HE TOKOTOKO MO NGA TANGATA

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THE PROBLEM

Urban river corridor areas are often subject to damaging use and to increasing pressure from conflicting uses. The main issue is the need to utilise the characteristics of a river and its margins within a city while integrating it into the city's life and preserving its ecological functions. The aim of the thesis is to develop a planning framework to address this issue. Information from various disciplines contribute to the River Corridor Planning Framework. The main areas researched are landscape aesthetics, ecology, recreation styles and public participation in planning. The study of landscape aesthetics reveals universally valued natural landscape features, and in part justifies concern for, and planning action in, river margin areas. The potential for river corridor areas to host significant ecological functions is shown in the ecological study, and brings an additional aspect to the urban planning situation. The significance of provision for informal recreation, the most common type, also influences the Planning Framework. Integral to the Planning Framework is a strong belief in, and justification of, the need to include public participation in all phases of the planning process.

The River Corridor Planning Framework developed is applied to part of the Whanganui River in the city of Wanganui, which is in some ways typical of medium sized cities with rivers in New Zealand. It is suggested that the River Corridor Planning Framework may have application in other cities with similar situations.

ACKNOWLEDGEMENTS

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For their willing cooperation and assistance I thank the Wanganui District Council planning staff, the residents of Bedford and Balgownie Avenue, and enterprise representatives.

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CHAPTER ONE

INTRODUCTION

Chapter One sets out to define the planning problem and to give a brief introduction to the case study area.

It was the great American planner Olmsted who said about rivers in urban areas:

> "Wherever in the world, as an incident of the highways and wharfs along its riverbanks, a city has provided opportunity for the people to walk and sit under pleasant conditions where they can watch the water and enjoy the life upon it, where they can enjoy the breadth of outlook and the sight of the open sky and the opposite bank and the reflections in the stream, the result has added to the comeliness of the city itself, the health and happiness of the people and their loyalty and local pride." (Olmsted 1910, quoted in Torre 1989).

Thus he expressed the simple pleasure people derive from proximity to rivers and their environs.

DEFINITION OF THE PROBLEM

Problem One

A river can be a major asset for an urban area, whether for its utility, amenity or image value. Unfortunately, because of this diversity of functions the river corridor is often heir to a legacy of neglect, abuse or unacceptable use, for example disused structures, sewage disposal, uncontrolled and unsightly reclamation. Attempts to give these areas a better fit between form

and desired use are hampered by the lack of an appropriate set of guide-lines for corrective action and for developing the full potential of the corridor to accommodate a variety of activities.

Objective One

The first objective of this thesis is to synthesize, from existing literature, a coherent set of guide-lines, in the form of a planning framework, for planning in urban river corridors.

Objective Two

As a basis for the planning framework a number of values and demands will be examined, related to a range of potential uses of river corridor areas.

Objective Three

The Framework will then be used to generate a concept plan for the development of part of the urban river bank area in the city of Wanganui.

Problem Two

In consequence of inappropriate use, there is often a high level of disregard for river corridors as potential recreation sites. General disregard may be expressed in illegal dumping, industrial encroachment and vandalism of any attempted improvements.

Objective Four

To investigate means of increasing public knowledge, awareness and interest, and of reducing damaging behaviour.

Problem Three

These types of area ie urban river margins, do not fit easily into any conventional urban design or open space category. They are not urban parks, sports grounds or play grounds, as they do not possess the formality or compactness of any of these. Neither are they rural or wilderness reserves, or tramping trails, as they are imbedded in urban settings, and yet are not part of the

structure of urban parks. They are also not usually derelict urban areas in the normally accepted sense of the term, nor cases of the need for the separation of pedestrians from automotive traffic. Therefore there is no existing single set of literature or knowledge which can be easily applied in the planning of such areas.

Objective Five

To determine the potential functions of each class of area, defined in an analysis of all the possible values.

Problem Four

The ecological functions of urban river margins tend to have suffered severe impacts from human activities. There is also competition between various activities and functions. There is therefore a need to reach acceptable compromises between these demands.

Objective Six

To examine the ecological potential of urban river margins, and to determine the measures required to enable such potential to be realised, in the context of coexisting uses.

In meeting these objectives a range of relevant literature will be reviewed. Studies of landscape aesthetics, recreational demand, and the potential for public participation in planning and design will be included. Literature relating to ecology in urban areas will also be reviewed.

ASSUMPTIONS

Assumption 1

> This is not an urban design project. However, a generalised planning framework will be useful in acting as a frame of reference for future development of river corridors so that a range of objectives can be met.

The derived framework will be a strategic and conceptual brief which may be used by designers, rather than a detailed plan for development landscaping. The objective here will be to provide

the criteria appropriate for environmentally sensitive planning in urban settings where a wide range of values need to be accommodated. The detailed design of each part of a river margin should be generated later by a team including a landscape architect, an engineer and others (Lancaster 1983). Therefore, maps indicate spatially, the values that need to be considered in each part of a project, not detailed paths, structures and landscape design.

Assumption 2

> The development of such general frameworks is best carried out at a local level of planning because building and subdivision rules are developed at that level. The written criteria are intended as a check-list for the planning team.

Section 31 of the Resource Management Act 1991 (RMA) sets out as functions of territorial authorities

> "(b) The control of any actual or potential effects of the use, development, or protection of land, including the implementation of rules for the avoidance or mitigation of natural hazards and the prevention and mitigation of any adverse effects of the storage, use, disposal, or transportation of hazardous substances:
> (c) The control of subdivision of land:"

The framework may also provide guidance up to Regional Council about local concerns for the river and across river/land boundaries eg views, water quality, bank stability. These Regional Council functions are set out in Section 30 (RMA).

Assumption 3

> An important part of any planning and design framework is to provide guidance about the process of achieving a satisfactory fit between people's behaviour and the facilities being planned (Lynch 1981).

It is therefore necessary to examine the preferences that people have, both in what they do and what they enjoy looking at or being part of. This needs to include nearby residents, the wider population of the city, and visitors to the city. This work will provide criteria upon which a design

team can build at a local level.

WIDER APPLICATION

The matters covered in this thesis should have application elsewhere in that there are other towns and small cities built around rivers and with similar problems of inappropriate and conflicting land use in corridors. There are also areas with a similar linearity and general conditions, such as former or low use railway lines, which could be dealt with in similar manner. The planning of such areas in an ecological manner lacks a guiding framework which can order action and provide a check-list of issues and strategies to be considered. Especially lacking are considerations of aesthetic values, ecological potential and the particular recreational role of river margin or linear areas.

METHODOLOGY

A wide range of literature with relevance to the use and development of river corridors is reviewed. A particular focus of the review is to cover aspects which are often not considered legitimate concerns of the planning process, such as aesthetics, ecology, informal recreation and public participation in planning. The findings of the review are then used to develop the River Corridor Planning Framework, based on Lang's (1986) integrated planning process. The Framework is then applied to the Whanganui River in part of Wanganui City.

THE CASE STUDY SETTING IN BRIEF

The Whanganui River provides a suitable case study for testing the applicability of the River Corridor Planning Framework. Although singular, the city is not unique, in that it exhibits characteristics common to settlements of similar size elsewhere in New Zealand, particularly the possession of unresolved urban environmental issues which have not been treated in any systematic manner.

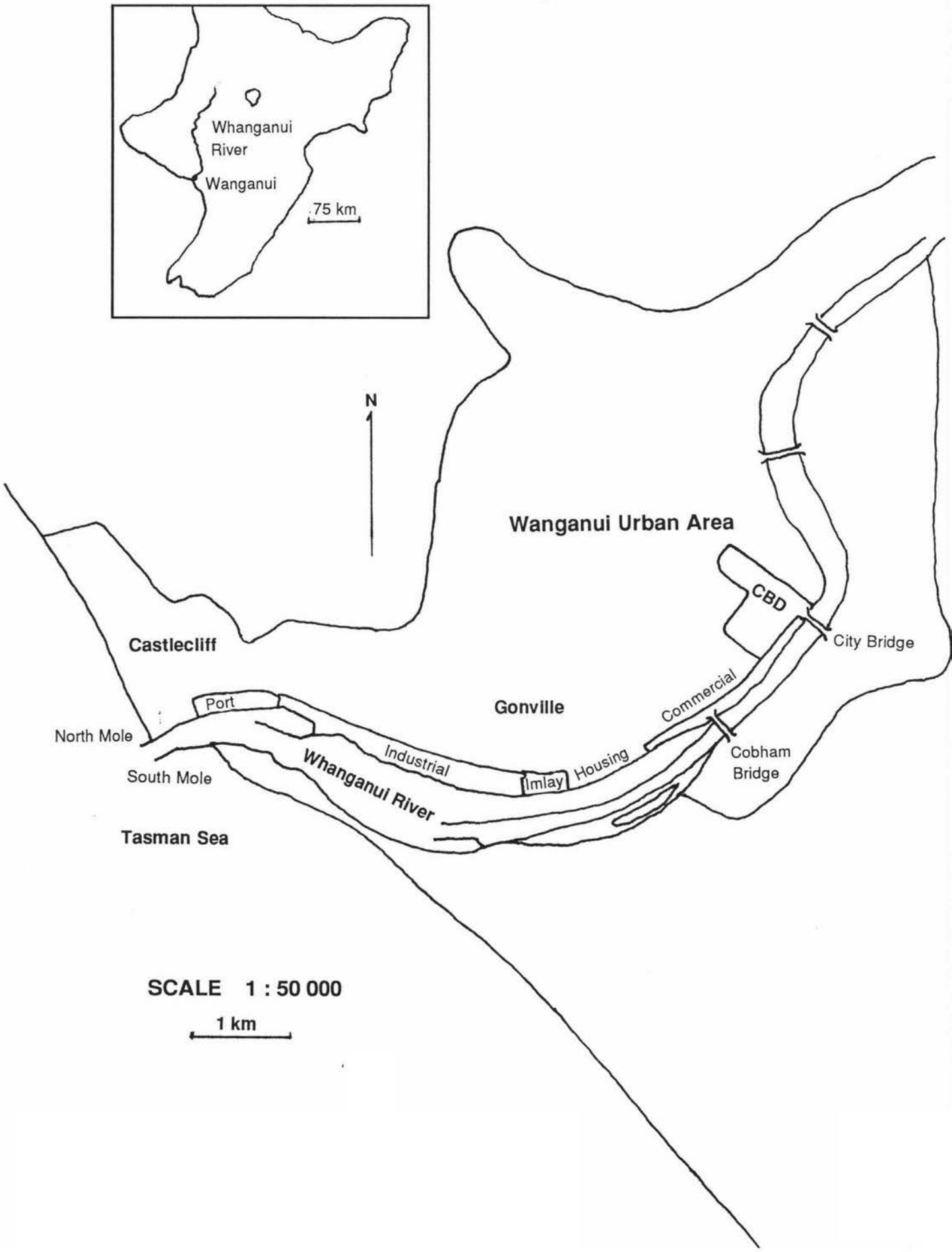
The city of Wanganui has a population of about 40 000, having experienced its major growth in the early and post-war part of this century (Wanganui City District Scheme 1989, Ross 1968).

Generally slow but steady population growth has been a feature of the last twenty years. The Whanganui River flows through the heart of the city, (see Map A following) and the city is strongly identified with it - hence, the "River City" slogan.
[NB: The spelling of the river's name was officially changed from Wanganui to Whanganui in 1991] Approaching its discharge point into the Tasman Sea the river widens into a narrow estuary. The banks of the river have experienced varying degrees, types and qualities of development, including transportational, industrial, residential and recreational.

By New Zealand standards, the Whanganui is a large river with a moderately sized settlement built on its lowest reaches. Since its earliest years as a European settlement raw sewage has been discharged directly into the river, culminating in the present 59 discharge points. In the study area the predominant land use has been industrial, followed by waste land and a small but significant older residential area. The combination of contamination and separation from major residential areas has resulted in much of the immediate river bank area in this part of the city being either ignored or neglected by the bulk of the population. The present sewage loading is a documented factor limiting use of the river area (Wanganui Wastewater Working Party Community Survey Final Report 1990).

