

East Coast Forestry Project Review

By

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and

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**Report to
Ministry of Agriculture and Forestry**

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ABBREVIATIONS

CATEGORY 3b	Class VIIe land capability units 9,10,11,17 (2 nd edition LUC)
CATEGORY 3c	Class VIIe land capability units 12,14,16,20
CATEGORY 4	Class VIII land
CCIS	Closed canopy indigenous scrub
DoC	Department of Conservation
ECFP	East Coast Forestry Project
EITS	Emergent indigenous tree species
GDC	Gisborne District Council
LUC	Land use capability
MAF	Ministry of Agriculture and Forestry
NPV	Net present value
PCE	Parliamentary Commissioner for the Environment
PFSI	Permanent Forest Sink Initiative

EXECUTIVE SUMMARY

The East Coast Forestry Project (the Project), established in 1992 to deal with the severe erosion problem on the East Coast of the Gisborne District, was reviewed in 1998. Several changes were made to the Project and the intention was that the scheme would be reviewed again in five years time. This second review, commenced June 2005, was to evaluate the performance of the Project against physical and performance targets set in 2000, review the adoption of changes to the Project implementation in 2000 (and look at their effectiveness in meeting the objectives of the Project) and review progress made by the Gisborne District Council in implementing land use controls to address severe erosion on land targeted under the Project.

The review of the Project was made against the changes to the Project implemented in 2000 and against new evidence from research/information.

Background

- The multiple objectives initially set for the Project were changed in 2000 to a primary goal of sustainable land management, targeting the worst 60,000 hectares of severely eroding land (now defined as Category 3b and 3c and Category 4 land in pasture).
- The treatment options were extended from commercial afforestation only to include gully planting, indigenous reversion, and other alternative treatments.
- Other modifications were made with regard to operations, forestry management and the tender pool system.

Further Research/Information available since the 1998 Review

- Research has shown that gully-derived sediment is the predominant source of sediment associated with riverbed aggradation, the destruction of infrastructure, the lateral erosion of river banks, increased flooding and loss of low lying productive land.
- The research also shows that solutions are available to address this problem. If left untreated gullies grow in size at about 4% per year.
- Evidence of what treatment can achieve, both in stopping the growth of gullies (and in many cases their reduction in size) and the decrease in sediment delivered from the treated watershed, comes from the Waipaoa Catchment. Evidence from other catchments shows the significant increase over time in the size of the untreated gullies.
- The total number of active gullies has been identified (2,147 in total but 495 have already been treated under the Project) and documented. This total has been broken down into high, medium and low priority for treatment.

In reviewing the Project we have found:

Performance Against Target

- After thirteen years the Project has planted 31,707 hectares of which 5,677 hectares were planted in 2001-2004. For 2001-2004 this represents an average of 1,419 ha/year treated. 60% of total area treated is target land, therefore 830 ha/year of target land has been treated.
- At the time of the last review there was uncertainty regarding the continuation of the scheme which had a significant impact on the uptake of grant money in 2001.
- The change in relative profitability of pastoral agriculture and forestry products over the last five years has had a marked impact on the uptake of new grants. Several factors have led to a negative perception of forestry in the region.
- The areas submitted for approval and the areas accepted are much larger than the areas actually treated.
- Overall the current rate of treatment falls well short of being able to treat the target land remaining (approximately 56,147 hectares) over the next fifteen years of the Project.

Uptake and Effectiveness of Different Treatment Options

- The current variety and flexibility of treatment options has been received well by landowners.
- In most situations the most effective treatment option for the erosion situation is clear, however, some disagreements between GDC and ECFP have arisen and these need to be clarified.
- While over 96% of treatment in the period 1993-2005 was afforestation, since 2000 there has been a significant increase in the indigenous reversion and space planted poplar and willow options.
- The **afforestation option** using *Pinus radiata* is still considered a very effective erosion control option at a large scale on severely eroding country. Some inconsistencies have arisen regarding the planting of internal gullies within afforestation treatments. The Project encourages the planting of the whole gully in trees while the GDC requires a riparian setback according to the nature of the property.
- Concern has been expressed by the Parliamentary Commissioner for the Environment amongst others at the sustainability of commercial planting of *Pinus radiata* on severely eroding land given the need for clearfell harvesting creating a window of risk of storm damage between rotations.

- **Alternative treatments.** Wide space poplar/willow planting has increased in popularity as a treatment option since it allows continued grazing. However, there have been conflicts between GDC and ECFP regarding planting densities and planting patterns. This has created uncertainty and credibility issues among landowners.
- While pole planting can be an effective treatment, it needs to be carefully managed and questions have been raised regarding the wider suitability of this treatment option both in terms of effectiveness and in terms of best cost option.

Indigenous reversion has become more popular in recent years. It is often the only option left on severely eroding land where planting of trees or poles does not represent an effective option.

- There has been uncertainty about the requirement for 50% existing cover for the reversion option and how it is applied in practice.
- The opportunity of the PSFI could make the reversion option more attractive as payment for carbon credits could create a financial incentive.
- **Farm gully planting** can be effective to deal with gully erosion in the early stages of the erosion process where there is no target land outside of the gully. Treatment is pair planting willows at 100% grant rate in year 1.

Performance Against the Budget

- In nearly all years, the expenditure on grants has been well below the \$6.5 million annual budget.
- If however, uptake was sufficient to achieve the annual target of 6,000 hectares (allowable also for non-target land to be included in the grant) the budget, on the basis of current grant rates, would be inadequate to achieve the overall target of 56,147 hectares over the next 15 years.
- Administrative expenditure has been below budget in all years since 2000, except for 2002/2003 when it went slightly over budget.

Operational Issues Since the Last Review

- The review team found that overall the landowners are pleased with the helpfulness of the ECFP staff and the timely way in which field audits and monitoring claims were handled.
- Notwithstanding the above, the tender process is still perceived as being complex and difficult. The NPV cut-off creates an air of mystery and also creates uncertainty.
- The application process also, is seen as being complex and costly.
- Landowners expressed a preference for a more direct approach in terms of advice, design of work plans, reduction in the need for outside certifiers and the requirements of certificates and farm maps.
- There appeared to be a distinct preference for a simpler scheme based on a grant system rather than the current competitive environment.
- The NPV cut-off has played little role in the determination of grants and the tender process currently appears superfluous, creating uncertainty, costs and reducing participation by landowners.
- Issues continue to arise about mapping scale. While the ECFP uses regional LUC maps, the GDC uses property scale maps. Different mapping scales identify different areas of target land.
- Ultimately property scale definitions will become the legal basis on which the GDC will enforce its proposed rule.
- While payments on the whole have been regarded as adequate by those taking up grants, some issues have arisen regarding the 50% withholding payment in the reversion option. There appears to be no need to withhold payment when fencing has been completed and a covenant over the area has been signed.
- Issues have also arisen with the wide spaced poplar/willow planting option. The conflict here is between the actual area planted (which is paid for) versus the area effectively treated.
- There are concerns regarding the payments for poplar pole planting being based on survival rates and potential high costs to the landowner.
- Over the last three years additional funding has been made available for advocacy and education. Some of this was used for one-to-one targeting of properties, including Maori land, which has proved successful.

Wider Effects of the Project on the Region

- The Project has complemented other regional activities in the form of employment creation in the planting of often non-productive land in trees, monetary injections into the economy and the saved damages from flooding and other off-site damages from erosion.
- The Project in working towards the reduction in sediment coming down the river valleys and thereby reducing the aggradation of stream beds, reducing flood events, and increasing the lifespan of bridges, has complemented regional efforts on effective river control and flood risk management.
- Evidence in the Waipaoa catchment shows the overall success of afforestation in ameliorating gully erosion and sediment reduction.
- Aggrading rivers result in significant costs. The GDC has an annual budget of \$1 million for maintenance of culverts, bridges etc while the cost of prematurely replacing bridges is about \$500,000 each.
- As the Asset Manager, Rivers, Land and Drainage, states, “it is clearly much more economic to treat the catchment than having to raise bridges every 20 years”.
- Evidence was also provided to the review of the Project contributing to farm viability by converting marginal land into another productive land use, or retiring land through a reversion option, and achieving greater overall efficiency of the farm management in terms of removing difficult areas to muster for stock.

GDC Regulatory Controls

- Progress on meeting the Cabinet’s requirement to demonstrate a commitment to introduce regulatory controls has been extremely slow. It has been five years since the changes to the Project and the Cabinet requirement. GDC has consulted widely in order to gain the support of the community. Rules drafted to come into effect 1 July 2009 are currently in the consultation phase with proposed notification in mid 2006.
- The draft rule proposes that all land in Overlay 4 (most target land using property scale mapping) will be subject to having either effective tree cover established on it which is to be maintained; or have a sustainable works plan which is certified by GDC and must be implemented over the next ten years.
- The proposed rules would therefore require all land in Overlay 4 to be planted (at the latest) by 2018.
- Currently both rules have a proviso that the ECFP incentive exists.
- Implementation of the rule will need farm scale mapping which GDC hope to have completed for the whole region by the end of 2006.

- GDC bases its rule date of 2009 on a) getting farmers on-board, b) the time required to prepare works plans for individual properties and c) the absence of sufficient supplies of plant material, particularly poles.

Contribution to Other Government Policy

- The Project could complement the PFSI for some treatments.
- Landowners under the ECFP who sign up for the PSFI could receive a return on land that is permanently afforested. This could provide an incentive to treat target land in a more sustainable way through permanent afforestation options with continuous canopy management or indigenous reversion.
- Because of uncertainty around the mechanism and around the Kyoto Protocol after 2012, land owners are likely to be hesitant to participate in the mechanism. The current high returns to pastoral farming contribute to this reluctance.
- Given the uncertainties and perhaps liabilities on erosion prone land, there may be potential for some joint venture arrangements between the landowner and the Crown to share costs, liabilities and returns.

Lessons from the Project for Other Regions in NZ Susceptible to Erosion and Flooding

- Without treatment, the problems caused by erosion of NZ's hill country, vulnerable to storm initiated erosion, will continue to increase over time and with it the magnitude of costs to society of storm events.
- Where possible a range of options for treating eroding land assists in getting landowners to deal with the issue.
- The success of voluntary programmes aiming to deal with erosion control on vulnerable land are seriously influenced by changes in relative forestry/pastoral farming returns, perceptions of forestry and efforts required on the part of the landowner for compliance with the programme. The result of such voluntary programme is often a slow and patchy achievement of the goals set.

Conclusions and Recommendations

- The Project while achieving afforestation on vulnerable land on the East Coast despite high profitability of pastoral farming and a downturn in investment in forestry generally, is not making significant progress in addressing the large area of target land; planting is well short of the annual target of 6000 hectares and there are few signs that the uptake of the Project will increase dramatically in the current circumstances.

- The erosion problem, and the associated off-site effects, continue to increase in magnitude.
- The tool of using a commercial afforestation solution, operated through a competitive bidding model is no longer very effective and is not leading to the treatment of the worst erodable land.
- Today there is little interest in forestry. Simply raising NPV cut-off rates is not going to bring about a major increase in the uptake of the Project especially not for treatment of the land that has been identified as the main cause of the erosion and sedimentations problem, the gullies.
- To achieve the goals of the Project, society can no longer rely on the voluntary competitive model, and a redesign of the Project is recommended to one that uses a one-on-one targeted approach with payments based on a grant system.
- It is proposed to divide the target land into two priority classes; high priority being the active gullies (clearly identified in the work of Marden & Rowan, 2000) and a lower priority of all other target land.
- Landowners of the high priority gullies should be targeted first. They would be provided with advice, a free work plan for the erosion feature, and a clear payment schedule based on a grant.
- The GDC rule which is intended to become operative in 2009 will require all landowners of target land to have either treated the erosion or have a work plan in place.
- Effective treatment for the land should be determined through a team approach of personnel from GDC/ECFP.
- It is proposed that a workshop will be held to which a wide variety of expertise in forestry and conservation will be invited to determine some basic guidelines for effective erosion treatments, especially with regard to stocking rates for pole and willow planting.
- On the high priority land, grant values for reversion should be on a cost basis; for forestry on an NPV calculation basis (adjusted for distance factor and a risk factor as at present); for alternative species on the basis of the NPV value for the cheapest option for that land. An additional grant to cover the extra cost of the alternative species could be considered to recognise greater benefits from long rotations or continuous canopy cover.
- Landowners of the lower priority target land could approach GDC/ECFP for advice and the preparation of a work plan for their land (cost free). A grant of 70% of the total cost of treatment should be paid on a first come first served basis. Where, on this land, wide spaced poplar and willow planting is identified as the effective option payment will be based on 70% of costs at the time of planting and

30% after 3 years and a survival rate of 75%. Payment of forestry will be on the basis of 70% at establishment and 30% at thinning (eight years).

- First call for money out of the Project budget should be for the high priority land. As many work plans for these areas as can be implemented in each year should be funded. The remainder of the budget would then be available for the lower priority target land treatment plans.
- For effective implementation of sustainable land management and erosion control in the region it is essential that GDC and ECFP work in an integrated fashion.
- The team approach for targeting requires both the expertise of GDC and ECFP. Extra staff would be needed to get as much targeting done as possible and we recommend the hiring of two additional full time equivalent staff, preferably people with soil conservation expertise and the ability to work with Maori landowners.
- While the staffing cost could partially come out of the ECFP budget, the administrative budget will need to be increased to deal with extra costs. It is noted that GDC have allocated additional funds in the Long Term Community Council Plan to address the need for additional staff to implement their Sustainable Hill Country Project.
- Budgetary implications of the proposed changes are hard to predict, but some initial modelling shows that the worst gullies could be dealt with out of the current \$6.5 million / year, but that this would leave little money to deal with the remaining 30,000 hectares of lower priority target land.
- It is also suggested that a more flexible budgeting arrangement is considered that either works on an average of \$6.5 over three years (to have greater flexibility in encouraging planting) or that some roll-over of unspent money is considered.
- Monitoring of the effectiveness of the Project should be easier if the integrated approach suggested for management by MAF and GDC is implemented.
- Progress with the treatment of target land should be reviewed in five years time.

