

COMMUNITY PERSPECTIVES OF RIPARIAN MANAGEMENT AND RESTORATION: A CASE STUDY IN MARLBOROUGH

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ABSTRACT

This paper considers the results from a Marlborough based research programme into community views on riparian management and restoration. It summarizes and discusses information gleaned from interviews, a local council issues and options paper and community "focus" groups. Discussions in the community show an unexpected breadth of awareness of "river landscapes", centering on issues of river and water quality maintenance, the role of guardianship, the problems of access and, to a lesser extent, the economic consequences of riparian retirement. At a deeper level, however, there is conflict between the "authorities" and community; a "them and us" attitude that is working to impede community change. The paper concludes with discussion of how "we" in organizations may need to change to generate effective community based riparian restoration.

INTRODUCTION

Riparian areas (see Fig. 1) serve many **ecologically** important functions. As natural "green" corridors they are areas of species diversity and succession. They provide a habitat for plants and animals both on land and in water, contribute to improved water quality and other aquatic values, reduce the erosion of natural banks and farmland and provide shelter and shade for stock, to name a few (see Box 1 for details). For this reason riparian areas have been identified by the Resource Management Act as areas of national importance¹ and this importance is reflected, at an international level, through the UNESCO Land/Water Ecotones Project in which New Zealand is involved.

The **community** values of riparian areas are less well understood, but include the enhancement of aesthetic values, recreational and wilderness experience, provision of traditional foods and materials (e.g. flax) and a more specific opportunity to contribute to New Zealand's "Clean Green Image".

¹The RMA (1991) provides for "The preservation of the natural character of wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development" (section 6). There is also provision under the Act (section 230) to set aside Esplanade Reserves (a strip of land along the bank of any river, lake etc.) upon subdivision for the purpose of protecting the natural values (e.g water quality and aquatic habitats (section 229)) from the adverse effects of land activities.

Figure 1 The riparian area.

Box 1 Ecological values of riparian areas.

Natural well-vegetated areas alongside rivers and streams can help to:

- *maintain water quality and clarity by reducing sediment and nutrient run-off from land
- *reduce flood peaks by increasing water retention times and evapotranspiration rates (but not to the point that streams become seasonally dry)
- *maintain low water temperatures by providing shade
- *influence energy dynamics by affecting light quality and inputs of terrestrial organic matter
- *provide habitat for aquatic invertebrates and fish (e.g. in the form of cover in leaf accumulations and woody debris), and for terrestrial plants and animals
- *provide breeding areas for native birds (e.g. blue duck) and fish (e.g. whitebait)
- *provide suitable corridors for the dispersal of native plants and animals and serve as areas of high species diversity
- *increase soil stability and minimise stream bank erosion

Guidelines to maintain and protect the ecological values of riparian areas need to be supported by sound analyses of the social implications of different management scenarios. This will require an understanding of how riparian areas are perceived by the community, and what benefits are to be gained from these areas, whether by users, land-owners and/or the wider public. To this end the present piece of research was funded by the Department of Conservation (DOC).

The research objectives were to:

1. Identify community perspectives of river landscapes.
2. Provide guidelines on how these perspectives should be acknowledged if riparian restoration is to proceed effectively.

APPROACH

A Focus on One Region: Marlborough

The Marlborough district was selected as the location for a case study. It was anticipated that, by concentrating efforts on one "pilot" region, a clearer picture would emerge than if the same efforts were spread across all regions. The Marlborough region was an appropriate study area as:

1. It has a wide and representative range of riparian zones, including rural flat country, rural high country with both dry north facing and wet, south facing slopes, and extensive urban zones.
2. DOC had already done some ground work on riparian management in this region².
3. The Marlborough District Council (MDC), who had recently become a unitary authority and taken over the functions of the Regional Council, was also very interested in doing work on this problem in the form of an "Issues and Options" paper (where community input is requested on the various options to deal with each issues). They had also carried out a survey on the extent of riparian areas within the region and were able to make this information available to DOC³.

Methodological Issues

²See Simpson (1990)

³The RMA places the duty to avoid, remedy, or mitigate any adverse effects of activities on the environment (including riparian areas) on Local Authorities who have to demonstrate that benefits are likely to occur, and to consider alternatives and costs before adopting any objective, policy or rule (such as the provision of Esplanade Reserves) that would restrict human activities within riparian areas.