In recent years, there has been renewed interest in the condition of the Whanganui river and its environs, initially focusing on the issue of sewage discharges. Cleaning up the river was recently rated by the public as the District Council's number one priority (Wanganui District Annual Plan 1992). Under the scheme approved by the Manawatu - Wanganui Regional Council in 1992, the present high sewage loading of the river will be discontinued within three years (1996), except for periods of moderate to high rainfall. Within a maximum of 15 years there should be no sewage discharges to the river at any time. This environmental upgrading should be followed by greater use of the river and its margins. Concurrent with increased environmental awareness there is also increased awareness of the role of exercise in the maintenance of good health. Walking is commonly recognised as beneficial to both physical and mental health.

Case Study Setting: Wanganui



These two trends together point to an increased demand for the river bank area to be developed in such a way as to make it more suitable for use for informal recreation activities such as walking and watching, while enhancing its environmental value. This view is supported by Dr P O'Connor, Medical Officer of Health, Wanganui.

> "When the proposed (sewerage) scheme is implemented, the Whanganui will be biologically safe for recreational use. Equally importantly, there will be a public perception that we have full access to river and beach waters; and we will have respect for those waters.
> Both our biological and social health will be enhanced." (O'Connor 1990).

In terms of recreational potential, the river corridor's linearity is its main feature, thus its greatest potential is probably as a location for a trail complex, but it also has nodes possibly suitable for opening out into small informal recreation areas. At the city end it is easily linked to the main area of retail activity and an area undergoing development as a heritage area. At the seaward end there are port related activities and several active recreation opportunities. Thus there are characteristics of trail, both natural and heritage, and park, but not in the usual discrete well bounded sense.

In dealing with planning problems in areas of this nature several objections typically arise from either the public or their local authority representatives. One objection is that aesthetics is an irrelevant extra, of interest only to some educated elite; another is that urban dwellers either have little interest in contact with the natural world or have this interest satisfied in their home environment, conventional parks or non - urban settings. Another common assertion is that public participation in planning processes is more trouble than it is worth, and that plan outcomes are seldom significantly different from those produced by professional planners and designers working from their own experience. The literature to be reviewed seeks to clarify the nature of the above planning considerations and their significance to the planning process, and thus identify their role in the appropriate planning framework. It is in the context of smaller cities, in

possession of possibly significant but neglected rivers, in periods of re-evaluation, that this thesis is set.

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CHAPTER TWO

AESTHETICS AND ECOLOGY: DO THEY HAVE A ROLE?

INTRODUCTION

Chapter Two reviews literature on the nature of aesthetic tastes in natural settings and the potential ecological functions of river margins, and comments on the relevance of aesthetics and ecology to the development of a planning framework for river corridor use.

Urban design literature conventionally deals with issues related to roads, developing good housing, and the provision and design of parks. There is very little about the role of urban environmental areas such as a river margin which is used for a range of activities such as transport, industry and recreation.

AESTHETIC VALUES

Aesthetics are a matter of individual taste, so the perceived quality of any particular natural setting will vary from one individual to another. That natural settings are enjoyed is shown by observation that enjoyment of the outdoors for their own sake is a central reason for most outdoor recreational activity, both formal and informal (Lavery 1971). The debate regarding what outdoor settings or features are enjoyed by whom has gone on for some time without clear resolution. There seems to have been a widespread belief that people from different socio-economic groups have very different landscape preferences and that planners, typically middle-class, tend to impose their preferences onto others. This view is based on the assumption that

perceptions are almost wholly learned, rather than being innate. The opposite view is that positive responses to certain natural environments are largely in-born, rather than learned. If this is so it should be possible to find a common set of features which provoke similar responses in a wide range of otherwise dissimilar people. So do settings commonly perceived as pleasing possess common characteristics which may be used in assessing and planning use of urban natural places, or are such values the preserve of educated and aesthetically aware individuals, with little relevance in planning for general use? To answer this we need to examine the aesthetic values or non - values which individuals have, and how these are acquired.

At least part of the response to a setting is the result of learned perceptions according to Lavery (1971). If perceptions are subject to learning they are also capable of experiencing change. This might be particularly so in wealthier, more highly educated populations, as these have a greater exposure to formal and informal aesthetic studies (Appleton 1986). The ability to learn and adapt is a great human strength: we are therefore capable of changing at least some of our preferences. As Lynch (1981) states:

> "People "get used" to a place, or "learn to like it." They can also be trained to use or appreciate it." (Lynch 1981 p164)

But do differences in perception between people of varying background in fact exist to any significant degree? A number of writers make the point that the appreciation and valuing of nature and natural areas are universal human attributes. In the United States policies generated in a democratic, ie popular, context at national and local level reflect this common valuing.

> "Common national spatial policies, point nine. Large "natural" areas are preserved because of their symbolic importance, to conserve resources, to improve recreation and other amenities, and to prevent ecological disruption." (Lynch 1981 p52)
>
> "Common urban policies on a local scale. point 21. Historic monuments and

> open areas are preserved for their symbolic importance, to prevent ecological disruption, to improve health and recreation, or to attract tourists." (ibid, p54)

Lynch also sees these values are not peculiar to the United States, but widespread in urbanised societies.

> "The affection for nature and the desire to be close to natural, living things are sentiments very widely held throughout the urbanised world." (ibid p98)

On the question of whether there is a general demand for nature and natural things there is a clearly emerging body of opinion answering in the affirmative. Lynch states:

> "The preference for natural scenery is widespread among all classes, in the United States, at least." (ibid p256)

A detailed British study (Harrison et al 1987) finds that everyday contact with nature is highly prized by people from widely differing backgrounds. One of the specific goals of the Harrison study was to find out what "ordinary" people valued. The views of those who were not members of any obviously environmentally active group were particularly sought. As these people tend to form the majority of the population, their views are of importance if there is to be "aesthetic democracy". The following themes emerged from all the study groups involved, but most strongly from those living in the most difficult circumstances, i.e. a new working class housing area.

1. Wildlife is fun, a source of pleasure and satisfaction and the subject of basic curiosity.

2. Natural areas are important as places for unofficial adventure areas, especially for children. The sterility of most official children's play areas has been noted elsewhere (Alexander 1972).

3. Natural areas are an important source of variety, especially in contrast to institutionalised parks. Participants felt that more varied and natural parks would reduce levels of abuse of park facilities.

Further, it has been found that people are involved with nature on a daily and commonplace basis. Thus

> "The conservation of wildlife in ordinary environments is likely to be just as important to most people as the conservation of wildlife in outstanding and exceptional environments." (Harrison et al 1987 p360)

The authors also urge that through the use of in-depth discussion groups, the experts educate themselves regarding the attitudes of the local population. Therefore, experts undergo a learning process. One of the attractions of wilder urban areas, as mentioned above, is that they lack an exclusive ownership and thus confer a sense of freedom lacking in other settings. Lynch (1981) gives the following as one of his ideas of what makes a good city:

> "In any good settlement, there should be places that are intensely private to persons and strong primary groups, and also some form of free or "waste" land within their reach which no external power effectively controls." (Lynch 1981 p209)

An explanation for the universality of appreciation of the natural world, and the desire for ready access to it, is based on the view that aesthetic preferences are the innate result of long biological, social and cultural evolution (Orians 1986). This is used to explain the preference for tall spreading trees, grassland and water, ie savannah landscapes, which is the basis for many parks. This is an extension of the theory that preferred settings will have the combination of refuge and prospect (Appleton 1975). According to this theory the satisfaction derives from the instinctive security inherent in a situation in which the viewer has a concealing viewing position from which to study an open area before endeavouring to utilise it, originally by perhaps hunting

game. Hudson (1992) refines this idea by emphasising the "shelter" rather than "hide" role of refuge when noting its significance for protection from other predators and wind, rain and sun. Dewey (1958) also supports the idea that much of aesthetic taste is based on instinctual responses (Dewey 1958 cited in Bourassa 1988). This is founded in what Jung calls the collective unconscious. Costonis (1982) points out that people respond to symbolic, non-sensory aspects of an object as well as to its sensory attributes, and that the non-sensory is in fact more important. Thus notions of "cultural stability - identity" - a liking for the familiar, play an important part in people's reactions to landscapes (Costonis 1982 in Bourassa 1988).

Although is seems clear that the universal case is well founded, it will still on occasion be necessary to study the local nature of preferences. Methods used to attempt to discover peoples preferences usually endeavour to generate dollar values as an expression of demand and hence desirability. In the case of freely available/minimal travel, ie close proximity recreation, it is probably better to reject these in favour of some more direct method (Leopold 1972). Leopold favours a quantitative method which enables comparison of previously unrated sites with sites of accepted aesthetic value. However, the method takes no account of the effect that varying accessibility might have on valuation. Such quantitative methods can be viewed with suspicion, as shown by Lynch:

> "We are attracted to numerical data, which are so much more precise, firm, and impressive than the soft, subjective stuff of patterns and feelings" (Lynch 1981 p152); and

> "The amount of something is one of its important characteristics... But the key test is the behavioural fit." (ibid p153)

This suggests the need for some form of perceptive direct observation. There is now a higher regard for such measures of the qualitative value of settings or experiences. Study groups may play an important part (Harrison et al 1987). An example of a qualitative method is participant

photography, which can be used to reveal what people do look at and enjoy (Hull and Revell 1989). This method, whereby people are invited to use an area with camera and film supplied to record their impressions, could be usefully employed to give greater understanding of the aesthetic preferences of user communities.

Even if the case for making aesthetic considerations part of the planning framework is established, it may still carry little weight at the political level. A demonstration of practical benefits is also required. Smardon (1988) summarises the positive effects of vegetation on property values, convalescence and micro-climates and its role in screening and providing contrast with structures. The importance of the contribution of the sound and smell of vegetation, in addition to the sight, is also noted (also Thorne and Huang 1991). In several cited studies, views with trees, especially those over 8 metres high, were more highly valued than those without, regardless to the social background of the respondent. Bare grass, however, rates poorly (ibid 1991). This is in line with findings that show that open-space (lightly wooded) parks generally have a greater positive effect on near-by property values than parks with just facilities for organised sport (More et al 1988). Various studies indicate that vegetation can be the most cost effective and rapid ways of improving the aesthetic quality of degraded urban environments (Smardon 1988). This serves to confirm the liking people have for things natural; and vegetation is the most manageable form of nature in most urban settings. It becomes obvious that aesthetics **is** a part of everyday life (Dewey 1958 cited in Bourassa 1988), both culturally and economically.

Of relevance to visibly degraded river margins is Bishop and Hull's (1991) observation that the mood induced by landscape is an important and socially relevant product of landscape. High quality visual environments offer mental and physical health benefits. They also impact on the quality of recreational experiences, and create confidence in land management. Low quality environments will produce correspondingly negative social products. In addition, environments help in the formation of social identity. This is important in that a poor place image will tend to be self perpetuating and become deeply ingrained, especially in places removed from the location

(Pocock and Hudson 1978). Thus if a highly visible river area is subject to neglect it will tend to create a disproportionately negative impression of the whole place, which will persist long after remedial action is taken, particularly among potential tourist or external investor populations.

ECOLOGICAL VALUES

In an urban setting ecological functions tend to have to "fit around" human functions. This may disturb ecological purists, but the existence of our cities and their domination of areas of the natural world are inescapable facts. There has been some progress towards finding compromises between the natural and human worlds. Lancaster (1983) points out the dual human/natural role which may be played by remnant natural areas.

> "Including conservation land in the public park system provides space for extensive , dispersed recreation use (i.e. trails) while protecting the natural function that those natural resources serve (i.e. floodwater storage or erosion control). In addition, conservation land often provides habitat for wildlife while reserving a portion of the natural landscape for environmental education purposes." (Lancaster 1983 p38).

