

MANAGEMENT OF RIPARIAN MARGINS  
IN TARANAKI:

IMPLEMENTATION STRATEGY

A report prepared in response to submissions received on the  
'Management of Riparian Margins in Taranaki  
- A Discussion Document

February 1993

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## 1.0 INTRODUCTION

In September 1992 the Taranaki Regional Council released the public discussion document 'Management of Riparian Margins in Taranaki'. That document was the first step in the development of policy relating to the management of the riparian margins of Taranaki rivers and coastal areas, for inclusion in the Regional Policy Statement, and for adoption by the Council as an important area of activity.

The document discussed why and how riparian management could be regarded as an effective step towards sustainable management of the natural and physical resources of Taranaki, and provided general guidelines on the specific methods of riparian management. It examined the options available to achieve effective riparian management, and presented a preferred strategy to implement riparian management in the Taranaki Region.

The discussion document was distributed to a number of key organisations and made available to the public in order to obtain their views on both the importance and desirability of riparian management, and the most appropriate strategy for the Council to adopt in its implementation. The submissions received have been summarised in a separate report to Council.

The purpose of this report is to discuss and resolve the issues raised in the discussion document, taking into account the comments made in submissions, and to make recommendations to Council as to an appropriate implementation strategy for enhanced riparian management in the Taranaki Region.

Brief explanations of the key terms, benefits and principles of riparian management and the Council's statutory responsibilities are given in this document as a background to the discussion of riparian management issues and options. However, it is not intended that this report duplicate the material in the discussion document. For further details, the reader is referred to the original report.

## **2.0 BACKGROUND**

### **2.1 THE ISSUE**

Changes in land use and a corresponding loss of riparian vegetation and wetlands over the past 50 - 100 years have contributed to the problems of erosion, flooding, increased water temperatures, and loss of natural habitat in Taranaki's waterways. It has also resulted in an increase in the flow of diffuse source contaminants (eg, run-off from agricultural land and urban roads) into rivers and streams adding to a deterioration in water quality.

Water quality data (collected primarily from ring plain waterways) indicates that such deterioration occurs predominantly in the mid to lower catchment areas, particularly after the river or stream flows through intensively farmed land. Most of the diffuse source contaminants of ring plain waterways originate from agricultural run-off and subsurface water movement, while the hill country waters generally have higher inflows from erosion-derived sediment.

Submitter's responses to questions in the discussion document illustrate that diffuse source pollution is widely perceived to be a significant problem in Taranaki, particularly in the ring plain catchments.

### **2.2 DEFINITION OF TERMS**

Riparian margins are the strips of land immediately adjacent to waterways. They are frequently moist, and generally extend from the perceived change in contour of the flood plain to the waterway itself. The riparian zone is the wider area incorporating both riparian margins and the waterway inbetween. It is the area in which interaction occurs between the terrestrial and aquatic ecosystems.

In the coastal situation the riparian margin is the area of land above mean high water springs that remains under the influence of coastal processes. The riparian zone extends from the landward boundary of the riparian margin down to the mean low water mark.

Riparian management refers to the collection of activities and practices that can be applied to riparian margins along waterways and the coast, in order to improve the natural characteristics and functioning of the entire riparian zone. It is therefore considered a land use practice that can be used to further the achievement of integrated and sustainable land and water management.

A new term introduced in this report is esplanade strip agreements. This term arises from the proposed amendments to the esplanade strip provisions in the Resource Management Act. Section 235 of the Resource Management Amendment Bill provides for the creation of esplanade strips by agreement between landowners and local authorities (this provision is further discussed in Section 4.4.4). This instrument will be a useful means of formalising the protection of riparian margins in priority catchments. Esplanade strip agreements are distinct from the joint venture agreements proposed in the discussion document. Joint venture agreements are formal agreements between landowners and other interested parties, which record their shared objectives and responsibilities for riparian management in particular catchments or coastal areas. Unlike the esplanade strip agreements however, they have no basis in statute.

### **2.3 BENEFITS OF RIPARIAN MANAGEMENT**

The retirement of riparian margins from stock use has been widely recommended in New Zealand for improving aquatic habitat and water quality in agricultural catchments. These

recommendations are based on an evaluation of overseas experiences, as well as a limited number of studies and private trials undertaken in New Zealand.

A number of potential benefits of riparian management are identified in the discussion document (see Section 4.0). Briefly, the benefits in catchments include improved water quality resulting from decreased sediment and nutrient inputs, reduced water temperatures from shading of riparian vegetation, minimisation of streambank erosion due to the binding effect of suitable deep rooting vegetation, mitigation of flooding through the regulation of surface and subsurface flows into waterways, the enhancement of habitat for both native and introduced species, the provision of wildlife corridors, and the improvement of aesthetic and amenity values. The potential on-farm benefits of riparian management include shelter, increased pasture production, shade for stock, improved farm management, reduced stock losses, and an alternative income source if timber trees are planted.

Many of these benefits also apply to coastal riparian margins. In particular, riparian management is a potentially effective control mechanism for coastal erosion in dune areas and may protect adjacent land from salt and sand intrusion. It may also offer the provision of cultural resources, such as pingao.

The benefits of riparian management were emphasised in a number of submissions on the discussion document. However concern was also expressed that greater scientific evidence was needed to establish the cause-effect relationship between the protection of riparian margins and improved water quality. Whilst it is acknowledged there is a lack of hard data as to the benefits of riparian management in the Taranaki context, it is believed that the body of scientific knowledge about the functioning and benefits of riparian margins is sufficient to justify the promotion of this management technique. The implementation of riparian management in model catchments (as suggested in Section 10.3 of the discussion document) will provide an ideal opportunity for 'before and after' studies to illustrate the benefits of riparian management for Taranaki's waterways.

## 2.4 STATUTORY RESPONSIBILITIES

The Taranaki Regional Council is required by the Resource Management Act 1991 to give effect to the fundamental purpose of promoting the sustainable management of natural and physical resources in carrying out its functions in the Taranaki Region.