PREFACE

When the East Coast Forestry Project (ECFP or the Project) was reviewed in 1998, it was intended that it would be reviewed again in five years. This second review did not however commence until June 2005. The terms of reference (Appendix I) include reviewing the performance of the Project against physical and performance targets set in 2000; to review the adoption of the changes to the Project that arose from the 1998 review (and their effectiveness in meeting the objectives of the Project) and to review progress made by the Gisborne District Council in implementing land use controls to address severe erosion on land targeted under the Project.

This review has been undertaken by Ms Maggie Bayfield and Professor Anton Meister, appointed as an independent review panel by the Ministry of Agriculture and Forestry.

The review panel has revisited the Project and seen first hand the achievements of the project and the effectiveness of the changes adopted in 2000. For this review a number of submissions and letters were received (listed in Appendix II). Discussions were held with stakeholders, interested parties and the Gisborne District Council and public meetings were held in Ruatoria and Gisborne. The review panel also consulted many other people and visited the soil conservation efforts of the Wellington Regional Council in the Wairarapa.

The review panel gratefully acknowledges the time and effort of all the people we met with, and the advice received from staff of the Ministry of Agriculture and Forestry, Gisborne District Council, Landcare Research, Greater Wellington and other individuals we contacted personally.

I. INTRODUCTION

1.1 Background to the Review

In 1992 the East Coast Forestry Project (ECFP or the Project) was announced by the Government. The purpose of the scheme was to plant the most severely eroding land in the headwaters of the catchments feeding Tolaga Bay and Poverty Bay catchments. The scheme promoted large-scale commercial forestry and other sustainable land use changes. The Project was initiated as a means to control soil erosion, provide regional employment and regional development, and to recognise environmental needs on individual properties. The first plantings were made in 1993.

In 1998 the ECFP was reviewed and several major changes to the Project were implemented in the year 2000. Two key requirements set by Government with the implementation of the changes in 2000 were that:

- a review take place following five years of operation under the changes (which is this review), and
- Gisborne District Council demonstrates a commitment to introduce regulatory controls to address severe erosion in areas targeted in the Project.

The major changes introduced in 2000 were:

- to have a single overall objective for the Project (instead of the multiple objectives initially set for the Project) of targeting 60,000 hectares of the most severely erosion-prone land (now defined as, Category 3b and 3c and Category 4 land).
- to widen erosion control options beyond just commercial forestry to include:
 - o afforestation with an extended range of species.
 - o encouragement of reversion to indigenous scrub and forest cover.
 - o the ability to consider any other erosion treatment if an application is lodged three months prior to the closing date of a relevant tender round.
- to discontinue the north and south tender pool (replaced by the distance-from-Gisborne weighting formula).
- to discontinue payment for pruning.
- to exclude areas of closed canopy indigenous scrub where this cover is providing effective erosion control.
- to make areas of scattered or stunted scrub, not providing effective erosion control, eligible for grants subject to resource consent requirements.
- to use regional-scale maps.
- to make the tendering system more flexible through provision of a reserve bench and the reduction of the minimum grant area to five hectares.

These changes have been implemented successfully and have had some effect on the uptake and implementation of the Project, however external influences have had a greater effect. The effects of the changes are discussed further through the report.

1.2 Further Research/Information Available since the 1998 Review

Recent research by Landcare Research (Marden & Rowan 2000) has shown that gully-derived sediment is the main cause of problems associated with riverbed aggradations, the burial of bridges, the lateral erosion of river banks, the undermining of bridge support structures, increased flooding and loss of low lying productive land. In sum, gullying is the most destructive erosion type in the region and the most difficult to control. Research in the Waipaoa basin suggests that of the sediment currently choking the Waipaoa river channel as much as 40 percent was probably derived from gullies alone and yet these gullies comprised, at the peak of their activities, less than 5 percent of the severely eroding land area present in the catchment. Gullies provide a continuous source of sediment to streams whereas earthflows have intermittent activity.

Marden & Rowan (2000) also includes a categorisation of gullies according to their size and morphology.

- Incipient linear gullies - long, narrow, not active.
- Active linear gullies - long, narrow, v shaped and actively incising.
- Amphitheatre gullies - wide, deep circular or tear shaped, actively incising as well as eroding headward and at the gully margins.

The lessons learned from the Waipaoa research are directly applicable to other major catchments at risk such as the Waipuu. Unless therefore, the gully erosion problem is dealt with, the problems caused by erosion will continue to worsen. Larger gullies are growing in size (at about 4% per year) and the sediment produced by them is “horrendous” according to Dr Mike Marden from Landcare Research. If the Project is going to achieve its goal (within the time period specified or preferably as soon as possible), it is obvious that the worst causes of the problem need to be targeted. This needs to happen fast, much faster than the project’s achievements to date.

The following two figures show how over time, planting trees in the Mangatu Forest has led to a significant reduction in active gullies.

Figure 1.1 Mangatu Catchment Gullies Over Time

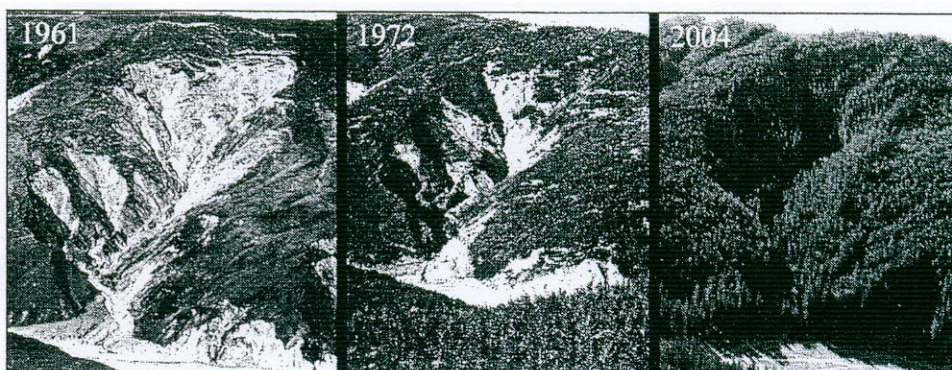
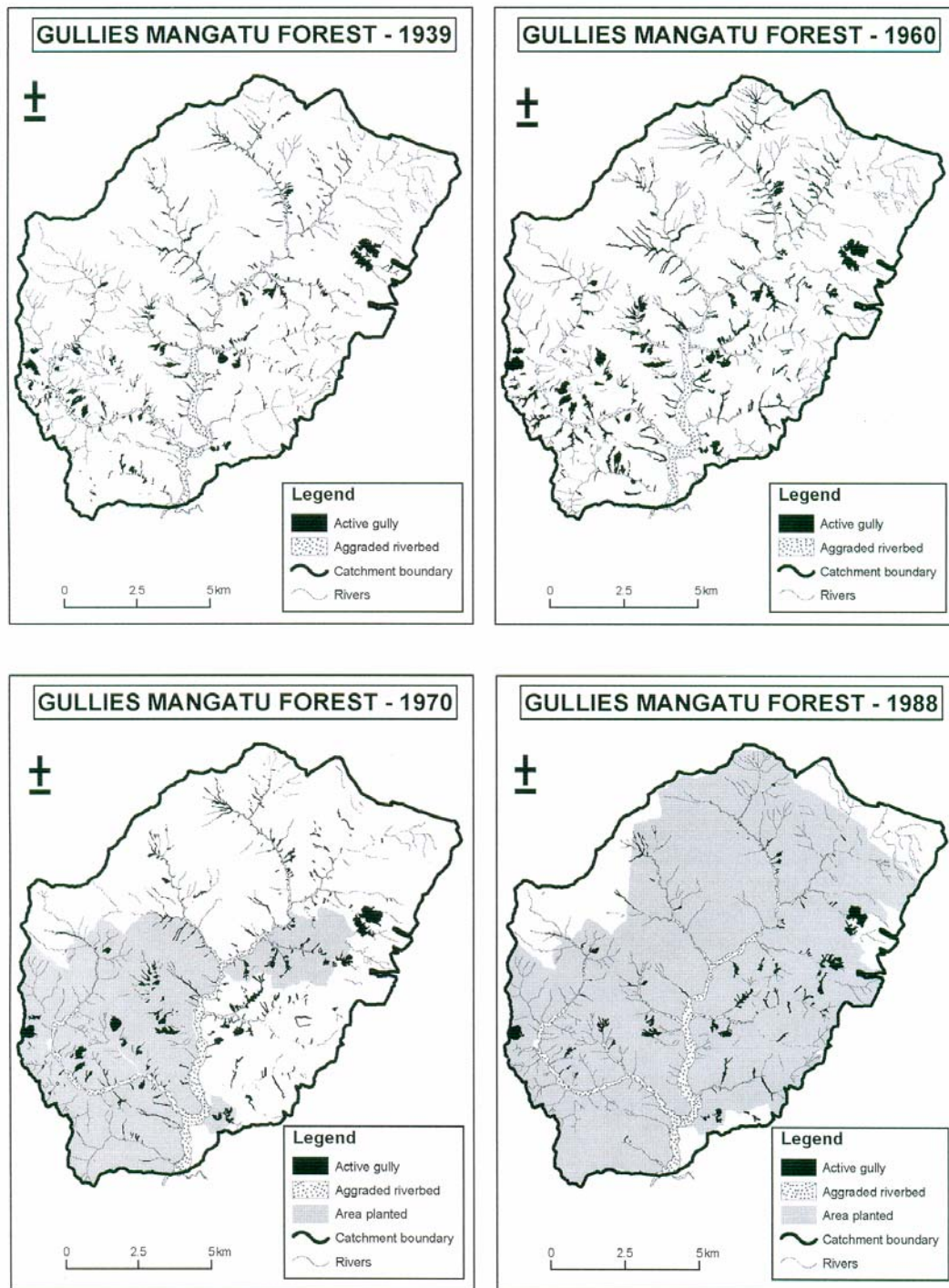


Figure 3.

Figure 1.2 Change / Reduction in Active Gullies in the Mangatu Forest Over Time.



While it has been known that gullies are an important contributor to the overall erosion problem, research in the last five years has demonstrated clearly that:

- gully erosion can be effectively reduced by planting, and
- that if something is not done about the gullies the problem will continue to get larger and larger and the off-site risk of major costs will increase.

Marden (2005a) provides quantitative information about the spatial distribution of active Class VIII gullies and the scale of the gully problem (number and size) within the Gisborne District including an effectiveness ranking for potential sediment reduction following treatment. He summarises the state of gullies as follows:

Table 1.1 Gullies identified by Marden; those treated by ECFP and Gullies Remaining

No of Active Gullies Identified	Priority for Treatment¹	Treated by the ECFP²	Balance to be Treated
Total number of active gullies identified:	2147	495	
Low Priority - Full forest cover already	515	61 treated but included in 515 figure	
Medium Priority - Partial forest cover within their watersheds but need treatment to effect gully closure	782	207	575
High Priority – (split below)	850	227	623
Small (1-2ha) and linear	(606)	(126)	(480) ^(a)
Active >2 hectares	(244)	(101)	(143) ^(b)

¹ Priority for treatment as identified from aerial photography taken in 1997 (northern part of district) and 2000 (southern part of district).

² Treated by the East Coast Forestry Project between 1993 and 2004.

Of the high priority gullies, the ones identified as (a) are generally small enough to be treated with paired-planted poles. Marden considers treatment of these gullies of less urgency but warns that, if left untreated, these gullies will expand in size to become a significant source of sediment in future years.

The gullies identified as (b) should be considered of the highest priority, since these are gullies that are very active, but where treatment is expected to deliver a high probability of success i.e. a significant reduction in sediment supply within the period of the first rotation.

There are six gullies included within this category considered to be too large, too active and with insufficient watershed area to effect a significant sediment reduction through afforestation. However there is potential to slow the growth of these areas by afforestation of the surrounding area.

In what follows, the achievement of Project will be evaluated against the changes introduced to the Project in 2000 and against the evidence from current research.

II. PERFORMANCE AGAINST TARGETS

2.1 Area Planted

The total area established under the Project from 1993-2000 (Table 2.1) was 26,030 hectares against a total target of 120,000 hectares - an average of 3,254 hectares per year against a target of 7,000 hectares per year. The total area established since the introduction of the new criteria in 2000 (i.e. established from 2001-2004) was 5,677 hectares. Of this total, 60% was target land, hence the achievement averaged over the last four years is the planting of 830 hectares of target land per year against an annual target of 3000ha/year (or 28%).

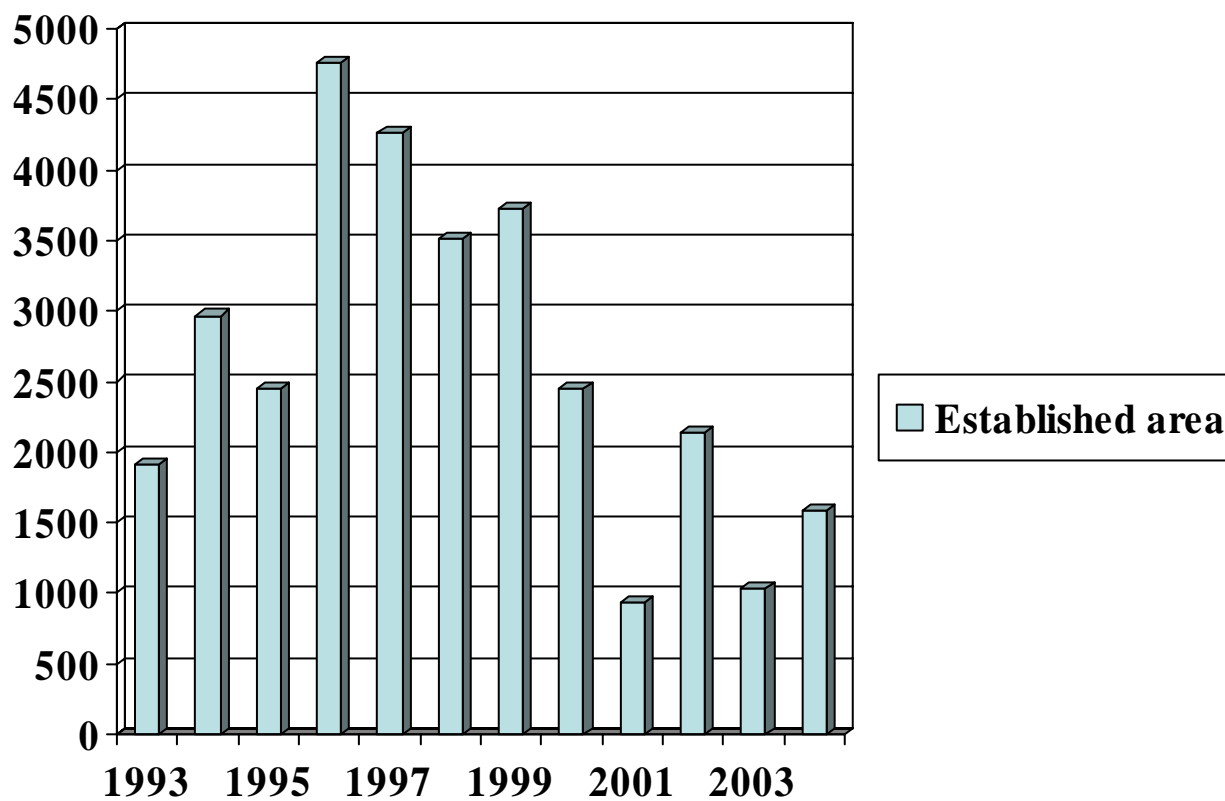
The Project exceeded the target of at least 50% of area established to be target land.

