Appendix 5
Use of Sterile Rye Corn

A5.1 Introduction

Interest in the use of Sterile Rye Corn (SRC) as a substitute for more invasive species such as Chewings Fescue has increased over recent years. Although the use of SRC is a new and developing technique, some of the possible advantages of SRC include the following:

i) SRC is capable of rapidly producing a good cover crop with a large amount of biomass above and below ground, which is valuable in protecting soils from erosion. It is a very effective soil stabiliser.

ii) It germinates readily in a range of conditions.

iii) SRC is thought to be allelopathic to many weeds and appears to reduce the potential for weeds (particularly grasses) to become established on sites where it has been used.

iv) SRC is an annual species, so it dies back after a year, reducing the possibility of it becoming invasive, whilst leaving large quantities of weed-free mulch to protect the soil and encourage micro-organism activity.

v) The majority of plants are sterile, so they don't produce seed, reducing the potential that the species would become invasive.

Like Fescue, the biomass and effectiveness of SRC diminishes over time, therefore, use of SRC should be seen as a two stage process. In the first stage, planting the SRC provides rapid cover and stabilises the soil. In the second stage, as the SRC starts to die down, native plants need to be established for permanent rehabilitation. As few serious trials of SRC have been carried out to date, little information about the use of SRC in the alpine areas is currently available, however, several trial which should be watched are described below, followed by best practice guidelines on the use of SRC, as currently understood.

A5.2 Trials of Sterile Rye Corn in Kosciuszko National Park

SRC is a new and developing technique. Recently a number of trials have been carried out in different locations within KNP. These should be monitored over the longer term in order to allow key issues to be identified and lessons to be learned on the use of SRC. Trial sites that should be monitored include:

i. Excelerator Ski Run: Perisher Blue have trialled the use of SRC on Excelerator over the last year. Four monitoring sites have been established on at the site, from which further information should be available in the future. At present, concerns have been raised that the SRC did not did not last long enough to allow natives to establish, therefore follow-up planting may be required.

ii. Tube Town: Tube Town is located at the base of Mt Piper and has also been the site of recent SRC trials carried out by Perisher Blue. This site is less steep than the Excelerator ski run and trials currently look more promising.

iii. Former Snowy Hydro sites: Trials undertaken at Former Snowy Significant Sites (FSSS) at Yarrangobilly, Tantangara spoil dump and T2 Dogleg were carried out by the DEC on highly disturbed sites. Most sites were located on poor soil or rock spoil. The altitude at the sites ranged up to 1400m.

    The trials resulted in a high rate of germination of SRC, occurring between 3 to 5 days after planting. Germination also occurred on rock spoil, although this was not as robust as on soil. The SRC appeared to suppress weed growth, particularly grasses, although

Bokhara clover occurred at one site. It is possible that hard seeded weed species like clover are less affected by the allelopathic effects of SRC.

Now that the SRC has senesced (matured and died back), the thick cover continues to stabilise the slopes (refer to Figures A5.2.1 and A5.2.3). It is planned that over-planting with natives will be undertaken during April.

Figure A5.2.1 Sterile Rye Corn on the T2 Dogleg former Snowy site – Early February 2006. Foreground areas were located on thin soil, rear areas on rock spoil.

Figure A5.2.2 Sterile Rye Corn at the Dogleg site – after senescence, April 2006.

It is recommended that longer term monitoring of the trials outlined above should be undertaken to build up a knowledge base about the potential application of SRC within the park.

A5.3 Best Practice use of Sterile Rye Corn

Based on current experience with the use of Sterile Rye Corn in alpine areas, the following points have been assembled to give an indication of current best practice in the use of SRC in KNP.

i) SRC needs to be used in conjunction with native seed and tubestock so that, once it dies down, the native plants will be able to provide permanent cover. After the first year or two, the site should be over-seeded with understorey species to achieve a more natural and stable effect.

ii) Care needs to be exercised in selecting appropriate native species for use with SRC. Preference should be given to strong growing, dominant species.

iii) Weed control and mulching should be continued for one to two years after the SRC dies down.