'Sustainable management' is defined in the Act as:

*'managing the use, development and protection of natural and physical resources in a way, or at a rate which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while:*

- (a) *sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations;*
- (b) *safeguarding the life supporting capacity of air, water, soil and ecosystems; and*
- (c) *avoiding, remedying or mitigating any adverse effects of activities on the environment.'*

The Council is also required (Section 6 and 7) to recognise the importance of:

- preservation of the natural character of the coastal environment ... wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate ... use;

- protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna (including native fish);
- the relationship of Maori and their culture and traditions with their ancestral lands, water .. and other taonga;
- maintenance and enhancement of amenity values;
- maintenance and enhancement of the quality of the environment; and
- protection of the habitat of trout and salmon.

Riparian management is one particular method that can be used to achieve the above objectives. Under Section 32 of the Resource Management Act the Council has a duty to consider whether this method is appropriate and likely to be effective. It is clear from the benefits identified in Section 2.3 that riparian management can be regarded as a comprehensive and practical method that is capable of delivering outcomes consistent with the objectives outlined above. It is therefore considered that riparian management is an appropriate and effective method to adopt in the performance of Council functions. This proposition was widely supported in submissions received on the discussion document.

It was noted in one submission that the functions of regional council's, as set out in Section 30 of the Act, provide additional justification for the Council's implementation of riparian management. The relevant functions identified include:

- the control of the use of land for the purpose of soil conservation and the maintenance and enhancement of water quality, including coastal waters (30(1)(c)(i) and (ii));
- the control of discharges of contaminants into water (30(1)(f)); and
- the control of the introduction or planting of any plant in, on or under the beds of water bodies for the purpose of soil conservation, and the maintenance and enhancement of the quality of water in that body (30(1)(g)(i) and (ii)).

Whilst these functions certainly enable the Council to have a role in riparian management, they do not in themselves provide a justification for this method; the basis for the protection and management of riparian margins is derived from the purpose and supporting principles of the Act.

It is worth noting here that the Council's role in relation to planting in river and lake beds is guided by the restrictions on the use of these areas as provided in Section 13 of the Act. Under this section planting in or on the bed of a waterbody is prohibited unless expressly allowed by a rule in a regional plan or a resource consent. As the Act defines river beds to include at least part of the river bank and therefore the riparian margin, the Council will have to include a rule in its proposed Regional River and Lake Beds Plan which allows riparian planting as a permitted activity, subject to certain conditions (eg, the species being planted).

## **2.5 BASIC PRINCIPLES OF RIPARIAN MANAGEMENT**

The potential benefits of riparian management will not be the same in all situations, but will vary according to a number of factors which influence the functioning of the riparian margins. These factors include the physical character of the catchment or coast and its riparian zone, the vegetation present within the riparian margin, and the specific management methods applied to riparian margins as determined by the desired benefits and related management objectives.

Because the physical character of the riparian zone varies both between and within catchments, and the objectives in managing the riparian margin will vary from one landowner to the next, there will be no one set of guidelines for riparian management that will be applicable to all waterways in Taranaki. There are however, certain basic requirements of riparian margins for benefits to be realised. These include the initial retirement and fencing of the riparian margin, the establishment of appropriate vegetation and the provision of ongoing maintenance (eg, maintenance of fences, pruning timber trees, and pest and weed control). These requirements are elaborated in Section 7.0 of the discussion document.

### **3.0 MANAGEMENT ISSUES**

This section discusses issues associated with the establishment of riparian protection schemes in Taranaki. These issues were initially raised in the discussion document (Section 8.0) and were widely commented on in submissions.

#### **3.1 COSTS**

There are a number of costs that may be associated with the protection and management of riparian margins. These include retirement costs (loss of productivity and fencing requirements), the cost of planting, the cost of ongoing maintenance and the cost of alternative water supplies and stock crossings where necessary. The burden of these costs falls more heavily during the establishment phase of riparian schemes.

The equitable distribution of the attendant costs and benefits of riparian management is an important consideration in the development of the Council's implementation strategy. As the benefits of riparian management do not solely accrue to individual landowners, but also to the community as a whole, it is appropriate that the community also contribute to the above costs. This point was reiterated in a number of submissions.

Whilst the community stands to derive the downstream, long-term benefits of improved water quality and enhanced aquatic habitat, the potential benefits to landowners should not be underestimated. In addition to sharing instream benefits, landowners may directly benefit from erosion protection, farm production and management improvements, and timber resources. Landowners also have a responsibility under the Resource Management Act to avoid and mitigate the adverse effects of their activities on the environment (Section 17).

Given the widespread benefits of riparian management it is believed that some form of community contribution is both appropriate and desirable. It is anticipated that community support of riparian protection schemes will occur via two main avenues; by funding (through general rates) the Council's proposed role in the general promotion of riparian management (eg, the provision of additional staff resources), and through their participation in joint venture schemes.

#### **3.2 ACCESS**

As noted in the discussion document the objectives of riparian management have the potential to conflict with issues of access. Retired margins can create a barrier to both farm access across waterways, and public access to waterways.

These problems can be overcome by incorporating access requirements in the design of riparian margins. This may include the provision of stiles over fences, or fenced 'breaks' through the margin at appropriate points, and installation of culverts, fords or bridges over streams.

Several submissions commented on the need for guaranteed public rights of access to rivers as part of the riparian protection process. However public access to waterways located on private land is not considered to be a riparian management issue. In general public access to waterways on private land is, and will continue to be, dependant on the consent of the landowner concerned.

Riparian management is aimed primarily at improving water quality rather than promoting public access *per se*. There may be some catchments however, where provision for public access to enhance recreational use is considered to be one of the objectives of riparian management.

In these cases public access could be negotiated as part of an esplanade strip agreement or a joint venture scheme.

The Resource Management Act provides the mechanisms of esplanade reserves, esplanade strips and access strips to further the objective of enhancing public access to and along rivers and lakes and the coastline (Section 6). Provision of these mechanisms on private land is generally reliant on the subdivision of land adjacent to the waterway. The use of the esplanade strip provision of the Act to further riparian management objectives is discussed in Section 4.4.4.