Hall (1991) puts forward the argument that a broad functionalism, which encompasses human cultural needs as well as "natural" needs, is the proper basis for ecological planning. This is an area in which opinion is evolving rapidly, in both professional and public arenas. Twenty years ago Mann was taking ecological factors into account in his discussion of the potential for redevelopment of river corridor areas (Mann 1973). His concern was mainly for in-stream ecology, but since then the ecological role of stream border areas has come to be appreciated also (Mann 1988). However, there are difficulties in using ecological needs as a planning tool -

> "...ecology is a long way from being able to provide a logical basis for the application of design principles to ecological problems." (Smith 1988 p104)

This is because data is so limited in scope and duration; there is so much uncertainty over the validity of basic assumptions; and the possibility that fundamental environmental conditions may be subject to sufficient change to gainsay the most modest predictions of what constitutes a viable natural ecosystem. So ecology as a science has difficulty with its own field without having an urban dimension imposed on it as well. However, ecology can still provide some general guidance regarding potential habitat functions.

If it is desirable for urban areas to contain functioning ecological areas or patches, the question arises as to whether it is possible to have areas of sufficient size and appropriate character in such places. In other words is it possible to provide the ecological equivalent of "economies of scale" (Westmacott 1991). First it must be noted that the urban environment is not devoid of life - one estimate based on temperate climate cities suggests that 60 to 80% of the area will have sufficient trees to qualify as forest (Westmacott 1991). Therefore any fauna living in an urban vegetation patch is not living in the equivalent of an isolated ecological island, but rather in part of a wider less obviously natural context. In many cases the urban environment may have as much or more usable habitat for native fauna than many pasture dominated rural landscapes. The size or scale that counts is that required to support species of the highest tropic level. In the New Zealand context this means the larger birds such as tui and kereru (ie the primary consumers at the top of a short food chain), but not shy species such as the kokako.

Apart from size, it is necessary to examine the nature of the patch, which is partly affected by its shape. Any vegetation patch can have both "edge" and "interior" species, the edges tending to be more diverse due to the high numbers of shade intolerant plant species. Small or elongated patches will function as edge communities with insufficient width to possess an interior, as shown in Figure 1 below (Forman and Gudron 1986).

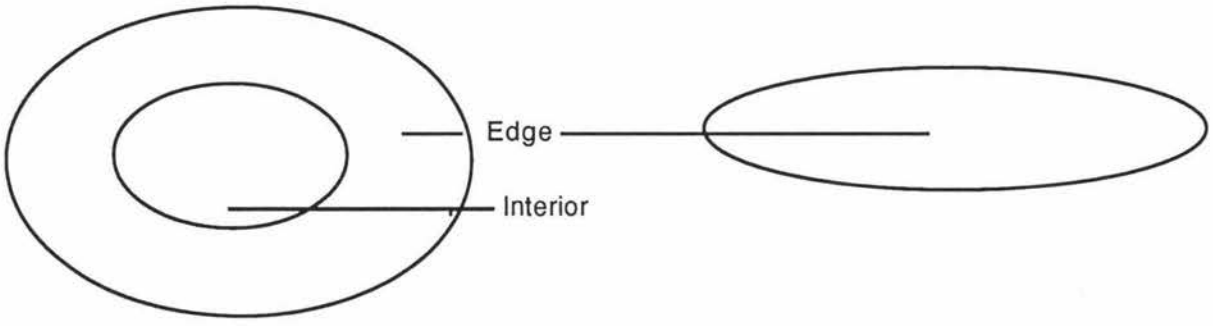

Fig 1 Effect of shape on the nature of vegetation patches

Can "edge only" linear patches have an significant ecological function, in that they lack the species range and lack of disturbance required to support "interior" animal and plant species? If one considers the role they may play in forming connections between patches with interiors then the answer is yes. The recognised function is that of providing connections or corridors to enable movement between large patches (Hough 1984, Forman and Gudson 1986). This effectively increases the scale or usefulness of otherwise fragmented and isolated patches. This is especially useful for interior species which can gain access to greater territory by having sheltering corridors provided. In effect the benefit of patches linked by corridors exceeds the sum of the parts (Ahern 1991). The creation of a network of interconnecting corridors provides a structure which facilitates ecological function. The avian species most likely to use a corridor system are mobile edge species, but interior species will also make some use of them. A corridor will increase their range and provide access to even smaller feeding opportunities eg trees in private gardens. This would provide amenity value both within the corridor and in the wider urban area. Also riparian corridors can constitute important habitats in their own right in that they play host to aquatic species (Westmacott 1991). This habitat function can be enhanced if bank reinforcement and repair is dealt with sympathetically, using methods which retain vegetation rather than simply replacing it with hard materials such as concrete, wood or steel (Purseglove 1989).

An underlying assumption of ecological discussions is that the species involved are those native

to the area. In the New Zealand situation matters will be complicated by the presence of a range of well established introduced species. It would be possible in most settings to establish a viable ecology consisting almost entirely of introduced flora and fauna. The decision to favour native or introduced species or some mixture of them both is one that needs to be addressed in the planning process. If native birds are to be encouraged, the issue of controlling predation, to which they are particularly prone, also needs to be considered. Whatever fauna is favoured, the flora selected must supply the appropriate environment in terms of food, shelter and breeding opportunities. The likelihood of negative impacts on species from the human environment also needs to be assessed. As only reasonably tolerant species will be viable in this type of setting, the complete elimination of disturbances is unnecessary and unrealistic. However, there may be specific critical points where some action may be required in order to ensure that the ecological whole remains viable. For informed decisions and actions to be formulated for the ecological component of a river margin plan, expert knowledge is needed. This could be from both the traditional scientific community and from sources such as the tangata whenua and others with a long and intimate association with an area and its ecology. The knowledge and information gained needs to be not only used but also disseminated so that a growing proportion of the population have an understanding of the ecological functions which are the expected outcome of the development and rehabilitation of an area.

CONCLUSION

It is apparent that people like nature and natural settings, as the result of complex conscious and subconscious causes. Plants, along with landforms, water bodies and weather, are a key part of such natural settings. They are a source of variety in that they exhibit changes based on light, weather and season, as well as their own size, shape, texture and density. Vegetation is also the basis for the existence of all fauna, which adds further interest. There are beneficial effects on mental health, attitude, place image and property values when people have ready access to areas which provide the desired enjoyable stimuli.

The seemingly universal existence of the taste for nature means that it is valid to incorporate

aesthetic development as an integral goal and assumption of the planning framework in informal recreational areas such as river margins. However, because of the possibility of variation in perception in the area of landscape evaluation, it is important to operate in a planning framework that allows consideration of various views about settings, rather than accepting a restricted reflection of the tastes of any particular group. Possible variations of taste indicate the need to carry out investigations to determine its particular characteristics in different settings, in order to provide those settings which will most benefit the relevant population.

Because appreciation of nature is an apparently universal human feature, and there are benefits to the individual and society from regular and easy access to natural settings, provision of such settings can confidently be included as a planning goal. This is especially so in those towns or parts of towns where the population has a limited ability to provide such settings themselves, in the form of private gardens, which are tending to decrease in size as new properties are developed on smaller sections and older ones are subdivided or redeveloped with multiple units. In an urban setting human cultural features will also play a part in the image of place, and should be included in consideration of aesthetic values.

An aesthetically pleasing natural site will generally tend inherently to function well ecologically eg it will have life supporting variety. The enhancement of appropriate ecological functions is also a reasonable goal in planning for the use of river margins and other similar urban sites. The focus will tend to be on both corridor and habitat functions. The planning for such features will require the involvement of a number of interested parties, and the promotion of such functions to the wider community. In order to assist in image restoration it will be necessary to concentrate initial efforts on those areas which are most visible and whose improvement will have the most impact on people's perception of the area.

Components of the planning framework to be derived from these findings are the following objectives and actions.

OBJECTIVE

1 Retain and enhance positive features which contribute to local identity, while mitigating those which detract from it, by means of re-establishing native vegetation, screen planting and larger trees, and improving public access and use.

ACTIONS

2 Make deliberate provision for the protection and enhancement of aesthetically attractive sites, views and environments of various size and character. These include both enclosed, open and wild sites, and views of nearby and distant features such as landforms, landscapes and human constructions - wharfs, monuments, significant buildings and houses, and the water.

3 Provide sheltered viewing sites to enhance the positive benefits of refuge and prospect, taking the effect of weather and vegetation into account.

4 Make locally appropriate provision for aesthetic, cultural and ecological learning by way of interpretation and other publicity methods.

5 Identify existing and potential ecological functions, eg feeding, breeding and transit, and the sites and measures required to secure them, eg the size and character of areas, links to gardens and other "green" areas, and predator control.

6 Formulate management policies which enhance the aesthetic and ecological functions at minimal cost, and monitor the impact of other uses on these functions. Bank protection works, vegetation management and constructions need to be carried out under a protocol which is sensitive to these functions.

7 Draw up a schedule setting out priorities for development action to gain the maximum improvement in the minimum time.

These considerations will influence both the intent of developments in river corridors and their physical form. A further important influence is the nature and demand for recreational use of such areas, which will be considered in the next chapter.

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CHAPTER THREE

FORM AND FUNCTIONS OF LINEAR RECREATION SPACE

INTRODUCTION

Chapter Three examines additional areas with possible relevance to the planning of the use of river margins: recreational values and demand, trail design studies, conflicting uses and waterfront redevelopment studies.

The provision of recreational open spaces and facilities is generally based on perceptions of public behaviour, reinforced by the specific demands of identifiable activity groups. Analytical studies show that a wider, more inclusive view of recreational values must be considered. Such studies reveal the high value placed by large numbers of people on informal recreation, especially walking. Trail design studies provide some basis for the design of one type of recreational space - the linear park. Human visual abilities are the basis for determining the character and scale of enclosing spaces. The degree of potential conflict between different uses is examined. In the context of an extended river corridor area existing waterfront development studies provide little assistance. Some general thoughts on walking as an urban recreation are also presented.

RECREATIONAL PROVISIONS

Recreation must be seen as a fundamental human need. Constant work without recreation of some form is ultimately destructive (Policy for Outdoor Recreation in NZ 1985). Facilities for recreation are therefore vital for a healthy society. Of course much recreation takes place in the

home or in private or commercial settings, such as sports clubs, cinemas and hotels (Wilson et al 1991). New Zealand cities could generally be considered to have sufficient facilities for the well established formal sports, as these have the resources and identifiable administrations to champion their causes. However there is an important role to be played by public facilities for informal recreation, open freely for all. This is especially so while one quarter of all New Zealanders are supported by either a welfare benefit or pension (Wanganui Chronicle 22/10/1992). Although informal outdoor recreation is an important component of any recreation mix, it has a less well defined clientele. Commenting on urban open space (Lancaster 1983) states

"Many of these spaces are most suited for passive recreation; therefore, the need for such spaces is often overlooked by recreation planners." (Lancaster 1983 p38).

As recreation and the demand for it are partly learned behaviours they are inevitably affected by one's childhood and especially the degree of mobility available, and so are partly variable according to socio-economic background (Lavery 1971). Rawley and Peucker (1968) are cited as showing that involvement with local parks is highest amongst lower income groups with less mobility, because the wealthier can recreate at more distant and exclusive locations. Perceptions are not necessarily different; just the mobility.

Standards or policies for the provision of urban open space have tended to emphasise active formal playing fields, often working to an amount (area or number) per 1000 people, or percentage of total area or by using recreation demand studies (Lavery 1971, Lancaster 1983). In Britain it was common to specify one extra unit of passive/informal land for each four units of active/formal land. Successive studies show that informal/passive activities are in fact by far the dominant recreation for most people, contradicting this type of standard (Lavery 1971). This contradiction between policy and people's behaviour was tolerated because the reality of land allocation was that the formal/ active to informal/ passive ratio was closer to 1:3; i.e. more land was available for informal/ passive use than the policy stated by a factor of twelve, as illustrated

in Figure 2 below, so there was a reasonable degree of fit between people's behaviour and the land allocation reality.

