

Appendix 11 – Fire

UKFS stipulates that forests should be planned to enhance their resilience and mitigate the risks posed to their sustainability by the effects of climate change. Associated management should also enhance the potential of forests to protect society and the environment from these same effects.

In the case of the South Loch Ness LMP, wildfire resilience is supported through:

- **Reducing the likelihood of wildfire incidents:**
 - Provision of precautionary signage at public thresholds where fire is likely or fire risks are high due to weather conditions.
- **Reducing the potential extent of wildfire if it does occur through forest design:**
 - Maintaining the road and open ground network functioning as both firebreak and access
 - Planting and conserving native woodland corridors on forest edges and along watercourses
 - Varying the age structure throughout the forest to provide a mosaic of habitats, some of which will reduce the fuel load available to fire.
- **Reducing the potential severity of damage and impacts on people and the environment if fire occurs:**
 - Managing native or mixed woodland around settlements
 - Providing pro-active fire reporting, site access and fire monitoring support to Scottish Fire and Rescue Service (SFRS).
 - In the event of a fire FLS staff will instigate suppression activities at SFRS' discretion and direction.

The current risk of wildfire starting on land within most of the LMP area is low. Public access is informal, mainly short duration walking or cycling, mainly by locals. There are instances of wild camping where people are using the long distance walking trails. No wildfires have been recorded in the last 20 years within most of the block. No muirburning has happened or is likely to happen adjacent to FLS ground.

The risk of wildfire potentially spreading on FLS land is also comparatively low in most of the area on account of the surrounding land use and the prevailing maritime climate (mild, habitually moist/humid conditions). There is however a well-established pattern and occurrence of high-risk conditions in early springtime when periods of dry, bright and breezy weather can persist for weeks and accumulations of dead vegetation quickly become tinder dry at a time when new lush grass/bracken has yet to re-emerge to reduce overall combustibility. Climate change modelling predicts an increase in periods of dry weather not only in springtime but also with warmer periods during the summer. This will increase the capacity of the landholding's forests and open ground vegetation to burn if wildfire occurs.

The best mitigation against fire damage in the South Loch Ness LMP area is the extensive road, ride, riparian and open ground network. Roadlines, rides and open ground provide both a firebreak and a means of access for firefighting teams. This network is well mapped and in serviceable condition. This will continue to be maintained to ensure access for all operations but also to retain their mitigating value to fire risk. Rides and open areas have lacked maintenance, these will be maintained as overgrown rides and open areas prevent access for ATV's as well as provide opportunity for fires to jump from one block into the next.

Through the management of the forest structure the risks of wildfire spreading throughout the forest are reduced. As discussed the LMP area is currently homogeneous. The proposed management will break up this homogeneity, introduce strips and groups of younger crop and thereby reduce the ability of fires to spread. In addition to the roads and regenerating crops, the establishing networks of riparian woodland will create more areas that serve as firebreaks. Monitoring and managing for fire risk will still be essential as areas of establishing trees and fallow ground represent a greater risk of combustion on account of the higher amounts of accumulated ground vegetation amongst young trees. These areas will dry out faster than a mature woodland understorey in warm, dry and breezy conditions and therefore represent a greater, transient fire risk than from an established forest stand.

FLS is committed to providing an out-of-hours service where staff can be contacted to provide assistance to the SFRS in the event of a fire incident.

Table 1 below highlights the potential risks within the South Loch Ness LMP area and the actions/mitigation being undertaken to reduce them.

Table 1: Risk assessment for Black Isle Forests

Risk Source	Risk Level – High/ Moderate/ Low	Mitigation
Ignition Sources		
History of wildfire	Low - No history of wildfire, adjacent muir burning or wilful fire raising	Precautionary signage at public thresholds if fire raising becomes a concern
High visitor numbers, recreation routes, campsites	Moderate –Along South Loch Ness Trail and Loch side laybys- increased wild camping will increase risk of careless fires from cooking and fires	Precautionary signage at public thresholds during high fire risk periods of weather
Fuel		
Surface fuels in young stands before canopy closure	Moderate - Mix of age structure throughout forest - surface fuels in young stands before canopy closure	Manage forest as a mosaic of age structures to minimise fuel load at any one time. Riparian corridors, larch borders and roads will act as buffers
Surface fuels in open or thinned woodland	Moderate - Mix of open or thinned woodland and very few closed-canopy stands	Different silviculture practices throughout forest will minimise fuel load at any one time.
Large amounts of dry understorey or ground vegetation, especially dead vegetation after winter	Low - Low amounts of dry understorey, grass and/or bracken	Maintain varied age structure throughout forest and establishment of riparian/ broadleaved buffers.
Tree health damage, die-back	Low - Healthy trees	Monitor tree health and manage diseased/ damaged trees
Tree mortality, windthrow, deadwood, or brash	Low - Managed levels of deadwood and brash	Monitor tree condition and removed brash where necessary. Remove windblown crops to reduce fireload
High-risk (flammable) species (e.g. heather, gorse, young conifers)	Moderate – Gorse and young conifers present but also Mature trees with a thick or corky bark (e.g., Scots Pine)	Manage gorse along roadsides
Free draining soils. Organic or dry peat soils	Moderate – Majority wet podzols, gleys and bogs. Risk of bogs burning when dried out	Rewet bogs where possible
Site Conditions & Land Use		
Dry climate, light, drought-prone soils	As above	As above

Risk Source	Risk Level – High/ Moderate/ Low	Mitigation
Slopes, gullies, south facing slopes	Low-Moderate – Mostly rolling/flat ground, with some south facing slopes	Restock with tree species appropriate for soil type and conditions to ensure healthy trees. Riparian buffers and smaller coupes to reduce risk in event of fire.
Flammable habitats or a history of wildfire nearby	Low – surrounded by agricultural land and open hill	Manage the forest as a healthy mosaic of habitats and species. Establish broadleaved buffer where appropriate. Maintain good relations with neighbours and collaborate where necessary.
Assets and values at risk		
Close to people, property, utilities, or infrastructure	Moderate – LMP area is close to a large number of private properties. Small number of power lines present.	Establish and maintain broadleaved buffer close to population centres.
High value ecological, historical, or business assets, including timber	Moderate – High quality timber across the plan area. High Landscape value	Maintain and integrate firebreaks, maintain buffers around scheduled monuments.
Response		
Remote site, no on-site staff (late detection)	Low – Neighbours/ local residents and recreation users would detect fire early.	Increase staff conducting patrols and surveillance on site during periods of very high or extreme fire danger
Inaccessible, poor roads, low weight-limit on bridges	Moderate - Good site access, good roads, hard standings	Maintain roads and access
No water source nearby	Moderate – Little water available for small scale local firefighting, sufficient water for aerial firefighting. Insurance for fire-fighting costs including helicopter response	Maintain roads and access to allow for moving of water using bowsers