### **3.3 WEEDS AND PESTS**

The establishment and growth of weeds within riparian margins following retirement from grazing is recognised as a potential riparian management problem. The control of weed infestations (eg, of barberry, blackberry, gorse, pampas, old man's beard, Australian sedge and ragwort) will be important to ensure that the functioning of riparian margins is not inhibited, and to prevent the downstream dispersal of weeds to other properties.

The need to control weeds will vary with the vegetation composition of the riparian margin and also the stage of its development eg, weed infestations will probably be more of a problem in the short term until riparian plants become fully established, and the use of native species may reduce the incidence of weeds in the long term.

The control of weeds needs to be recognised as an inevitable part of the ongoing maintenance requirements of riparian margins. Responsibility for employing appropriate management techniques to control weed infestations will need to be accepted by the owners of riparian margins and the participants in joint venture agreements. The Council can not, in its role of promoting and facilitating riparian management, compromise the implementation of its Regional Noxious Plants Programme. The Council's policies in respect of the control of noxious plants must be consistently applied across the region and will therefore be equally applicable to riparian margins as to the adjacent farm land.

The suggestion was made in several submissions that gorse could be left uncontrolled to provide a nursery crop for the establishment of regenerating native species. In view of the problem of seed dispersal and the need for consistency with policy on the control of gorse elsewhere, the Council would be reluctant to encourage the use of gorse in this way. It is suggested the use of tree lucerne should be explored as an alternative nursery crop.

The harbouring of pests in riparian margins, particularly possums, is recognised as a potentially significant riparian management problem. The possum is Taranaki's major pest and threatens both the ecological diversity of native flora and fauna, and the economic viability of the region through the threat of transmission of Bovine tuberculosis to both dairy and drystock units. Hares and rabbits are not considered a major problem in this region.

The creation of wildlife corridors from the National Park to the sea may facilitate the migration of possums and result in an increase in the possum population on the ring plain. A number of submissions emphasised this concern, noting that riparian margins would increase existing possum control problems. It is therefore essential that possum management programmes are responsive to this potential problem and ensure that possum numbers are kept to an acceptable level.

The Council is currently committed in its 'Regional Pest Management Plan', May 1992 to undertaking pest control in areas where greater protection is sought for soil and water conservation values (objective 7). At present there is little demand for pest control in established riparian margins and therefore this is currently a low priority in terms of the allocation of available resources. However it is recognised that the development of riparian

protection schemes will require a reassessment of active pest control priorities. In view of the Council's continued commitment to the 'self-help' programme and involvement in coordinated possum control operations in the National Park, the future control of the possum population is not considered an insurmountable problem.

### **3.4 MINIMUM WIDTH OF PROTECTED RIPARIAN MARGINS**

The required minimum width of protected riparian margins will be dependant on both the physical characteristics of particular catchments (eg, river channel shape and stability, water fluctuation levels, topography, lithologies and soil types, and adjoining land uses and farm unit size), and the riparian management benefits sought. For example, if shading is the primary requirement, then protected margins will need to be wide enough for the establishment of shade trees.

Given the variability in riparian management requirements for particular catchments, it is appropriate that minimum widths for protected riparian margins and esplanade strips be established on a case by case basis in consultation with landowners, and, in the case of joint ventures, the other participating parties. Whilst there will be no generally applicable width, it is suggested that as a rule of thumb, one metre of protected margin on each bank, per one metre width of river bed would be a suitable minimum requirement.

### **3.5 RIPARIAN VEGETATION**

As noted in the discussion document (Section 7.1.2) the vegetative component of the riparian margin is of critical importance in terms of the functioning of the protected area. The choice and structuring of riparian vegetation will be dependant upon the primary functions or benefits being sought for that particular catchment or site. If the riparian margin is to fulfil more than one function (eg, control of surface runoff derived sediment and nutrients and provision of suitable habitat conditions for wildlife) then the composition of vegetation within the margin will need to be structured into discrete zones in order to perform these dual roles.

The use of timber and/or shelter species in riparian margins can provide additional economic benefits to landowners in terms of improved farm productivity and provision of timber resources. This was emphasised in several submissions.

A number of submissions expressed support for the use of indigenous vegetation within riparian margins to enhance wildlife habitat and cultural and aesthetic values. Several of these also noted the benefit of indigenous species in reducing long term riparian maintenance. The use of such species for riparian planting on any extensive basis raises the issue of both appropriate source and adequate supply of plant material.

In terms of plant sources, several submissions emphasised the need to use ecosourced or locally-obtained plants to maintain the genetic characteristics of Taranaki strains. Whilst the desirability of using ecosourced material for riparian margin planting is acknowledged, it is considered that the exclusive adoption of this principle would restrict the extent of margins planted, and would therefore unnecessarily constrain the achievement of riparian management objectives.

In relation to plant supply, it was suggested that the Council become involved in the establishment of a local nursery, growing species endemic to Taranaki. Another suggestion was that the Taranaki Tree Trust, of which the Taranaki Regional Council is a Trustee, could partially sponsor the conversion of the Whakapakapaka Trust Nursery a teaching/plant production establishment. Council involvement in providing direct services, such as supplying riparian plant material, would involve considerable input of resources, and is not currently feasible for this reason. It is believed however, that given appropriate market signals, existing

nurseries and plant suppliers in Taranaki would respond to increased demands for native plants, and would increase supply accordingly. The Council could play a role in ensuring that suppliers anticipate demand by keeping them informed of future planting requirements.

#### **4.0 OPTIONS FOR IMPLEMENTATION OF RIPARIAN MANAGEMENT**

Section 9.0 of the discussion document examined the methods available to the Regional Council under the Resource Management Act, Local Government Act 1974 and other legislation, to promote riparian management. This section briefly outlines and discusses these methods in light of the issues raised in submissions.

#### **4.1 EDUCATION/ADVOCACY**

This method involves the Council encouraging landowners and interest groups to manage riparian margins in accordance with the general guidelines set out in the discussion document (Section 7.0). The components of the Council's education and advocacy strategy are provided in detail in Section 5.0.

