the public and enforce prevention actions in partnership with other public or private organisations.

In order to achieve the third objective of training forest fire suppression personnel, ENTENTE has developed a virtual reality training simulator to provide wildfire-specific training to individuals occupying different levels within the French Incident Command Structure (wildfire incident commanders, heads of columns, site managers and team leaders). This simulator, which has

⁵ With the potential to extend work on this type of training, dependent upon the outcome of a feasibility study to be completed during 2013 (see later within this chapter for further details).

taken 10 years and €1 million to develop to its current state, allows ENTENTE to provide high quality and realistic training on a number of important elements of wildfire incident command, including:

- Creation of a command structure at a wildfire incident
- Management of the command structure
- Deployment and coordination of wildfire suppression resources (both aerial and ground-based)
- Dynamic management of human resources and logistics
- Stress management

The simulator allows trainers to devise scenarios for students to work through within real-time. The real-time feature of the simulator means that students are able to immediately see the impact of their decisions. The use of a simulator for Wildfire Incident Command training has a number of significant benefits, including:

- Ability to provide an unlimited number and variety of exercises;
- Potential inclusion of ground and aerial resources within every exercise (which would be costly for real exercises in the field);
- Increased safety (with no real fires required);
- Facilitates a review of the entire exercise because it creates a log of all actions and decisions taken during the exercise.

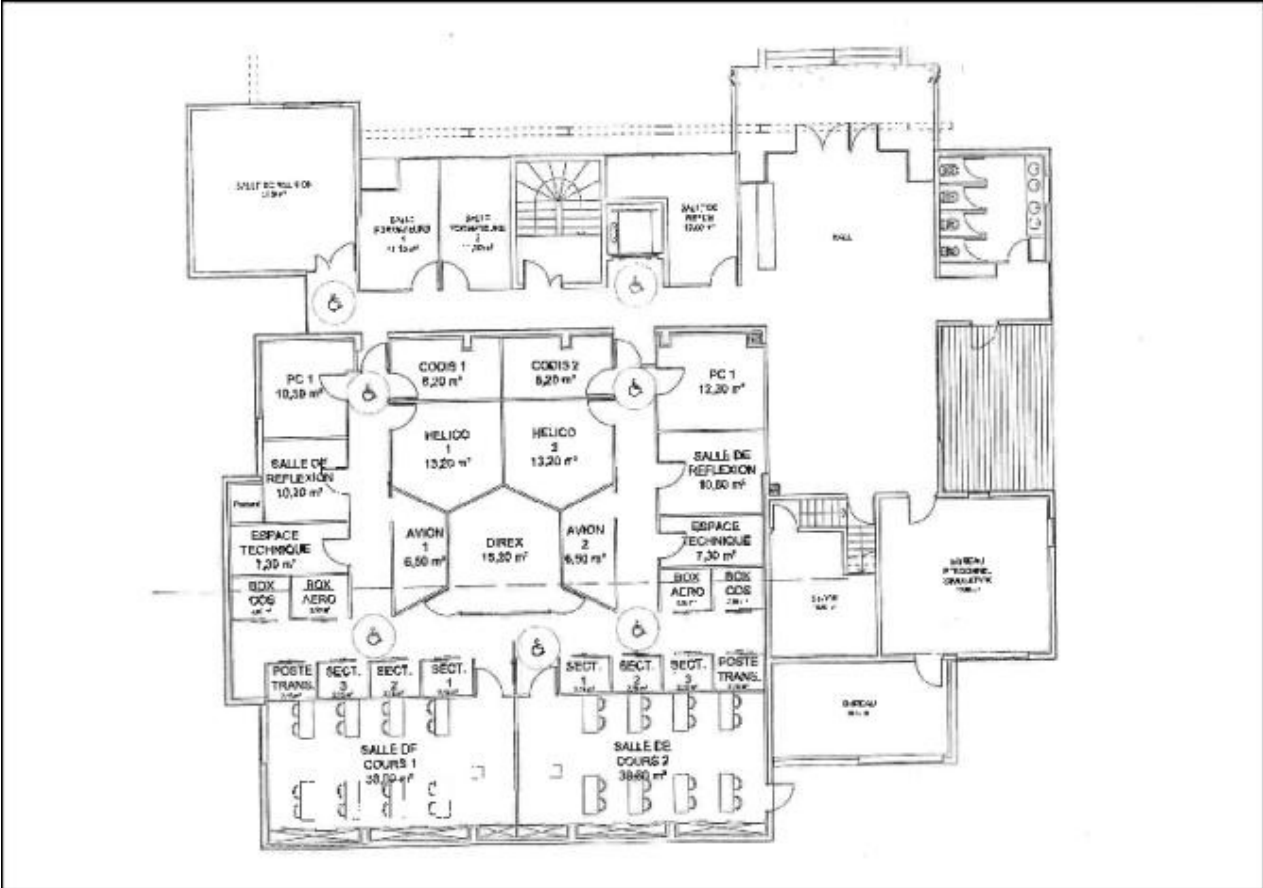
Figure 2 – Photograph of the Course Instructor’s Module within the Virtual Reality Simulator at ENTENTE in Valabre



Figure 3 – Photograph of the Helicopter Pilot Module within ENTENTE’s Virtual Reality Simulator



Figure 4 – Floor Layout of ENTENTE’s Virtual Reality Simulator



6.3 Preliminary Actions for Key Action 3

Prior to finalising the content of Key Action 3 within the Action Plan, NFRS arranged with ENTENTE to send 4 Wildfire Support Officers (WSOs) to attend a special training course on the simulator. The course included officers from multiple nationalities, including the UK, France, Denmark and Slovakia. This additional workshop provided the opportunity for NFRS specialists and a trainer to obtain first-hand experience of using the simulator during realistic training exercises. Following completion of the training, the four participants from NFRS produced a report evaluating the training and the potential benefits and drawbacks for training NFRS and other UK personnel in the future. Senior Officers within NFRS considered the content of the report and, during November 2012, finalised the scope and content of Key Action 3.

