



# Aspen 2020 Vision

Restoring Scotland's Aspen Woodland

## Progress 2010 - 2011

Aspen is Scotland's only native poplar. It is widely distributed on the Scottish mainland and islands, though generally scarce. Prompted by the discovery that Aspen supports many rare animal and plants, more attention has been paid to this remarkable tree in recent years.

It is now widely recognised that Aspen has the potential to deliver considerable benefits for biodiversity, landscape, freshwater systems and timber production.

In partnership with others, Coille Alba is now leading a project to restore Aspen to its rightful place in the Scottish landscape. Since its launch in 2010, the project has already made much progress, as described in this report.



Volunteers play a vital role in the Aspen 2020 Project. They contribute records of Aspen stands through a web-mapping facility on the [Scottish Aspen website](#). They also help with field-surveys, research trials, growing Aspen trees in nurseries and tree-planting.



Training and volunteering opportunities are provided by Coille Alba and through partner organisations, and advertised on our website.





## Bringing existing stands into management



**Unlike many Aspen woodlands, those at Invertromie (showing yellow) are being managed to encourage expansion and maximise their value for wildlife.**

Until we are able to significantly increase production of planting material, the best way to expand the area of Aspen woodland is to manage existing stands.

On many sites, this is being achieved by reducing grazing pressure, and allowing regeneration to establish on open ground adjacent to stands of mature Aspen.

On some sites, we are looking to increase the proportion of Aspen to other species in mixed stands by selective felling.



*Prolific regeneration of Aspen suckers following a reduction in grazing*



*With their bright autumn colours, the Aspen trees stand out clearly in this aerial view of a mixed stand. Selective felling is encouraging expansion of the Aspen by regeneration.*



## Trial thinning of mixed stands

There is little experience of managing Aspen in Scotland, especially where it occurs in mixed stands with other species. Aspen often associates with birch, and more rarely with conifers. Aspen is a poor competitor, and management of mixed stands may be one useful way to secure and expand the resource.

A number of such mixed stands are being surveyed, and thinning trials are under way. In Ellanwood (near Carrbridge) there are over 20 Aspen clones scattered through Scots pine and birch. The canopy has been opened up around selected Aspen trees and small coupes created to encourage regeneration. This site is being monitored to assess the impact of these interventions.



*Before and after images illustrate the impact of 'halo- thinning' of Aspen in a mixed stand in Ellanwood. The resulting brash was used to provide some protection from browsing for suckers.*



*Extraction of the thinnings using a small forwarder helps gently scarify the ground and assists regeneration. Using a larger, less manoeuvrable machine would require the cutting of racks and would cause unacceptable ground damage on sensitive sites.*

Many of the thinning operations we are carrying out are difficult to fund through the current SRDP grants system.

However, the value of timber and firewood has helped to subsidise management costs.

Timber sales are playing a vital role in encouraging woodland owners to manage these mixed stands to benefit Aspen and its associated biodiversity.



Browsing may hinder regeneration on some sites. As an experiment, we erected temporary exclosures using 1.8m plastic mesh netting around some felling coupes

### **Management of Aspen stands for dependent species**

Aspen supports a wide diversity of flora and fauna. The project plays an active role on Species Action Plan Steering Groups for two species: Aspen Hoverfly *Hammerschmidtia ferruginea* and Dark Bordered Beauty moth *Epione vespertaria*.

We are working in partnership with researchers and key landowners to progress the objectives of the Action Plans.

#### **Dark Bordered Beauty moth**

The Project is helping identify sites with habitat that might support a population of Dark Bordered Beauty moth. Because this moth's larvae only feed on young Aspen suckers, suitable sites are likely to be lightly grazed.







Typically these sites may be grazed seasonally, generally in winter.

Suitable sites throughout Strathspey are being monitored to determine whether they support an overlooked population of the moth, and to assess their suitability for possible translocations in accordance with IUCN guidelines.

**Aspen hoverfly**

By contrast, the Aspen hoverfly requires deadwood to raise its larvae. Because Aspen woodland is so scarce and fragmented, natural supplies of suitable deadwood are often not adequate to sustain a population of Aspen hoverfly.



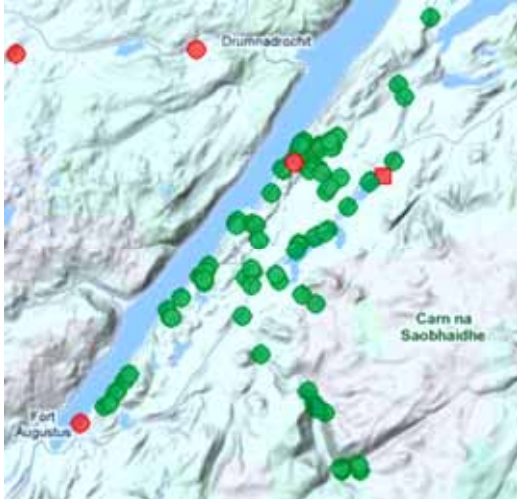
The project uses the opportunity to create deadwood as part of its management operations.