Table 2.1 Total Area Established

Year	Grant Area	Cumulative Grant Area	Did not Qualify	Total Established	Reserves
1993	1,911	1,911	1,022	2,933	754
1994	2,968	4,878	696	3,664	388
1995	2,445	7,324	55	2,500	225
1996	4,764	12,087	335	5,099	1,010
1997	4,266	16,353	456	4,722	908
1998	3,509	19,862	169	3,678	557
1999	3,725	23,587	117	3,842	1,004
2000	2,445	26,030	63	2,506	798
2001	932	26,962	24	955	204
2002	2,133	29,095	192	2,325	1,328
2003	1,031	30,126	28	1,059	395
2004	1,581 (414)	31,707	0	1,581	??
Total	31,707		3,157	34,864	7,567??

The change in the relative profitability of pastoral agriculture and forestry products has had a marked impact on the uptake of new grants. The receivership of the Chinese Forestry Company (Huaguang Forest Ltd), the largest forest owner in the region in 2004, may also have contributed to the negative perceptions of forestry. There was uncertainty about the future of the Project at the time of the review in 1998. Following the changes to the Project after the review (changes effected in 2000) there was a significant slow down in applications in 2001, as shown in Figure 2.1. The applications picked up after that year, but the depressed outlook for forestry caused applications to remain well below the pre-2001 numbers.

Figure 2.1 Total Area Established



The area actually planted is much smaller than the area submitted for approval. In Table 2.2, the total area submitted, provisionally accepted, and formally approved are presented.

Table 2.2 Differences Between Areas (ha) Established and Accepted 1992-2004 Tender Rounds

Submitted area	84,170
Provisionally accepted	55,713
Formally approved	46,560
Established	31,707

The difference between the areas approved for planting under grants and the areas established to 2004 is some 14,853 hectares. The reasons for this difference are various. One of the reasons in the earlier years of the Project was the inability of applicants to meet the landholding requirements by the required tender cut-off date. Following the 1998 review the time to secure landholdings was extended.

Of the difference between area approved and established, 4,676 hectares are held in a land bank. The Project approves grants up to three years ahead of time (to assist the applicants planning) hence the Project operates a three year land bank. Also included

in the approved but not established area is 2,305 hectares of land owned by the Gisborne District Council – which, for whatever the reason for not planting, does not display leadership by the Council.

It is recognised that some grants which have been approved may be unlikely to proceed for reasons such as change of ownership, failure of a joint venture to eventuate, conflict with the Forest Accord, or where the approval has been replaced by another one. Added to this, a certain proportion of land contained within approved grant areas will unavoidably ‘disappear’ or shrink. This is mostly due to landowners finding that due to riparian margins or existing reserves on their land that they cannot actually plant the whole area that they intended to when they applied for the grant.

Following the 1998 review it was recognised that the remaining target land is mainly in the north of the region and that the higher costs, particularly of transport in the north could be treated by a distance equalisation factor rather than separation of applications into two pools. For information purposes the area established between 2000 and 2003, has been described according to the old northern and southern pools of the region in Table 2.3.

Table 2.3 Post 2000 Tender Establishment Split by Old North and South Pool

North	1,759 (36%)
South	3,180 (64%)
Total	4,939

The total of 4,939 in Table 2.3 differs from the 5,677 hectares one gets when adding all the plantings in Table 2.1 for 2000-2004. However 738 of the 5,677 hectares were approved under the pre-2000 criteria.

The total area established by the large (more than 50 hectares) and small (between 5 to 50 hectares) tender pools are (Table 2.4).

Table 2.4 Total Area Established by Large and Small Tenders

Large Pool	29,866 (94%)
Small Pool	1,841 (6%)
Total	31,707

Access to the grant by owners of Maori land compared to general title is demonstrated in Table 2.5.

Table 2.5 Area Established by Maori and General Title Land

General Freehold Title	21,225 (67%)
Maori-owned Title	10,482 (33%)
Total	31,707

Maori Land owners have major constraints to competing in the Project. There are the challenges with governance and management decision making. Additionally, raising funds to complete operations is generally difficult if not impossible. Also a lot of Maori land is in CCIS and not counted (for grant purpose) as target land.

2.1.1 Target Land Remaining¹

The 60,000 hectares set as a target in 2000 was only an estimate obtained by taking the base target land at regional scale mapping and deducting the known area of exotic and indigenous forest cover. Indigenous vegetation cover was assessed by satellite imagery which doesn't effectively distinguish between closed and scattered canopy scrub. Also, no allowance has been made for effective poplar and willow treatments.

In terms of the contribution of the Project towards reducing the 60,000 ha objective it should be recognised that the objective was set in early 2000. However it should be remembered that the target land description pre 2000 contained severely eroding category 2 land since removed from the project. Many pre 2000 approvals remain unplanted but as planting occurs they may contribute to the 60,000 objective if any of this planting contains category 3 and 4 land. Total treatment between 2000 and 2004 totals 8,120 hectares of which 3,853 hectares is post 2000 target land. It therefore can be said that the target land objective has been reduced by 3,853 hectares over the last five years.

The area of target land may alter from 56,147 hectares once property scale mapping has been completed. MAF has suggested that property scale mapping may reduce the area of target land by as much as 30% even though smaller erosion features will become apparent. It has been assumed that all gullies will be target land within this total area.

2.1.2 Discussion

The changes made following the 1998 review focussed planting more closely on the 60,000 hectares of the most severely eroding land. Land with closed canopy indigenous scrub was excluded from grant payment. A wider range of options for treatment of erodable land was allowed.

The changes made in 2000, could have resulted in more land being treated (cf with achievements before the previous review), if the broader economic and institutional context had remained the same. However, the decline in forestry prices, relative to farming returns over the last five years, the high cost of land and the disappearance of a large forestry player in the region, significantly affected the uptake of grant money. It appears that addressing soil erosion, given the high returns for agriculture, is seen as too costly to deal with in terms of opportunity costs.

The result is that the current rate of treatment of 1,420 ha/year (average of 2001-2004) of which round about 800 hectares is target land, falls well short of the target of

¹ Target land is currently defined by the following LUC land classes:
3b VIIe 9,10,11 and 17 **3c** VIIe 12,14,16 and 20 **4** VIII

6,000ha/year. To achieve the treatment of the remaining target land (estimated at 56,147 hectares) over the remaining 15 years of the Project a treatment rate of close to 7,500/ha/year (50% of the land being target land) is required.

While the relative price signals and the disappearance of a forestry company have been very influential factors in the slow uptake, other factors such as the complexities of the scheme and its purely voluntary nature have also influenced the rate of uptake of grants under the Project. The fact that no rules are in place and that the Gisborne District Council is not leading by example on the 11,000 ha Tauwhareparae properties they own is not helping in the achievement of a greater amount of treatment of erosion prone land.

The consequence is that to date, plantings are still rather piecemeal and until a more universal coverage is achieved, the benefits of planting made to date will obviously be much less effective.

As mentioned above, the exclusion of scrub covered land has severely limited the ability to take up grant money for planting of *Pinus radiata* on Maori land. Since the 'target land' definition under the Project removed any land with closed canopy vegetation, large tracts of land otherwise suitable for pine plantation forestry is excluded. As stated in the submission by Ngati Porou Whanui Forests Limited: "For Maori landowners, the inability to include scrub endowed lands under the Project, means the subsequent costs of development are prohibitive. With project funding only being available for the 'clear' pasture land, commercial forestry is forced to compete with farmers for this land, whilst scrub endowed land remain idle. ...By default, much of the Maori land in the north of the District is in this state and is providing a disproportionate input to the unmanaged conservation estate and is an impediment to regional development. This land bank represents a development opportunity, but the removal of CCIS from the project criteria, renders it an uneconomic proposition at present."

The goal of the Project is sustainable land management by reducing soil erosion to protect the region's infrastructure, to reduce the impacts of another cyclone such as Bola, to protect the plains areas from floods and to avoid the large sediment flows into the marine environment. Land that has a cover of CCIS, while perhaps on a property scale not managed in a sustainable way in the full context of the definition (ie inclusion of economic sustainability), is not eroding.

While the impacts of the exclusion of CCIS from the Project on the development of Maori land are acknowledged, the focus of the Project as a Central Government intervention mechanism should remain on addressing the most vulnerable erosion-prone land in the District ie eroding or erosion-prone land that does not currently have a cover of scrub or forest.

III. UPTAKE AND EFFECTIVENESS OF DIFFERENT TREATMENT OPTIONS

3.1 Uptake

The variety of treatment options made available in 2000 has created a greater flexibility for landowners to deal with erosion problems. A break down of treatments under the Project is given in Table 3.1.

Table 3.1 Species and Areas (hectares) Established Under Grants from 1 July 1993 to 30 June 2005

Species	Area 1993-2005 (ha)	
Forestry:	30,515	96%
Pinus radiata	29,482	93%
Douglas fir	1,033	3.3%
Indigenous reversion	955	3.0%
Poplar/Willow	220	0.7%
Cuppressus species	14	-
Eucalypt species	3	-
Total	31,707	

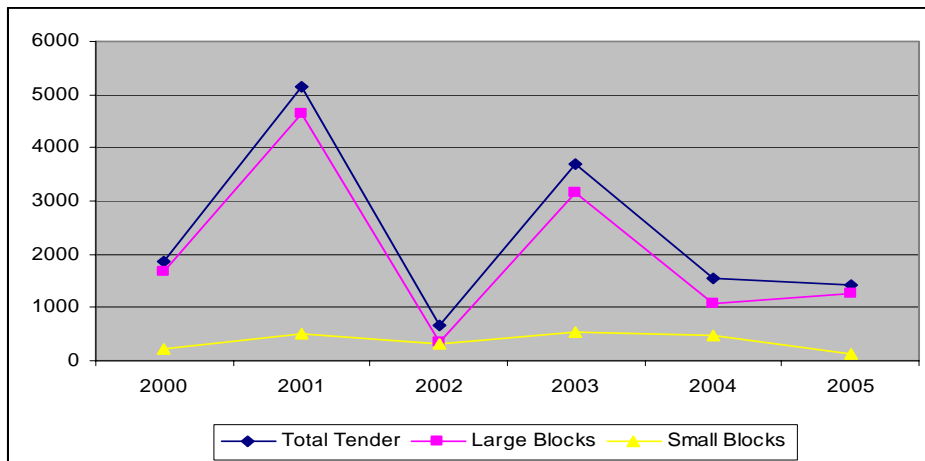
The uptake of alternative treatment options such as reversion and poplar and willow planting can be noted from the tenders submitted in Table 3.2.

Table 3.2 Large and Small Scale Tender Round Area Submitted by Year

Treatment	2005		2004		2003		2002		2001		2000		Totals
	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	Large	Small	
Forestry	91.9	24.8	857.5	67.9	2467.9	169.5	152	101.5	4082.7	285	1661	215	10176.7
Popl/Willow	962.8	15	37.3	224.6	397.2	199.2	91.5	72.7	0	64.9	0	0	2065.2
Indig.Rev	218.7	97.4	177.5	180.6	302.8	159.6	76.3	128.9	567.8	139.9	0	0	2049.5
Farm Gully	0	0	0	1.9	0	0	20.3	5	0	0	0	0	27.2
Totals:	1273.4	137	1072	475	3167.9	528.3	340.1	308.1	4650.5	489.8	1661	215	14318.6

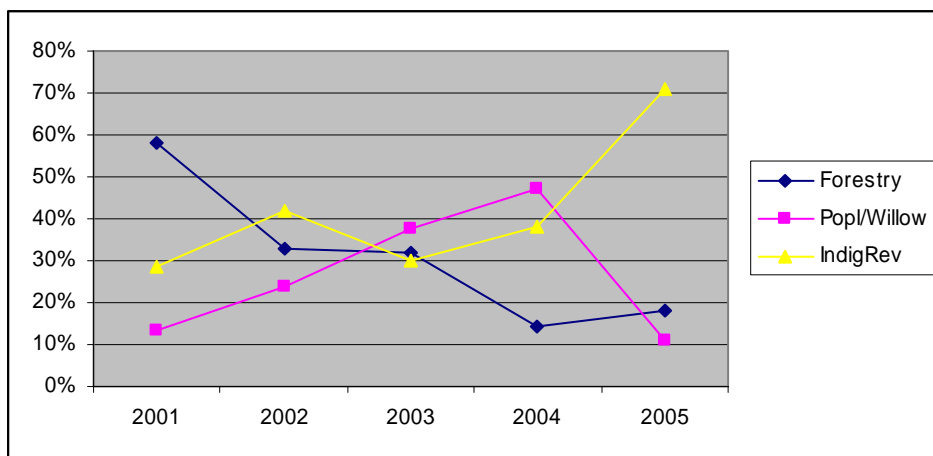
The information in Table 3.2 is displayed in graphical form in Fig 3.1 showing the total hectares/year tendered for and the percentage of the total being in small block tenders.