A qualitative, three-phase, action-research process was used to identify community perspectives on riparian management⁴. A first phase of interviews was designed to gain information on community views and simultaneously provide input into the Issues and Options paper to be developed by the MDC. The second phase sought information from the public via the Issues and Options paper, and a third phase presented a synthesis of the results from phases one and two to workshop "focus groups". These were attended by those who had expressed an interest in earlier phases and were intended to establish community strategies for dealing with riparian decline and restoration.

The Methodology in Practice

The **first** phase of the research involved 26 interviews carried out in the Marlborough region. Twenty interviews (involving a total of thirty people) were carried out using a **random sampling** of rate payers from the rates register for five river/creek areas in the region. These included:

1. Fairhall River, which flows through north facing rural slopes and dries out during some months of the year.
2. Onamalutu River, which runs through wetter south facing slopes with remnant kahikatea forest.
3. The Opawa Loop, an urban river loop backed by quarter acre residential sections, which is closed (through engineering) to the main river fresh.
4. Spring Creek, a fresh water spring renowned as a trout fishery, which flows through an intensively farmed rural area and a residential community.
5. Gibson's Creek, an irrigation "ditch" which diverts water from the Waihopai River to artificially recharge the Wairau aquifer at Renwick.

⁴The concept of action-research has its origins in the work of social psychologist Kurt Lewin (1946) but has since been further developed by numerous researchers (see, among others, Carr and Kemmis (1986), Kemmis and McTaggart (1988), Argyris and Schon (1991), and Checkland (1992)). As the name suggests, it is a method which has the dual aims of action and research: action to bring about change in some community, organization or programme and research to increase understanding on the part of the researcher or client, or both. While researchers may differ in their emphasis on action or research, almost all agree on the cyclic nature of action, followed by reflection, followed by further action. Most conventional research methods gain their rigour by control, standardization, objectivity, and the use of numerical and statistical procedures. But, in action research, standardization defeats the purpose. The virtue of action research is its **responsiveness** - in this case to the community, their concerns and what they pose as problems to be addressed. With each new phase of the research, evidence is sought that confirms or challenges the interpretations being made. The researcher may start off with quite fuzzy ideas about what is going on for the community but as they participate more and more in the research process and more and more evidence is obtained, the researcher gets closer to the "guts" of the situation and idiosyncratic information can be discarded. As in many numerical procedures, repeated cycles allow the researcher to converge on the appropriate conclusions.

Further interviews were carried out with key individuals within the community as well as with staff from the MDC and the DOC. In all, over 40 people participated in this phase of the project⁵.

Throughout the interviews, the words "river landscape" and "river margins" were used in preference to the word "riparian" to ensure community understanding⁶. Interviews were arranged by phone and, to accommodate community needs, were carried out primarily in the evening and in the homes of those interviewed⁷. An interview schedule (see Appendix 1) was developed to guide the interview process, however, it is an important feature of action-research methodology that later interviews (in Phase 1) differ from earlier interviews in the questions asked. The reason is that information gleaned in the earlier interviews is discussed and tested for agreement in later interviews.

Community residents, on the whole, had a lot to say about river landscapes, although some were slow to give vent to their thoughts and feelings. The author was greeted with a variety of responses from shy, "*I don't know why you've contacted me...I don't know a thing*" type of responses to reluctant, slightly suspicious "*What's a government agent doing here*" to overwhelming, non-stop "*This is what I think...*" monologues. And such were the needs for some to talk about rivers, that one person spoke for almost fifteen minutes before asking "And what exactly have you been engaged for?"

The **second** phase of the research, which was to be the development of a riparian "Issues and Options" paper with MDC did not go ahead quite as planned. The MDC decided to present the community with more general "Issues and Options" papers that covered many aspects of public policy rather than specific papers covering individual issues. Riparian management was dealt with indirectly through sections on (i) natural and historic values, and (ii) forestry and farming issues including topics of water quality, buffer zones and threats to riparian vegetation so that submissions could be examined for statements relevant to riparian issues. Submissions received by the MDC indicated similar concerns to those raised in the interviews⁸.