The advantage of education and advocacy methods is that landowners and/or managers are placed in an informal position to make their own decision about the merits and objectives of applying riparian management for their particular situation. The emphasis on voluntary action and involvement is important; the encouragement of individual initiative is more likely to result in ongoing interest and responsibility, and therefore successful implementation, than coercion and forced action. A disadvantage of these methods however, is that in isolation, they are likely to result in delayed and piecemeal development of riparian management. They will not, on their own, achieve riparian management on targeted, priority catchments.

The use of education and advocacy was widely supported in submissions as an appropriate method for the Council to promote riparian management. The only qualification was that in order to be effective, this method would need to be used in conjunction with other targeted methods. It is concluded therefore, that education and advocacy are cost-effective methods that should be reinforced by other more targeted methods.

#### **4.2 SERVICE DELIVERY**

The riparian management services proposed by the Council (Section 9.2) focused on indirect actions aimed at facilitating the establishment and implementation of riparian management. These included providing technical advice and coordinating the establishment of joint venture agreements between landowners and other interested parties. The direct actions outlined in the report ('hands-on' planting and maintenance, provision of funds, and acquisition of land) were rejected on the basis that the required input of resources was currently beyond the Council's means, and would necessitate committing regional ratepayers to considerable additional costs.

The concept of joint venture agreements as a method of promoting riparian management, is particularly favoured. The key benefits of such agreements include:

- the sharing of the costs and demands of riparian management among interested parties and beneficiaries;
- ownership and ultimate control of riparian margins is retained by landowner/occupier;
- participants can jointly decide on management objectives and desired outcomes;
- active formal commitment to appropriate riparian management is recorded in the joint agreement;
- landowners can negotiate for desired farm improvements;

- community and environmental groups can negotiate for the outcomes they want; and
- flexibility in terms of the respective contributions of participating parties.

Responses in submissions were generally very supportive of the use of joint venture agreements, and the Council's role in coordinating and assisting their establishment. There was some scepticism as to the size of the pool of ongoing voluntary labour that would become available through this mechanism. However, several submissions also made positive suggestions of additional sources for involvement in voluntary agreements eg, Taranaki schools, Conservation Corps, Taskforce Green etc.

#### **4.3 ECONOMIC INSTRUMENTS**

The discussion document identified the methods of rate relief, subsidies, grants and penalties, as possible financial incentives to encourage landowners to voluntarily undertake riparian management on private land (Section 9.3). It was concluded however, that economic instruments, on their own, were unlikely to be effective in inducing the required changes in behaviour. In addition, the costs of administering these instruments was considered to be such that their potential benefits are likely to be outweighed. Despite these general conclusions, the method of rate relief was suggested as an option that might be worth pursuing.

A number of submissions expressed support for the use of economic instruments, in particular rate relief, to complement the methods of education/advocacy and service delivery.

The provision of rate relief for the retirement of riparian margins is not considered appropriate at this stage. There are several reasons for this. Firstly, the administrative procedures that would need to be set up would be complex and costly. District Councils collect the regional general rates on behalf of the Regional Council, and would therefore be required to compute the appropriate regional rate reduction based on the proportion of land retired. Retired margins would need to be surveyed and registered on the land titles at some cost. Secondly, the actual amount by which rates would be reduced would be relatively insignificant and would therefore hardly act as a financial incentive.

One situation where rate relief may be feasible is where a relatively significant area of land is retired as part of an esplanade strip. This would require an agreed policy between district councils and the Regional Council, and would act as a financial reward for the protection of riparian margins. In general however rate relief is considered to be an ineffective and inefficient method of promoting riparian management, and is not favoured for these reasons.

#### **4.4 REGULATION**

The discussion document explored four regulatory mechanisms for the instigation of riparian management programmes - local government bylaws, designations, regional rules and esplanade reserve provisions (Section 9.4). Following discussion of these options it was concluded that regulation is in most cases, unjustified and unnecessary for the establishment of riparian protection schemes.

Responses in submissions were largely in agreement with this conclusion. It was generally felt that the most effective approach for achieving riparian management would be through voluntary cooperation rather than coercion. A number of submissions however expressed support for the use of regional rules as a backup measure in priority catchments.

#### **4.4.1 Local Government Bylaws**

Local government bylaws (under the Local Government Act) are not considered an appropriate or effective means of promoting riparian management. This is because it would be difficult to write comprehensive by-laws responsive to the site specific requirements of every riparian management situation. Another disadvantage is that their effectiveness is reliant on stringent advertising and enforcement.

#### **4.4.2 Designations**

The use of designations (under Section 168 of the Resource Management Act) to force the retirement of riparian margins for riparian management purposes is also considered undesirable. As the Council would have to be prepared to purchase and accept the responsibility for the designated land, this option would be financially prohibitive.

#### **4.4.3 Regional Rules**

The use of regional rules requiring the retirement and protection of selected riparian margins was the only regulatory measure (apart from esplanade strips) that received support in submissions. Whilst regional rules have the potential to be an effective means of ensuring riparian protection in priority areas, it was argued in the discussion document that they would be at risk to challenges (under Section 85 of the Resource Management Act), on the basis of the 'unreasonable burden' they place on landowners.

It is a moot point whether or not regional rules, requiring riparian management to be undertaken, would survive in a regional plan. Under Section 85, rules may be challenged on the grounds that they both 'render land incapable of reasonable use and place an unfair and unreasonable burden' on the landowner.

Irrespective of whether regional rules could be justified under Section 85, this mechanism is not favoured, at least in the short term. It is believed that coercion of landowners to retire riparian margins on their land is not likely to result in ongoing commitment and responsibility to appropriate riparian management techniques and, therefore, in the desired environmental outcomes. Education, encouragement and assistance, coupled with individual initiative and voluntary cooperation, is much more likely to produce positive results.

Regulation may be an option worth pursuing in the longer term if performance reviews show that riparian management is not being achieved by alternative methods. However it would only be justifiable in cases where the adverse effects from the lack of riparian protection could be clearly defined.