6.4 Implementation measures and quantitative indicators for Key Action 3

The anticipated actions that are necessary for the successful implementation of Key Action 3 are:

- NFRS will send 8-10 Wildfire Support Officers to attend a Wildfire Incident Command Training Course to be held at ENTENTE's simulator during 2013. This will enable NFRS to train all 12 Wildfire Support Officers that act as Tactical Lookouts within the Incident Command Structure on the simulator. NFRS are currently negotiating with ENTENTE regarding the specific content and logistics of the course.
- NFRS will also look at achieving more long-term sustainability of Wildfire Incident Command training in Northumberland and the UK. As an initial step, NFRS will complete a feasibility study for developing a similar training system in Northumberland which could be used to train NFRS officers, officers from other Fire and Rescue Services and personnel from rural agency partners. This feasibility study will be completed between January and June 2013. Depending upon the findings of the feasibility study, further work may be completed to develop a UK Wildfire Incident Command training system.

The estimated financial resources required to successfully deliver the measures listed above are outlined in Table 3 (overleaf).

Table 3 – Estimated financial resources required for the implementation of Key Action 3

Cost type	Description	Source of finance	Cost
Staff costs	Staff costs for: <ul style="list-style-type: none"> • 10 NFRS Wildfire Support Officers (WSOs) to attend a 5 day Wildfire Incident Command training course in Valabre (France) • 1 NFRS Watch Manager and 1 Technical Specialist to produce a feasibility study for developing a wildfire incident command training course in Northumberland 	NFRS	€17,178
Travel and subsistence costs	Travel costs for 10 NFRS WSOs to attend a 5 day Wildfire Incident Command training course in Valabre (France) in 2013. ⁶	External Grant Application ⁷	€5,000
	Accommodation costs for 10 NFRS WSOs to attend a 5 day Wildfire Incident Command training course in Valabre (France) in 2013. ⁸	External Grant Application ⁹	€5,000
	Subsistence costs for 10 NFRS WSOs to attend a 5 day Wildfire Incident Command training course in Valabre (France) in 2013. ¹⁰	External Grant Application ¹¹	€3,700
Total anticipated costs for Key Action 3			€30,878

⁶ Travel costs estimated as €500 per person for return flights between Newcastle (UK) and Marseille (France).

⁷ If successful.

⁸ Accommodation costs estimated at €100 per person per night.

⁹ If successful.

¹⁰ Subsistence costs calculated at €74 per person per day using the NCC Guidelines for Foreign Travel Subsistence.

¹¹ If successful.

7. Key Action 4 – Research and Trial of Foams for Fighting Wildfires

7.1 Summary information concerning Key Action 4

Name of good practice	Foams for Wildfire Suppression
Donor partner	Slovak Fire Brigade (Slovakia) – external expert
Completion period¹²	May 2012 to January 2013
Presentations delivered during the EUFOFINET Project	<ul style="list-style-type: none">• Workshop 6 - “Suppression Tactics”, hosted by Northumberland Fire and Rescue Service in Northumberland (UK), March 2012• Workshop 7 - “Detection”, hosted by the National Forest Center in Zvolen (Slovakia), May 2012

7.2 Description of good practice to be implemented for Key Action 4

Fire-fighting foam products can be extremely effective for limiting fire spread and intensity and are frequently used to good effect at fire incidents in the UK. However, there are negative implications of using foam because some products can cause environmental damage to soils and water courses. It is this potential danger to natural habitats which has led to foam not being used very frequently at wildfire incidents in the UK.

During the 7th Workshop of the EUFOFINET Project in Slovakia, the Slovak Fire Brigade provided a live demonstration of a relatively new fire-fighting foam product with enhanced environmental qualities. The product was carried in small containers by a fire crew that was airlifted by helicopter to the demonstration site which contained two standard wooden sheds (see Figure 5, overleaf). One shed was left as it was and the other was applied with the fire-fighting foam. A fire was then set in a large pile of wood placed next to the two wooden sheds. The demonstration showed the excellent protection qualities provided by the foam; the shed applied with the foam did not catch fire, while the other shed burned very intensely and very quickly.

The demonstration showed delegates a number of advantages of this product:

¹² This represents initial work on this project. If stakeholder support is generated, NFRS and other partners will plan to hold the tests later in 2013/2014 and will dedicate more resources. However, for the time-being this completion period represents the initial work required to develop a foundation from which to launch this project in Northumberland and the UK.

- Ease of application - using hand-held apparatus that can be carried very compactly (i.e. via helicopter).
- The foam can stick to vertical surfaces and be used to protect buildings in the path of a wildfire.

Following further research, NFRS identified that there are a number of new foam products on the market which promote the fact that they are better for the environment. Many of these contain chemical compounds from natural plant products. Applying these foams to buildings is just one use: NFRS also identified that these foams can be applied onto the ground to create control lines, perhaps to use to protect sensitive areas of land in more remote areas which may be threatened by wildfires (for instance, Special Areas of Conservation, Special Sites of Scientific Interest). However, the environmental sensitivity of these types of locations means that further research is needed to ascertain whether there are foam products that could be deemed suitable by environment stakeholders in the UK. NFRS decided that the impressive fire-stopping capability of the fire-fighting foam used in Slovakia justified the completion of more research into the environmental credentials of products on the market and, following support and advice from environmental stakeholders in the UK, the development of plans for one or more trials of one or more products in Northumberland and the UK in the near future.

Figure 5 – Photographs of a Demonstration by the Slovak Fire Brigade of Fire-Fighting Foam for Wildfires in May 2012, Tatras Mountains, Slovakia



© Images courtesy of Milan Lalkovic, National Forest Center (Slovakia)

7.3 Implementation measures for Key Action 4

The anticipated actions that are necessary for the successful implementation of Key Action 1 are:

- NFRS will liaise with Northumberland National Park Authority (NNPA), Natural England (NE), the Environment Agency (EA) and stakeholders within the CFOA Wildfire Group and England and Wales Wildfire Forum (EWWF) regarding plans for tests of fire-fighting foam products (May 2012-January 2013).
- Decisions to take subsequent actions will be informed by the discussions held with other stakeholders. The actions listed below are provided as an indication of what is likely to

happen based upon the discussions that have been held so far, but may be subject to change in the near future:

- A summary plan for the testing of fire-fighting foam products will be collaboratively developed.
 - NFRS and NNPA will contribute to and participate in a webinar on fire-fighting foam products to be coordinated by NE.
 - NFRS and NNPA will host one or more trials of fire-fighting foam. NFRS will contribute personnel to ignite and extinguish test fires and will assist in publicising the trials to stakeholders and the media.
- Following the completion of the tests:
 - NFRS and NNPA will assess the effectiveness of the fire-fighting foam tested and will work with NE, EA and other stakeholders to develop guidelines for the use of fire-fighting foams to protect property and sensitive environments.
 - NFRS and NNPA will take measures to ensure any guidelines published are adopted within Northumberland.
 - NFRS will work with members of the CFOA Wildfire Group and EWWF to ensure all relevant stakeholders within the UK are made aware of any guidelines published.