The **third** phase involved meeting with two "focus" groups, one held in Spring Creek and the other in Renwick, a central location for residents of the Fairhall River, Gibson's Creek and Onamalutu catchment areas. Twenty five community residents, as well as MDC and

⁵Community residents included a cross-section of the community in terms of age (20's to 60's) and land-ownership (from those owning a quarter acre section to those owning farms). Key individuals were identified by MDC as community leaders; MDC staff included engineers and planners and DOC staff included conservancy staff from the Nelson-Marlborough region. No one contacted declined an interview.

⁶Most of the community do not know the meaning of the term "riparian" and it would have been disempowering for lay people for the author to have insisted on using the word in an interview situation.

⁷Over the phone people were told that the author worked for DOC and was also working in collaboration with the MDC and both were interested in understanding more about what the community thought of their river landscapes.

⁸While 133 submissions had been received by the MDC on the management of the Marlborough Sounds at the time of giving this paper, further submissions were still to be received relating to inland Marlborough.

DOC staff attended the "focus" groups, with the latter providing a small slide show depicting the various features of riparian zones. The slide show and a large cadastral map (indicating the extent of esplanade reserves and other "protected" riparian zones) proved particularly successful in depicting the fragmentation of potential "green" corridors and thereby drawing residents into discussion.

The information to be discussed in the "focus" groups was, however, not greeted as expected. It had been anticipated that the sequential process of discussing results of the earlier phases with the groups would enable a refining of the research focus. With this intent the results from the earlier phases were summarized, ready to present to the "focus" groups. However, those attending the "focus" groups had other ideas. Within the Spring Creek community, in particular, those residents who had said they would attend decided it was important enough to invite their friends, so that a far greater crowd than anticipated attended the "focus" group (18 residents compared with the expected 8). Again, and as in the interview situation, people's needs to talk about their land and their river were far greater than their need to listen, with the result that territory covered in the interviews was again covered in the "focus" groups⁹.

The results of all phases are therefore reported together because the information received from the interviews and submissions was reiterated in the "focus groups". What occurred was not so much a sequential refinement of the community perspectives, but an emphatic statement of the main issues.

COMMUNITY AWARENESS OF RIVER LANDSCAPES

Perspectives of the Authorities

An important issue for concerned DOC staff¹⁰ was the increasing gap between the knowledge of riparian issues (particularly that knowledge generated within research agencies in New Zealand and overseas) and the "putting into practice" of this information. Staff wanted to know:

1. What was required for this information to be more widely disseminated and acted upon by the greater community?

⁹This meant that the community remained "stuck" in the action phase of the research - keener to express their needs than listen and reflect on the results that had been gleaned from the earlier interviews. This could be considered a failing of the action-research methodology but, in fact, it is entirely appropriate given that "new" residents had been invited along to the "focus" group. Of far more relevance is that the interest generated at Spring Creek was such that the residents have since formed an active Spring Creek Association and have held several meetings with agencies such as the MDC to discuss the management of Spring Creek and its margins. They reported having thought about the issues raised and having discussed the issues amongst themselves. That is, they have independently reflected on the problems of river landscape management and then followed through on certain strategies (a further phase of action) mirroring the action-reflection process.

¹⁰DOC staff included members of the Nelson-Marlborough Conservancy and members of the Riparian Working Group (from the Conservation Sciences Centre and DOC Head Office in Wellington).

2. What values do the community really place on their river landscapes and what can be expected of the community with regard to the restoration of river landscapes?¹¹

Implicitly, riparian management and restoration is acknowledged by DOC as partly a social problem. In a climate of the "lean" organization, DOC is increasingly aware that for riparian restoration to occur, community resources needed to be harnessed to help meet the objective. This is also particularly important given that much of the affected riparian land is not managed, owned or regulated by DOC, but by the Regional Council, the District Council or private owners.

MDC staff concerns, on the other hand, were more disparate. One of the problems was perceived to be the "ad hoc-ness" with which the "community" allocated responsibility of river landscapes to various authorities, depending on the problem. Environmental issues had traditionally been with DOC, flood control with the Council, and so on. They felt someone needed to take a broader perspective, but there was concern as to whether a territorial authority could do this. It was all very well, they felt, to say that the District Council was to function like the Regional Council, but the environment was not its primary function. Sewerage, roading and water supply were just as important as river control when competing for rate payer's dollars. It would be good to have one organization to "run the lot" but the organization needed to be constituted so it could work through these conflicts and establish overall priorities. For instance, it was queried whether DOC's need for natural river margins was "idealistic".