Figure 3.1 Areas (ha) Submitted for Tender: Total, Small and Large Blocks 2000-2005



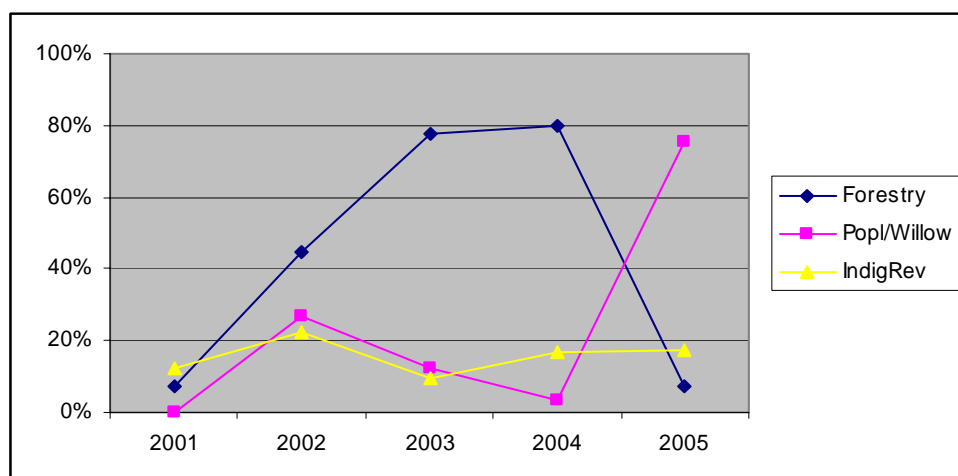
In Fig. 3.2 the proportions of the various treatment options proposed for the small block tenders are shown. The significant increase of indigenous reversion and poplar/willow planting (except for 2005) is a clear reflection of the popularity of those options.

Figure 3.2 Different Treatment Options (as a %) for the Small Block Tender Rounds 2001-2005



In Figure 3.3 the percentages of the various treatment options in the large block tender rounds are shown. Here the most interesting development is the large increase in poplar/willow planting proposed in the 2005 tender round and the decline in forestry.

Figure 3.3 Different Treatment Options (as a %) for the Large Block Tender Rounds 2001-2005



3.2 Treatment Options

3.2.1 Afforestation

Definition

Forestry treatments (close planting of trees) with species suitable for erosion control that have already been approved are:

Radiata pine and Douglas fir; grant area to be planted at a minimum stocking rate of 1,250 stems per hectare (sph). Early thinning is allowed within approved parameter. A mandatory final thinning is to occur by a mean tree height of 15 metres down to a stocking in the range of 250-500 sph.

Poplar species are eligible for planting in damper areas considered more suited to this species. For poplar species, grant areas will have an initial stocking of not less than 500 stems per hectare; no thinning before the tree height is 12 metres; and the final crop stocking is to be no less than 250 stems per hectare. If a forestry treatment is proposed and there are gullies present in the proposed grant area that a Land Use Consent has recommended for gully planting to supplement the forestry treatment, this must be included with the application.

MAF has the discretion to include and/or exclude gullies from the grant area, depending on the anticipated effectiveness of treating the gully itself and/or its margins and catchment area. Approved gullies planted within a surrounding erosion treatment qualify for 100 percent funding.

Discussion

Afforestation is still the most cost-effective erosion control option at a large scale on severely eroding country, and most of the planting to date has used radiata pine (with some Douglas fir).

ECFP allows pine planting in the whole gully while the GDC requires a riparian setback to be left either side of the water course and be planted with poplar or willows. Pines that have been planted in the riparian margin cannot be logged under GDC rules. There is a need for consistency here.

There has been very little uptake of the option to plant gullies within the afforested area.

Some submitters feel that in some cases planting of internal gullies is not necessary as canopy closure of surrounding planting encourages native regeneration. Further that some of the recommendations received by certifiers are simply not practicable as continued transport of sediment down the gully destabilises plantings. If establishment of the surrounding land and natural regeneration does not effectively treat the gully it was suggested that planting could occur then, about five years after the forest was established. By this time there should also be a reduction in sediment movement in the gully and plantings would be able to be better established.

Concern has been expressed by submitters (including the Parliamentary Commissioner for the Environment) at the sustainability of commercial *Pinus radiata* plantation forestry on severely eroding lands given the need for clearfell harvesting. While there is a requirement to replant after logging there is a period of time (the exact length of which is somewhat disputed but could be 4-5 years) before effective protection is achieved between the period of rotting of stumps and roots and the establishment of new plantings. During this time the site is vulnerable to erosion. Any gains made over the preceding years could be lost by a severe storm during this period.

Gisborne District Council controls the harvesting of forests through the resource consent process. Conditions on the consent can be imposed to minimise impacts such as requiring that not all of a catchment is logged at the same time. In addition the requirement to leave riparian margins assists in reducing erosion at this time.

The planting of coppicing species around the margins of erosion scars may be useful to further minimise the impacts of clearfell harvesting.

There has been limited afforestation with species other than *Pinus radiata*, Douglas Fir or poplar. The use of species with longer rotations would mean fewer harvests and less frequency of soil disturbance over time. There could also be less disruptive harvest techniques (compared with clear felling *Pinus radiata*), for example using mixed species plantations with selective harvesting at differing times ensuring a continuous canopy cover. This has not been taken up by landowners because of the lack of technical expertise in forestry with alternative species, greater costs involved in the establishment and longer rotations meaning costs are carried over a longer period of time. Some of these treatments may be Kyoto compliant and may qualify for the Permanent Forest Sinks Initiative when that mechanism has been developed. This would assist in providing a financial return in the form of carbon credits prior to harvest.

3.2.2 *Alternative treatments*

Definition

Any landholder wishing to apply for a grant for a different kind of treatment can lodge a request for pre-tender approval with MAF not less than 3 months before the closing date of the relevant tender round.

Discussion

With the desire by landowners to maintain as much grazing as possible, there has been increased interest in wide spaced poplar planting, especially on earthflows which are often too wet for effective establishment of pine. There have been some conflicts between GDC and MAF regarding planting densities and patterns of poplar poles.

This has caused doubt amongst some landowners as to the appropriate treatment needed and has raised a credibility issue.

There is a need for agreed guidelines as to planting densities. Some feel that planting densities required by ECFP are too high. Farmers have successfully planted poles in this region for erosion control for many years. They plant high numbers in the high erosion risk area but lower density as the erosion risk dissipates. This is important at \$15-16/pole planted (cost on the ground if you use a helicopter to drop the poles on the property). For properties with better access the cost on the ground is between \$10-\$15/pole.

Pole planting can be a risky option and needs to be managed well. An alternative may be planting of wands. Wands are cheaper but require exclusion of stock and release spraying rather than protecting by sleeves. The costs of wands varies but material plus planting costs can be round about \$2/ wand (cf approximately \$15 for pole and sleeve. Therefore at a planting density of between 300-600/ha the cost per hectare would be approximately \$600 - \$1,200.

Some conflicts have arisen with pole planting as what is to be defined as 'effective treatment' area and what should be paid for under the Project. Should it be the hectares effectively treated (as proposed by GDC) or the hectares actually planted (as is the current payment method under the ECFP). This will be covered further in the recommendation to a new approach.

Currently under ECFP full payment of the costs as per the tender is made for pole planting if establishment is > 85% successful (70% of funds are paid at establishment and 30% three years later if poles have survived), and on a pro rata basis down to 50% survival of poles. Below this there is no payment. Landowners are encouraged to blank plant and receive payment the following year. Some Regional Councils who provide financial assistance for landowners to plant poles provide management assistance and often replace poles at no cost to the landowner if they fail (particularly relevant when circumstances are outside the control of the landowner such as in a drought year).

Erosion planting with willow and poplar has improved soil stability only in cases of effective stocking rates. It is noted that the management after planting of poplar poles is important to ensure success of the treatment.

In the submissions received there were differing opinions as to the effectiveness of poles in reducing soil erosion. To some, spaced planting of poplars and willows did not represent effective expenditure of funds and that the Project should be focussing on the large scale problems in the north of the District that required blanket afforestation.

3.2.3 Indigenous Reversion

Definition

“Reversion” is defined as either unassisted (natural) reversion where it is considered this will occur in a reasonable time, or actively managed (enhanced) regeneration of indigenous species through planting of indigenous trees.

To be eligible for this option, the following (interim) prescriptions must be met:

Scattered or stunted scrub must have a minimum coverage of 50 percent of the grant area.

This will be assessed by MAF using recent aerial photography.

Minimum areas to be considered are 2 hectares within a forestry treatment and 5 hectares if the surrounding land is farmed. To exclude livestock and control feral goats and other pests, adequate fencing will be required. Any fencing costs and pest control will be treated as an integral part of the tender. Payment 50% after an audit in year 1, and 50% after an audit in year 5. A covenant is to be signed for 30 years.

Discussion

This option has become more popular in recent years. It is often the only option available on severely eroding land (Class VIII). It provides a long term solution to erosion control as there is no clearfell harvesting.

DoC has made recommendations to improve the effectiveness of this option. It was suggested that as long as there is sufficient seed source nearby the requirement for 50% existing cover should be reduced. Although this criterion is used flexibly by the Project management, landowners don't know that. It is important that the criterion used is more clearly communicated.

DoC would also like some managed grazing used to assist reversion to native scrub. This prevents the grass sward from becoming rank which inhibits regeneration of native species. This however poses problems of management and monitoring. Others have suggested that preference should be given for reversion which includes supplementary planting of appropriate nurse crop or indigenous species where it is considered regeneration would be hampered by rank grass growth. Supplementary planting of natives can be expensive. Bergin & Gea (2005) estimate costs of approximately \$6,450 per hectare for native shrubs (\$2 each) which includes costs of site preparation and ongoing management for five years until canopy closure. Nurse crop species such as tree Lucerne or combination plantings would be more cost effective.

The reversion option is likely to qualify as a permanent forest sink and therefore attract carbon credits (with time) creating an added incentive.

Some issues have been raised about the payment schedule for this option (50% now and 50% in five years). As the area is protected by a 30 year covenant and there are no future required works (except ongoing pest control) it seems unnecessary to withhold payment for five years.

3.2.4 Farm Gully Treatment

Definition

The planting of gullies (the whole gully or around the edges) but without the planting of the surrounding land so that the land can still be farmed is termed the Farm Gully treatment. Farm Gully treatments will only be eligible where this planting on its own will control soil erosion in the surrounding catchment or sub-catchment. As for other treatments, the effectiveness of the treatment needs to be certified, and the treatment needs to be cost-effective to compete with applications for other treatment options. Minimum area is 2 ha.

Discussion

Farm gully planting can be an effective means to deal with linear gully erosion where the surrounding land is not target land. No guidelines are specified in term of planting rates but rather it is left to the Project manager or the certifier to define an effective treatment which is predominantly pair planted willows. There were no concerns raised regarding this treatment.

3.3 Discussion of the Effectiveness of Treatment Options

Overall, the variety and flexibility of treatment has been well received by landowners as the application figures indicate. In 2005 most tenders have been for poplar and willow treatments and indigenous reversion.

In most situations the preferred treatment (in terms of effectiveness for erosion control) is clear, however there have been some disagreements between various parties about the details of implementation. These need to be sorted out and for new species some more information needs to be provided to help people in planning.

Treatment options that are more effective long term (ie do not have a risk “window” of erosion due to short rotation clearfell harvesting) are generally more expensive to establish except for indigenous reversion.

IV. PROJECT BUDGET

4.1 Project Grant

The expenditure on grants and administration is outlined in the table below:

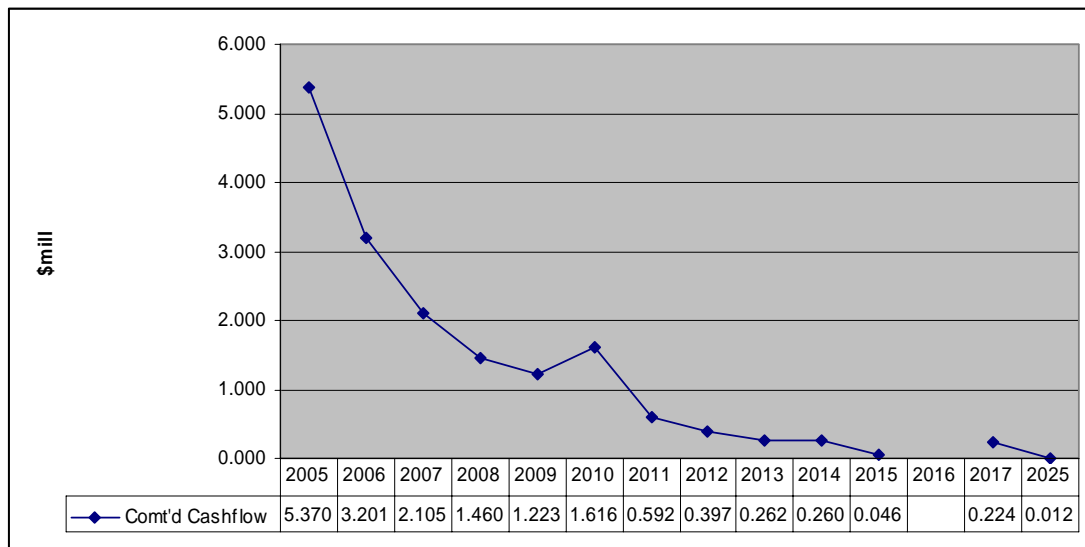
Table 4.1 Project Grants and Expenditures (GST inclusive)

Financial Year	Grants Budget (\$ GST incl)	Grants Expenditure (\$ GST incl)	Admin Budget	Admin Expenditure
1992/93	0	0	240,000	196,005
1993/94	1,172,000	949,150	252,000	169,012
1994/95	2,150,000	1,363,023	380,000	336,152
1995/96	2,500,000	1,012,882	381,000	338,849
1996/97	1,500,000	2,479,931	352,000	321,126
1997/98	3,500,000	2,351,010	371,000	351,475
1998/99	4,169,000	3,129,764	266,000	267,448
1999/00	5,600,000	3,226,492	448,000	421,007
2000/01	5,600,000	2,366,000	596,000	550,481
2001/02	4,000,000	1,801,340	562,800	529,799
2002/03	3,900,000	3,348,111	564,000	569,730
2003/04	4,250,000	3,422,984	671,000	577,074
2004/05	4,250,000	3,371,531	601,000	554,147
Totals	42,591,000	28,822,218	5,684,800	5,182,325

In general, the expenditure on grants has been well below the \$6.5 million budget for the whole of the project to date. This has not changed since the changes introduced in 2000. However, the proposed introduction of a rule by the Gisborne District Council, making farming a controlled activity on class VII land, could significantly change the planting rate and funding may become a constraint. The implications for this on the adequacy of the budget for the future are analysed below.