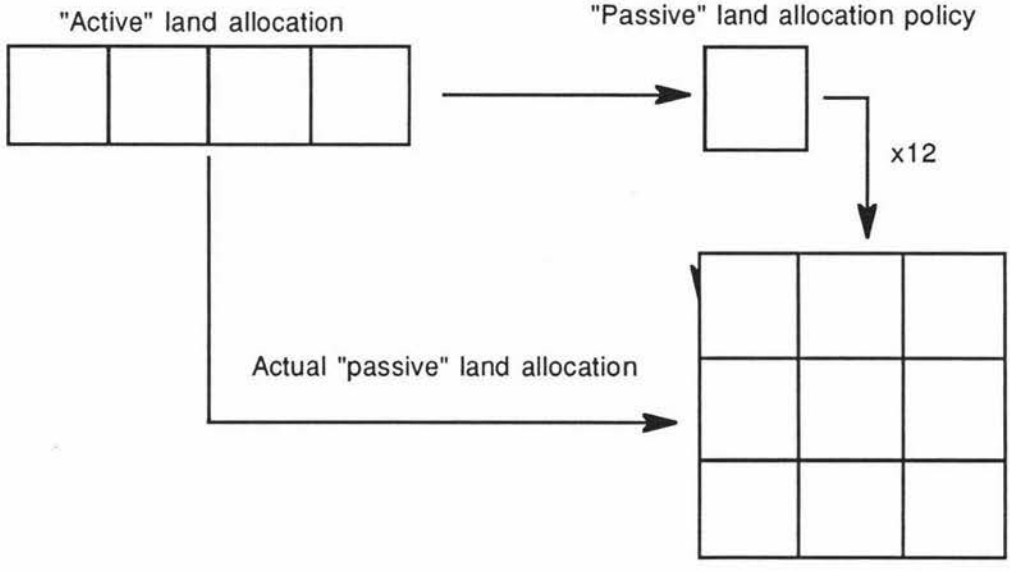

Figure 2 Typical variation between policy and reality in the allocation of land for informal/ passive recreation (After Lavery 1971).

It is widely accepted that children's play grounds have an effective service radius of about 200 to 400 metres. It is generally assumed that larger parks have much larger catchments. Detailed study finds that almost all parks, large or small, draw most of their users from within 800 metres. The only exceptions are those parks which possess a unique or specialised attraction, such as a zoo or riverside promenade (Lavery 1971). Thus a critical factor in providing reasonably equitable access to open space is not quantity but rather an equitable locational distribution relative to the population distribution.

As a result of the tendency to think in narrowly defined ways when dealing with outdoor urban recreation the main provision has usually been children's neighbourhood play grounds, sports grounds, and larger open space parks, usually conforming to classical trees /grass /flowers/water model (Lavery 1971). These all emphasise locationally static recreation. The participant must be in a particular and restricted place in order to carry out the desired activity. They do confer

greater freedom of movement and activity than the domestic setting, but are still fairly limited in that their boundaries are either always visible or very quickly reached. There is a need for more boundless forms of recreation; there is something about limitless movement which appeals to some basic human satisfaction (Policy for Outdoor Recreation in NZ 1985). Hence, the appeal of vistas noted earlier, the wide spread enjoyment of the open road for its own sake, the particular enjoyment of walking along beaches and similar activities (Mann 1973). This has been recognised in New Zealand in the New Zealand Walkways Act, first enacted in 1973 and completely updated in 1990, which makes provision for the creation of a network of walkways throughout the whole country, mainly across rural land.

RECREATIONAL DEMAND

Recreational demand is the sum of all recreational activity occurring in a community plus that which would occur if additional facilities or provisions existed. Demand for recreation can be presumed to be subject to change as social, economic and technological changes take place over time. Recreational demand studies have normally assumed an increasing demand based on growing population, growing affluence and increased leisure time due to decreasing hours of work (Dangerfield 1980). However it was also noted that there seem to be sociological limits to the desire for reductions in work hours. Since then these trends have slowed, but the effect on in-urban recreation must be to further increase demand, as people have reduced mobility and discretionary spending power, and possibly an increased need for quickly accessible facilities. The Presidential Commission on Americans Outdoors (1987) reports that the greatest demand in recreation is for increased recreational facilities close to home (Groves 1990). The effect of reduced mobility due to rising costs, thus increasing the demand for recreation opportunities close to home, has been noted in New Zealand (Policy for Outdoor Recreation in NZ 1985). There is also a widespread perception that, on average, people are under more pressure in their work places and in life in general. However, enforced non-work generally has negative effects on recreational participation, as does reduced discretionary spending (Policy 1985). It follows from these choice-reducing trends that there should be increased demand for low cost, highly accessible, informal recreational opportunities close to peoples homes. In addition, it becomes

more important to ensure that there is an equitable supply of opportunities for all societal groups (Lancaster 1983, Policy 1985). Also, because the future is uncertain, it is necessary to provide for flexibility of both facilities and planning processes, in order to be able to respond to new trends or activities as they emerge.

Walking as a Major Informal Recreation Activity

Recent studies have highlighted the popularity and importance of walking as a primary source of recreation for many people. The Hillary Commission for Sport and Recreation conducted a wide ranging study of national recreational habits (Wilson et al 1990). This shows that over 75% of both sexes and all age groups 15 years plus include walking as part of their recreation (ibid p10). In terms of its ranking as a favoured means of recreation, walking ranks 6th out of 46 activities both indoor and out, and second after gardening out of 22 outdoor activities (ibid pp 12-15). Overall, walking is a favoured activity of 22% of the surveyed population.

In March 1991 the Wanganui District Council undertook a professionally conducted Community Views Survey to gauge community use, and opinion of, a wide range of Council facilities and services (Community Views Survey 1991). One part of this includes questions on out of home recreational activities. The top ranking out of home activity is walking/ running/ tramping at 36%, with visiting friends next at 22%. Additional activities likely to include a walking component are family outings 7%, walking dogs 3%, and picnics 2%.

When all forms of recreation are considered, ie at home and out of home, walking /running /tramping ranks third equal overall, and second after gardening for outdoor activities, as shown in Table 1 below.

Activities	n	%
Gardening	331	55
Reading	241	40
Watching TV/videos	218	36
Walking/running/tramping	214	36
Sewing	142	24
Arts/craft/hobbies	131	22
Visiting friends/family/socialising	131	22
Renovating/home maintenance	90	15
Listening to radio/music	77	13
Swimming	72	12

Table 1. All Recreational Activities. (Top ten; at home and out of home combined) Source: CVS 1991 p31 - 32. Percentage of 600 respondents.

Questions on frequency of activities showed that over half of the respondents are recreationally active away from home at least once a week, with a total of 87% active either every day, weekly or monthly. See table 2, following.

Seventy five per cent of all away from home activity was informal, and all facilities where walking is a potential activity have high usage. From this it can be reasonably concluded that walking and walking related activities are an important part of the recreational menu of Wanganui residents and that the activities are carried out frequently.

Frequency	n	%
Every day	156	12
At least once a week	700	53
At least once a month	291	22
At least once every three months	116	9
At least once a year	60	4
Total	1323	100

Table 2 Frequency of Out of Home Activities Source: CVS 1991 p31

It is reasonable to assume that comparable results would be obtained in other New Zealand cities of similar size and character. These results, along with the recent advent of the more formalised Power Walking movement, clearly indicate that a wide range of New Zealanders see walking as an important recreational activity. As such the facilities associated with it are worthy of some attention. The combination of walking with other modes of informal outdoor recreation, such as sitting, picnicking and viewing, indicates the role river margins may play, ie areas with a variety of opportunities for a range of informal recreational pursuits. This links with the concept of equity of access mentioned earlier, in that the linear nature of a river corridor means that it will tend to lie near a higher proportion of the population than the equivalent amount of land in a single block. Also, a linear area goes some way towards fulfilling the demand for facilities where movement is less restricted by boundaries and enclosure. At the same time, there are practical limits to how far people wish to walk without interruption, particularly if children, the aged or disabled are involved. Also, sitting, picnicking and viewing need to be provided for. Thus there needs to be spaces at intervals which facilitate these activities. Conveniently, the idea of spaces and linkages tends to fit in with the ideas of patches and corridors, and refuge and prospect dealt with in Chapter Two. This overlapping of related forms and functions is a principle which may

serve as a unifying theme underpinning much of the design work on river margins.

Linear parks, with at least some of these functions, are seen as a logical part of the urban scene by several authors. To Lancaster, the linear park is one that can provide for some form of recreational transport and is built along a natural or built corridor, often linking other facilities (Lancaster 1983 p57). Linear parks are one obvious use for extended riparian areas. Referring to linear parks Lynch states:

> "A river or stream provides a very natural setting for such a park, and so we frequently find river parks in cities with the stream as the central feature, paths along its banks, and trees and shrubs masking the urban development along the edge." (Lynch 1981 p443)

Extensive river or canal based linear parks are part of the plans of at least six of the British New Towns (Osborn and Whittick 1977).
The case of Irvine is worth noting:

> "...the open space system is based on the river valleys which will form linear parks separating major built up areas. Eventually they will form a continuous parkway between the peripheral rural lands, the open spaces within urban areas and the coastal area and foreshore." (Osborn and Whittick 1977 p445)

Here we have the idea of linked spaces forming an integrated whole.

TRAIL DESIGN STUDIES

Having established the general nature of facilities and opportunities that may by provided in a river margin area, it is now necessary to briefly review trail construction and maintenance codes. Trails, with their implication of progress between distant point, are an integral part of linear parks. The latest guide-lines on the classification, construction and maintenance of tracks in New

Zealand is that published by the Hillary Commission in conjunction with the Department of Conservation in 1992 . The guide-lines are the product of consultation with major user and provider groups, including disabled users. Classification criteria are based on the physical characteristics of surface, grade, width and facilities. Under this classification a "path" is the most accessible track type. In its barrier free version it has minimum features as follows:

Width 1.5m
Grade 5 degrees maximum (1:11)
Surface Formed, non-slip

This allows full access for mobility-disabled users. This is similar to a suggested American standard:

> "Trails. Well defined head maximum 10' (3m) width, maximum average grade 5% not to exceed 15%. Capacity urban trails 90 hikers/day/mile" (Lancaster 1983 p61)

The Kansas City Metropolitan Region Standards 1980 recommends:

> "Trails, hiking: 1 mile (1.6km)/4000 pop. Nature/interpretive: 1 mile (1.6km)/2500 pop. Bicycle/jogging: 1 mile (1.6km)/2000 pop." (Lancaster 1983 p67)

In Wanganui the Walkways Development Plan 1992 prescribes full disabled access, based on the New Zealand Standard Code of Practice for Design for people with disabilities. This has:

> width 1.2m
> grade 1 in 20 max, with ramps 1 in 12 and landings each 9m.
> surface all weather

These standards are largely concerned with the nature of the ground surface, rather than the environment through which the path or trail passes. The American standards tend to emphasise quantity of provision. As Lynch (1981) states:

> "Planners will strain to increase the quantity of open space and forget to monitor its quality." (Lynch 1981 p152)

The setting and its maintenance thus also needs consideration. In line with earlier findings with regard to aesthetic tastes and ecological values, the following comment regarding waterside walkways is pertinent.

> "It is important, in the management of this green corridor, to strike a balance between no maintenance at all (ultimately resulting in an impenetrable scrub cover) and ***over*** maintenance typified by endless shaven grass verges and neatly trimmed hedgerows. The existing plant communities must be managed simply and effectively to achieve the greatest variety of plant and animal life in accordance with the laws of nature!" (Waterway Hand Book 1972 sheet 12c)

Such a controlled degree of intervention in the "natural" landscape, which shows obvious stewardship, has been shown to be preferred by local observers (Thorne and Huang 1991). The concept of graduated maintenance, with intensive care being applied only where specifically required, is a major theme of landscape designer Jan Fairbrother (1974). The benefits of such a policy are the more natural appearance of park areas, and the reduced costs involved. Hough (1984) echoes this theme, with the addition of the benefit of greater species diversity and enhanced ecological function. This idea of "managed but not manicured" also emerges in the plan for a historic/nature trail in the small American town of Murfreesboro (sic). The goals for a gully area are to protect vegetation and habitats, maximize interest, protect or establish vistas and protect historic sites (Sanoff 1978 p123). Features included are the use of natural seating, such as logs, the use of plantings to provide screening of intrusive industrial views, and multiple

access points to increase flexibility of use.