Type of Comment: *DOC has a single purpose - conservation. There is no way we can wear that. There is always conflict between parties wanting access, protection and recreation. Ecological values are just one more aspect of river margins! How many do you (DOC) want? ...need? If nobody sees them do we need them then? What is possible where? Is a scientific purpose equivalent to a practical purpose?*¹²

Council concerns were compounded by the implementation of the Resource Management Act (RMA) whereby esplanade reserves were created upon sub-division without compensation to the land-owner (Sections 189, 190) for the protection of conservation values, public access and recreation. Not only was it impossible in some areas to say whether you were on river-bed, private, or DOC owned land, it was also creating a fragmented series of reserve areas that the Council did not have the resources to maintain or develop¹³.

¹¹Note that the results of Smith (1993) on the perceived riverine problems in NZ also indicate that "...insufficient effort has been invested translating scientific findings into practical guidelines, and in disseminating this technical information." (p.31)

¹²Comment from the DOC Riparian Working Group: This type of comment is indicative of the adjustment that needs to occur when a unitary authority assumes the function of a regional council. Under the RMA, **the Council is in the position to take a broader perspective** and sort out conflicts between, for instance, flood control and conservation values. The environment is the Council's primary function and while the community can indicate what they want, the RMA sets the Council's statutory functions.

¹³Council comment: This has since been substantially changed in the Resource Management Amendment Act which came into force July 1993. Such major legislative reversals and the current public debate over public access and the "Queen's Chain" (September 1993) all add to the public confusion over riparian management. Under the

There was also concern as to whether river margins should best be under public or private ownership. With public ownership it would be easier to achieve some tasks, e.g. to have the Council clear willows from river banks to reduce flooding (blocked by some residents). On the other hand, there would also be the temptation for the Council to view such land in profit making terms with "*Gee, we can lease it out!*" or "*Gee, we can sell the gravel!*" It was felt that this may happen more under a District Council than a Regional Council¹⁴.

Ideally, it was thought, Marlborough people needed to make Marlborough decisions. The purpose of river margins needed to be clarified so that the public understood the issues and then the Council could develop a clear management plan in consultation with an informed community.

Perspectives of the Residents

One of the most important aspects to be learnt from the community related to the general level of awareness regarding river landscapes and their management. **Three major issues emerged from discussions with the residents. These are guardianship, water quality and access.**

In regard to the first, guardianship, the community was concerned about just who should take responsibility for the river landscape, the extent to which residents were taking responsibility already and how guardianship of "green" corridors could be promoted. They were concerned with the **intrinsic value** of the riparian areas, attributing value to river landscapes in their own right, caring about the non-human components of the ecosystem. With regard to water quality, residents were concerned with the **functional value** of the river, that aspect which, potentially or actually, supports or protects a human activity or property without being used directly, e.g. sewage control. With the access issue, residents were concerned with the **use value** of the river landscapes such as recreational fishing and how this use may be abused¹⁵. Residents' opinions expressed on each of these issues are detailed below.

GUARDIANSHIP: intrinsic value of the river landscape

Public or Private Responsibility?

This concern was pervasive throughout discussions. Residents felt that private ownership should be maintained for a variety of reasons and that private guardianship should be promoted and safeguarded by the Council. It was their responsibility and for the Council to

amended RMA the Council has to compensate landowners for all esplanade reserves created from subdivisions of more than 4 hectares. As most rural subdivision in Marlborough is 8 hectares or more the Council will in future be faced with the costs of both purchasing and maintaining future esplanade reserves.

¹⁴Smith (1993) also notes that other Local Authority staff often felt dissatisfied with the way their organization manages riparian land use.

¹⁵See Stone (1991) and Claridge (1991) for a comparative discussion of values of wetlands.

take over would mean that they (the ordinary people) would be shirking their responsibility¹⁶.