The estimated financial resources required to successfully deliver the measures listed above are outlined in Table 4 (below).

Table 4 – Estimated financial resources required for the implementation of Key Action 4

Cost type	Description	Source of finance	Cost
Staff costs	Staff costs for: <ul style="list-style-type: none"> • ACO to liaise with the CFOA Wildfire Group and EWWF concerning the design, implementation and evaluation of the trials. • Watch Manager to liaise with NNPA and the NFG concerning the design, implementation and evaluation of the trials. • Project Officer to liaise with NE and other stakeholders and collaborators regarding the design, implementation and evaluation of the trials 	NFRS	€2,344
Total anticipated costs for Key Action 4			€2,344

8. Key Action 5 – Development of a pilot automatic detection system for the Northumberland National Park Area

8.1 Summary information concerning Key Action 5

Name of good practice	Automatic detection system for wildfire
Donor partners	<ul style="list-style-type: none"> • National Forest Center (Slovakia) • Region of Castilla-y-León (Spain) • Region of Epirus (Greece) • Region of North Aegean (Greece) • Forest Research Institute (Poland) • PEDDA (Greece)
Completion period¹³	October 2012-October 2015
Presentations delivered during the EUFOFINET Project	<ul style="list-style-type: none"> • Workshop 7 - “Detection”, hosted by the National Forest Center in Zvolen (Slovakia), May 2012

8.2 Description of good practice to be implemented for Key Action 5

A number of EUFOFINET partners from the Mediterranean and Central European regions have developed and implemented automatic detection systems for wildfire. The main purpose of these systems is to provide a technological solution for the rapid identification of wildfires during the early stages of onset. It stands to reason that if wildfires can be detected more rapidly, then suppression resources can be despatched more quickly and the spread and damage caused by each fire can be reduced.

An aerial/satellite detection system is not currently a feasible option within Northumberland, however, NFRS has identified that there could be benefits to a terrestrial/ground-based automatic detection system within high risk areas. There are four key different types of terrestrial detection systems used for wildfire:

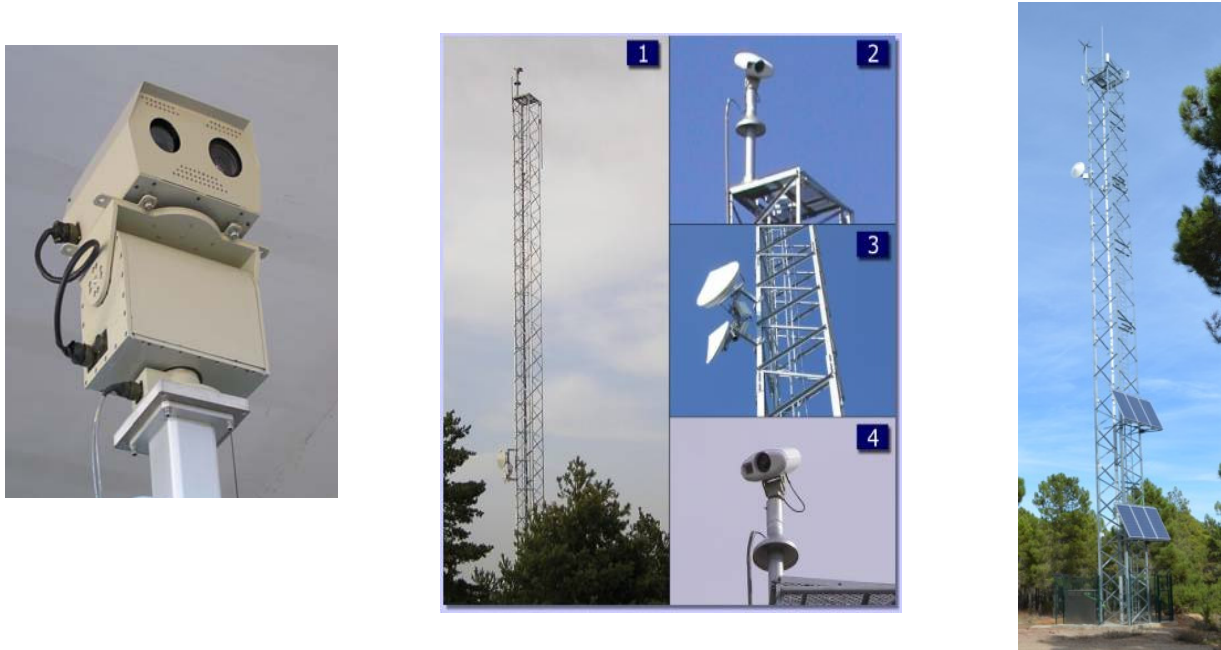
- **Optical cameras** – detect visual changes in the landscape using the visible spectrum of electromagnetic radiation.
- **Infrared (IR)** - thermal imaging cameras that detect heat (i.e. from a fire).

¹³ This timeframe assumes the submission of a successful application for external grant funding for the purchase and installation of a pilot system.

- **IR spectrometers** - which identify the spectral characteristics of smoke gases.
- **Light Detection and Ranging systems – LIDAR** - systems which measure laser light backscattered by smoke particles.

According to the expertise of the partners that have developed automatic detection systems, optical and infra-red systems are most commonly used.

Figure 6 – Images of an Automatic Detection System in Castilla-y-León



© Images courtesy of Junta da Castilla y León

One of the key benefits of using an optical system is that the system may be used for a secondary purpose (for instance, to help combat criminal activity within rural areas), whereas the converse limitation of an IR system is that it is usually only suitable for one purpose (i.e. detecting wildfires). A benefit of an IR system over an Optical System is that IR systems tend to generate fewer false detections.

The combined assessment of the experiments, pilots and operational systems carried out by each of the donor partners will help NFRS to better define which systems might be most effective within Northumberland. The National Forest Center (Slovakia) provided a comprehensive summary of the main detection systems that have been developed and implemented around the World (including: FireWatch, ForestWatch, FireHawk, AlarmEYE, ForestVU, UraFire, Golden Eye, EYefi SPARC, Forest Fire Finder), which provides another extremely useful foundation for NFRS to commence further research and assessment.

8.3 Implementation measures and quantitative indicators for Key Action 5

NFRS is currently involved in discussions with Northumberland National Park Authority (NNPA) to ascertain how the two organisations can work together to deliver a collaborative project. NFRS also intends to involve the CFOA Wildfire Group, EWWF and NFG, should NFRS and NNPA decide to progress with the implementation.