The committed cashflow (GST exclusive) for the next 12 years is given in Figure 4.1.

Figure 4.1 Committed Cashflow for 2005-2017



Details Withheld Because of Commercial Sensitivity

To see if the \$6.5 million/year is adequate to achieve the target the following crude scenario has been developed.

From the budget of \$6.5 million/year, GST and the committed cashflow for the years to come (expenditure for the planting that has been started to date Fig 4.1) is removed. For the scenario the following assumptions are made (all of which can be varied):

- an average grant rate.
- a rate of inflation (the rate by which the annual grant increases).
- 10% of the annual 'planting' is reversion.
- 70% of the forestry payment is paid in the first year and the remainder eight years later.

In each year the maximum amount that can be planted is determined by the uncommitted cash flow for that year ($\$6.5 - \text{committed cashflow} - \text{payments from new plantings}$).

The starting goal now is 56,147 hectares (as explained in Section 2.1.1). However that is target land alone. To be able to treat this target land, it will be necessary to plant much more land to achieve economies of size, contiguous blocks, and more effective treatment areas. The total amount could be approximately 112,300 hectares assuming a 50% target achievement ratio.

Details Withheld Because of Commercial Sensitivity

Details Withheld Because of Commercial Sensitivity

4.2 Administrative Budget

This budget was increased following the 1998 review to address inadequate resources to cope with the Project's workload. As is shown in Table 4.1 the total administrative expenditure has been below budget in all years except for 2002/2003.

V. OPERATIONAL ISSUES

5.1 The Application and Tender Process

The application process calls for tenders that outline plans for treatments to occur for any or all of the following three years. The tender needs to include the following information:

- a certificate of title or a description of the legal interest in the land;
- a description of the legal status of the land the application refers to; and
- a land use capability assessment/plan for the grant area which will be a recent aerial photograph, or a clear laser print copy (scale between 1:4,000 and 1:16,000). All tender applications require a 'Land Use Certification'. This certification is necessary to show that the proposed area to be treated meets the ECFP's requirements. It requires a land use consultant (approved by MAF) to certify and mark land classes and land use capability units on a map/plan of the proposed grant area (at the applicants cost). For more information refer to ECFP Application Form: 'Land Use Certification'. Applicants for the large tender pool are exempt from providing property scale land use capability (LUC) maps.

In addition:

For Forestry Treatment: a 'forestry feasibility certification' and 'ecological importance certification' are required. A forestry feasibility certification is necessary to confirm the proposed treatment is sustainable beyond the life of the trees being planted (i.e., the block can be harvested and replanted). It requires a forestry consultant, or another suitable person acceptable to MAF, to inspect the area with the applicant (at the applicant's cost). A planting proposal is also needed. An ecological importance certification identifies SSWI and RAP on the proposed grant area and can be obtained from the Department of Conservation. If a forestry treatment is proposed and gullies are present in the proposed grant area, treatment for the gullies must be included in the tender application. Gully erosion control, generally willow or poplar planting, must be separately identified, and the programme certified by a MAF approved land use consultant

For Alternative Species: In addition to the certifications required for forestry treatments, an 'alternative species certification' is also required for the planting of alternative species that have established prescriptions (i.e., poplar or other species that have been accepted by MAF through pretender approval). This certification is necessary to confirm that the site proposed for planting is suitable for the species. It requires a suitably qualified consultant (acceptable to MAF) to inspect the proposed site with the applicant (at the applicant's cost). A planting proposal is also needed.

Indigenous Reversion: An 'indigenous reversion certification' is required for the reversion treatment option. This certification requires a qualified consultant (approved by MAF) to confirm whether or not the proposed reversion regime meets the ECFP's requirements.

Farm Gullies: A land use certification for farm gully planting is required for the farm gully option. This requires a qualified consultant (approved by MAF) to confirm whether or not the proposed farm gully planting regime meets the ECFP's requirements.

In the **evaluation and ranking process**, the tenders are converted to a net present value (NPV) and for forestry projects a 'distance equalisation factor' is applied. Then for ranking purposes the NPV is further adjusted according to the amount of target land in the proposal. All projects below the NPV cut-off level are approved up to the level of the annual money available. Other factors, such a relative erosion severity, may also be taken into consideration in the ranking.

Once tenders have been selected, the successful applicants are given provisional approval, so that:

- landholdings can be secured by applicants; or
- landholding checks can be undertaken by MAF; and/or
- resource consents and archaeological site certification can be sought by applicants, if necessary.

Formal grant approval will not be given by MAF until:

- proof of unconditional rights to the land is provided by the applicant. This may be done by producing a certificate of title, lease, or some other legal interest in the land; and
- necessary resource consents and an archaeological site certification have been obtained.

Once these matters have been finalised, a grant approval certificate will be issued by MAF.

5.2 Issues Raised With Regard to the Tender Process

While the forestry companies did not have any problems with the application and tender process, many others found it too complex and very discouraging (even some of the consultants found it still difficult). The application process has significant compliance costs and requires a large amount of information in the form of several certificates and reports.

Average cost of preparing an application for a large block is \$3,000-\$4,000 and up to \$150 for smaller blocks.

Suggestions and comments that arose from the submissions:

1. The need for recognised consultants to certify the suitability of treatment proposals was questioned. Couldn't MAF be responsible for determining the adequacy of the proposals? This is a matter of convenience as well as cost.
2. Exempt applicants from supplying a property scale LUC plan and a land use certificate. Target land can be estimated from regional scale mapping. Certificates still necessary for the smaller pool.
3. Put the requirement for the Ecological Importance certificate in the post-tender procedure.
4. Tendering is off-putting since you don't know what you get. There is uncertainty regarding what qualifies.
5. The complexities, guidelines, the discretionary calls and the approval process are creating delays that are not applicant friendly.
6. Proposal should be ranked more on severity.
7. The tender process is no longer required as no tenders get rejected. Remove the tender process. There are complexities that lead to disinterest. We are less concerned with the commercial objective more with erosion control. No need for NPV (how is it calculated). It creates uncertainty, needs more openness. Have grants and an independent body that judges effectiveness/ suitability.
8. The tender process places financial and time constraints on the applicants. Professional assistance needed.
9. Application dates are not user friendly. If the tender process was eliminated decisions could be made quicker.
10. Some reversion applications have payment delays.
11. Just identify the land (Council/MAF) and do the work needed, accessing the ECFP without involving the land owner to a great extent.
12. The cost effective erosion treatment should be used as the baseline standard for the maximum available funds. Fencing requirements and costs must be considered for stock proofing if radiata is the standardised method.
13. More first come first served out of a pool of money. Not having to wait. Fixed grant / ha has a similar effect but does ignore property situations.
14. Farmers felt that it should not be a competitive environment, given the shared objectives.
15. Some target land should be given priority over other land not on the basis of severity but on overall downstream impact. That means targeting headwaters of the major rivers. Whole catchment treatment is beneficial as evident from the Waipaoa catchment experience.

5.3 Other Issues

People keep on confusing the three year planting programme. Grants are provided only for the year for which they have been approved (may be a three year programme). Previously approved and not implemented grants can be reactivated by application to MAF if there is sufficient funding available.

Many submissions raised the need for one to one approaches to managers on severely eroding land to explain ECFP objective, options and downstream effects. It was considered that more field staff are needed for the efficient management of the ECFP/SHCP objectives. Landowners sought a one-stop-shop to follow up enquiries, provide property advice, and provide assistance in the preparation of ECFP application and works plans.

With extra staff more funds would need to be allocated to administration.

A carrot and stick approach to get landowners may to address the issue. All land surrounding Class VIII needs to be planted.

Is there a possible option for joint ventures between the Crown and Ngati Porou?

Should GDC be given an allocation of the \$6.5 million to provide grants for some of the on-farm erosion issues?

Several submitters consider the name East Coast Forestry project to be off-putting to landowners who have negative perceptions of pine forestry. Options included “East Coast Erosion Project”, “East Coast Soil Conservation Project”. GDC commented that it should be different from their project – the Sustainable Hill Country Project.

The issue of a lack of poles was discussed as a reason why landowners were not treating soil erosion problems. This view was not totally supported by all. GDC have a new project funded by the Sustainable Land Management Fund to develop on farm pole nurseries on the East Coast.

Discussion

The Review Team found that overall the landowners were pleased with the helpfulness of the ECFP staff and that field audits and monitoring of claims were always handled in a timely fashion. Some delays had been experienced with the signing of covenants (and hence payments) but on the whole the administrative process was executed efficiently.

Notwithstanding that however, the comments in the sections above reflect a more systemic problem with the overall application process. The comments can be summarised as follows:

- the tendering process is still too complex for many, can be costly and is discouraging;
- there is a desire for a more direct approach with MAF/GDC working with landowners, giving advice and establishing work plans which would simplify the process of obtaining certificates etc for the landowner;
- there is a need to focus more directly on the worst erosion issues;

- given the goal of reducing erosion and the changed economic environment, there is a desire to move from a competitive environment (tenders) which is hardly working, to a simpler environment in which the erosion issue is dealt with by an effective treatment at a least cost basis, i.e. grant; and
- if MAF and GDC work more closely together in a combined approach there could be consideration to a name change for the Project. However the Review Team did not see this as important given the recommendations to the operation of the Project.

5.4 Mapping Scale

Under the previous review the mapping scale approved was the LUC (regional scale mapping). Since then the GDC has now nearly finished the property scale maps for the whole region.

Given that the District will be covered by property scale mapping and that the proposed GDC rules and their enforcement will be based on the property scale maps, the question arises as to whether there should be two mapping scales used or whether for continuity there should be just one scale i.e. property scale given the need for rule enforcement at this scale.

The more detailed smaller scale property mapping is likely to define 30% less target land.

5.5 Finance and Payments

5.5.1 Finance

In the tender process as operated at the moment, landowners bid a \$ amount/ ha for the area to be treated. The bid is translated into a NPV which is adjusted by a distance equalisation factor and by the percentage of target land present in the bid for ranking purposes. All bids below the NPV cut-off are approved subject to budget.

This tender process has only been partially competitive with few tenders being rejected because of being greater than the NPV. Several submissions indicated that the tender process is unnecessary and too complex. While the process is okay for forestry companies, it is rather complex for other landowners. The bidding system also creates uncertainty, since applicants have to wait for the final outcome of the tender process.

Many people suggested that a standardised grant system would be much simpler, and give more certainty. Such a system would not be an automatic hand-out, but should be tied to clear standards of achievement. Proposals would still need to be robust and directly contribute to the goal of erosion control on a long term basis. Projects could still be ranked according to a priority criterion.

Some regional councils use a grant system for land management plantings based on individual farm plans, with full payment on completion of works.

5.5.2 Payments

While payments on the whole were considered fair, especially for small scale operators the payment system did cause cash flow problems. There is a significant cost preparing an application and getting all the appropriate certifications. If approved it still takes time before payment is made since the treatment needs to be checked.

With the indigenous reversion option the first payment of 50% is in the first year and the second payment is five years later after an audit has been conducted. This system has caused a cash flow problem for some people and also raised the question of why the landowner had to wait for five years, even if a covenant had been signed (with penalties for covenant breaking) over the treatment area. A higher initial payment or full payment in the first year appears much more logical.

Some payment issues have arisen with pole planting. Payment made by the Project is only on the area planted, not on the areas effectively treated.

Adverse events, e.g. unforeseen climate events such as drought and rainstorms (inducing soil erosion), can cause losses amongst newly planted trees. In such circumstances some regional councils do not seek grant recoveries and will provide assistance again the following year. The financial cost is shared between the two parties. The ECFP requires that replanting occurs at the landowners' costs.

5.6 Advocacy, Education

While there is no GDC rule in place, the project is still in a voluntary mode. Promotion of the Project has been particularly important over the last few years when investment in forestry has been less attractive than previously.

Over the last three years funds have been set aside from the grant money for advocacy (\$133,000). This arrangement ends in 2006. These funds have been spent on:

- contract staff to assist landowners on a one to one basis with planning and applications to the Project. This has been effective, particularly the work that John Kopua has done with Maori landowners. This helped in dealing with the different issues associated with Maori land by bringing the Maori Trustee on board.
- extensive promotion of the Project in newspaper articles, increased advertising, attendance at AMP shows and field days.
- a contract with Mike Marden of Landcare Research to map gullies and watersheds as a priority setting tool.

There is a general feeling that the one – to – one consultation and the preparation of farm plans is the most successful method to get landowners to work with the Project. There is a need for better communication and information flows.

One to one provision of information in the form of individual property plans has proven to be an effective means of encouraging landowners elsewhere in New Zealand to pick up sustainable land management practices, particularly where grants are provided to assist with the implementation of those plans.

5.7 Long Term View

Concern has been expressed as to the sustainability of the current commercial forestry model (*Pinus radiata* monoculture) on severely eroding land given the requirement to harvest every 30 or so years. There is a period of about 4-5 years when the roots have rotted and before new plantings provide effective protection.

Controls on the size of area that can be logged at any point in time assists in minimising the potential risk. Currently, a resource consent is required for clearing of vegetation and GDC include restrictions on the consents (e.g. only felling half of a catchment and the other half five years later).

GDC also requires the area to be replanted and may require the planting of buffer zones on the margins of gullies with coppicing species (such as acacia, eucalypt). Riparian zones are also not allowed to be cleared. Restrictions as to the species used in planting of the margins of active gullies and riparian zones could be incorporated into treatments approved under ECFP.