An alternative option for using regulation to control diffuse source pollution would be to impose rules which specify desired water quality standards in particular catchments. Landowners adjacent to waterways could then choose the most suitable methods for achieving the required standards; protection of riparian margins may be a selected method, or alternatively the redirection of point source discharges onto land combined with careful land management techniques.

However, there are several problems with this option. Firstly, it would be difficult to define water quality standards that are sufficiently accurate to demonstrate the effects from one property as distinct from another; this would be impossible in cases where the waterway was also the farm boundary. Secondly, this option would not encourage riparian management on a comprehensive, catchment wide basis, thereby lessening its potential effectiveness. The use of a water quality standards approach to controlling diffuse source pollutants is therefore not considered a feasible option.

#### **4.4.4 Esplanade Reserve/Strip Provisions**

The Resource Management Amendment Bill (currently before a Select Committee) significantly changes the esplanade reserve and strip provisions in the Act. The vesting of esplanade reserves in district councils on the subdivision of land of more than 4 hectares adjacent to waterbodies or the coast is no longer mandatory. Councils now have the options of requiring esplanade reserves or esplanade strips, or of 'doing nothing'. Access strips may also be negotiated for the purpose of allowing public access to esplanade reserves, strips or other local authority/Crown land. These amendments are designed to encourage councils to target waterbodies specifically needing protection or access, and to select the level of protection appropriate to the particular situation.

The creation of esplanade reserves to achieve riparian protection is not considered to be an appropriate option in most circumstances. This is because they place unreasonable financial burden on district councils as a result of compensation, survey and land management costs. Further, esplanade reserves are driven by the process of subdivision alone, and therefore do not, by themselves, provide an opportunity for effective, catchment wide riparian management.

The esplanade strip provisions of the Amendment Bill offer greater opportunities for the achievement of riparian management. Esplanade strips remain the property of the landowner and are not required to be surveyed, although they need to be recorded on the land title. In addition to being required on subdivision, esplanade strips can be created by agreement between a willing landowner and the local authority (Section 235). The Council could therefore use this mechanism to negotiate the creation of esplanade strips to protect riparian margins on a comprehensive basis in targeted catchments. This mechanism could be used on its own to establish riparian management in priority catchments, or could be used in conjunction with a joint venture agreement where there were other parties interested in becoming involved.

It is suggested that the Council take full advantage of the riparian strip provisions in the Amendment Bill (assuming these remain unchanged). Target catchments should be identified in the Regional Policy Statement or a regional plan and district councils requested to require the creation of esplanade strips on subdivision. The Council should as a priority, seek to obtain the agreement of landowners to create esplanade strips in these catchments.

## **5.0 PREFERRED STRATEGY**

This section outlines the preferred strategy for promoting riparian management in the Taranaki Region. The components of this strategy include the proposed Council role in the establishment of riparian management, as well as the suggested focus in the initial stages of implementation. It is expected that the adoption of riparian management on any comprehensive basis in the Taranaki region will be an evolutionary process occurring over the next 20-30 years. During this period the Council's strategy will need to be regularly reviewed with reference to selected performance measures, and may require reassessing in light of the inevitable changes in public attitude that will occur over time.

The preferred strategy received widespread support in submissions and is therefore essentially the same as that proposed in the discussion document. The strategy involves a combination of education and advocacy at a general, region wide level, and service delivery in the form of technical advice and coordination of joint venture agreements for specific catchments and coastal strips. The proposed Council role in the implementation of these methods is elaborated in following sections. The key considerations in deciding on this strategy were:

- the Taranaki Regional Council has limited financial and staff resources to contribute to riparian management, as do individual landowners;
- the success of riparian management will be reliant on the acceptance and long term commitment of landowners/managers;
- landowner initiative and on-going responsibility is more likely to be fostered in an environment of voluntary cooperation rather than by coercion and regulation;
- alienation of land from landowners to achieve riparian management is, in most situations, unjustified;
- the benefits of riparian management will accrue not only to landowners, but to the whole of the Taranaki community;
- to achieve the desired results, riparian margins need to be managed on a coordinated whole catchment basis;
- the large number of catchments in Taranaki identified as benefiting from riparian management means that areas will need to be prioritised for attention; and
- the widespread support in submissions for the strategy proposed in the discussion document.

## **5.1 EDUCATION AND ADVOCACY**

It is proposed that the Taranaki Regional Council expand its current level of education on, and advocacy of, riparian management on a region-wide level. This will be achieved by dedicating resources to a publicity programme aimed at raising the level of landowner and general public awareness of the benefits and principles of riparian management, and providing general practical advice on implementation.

The publicity programme should include the following components:

- development and inclusion of policy promoting riparian management, and protecting existing riparian vegetation, in the Regional Policy Statement;

- publication of a special edition of 'Recount' (the Council's newsletter) dedicated to riparian management;
- publication of information pamphlets and practical guidelines for general distribution;
- generation of interest with local newspapers to run feature articles, and with local radio stations to broadcast interviews and panel discussions;
- presentations to industry, community groups and schools;
- hosting seminars for interested landowners;
- organisation of demonstration/field days; and
- preparation of displays for venues and events eg, libraries, agricultural shows, environmental days etc.

General advocacy of riparian management should include:

- liaising with, and making submissions to, district councils and Department of Conservation encouraging appropriate riparian management on land under their control, and ensuring district plans provide for riparian planting as a permitted land use activity, and require the creation of esplanade strips on subdivision in targeted catchments;
- encouraging landowners to undertake voluntary riparian protection and enter into covenants (eg, QEII National Trust Covenants), esplanade strip agreements and joint venture agreements to protect riparian margins in priority catchments;
- advocate and provide relevant information to local nursery and plant suppliers to enable them to respond to requirements for riparian plant material; and
- advocate to appropriate Crown Research Institutes (eg, NIWAR) the need for research into the water quality benefits of riparian management.