NFRS and NNPA currently plan to conduct a trial of an automatic detection system for wildfires during 2013/2014. The plan is for this trial to be conducted in the Northumberland National Park. Initial discussions between NFRS and NNPA have been very positive.

The current intention for this trial is to complete the following actions:

- Create a partnership of interested parties to collaborate on the project (for instance, landowners/managers, other public bodies).
- Complete detailed appraisal of potential sites for the location of the camera within the Northumberland National Park.
- Devise a schedule for implementation and testing, develop an operations strategy and allocate responsibilities to different partners.
- Acquire and install a detection camera and associated equipment and software.
- Test the effectiveness of the device using smoke simulation and, where possible, real fires.
- Involve other stakeholders in the tests and disseminate information locally, regionally and nationally.
- Develop and deliver a coordinated media campaign to publicise the pilot.
- Publish a report and technical magazine articles on the pilot tests.

Prior to designing and delivering a trial, NFRS (in partnership with NNPA) needs to:

- Complete further research into available systems to ascertain the most appropriate for use within the Northumberland National Park (**October and November 2012**).
- Submit an application for external financing to cover the cost of purchasing and operating the pilot system (**deadline November 2012**). NNPA will submit the application with the assistance and support of NFRS. The final decision regarding the first application is expected in December 2012.
- In January 2013, NNPA and NFRS will commence the project or re-evaluate whether to submit another application if the first is not successful.
- If the application is successful, NNPA and NFRS plan to conduct the pilot trial during three wildfire seasons: 2013, 2014 and 2015.

The estimated financial resources required to successfully deliver the measures listed above are outlined in Table 5 (overleaf).

Table 5 – Estimated financial resources required for the implementation of Key Action 5

Cost type	Description	Source of finance	Cost
Staff costs	Staff costs for: <ul style="list-style-type: none"> • Project Officer to assist NNPA in researching available systems, identifying and liaising with potential suppliers, gathering proposals/quotes and writing an external grant application. • Watch Manager to liaise with NNPA and the NFRS Project Officer regarding logistics of organising the trials. 	NFRS	€1,812
External expertise	The purchase and installation of a pilot automatic detection system within the Northumberland National Park.	External grant application ¹⁴	€40,000- €100,000 ¹⁵
Total anticipated costs for Key Action 5			€41,812- €101,812

¹⁴ If successful. NNPA will submit the grant application and NFRS will assist and support as a key partner. If the application is successful, NFRS will play an important role in testing the system by setting and extinguishing small test fires. This work will involve additional staff costs which will be calculated at a later date when financing for a pilot system has been secured.

¹⁵ Dependent upon the final specification selected.

9. Key Action 6 - Investigation into the potential for developing and delivering Wildfire Investigation Training in conjunction with UK Wildfire Partners

9.1 Summary information for Key Action 6

Name of good practice	Wildfire Investigation Training
Donor partners	<ul style="list-style-type: none">• Office National des Forêts (ONF), France• Galician Public Safety Academy (AGASP), Spain
Completion period	May 2012 to 31 st March 2013
Presentations delivered during the EUFOFINET Project	<ul style="list-style-type: none">• Workshop 2 - “Prevention”, hosted by Frederikssund-Halsnæs Fire and Rescue Service in Frederikssund-Halsnæs (Denmark), September 2011

9.2 Description of good practice to be implemented for Key Action 6

Two of the EUFOFINET partners, ONF and AGASP, currently have training and operational arrangements in place for conducting systematic investigations into the causes of wildfire incidents. The French system will be focused upon here, but there are strong similarities between the French and Galician approaches.

In the South of France, multi-agency investigation cells have been established since 2001. These cells are deployed during the summer wildfire season to investigate the causes of wildfires and forest fires and contain specially trained officers from the Police Service, Fire and Rescue Service and Forestry Service. This multiagency approach has enabled the French to assemble specialist teams with multiple skills present within different sectors with a vested interest in wildfires.

A more systematic and comprehensive approach to investigating wildfires has enabled the French to identify the cause of a greater percentage of wildfires. This approach has also enabled the acquisition of more knowledge and data about wildfire incidents, including: how wildfires spread; how suppression actions may influence spread and intensity; and, the degree of success with which different techniques or conditions prevent or inhibit wildfire spread (in particular, the degree of success of different approaches to clearance of vegetation around buildings). This substantial increase in knowledge has been used to inform improvements to both wildfire suppression and prevention plans.

Following the successes achieved by the first investigation cell in Corsica in France (a cell called “*Pyroscope*”) the French have now established:

- Inter-service training;
- A Technical framework for completing wildfire investigations;
- A national network for exchange knowledge, experience and expertise.

The French are also sharing knowledge and experience with international partners across Europe.

NFRS has identified that processes, procedures and training in the UK for the investigation of within buildings and vehicles are currently very good. However, there is an absence of specific training regarding techniques and processes for the investigation of wildfires. Some of the general processes required for completing all types of fire investigation are being taught and practiced in the UK (i.e. the application of the scientific method); however, investigators need specialist knowledge of fire behaviour in the outdoor environment and need to be able to use different tools and techniques compared to those used to investigate vehicle and building fires. This specialist training and knowledge is not widely available in the UK and represents one factor contributing to the low rate of cause identification for wildfires (and the associated low rate of conviction for wildfires started deliberately). In addition, UK stakeholders are missing out on the opportunity to gather significant quantities of data about wildfire incidents which could be used to improve a range of initiatives and policies.

Figure 7 - Photographs of a Fire Investigation Scene in Galicia, Spain



© Photographs Courtesy of Jose Antonio Grandas of the Galician Public Safety Academy (AGASP) (Spain)

9.3 Implementation measures and quantitative indicators for Key Action 6

The anticipated actions that are necessary for the successful implementation of Key Action 1 are:

- NFRS to arrange for a fire officer from the UK to attend a Wildfire Investigation Course in the Netherlands (**May 2012**).
- NFRS will continue to network with wildfire investigation specialists at ONF and in the USA and Australia in order to further develop internal knowledge and understanding on this issue (**September 2012-ongoing, no fixed deadline**).
- Presentation and discussion of feedback from the wildfire investigation during the next CFOA Wildfire Meeting (**November 2012**).
- CFOA Wildfire Group will be surveyed to ascertain the demand for the development and delivery of a wildfire investigation course in the UK (**December 2012**).
- The CFOA Wildfire Group will be asked to ratify a decision as to whether a wildfire investigation course will be delivered in the UK during 2013/2014 and as to who will host a course (**ratified decision: February/March 2013**).
- Decisions to take subsequent actions will be informed by discussions to be held with other stakeholders. The actions and deadlines listed above are provided as an indication of what

might happen based upon the discussions that have been held so far, but may be subject to change in the near future.