*Aspen being felled to create deadwood for saproxylic invertebrates such as Aspen hoverfly*

## South Loch Ness: landscape-scale restoration

By far the greatest concentration of Aspen in UK is located in the Cairngorms, and especially in Strathspey. Many of the Project's activities are naturally concentrated there. However, it is also working in several other areas.



Aspen stands in South Loch Ness, as shown

One of these lies between Loch Ness and the Monadhliaths. Working with Boleskine Environmental Network and their volunteers, a [comprehensive aspen survey](#) was undertaken.

A dialogue is ongoing with key landholders and plans are being developed to bring the 4 largest stands in South Loch Ness into management.

This includes the Aspen stand at Fasnagruig (pictured below), one of the most important sites for Aspen on Forestry Commission land anywhere in UK, and one of only 9 sites known to support Aspen hoverfly.

The Project is helping to manage this stand. Operations include the removal of non-native conifers, birch thinning and felling wind-damaged aspen to provide deadwood for *Hammerschmidtia*. The hoverfly population is being monitored and a workshop is being organised for forest managers.



This Aspen stand at Fasnagruig, on the south side of Loch Ness extends over 1 hectare. It is one of the largest stands outside Strathspey. The Project will help the Forestry Commission to manage it to maximise its biodiversity value. A well-used footpath runs through the woodland, offering a good opportunity for interpretation.



## Planting new stands

Because Aspen planting material is in short supply, we have adopted a strategy of planting small numbers of trees on a large number of sites.

This is aimed partly at 'whetting the appetite' of woodland owners in anticipation of an improvement in supply over the next 2-3 years.

We are also selecting sites where planting might contribute to the development of habitat networks (see below).



*Plantings encompass a wide variety of sites, including farmland, enrichment planting and restocking of clearfells. The ownership of the sites include public, private and community-owned land. Owners and volunteers often assist with the planting.*



## Developing Aspen habitat networks

As the distribution and status of Aspen woodland becomes better known, we are increasingly able to prioritise management and new planting to maximise the benefits for biodiversity.

In particular, we are starting to use maps of existing aspen distribution to plan the development of habitat networks. We are able to identify gaps which might act as barriers to the dispersal of aspen-dependent species, and to plant 'stepping-stones' of Aspen woodland in a highly targeted manner.



*Small groups of Aspen were planted on Kinchurdy Moor (red stars). These will help establish Aspen in the area between Aviemore and Boat of Garten, which has relatively few widely-spaced stands (shown in green). The plantings are close to a popular long-distance walk, the Speyside Way. As they mature, they will create an attractive landscape feature, and an opportunity to erect interpretative panels to raise awareness of Aspen and its importance in the boreal forests of Strathspey.*

We have identified many sites where habitat linkages would be beneficial, and we are in dialogue with owners to undertake plantings on these sites. These will be mainly small-scale in the short-term because planting stock is limited, but they may evolve into larger planting schemes in the longer term.



## Raising awareness and training

The Project uses a variety of media to disseminate information about Aspen to a wide audience.



### Website

After a long period of development, the [Scottish Aspen website](#) went live in early 2011. The content is regularly improved and updated.

The site provides a lot of information on Aspen, downloadable documents and links to other sites. The mapping facility is described separately below.

### Workshops

We organise various events, often in partnership with other organisations. These focus variously on managing existing Aspen stands, propagation and improving habitat for aspen-dependent BAP species.



Colin Edwards of Forest Research demonstrates the use of a tree-corer to learn about the dendrochronology and development of aspen in mixed stands.



The Native Woodland Discussion Group visiting important aspen stands at Achinduich in East Sutherland in May 2011.



Highland Aspen Group visited Dark Bordered Beauty moth habitat at Invertromie in June 2011. Participants included a number of moth recorders who will be monitoring suitable sites elsewhere.





Left: An event organised with Highland Birchwoods looked at a number of management issues, including the practicalities of timber extraction on sensitive sites, facilitated here with an Alstor mini-forwarder.

Below: An Aspen felled to provide deadwood for Aspen hoverfly, providing an opportunity to discuss this scarce BAP species' habitat requirements.



Articles on the project have appeared in various publications.

The Project also features on the Esmée Fairbairn Foundation's website



We have had over 2000 visits to the Aspen 2020 blog at <http://aspen2020.blogspot.com/>. At present, posts can be added to the blog only by invited contributors.

