

**Report 99.373**

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Report to the Rural Services and Wairarapa Committee  
from D J Cameron, Regional Soil Conservator

## **Coverage of Soil Conservation Plantings - Monitoring**

### **1. Purpose**

To inform members of the findings of the Soil Conservation Planting Monitoring Programme undertaken in March 1999.

### **2. Background**

- 2.1 The long term Land Management Performance Indicators state that “sustainable land management will progressively be practised in identified problem areas”. The Soil Conservation Business Plan contains the objective “to reduce the incidence of land instability and soil erosion.
- 2.2 To achieve these outcomes the Regions erosion prone lands have been identified and become target land for the establishment of erosion control measures through Sustainability Plans and Property Conservation Plans.
- 2.3 The 1998 Annual Environment Report contains information that some 134,000 hectares of target land is farmed. The information is interpreted from the land cover database. However this database cannot determine whether poplars and willows have been established for erosion control purposes. The scale of this database at 1:50,000 is not accurate for interpreting land cover at the property scale.
- 2.4 Dr Hicks of Ecological Research Associates was commissioned to develop a methodology that would give an accurate set of data on how much of the regions erosion prone land had been previously treated under soil conservation programmes.

### **3. Methodology**

- 3.1 Soil conservators surveyed 24 randomly selected properties. Mapping determined the extent of target land, the boundaries of treatable areas within the target land, and the boundaries of treated areas. The type of treatment, either installed or recommended, was also noted.
- 3.2 These maps were cross-referenced with land use capability maps at the 1:10,000 scale to ascertain where a match occurred between target land and completed works. The sample size gave a 1% to 5% representation of each target unit. There is a 95% confidence that any estimate made from the sample data is within plus or minus 12%.

## **4. Results**

- 4.1 Subject to the uncertainty within the sample size, a number of firm conclusions can be made:
  - Target land units in the whole of the Wellington region occupy 207,000 hectares, or 26% of the region. This is equivalent to 49% of the Wairarapa hill country.
  - 95,000 hectares (12% of the region, or 23% of the Wairarapa hill country) are unstable land in need of soil conservation measures.
  - 112,000 hectares (14% of the region, or 26% of the Wairarapa hill country) are sufficiently stable that soil conservation measures are either not needed, or a low priority.
- 4.2 On the 95,000 hectares (c.f. 134,000 hectares noted in paragraph 2.3) of target land in need of soil conservation measures:
  - 53,000 hectares (56% of the target land) have received some form of soil conservation treatment between 1958 and 1998.
  - 42,000 hectares (44% of the target land) remains to be treated.
- 4.3 The survey has focussed on target land classes, but it is recognised that within the balance of hill country there are levels of erosion that require the implementation of soil conservation measures for long term sustainability of the soil resource.

## **5. Discussion**

- 5.1 During the last 40 years erosion prone pastoral land has been converted to long term sustainable use at the rate of 1,300 hectares per annum. Much of this can be attributed to the extensive soil conservation programmes completed over those years. The balance is attributable to

the conversion of hill country farms to forestry, and to a lesser extent, natural reversion.

- 5.2 Assuming the same rate of change, the conversion to a more sustainable long term use for the remaining 42,000 hectares will take approximately 30 years. This is the best prognosis and will be dependent on the relative economics of farming and forestry, and a continuation of the current Council strategies and policies for land management programmes.
- 5.3 The rate of progress will almost certainly be more difficult to sustain in years to come. Those landowners that are not receptive to the implementation of soil conservation measures will become an increasing percentage in the client base. Considerable efforts in education and advocacy will be required to change these attitudes.

## **6. Communication**

- 6.1 The information contained in the consultant's report will be incorporated into the 1999 Annual Environment Report.
- 6.2 It is envisaged that a further survey will be carried out in five years. The methodology will be dependent on improvements to the land cover database and the ability to interrogate the coverage at the property scale

## **7. Recommendation**

*That the report be received and its contents noted*

Report prepared by:

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