The estimated financial resources required to successfully deliver the measures listed above are outlined in Table 6 (below).

Table 6 – Estimated financial resources required for the implementation of Key Action 6

Cost type	Description	Source of finance	Cost
Staff costs ¹⁶	<p>Staff costs for CFO/ACO of NFRS to:</p> <ul style="list-style-type: none"> • Discuss the potential for a wildfire investigation course in the UK with the EWFF (1 day). • Discuss the potential for a wildfire investigation course in the UK with CFOA Wildfire Group (1 day). • Discuss the potential for a wildfire investigation course in the UK with stakeholders outside of the Fire and Rescue Service (1 day). • Circulate an expression of interest request regarding wildfire investigation course and processing of responses (0.5 days). <p>Also staff costs for:</p> <ul style="list-style-type: none"> • Project Officer from NFRS to assist the ACO in the above tasks, to further research and gather information concerning existing wildfire investigation courses and to liaise with course instructors. • Watch Manager from NFRS to discuss the potential for a wildfire investigation course with the Northumberland Fire Group to gather expressions of interest. 	NFRS	€3,308
Total anticipated costs for Key Action 6			€3,308

¹⁶ As already mentioned, the project plan will be further developed following the ratification of a decision by the CFOA Wildfire Group.

10. Synergy of the Action Plan with existing operational programmes

This Action Plan has been developed in order to be synergetic, supportive and complimentary to existing operational programmes within Northumberland and the UK. This penultimate chapter of the document will describe the synergies that exist between this Action Plan, NFRS's existing operational programmes and a number of other operational programmes currently being delivered at the local and national level.

10.1 Synergies with existing operational programmes being delivered by NFRS

This Action Plan has been developed in accordance with the existing legislative framework for the Fire and Rescue Service in England. According to the Fire and Rescue Services Act 2004 (FRA 2004), it is NFRS's legislative duty to make provision for extinguishing fires, protecting life and property in the event of fires and for preventing fires within the County of Northumberland (Section 7). This responsibility is further clarified within the Fire and Rescue National Framework¹⁷ (2012), which states that Fire and Rescue Authorities "need to deliver effective and proportionate prevention and protection activities and be ready to respond to incidents within their areas and across the country to keep communities safe." (page 7).

An important element of the National Framework is the requirement for NFRS and all Fire and Rescue Authorities to produce an Integrated Risk Management Plan (IRMP). This document identifies and assesses all foreseeable fire and rescue related risks that could affect local communities in Northumberland and those risks of a cross-border, multi-authority and/or national nature. NFRS's IRMP for 2011-2014 (updated April 2012¹⁸) outlines the Service's strategy, in collaboration with other agencies, for reducing the commercial, economic and social impact of fires and other emergency incidents. The IRMP also presents the priorities, projects and initiatives that are deemed to be required to improve service delivery and the safety of NFRS staff and communities within Northumberland.

As a predominantly rural Fire and Rescue Service with significant expanses of moor, forest and agricultural land, NFRS has identified that an uncontrolled wildfire represents a major risk to its personnel, rural communities and the infrastructure, economy and environment of Northumberland¹⁹. Wildfire is also identified as a significant risk to be managed and mitigated within the Northumbria Local Resilience Forum (LRF) Community Risk Register (CRR) (Version 7.1, March 2012). As part of the risk assessment process required for the CRR, the Northumbria LRF, of which NFRS and Northumberland County Council are members, has considered the likelihood and impact of a range of potential hazards. As Table 7 (overleaf) shows, four different types of wildfire hazards are included within the current version of the Northumbria LRF CRR.

As a consequence of the identified high risk that wildfire poses to the County of Northumberland, safeguarding life, property and the environment (both built and natural) from wildfire is an essential component of NFRS's IRMP for 2011-2014. NFRS has invested in the

¹⁷ The National Framework provides strategic direction to Fire and Rescue Authorities in England. A copy of the framework can be viewed online at: <http://www.communities.gov.uk/publications/fire/nationalframework>

¹⁸ A copy of NFRS's latest IRMP is available online at: www.northumberland.gov.uk

¹⁹ It is also important to highlight that the development of NFRS's IRMP has been informed by the content of the Northumbria Community Risk Register (CRR), March 2012,

Table 7 –Wildfire Risks identified within the Northumbria Community Risk Register

Risk Code	Risk Description	Risk Rating²⁰	Capability required	Controls currently in place	Additional risk treatment required	Lead Organisation
HL28a	<i>Forest or moorland fire.</i> Large forest fire 1 km square, multiple casualties and multiple persons hospitalised.	High	Procedures to prevent / mitigate the effects of Forest or Moorland Fire	Fire plans in place for estates and Northumberland Fire & Rescue Service members of Northumberland Fire Group. Specialist Wildfire training for FRS	Established Contacts with Local and national stakeholders. Increased training and understanding for operational personnel.	Fire and Rescue Service
HL28b	<i>Forest or moorland fire.</i> 1km square involving evacuation of affected nearby area or transport links with single fatalities or single hospitalised casualties	Medium	Procedures to prevent / mitigate the effects of Forest or Moorland Fire.	Fire plans in place for estates and NFRS members of Northumberland Fire Group. Specialist Wildfire training for FRS personnel.	Established Contacts with Local and national stakeholders. Increased training and understanding for operational personnel.	Fire and Rescue Service
HL28c	<i>Forest or moorland fire.</i> 1km square no fatalities/casualties with urban involvement.	Low	Procedures to prevent / mitigate the effects of Forest or Moorland Fire	Specially trained FRS Wildfire personnel	None identified.	Fire and Rescue Service
HL28d	<i>Forest or moorland fire.</i> Small to moderate fire with no civilian /urban involvement.	Low	Procedures to prevent / mitigate the effects of Forest or Moorland Fire	Specially trained FRS Wildfire personnel	None identified.	Fire and Rescue Service

Source: Northumbria Local Resilience Forum Community Risk Register (Version 7.1, March 2012)

²⁰ A description of the different risk rating categories is provided within ANNEX 4F (page 199-200) of the following document: HM Government (2012) *Emergency Preparedness*. A copy of this document is available online at: <http://www.cabinetoffice.gov.uk/resource-library/emergency-preparedness>

development of specialist wildfire training over a number of years and the IRMP states that the Service will seek to continue to do so in order to manage wildfire risk. It also states that NFRS is recognised as the lead FRS within the UK for wildfire training, tactics and strategy and that the Service will continue to build on this position and further develop its wildfire response by:

- Developing national guidance on behalf of the Scottish Government for use across the UK Fire Sector;
- Embedding wildfire training across the Service;
- Maintaining NFRS's position as the pre-eminent UK FRS for wildfire through continued liaison with international partners and the development and application of best practice from across the world;
- Maintaining a leading wildfire role within the Chief Fire Officer Association (CFOA) and the England and Wales Wildfire Forum (EWWF).

