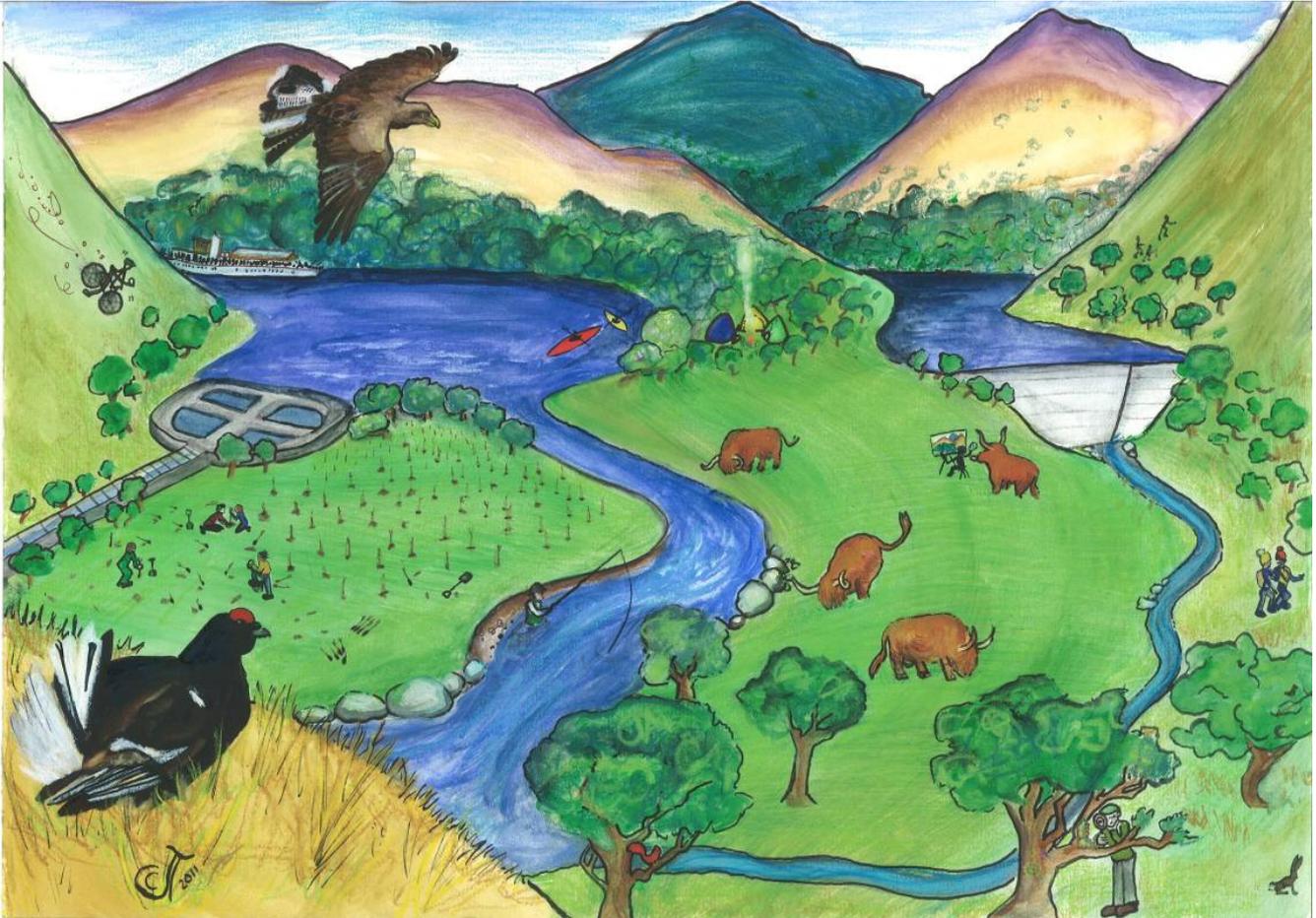


Land Use in The Great Trossachs Forest



The Great Trossachs Forest (TGTF) Project covers an area of 16,650 hectares, an area similar to the size of Glasgow. The landscape is made up of moorland, mountain, wetland and grassland as well as woodland. TGTF is a **Scottish Forest Alliance** project, which has four partners involving the **private** (commercial company), **public** (government-controlled) and **voluntary** (not-for profit or charity) sectors.

Forestry Commission Scotland

The Scottish Government agency that manages forests. Its mission is to protect and expand Scotland's woodlands and increase their value to society and the environment.