Mixed species plantations with variable harvesting may be preferable in some situations but the economics of this type of proposal are unlikely to be attractive to landowners. Timber species which have much longer rotation periods are much more costly to establish. However such continuous canopy management is likely to qualify for the Permanent Forest Sink Initiative and may therefore provide additional income from carbon credits.

The Parliamentary Commissioner for the Environment produced a report in 2002 which discussed the potential for weaving resilience into our working lands including recommendations for the future roles of native plants. Forestry using indigenous species such as totara which have longer rotations would assist with the objective of including indigenous species in our working landscapes for biodiversity resilience. In addition alternative species could be used for stabilising earthflows rather than poplar poles (e.g. cabbage trees).

There is clear benefit for a model where land is encouraged to revert to indigenous forest with supplementary planting of high value timber species (native such as totara) or non native (Acacia, eucalypt) that would be selectively harvested by helicopter logging. Reversion to indigenous forest may require a nurse crop (e.g. tree lucerne, or even pine).

VI. WIDER EFFECTS OF THE PROJECT ON THE REGION

6.1 Effect on Other Regional Initiatives

Following the 1998 review the multiple objectives of the Project were removed. It was envisaged that the wider benefits would still result from the Project but that the Project needed to have a single focus. No new analysis has been done on those wider effects of the Project in the Gisborne District.

Anecdotal evidence and evidence presented at the last review indicates that short and medium term employment opportunities have resulted from the large planting programmes that have been achieved through the ECFP. The removal of funding for pruning through the Project may have had some effect though it is anticipated that forests planted under the Project would still be managed for timber and therefore pruned. There are long term benefits envisaged from future harvesting. The harvesting prospects will also promote roading initiatives in the District.

Most of the afforestation in the period since the review would not have occurred without the Project. Investment in forestry nationally has declined over the period since the last review from 63,652 hectares of new plantings in 1998 to 19,864 hectares of new plantings in 2004. It is unlikely that marginal land on the East Coast would have attracted new planting.

As was stated in the Gisborne District Council's submission (15 August), "...Council recognises the benefits of the project to a district that is recognised as economically deprived. The project is an important regional development tool, which works in line with other central government initiatives such as the Regional Roading Development Programme, and the government's support to the Tairāwhiti Forum." The Council provides a brief summary of economic benefits of the project. Many of these benefits were cited in the previous review and no additional information with regard to these benefits has been gathered for this review. The benefits are:

- the development of marketable forests: the project has provided the funding required to make forestry economic in isolated regions. Much planting has been on marginal land with minimal output loss and future gains of timber and employment.
- monetary injection (grant money and administration expenses) and the significant multiplier effects in the region.
- employment effect: tree planting soaks up labour in the winter and during the summer tree pruners take a break and find employment in other activities such as squash harvesting.
- saved damages from flooding.
- increased fresh water and coastal water quality.
- social benefits which come with increased economic benefits.
- retention of soil.
- green house gas absorption.
- clean-green image.

6.2 Impact on River Control and Flood Risk Management

The ECFP project clearly complements regional efforts on effective river control and flood risk management.

The infrastructural costs caused by aggradation of the rivers are very high. Examples of recent recently raised bridges include the cost of raising one bridge alone at \$480,000 (and this after having been in existence for only 20 years). Data provided by engineers from GDC showed that the cost of repairs/replacement of bridges alone over the last 9 years totalled \$3.25 million. GDC has an annual budget of \$1million for maintenance of culverts etc. All this goes to show, as the Asset Manager: Rivers, Land and Drainage, Dave Peacock states, that 'it is clearly much more economic to treat the catchment than having to raise bridges every 20 years' (Peacock, 2005). Treatment of the catchment will not only avoid these large infrastructure costs but will have other off-site benefits such as reduction of aggradation in the rivers, improvement of water quality and sustainable land use in the catchment. Similar sentiments have been expressed by the Manager, Engineering and Works (GDC), and by staff from Transit NZ.

In the Waipaoa Catchment, the Flood Management Scheme is a big benefactor of the ECFP project. As Marden et al. writes (Marden, 2005b):

“The overall success of reforestation in ameliorating gully erosion in the Waipaoa catchment can be attributed to: the selection of fast-growing tree species (trees are harvestable 28-years after planting) ideal growing conditions, and the planting strategy adopted. That is, gully stabilisation was achieved first, by planting as much of the gully watershed area as physically possible and second, by delaying within-gully plantings until there was a noticeable reduction in runoff and sediment supply to the channel as evidenced by channel incision and fan abandonment. This usually coincided with the timing of canopy closure at approximately eight years after planting. In the coming decades, the impact of the sediment generated by the 420 untreated and necessarily expanding gullies throughout the headwaters could have deleterious effect on the capacity of the scheme that protects high-value agricultural land further downstream (on the Poverty Bay Flats) from flooding. However, the requirement to upgrade the flood-control scheme by raising the height of the existing artificial levées (stopbanks) could potentially be obviated by a targeted reforestation programme that would involve additional exotic plantings totalling approximately 15,400 ha. It is estimated this would produce a >64% reduction in sediment production from the gullies on pastoral hill slopes within one forest rotation (approximately 24 years).”

6.3 Contribution to Farm Viability

For some farmers, converting marginal land into another productive land use has clearly helped the overall efficiency of the farm, in terms of removing difficult areas to manage and muster for stock. This has allowed farmers to intensify production on the remaining land areas, improving the overall productivity of the farm. This will have long term benefits.

Evidence of this has been provided in some of the submissions e.g. the submission by Te Runanga O Ngati Porou and Ngati Porou Whanui Forests Limited, which describes the complementarity of erosion control treatment and overall farm viability

on for example, Pakihiroa and several other properties. In many of these examples the landowners have been able to identify unproductive or erosion prone farmland that was difficult or expensive to manage. Putting these areas in commercial forestry allowed the landowners to intensify production on the remaining land areas.

6.4 Water Resources

Most recent predictions of patterns of climate change in NZ suggest that the north eastern regions, including the East Coast will become drier overall but subject to more frequent cyclones. While the advantages of large scale forestry plantings for stabilising erosion prone areas are significant they will reduce runoff which could cause water shortages downstream.

VII. GDC Regulatory Controls

Following the last review Cabinet agreed to continue Crown funding conditional on the Gisborne District Council (GDC) demonstrating a commitment to introduce regulatory controls in its combined Regional and District Plan to address severe erosion in those areas targeted for Government funding under a revised ECFP.

It was also noted in Cabinet paper FIN (01) 2/5 that as GDC's planning process progresses, GDC and ECFP initiatives will need to be aligned.

Progress on meeting this Cabinet requirement to introduce land use controls has been extremely slow. Draft rules are being developed as part of a Variation to the District Plan to come into effect 1 July 2009. The long time frame in implementing the Cabinet requirement has been considered necessary by GDC to allow time for consultation and to achieve landowner acceptance. The draft rules are currently in the consultation phase with an expectation of notification in the middle of 2006.

The draft rules include all land considered target land (excluding some areas for practical reasons e.g. steep sea cliffs) identified in an Overlay Map (Overlay 4) in the District Plan and subject to the following proposed rules:

Either effective tree cover must be established and maintained on all land identified in the overlay

OR a sustainable Hill Country Works Plan (Works Plan) must be developed and implemented for all land identified in the overlay, to be certified and to have an implementation plan not to exceed ten years.

Both rules have a proviso that the East Coast Forestry Project incentive exists. GDC note that the ECFP is essential to addressing the problem as it is beyond the capacity of the community. Therefore under these rules all target land will have to be either treated by 1 July 2009 or have a plan in place otherwise landowners may be prosecuted. GDC require a lead in time to this date to be able to prepare plans (or at least certify plans) for landowners. After the ten year implementation period i.e. by 2018 all target land would then be treated.

Implementation of the rule will need farm scale mapping to be effective and enforceable. This is also needed to get the acceptance of landowners. GDC will have complete district coverage with aerial photos very soon (have two-thirds now). They are one third of the way through mapping land use capability at catchment (farm) scale and anticipate completion of most within one more year. This will still need to be field checked.

Given the seriousness of the erosion and the long period over which farmers have already been aware of the impending rule, should it have a shorter time frame i.e. 2007 instead of 2009? The rule can be proposed before the mapping is complete but cannot be enforced until all land is mapped and landowners have had an opportunity to get a works plan prepared. The time needed for plans to be prepared for landowners is a major restraint to the rule being enforced any earlier than 2009.

It is hoped that landowners will want to start to address the erosion issues on their properties once the Variation to the Plan is notified mid 2006 and will therefore seek support from the Project.

Mapping of target land at farm scale usually decreases the area of target land and may therefore create issues around how much non target land can be included in grant areas.

Working with Maori landowners has additional hurdles with regard to multiple owned land, and no financial base to get started.

GDC think it is very important to have landowner acceptance of the need to address the problem and therefore accept the rule. They do not want to be in the position of having to prosecute large numbers of landowners who do not comply. Management of any tree plantings is important for success and some situations have failed because of lack of management.

Effective treatment needs to be defined in the rule so that landowners have certainty about what is required. This should also be directly correlated to funding through the ECFP. Advice from a range of range of individuals and organisations should be used to determine effective treatment.

The proposed Variation to the Plan includes advocacy – to provide information on soil conservation and sustainable land management with emphasis on the worst eroding land in the District (overlay 4) through a programme of individual property advice and property-scale mapping of Land Overlay 4 land. There needs to be a “one stop shop” providing consistent advice to landowner on how to treat eroding land. GDC currently do not have people resources to effectively prepare property plans within a short time frame. There is need for additional resources to provide information, advocacy and property plans to ensure landowner uptake. GDC have allocated some additional resources in the Long Term Community Council Plan.

Regional and district plan provisions include a heritage alert layer, less stringent than ECFP regulations. Alignment of ECFP requirements with GDC would reduce applicant costs.

There has been some progress on GDC and MAF working more closely on erosion control of target land which was a recommendation in the last review (Bayfield & Meister 1998). However given that GDC control “the stick” in the form of regulation and MAF controls “the carrot” in the form of the financial incentive it is imperative that the two organisations are aligned and working closely together.

VIII. Contribution to Other Government Policy

8.1 Synergies Between the Project and the Policy on Permanent Forest Sinks

There is close synergy between the Project and government policy initiatives with regard to climate change. The Project clearly complements the PFSI. The increase in the forest estate (through afforestation and through reversion) contributes to carbon absorption and helps reduce the total net amount of carbon emissions for which NZ needs to buy permits.

8.1.1 *The Permanent Forest Sink Initiative (PFSI)*

The following summary of the proposed mechanism is provided, based on information provided in the paper “A Proposed Mechanism to Incentivise Permanent (Non-Harvest) “Commercial” Forest Sinks” presented to the Cabinet Policy Committee (undated), Office of the Governor, Ministerial Group on Climate Change and is taken from the report prepared for Ministry of the Environment by Tonkin & Taylor Sept 2004 regarding potential barriers to Local Government Uptake.

A voluntary but commercial mechanism is proposed to allow landowners to gain value from the carbon sequestration of forests established on their land after 1 January 1990 in accordance with the Kyoto Protocol. The mechanism will be managed by the Indigenous Forestry Unit, Ministry of Agriculture and Forestry.

The mechanism is a perpetual contract or covenant between the landowner and the Crown that is registered on the title of the land (and therefore binds future landowners). Landowners agree not to harvest/clear trees from forests in return for an amount of tradable carbon emission units equal to the amount of carbon sequestered by the forest over the first commitment period of the Kyoto Protocol (2008-2012). The Crown has agreed to retain all sink credits and their associated liabilities at least for the first commitment period. The Crown will issue emission unit promissory notes. The promissory note will only be convertible to emission units on the basis of actual, verified carbon sequestration by the relevant forest. Landowners can forward sell options to buy units to national or international buyers.

Contracts or covenants are cancelled if the Kyoto Protocol is not in force by 1 January 2008. In addition, the covenant would be terminated should the future rules of the Kyoto Protocol or its successor remove the ability to generate sink credits from forests. The covenant can be altered or terminated by mutual consent of both parties but landowners would be liable for repayment of all credits received. There are penalties for deliberate breaching of the covenant. The penalties include replacement of all credits received plus the repayment of additional units calculated on the basis of an annual compounding rate of 10 percent, applied to each year’s sequestration, commencing from the earliest year in which the forest sequestered carbon in respect of which units were generated.

Landowners are required to prepare and register a forest management plan, which will be assessed to ensure compliance with the “direct human-induced” requirements of the Kyoto Protocol. Landowners are also required to cover the set up costs (management plan, registration, any fencing or planting) and are liable for ongoing

monitoring, verification, insurance and administrative costs. Enforcement of the covenant would involve periodic checking for physical signs of timber harvest as part of the assessment and verification of carbon sequestration undertaken at the end of the commitment period. The mechanism is fiscally neutral for the Crown except in the first year.

There is no limitation on size of area, quality of land or forest species. Land must have been not forested at 31 December 1989 and the forest must be human-induced; i.e. conversion of non-forested land to forested land through planting, seeding and/or human induced promotion of natural seed sources. There are no restrictions on additional uses of the land (honey production, hunting of game species, tourism etc) and forest management is allowed for (e.g. clearance of fire breaks). Some harvesting is allowed after 35 years as long as the canopy remains intact.

Payment at the end of the commitment period will be adjusted for “leakage”. This refers to emissions (or reduced sequestration) that occurs outside the boundaries of the forest but that is reasonably attributable to the forest project. For example, a landowner clearing regenerating forest to compensate for lost grazing in a newly established Kyoto forest would have his payment adjusted accordingly. It is recommended that agreements include a requirement that landowners take out insurance against accidental loss of carbon from the forest.

Participation in the proposed mechanism is strictly at the landowner’s risk. It is noted that the perpetual nature of the monitoring and emission liabilities is likely to deter many investors. However, the ability for limited harvest after 35 years may encourage the establishment of special purpose long rotation timber species which would provide income. At the point where there is no net sequestration of carbon by the forest and there is no harvesting, monitoring requirements can be reviewed by the parties to the contract with a view to minimizing costs. It is possible that five yearly monitoring carried out by the Crown under the Kyoto Protocol (using satellite imagery) will suffice and therefore be at no cost to landowners.