## **5.2 SERVICE DELIVERY**

The Council should provide specific services to complement its education and advocacy activities in the form of:

- (a) provision of technical advice in response to enquiries arising from the education and advocacy programme. This will include onsite assessments and assistance with the development of riparian management plans for specific properties if the landowner chooses to proceed;
- (b) establishment of joint venture programmes for specific catchments and coastal strips. The key roles for the Council here will be in targeting and coordinating participants in joint ventures, and providing technical advice in terms of preparing and implementing riparian management plans; and
- (c) coordination and negotiation of esplanade strip agreements with landowners in priority catchments.

### **5.2.1 Council's Role in Joint Venture Programmes**

Joint venture agreements will involve the voluntary entry into a formal agreement by landowners and other parties interested in committing resources to riparian management. The Council will facilitate the establishment of joint venture agreements by initially canvassing interest amongst potential participants, and by acting as a broker to, or coordinator of, such agreements. The Council should contribute:

- advice on which catchments are a priority for negotiation of joint venture agreements;
- technical advice on the specific design and management of the riparian margin needed to maximise the desired outcomes;
- provision of on-going advice and follow-up support;
- pest control, where it is consistent with the objectives of the Regional Pest Management Plan; and
- on-going monitoring services.

The tasks involved in the establishment of joint venture agreements are described in detail in Section 10.3 of the discussion document.

### 5.3 PRIORITY CATCHMENTS

The large number of catchments in Taranaki has necessitated a ranking of priorities for allocation of the Council's limited resources. This has been restricted at least initially, to ring plain catchments only. Eastern hill country catchments have been excluded at this stage because they receive lower volumes of diffuse agricultural pollutants than those on the ring plain and there are comparatively fewer demands for water resources from industry and other users. In addition the depletion of original riparian vegetation is less extensive, and there are greater barriers to the successful implementation of riparian management eg, bigger catchments and difficult topography.

Twenty five priority ring plain catchments were selected, and ranked according to the potential benefit they would derive from riparian management. In order of decreasing priority these are:

Waingongoro*	Waiaua*
Manganui*	Taungatara
Te Henui*	Mangatoki
Kaupokonui*	Mangorei
Patea*	Maketawa
Oakura	Kahouri
Timaru	Mangaoraka
Waitara*	Warea
Waiwakaiho*	Okahu
Kapuni*	Punehu
Hangatahua/Stony	Ngatoro-nui
Waiongana*	Ngatoro
Tapuae	

\* Waterways which are also water supply catchments

The criteria used to prioritise these catchments included water quality (nitrate and phosphate levels), scenic and recreational values, and habitat quality. The data on which the ranking exercise was based was limited to that contained in a series of Taranaki Catchment Commission ring plain water resources survey reports (see Appendix 1 of the discussion

document). Whilst this exercise was useful for the purpose of providing a general indication of the relative benefits of riparian management on ring plain catchments, it is not considered adequate to use as a basis for the Council's implementation priorities. It is suggested that further work be done on prioritising catchments incorporating additional relevant criteria, such as water resource demands and cultural values.

Additional rivers identified as priorities in submissions were the Puketapu and Tangahoe.

The long term goal is for the development of comprehensive riparian management in all the above priority catchments. The Council will therefore encourage and assist any individual initiatives by landowners, and will advocate the creation of esplanade strips on subdivision in these areas.

The establishment of riparian management in all priority catchments by direct Council initiatives is currently not feasible. Rather, it is suggested that resources be directed into the establishment of several small 'model' catchments to inject impetus into the programme in its initial stages by providing real examples demonstrating the positive benefits of riparian management. These would provide an effective tool for the Council to utilise in its education/advocacy programme, as well as providing benefits to bordering landowners and the community.

The small high use/high profile catchments identified as potentially suitable candidates for trial schemes are the Tawhiti, Wairau and Waimoku Streams. Additional suggestions in submissions included the Timaru Stream, Upper Waiwakaiho/Kaiau, Mangakotukutuku and Mangawarawara, Dunns and Little Dunns Creek in the Kaipokonui Catchment, the Makatawa, and the Waitara Estuary.

The Council will select 2-3 of these streams or small catchments to initiate trial riparian management schemes within a two year period. The final selection will be dependant on the interest of landowners, industry and community groups in participating in joint ventures.

#### **5.4 PRIORITY COASTAL MARGINS**

Priority coastal areas for riparian management include Komene Beach, Kumara Patch, Paeora Road, Stent Road and Oaonui Beach. Additional suggestions made in submissions were the Mimi River mouth and Waitoetoe Beach areas and Mhirau.

The Council will encourage and assist individual initiatives by landowners and territorial authorities to establish riparian protection schemes in these and any other priority coastal area. The establishment of 'model' schemes in coastal areas will be investigated as opportunities present themselves. District councils will be encouraged to become involved in the coordination of joint ventures for coastal areas where appropriate eg, where the proposed scheme is similar to their own programmes for managing coastal reserves in their district.

#### **5.5 MONITORING**

The Council will need to monitor the effects of the riparian management strategy over time, to enable assessment of the success of the preferred strategy in relation to the goals set. This will provide the basis for modifying and improving the strategy.

Monitoring the success of the strategy will be part of the Regional Monitoring Programme and will be undertaken at three levels:

- (i) monitoring the overall effectiveness of the strategy in terms of the extent of riparian planting and management occurring, by:
  - recording observations and inspections of Council field staff
  - periodic aerial photo runs to establish changes in the extent of riparian vegetation
  - requiring landowners receiving assistance to provide records of retirement/planting
  
- (ii) monitoring the effectiveness of education/advocacy activities, by:
  - recording feedback from landowners, interested groups and general public noting which activity initiated the response
  - recording number of requests for information and assistance
  - undertaking simple surveys to establish level of landowner/community awareness
  
- (iii) monitoring the effectiveness of riparian management in terms of improving water quality and instream habitat, by:
  - invertebrate sampling
  - measuring a variety of water quality indicators eg, nutrient levels, BOD, suspended solids etc.

## **5.6 RESOURCES**

It is envisaged that in the initial stages of the Council's riparian management strategy, a half person year, annually, of a Soil Conservator's time will be required. Two of the three soil conservation staff currently employed, are already fully committed to the implementation of the Council's sustainable land management programme focusing on the eastern hill country. The other soil Conservator will therefore be required to direct half their time towards riparian management.