Woodland Trust Scotland

Part of a charity dedicated to the protection of native woodlands, creating new native woodlands and managing woodlands for the benefit of wildlife and public enjoyment.



RSPB Scotland

A charity committed to securing a healthy environment for birds and wildlife

BP

One of the world's largest energy companies.

TGTF lies within **The Loch Lomond and The Trossachs National Park**, which aims to:

- Conserve and enhance the natural and cultural heritage*,
- Promote the sustainable* use of the natural resources of the area,
- Promote understanding and enjoyment of the special qualities of the area by the public,
- Promote sustainable social and economic development* of the communities of the area.

The vision for TGTF is to restore, protect and enhance native habitats including high canopy oak woodland, Caledonian pine woods, pasture woodland, wet alder woods, open moorlands, mountain, wetlands and grassland. Additionally local communities will be strengthened and the area will become a showcase for wildlife, tourism, outdoor leisure activities, outdoor learning, research and partnership working.

Land use history

The area covered by The Great Trossachs Forest project was once largely native forest, with trees stretching up to the 'tree line*' of the surrounding mountains. The area was first settled as long as 7000 years ago and has played an important part in Scotland's social and cultural history. The historical land use of the area is typical of much of Highland Scotland. From medieval times there would have been several hundred people living in the area, surviving by rearing cattle and growing a small amount of crops.

The forest was an important resource providing food and shelter for the animals as well as fuel and timber. The higher ground, above the tree line, was used for summer grazing and there are still the remains of 'shielings' - temporary huts that were used by the cattle herders in the summer. The forest would have been managed using pollarding and coppicing techniques. This is where the trees are cut back either to ground level (coppicing) or to approximately chest height (pollarding) and then allowed to grow back. Trees managed in this way can live to be extremely old. Some pollarded trees in Glen Finglas may be more than 400 years old. Much of the Great Trossachs Forest area would have been managed as wood pasture*, with branches and leaves from

pollarded trees providing food for the livestock alongside grazing.

The first records of active management of the forest date from around 1750, when the oakwoods at Brenachoile were being managed (also using a coppice system) to produce charcoal made from birch wood for the local iron works, as well as oak bark for tanning leather. The population of the area peaked in the late 18th century, and then declined as the land was given over to sheep farming. Intensive grazing by sheep, alongside a demand for timber led to extensive deforestation of the area. In the 1920's large areas of conifer plantation were planted to provide quick growing timber.

Glossary:

- * Cultural heritage - things we inherit from past generations, including things like books, art, man-made landscapes, traditions, folklore etc.
- * Sustainable - able to be continued for ever (not using resources up quicker than they can be replaced)
- * Social & economic development - improving the quality of life for local people, eg by creating more and better jobs, more recreation opportunities or more opportunities for local people to have a say in what happens in their local area
- * Tree line - the line on a hillside above which trees are unable to grow because of conditions such as cold temperatures.
- * Wood pasture - a very open woodland with lots of grassland, maintained by grazing

Current Land uses in TGTF

Woodland management

TGTF will one day include the largest area of native woodland in the UK. This will be achieved through a mixture of planting and natural regeneration (when trees grow from seeds spread naturally). Species of tree include oak, ash, rowan, hazel and birch. The woodlands will be managed primarily for conservation rather than for producing timber or pulp for paper.



Farming

The land of TGTF used to be one of the largest sheep farms in Europe. It is no longer intensively grazed by sheep. There are still some small flock of sheep kept in the area, as well as herds of cattle. View the 'cattle' film for more information.



Conservation

One of the main aims of TGTF is to enhance and protect the biodiversity of the area. What makes this project so special is that it is on a landscape

scale, which means that over time many species will be able to adapt and move in response to climate change. Existing areas of ancient woodland will be linked up by new native woodland so species can move between areas. Special species found within TGTF include black grouse (right), red squirrels, Golden eagles and water voles. View the 'wildlife' film for more information.



Water supply

The lochs and reservoirs within The Great Trossachs Forest supply tap water to Glasgow. Loch Katrine is fed by rivers and water levels are maintained by high annual rainfall. A dam was built to turn this natural loch into a reservoir. The water supply from Loch Katrine was opened by Queen Victoria in 1859. See Glasgow's water supply fact sheet and 'The lifeline of Glasgow' film for more information.



Hydro Power

The reservoir in Glen Finglas, as well as supplying water, can also be used to create electricity via the hydro-electric power station at the base of the dam.