Type of comment: *Well I think it is important that the community get involved. Because if they don't get involved they are going to keep treating it the way they treat it now and chucking their rubbish bags and goodness knows what into the river... and dunking it all over the place... so you've got to get them involved to make them aware of the situation. Taking it back is not going to solve the problem because they're not involved, its your problem then, isn't it?*

Guardianship is Occurring

Although the need for "green" corridors - natural river margins to improve water quality and provide healthy habitats – was new to residents, most were already involved in some form of guardianship.

Type of comment: *There is joy and satisfaction in knowing that we look after the river. We have tidied up and started planting. We have planted 1300 trees on our three acre block. We have fenced it off from the stock. Our neighbours know all the fish. When the fishermen come we pray they don't catch our fish.*

Guardianship can be Promoted

Despite the obvious interest of many people in planting within the vicinity of the river, there were others to whom the idea of planting native trees had not occurred. They were interested, though, in understanding more and felt that care for the river landscapes could be promoted in several ways. Some thought that **education** was the answer and that people just did not know about the importance of natural river margins and what was needed to restore them.

Type of comment: *I never thought of natives - I'd really like to plant that nativey stuff but where do you get them. We can't take them from the bush - that belongs to everyone.*

Other residents thought that not only knowledge, but experience and true **involvement** were essential. They felt that they could contribute, both with their knowledge and time, as well as learn through this method.

Type of comment: *Why don't they involve us? I think quite a few people around this area would get stuck in and help. I'd be quite happy to look after the huts on a voluntary basis. I've even offered to look after the reserve area and they are not interested.*

There were also several comments to the effect that if the community was to change, then the authorities also need to get their "house in order" and provide the residents with good **role models**. Authorities considered here included DOC, the Council, and state owned enterprises, like NZ Rail Ltd. One resident spoke at length about the bad influence of the

¹⁶Note: That the Amendment to the RMA provides for esplanade reserve strips whereby the land remains in private ownership but is subject to management for riparian purposes - like a QEII Covenant.

railways on river margins, with no efforts to rid railway-owned land of Old Man's Beard and other weeds.

Similarly, there were tales of frustration as residents had tried to get help to restore their river margins, whether privately or publicly owned. They needed **encouragement**.

Type of comment: *We'd bought this piece of land, fallen in love with it.. there were pockets of native bush that had staggered on.. the odd flax.. beech tree, a bit of a reserve but we needed to fix it up. We fenced it all off, then DOC visited and said you're going to have to get into a management agreement with DOC.. it was 5 months before we had a reply.. we are treating your request under Section 54 a, b, x, y and z .. then it had to go off to the Minister.. that took another 3 months. And then pages in triplicate, not to use exotics, trees to be grown from own seeds, etc.. bloody hell, I wanted to put in fast growing trees straight away to stop the erosion.. all short term before natives get away..but all that was a "no no". There was absolutely no encouragement.. They shouldn't do this when you have a dream.*

A minority felt that some **assistance in kind** would be really what they would need. There was concern that while residents may have time (particularly if unemployed or retired) they would not be in a position to buy plants. However, for some residents the idea of beginning the clean-up of the local river margins (even if they did have access to plants) was overwhelming. They needed help for a start. In response to where the money was to come from residents indicated that, most likely, a rates increase would not be welcome, but that remuneration from the lease of Council/DOC land to farmers, etc., should be available for maintenance and restoration.

While most people were against **regulation** a number felt that it was important that it be used to protect what attempts they made to take care of river margins. In particular residents were concerned that regulations be used to ensure that:

- 1.Council working/clearing of the margins is followed by an enhancement scheme.
- 2.People are punished if they willfully destroy plantings.
- 3.The authorities comply with their own regulations.

WATER QUALITY: functional value of the river landscape

Of all issues, those of water quality and respecting the river were paramount. Most residents were, in particular, concerned to stop the use of sprays, the disposal of chemicals, trade waste and sewage into the river.

Type of comment: *It would seem half baked if we went and we just, in your plan, you... recommend that some native fauna or bush or whatever, be planted along the banks. I think you have to go a step further back and make sure your waters clear and clean. And with all the discharges into our waterways round here, you sort of got to do it all. You can't just go and plant some flax and then still let the wees and poos go into the river... the Council has got to promote that change..*

Your sprays, your pesticides, your super-phosphate, all your fertilizers, everything comes from farming, everything and the rest comes from the Council dumping sewage.. The trouble is it's commerce against ecology. These people are quite entitled to earn a living and they get consent to do what they do. What you may have to look at.. is this.. the only way to effectively manage it is by regulation.