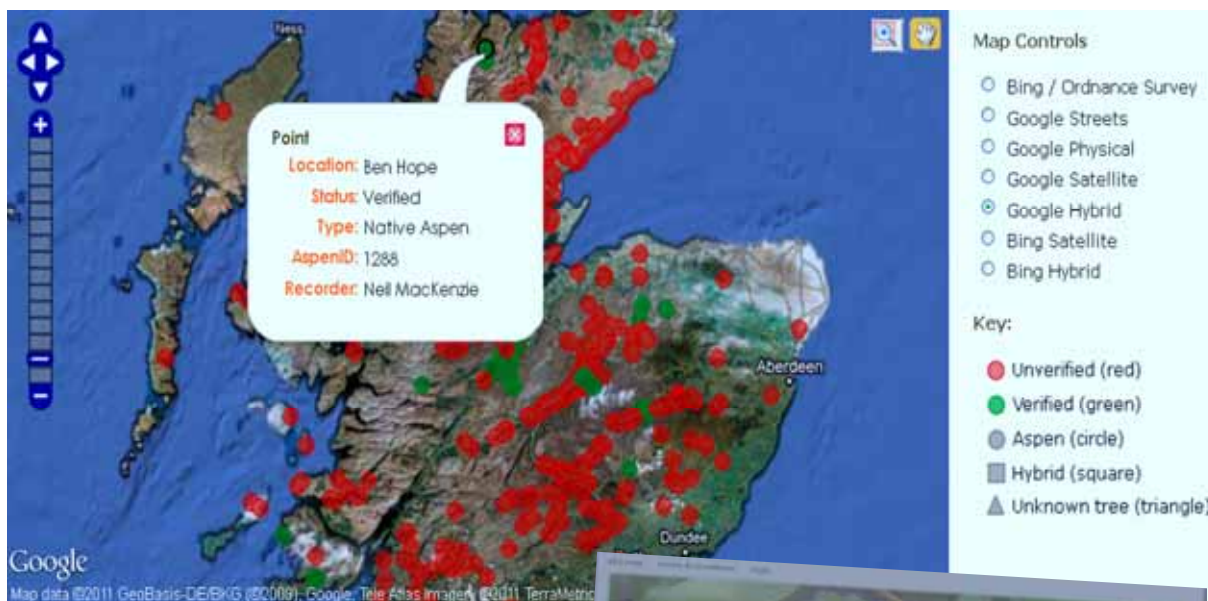
To encourage wider participation, it is proposed to integrate the blog into the Scottish Aspen website in the form of a forum which can be accessed by all registered users.



## Improving our knowledge of distribution and status

From the Project's outset, one of the key objectives has been to build up a comprehensive picture of Aspen's current distribution and status. This information would be pulled together with the help of all those who share our fascination with this enigmatic tree.

This exercise would increase awareness of Aspen's importance in Scottish forestry, while the data collected will allow us to adopt an informed, strategic approach to consolidating and developing the resource.



At the heart of this aspiration lies an interactive web-mapping facility which enables us to gather and share these data. This tool has now been developed and tested; the data currently held on the database are viewable on [the mapping page](#) of Scottish Aspen website.

The website will be formally launched in 2012. We will contact all those who may be interested in helping, and recruit verifiers to provide Scotland-wide coverage, and provide them with training.



*The website database accommodates point and polygon data, information on origin, status, age classes and photographs*

## Field surveys

We have undertaken surveys of Aspen in a number of key locations. These included Highland Perthshire, Upper Deeside, South Loch Ness and Strathspey. Over 1000 stands have been surveyed, and these data are being uploaded onto the Scottish Aspen database.

## Improving the availability of planting stock

The project works with various partners to make Aspen trees more readily available for planting.

Members of Highland Aspen Group (HAG) play a key role with this, and the project provides a lot of support to the group by raising funds, organising work-parties and regular visits to the nursery.

The Group's nursery work is focussed on two production methods: vegetative propagation and a trial seed orchard.



### Vegetative propagation:

The Group collects roots from up to 50 clones annually, and raises over 2000 Aspen trees by vegetative propagation at the HAG nursery each season.

Most collections are made in the core Aspen areas: Strathspey, Deeside, Highland Perthshire, but some are made in other seed-zones.

### Seed orchard:

Propagating from root cuttings has many disadvantages. It is labour-intensive and the genetic diversity of the planting material raised is limited to the number of clones collected.

Much effort has been expended establishing a seed orchard. The nursery orchard holds over 380 stock-plants from 88 clones.

Our efforts are being rewarded with the production of a few catkins, and it is anticipated we may see more flowering in 2013.







The seed orchard trees have established well; as they reach up above the crop-bars, the tallest stems are being trained as espaliers, a cultural method commonly used to induce flowering and fruiting in other tree species



Above: it is thought likely that grafted stock may be more inclined to flower; we have learned grafting techniques, and are grafting a number of selected scions onto root-stock



Left: a female catkin

Below: a view of part of the nursery: polytunnel, cloches, stock plants in Airpots and planted out directly into the soil

