



Scottish Case Study for the Northern ToSIA project

Forestry, in common with other land uses, is being expected to provide an increasing range of benefits. This trend presents a challenge for managers, planners and enterprises in the forestry sector, who need to understand the impacts of changing forest management on these benefits and their long-term sustainability. The Northern ToSIA project, which is supported by the EU's Northern Periphery Programme, has been created to address these issues.

The case study in Scotland is one of three case studies formed within the project. It will operate at both at a forest and regional scale - Inshriach Forest and the Cairngorms National Park. Within both of these levels the case study will examine potential management changes in the forests and demand from industry. The impact of these changes on the forestry-wood chain and dependent enterprises will then be evaluated.

The Cairngorms National Park (see Figure 1) is Britain's largest National Park with 3,800 km² of varied mountainous landscapes, diverse wildlife, and unique habitats. The forests within the park include remnants of ancient pinewoods, and more recent plantations producing timber for local and regional sawmills and processors.

In addition, 39% of the land area carries habitat designations (two thirds of which are European level designations). Endangered wildlife in the area include Red squirrel, wildcat, Capercaillie, while the Park includes a number of important salmon rivers.

The National Park is also home to about 16,000 people, living in substantial towns and smaller villages, and has a low population density of 4.2 people per square kilometre. Tourism is a significant and lucrative sector with related businesses accounting for about 80% of the economy. It is estimated that around 2 million people visited the Park in 2007.

The Scottish case study will initially focus on Inshriach Forest (see Figure 2) and then expand to the entire Cairngorms National Park. Inshriach is located on public Forestry Commission land, and is mainly comprised of Scots pine (*Pinus*

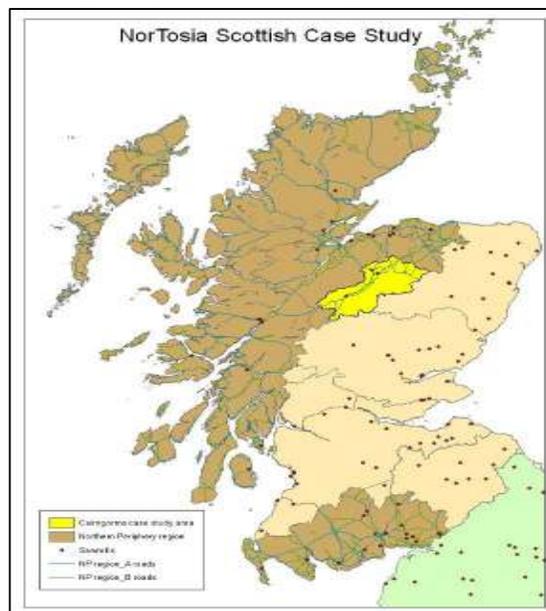


Figure 1: Area of the Cairngorms National Park (in yellow) that lies within the Northern Periphery.

sylvestris) and other conifers. Key policies and strategies for the Inshriach Forest Plan include the protection and improvement of biodiversity interests whilst balancing the needs for recreation and timber production to create a diverse, high quality forest. Located near Inshriach forest are Russwood sawmill in Newtonmore and BSW Boat of Garten sawmill in Spey valley. Both sawmill companies, as well as tourist and environmental agencies, will be involved in our case study.