Rural residents were of the opinion that there should be a limit to the grazing of sheep and cattle on river margins to protect the margins from erosion, to reduce sediment deposits into rivers and protect water from animal waste (nutrient enrichment). Those expressing greatest concern were those who were trying to look after their own river margins while neighbours were not so discerning. A minority also thought that the overstocking of farms and resultant denuding of hillsides (on both the north and south banks generally) needed attention, again, to stop erosion, the subsequent silting of rivers and gravel build up. Goat, rabbit and possum damage were also seen to contribute to the loss of ground cover and subsequent erosion.

From a completely different perspective, rural residents were also concerned about the decreasing quantity of water available with some rivers drying out with increasing frequency. Where the water table was seen to be sinking residents wanted some form of control and the reduction of water use from irrigation systems and the increasing number of small holding, "10 acre blocks".

ACCESS: Use value of the river landscape

The issue of access was of over-riding concern for rural land owners. An interview could be carried out one evening with considerable time spent smoothing concerns only to find, the following evening, that a neighbour had heard the rumour.. "*They are going to take our land away..*". The indirect effect of implementing the RMA was that people felt very threatened that their land would be taken away from them (without any compensation¹⁷) so that any "Joe Bloggs" could have access. One small community, in a residential/rural transition area, felt, very strongly, that there was a need to control access to protect privacy and to ensure security of people and properties.

Type of comment: I've been threatened. I've gone home to realize we've had burglars in the house.. I've been followed around.. It's unsafe for our children, particularly the girls. I used to let everyone on the property but now I'm a lot more careful. People just come along and take our fruit.. We've had people come up in the middle of the day and try and catch our lambs with nets! We need to be able to protect ourselves. I'd feel very concerned if just anyone could come along.

On the other hand, there was also the need to have access for recreation (especially for young people and fishers/anglers) with people feeling that it is only fair that we have access to private land and that river margins need clearing for recreational access.

¹⁷Council comment: Note that this is no longer the case under the amended RMA. However, we need to put these comments alongside Section 6 of the RMA indicating that public access to and along rivers is a matter of national importance. Where is the balance? Public access and other ecological values may also conflict.

Type of comment: *It would be best if land-owners gave the public access. Most of NZ is owned privately.. It is not fair to exclude the public from their heritage.*

In the end though, it was evident that the community thought that different policies may need to be associated with different river landscapes, for instance, the Wairau with provision for public access, and the Onamalutu with provision of riparian restoration.

MECHANISMS TO ACHIEVE RIPARIAN RESTORATION

The Issue of Control

In an overall sense the community was not averse to the use of river margins, or riparian areas, as a buffer zone to improve water quality and habitats. Their primary concern was that the authorities would force this upon them and take their land¹⁸ not only for conservation values but also to provide the public with access. More importantly, they felt that changes that affected their lives, were being implemented without them having any sense of control in the situation. This "loss of control" is very threatening for individuals and communities.

In effect, in addressing the importance of riparian areas, the RMA (1991) addressed both the objective of managing river margins to enhance ecological values and the mechanism by which this is to be done, e.g. for public reserves to be created on sub-division. What the community is questioning is whether the objective necessarily implies the mechanism. In fact, we find that the mechanisms to achieve the objective of riparian management and restoration are discussed by the residential community in relation to:

- 1.The issue of public or private responsibility (i.e. who should take control).
- 2.The issue of regulation or education (and how the control should be gained).

Overall, the residential community prefers private ownership and responsibility for riparian management, with education to assist them in achieving the objective. However, they perceive "the authorities" as preferring public ownership and responsibility for riparian management using regulation to achieve the objective¹⁹ (See Fig. 2). The result is that regulatory control taken increasingly by the authorities is associated by residents with decreasing community control²⁰.

¹⁸see earlier comments on RMA Amendment. This is no longer possible.

¹⁹The essence of the RMA's 1991 treatment of esplanade reserves.

