

# Biodiversity in the Ashburton District

October 2012 Feature: Alford Forest Monitoring Programme



*The dry ridge-crest site at Plot 09, with many dead-standing or fallen beech trees.*

**Photo credit: Mike Harding**

Alford Forest is an indigenous beech forest on the northwest side of State Highway 72 in the Staveley/Bushside/Alford Forest area. This area was the home of two sawmills in the late 1800's, which milled a large proportion of the native beech for timber .

Alford Forest is both historically and environmentally significant to our district, providing a reminder of the historical forest and a key example of a native beech forest in the Canterbury foothills. Ashburton District Council and Alford Forest landowners recognise the significance of these native forests and the importance of understanding and managing our natural assets in the best way possible.

In order to build this understanding, Ashburton District Council and Alford Forest landowners are working together to monitor the remaining indigenous forests for trends and changes. This monitoring will help Council and the community to understand the composition of the forest's ecosystem and assess changes to that ecosystem. In particular, the research focuses on measuring the recruitment of new canopy trees and expansion or growth at the forest margins.

The monitoring programme involves periodic ecological monitoring and ongoing community monitoring by local landowners. The second round of the scientific monitoring has been carried out in September 2012. The results of this monitoring provides some clarification on the species listed in previous monitoring, identifying some plants which had been incorrectly classified and identifying seventeen species not recorded in 2001.

Fourty-four species of native plants, as well as nine exotic species, were identified in the area. These include trees, ferns, climbers, shrubs, mosses, herbs, parasites, orchids and sedges. Twelve 'plots' along a 20 metre transect were used to take these samples. The size of the plots varies from half a metre wide, to four metres wide, depending on the type of plant being identified.

The diameter at breast height (DBH) of trees was found to have significantly declined at two plots, with a number of stems lost and no new recruitment of new trees. Possible reasons for the decline at these plots include the harshness of the site location and the age structure of trees within the forest.

However, the DBH also experienced an increase at eight plots. Likely reasons for this includes the growth of broadleaf, marbleleaf and beech saplings at the forest margins, recruitment of new saplings

and the sites being in fertile locations conducive to good growth.

There are no clear trends or patterns that can be analysed at this early stage of the monitoring programme. Further monitoring is scheduled to be carried out every five years, which will help to identify causes and patterns for both improvements and deterioration in the forest plots.

Sycamore, an invasive weed, was identified at one of the forest sites. This plant poses a threat to native species and the landowner has been advised to remove it immediately.

Measuring these plots provides a valuable record of the condition of the indigenous forest at these sites. Continuing to measure these plots at regular intervals will provide a longer record of change and more data to analyse. This will support Council and the community to manage these important natural assets in a way that promotes their survival into the future.