

MEMO BY COUNCIL SOIL CONSERVATION STAFF ON PROPOSAL FOR UPPER CATCHMENT WORKS.

The following memo is Appendix B of a report on the WRFCS Review to the 15th October 2009 Operations Committee. This memo relates to clause 13 of the WRFCS Review report.

Waipaoa Catchment Ratings Classification – Upper Catchment Works

1. Introduction

The Ministry for Agriculture and Forestry (MAF) administers the Hill Country Erosion Fund, which is part of their Sustainable Land Management (Hill Country Erosion) Programme. The Hill Country Erosion (HCE) fund is a contestable fund that aims to provide targeted support for regional council initiatives that promote sustainable land management practices, including works that protect unstable or potentially unstable land and protect stream banks. Regional Councils and landowners are required to share in the cost. The HCE fund cannot be used for land that covers an area of less than 10,000 hectares. The Waipaoa catchment has an area of 216,484 hectares. The WRFSC review and contributor rating provides an opportunity to leverage funding from MAF for facilitation and upper catchment soil conservation works. Another funding stream available is MAF's Catchment Partnership fund which can be used for establishing or enhancing catchment facilitation groups and assist with public consultation. Programmes initiated using this funding do not require a funding contribution from council. The scheme review will involve consolidate consultation and facilitation.

Changes to the Local Government Act 2002 mean that rating schemes can include sediment and water runoff contribution components; therefore recognising those landowners whose erodible land contributes to the need for the scheme.

2. Contributor Rating Classification Process

The proposed new rating scheme will impose a rate on those landowners who contribute sediment (including bedload) and water runoff from their properties into the Waipaoa River, dependent on the mapped land use capability (LUC) and vegetation type of their properties.

A base level of sediment can be expected to be lost from most land regardless of vegetation. Even under healthy native bush, soil is lost and contributes to the sediment load of downstream rivers. The volume of sediment lost is a function of rock type, age and depth of weathering, soil type, actual slope, length of slope, and total rainfall and rainfall intensities. LUC is a broad indicator of all of these.

Greater quantities of sediment and water runoff can be expected when bush cover is removed and replaced by other vegetation types. This increase can be reduced to some extent by good land management practices, which may include poplar and willow planting. Given that different land uses generate different levels of sediment, council has an opportunity to impose a form of exacerbator rate on landowners within the Waipaoa catchment, with a differential to recognise the effects of the different land uses.

Sediment and water runoff from land, above the background levels, needs to be based on, (1) the current vegetative cover i.e. indigenous forest, exotic forest, native scrub, pasture etc; and, (2) the land use capability of the land i.e. erosion susceptibility. The mapped LUC unit is representative of the potential background level of sediment and runoff contribution to the Waipaoa catchment; while the vegetation cover, mapped from the Land Cover Database 2 (LCDB2), is representative of the current land use on that property. This latter factor can be changed to a type that reduces or increases sediment and water runoff.

For the purposes of the classification process, the Waipaoa catchment was separated into two regional scale LUC groups. LUC classes 1 – 4, plus certain class 6, 7 and 8 units where erosion was not the limiting factor, were determined to have a low contribution to sediment and water runoff into the catchment. The remainder of the LUC units were therefore the high contributors to sediment and water runoff.

The Waipaoa catchment was also separated into three vegetation cover classes, based on the LCDB2. This classification scheme based on the physical characteristics of the land cover has sixty-one classes and was derived from 1997 satellite imagery, plus ground truthing. The sixty-one classes were condensed into three sediment and water runoff contributor ratings: high, medium and low. The low contributor group included indigenous forests, shrubland, manuka and kanuka and broadleaved indigenous hardwoods; the medium contributor group included exotic forestry and soil conservation plantings; and the high contributor group comprised of the remainder of the vegetative cover classes including high and low producing grasslands, croplands and vineyards.

From these groups six new classifications were established:

- LUC High contributor / Vegetation High contributor (LHVH)
- LUC High contributor / Vegetation Medium contributor (LHVM)
- LUC High contributor / Vegetation Low contributor (LHVL)
- LUC Low contributor / Vegetation High contributor (LLVH)
- LUC Low contributor / Vegetation Medium contributor (LLVM)
- LUC Low contributor / Vegetation Low contributor (LLVL)

It was determined that those areas that contained vegetation covers in the low sediment and water runoff contributor group, i.e. contained indigenous vegetation, be excluded from the ratings scheme. Therefore the LHVL and LLVL classes were excluded.

The LHVH classification was given the contribution rating of High. The LHVM and LLVH classifications were given contribution ratings of Medium and the LLVM classification was given a contribution rating of Low. The areas of the three contributor ratings were determined from GIS.

High = 115,000 hectares (approx)

Medium = 75,000 hectares (approx)

Low = 1,500 hectares (approx)

Zero = 25,000 hectares (approx)

Areas where the vegetation cover has changed since originally mapped by the LCDB2, e.g. by soil conservation planting that now provides effective erosion control, may have the contributor classification amended to reflect the land use change, but only when advised by the landowner and verified. Excluded from the ratings scheme are non-rateable areas within the Waipaoa catchment, such as Department of Conservation land and Gisborne District Council land.

3. Hill Country Erosion Fund – Upper Catchment Works

Currently a gap exists for erosion prone land that does not qualify for, or is able to be effectively treated under the East Coast Forestry Project (ECFP). Although such land can be actively contributing sediment and bedload to the lower Waipaoa River reaches, thereby reducing scheme capacity, there is no soil conservation works incentive package on offer.

There are some sources of sediment that simply cannot be addressed, notably the Tarndale and Mangatu “slips”. However, throughout the Waipaoa Catchment there are sediment sources that fall beneath the 5 hectare minimum size East Coast Forestry Project criteria or don’t otherwise fit this project, that are treatable. These are very largely on private land, generally pastoral farming properties. Priority areas have not been mapped as such but are identifiable through consideration of criteria such as proximity to watercourses, erosion type, erosion severity and present vegetation. Treatment could involve retirement fencing, pole planting, other tree planting, simple engineered bank protection works to facilitate tree establishment, or a combination of these. Landowners would need to participate and partially fund such works.

The HCE fund provides funding for up to 4 years, with a possible extension for a further 4 years; 8 years in total. To secure available funding it is suggested that Council apply this year to support \$1,000,000 of works evenly spread over 4 years, beginning 2012/13, with 40% funding from the HCE fund, with the balance coming equally from the WRFCs and the landowner involved. This would provide \$250,000 per year for priority catchment works including a \$75,000 contribution from the WRFCs. A subsequent application for a further 4 years of funding, possibly at an enhanced level, should be signalled in the application.

RECOMMENDATIONS

- 1. That the Waipaoa Catchment Ratings Scheme includes a contributor rate based on LUC and vegetation cover.**
- 2. That the upper catchment works be based on a 3:4:3 funding approach between the WRFCs, the Ministry of Agriculture and Forestry and the landowner.**
- 3. That council submit applications for the Hill Country Erosion Fund and the Catchment Partnership fund to the Ministry of Agriculture and Forestry.**

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