While essentially commercial in nature, reference is made to the proposed mechanism’s likelihood of generating environmental benefits in terms of soil and water conservation, biodiversity and reducing agricultural emissions through displacing pastoral agriculture. If a Kyoto Forest also generates environmental benefits it may potentially gain a premium in the market place (particularly Europe). EBEX 21 and QE II National Trust have some carbon covenants in place already. These are areas where the landowners’ prime motivation is nature conservation in perpetuity and therefore the carbon credits are a bonus.

The paper comments that Maori generally support the concept of a mechanism to encourage the regeneration of permanent protection forests on marginal land. However, the paper notes that the perpetual nature of the covenant creates an issue of inter-generational equity between current landowners, who will receive sink credits, and future generations of landowners, who will not. The ability to selectively harvest (maintaining continuous canopy) after 35 years could provide income from the forest for future generations.

The draft Climate Change Response Amendment Bill 2005 was introduced into Parliament on 3 May 2005. The details of how the Permanent Forest Sink Initiative will operate are still being developed by MAF

8.1.2 *The Connection between ECFP and the Permanent Forest Sink Initiative*

The benefit for the East Coast Forestry Project would be that landowners who sign up for this mechanism would receive a return on land that is permanently afforested. While commercial forestry (predominantly *Pinus radiata*) decreases the sediment input into the streams and rivers, harvesting every 30 years or so provides a “window” when a severe storm could cause huge damage. After clearfelling such areas are vulnerable for a period after the roots have rotted and the new plantings have yet to be effective (4-5 years), (Marden pers comm).

Harvesting of forests under the PFSI requires management of continuous canopy. This forest management is not suited to pines but could be achieved with higher value species or indigenous cover with high value species planted through it and then logged by helicopter (e.g. totara, Acacia). This type of management would be suited to target land as harvesting would have minimum impact. NZ currently imports hardwood furniture so there would be a domestic market for the timber.

Barriers to uptake of the initiative include:

- uncertainty around the mechanism as to how it will operate; what the costs (monitoring, insurance) and returns (price of carbon) are likely to be. All costs are proposed to be borne by the landowner. There is also uncertainty as to the second commitment period. What happens after 2012?
- the permanent nature of the mechanism is a barrier to many landowners, and this is particularly so for Maori landowners.
- the relatively high profitability currently being generated from pastoral farming
- the potential liability of loss of carbon through a severe storm such as Cyclone Bola. Insurance against such an event is likely to be costly.

The Tonkin & Taylor report noted the potential for a coordinating body to assist landowners with small areas to collaborate so that costs are minimized and returns maximized. There may be a role here in ECFP for either MAF or GDC to assist landowners of target areas to understand and participate in the PFSI – it is an incentive that provides a return (albeit small particularly in the first few years of indigenous reversion).

NZ will probably be well in carbon deficit at the end of the first commitment period so there is an incentive to get more trees in the ground on a permanent basis. Erosion prone land is ideally suited.

Given the uncertainties and perhaps liabilities on erosion prone land there may be potential for some joint venture arrangements between the landowner and the Crown to share costs, liabilities and returns. This may be particularly suited to the indigenous reversion option of ECFP.

8.2 Lessons from the Project for Other Regions in NZ Susceptible to Erosion and Flooding

Recent flooding in the Manawatu and Bay of Plenty has clearly demonstrated how vulnerable New Zealand's hill country is to storm-initiated erosion and the damages that follow. The policies of the 1980s encouraged vegetation clearance, stocking and fertiliser application on marginal land. Today, it is apparent that this management of marginal land is not sustainable.

With the probability of global warming, which will increase the frequency and magnitude of future storm events, New Zealand can expect to sustain further loss of steep hill country soils and off-site damage to property.

As Mike Marden writes in his submission "We should reverse the trend of previous decades of clearing marginal land of scrub and forest and restore these areas to a close canopy forest. Reforestation with exotic species has proven effective. Scrub reversion is a viable option where existing scrub coverage is sufficient to provide some initial stability and an on-going seed source. For areas where no scrub cover exists, the supplementary planting of trees, exotic or indigenous, will be required."

Spaced planting of poplar and willow, if planted at spacings considered appropriate for specific erosion types and properly installed and maintained can also afford considerable protection and enable more sustainable pastoral farming.

Having a range of treatment options has been well received by landowners rather than just commercial afforestation. Providing landowners choice where possible assists in uptake.

Prevention is cheaper than the cure. There were large costs and compensation payments after the Manawatu and Bay of Plenty floods and there are large on-going costs on the East Coast to repair and replace roading and bridges. Peacock (2005) details the cost of raising the 75 metre long Mangapoi Bridge at \$480,000 compared to treating the catchment at \$360,000. In addition the treatment of the catchment has longer term benefits (Peacock, 2005). It is important therefore to address soil erosion throughout New Zealand. Not dealing with the issue today will only increase the magnitude of the disaster that will occur in the future after a severe rain storm or a cyclone event.

A further lesson is that the success of voluntary approaches to achieve erosion control and sustainable land management on severely eroding land is very dependent on the relative returns of agriculture and forestry, on landowners' perceptions regarding forestry and on the amount of effort required by the landowners. The latter factor reflects that if compliance costs (personal input and financial) are high this serves as a disincentive for voluntary action.

The fact that landowners are seldom held responsible for the off-site costs caused by soil erosion is causing a failure in the land market. It appears that land markets poorly reflect the extent of erosion in land prices. Currently with high returns to pastoral farming, land prices are high, even for eroded (or erodable) land. This again creates a negative incentive for landowners to voluntarily deal with erosion problems.

The success of voluntary programmes therefore is often slow and patchy. Because of this, the reviewers see the need for a more direct (aggressive approach). This approach recognises the benefits of a carrot and stick approach. To date we have mainly had the carrot approach and as explained above this is not achieving the goals of the project. A stick approach on its own would be very difficult to implement on the East-Coast (given the very large erosion problem, the sparse population, and the limited resources of the GDC). Hence both, the stick and carrot are needed, the stick in the form of rules in the District Plan with regard to the permitted land uses of erosion prone land and the carrot of financial incentive provided by the ECFP. It is further recognised however, that there needs to be an on-going educational process alongside this carrot and stick approach to ensure landowner acceptance and compliance.

In keeping with the Sustainable Land Management Strategy for New Zealand (1996) it is acknowledged that sustainable land management is the responsibility of the landowner. The focal point for the Strategy is the land user. The Strategy promotes the encouragement of land users to continually improve and address the effects their businesses have on the land.

However due to the magnitude of the soil erosion problem on the East Coast and the off site impacts, intervention is justified by government. Elsewhere in New Zealand where erosion is less severe there may be opportunities for government (both central and local) to assist landowners with soil conservation plantings on a cost share basis in acknowledgement of the fact that there are greater costs in not addressing the problem.

IX. Conclusion and Recommendations

9.1 Conclusion

As indicated in Chapter I, the Project, while achieving afforestation on target land on the East Coast, despite a general climate of low investment in forestry, is not achieving planting at a sufficient rate to cover all target land by the end of the Project (2020). Although the changes introduced in 2000 have created more options and greater flexibility for landowners, the uptake of grants has not increased. While there are still some remaining issues regarding the cost and complexities of the application process, the overriding reason for the low uptake of grants is that the wider economic context in terms of relative returns to farming and forestry has changed so drastically over the last five years. With the returns to farming being high and to forestry low, the opportunity cost of putting land in trees (or retiring land for reversion) and so forego income from agriculture for an uncertain future income from forestry (or no income from retired land) is simply too high. These changed realities in economic returns, combined with the voluntary nature of the scheme, the lack of a 'stick' to deal with the erosion problem (or the on-site and off-site effects) and the lack of example on the part of the Gisborne District Council in treating its own land appropriately have all led to the current situation of a low uptake of grant money.

The Project was put in place to reduce the off-site effects through sustainable land management leading to reduced erosion. The tool chosen was a commercial solution, i.e. use commercial afforestation, operated through a competitive bidding model. In 2000 other options were added to the commercial afforestation solution but still sitting within the competitive bidding model.

In this model, forestry companies and landowners competitively bid for the opportunity to plant forests (or use other treatment methods) to control erosion on target land. A cut-off NPV value is calculated by the ECFP and bids under this price are ranked and accepted (cheapest first) till the limit of the annual budget (or money available in the particular year). While this worked to some extent when forestry prices were high, the total demand for grants (areas to be planted) did not meet the annual target set to deal with the total area over the length of the Project. Currently, with timber returns being very low, the rate of planting has declined further. Some of the alternative treatments, which allow continued grazing of land and hence lower the lost income foregone, have some appeal with land owners but total area in those treatments is still small.

Today there is little interest in forestry, and the perception of forestry held by many landowners is a negative one. Simply raising the NPV cut-off rate is not going to bring about a major increase in the uptake of the Project. Broadening the treatment options has seen limited uptake of the Project that might not have happened if it was still restricted to commercial afforestation.

Therefore the current model is not working. The Project, or rather the community, cannot afford to wait for a change in the market since the problems in the mean time will continue to worsen. Even if prices did change in the near future, there is no certainty that an increasing interest will result in treatment of the worst erosion areas.

It is clear that if the Project is going to achieve its goal, i.e. dealing with the target land identified a more direct approach is needed.

Research conducted by Marden has clearly identified the gullies as the major cause of sediment delivery to the river systems leading to the off-site effects.

While the proposed introduction of the GDC rule will provide the ‘stick’ for a change in the use of the target land it will only take effect from 2009 and all target land will not be treated until 2018. The need to reduce erosion and prevent potential disasters is now. It is hoped that when the draft rule is notified in the Variation to the District Plan in the middle of 2006 that this will provide the incentive (signal) to landowners to participate in the Project i.e. get a plan prepared and commence planting. Given the delays to date with the development of the rules it is vital that this proposed time frame for notification is not delayed further.

As noted in the discussion on the effectiveness of alternative treatments, the changes made in 2000 were received positively by landowners in that they provided greater treatment variety and flexibility, they simplified the application process slightly, and on the whole contributed positively to Project uptake.

While the changes were positive, some issues still remain about prescriptions for treatments and the complexity of the application process. Although those remaining issues may have contributed to a reduced rate of uptake of the Project, it is our opinion that these issues are all very minor. As reviewers we have come to the conclusion that, given the changed economic climate in which the Project operates today, i.e. the changed financial profitability of pastoral farming vs forestry, the voluntary competitive model is no longer adequate to achieve the objectives of the Project.

It is not our intention to redesign the Project, rather we have made some recommendations which we believe will lead to a greater level of achievement for the Project and at the same time remove some of the remaining issues associated with the application process, the consistency of advice for various treatments, the role of the GDC/ECFP, mapping, and issues related to finance.

9.2 Recommendations

It is proposed that the Project moves away from the competitive bidding model to one which targets the areas to be treated, works with landowners on a one – to –one basis, funds treatment according to priority, and pays according to a grant system.

We see two priority levels operating:

1. High Priority – **the active gullies** which currently produce the majority of the sediment coming down the river valleys and cause the off-site effects which are so costly to the nation. Within this option there are sub-priority levels as provided in the detailed identification of gullies by Marden (Marden 2005a) as described in Section 1.2 of this report. Hence the first gullies to be targeted are the 143 gullies identified as having highest priority and urgency, following next by the 480 (still

in the high priority category) followed by the 575 of medium priority. Some of these gullies may not be included as target land at regional scale mapping but will be included at farm scale mapping.

2. Lower Priority – **all the other target land** (including land with severe erosion potential) which should be treated to achieve sustainable land management, but which currently contributes less to the off-site effects.

We propose that the maximum number of gullies is treated (constrained by people power to do the targeting, plan preparation and liaison with landowner as outlined below) out of the uncommitted budget money in each year. The remainder of the uncommitted money will be spent on the lower priority target land.

GDC have allocated additional funds in the Long Term Community Council Plan for this purpose but given the scale and urgency of the problem it is suggested that the Project also contribute funds to this process in order to shorten the time frame.

9.2.1 Target Active Gullies

1. Approach the land owners of identified priority gullies on a one-to-one basis; use a team approach to identify the most effective way to deal with the erosion issue (the team approach will be discussed below).
2. Provide the landowner with a plan on how to treat the erosion feature (specific action plan for the watershed not just the actual gully). The preparation of the plan, by the team, will be a cost to the Project.
3. The work plan will clearly identify the treatments to be used (this in consultation with the landowner).
4. Payment for the treatment will be based on a grant (see below).

If treatment of the watershed area, deemed to be necessary by the plan, leaves too little land for an economically profitable enterprise, then purchase by Government of the property may have to be an option.

9.2.2 All Other Target Land

Landowners of target land (subject to the draft GDC rule) not part of the gully planting identified above would approach ECFP/GDC for help in the preparation of a work plan for their target land on a first come first served basis.

MAF/GDC would provide help with planning the treatment and design an 'effective treatment' plan at no cost to the landowner.

A grant would then be paid for 70% of the total cost of the treatment, according to the requirements in the plan.

9.2.3 Grant Value

In preparing plans for individual properties with landowners it is recognised that there will be other factors that need to be taken into account when determining the most effective option for the particular site – farm viability etc. It is noted that in some cases the effective treatment for a particular site may not necessarily be the cheapest option. While this does raise some issues of equity, it is considered necessary to take these other factors of property management into account.

Payment for the effective treatment option as described by the certified plan could be determined as follows:

Reversion. For this option there would not be a grant but simply a payment on cost. This is a non-harvesting option and the total cost to revert the land (fencing) would be paid for by the Project. This option still requires a reasonably close seed source to be effective. If supplementary planting is deemed desirable by the plan to assist reversion, the additional cost of planting (say tree lucerne or natives) could be covered by an additional payment of up to \$1000/hectare. For the reversion option a 30 year covenant should be signed as is currently the practice. This will ensure management of the area for regeneration in the early stages. After 30 years the area should have forest/scrub cover such that land use is controlled by rules in the Gisborne District Plan.