Implementation of the riparian management strategy will also require the redirection of other existing staff resources. This will involve staff in advocacy, provision of educational material, noxious plants and pest control, monitoring and planning. Input from senior management would also be required for the negotiation of esplanade strip and joint venture agreements.

## 6.0 CONCLUSION AND RECOMMENDATIONS

Riparian management offers a range of potential benefits with respect to improved water quality, erosion control, and the enhanced functioning of aquatic ecosystems. These outcomes are consistent with the objectives of sustainable management of land and water resources, which the Taranaki Regional Council is required by legislation to promote. It is believed that the numerous benefits of riparian management to the Taranaki community justifies the adoption of a proactive Council role in its promotion. It is also believed that riparian management will be most successful if it is fostered primarily in an environment of voluntary acceptance and cooperation between all parties, rather than by coercion and regulation; it is on this basis that the Council's preferred strategy has been selected.

It is envisaged that the achievement of comprehensive riparian management in Taranaki will be an incremental process occurring over a relatively long time frame (in the order of 20-30 years). This is similar to the time frame that has been involved in the promotion of control of point sources of pollution in Taranaki. In order to catalyse the development of riparian management, and to make best use of limited Council resources, it has been decided to focus implementation, in the initial two years, on the establishment of joint ventures in several 'model' catchments. It is hoped these will illustrate the real benefits to be gained from riparian management in the Taranaki context, and in doing so, encourage similar ventures and commitments in other priority catchments.

### RECOMMENDATIONS

In view of the riparian management issues and implementation options discussed in the Riparian Management Implementation Strategy report, the following recommendations are suggested for the Regional Council's consideration.

### RECOMMENDED

THAT the Taranaki Regional Council:

1. note the considerable potential benefits of riparian management for Taranaki catchments and coastal areas;
2. recognise that significant region wide water quality improvement, as a result of effective riparian management, may take at least two decades to become manifest;
3. agree that riparian management is an appropriate method to promote the sustainable management of Taranaki's land and water resources;
4. confirm that, given the community benefits of riparian management, it is appropriate for the Taranaki Regional Council to direct one half of an existing officer's time toward the achievement of riparian management objectives.
5. note the need to include a rule in the proposed Regional River and Lake Beds Plan which allows riparian planting as a permitted activity subject to appropriate conditions;
6. note that proposed amendments to the Resource Management Act 1991 will provide a three tier approach to esplanades:
  - an esplanade reserve which may be taken compulsarily by a district council on subdivision of allotments of less than four hectares, and recorded as a separate title;

- an esplanade strip which may be established on agreement and with the payment of appropriate compensation, (with or without subdivision), between a landowner and a district council or a regional council and recorded as an annotation on an existing title;
  - an esplanade access strip which may be established, with agreed terms and conditions, between a landowner and a district council;
7. note the significant opportunities the esplanade strip provisions in the Resource Management Amendment Bill (Section 232-235) provide for the achievement of riparian management in priority catchments and coastal areas, in particular, the opportunity to establish esplanade strip agreements between willing landowners and the local authorities as a mechanism to:
- **Initiate** riparian management on a comprehensive basis in priority catchments;
  - ensure the ongoing protection of **established** riparian vegetation (existing, regenerating and planted) within riparian margins.
8. note that in general, public access to waterways on private land will be at the discretion of individual landowners, but that provision for public access on the creation of access strips (Section 237, Amendment Bill), may be negotiated as part of an esplanade strip or joint venture agreement, where appropriate;
9. agree that the control of noxious plants be recognised as the responsibility of the owners of riparian margins and, where appropriate, the participants in joint ventures, as part of the basic maintenance requirements of protected riparian margins;
10. note that the approved Regional Noxious Plants Programme provides that compliance with any requirement relating to a Class B noxious plant may be waived by the Council, on written request by the occupier, if in the opinion of the Council any requirement would not be detrimental to adjoining land use;
11. note that the approved Regional Noxious Plant Programme must be reviewed annually and agree that one of the subjects of the review, to be carried out in 1993, shall be the guidelines to be applied in the exercise of discretion in relation to the waivers which may be applied to both riparian margins and retired hillcountry;
12. recognise, in implementing and reviewing the Council's Adopted Regional Pest Management Plan, the need to reflect the potential possum control problems which may emerge in protected riparian margins;
13. agree that minimum width requirements for protected riparian margins and esplanade strips be determined on a case-by-case basis, in consultation with landowners, and where appropriate, other participating parties in joint ventures, taking into account:
- the physical characteristics of the catchment, stream or coastal margin,
  - the riparian management objectives and benefits sought, and
  - the productive value of the land, adjoining land uses and farm unit size;
14. recognise and express a preference for the regeneration and/or planting of **Indigenous vegetation** given the particular ability of indigenous species to enhance natural aquatic ecosystems and reduce long-term maintenance requirements;
15. note the potential economic value and returns for landowners and other parties in joint ventures, of the use of **exotic production** and shelter species in riparian margins, and the

ability of such species to further riparian management objectives, provided that their harvesting is carried out according to the Council's proposed Forestry Operations Code of Practice;

16. agree that in terms of appropriate methods for the Council to use in the implementation of riparian management:

- the delivery of 'direct' services (ie, planting/maintenance, provision of funds and acquisition of land) is not supported;
- the delivery of 'indirect' services (ie, the provision of technical advice and facilitation of the establishment of esplanade strip and joint venture agreements) is supported;
- the provision of rate relief, in general, is difficult to implement and that this approach is, therefore, not supported, although this mechanism shall be considered where relatively significant areas of land are retired as part of an esplanade strip;
- the use of regulation/regional rules to coerce landowners to retire riparian margins on their land is unlikely to result in ongoing commitment to appropriate riparian management techniques and desired environmental outcomes and that this approach is, therefore, not supported;
- the enforcement of water quality standards as an approach to controlling diffuse source pollution would be technically complex and unlikely to result in effective riparian management and that this approach is, therefore, not supported.

