

## UK, Dartmoor – innovation example 3

### FIRE MANAGEMENT PLANS

- **Location:** Dartmoor, UK
- **HNV system:** Moorland with extensive cattle and sheep grazing.
- **Scale of operation:** Currently available on almost all of c.80 common land parcels = 36,000 ha
- **Timespan:** Designed in 2006 for one common; now operational more widely until end of current AE agreements (<2020).
- **Keys to success:** Involving farmers in fighting wildfires, providing training; innovation in equipment; knock-on for farmers' controlled burns



Figure 1

#### Problem being addressed:

Wild fires were destroying priority habitat (HNV) threatening property and jeopardising agri-environment agreements. Farmers were less confident of carrying out controlled burns and this valuable management tool was being lost.

#### Story in a nutshell:

The control of wildfires was a priority for Environmentally Sensitive Area agreements (ESA), as a result of which the Dartmoor Hill Farm Project worked with a group of partners including Ministry of Defence, Natural England, Duchy of Cornwall, Devon and Somerset Fire and Rescue Service (DSFRS) and Dartmoor National Park Authority, to establish a model Management Plan.

Prior to the adoption of the fire plan no commoners/farmers were allowed to work alongside the professional fire fighters. The professional fire fighters when they attend a moorland fire have to wear the same uniform and carry the same equipment that they would use when fighting a house fire; this heavy protective clothing reduced the speed they could reach fires away from roads or tracks. The professional fire fighters' only equipment are fire beaters – a pole with a heavy rubber flap, traditionally used to put out grass fires. The commoners could improve the time in reaching a fire by the use of quad bikes, a vehicle that the professional fire fighters are not allowed to use.

The solution was to train some commoners to work alongside the fire fighters. Training, provided by the Fire Service, was arranged and once a commoner had successfully undertaken the training they were allowed to work alongside the professionals at the front line. The training has to be refreshed each year and only those farmers with this up-to-date accreditation can directly fight the fire. There is a debriefing session, identifying issues and solutions, after every fire.



Figure 2

The Fire Plan provides the necessary information to help tackle fires (access routes for vehicles, water sources etc.) and training to enable farmers to tackle fires on the common by providing equipment and training. It also resulted in the invention of a new water based firefighting kit carried on a quad bike - a fogger.

This plan has enabled 29 commoners to be trained and equipped to respond quickly in controlling and managing wild fires on the Forest, alongside DSFRS and DNPA rangers.



### What do the Fire Management Plans achieve for HNV farming?

- Reduces the extent of wild fires that can damage various HNV habitats.
- Enables better controlled burns that help with management of certain vegetation by reducing evasive gorse.
- Decline in number of fires and areas burnt by wild fires.
- Considered by Natural England to be the main achievement of AE schemes on Dartmoor.
- Note: 2 wildfires in 2010 = 475 ha.

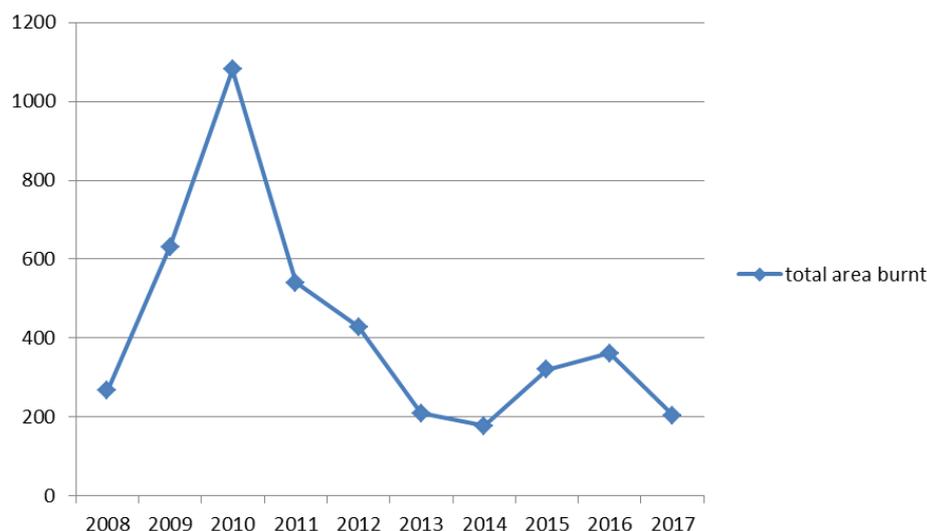


Figure 3

#### Achievements

The huge reduction in the extent of wildfires is considered to have been achieved largely by the use of trained farmers to tackle wild fires and to be better equipped for controlled burns. The initiative ensured the local farmers had some responsibility and participated in controlling wild fires. Wild fire damage to priority habitats, especially blanket bog much reduced.