WALKING OPTIONS

An area not covered in the literature is what options walkers have.

A person wanting to walk has two options - they can walk from home or they can travel to a walking opportunity. (For this section, "walking" includes jogging and cycling). For many people walking from home will mean using the local streets as they will not be near a park area. Even suburban streets have their attractions, but they do not provide the degree of contact with nature that is clearly popular. Travelling to a walking setting, usually by car, normally implies a superior attraction. This is indirect evidence that streets are not the ideal setting for recreational walking. It also involves a degree of inconvenience and restriction. It follows that there is a need to examine the stock of recreational land to determine the walking opportunities it offers and their distribution in relation to residential areas. Because walking is a high frequency activity for many people there is also a need to consider the stock from the point of view of repetition and the provision of variety. One way to meet this need is to provide a network of interlinking opportunities. With sufficient components the possible combinations become almost limitless. It also enables the user to tailor their use of the system to their varying needs. A simple square and cross network with five intersections gives forty possible walks of varying length with little or no overlap on each walk, as in Figure 3 below, given that each may be taken in two directions and assuming a start point near the centre. More complex systems give even greater choices.

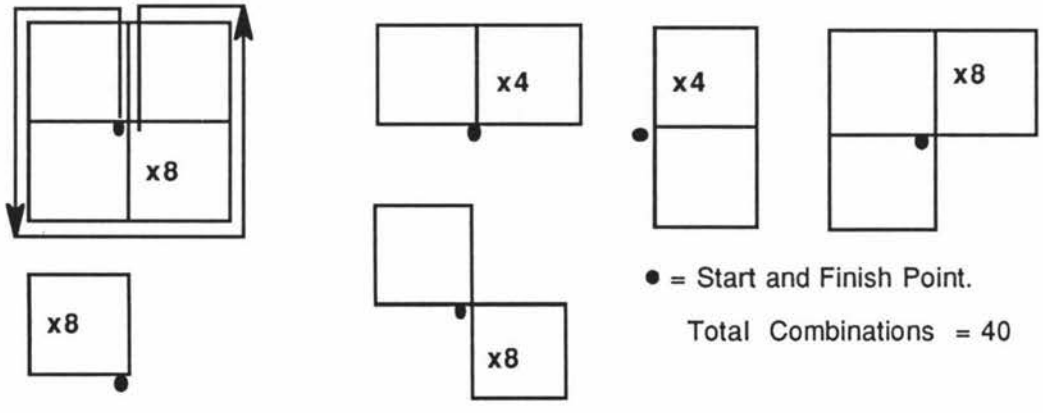

Fig 3 Walking routes from the centre of a simple grid

If combined with natural area trails, a landscaped street network is still a useful part of a corridor system, especially in places where walking loops may be created or access provided for people with disabilities. Translated to a river margin setting, this implies the need to ensure that there are multiple points of entry and exit, so that a large number of different possibilities exist. A commonly accepted standard for open space is that few, if any, properties should be more than 400 metres from an open space facility. This gives a maximum spacing between units of 800 metres. If this is applied to walkways it gives a spacing much larger than suburban blocks and a reasonably attainable ideal, especially if other non-built linear land is considered for inclusion, e.g. railway corridors.

SPACES

Defined spaces are also a requirement of informal recreation places. Wide open spaces need to be balanced with spaces which provide a sense of enclosure and an intelligible human scale. An intimate space will have a maximum width of about 24 metres, the maximum distance for easily recognising a face (Spreiregen 1965). Its degree of enclosure will be determined by the ratio between the height of surrounding "walls" and their distance from the viewer. An enclosed space has a ratio of 1:1, a 45 degree viewing angle to the top of the "wall". The threshold of enclosure is reached at a ratio of 1:2, or 30 degrees. Minimum enclosure is provided by a ratio of 1:3, or about 18 degrees, and loss of enclosure at 1:4, or 14 degrees. These measures are based on the characteristics of human eyesight and field of vision. The number and size of gaps in the "walls" also affect the sense of enclosure (Spreiregen 1965). An effectively enclosing space will therefore be less than 24 metres across, have minimum gaps and have surrounding vegetation walls of about three to six metres high, assuming the viewing or seating point is somewhere near the middle of the space. This height would be consistent with requirements for shelter from sun, wind and rain.

CONFLICTING USES

Where ever a path is created there arises the potential for its use by a variety modes of transport, namely walking, running, cycling of various types, motorbikes, and horses. These are legitimate

forms of recreational transport but their place in this context needs to be examined. Users of facilities have their own ideas of who else should be using the facility at the same time as they are enjoying it. One study of a typical use conflict shows less difficulty than was expected with respect to cyclists (Bannister et al 1992). This study of the shared use of a section of canal tow-path shows that there is a surprisingly high degree of tolerance between cyclists and walkers. Walkers' dissatisfaction actually decreased as cycle numbers increased, to a limit. Bicycles, properly used, are therefore reasonably compatible with walking, given sufficient track width. Whether this is to be provided is an issue which would need to be addressed during the planning process in each individual situation in which it is applied. Mountain bikes may be a different proposition, as the nature of their use tends to be more exuberant than that of other bikes. If a parallel is taken with the BMX bikes of the recent past, the normal practice is to separate their use from that of other activities. Horses are heavy animals capable of high speeds, and likely to have a considerable impact on the ground surface. They are also prone to hazardous fright, especially in the presence of children, bicycles or dogs. In addition, their contributions of waste matter are likely to be offensive to other users, especially those in wheel chairs. In some settings it may be possible to provide parallel facilities for exclusive use by horse riders. Motor cycles are generally regarded as being completely incompatible with walking uses. Their noise and speed pose a disturbance and hazard to the peace and safety of all other users, including non-humans. They should be excluded by both physical and institutional means. Because they are inherently mobile, it is reasonable to expect that provision may be made for them at more removed and isolated alternative sites.

WATERFRONT REDEVELOPMENT STUDIES

> "Here, on the riverside, streamside, and estuarine shore of the urban area, man seeks and hopefully finds a way to the outdoors - a chance for recreation, sport, or solitude." (Mann 1973 p14)

It is an easily observed phenomena that a great many of the worlds cities are built on sites that

have strong links to water bodies for the purpose of securing valuable transport links. It is equally observable that as some older facilities have fallen into disuse there has eventually arisen the desire to both take advantage of the opportunity for increased public access to the water margin and to preserve significant relics of the recent industrial past, often while undertaking commercial redevelopment (Mann 1973 1988, Torre 1989). The most notable global example is possibly the Docklands redevelopment of London's Isle of Dogs. In New Zealand there are projects under discussion for water front development in both Auckland and Wellington, while Palmerston North and Hamilton have river bank walkways. While most of these cases are quite unlike the study area in either nature or scale, the basic motivations are in part similar. A common theme in a number of these projects is the desire to "get people back to the waterfront". In many cases the object may be primarily commercial, with the goal of creating a revenue generating facility. In others there is more emphasis on providing a free informal recreational setting which is of interest to and easily accessible to the population at large. Both are at least partly motivated by the notion that communities need a focal point, a common meeting place, to combat the perceived isolation of modern society (Mann 1973). These ideas are not particularly applicable to the types of situation envisioned in the planning framework, as the most likely activities are walking for its own sake and observation and enjoyment of natural river based features and activities. Situations which do possess a definite or potential focal point call for specialised urban design, an area which is beyond the scope of this thesis.

CONCLUSION

It is evident from the literature that there is a need for public recreational land and that there is a high demand for informal recreational opportunities in urban areas. As walking is one of the more popular activities, trails which are designed to facilitate it are an obvious use for remnant linear land areas. Trail systems, especially if connecting activity areas, will improve the average accessibility of such facilities, and improve equity, in that walking is a low cost low technology activity. Conflicting uses exist and may require intervention. To be available to all, the design of trails and associated areas needs to be such that all legitimate users will be able to move freely,

and feel and be safe at all reasonable times. The planning framework will be required to ensure that these matters are understood sufficiently well to enable the derivation of a suitable standard covering such matters as surfaces, grades, widths, proximity of plantings, lighting and the restriction of excluded activities. The planning actions to be included in the framework are:

1 Determine the mix of recreational activities, modes of movement and sites, appropriate to the local setting, dependent on demand. Allow for reviews to meet future demand, both predictable and unpredictable. Activities may include walking, sitting, viewing, informal play and picnicking. Both bounded areas and trails for extensive free movement should be considered.

2 Provide access to an enhanced range of informal recreational opportunities, especially for urban communities or groups who presently face barriers to recreational opportunities for reasons of location, income or family status eg solo parents, unemployed people.

3 Use the area or areas to re-establish community links with the river or other feature by making use of cultural and historical features. Such use should also be harmonised with aesthetic and ecological functions dealt with in Chapter Two.

4 Trails should be linked in networks to provide variety. Spaces should provide a degree of enclosure, refuge and intimacy, but with sufficient openness for security and views.

5 Generate, with consumer participation, locally appropriate standards for facilities for these activities. These standards should take as their starting point experience gained elsewhere and expressed in nationally recognised documents and standards. Standards need to address trail surface, slope and width, vegetation management regimes, the nature and functions of spaces, and requirements for public safety. It may be necessary to experiment with a strategy of controlled intervention in the management of vegetation, especially grassed areas, in order to have it accepted.

Such standards are most likely to be accepted and complied with if they are the product of informed public participation in the planning process, the matter dealt with in the next chapter.

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CHAPTER FOUR

PUBLIC PARTICIPATION: BEYOND CONSULTATION

INTRODUCTION

Chapter Four deals with the contribution public participation may make to the planning, funding and implementation of river margin development. This may be a means of reducing negative impacts.

Public consultation is a normal part of planning processes in democratic settings, with the implication that there is a need to provide means for comment by the general public in response to planning proposals. Authors trying to improve styles of public participation take this further, with the assumption that people have the ability, interest and need to actively contribute to the planning, design and implementation to changes in the facilities in their community. In the proposed river corridor planning framework public participation will serve to clarify the particulars of the values dealt with in the proceeding chapters. The mode and stage of inclusion of participation can be expected to have an influence on the plan for a particular area, and its implementation, and the subsequent use of the area. As well as producing tangible products, public participation can be expected to result in intangible products, such as increased awareness, a more widespread sense of ownership, and an increase in the ability of the community to participate in other issues.

PUBLIC PARTICIPATION

Methods of community participation in various types of planning have been practised in the

United States and Britain over the last twenty years with varying degrees of success. It has mainly been applied in purely urban situations with readily defined populations confined to relatively small areas. The main objective has been to get designs that "work" for the client groups. The classic situation would be the design of small local neighbourhood play areas (Hester 1975). The success or otherwise of such methods is reliant on the planner's ability to accurately identify community desires and accurately translate them into design and action. If the participation is appropriate it has a major bearing on the use, appreciation and care of facilities (Hester 1975). Hester claims that involvement in collectively acquiring, planning and changing outdoor spaces increases residents' sense of symbolic ownership. Although this is applied to near-home spaces, it should be possible to extend the idea to spaces which have a broader communal territory. It is noted that the use of outdoor space by each neighbourhood is unique and therefore difficult to predict. It is thus not appropriate to plan standardized solutions which do not take into account community tastes and aspirations (Hester 1975). Hester sees the solution to "mis-fit" design lying in taking into account the unique social factors in each design setting. This still leaves the planner/designer in the dominant, if better informed, role. A more difficult solution possibly lies in the idea of design-generating community participation, where the planner acts as facilitater for the direct efforts of community groups or individuals who identify with the planning issue.