17. note the importance of establishing riparian planting/protection schemes on a comprehensive whole-catchment basis, including all tributaries, and of encouraging the voluntary involvement of landowners and community groups in co-operative joint ventures;

18. endorse a preferred strategy for the implementation of riparian management in the Taranaki region guided by but not necessarily limited to, the following key elements:

- (a) the development of a region-wide education/publicity programme aimed at raising landowners and general public awareness of the benefits and principles of riparian management including:
- preparation of a special edition of 'Recount' (the Council's newsletter) dedicated to riparian management;
  - publication of information pamphlets and practical guidelines for general distribution;
  - generation of interest with local newspapers to run feature articles, and with local radio stations to broadcast interviews and panel discussions;
  - presentations to industry, community groups and schools;
  - hosting seminars for interested landowners;
  - organisation of demonstration/field days; and
  - preparation of displays for venues and events eg, libraries, agricultural shows, environmental days etc.
- (b) The general advocacy of riparian management including:
- liaising with, and making submissions to district councils and the Department of Conservation encouraging appropriate riparian management on land under their

control, and ensuring district plans provide for riparian planting as a permitted land use activity, and promoting, subject to appropriate legislative, financial and management arrangements, the creation of esplanade strips on subdivision in priority catchments;

- encouraging landowners to undertake voluntary riparian protection and enter into covenants (eg, QEII National Trust Covenants) and esplanade strip and joint venture agreements to protect riparian margins in priority catchments;
  - advocate and provide relevant information to local nursery and plant suppliers to enable them to respond to requirements for riparian plant material; and
  - advocate to appropriate Crown Research Institutes (eg, NIWAR) the need for research into the water quality benefits of riparian management.
- (c) The provision of specific services to complement education and advocacy activities in the form of:
- providing technical advice in response to individual enquiries, including on-site assessments and assistance with the development of riparian management plans for specific properties at the request of landowners;
  - facilitating and co-ordinating the establishment of joint venture agreements for specific catchments and coastal strips;
  - negotiating esplanade strip agreements with landowners in priority catchments.
- (d) The initiation of trial riparian protection/planting schemes in 2-3 model catchments within the next two years in order to demonstrate the benefits of riparian management in the Taranaki context, and to encourage the initiation of similar schemes elsewhere.
19. note the potential suitability of the Tawhiti and Wairau/Waimoku streams for the initiation of trial riparian management schemes due to the opportunities for involving joint venture partners at these locations;
20. support the further investigation of the Otahi Stream as a potential candidate for a trial riparian protection/planting scheme in recognition of its historic and current importance to the Parihaka Marae;
21. note the opportunities for the Taranaki Tree Trust to be used as a funding mechanism for the sponsorship of specific riparian protection/planting schemes through tax deductible contributions by industry and other interested parties;
22. note the need to assess the success of adopted riparian management strategy measures, by conducting a review at regular time intervals, as part of the Regional Monitoring Programme;
23. advocate to NIWAR, the Taranaki Fish and Game Council and other interested parties, the need to establish scientific studies on trial catchments, designed to identify the net benefits of riparian protection/planting in terms of improved water quality and aquatic habitat, and in addition, to further determine the relative contribution of diffuse and point source derived nutrients in Taranaki's waterways;
24. support the inclusion of the following policy and methods of implementation in the water quality section of the Regional Policy Statement:

**Policy: Management of riparian margins**

*The existing vegetation along riparian margins of Taranaki lakes, rivers and streams shall as far as practicable be retained and where appropriate the retirement and planting of riparian margins shall be promoted and enhanced.*

### **Methods of implementation**

The methods to be used to implement this policy are as follows:

The Taranaki Regional Council shall:

- **Encourage and promote the retention of existing vegetation** along riparian margins.
- **Encourage and promote the revegetation** of the banks of lakes, rivers and streams by offering technical advice and assistance and by preparing riparian management plans in conjunction with landowners.
- **Prepare and adopt a riparian management strategy** designed to actively encourage the revegetation of the banks of Taranaki rivers and streams.
- **Continue to be a Trustee** of the Taranaki Tree Trust, and provide servicing support to that Trust.
- **Include in regional plans and resource consents**, appropriate criteria, conditions, guidelines or information for the retention or planting of riparian vegetation.
- **Encourage** other organisations or agencies acting under **other legislation** to protect and enhance riparian vegetation.

The Taranaki Regional Council and territorial authorities shall:

- **Recognise** that the following ring plain catchments have been identified as **priorities** for the implementation of comprehensive riparian management:

Waingongoro*	Waiaua*
Manganui*	Taungatara
Te Henui*	Mangatoki
Kaupokonui*	Mangorei
Patea*	Maketawa
Oakura	Kahouri
Timaru	Mangaoraka
Waitara*	Warea
Waiwakaiho*	Okahu
Kapuni*	Punehu
Hangatahua/Stony	Ngatoro-nui
Waiongana*	Ngatoro
Tapuae	

\* Waterways which are also water supply catchments

- Have **regard to** the following **criteria** in determining other **priority** catchments, subcatchments, or reaches of rivers, streams and lakes for the retention or promotion of riparian vegetation:
  - existing inferior water quality including nitrate levels and reactive dissolved phosphate levels;

- existing inferior habitat quality including instream habitat and the extent or loss of existing vegetation;
- the intensity of land uses; their proximity to watercourses and the actual or potential contamination from diffuse sources;
- the actual or potential use of water for community and domestic water supplies;
- Maori spiritual and cultural values and customary uses;
- actual or potential scenic, aesthetic and recreational values;
- actual or likely conflicts among competing water uses and values and the potential for riparian management to reduce those conflicts.

Territorial authorities shall:

- **Include in district plans** and resource consents, appropriate rules, criteria, conditions, guidelines or information for the retention or planting of riparian vegetation.
- **Require**, where and when appropriate, **riparian buffer zones** for land uses such as aggregate extraction adjacent to waterways.

**ADOPTED BY COUNCIL - 3 MARCH 1993**