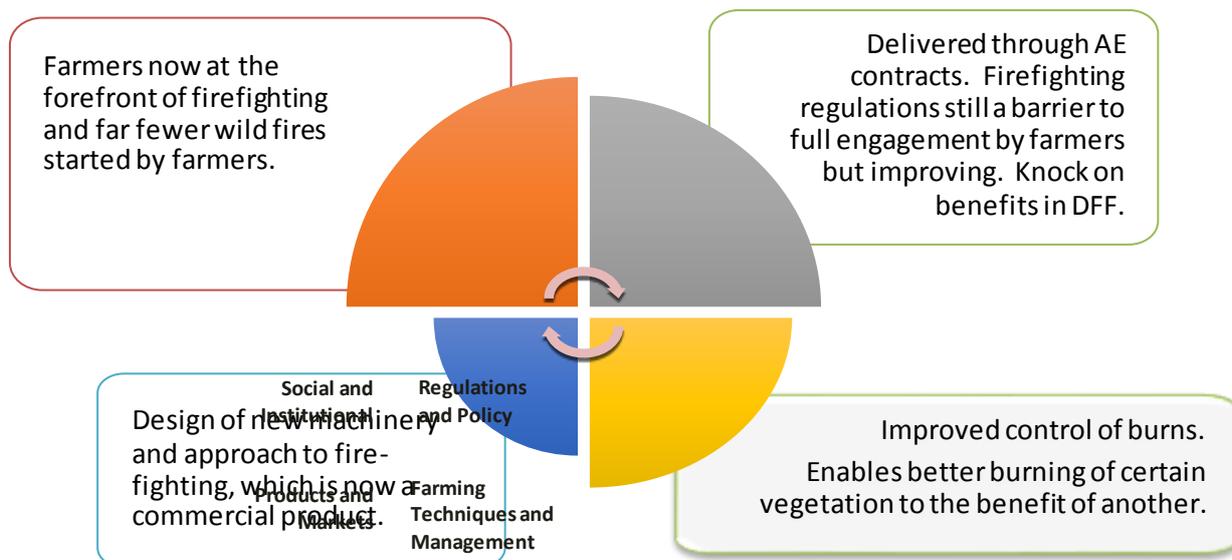
The skills and relationships developed has also had an impact on the confidence of farmers in carrying out traditional controlled burns (swaling) to manage vegetation such as gorse (*Ulex*) and *Molinia*, while within the DFF pilot commons, applications to vary the approach to burning laid out in the original AE contracts can be regarded with more confidence and favour.

Not only are the plans seen as the major achievement of AE schemes in general on Dartmoor, but it is the one aspect of AE (apart from the payments) which non-participating commons look on with envy – regret has been expressed that something so useful in its own right is only available if the associated perceived burdens of AE are undertaken.



Figure 4

## How do the Fire Management Plans respond to the HNV LINK innovation themes?



**Figure 5** Shows how this innovation addresses the four themes of the HNV-Link innovation framework.

The plans have been innovative in all regards:

- New way of working together when previously partners were hampered by health & safety rules etc.. Has led to upskilling of farmers and a high degree of ‘ownership’ of fire control on their commons.
- Delivered through AE, and one of the most prized innovations within AE by all parties
- While perhaps not per se innovative, the management of both wildfires and controlled burns has improved in quality in a way which is new to the area
- New machinery was developed by the commoners for their own use in collaboration with the fire service, and is now available commercially

### The process that made it happen and critical factors for success

- Initiated by the Dartmoor Hill Farm project and key farmers.
- Need for improved fire control identified by one AE agreement.
- Large AE agreement provided not only capacity but funds to produce plan, new equipment and training.
- Package of plan, equipment and training produced for one common then available to all commons in AE.
- Initial resistance from professional fire fighters but overcame by demonstrating benefits (and commoners allowed to do things firefighters are not able to do, so high amount of complementarity in practice)

Initially the fire plans and associated training of farmers to fight fires on the common were part of the agri-environment agreement on the Forest of Dartmoor common. The Dartmoor Environmentally Sensitive Area (ESA) scheme was launched in 1994 and the Forest of Dartmoor association entered into an agreement in 2001. Although a fire management plan was not a prerequisite members of the association and staff from the Dartmoor Hill Farm Project soon realised that uncontrolled fires could put their agreement at risk and they designed a plan and associated training to ensure that fires did not jeopardise their income. The Fire Management Plan was soon recognised by Natural England to be very successful in reducing the impact of wild fires and aiding controlled fires (swaling) and become a requirement within all the other commons' agri-environment agreements on Dartmoor. This reflects

well on this aspect of the English project officer-led AE implementation model which in some ways at least permits the putting together of an appropriate package of support. Unfortunately, it is only available within the AE 'package', so that commons associations which would benefit from it, and want it, but are unable or unwilling to enter into an AE contract.



**Figure 6**



**Figure 7**

Two individuals were responsible for the concept, the chairman of the common's association and the project officer from the Dartmoor Hill Farm Project. The Fire Management Plan, training the farmers and the purchase of equipment were funded from the ESA agreement. Although initially there was no specific money allocated within the agreement to address fire issues the size of the agreement (almost £1m per year) enabled a discreet "pot" of money to be set aside to develop the fire plans, buy equipment, train farmers and pay farmers to attend fires without having a significant impact on the payments to individual members of the agreement (c280 farmers). The farmers soon recognised that new equipment was needed to fight fires and this led to the invention of foggers, power sprays mounted on quad bikes.

#### **Lessons learnt from this innovation example, and its potential replication**

- Funding enabled original ideas to be developed. Strong leadership and a willingness to work with the Fire service to secure better solutions.
- Plans, machinery and training provided to other areas on Dartmoor and further afield (Wales & north of England).
- Ideally suited to common land where capacity of farmers much larger. Requires some financing.



**Figure 8**



**Figure 9**

This approach is highly exportable to other sites as long as professional fire fighters willing to adopt. New equipment is cheap compared to fire engines, but expensive for farmers (£1200/2000 euro for a fogger) and training requires funding. At present it is tied to a wider AE contract; while the ideal might be to tie it firmly to wider land management commitments, it seems that the benefits of the approach are such, even on a standalone basis, that some mechanism for wider roll-out might be desirable. Funding innovation is a real issue; the size of a large agri-environment agreement, enabled small but substantive separate pots of money to be created without a significant impact on individual farmers. The creation of a separate pot of money for fighting fires was supported by all the agreement members. This pot still exists for funding farmers to fight fires, replace equipment and training. Surplus money at the end of the agreement will be reallocated to all beneficiaries.

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