This EUFOFINET Action Plan is synergetic with the current wildfire priorities included within NFRS's IRMP. The Actions to be completed by NFRS will inform national guidance, which will help to maintain NFRS's pre-eminent position on wildfire at the national level. In addition, the actions will assist NFRS to further develop, enhance and embed wildfire training across the Service. The Action Plan is also synergetic with some of the key risk control measures and additional risk treatment measures assigned to the wildfire risks within the Northumbria LRF CRR. More specifically, this Action Plan will support and supplement measures taken by NFRS to provide and train specialist wildfire officers and to increase wildfire training and understanding for all operational personnel within NFRS.

10.2 Synergy with a local operational programme

While this Action Plan has been developed in accordance with the existing legislative framework and existing operational programmes that have been developed within the Service, the content of the document also has a synergy with locally-identified priorities regarding wildfire, including the priorities and activities of the Northumberland Fire Group (NFG).

The NFG is a multi-agency group that seeks to improve resiliency to wildfire in the County of Northumberland by delivering activities to improve wildfire prevention and response. At a practical level, the NFG:

- establishes firm lines of communication with regards to wildfire
- increases the public's awareness of wildfire
- provides wildfire training
- provides a structure for multi-agency response to wildfires

The NFG has two key aims. These are:

1. To contribute to the sustainable development of rural Northumberland through the protection of its economy, environment, heritage and rural communities by minimising the growing risk of the devastating impacts of wildfire due to the influence of global climate change:
 - to reduce the occurrence of wildfire by promoting fire prevention to land managers, local communities and visitors;
 - to improve moorland burning practices to improve habitats and biodiversity and reduce the risk of wildfire;
 - to reduce the scale and impact of wildfires when they do occur.

2. To maintain a strong network that encourages collaboration and allows rural communities to take an active role in protecting their environment, local economy and cultural heritage.

The contents of this Action Plan will specifically help NFRS to contribute to the Aim Number 1 of the NFG. The implementation of actions within this plan to improve wildfire incident command training and wildfire detection will help NFRS to reduce the scale and impact of wildfires when they occur in Northumberland. In addition, by joining and/or contributing to the European cooperation network, NFRS will also be able to import knowledge and good practice in the future which has the potential to contribute to and compliment all of the NFG's aims.

10.3 Synergies with national operational programmes

It is important to also highlight that this Action Plan has the potential to deliver positive impacts beyond the County of Northumberland to other areas of the UK. This potential exists due to the synergy between the contents of the plan and the aims, objectives and activities of two key national bodies addressing wildfire issues: the CFOA Wildfire Group; and, the EWWF. NFRS is currently a member of both of these groups.

10.3.1 CFOA Wildfire Group

CFOA is the professional voice of the UK Fire and Rescue Service. The CFOA Wildfire Group provides professional advice to inform government policy on wildfire and is committed to developing both strategic and technical guidance and sharing notable practice within the wider Fire and Rescue community.

The inaugural meeting of the CFOA Wildfire Group was held on 8th August 2011 and the group has since developed a Strategic Plan (2012-2014) to inform and direct its activities over the next three years. It is apparent that three of the strategic aims of the CFOA Wildfire Group have relevance and synergy with some of the actions contained within this Action Plan, notably:

- No. 5 – “Enhance UK wildfire response and suppression capacity and effectiveness”
- No. 6 – “Promote appropriate health and safety at wildfires through effective training”
- No. 7 – “Support research and development into wildfire understanding, prediction and risk mapping”

In view of the synergy between this Action Plan and the above mentioned strategic aims, NFRS will liaise with members of the CFOA Wildfire Group to discuss the potential for exploring the possibility:

- of involving CFOA Wildfire Group members in the implementation of some or all of the actions contained within this plan;
- and/or, of implementing some or all of the actions contained within this plan at a national level.

10.3.2 England and Wales Wildfire Forum

The EWWF is a voluntary strategic body, independent of government, which has been created to expand knowledge and understanding of wildfire in England and Wales. The purpose of the Forum is to create a focus for joint working between all interested organisations within England and Wales which will lead to the development of strategic initiatives for improved management

of wildfire risk and their communication to government, stakeholders and the wider community. The central premise of the EWWF is that the best way to provide strategic direction for wildfire at the national level is to develop strong partnership working between multiple stakeholders within the public and private sectors.

In order to achieve its purpose, the EWWF currently has four key aims:

1. To achieve appropriate recognition of wildfire as an issue in England and Wales;
2. To promote the highest standards of practice in managing wildfire risk, including prevention, response and recovery.
3. Facilitate communication between Forum members and other stakeholders.
4. Facilitate the on-going operation of the Forum.

The actions detailed within this Action Plan will assist NFRS in developing the highest standards of practice in managing wildfire risk, which directly mirrors aim number two of the EWWF. As a member of the EWWF, NFRS will liaise with the group and discuss the potential for implementing some or all of the actions contained within this plan at a national level.

10.3.3 Identification of specific synergetic relationships with existing operational programmes in the UK

As the previous sub-sections of this chapter have illustrated, the actions contained within this Action Plan compliment a number of existing and on-going wildfire operational programmes within Northumberland and the UK.

This Chapter now concludes with the presentation of Tables 8 to13 (overleaf). These tables identify the specific synergies between the actions contained within this Action Plan and the aims/objectives of existing operational programmes²¹.

²¹ Correct as of 31st August 2012.