²⁰Note that the Council position may be seen to be both part of the "authorities" and of the "community". Residents tend to see the Council as part of the "authorities", but in relation to Government, the Council is likely to see itself as part of the "community". As indicated by staff, the Council perceives itself as having "no control" in the face of legislation that determines both the objectives and the mechanisms for riparian management yet delegates responsibility for these matters to Councils, i.e. they are seen to be given responsibility without power.

Figure 2 Preferences to achieve the riparian management objective.

Figure 3 Accepted level of regulation for riparian zones.

At a more subtle level though, it is evident that the community is differentiating between the levels of control they will accept for different situations. The results indicate that each of the value systems attributed to the river landscape is associated with a different level of acceptable regulation. Figure 3 shows that regulation may be more acceptable regarding the river landscapes functional value, less for its intrinsic value and much less for its use value. While the community may prefer to establish their own mechanisms to achieve the objective of riparian restoration, it would seem that, in some instances, regulation may be the chosen mechanism. Individuals within a community seem more prepared to forgo a "sense of personal control" and concede control to authorities for the protection of water quality, but are less likely to do this for the establishment of "green corridors" or public access.

Enhancing Community Control

Implicitly, the community has already indicated several ways in which their sense of control could be enhanced. With regard to promoting guardianship, for instance, they have suggested education, involvement and encouragement²¹ and the appropriate role modelling from the "authorities". Combined, these will provide the community with a number of strategies that can be undertaken to restore the conservation values of their river landscapes. In turn, this work will enhance the sense of control the community has in relation to riparian management. Authorities though, in enabling communities in this way, may improve the effectiveness of their efforts by:

1. Working towards a structuring of tasks so that they may provide for a positive experience and sense of accomplishment, i.e. incorporating the notion of "small wins".
2. Working with the energy of the community considering specifically what they are motivated to do and what it is that they want to accomplish.

Working for "Small Wins" Too often people define social problems in ways that overwhelm their ability to do anything about them²². So it could be with managers, who quite appropriately, may consider the management of river margins a daunting task. However, when the magnitude of a problem, like riparian management, is scaled upwards, often in the interest of mobilising action, the quality of thought and action declines. This occurs because the depiction of the problem as an "enormous problem", a "threat to our biodiversity" and so on, can threaten a community's sense of control and activate processes driven by frustration and helplessness. The results indicate that some residents are already aware of these processes, and that some problems are indeed "too big" for them. They have, therefore, requested initial aid to restore their river margins.

²¹See Maddock (1991) and Gilligan and Markwell (1991) for ideas on how this is accomplished for wetlands management.

²²This discussion is based on the work of Weick (1986).

Box 2 Working for small wins.

SMALL WINS will help to achieve:

****COMMITMENT** : in that situations become more comprehensible and meaningful

****CONTROL** : in that individuals and communities find they can exert more influence

****REALISTIC CHALLENGE** : in that tasks are of a manageable size and success can be in sight

The issue is that large problems need to be recast into smaller, less arousing problems so that people can identify a series of controllable and meaningful opportunities of modest size that can be worked on to produce visible results (See Box 2). So it is with the community, "small wins" work through the construction of small problems, the resolution of which can lead to major change. To this extent the "authorities" have to work at breaking down the task of riparian management and restoration into "achievable chunks", the accomplishment of which will work to enhance community control.

"Going With the Energy" Talking about "going with the energy" of a community is really about utilising, or harnessing, the motivation already existing in the community for the task at hand. The results from both the interviews and "focus" groups indicate several specific areas of riparian management that interest the community. Starting with these interests, or problems, is the easiest way to ensure that change will occur and that communities maintain some degree of control.

The interests, or issues, requiring research include:

- 1.The need to know more about what trees and plants are appropriate for what river margins (e.g. what is DOC's vision for our community's river landscape?).
- 2.The need to consider how communities may be more effectively involved in riparian management.

FUTURE DIRECTIONS

On initiating this research, DOC was aware that while there had been a tremendous research effort on the ecological nature of riparian issues there was little evidence of the knowledge having affected the New Zealand community's treatment of river landscapes. The Department's concern was therefore, to understand the extent to which (i) the community valued their river landscapes, and (ii) could be involved in the process of riparian restoration. In response, the research in Marlborough indicates that the community

sampled in this study places a great deal of value on their river landscapes and that they are interested in being involved in the process of restoration.