Sanoff (1978) brings a wider and more active view of community participation in the planning process.

> "Designing for community participation prepares citizens for involvement in technical issues and an awareness of the consequences of environmental decisions.
>
> The basis for a participatory democracy lies in a volunteer society whereby citizens can work in partnership with public and private efforts to accommodate human and environmental needs. Citizen participation can no longer be used as a last resort, but must be seen as a vital resource in implementing a quality

environment." (Sanoff 1978 p3)

Two main points emerge. One is that community participation has an educative role, resulting in a better informed public with better understanding of the issues involved. The other is that without citizen participation a quality environment will be difficult to achieve because the probability of "mis-fit" design is much higher.

Lancaster (1983) also sees citizen involvement as being an integral part of the planning process. A range of strategies are suggested. For data gathering there are community meetings, site surveys, and household questionnaires and interviews. Citizens should be involved in devising the modes of community involvement. These may include formalised councils, advisory committees and specific task forces, as well as informal workshops, public meetings, and surveys. Thus public participation is used to define the role of public participation. Lancaster also advocates ensuring that there is fair representation for different social, ethnic and economic groups, and that issues of accessibility for all and equity of distribution be addressed. Armour (1986), in dealing with issue management in resource planning, also advocates early and open consultation in the scoping phase of the process. This should be characterised by flexibility, full participation, two way communication, understandable information and a commitment to issue resolution. Issues can be sorted in a number of ways including expert opinion, walk and talk site visits, interest group meetings, attitude and opinion surveys, analysis of community comments as expressed in news papers and other media, and focus/ discussion groups operating with facilitaters.

It is easy to dismiss talk of community participation as being idealistic and naive, in the light of experience of public life which suggests it is fraught with disagreement and frustrating indecision. However, Priscoli and Homenuck (1986) believe that active consultation can speed the planning process and provide a range of benefits including credibility, clear issue identification, consensus, informed parties, better decisions, and the growth of democratic practices. One study at least indicates that citizen design can speed the planning/designing/building process (Johnson 1989).

Johnson was involved with residents in planning the layout and construction of communal space in a low to middle income mobile-home housing trial. The participants were more comfortable with, and skilled at, designing in the active, concrete realm rather than the abstract and so achieve rapid progress by working directly on-site on a design and build basis, rather than theorizing on paper. There is a role for both intuitive design and empirically backed design, partly based on the scale of project involved (Smardon 1988).

The Palouse Path case is a good example of the vital instigating and implementing role of interested community groups (Carlson et al 1989). The community goal was to create a conservation corridor while improving pedestrian and cycling links between two small cities in the American north-west. The groups which formed the Task Force formulated goals, identified issues, generated a concept plan, and involved the wider community by way of public displays and discussion of the proposals. Land owners and local officials were also participants in the process. The plan produced allowed for stages of implementation, so that as demand and interest grows, the facility can grow from its simple early stages.

There are other potential benefits to be gained from community participation in planning. These include reduced costs resulting from voluntary labour and donations of materials, reduced losses to vandalism due to increased surveillance, and a wider scope for attracting funding (McPherson and Johnson 1988). Territorial authorities typically have the creation of an attractive environment as a planning goal (Lynch 1981). This mixed strong and wishful goal is powered by a range of motivations, some commercial, some genuinely public spirited. Whatever the motivation, the means of achieving them are always limited, while the wants are unlimited. The major limiting factor is usually funding. Public participation can enter the financial area via the supply of labour, materials or funding and sponsorship, with Councils exercising oversight, thus providing the required continuity, and maintaining the order which is another of their goals. An instance of the role active popular involvement can play is the experience of the planning, construction and maintenance of "greenways" in the United States (Groves 1990). In a number of "greenway" cases considerable motivation and practical contribution has come from interested individuals

and groups. This has enabled progress to be made in the face of monetary constraints. Typically a group of nearby concerned citizens organises or applies pressure to have greenways planned, and then works to secure funding and does at least some of the physical work of trail building or maintenance.

Pherson and Johnson (1988) find that a defined process is required in order to "provide direction and sustain enthusiasm" where communities are directly involved in planning and implementation. This study relates to urban forestry, a concept closely related to that of urban ecology. The process set out contains four major components, summarised as foundation building; data collection; analysis and evaluation; and implementation, with entry possible at any point and feed-back loops to produce an on-going process. An innovative feature of the case study is the generation of a street planting guide which suggests a range of suitable species but leaves much of the choice and planting to individuals. Group community action is taken in identified high priority areas. This is done to get visible results in key public areas as soon as possible. This provides incentive and encouragement for action in other areas.

ABUSIVE USE

A significant factor in any public planning task is the role of abusive use, whether unintentional or deliberate. This pervasive phenomena has an influence on the design, use and perception of nearly all public facilities, from signs to sports stadia. One approach to this problem is to develop the role of community involvement in the planning process, in order the create a sense "ownership" and responsibility. A sense of ownership is likely to reduce the incidence of damage through deliberately destructive acts. This, when combined with active resident participation, has been found to be most effective in reducing vandalism (Pablant and Baxter 1975). In relation to school properties, the following philosophy and objectives have been cited as having a significant impact on the incidence of destructive behaviour. A particular school's philosophy was

> "To develop in students and parents a pride in the upkeep of their property. To let participants share in planning and realising the aesthetic needs of the school and the community." (Pablant and Baxter 1975 p272).

By giving the students an integral role in the character of this school, a drop to almost zero damage was achieved. Participants in the Harrison et al (1987) study are of the opinion that better planned, less formal recreation areas will find greater favour and thus be treated with much more respect. To be effective public participation in planning will need to be inclusive enough to interest and embrace non-adult age groups. Contact could be established via schools, sports clubs, and places of social assembly. This is particularly relevant in that it is assumed that most deliberate abuse is carried out by a minority of the 10 to 20 year age group. In addition, the energy of the young can be a major asset if it properly utilised (Hough 1984).

In their wider study Pablant and Baxter found that there were several environmental factors influencing vandalism levels. Several of these, such as clear views of the site from nearby houses, higher housing densities and multiple use of the site, were effective in reducing the problem because they increased the observation rate of sites, i.e. the more people are about or watching, the less damage occurs. It follows that if people have had an input into the development of an area they are more likely to use it, and thus protect it either actively or passively, by their presence there. There are limitations to the applicability of this concept to the present planning context in that extensive linear areas will typically be involved, and probably used by people from beyond the immediate area. Use of river margin areas is commonly wide-spread throughout the community, so it must be presumed that people of widely differing backgrounds make use of them, in many different ways. An urban river will typically pass through several "neighbourhoods", but as there is no such thing as a discrete neighbourhood boundary it is not possible to identify discrete "ownership" areas (Alexander 1972). It is therefore necessary to employ a range of community participation techniques in order to cope with this greater diversity and reduced identification with specific areas. One problem it that of maximizing people's input and initiative without compromising sound planning practice and ecological values. One solution is to have a combined expert/lay team-work approach, where the views of all can be freely examined and incorporated.

PARTICIPATION GROUPS

"The Public" is not a homogeneous entity but rather is characterised by considerable diversity. According to Priscoli and Homenuck (1986) the public participate in any of a number of forms. The Organised Public are long standing groupings within the community which have the ability to form and express opinions on any issues which concern them. The General Public are the broad mass of the population who are not tied to any particular group but who may become active if an issue arouses their interest. Public interest groups with specific foci may wax and wane as issues arise or are dealt with. Politicians are another public with particular interests and points of view. Local experts are a group likely to become involved in any contentious issue. It is important to encourage and facilitate identification by various community groups - schools, service clubs, environmental groups, recreational groups, whanau, hapu or iwi, and others. It is possible that new groups may emerge with a focus on particular areas.

How far are such groups, new or old, representative of the wider community? Gundry and Hebelein (1984) find that while those who attend public consultation meetings differ from the general population in their demographic characteristics and levels of education, they do not hold views significantly different from the population at large. This is provided that meetings are well publicized, held in an accessible location and that those who attend are balloted for their opinions, rather than relying on a show of hands. It can also be questioned whether representatives of particular community groups maintain views which their constituency agree with. It is possible that they tend, over time, to loose touch with their original purpose or adopt the views of the organisation rather than those of the citizens. Hutchinson's (1984) study shows that even over extended periods, community representatives do still hold and support views appropriate to their mandate. This gives grounds for confidence that representatives will reflect the feelings of their interest group.

The applicability of public participation to the New Zealand setting needs to be examined. The increasing assertiveness of neighbourhood groups noted by Hester in the United States in 1975 is still not much in evidence in New Zealand, at least in the pro-active sense. There have been,

however, strong reactive campaigns to halt or influence undesirable actions e.g. nationally - the Save Manapouri Campaign; regionally - the Whanganui River Flows Coalition input into the minimum flows hearings; and locally - the Friends of Queens Park opposition to and defeat of the proposed de Coubertin Institute (Campbell 1990). There are, however, more groups reflecting a range of non-locational community concerns, often following trends in countries such as the U.S.A., e.g. Grey Power, Gay Rights, Women's Refuges, Green Peace. It seems reasonable to suppose that action groups will appear in smaller localities as the need arises, as has happened with the petitioning of the Wanganui District Council by residents of Castlecliff regarding the state of their suburb (Wanganui Chronicle Sept 29th, 1992). Two more substantial examples may be furnished from the Wanganui setting, at quite different scales. At the large scale is the Waste Water Working Party. This Working Party was charged by the Manawatu-Wanganui Regional Council with the task of finding an environmentally acceptable and economically feasible solution to the city's waste water disposal problem. The formation of the Working Party was at least partly the result of pressure on the District Council from within the community. A number of community groups then had representation on the Working Party; Friends of the Shoreline, (an environmental group), recreational river users, and the Whanganui River Maori Trust Board. These groups, working in conjunction with Council officers and group-chosen consulting engineers, were able to reach a workable compromise within 18 months, which passed through planning approval hearings without any community backed opposition.

At a local level the small but active and enthusiastic group which has formed with the intention of preserving and improving the Titoki wetland, a small remnant of the originally extensive Kokohuia wetland. The group has had assistance from the District Council landscape planner, but has provided the impetus and people power for the planting program. There is also a stewardship role evident, relevant to the earlier discussion on the issue of vandalism:

> "Mr Jury said his family kept a "friendly eye" on the place." (Wanganui Chronicle 10 Oct. 1992).

Of particular relevance to public participation is the role of the tangata whenua. The tangata whenua are like other communities in that they do not necessarily have a united view, but they have an increasing ability to express their legitimate concerns and a long held desire to influence resource use outcomes (Environmental Impact Assessment Workshop 1985). The principal difference is an association with Aotearoa which is longer than that of tauiwi by about 600 to 1000 years.

Maori traditionally place a high value on natural resources, for a variety of reasons. This value is held today to varying degrees, depending in part on the inclinations of individuals. It is likely that this valuing will increase in importance as Maori achieve the restoration of their mana as the tangata whenua. This restoration is manifest in areas such as education, with kohanga reo, kura kaupapa Maori and initiatives in higher education, and Treaty fishing and land rights via the Waitangi Tribunal. Such developments signify a desire for self - determination, a fundamental human need (Vasil 1990). Mana is very much interlinked with land, particularly as this was the major vehicle for dispossession and oppression (Mulgan 1989). Mana is also destroyed when kaitiakitanga is lost. One fundamental principle is that even when land is sold, the mauri is never lost, and therefore the kaitiakitanga should prevail (Ritchie 1986). The resurgent Maori culture is now firmly determined to achieve the status of equal partners with the Pakeha majority, in accordance with the Treaty of Waitangi (Vasil 1990). The implication from this is that Maori should, as of right, have strong and effective representation on controlling bodies with authority in the planning of culturally and ecologically significant areas.