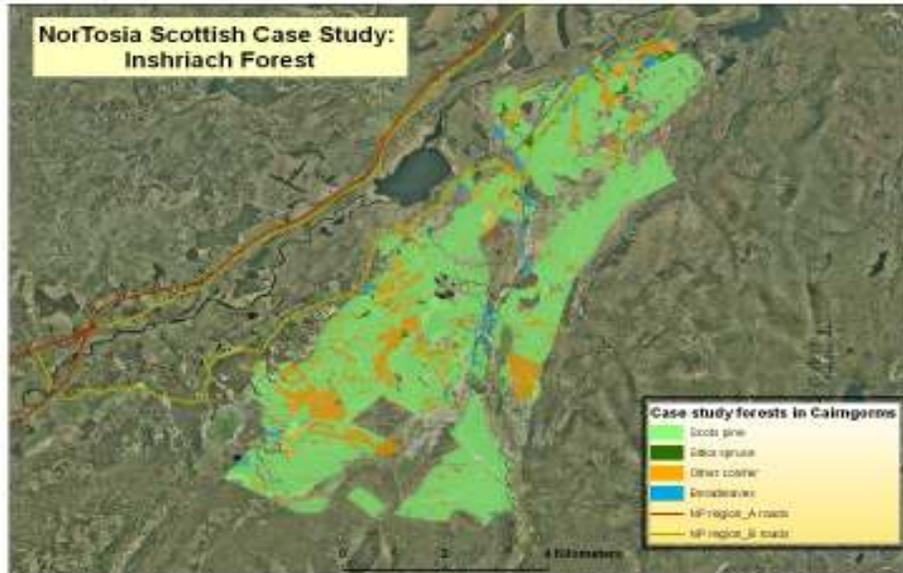


Figure 2: Inshriach case study forest.

The area of Inshriach forest is 3,689 ha, and is mainly comprised of even-aged stands with a management history of commercial clearfelling. More recently, however, the emphasis has been on restoring areas of native pinewoods through the removal of exotic conifers and adopting more continuous cover silvicultural management. There is also considerable interest in the area for recreational purposes although timber production will remain a primary objective. In addition, this forest has high numbers of the endangered Red squirrel and Capercaillie. The total harvested volume from this forest for 2008 was 10,832 m³ with a mean annual increment of 17,920 m³.

The case study will assess the changes in forest management and resulting effects due to varying social, environmental and economic demands. To do this, the structure and proportion of Forest Management Alternatives (FMAs) within Inshriach and the Cairngorms National Park will be defined. FMAs describe coherent series of operations and decisions in the forest and range from Forest Nature Reserve (FMA 1), Continuous Cover Forestry (FMA 2), Combined Objective Forestry (FMA 3), Intensive Even-aged Forestry (FMA 4), and Wood Biomass Production (FMA 5).

The percentage share of FMAs will change according to various scenarios but, as of yet, these have not been finalised. Provisionally however, four scenarios have been developed for use within the case study:

1. Business as Usual, i.e. the current management regime.
2. There is an emerging biotic threat such as Red Band Needle Blight, and a corporate target of 20% of forested land planted as broadleaves. The combined effect leads to the conversion of 75% of Scots pine to another suitable species.

3. There is a general desire to manage forests to increase both biodiversity and the stands' attractiveness for tourism. Areas designated for intensive even-aged and woodfuel forestry both decrease by 25% each with a subsequent 50% rise in area managed on a continuous cover forestry regime.
4. Woodfuel industries increase their demand for wood chips and pellets. The 50% of intensive even-aged stands are converted to short rotation forestry with all of the timber produced allocated to the woodfuel industry.

The impact of these scenarios will be measured against a selection of sustainability indicators which include Gross Value Added, Production Cost, Greenhouse Gas Emission and Carbon Stock, Forest Biodiversity, Forest Resources, Employment, and Recreation. These indicators will be aggregated and analysed with a decision support tool called ToSIA, the Tool for Sustainable Impact Assessment that is being developed as part of the project. ToSIA will evaluate the changes in forestry-wood production chains from the forest to the end-of-life of final products, as well as the impacts made on environmental, economic, and social indicators.

The project is paying particular attention to stakeholder engagement, with key stakeholder groups being invited to contribute at all stages in the project, including case study selection, indicator and scenario development, interpretation of ToSIA outputs, and dissemination of results. Once the forest and regional analyses are complete, the indicator results will be presented to various groups representing the range of industrial, environmental, recreational and community enterprises and interests. A methodology will be created to perform a multi-criteria analysis from the viewpoint of each stakeholder group. This will allow for a comprehensive review of how the same changes in forest management will affect the diverse priorities of each group.

The Northern ToSIA project will run for 36 months (2008 – 2011). The majority of the case study forest and regional analyses will be completed by late-2010 and will be followed by the stakeholder engagement until mid-2011. In addition, an important step in case study development will be a workshop to be held in May 2010 in the National Park area. It will bring stakeholders together from Scotland and the wider Northern Periphery region to discuss how impact assessment in the forestry sector can be incorporated into regional and business development planning.