However, it appears that to generate change, that is, effective community based riparian restoration the "authorities" need to overcome the "them and us" attitude which has been accentuated, in part, by the RMA (Oct.'91). **The residential community is implicitly asking for a partnership that will require change on both sides**²³. From the community perspective, the above comments indicate just how important the enhancement of community control is in this process. Education through involvement, and encouragement in this involvement is vital, but is only half the solution. Change is also required from the "authorities" (DOC and the MDC). Imposing change on communities in regard to riparian issues in a "heavy handed" way (without consultation and involvement in the decision making process) will undermine efforts to gain community support, substantiate community concerns about conservational autarchy and work to the detriment of river landscape restoration and other conservational values.

The Amendment to the RMA (July 1993) will serve to reduce some of the hurdles to change, with the anticipated introduction of esplanade strips. The strips, while similar to reserves in working to protect conservation values will, in comparison to esplanade reserves, remain under the ownership and management of the landowner. Education will need then to play a greater role to achieve the riparian objective. However, it is still expected that esplanade strips will also provide the public with a right of access. The results of this research indicate that it may not be appropriate to "lump" conservation values and access values together under the same binding legislation. The threat of open public access, and the perceived insecurity this brings (particularly to women), is such that opposition to this aspect of legislation will impede any progress that could be made, quite willingly by the community, in the management of river landscapes.

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²³This is quite different from the results of Smith (1993) on the perceptions of managers, "Non-technical impediments to the adoption of best riparian management options need to be addressed by the regulatory authorities. The resolution of many of these issues requires a **change** in public attitudes." (p.2) (emphasis added by the author).

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APPENDIX

Interview Guideline

Now, as I mentioned over the phone, I am working for the Department of Conservation and also with the Marlborough District Council. We need to understand the communities' attitudes towards their creek and river landscapes. How important you think they are.. Who should be looking after them... and so on.

Looking after our environment, particularly the natural and physical resources has become a fundamental responsibility of the Marlborough District Council. Looking after our river landscapes is an important part of looking after our environment. Some people even say that NZ's "Green Image" will not stand up to scrutiny and the management of our river landscapes is a more specific opportunity to maintain NZ's Clean Green Image.

*What do you think are the significant benefits of looking after our river landscapes in Marlborough?

(If not covered ...)

Streams and rivers have many uses... flood control, water supply, disposal of drainage and storm water are all well known. But, not so well understood are the biological, recreational and cultural aspects of rivers and streams. The biologists are particularly concerned that we have river margins with a healthy vegetation cover. They say this will:

- *minimize the erosion of natural banks, farm land and engineering structures
- *provide a healthy habitat for plants and animals both on the land and in the water
- *provide farm beautification and shelter and shade for stock
- *ensure good water quality, and
- *maintain a better looking recreational environment.

(Discuss in relation to cadastral map ...what biologists would like...)

*What do you consider are the main issues/problems to address in the development of such a scheme?

(If not included) What about

- (i)the cost of river landscape management
- (ii)reduction of landowner responsibility
- (iii)access restriction
- (iv)weeds and pests

Any comment?....

*What solutions do you think are appropriate in addressing these issues/problems?

THE ROLE OF COUNCIL & DOC

The Council has several means available under the RMAct to promote river landscape management. These include

(i)education/advocacy

(ii)service delivery like provision of labour, establishment of nurseries, purchasing of river margins, provision of technical advice & facilitation of joint agreements.

(iii)economic instruments like rating relief, subsidies & grants

(iv)regulation like adopting measures which allow for the limited application of the esplanade reserve or strip provisions

*Which do you think are the most appropriate means to promote river landscape management?

FUTURE RIVER LANDSCAPE

Now, I want you to think what would happen to this landscape in the next twenty years if things didn't go well...

*What would be the major changes?

*How have they been managed?

*What decisions have been made?

*What exists for these people?

Let's come back to the present and start again...

Let's imagine we come back to Marlborough in twenty years time and things have gone well...

*What would be the major changes?

*How have they been managed?

*What decisions have been made?

*What exists for these people?

*What would be their ideal experience in the river landscape?