The acknowledging of the role of kaitiaki is an important step in affirming the mana of tangata whenua, and yet it goes against widely perceived concepts of democratic processes and the power of the majority. A large part of the affection for these principles is due to the monopoly on decision making it has conferred on the majority population for so long. It comes under pressure when it is perceived as no longer accurately reflecting the opinions of that majority - witness the pressure for electoral reform in the wake of 20 years of government in New Zealand by parties

receiving less than half the popular vote. The conflict between the two principles needs to be resolved. Part of the resolution process may be accomplished by the passage of time and the accumulative effect of the public educative process. Further resolution can only come about by way of a major change in thinking about what is fair and reasonable in the dealings between majority and minority indigenous cultures. Priscoli and Homenuck (1986) stress the need to avoid the numbers game of assessing the absolute numbers of people favouring particular views because it is not numbers alone which validate opinions.

For the planning process to be legitimate it is necessary that contact is made with representatives of the relevant iwi or hapu as early as possible. This should be seen as being fundamental to the process as well as a matter of common courtesy. From there the mode of input to the planning process needs to be left to the discretion of those iwi or hapu representatives. There also needs to be an acceptance of the possibility that the reasons for supporting or rejecting facets of a plan may not be given. Such decisions have to be accepted at face value. Desired or unwanted outcomes may also not be expressed or explained.

CONCLUSION

There is a growing body of literature to support the view that active public participation can and should be an integral part of planning activity carried out by public bodies. Such participation is important for its educative role, the "best fit" planning product it can produce, and for the social products of involvement and sense of ownership and empowerment that can result, with consequent positive impacts on abusive use. Provision for public participation should therefore be incorporated into the planning framework to be used in river margin and other similar areas. A number of modes are available for direct and active public participation in the planning of public facilities, with involvement being possible at any stage of the process. Rather than prescribe modes of participation, the framework should provide for early participation to determine the modes to be used in further participation. These may include formalised councils, advisory committees, task forces, workshops, site visits, public meetings and displays to generate public comment. Whatever the modes of participation, they need to be characterised by flexibility, two

way communication of understandable information, a commitment to issue resolution and action, with an emphasis on concrete outcomes. Special effort is needed to reach and include the teenage population of the community, as they are future users and also tend to constitute a high proportion of abusers. In the New Zealand context it is legitimate and necessary to specifically provide for the unique role of the tangata whenua to be expressed, and in a manner of their choosing. The end product of the participation process is a plan which can act as a guide for action by a range of groups and organisations.

Planning actions required in order to generate non standardized solutions which will work in particular settings are:

1 Initiate public participation at an early stage to define the problems and to generate and guide subsequent modes of participation. A bank of possible modes should be supplied as a starting point. Assume that representatives of groups will be accurately representative, but avoid excluding any group members.

2 Specifically invite participation by the tangata whenua. Make clear to all participants the reasons for doing so, and foster the attitude of partnership, rather than interest group status.

3 Use participation as an opportunity to educate all personnel on issues such as ecology and recreational functions, and to gather information on the issues.

4 Clearly record and display information in a readily understood manner, with maximum use of visual media - maps photographs, sketches, diagrams.

5 Make special efforts to involve under 20 year olds, via schools, work places, sports and other clubs, youth groups, and places of social assembly.

6 Ensure that participants prioritise various implementation elements, and agree on a long term

system to monitor and periodically review individual developments within the overall project.

7 Concentrate planning activity on finding solutions and resolving conflict.

Having examined the potential for ecological functions, aesthetic development, recreational use and public participation in planning, it is now necessary to provide a planning framework which will enable these varying functions to be accommodated in any particular situation.

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CHAPTER FIVE

THE RIVER CORRIDOR PLANNING FRAMEWORK

Chapter Five sets out the planning framework for urban river margins, based on the goals and actions derived from the preceding chapters.

INTRODUCTION

The preceding literature reviews of aesthetics and ecology, recreational studies, the physical requirements for trails, and the role of public participation, have generated specific goals and actions. The main aim of this chapter is to integrate these specific goals and actions into the planning framework for developing a river margin open space system. The reviews each show that any framework is more than a simple landscape planning process because the river margin may be required to fulfil a number functions. The River Corridor Planning Framework should provide guidance for planners faced with the problem of bringing life back to the rivers which flow through small New Zealand cities. In most instances the opportunities offered by the water, public open space along the river bank and remnant riverine vegetation need little expenditure of public funds in order to be utilised. Where possible it is hoped that the framework will provide inspiration for local community groups to develop projects which contribute to the overall goal of enhancing the health of the river margin.

THE BASIC FRAMEWORK

The basis for the framework is that provided by Lang's (1986) integrated planning process. According to Lang, integrated planning is both strategic and interactive. As such it has the

following features.

Strategic

An orientation towards action.

Recognition of the organisation's mandate, values and operating environment.

Focus on selected issues.

Clear mission statement, with recognition of implementation ability.

Proactive, flexible and ongoing.

Builds planning and learning ability.

Values intuition and judgement.

Interactive

Includes information feedback, consultation and negotiation.

Interaction occurs early on and throughout the planning process, with full range of stakeholders.

Assumes that open participation leads to better decisions.

Planner as value committed advocate.

Focuses on mobilization of support.

Plan equals "what we agree to".

Success measured by achievement of agreement on action.

Lang also advocates the acceptance of multiple perspectives, with technical rationality being joined by organisational, political and personal perspectives. Lang's approach is similar to the work of a number of planning theorists who are attempting to integrate rational, interactive and strategic processes to achieve sustainable development i.e. human use which maintains ecological integrity. It is consistent with the goal of a high degree of public participation recommended in Chapter Four. These ideas, and those from earlier chapters, are incorporated in the River Corridor Planning Framework and its elaboration, which follows.

THE RIVER CORRIDOR PLANNING FRAMEWORK

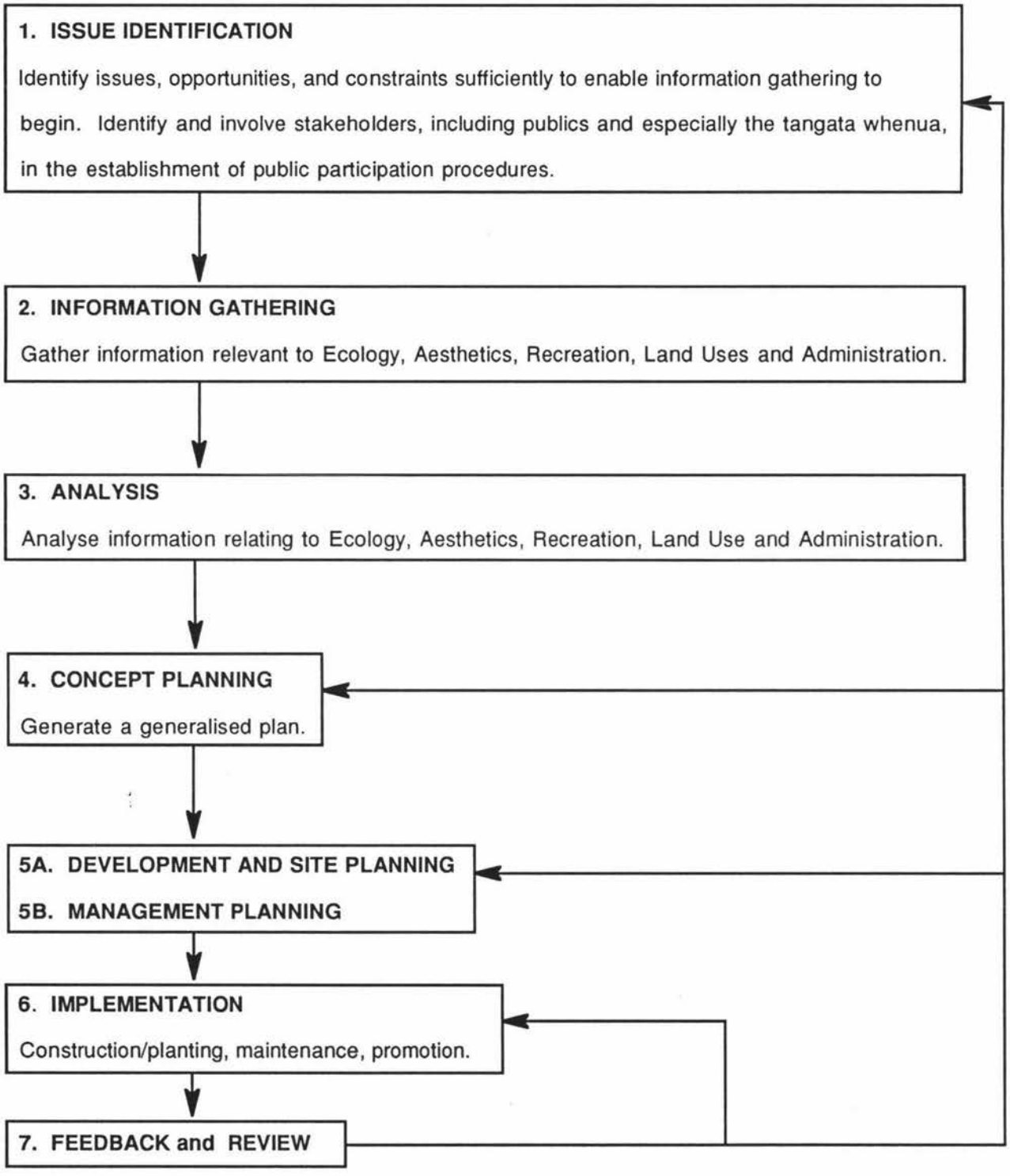

Fig 4 The River Corridor Planning Framework

ELABORATION for the RIVER CORRIDOR PLANNING FRAMEWORK.

1. ISSUE IDENTIFICATION

Begin public participation to determine modes of further participation. From a range of issues identify those which are critical, susceptible to change and relevant to the organisation and stakeholders. Define these sufficiently to enable information gathering to begin. Identify recreational, aesthetic, ecological opportunities. Identify existing uses and the administrative setting. Identify interested parties, such as Councils, environmental groups, iwi or hapu, individuals, special interest groups, which may carry out different parts of the process. Begin assessing the need for funding.

Product: A clear working and public statement of the mission of the planning process and the issues to be dealt with, with an emphasis on realistic action by a range of parties.

2. INFORMATION GATHERING

Information is fundamental to any planning process. In this Framework it is focused towards clarifying and facilitating the desired outcomes discussed in Chapters Two and Three, and in using the participation methods of Chapter Four.

The gathering of information, both quantitative and qualitative, may be carried out by any body involved in the process, in consultation with all others involved in the overall process.

INFORMATION FIELDS

Ecology: Pre and early European flora and fauna; present species and their tolerances, rarity and uniqueness; reversible and irreversible environmental changes, and present opportunities and constraints.

FROM: Tangata whenua; Department of Conservation; Ornithological Society; local long term residents, environmental groups.

Aesthetics: Ratings of views and sites, including historical and cultural aspects; view and site preferences and the relative valuing of different areas.
FROM: Study groups; interest groups, whanau, hapu or iwi; individuals; public displays and feed back.

Recreation: Existing and potential activities and their impacts; demand levels; present and potential clientele.
FROM: contact with user groups; survey of informal users; comparative data from similar existing settings; existing documentary sources.

Land Uses and Administration: All existing land uses - their present and future needs; existing administrative jurisdictions and scheme provisions.
FROM: On site interviews with land users; administrative bodies; relevant documents.
Funding: potential sources and amounts of funding for both establishment and upkeep.

Product: Information: to be collated on a heavily annotated large scale map of the existing situation, constraints and opportunities, with written information to be circulated as required.
NOTE: Allow for feedback to **Issue Identification** because as information is gathered the initial issue statement may require modification, which may in turn alter the information sought.

3. ANALYSIS

The analysis quantifies and qualifies the selected range of issues by generating a potential range of actions. The analysis required includes -

Ecological: Determine the potential ecological role based on areas, shapes, edges and interiors, linkages.
Aesthetics: Designate views/ sites to be protected or enhanced; or upgraded or screened.
Determine actions required for sites with impacts on other senses.