Forestry

- **Radiata pine or Douglas Fir.** The NPV model will calculate (annually) the NPV necessary to provide a given rate of return (to be determined by the Government). This NPV will be adjusted by a distance factor to allow for the higher costs and lower return from distance to port, and the 20% risk factor as is currently applied. The rate will be published and recalculated each year as land values, returns and costs change. Payment will be based on 70% in the first year and 30% after thinning. Additional requirements in the works plan such as planting of alternative species (willows in internal gullies or coppicing species on margins of erosion scars) would be paid at 100% of costs.
- **Alternative Species.** Alternative forestry species with longer rotations would provide a slower option to get canopy closure but would provide a longer term solution in that the “windows” of exposure at harvesting would be less frequent. It is this longer term solution that we are trying to encourage. Alternative species could be planted in a mixed species forest (eg amongst pines). Payment would be the NPV grant for the cheapest option (Pinus radiata forestry) Management of mixed species forest on a continuous canopy basis would be the best option for those areas suitable for commercial forestry. While desirable, the greater costs and lack of technical expertise in managing forests under such a regime is likely to make this option less attractive to landowners without additional support/encouragement.

Alternative treatments

- **Wide spaced poplar/ willow planting.** Where this is determined to be the best option, payment will be based on 70% of the total costs, 70% of that on establishment and 30% after three years if the survival rate is greater than 75%. A pro rata payment could apply to lower survival rates. However it is recommended that advice and assistance be provided to landowners in the management of plantings and that replanting or alternative treatment is encouraged where treatment has not been successful.
- Consideration should be given to any alternative non commercial treatments such as the spaced planting of cabbage trees on earthflows. Options such as this may be effective at controlling soil erosion while providing biodiversity

benefits. Payment would be based on the lesser of either the cheapest effective treatment for the area or the cost of the proposed treatment.

Farm gully planting. Paired planting of willows can be an effective treatment for small active linear gullies that are not surrounded by target land. If left untreated however these gullies will increase in size and be more costly to treat. Payment of 100% of costs would apply as is currently the practice.

9.2.4 GDC and MAF/ECFP

Both MAF and GDC have responsibilities and expertise in sustainable land management on the East Coast. It makes little sense not to have the two organisations dealing with the same issue working together, sharing expertise and combining resources especially in term of mapping. For effective treatment of sustainable land management and erosion control it is essential that their actions be integrated.

As indicated above it is proposed that properties be targeted so that a work plan can be developed for the property. We propose that MAF and GDC work together to carry out this work. To achieve as much targeting as possible it is proposed that at least two additional staff (or full time equivalents) be hired. At least one of these people should have the ability to liaise and work with Maori landowners.

The cost of these extra staff may partly have to come out of the total ECFP budget and the administrative grant will need to be increased. GDC has budgeted additional resources to carry out this work in the Long Term Community Council Plan. As discussed in the report the money for advocacy used to employ John Kopua to deal with Maori land owners led, with the help of the Maori Trustee, to successful uptake of the Project. In many ways we see this as an example of what can be achieved using a one to one approach.

It is proposed that a workshop should be held as soon as possible to which a wide variety of people with expertise in forestry and soil conservation would be invited to determine some guidelines for erosion treatments, especially with regard to stocking rates of poplar pole and willow plantings. Effective treatment, for a variety of situations needs to be clearly defined in the GDC rule and this should be consistent with the ECFP. For a few situations advice has been conflicting and this has created uncertainty with land owners and has raised issues of credibility.

The new approach suggested above will reduce the need for outside certification and will simplify paper work. The fact that MAF/GDC will provide the planning advice also reduces costs to the landowners. It is also proposed that ongoing advice be provided to landowners during the implementation phase of the work plan.

The conflict about which mapping system to use will also not be an issue. If there is a programme of targeting gullies, the work plans will outline the required area of watershed that needs to be treated (this may include non target land). For all the rest – property based mapping will be used. This is the most appropriate scale since enforcement of the draft regulatory provisions in the Variation to the District Plan will be based on property scale mapping.

All of the above, points to a great amount of integration of the activities of the GDC and MAF/ECFP. As reviewers we think it essential that the two teams work from the same physical location. There will be issues of authority seeing that the one team holds the purse strings while the other the legal authority over effective treatment and compliance. We feel that detailing how this integration should be achieved, beyond the details given above, falls outside the terms of our review.

9.2.5 Budget Implications

Given the recommendations made above, will the budget still be adequate? This question is of course difficult to answer without a lot more analysis of NPV grant values and the 100% costing of other treatments. However, a rough calculation has been made using the same model as discussed in Section 4.1 of this report.

Marden estimates that the approximate area needed to be treated to deal with all the gullies is 30,000 hectares (3,000 hectares of actual gullies plus additional surrounding watersheds). This is likely to be mainly target land under the current target land definition.

As was done in Section 4.1 some basic assumptions are made.

It is assumed that 10% of the active gullies will be treated with reversion and paid at 100% of cost (and if supplementary planting occurs this will be paid for by a special grant).

The remaining 90% of the area will be planted in forest with payment based on 70% in the first year and 30% in eight years time.

Details Withheld Because of Commercial Sensitivity

As is shown in the Table, out of the given budget and given the assumed grant values, it is possible to deal with the active gully land (the 30,000 hectares) and have a little money left to deal with the remaining lower priority target land. If the grant moves with inflation and is higher than expected, little money will be available for dealing with the lower priority target land.

It is clear that if all land is to be treated effectively (high and lower priority target land, i.e. the 56,417 hectares) the budget would have to increase by something like \$2 million dollars/ year.

This analysis assumes that the administrative budget is also increased to be able to deal with the additional cost of work plan preparation and the operational costs of two additional staff members.

Two further aspect of the budget should be noted. The first one is that an annual budget is restrictive in that it may restrict treatment in any one year if uptake should happen to be greater than the uncommitted money available. Although on the basis of past planting this may not appear likely, we think it could occur under the new approach outlined above. Limiting uptake, would go against the objective of dealing with the erosion issue as quickly as possible.

The second point is that although the scheme finishes in 2020, if nothing changes to the way payments are made, payments could continue till the last thinning is done which could be 2028.

We recommend that Government considers a more flexible approach in funding the Project by either budgeting on the basis of a three year average of \$6.5 million, or consider some roll-over of unspent funds. With regard to the payments continuing till 2028, consideration could be given nearer the end of the Project to make payments in full to avoid this long tail.

9.2.6 Monitoring and Review

Monitoring of the change in land use and the effectiveness of the Project should be easier if the integrated approach suggested for management by MAF and GDC is implemented. Given that target land will be monitored by GDC under the provisions in the Gisborne District Plan it is not necessary for MAF to have formal agreements or covenants with landowners. This would simply be duplication. MAF covenants for the reversion option are still considered necessary to allow time for reversion to reach scrub/forest cover.

Progress with treatment of target land should again be reviewed in five years (2010). It is anticipated that by this stage the Variation to the Gisborne District Plan will be operative and all target land will have certified works plans in place to address the soil erosion problems. It is also hoped that given that notification of the plan change will occur next year that many landowners will have also started to address the problems by the time of the next review.

REFERENCES

Bayfield, M. and Meister, A. 1998: East Coast Forestry Review. Report to Ministry of Agriculture and Forestry.

Bergin, D. and Gea, L. 2005: Native Trees. Planting and early management for wood production. NZ Indigenous Tree Bulletin No 3. NZ Forest Research Institute Ltd, Rotorua.

Marden, M. & Rowan, D. 2000: Pro-active approach to gully management in the East Coast Region (Part I and Part 2), Landcare Research Contract Report: LC 9900/105.

Marden, Michael. (2005a): Submission to Ministry of Agriculture and Forestry Review of East Coast Forestry Project (Based on FORST Contract No. CO9X0013 under contract to the MAF, Policy Division).

Marden, M., Arnold, G., Gomez, B., and Rowan, D. (2005): Pre-and Post Reforestation Gully Development in Mangatu Forest, East Coast North Island, New Zealand. [In press]

Ministry of Agriculture and Forestry. (2005): The 2005 Review of the East Coast Forestry Project: A Discussion Paper for the 2005 Review. Discussion Paper No: 37, June, Ministry of Agriculture and Forestry, Wellington.

Parliamentary Commissioner for the Environment. 2002: Weaving Resilience into our Working Lands: recommendations for the future role of native plants. Parliamentary Commissioner for the Environment, Wellington.

Peacock, D. 2005: Raising Bridges or Stabilising the Catchment? A Case Study: Mangapoi Bridge, Ruatoria. Unpublished paper, D. Peacock, Asset Manager, Rivers, Land and Drainage, GDC.

Phillips, C., Marden, M. & Miller, D. 2000: Review of plant performance for Erosion Control in the East Coast Region, Landcare Research Contract Report LC 9900/111.

Tonkin & Taylor. 2004: Review of Reforestation Carbon Sink Initiative – potential barriers to local government uptake. Report prepared for the Ministry for the Environment.

Thompson, R.C. and Luckman, P.G. (1993): Performance of biological erosion control in New Zealand soft rock hill terrain. *Agroforestry System* 21: 191-211.

APPENDIX I

TERMS OF REFERENCE FOR THE 2005 REVIEW OF THE EAST COAST FORESTRY PROJECT

The terms of reference for the 2005 Review of the East Coast Forestry Project (the Project) are:

Erosion Control and Sustainable Land Management

Review the performance of the Project against the physical and performance targets set by Cabinet (including the relative proportion of severely eroding land established under the Project). This will require analysis of the effectiveness of the four different treatments available (commercial forestry, non-commercial forestry, poplar and willow planting and reversion to indigenous vegetation) their rate of uptake and percentage of grant area covered.

Review the adoption of changes to the Project arising from the 1998 review and their effectiveness in meeting the objectives of the Project.

Review the Management Prescriptions

Recommend improvements if any to treatments and management prescriptions to make erosion control more effective and to increase the level of uptake.

The East Coast Forestry Project and Land Use Controls under the Gisborne District Council Combined District and Regional Plan

Review progress made by Gisborne District Council in implementing land use controls to address severe erosion on land targeted under the Project.

Assess what impediments if any, there are to this process and recommend after consultation with Gisborne District Council and the Ministry of Agriculture and Forestry ways in which this process may be advanced.

Operational Issues

Review whether the Project has been operating effectively and efficiently, including consideration of:

Administration processes and resources covering:

- the tendering mechanism and application process (vis a vis a grant process);
- application process and timetable;
- field auditing and compliance monitoring procedures.

Information and communications procedures covering the effectiveness of:

- information, Project promotion and site visits;
- networking with interested stakeholders.

Technical considerations relating to:

- the targeting criterion, weighting systems and management prescriptions;
- the use of covenants for indigenous reversion treatments.

Performance of the Project in regard to:

- ease of access, and any administration barriers for eligible applicant landowners;
- uptake by landholders (European, Maori, corporate, forester and farmer);
- the relationship between grant value and site value;
- annual expenditure and appropriate funding of budget;
- benchmarking and monitoring;
- the protection of nature conservation values;
- impact of species choice and stocking level restriction on achieving the Project objective;
- cost effectiveness of treatment options.

Associated research regarding:

- the role and suitability of alternative species and low stocking regimes (need for research or sourcing data);
- the role of gully identification work (by Dr Mike Marden, Landcare Research Ltd).

Payments and Funding

Review Project expenditure against budget and the future adequacy of grant funding available, in the light of present approvals and outlays and future commitments.

Consider adequacy of funding approval criterion for the different treatments available.

Review the timing of payments to grant recipients and whether timing is a constraint.

Review the level of funding available for Project administration.

Wider effects of the Project in the Gisborne Region

Review the extent to which the Project has been able to complement or hinder other regional objectives including employment, and social and economic development.

Review the extent to which the Project has contributed to new forestry planting in the district and whether this would have taken place with or without funding under the Project.

Based on submissions received and from stakeholder interviews comment on whether farm-based plantings under the Project have changed the viability of farm businesses.

Contribution to other Government Policy

Review the synergies between the Project and government policy initiatives on climate and change and permanent forest sinks.

Consider the lessons from the Project which could be applied to other regions which are susceptible to erosion and flooding – in particular the lower North Island and Bay of Plenty regions which have suffered recent erosion and flooding in the lower catchments.

Ongoing Monitoring

Determine ongoing evaluation requirements of the Project, including the need for a further review as the Project progresses.

Consider such issues that, in the view of the panel, are relevant to a review of the project and make recommendations that would enhance the Project's performance against objectives.

Information and Consultation

The review panel is expected to consult widely and take into account the view of interested parties.

Reporting

The panel will report back to the Ministry of Agriculture and Forestry on its findings and recommendations by 30 September 2005.

APPENDIX II

LIST OF WRITTEN SUBMISSIONS

Submission ECFP01	Northland Regional Council
Submission ECFP02	Ewan McGregor
Submission ECFP03	Ernslaw One Limited
Submission ECFP04	F A Oosten
Submission ECFP05	Paul N Baker
Submission ECFP06	The Ingleby Farm Co Ltd
Submission ECFP07	Marotiri Farm Partnership
Submission ECFP08	Tauwhareparae Farms
Submission ECFP09	Mangatu Blocks Incorporation
Submission ECFP10	Ruru Willis & Co Ltd
Submission ECFP11	Tane's Tree Trust
Submission ECFP12	Murray McAlonan
Submission ECFP13	Gisborne East Coast Branch of the NZ Farm Forestry Association
Submission ECFP14	Louise Savage
Submission ECFP15	PF Olsen and Company Ltd
Submission ECFP16	Malcolm Galloway
Submission ECFP17	William Dobbie
Submission ECFP18	Forest & Bird Gisborne Branch
Submission ECFP19	Gisborne/Wairoa Federated Farmers
Submission ECFP20	Gisborne District Council
Submission ECFP21	Dr Michael Marden
Submission ECFP22	New Zealand Institute of Forestry
Submission ECFP23	Ray and Grace Newman
Submission ECFP24	Nick Seymour
Submission ECFP25	Department of Conservation (DoC)
Submission ECFP26	Te Runanga O Ngati Porou (TRONP)
Submission ECFP27	Ngati Porou Whanui Forests Limited
Submission ECFP28	Nancy Tuhura

OTHER MATERIAL PRESENTED

ECFP24	Letter from Dr J Morgan Williams Parliamentary Commissioner for the Environment
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