Table 8 – Synergies between Action 1 and Existing Operational Programmes in the UK

NFRS Action	Synergies with existing Operational Programmes (OPs)	
	Name of OP	Aim(s)/objective(s) of the OP with which there is synergy
1. Integration and promotion of the EUFOFINET Glossary of Terminology	NFRS IRMP	<ul style="list-style-type: none"> • Developing national guidance on behalf of the Scottish Government for use across the UK Fire Sector; • Embedding wildfire training across the Service; • Maintaining NFRS’s position as the pre-eminent UK FRS for wildfire through continued liaison with international partners and the development and application of best practice from across the world.
	Northumbria LRF CRR (Version 7.1, March 2012)	<ul style="list-style-type: none"> • Control measure - “Specialist Wildfire training for FRS” - for Risk Codes HL28a, HL28b, HL28c and HL28d. • Additional risk treatment required - “Increased training and understanding for operational personnel” - for Risk Codes HL28a and HL28b.
	NFG	<p>Two elements of Aim Number 1 of the NFG:</p> <ul style="list-style-type: none"> • “To improve moorland burning practices to improve habitats and biodiversity and reduce the risk of wildfire”; • “To reduce the scale and impact of wildfires when they do occur”.
	CFOA Wildfire Group	<ul style="list-style-type: none"> • Aim 5 – “Enhance UK wildfire response and suppression capacity and effectiveness” • Aim 6 – “Promote appropriate health and safety at wildfires through effective training” • Aim 7 – “Support research and development into wildfire understanding, prediction and risk mapping”
	EWFF	<ul style="list-style-type: none"> • Aim 2 – “To promote the highest standards of practice in managing wildfire risk, including prevention, response and recovery.”

Table 9 – Synergies between Action 2 and Existing Operational Programmes in the UK

NFRS Action	Synergies with existing Operational Programmes (OPs)	
	Name of OP	Aim(s)/objective(s) of the OP with which there is synergy
2. Joining/contributing to a European Forest Fire/Wildfire Prevention Network	NFRS IRMP	<ul style="list-style-type: none"> • “Maintaining NFRS’s position as the pre-eminent UK FRS for wildfire through continued liaison with international partners and the development and application of best practice from across the world.” • “Maintaining a leading wildfire role within the Chief Fire Officer Association (CFOA) and the England and Wales Wildfire Forum (EWWF).”
	NFG	<p>All three elements of Aim Number 1 of the NFG: “To contribute to the sustainable development of rural Northumberland through the protection of its economy, environment, heritage and rural communities by minimising the growing risk of the devastating impacts of wildfire due to the influence of global climate change:</p> <ul style="list-style-type: none"> • To reduce the occurrence of wildfire by promoting fire prevention to land managers, local communities and visitors; • To improve moorland burning practices to improve habitats and biodiversity and reduce the risk of wildfire; • To reduce the scale and impact of wildfires when they do occur.”
	CFOA Wildfire Group	<ul style="list-style-type: none"> • Aim 5 – “Enhance UK wildfire response and suppression capacity and effectiveness”. • Aim 6 – “Promote appropriate health and safety at wildfires through effective training”. • Aim 7 – “Support research and development into wildfire understanding, prediction and risk mapping”.
	EWWF	<ul style="list-style-type: none"> • Aim 1 – “To achieve appropriate recognition of wildfire as an issue in England and Wales”; • Aim 2 – “To promote the highest standards of practice in managing wildfire risk, including prevention, response and recovery”; • Aim 3 – “Facilitate communication between Forum members and other stakeholders”.

Table 10 – Synergies between Action 3 and Existing Operational Programmes in the UK

NFRS Action	Synergies with existing Operational Programmes (OPs)	
	Name of OP	Aim(s)/objective(s) of the OP with which there is synergy
3. Wildfire Incident Command Simulation Training	NFRS IRMP	<ul style="list-style-type: none"> • Developing national guidance on behalf of the Scottish Government for use across the UK Fire Sector; • Embedding wildfire training across the Service; • Maintaining NFRS's position as the pre-eminent UK FRS for wildfire through continued liaison with international partners and the development and application of best practice from across the world.
	Northumbria LRF CRR (Version 7.1, March 2012)	<ul style="list-style-type: none"> • Control measure - "<i>Specialist Wildfire training for FRS</i>" - for Risk Codes HL28a, HL28b, HL28c and HL28d. • Additional risk treatment required - "<i>Increased training and understanding for operational personnel</i>" - for Risk Codes HL28a and HL28b.
	NFG	Two elements of Aim Number 1 of the NFG: <ul style="list-style-type: none"> • "To reduce the scale and impact of wildfires when they do occur".
	CFOA Wildfire Group	<ul style="list-style-type: none"> • Aim 5 – "Enhance UK wildfire response and suppression capacity and effectiveness". • Aim 6 – "Promote appropriate health and safety at wildfires through effective training". • Aim 7 – "Support research and development into wildfire understanding, prediction and risk mapping".
	EWWF	<ul style="list-style-type: none"> • Aim 2 – "To promote the highest standards of practice in managing wildfire risk, including prevention, response and recovery."

Table 11 – Synergies between Action 4 and Existing Operational Programmes in the UK

NFRS Action	Synergies with existing Operational Programmes (OPs)	
	Name of OP	Aim(s)/objective(s) of the OP with which there is synergy
4. Research and trial of foams for wildfire suppression	NFRS IRMP	<ul style="list-style-type: none"> • Developing national guidance on behalf of the Scottish Government for use across the UK Fire Sector; • Maintaining NFRS’s position as the pre-eminent UK FRS for wildfire through continued liaison with international partners and the development and application of best practice from across the world. • Maintaining a leading wildfire role within the Chief Fire Officer Association (CFOA) and the England and Wales Wildfire Forum (EWWF).
	NFG	<p>Two elements of Aim Number 1 of the NFG:</p> <ul style="list-style-type: none"> • “To improve moorland burning practices to improve habitats and biodiversity and reduce the risk of wildfire”; • “To reduce the scale and impact of wildfires when they do occur”.
	CFOA Wildfire Group	<ul style="list-style-type: none"> • Aim 5 – “Enhance UK wildfire response and suppression capacity and effectiveness”. • Aim 7 – “Support research and development into wildfire understanding, prediction and risk mapping”.
	EWWF	<ul style="list-style-type: none"> • Aim 2 – “To promote the highest standards of practice in managing wildfire risk, including prevention, response and recovery.”