Tourism and recreation

Tourism became important in the Trossachs in the 18th century after famous artists and writers such as Sir Walter Scott using the area for inspiration. The Trossachs have been a popular destination ever since and continue to draw thousands of people every year to experience this beautiful landscape. There are many activities that take place in TGTF including walking, mountain biking, canoeing, camping, sailing and fishing. The pier at Loch Katrine and the steam boat, the Sir Walter Scott, are particular honey-pot sites, with around 100,000 people a year carried as passengers.



Combating Climate Change

Trees absorb carbon dioxide when they grow which is a greenhouse gas responsible for climate change. This carbon dioxide is then locked away in the forest. This is called carbon sequestration. (See Climate Change fact sheet in Biology resource for more information).

Research and education

TGTF aims to be a centre for research into sustainable woodland management, ecosystems and climate change. Biodiversity and carbon sequestration levels are continuously monitored to enable this research. One of the main aims of The Great Trossachs Forest project is to act as a demonstration site and showcase for sustainable land management and use.



Land-use conflicts and solutions

Water Supply versus Farming and Tourism

The many and varied land uses that take place within TGTF can at times come into conflict. One of the most important land uses of the TGTF is the water supply to Glasgow. Therefore it is very important that any other activities within the catchment area of Loch Katrine, Loch Arklet and Glen Finglas do not affect the quality or quantity of the water supply. Agriculture and forestry have to be carefully monitored to make sure no harmful chemicals get into the water supply. In 2002 sheep grazing was stopped around Loch Katrine, after fears that the water was being contaminated from sheep droppings. In order to maintain water quality the steamboat on Loch Katrine has recently been converted to run on biofuel rather than diesel.

Deer versus Natural Regeneration

Deer affect the natural regeneration of trees by eating the young seedlings. If deer numbers are high no young trees can establish. Deer have no natural predators any more as bears and wolves became extinct in Scotland many hundreds of years ago. It is therefore important for land managers to control deer numbers to make sure trees have a chance to regenerate successfully.

Deer are controlled in two ways: temporary fencing to keep deer out and culling (killing certain animals in a group to ensure numbers don't get too high). The decision on the numbers of deer to be culled is agreed between a number of agencies to ensure that neighbouring estates can still earn an income from deer stalking (when people pay money to shoot a male deer or stag). Temporarily fencing off areas prevents deer entering an area to allow young trees to establish and the forest to regenerate. The location of fences has to be very carefully planned to ensure they do not interfere with public access and that potential harm to wildlife is minimised. Black Grouse are a protected species and if a temporary deer fence is in the wrong place, they have a tendency to fly into the fence and kill themselves!

Grazing versus Biodiversity

Intensive grazing by sheep and deer over the years has led to a decline in biodiversity and natural regeneration. This is being addressed by using less intensive grazing patterns, with cattle instead of sheep, controlling deer numbers, planting native trees, removing non-native plant and tree species and by fencing off areas so that they can regenerate naturally.

Views versus Woodlands

One of the great attractions of the Trossachs, to locals and visitors alike, is the stunning landscape. The local community around Loch Arklet has had concerns that planting more trees would spoil the landscape and the views across to the Arrochar Alps. This was partly due to the plans not being well communicated and people expecting large areas of conifer plantation, as has been planted in the past. A block of conifer plantation with straight line edges can be considered an eyesore as it doesn't fit well in the landscape. Plantations are also normally clearfelled, when all the trees are cut down at once, which causes a big change to the landscape that people can object to. The issues at Loch Arklet were resolved by consulting with the local community, including creating computer images of what the landscape would look like when planted with native trees. A sympathetic planting scheme of low density native woodland, that will never be clearfelled, can enhance a landscape and maintain important viewpoints. In the end the density and area of the planned planting was scaled down and local school children were involved in the tree planting so the local community were directly involved in establishing the new woodland.

Tourism versus Environment

One of the aims of TGTF is to encourage visitors. Large visitor numbers can, however, have damaging effects on the environment:

- Large numbers of walkers and cyclists can lead to erosion of paths.
- Increases to the amount of traffic in the area would lead to more congestion, erosion, noise, pollution, and potentially more accidents on narrow and winding country roads
- The construction of tourist related

infrastructure including roads, car parks, hotels, chalets and other accommodation, visitor centres, shops, petrol stations and so on can alter the character of the landscape and the community.

- Encouraging more visitors can lead to an increased fire risk through accidental fires or arson.

There is also the potential for different tourist activities to come into conflict, for example if traffic increases it may put off cyclists. It is therefore important that any development is carefully planned and all possible impacts considered, and that visitors are considerate of the environment and other people.