Table 12 – Synergies between Action 5 and Existing Operational Programmes in the UK

NFRS Action	Synergies with existing Operational Programmes (OPs)	
	Name of OP	Aim(s)/objective(s) of the OP with which there is synergy
5. Development of a pilot automatic detection system for the Northumberland National Park Area	NFRS IRMP	<ul style="list-style-type: none"> • Maintaining NFRS’s position as the pre-eminent UK FRS for wildfire through continued liaison with international partners and the development and application of best practice from across the world. • “Maintaining a leading wildfire role within the Chief Fire Officer Association (CFOA) and the England and Wales Wildfire Forum (EWWF).”
	NFG	One element of Aim Number 1 of the NFG: <ul style="list-style-type: none"> • “To reduce the scale and impact of wildfires when they do occur”.
	CFOA Wildfire Group	<ul style="list-style-type: none"> • Aim 5 – “Enhance UK wildfire response and suppression capacity and effectiveness” • Aim 7 – “Support research and development into wildfire understanding, prediction and risk mapping”
	EWWF	<ul style="list-style-type: none"> • Aim 2 – “To promote the highest standards of practice in managing wildfire risk, including prevention, response and recovery.”

Table 13 – Synergies between Action 6 and Existing Operational Programmes in the UK

NFRS Action	Synergies with existing Operational Programmes (OPs)	
	Name of OP	Aim(s)/objective(s) of the OP with which there is synergy
<p>6. Investigation into the potential for developing and delivering Wildfire Investigation Training in conjunction with UK Wildfire Partners</p>	NFRS IRMP	<ul style="list-style-type: none"> • Embedding wildfire training across the Service; • Maintaining NFRS’s position as the pre-eminent UK FRS for wildfire through continued liaison with international partners and the development and application of best practice from across the world. • “Maintaining a leading wildfire role within the Chief Fire Officer Association (CFOA) and the England and Wales Wildfire Forum (EWWF).”
	Northumbria LRF CRR (Version 7.1, March 2012)	<ul style="list-style-type: none"> • Control measure - <i>“Specialist Wildfire training for FRS”</i> - for Risk Codes HL28a, HL28b, HL28c and HL28d. • Additional risk treatment required - <i>“Increased training and understanding for operational personnel”</i> - for Risk Codes HL28a and HL28b.
	NFG	<p>One element of Aim Number 1 of the NFG:</p> <ul style="list-style-type: none"> • “To improve moorland burning practices to improve habitats and biodiversity and reduce the risk of wildfire”.
	CFOA Wildfire Group	<ul style="list-style-type: none"> • Aim 5 – “Enhance UK wildfire response and suppression capacity and effectiveness”. • Aim 6 – “Promote appropriate health and safety at wildfires through effective training”. • Aim 7 – “Support research and development into wildfire understanding, prediction and risk mapping”.
	EWWF	<ul style="list-style-type: none"> • Aim 2 – “To promote the highest standards of practice in managing wildfire risk, including prevention, response and recovery.”

11. Conclusions

This Action Plan is the result of a substantial amount of work involving numerous officers from Northumberland Fire and Rescue Service. This work was made possible due to the ERDF co-financing provided for the EUFOFINET Project from the European Union through the INTERREG IVC Programme.

The EUFOFINET Project has enabled a number of officers from NFRS to develop their technical knowledge and understanding of wildfire through numerous constructive and instructive exchanges. EUFOFINET has also enabled NFRS to collaborate with a large number of experts and practitioners engaged in wildfire suppression and prevention activities around the World. A number of specific good practices have been included within this Action Plan, but it should also be noted that the exchanges conducted through the EUFOFINET Project will positively influence and contribute to future developments and improvements within the Service for many years to come.

This Action Plan has been formulated to ensure that EUFOFINET has a long-lasting positive impact within Northumberland and the UK. In order to ensure that this Action Plan is integrated into NFRS's existing Operational Programme, formal *support in principle* has been sought and obtained from the Chief Fire Officer of Northumberland Fire and Rescue Service and the Executive Member for Health and Public Protection at Northumberland County Council (see Chapter 12). This high-level support will enable officers from NFRS to work towards implementing the actions outlined within this plan.

12. Signatures of Support in Principle

The implementation of the actions outlined within this Action Plan is *supported in principle* by both the Chief Fire Officer of Northumberland Fire and Rescue Service and the Executive Member for Health and Public Protection at Northumberland County Council. The authorisation and support for this Action Plan are confirmed by the signatories below.

I, the undersigned, confirm that Northumberland Fire and Rescue Service ***supports, in principle***, the implementation of the Actions outlined within this document.

Place and date: Cramlington, UK, 4th December, 2012



Alex Bennett

Chief Fire Officer of Northumberland Fire and Rescue Service

I the undersigned confirm that I, the Executive Member for Health and Public Protection at Northumberland County Council, ***support, in principle***, the implementation of the Actions outlined within this document.

Place and date: Cramlington, UK, 4th December, 2012



Councillor Anita Romer

Executive Member for Health and Public Protection, Northumberland County Council

Appendix 1 – Website addresses of the EUFOFINET Partners

Name of partner	Country	Website
The Association of Municipalities of Attica (PEDA)	Greece	http://www.tedkna.gr/enPage.asp?pageID=1&subID=2
The Region of Tuscany	Italy	http://www.regione.toscana.it/
Office National des Forêts	France	http://www.onf.fr
ENTENTE pour la Forêt Méditerranéenne	France	http://www.entente-valabre.com/
The National Forest Center	Slovakia	http://www.nlcsk.org/
The Centre for Servicing Woods and Forests of Castilla y León (CESAFOR)	Spain	http://www.cesefor.com/
The Region of the North Aegean	Greece	www.northaegean.gr
The Region of Epirus	Greece	http://www.epirus.gov.gr/2009/index_en.html
The Region of Thessaly	Greece	http://www.pthes.gov.gr/
The Galician Public Security Academy	Spain	http://agasp.xunta.es/gl
Frederikssund-Halsnæs Fire and Rescue Service	Denmark	http://www.fh-brand.dk/
The Forest Research Institute	Poland	http://www.ibles.pl/?set_language=en
Northumberland Fire and Rescue Service	United Kingdom	http://www.northumberland.gov.uk/default.aspx?page=1304



“The Interregional Cooperation Programme INTERREG IVC, financed by the European Union’s Regional Development Fund, helps Regions of Europe work together to share experience and good practice in the areas of innovation, the knowledge economy, the environment and risk prevention. EUR 302 million is available for project funding but, more than that, a wealth of knowledge and potential solutions are also on hand for regional policy-makers.”

FOR FURTHER INFORMATION:
EUFOFINET website: <http://eufofinet.eu/>