Recreation: Determine demand and desired range of activities; determine nature and spacings of facilities.

Land Use and Administration: Evaluate possible compromises to accommodate alternative uses; produce general policy to deal with new circumstances; rationalise administrative setting.

Public participation by a range of modes should play a major part of the analysis stage, which will seek to achieve compromise between a variety of activities.

Product: A menu of possible actions.

4. CONCEPT PLANNING

The production of the concept plan is a negotiation phase during which the existence of conflict leads to compromise and cooperation. The relationships between different functions and activities need to be clarified. Generation of an generalised plan by a formalised Working Party or similar giving: the types and general location of developments, facilities and management practices; ecological and aesthetic enhancement measures and practices, including suitable plant species and associations; the role of interpretation and education; an administrative basis. The Concept Plan acts as a guide to subsequent steps.

Product: A generalised map illustrating the significant elements of the plan, along with agreed standards, identity, and purpose, to act as a guide-line for subsequent stages.

5A. DEVELOPMENT and SITE PLANNING

To be carried out by such interested parties as are capable, with Council assistance for non council bodies if required. Planning may be carried out by a range of bodies using the concept plan as a guide, with provision for feedback, comment and adjustment.

Product: Coordinated site plans, fully costed, funded and scheduled.

5B. MANAGEMENT PLANNING

This deals with the long term existence of facilities and their control, maintenance and evolution in time. A range of groups will be involved, but especially Council and the Tangata Whenua.

Product: A management schedule defining responsibilities, maintenance regimes and funding, and mechanisms for dealing with feedback and changing circumstances.

6. IMPLEMENTATION

Implementation is in two phases; development and management. Development should aim to involve as many people as possible in order to both reduce costs and to increase the sense of involvement and ownership. Different groups may deal with different areas or aspects.
Promotion and education will form an important part of this phase and the next.
Management will tend to attract a different type of person, who is prepared to make a long term commitment to this less dynamic phase. A clear organisational setting providing funding, support and legitimacy is required.
Product: Developed sites and facilities. Opening ceremonies and events. Regular and appropriate maintenance.

7. FEEDBACK

Feedback and new inputs will initially be directed to the management group. If a sufficiently contentious or difficult issue arises the complete planning sequence can be reactivated, with new information being added to the existing information bank.

Product: Monitoring of the plan area and functions, and appropriate responses to changed circumstances or demands.

From the above development of a river corridor strategy four general goals have been derived which could assist in guiding the application of the planning framework.

GOALS

To provide safe, accessible, aesthetically pleasing informal recreation settings.

To enhance the ecological functions of the riparian area.

To facilitate meaningful public participation in the planning and implementation of development.

To keep costs to a minimum by avoiding land purchase and seeking funding from a variety of sources.

The River Corridor Planning Framework has been generated using suggestions and considerations from reviews covering ecological functions, aesthetics, recreational demand, and public participation in planning. The Framework is designed for application in any river valley corridor in New Zealand or similar urban areas. To test its suitability the River Corridor Planning Framework will be applied to the Whanganui River, Wanganui.

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Map B WANGANUI Follows 58

WANGANUI

Scale 1:20 000

0 0.5 1km

Source: NZMS 271 - 37

CHAPTER SIX

THE WHANGANUI CASE STUDY

Chapter Six presents the background, basis and methodology of the case study.

DEFINITION OF THE STUDY AREA

The study area lies on the true right bank of the Whanganui River between the Whanganui City Bridge and the mouth of the river, at Castlecliff, some 7.5 kilometres away. The width of land dealt with adjacent to the bank varies according to circumstances, but is generally in the order of 50 to 100 metres. Objects or land forms which are beyond the immediate area but which are visible from it are also mentioned where relevant. See the fold out Map B following.

GENERAL CASE STUDY METHODOLOGY

The original intention was to apply the River Corridor Planning Framework down to the production of a Concept Plan. However, as the Planning Framework developed, with its emphasis on extensive public participation, local political realities forced a partial modification to this intention. The public participation content of the Framework would generate a high level of public involvement. With no concrete outcome guaranteed, there being no Council intention to act in this area immediately, it is more reasonable to leave intensive public participation to be officially and willingly dealt with by the Council and for it to be done once and in full. This avoids the confusion and loss of interest that would be engendered by an unofficial study followed by an official planning process. It is fundamental to successful implementation that the plan generated using the Framework be acted on quickly, as suggested in Chapter Four, once public expectations have been raised. Thus modes of community involvement such as public

meetings, detailed demand surveys, working groups and in depth consultation with interest groups, have not been able to be employed. The primary object thus became to produce a conceptual framework and concept plan, with incorporation of community views and values deduced from various secondary sources, in the hope that this could be the basis for further plan development in the future. Such further work would include full community input and the contributions of other disciplines eg landscape architecture. An intended survey form may be found in the Appendix.

PLANNING ASSUMPTIONS for WANGANUI CASE STUDY

Any planning project proceeds by incorporating and accepting certain assumptions, either consciously or unconsciously, about the setting with which it is dealing. The planning assumptions employed in this case study are the result of observation of the area and its organisation over a number of years.

It is assumed that the full sewerage scheme is to be constructed, with full removal of sewage most of the time (dry weather) by late 1995, and full permanent removal by 2007 at the latest.

It is assumed that there will be no significant changes in formal land use in the area, and that the proposed development of a large blue water port is unlikely to occur.

It is assumed that overall responsibility for the area lies with the District Council, but that other groups will be able to be involved in the planning, development and management of particular areas.

ISSUE IDENTIFICATION IN WANGANUI

Awareness of the planning issue began with coverage in the local media of a number of developments and ideas affecting various parts of the study area. These included new commercial buildings on former Railways land, proposed port developments, the continued existence of a timber processing plant in the area and other environmental comments. There

was also the impending disturbance of the area and upgrading of water quality associated with the sewerage project. (Wanganui Chronicle 25/9; 18/10 p6; 12/11; 13/12 p1; 20/12 p6; 21/12 p1, all 1991.)

Initially the topic of study was discussed with Mr Kevin Ross, Planning Services Manager, Wanganui District Council. The Council is intending to conduct a review of its policies relating to all river bank areas, beginning in late 1992 and continuing throughout 1993. This study is therefore of interest to the Council but in no way an officially Council sponsored effort. The Planning Services Unit was able to assist by way of advise and the supply of materials such as maps and aerial photographs. Before any detailed work was done contact was made with a representative of the Maori community, in deference to their role as tangata whenua and holders of mana whenua. The initial contact was Mr Rangipo Mete Kingi, the Department of Conservation's kaupapa atawhai manager, member of the Whanganui River Maori Trust Board, and member of the former Wastewater Working Party. His position was that development which improved the health of the river and its environs, and which improved people's perception of the river, would be welcomed by him and the people he represented. Early contact with Friends of the Shoreline, the main local environmental group, identified their concern over commercial encroachment into the area, environmentally damaging practices and the potential to incorporate ecological values in the use of an urban area. From these initial contacts it is possible to identify those issues which are most likely to be considered critical, are susceptible to change and are within the scope of local organisations.

THE PROBLEM

The Whanganui River bank between the City Bridge and Castlecliff is an appropriate area for several forms of informal recreation, but suffers from either being neglected or occupied to the waters edge by other uses. This condition is accentuated by the knowledge that the water is carrying the discharge from 59 raw sewage outfalls. This has resulted in a long period of public indifference to the river and its margins, an attitude now showing signs of abating.

The product of Issue Identification is a mission statement: To investigate the feasibility of developing the ecological, recreational and aesthetic role of the area, without compromising the viability of other legitimate users.

INFORMATION GATHERING

Use is made of existing written material, both historic and contemporary. The Wanganui District Council's Community Views Survey supplies data on the level of use of a number of areas important for informal/passive recreation, including the river areas. The District Scheme provides information on land use zoning and objects and places to be preserved.

Specific site information was gathered by the author in five ways.

The first step was to walk the area from end to end to gain a ground level impression of the physical potential and areas of difficulty. About 90 colour photographs were taken during this stage, of which a selection are presented along with the maps. This field information was supplemented by that from a full set of 1:1000 aerial photographs and cadastral maps of the area. Ideally all graphic information would be collated and presented on wall maps or photographs at this scale, and in a live planning situation this would be almost essential. For convenience a scale of 1:3000 has been used in this thesis, and for technical reasons aerial photographs were not able to be reproduced at this scale.

From the field inspection the residential area of Bedford and Balgownie Avenues was identified as a major area of difficulty, in that a river based walkway in this area would require either the taking of property or expensive constructions. At the time (June 1992) the District Council was examining options for the construction of a major sewage interceptor pipe in this area. The two main possibilities were either a buried pipe at the foot of the bank or a partly raised pipe which would offer bank protection and a walking surface. It was therefore desirable to interview residents to gain their reactions to this proposal. Because the number of residential properties with direct access to the river is not large (30), complete coverage was attempted rather than a

sample. The interviews were carried out by the author over a two week period in June 1992, with one weekend return visit for properties with no one home during the week. Fine days were chosen so that respondents and the author could examine the sites in detail.

Specialist information relating to ecology and cultural and historic matters was obtained from people with relevant local knowledge. These were:
Mr R Mete Kingi - information on pre-European and recent Maori use of the area.
Mr C Oglvie, ornithologist with the Department of Conservation - information on estuarine bird life.
Mr A Kirk, local historian - information on European use.

The forth method of obtaining information was to attempt to gain some response from the wider community. This involved having an article and photograph published in the Midweek, a weekly community newspaper published by the Wanganui Chronicle. The response method was to be by telephoning the author on the home contact number given.

The final step was to interview appropriate personnel from those enterprises which use land adjoining the river bank. These were arranged by telephone and then carried out in person, again in good weather, mainly during November and December 1992. The intention was to check on the problems likely to be caused by increased recreational use of the area and to gain agreement in general terms to possible solutions to any difficulties arising. This was obtained in all but one crucial area. These interviews therefore involved some analysis, as well as providing information.

SUMMARY OF INFORMATION OBTAINED

A. SITE SURVEY AND PHOTOGRAPHS

These give a general overview of the entire area. This allows for the identification of areas with obvious problems or potential. They also provide a valuable resource for all stages of the study. A selection of these are presented with the planning maps which follow.

B. INFORMATION FROM SPECIALIST AND DOCUMENTARY SOURCES

1 PHYSICAL BACKGROUND

The Whanganui River drains a large North Island catchment of 7300 square kilometres, with an average discharge of 720 cumecs (Krenek 1968). Flows vary between 135 and 18000 cumecs. Much of the catchment is deeply dissected soft sedimentary rock which is subject to rapid erosion, which accounts for the predominant muddy brown appearance of the river. This accelerated erosion is an historically recent condition: the river was crystal clear within living memory (Comrie 1991). About 15 kilometres of the river lie within the commonly recognised limits of the city of Wanganui.

At its entrance to the city the river is about 150 metres wide, with a typical asymmetric high bank/low bank cross section on curves or two high banks (5 to 10 metres) on straight reaches. From the Whanganui City Bridge the river widens from 150m to be 350m wide at the Cobham Bridge. From there it rapidly broadens into an estuary up to 750m wide (see Photo IBi, Map IB). From the Cobham Bridge seaward the river is partly artificially channelled by two in-river rock walls which are about 180m apart, and covered at mid to high tide. The main flow is confined towards the southern side of the estuary. The northern side of the river in this zone consists of tidal flats of either fine sand or mud, (see Photos IBi and IBii, Map IB). Which of these is present largely depends on recent flow and weather conditions (Residents' observations). Sand is dominant over much of the area, but it is likely to be covered with the mud when there has been a fresh in the river. The mud is subsequently broken up and removed during southerly winds which produce an agitating chop. This mud is more correctly called flocculent, as it is suspended sediment which flocculates, (clumps and precipitates), when it encounters salt water. Its occurrence is said to be related to physical changes in the erosion of up-river papa beds caused by the reduced and fluctuating flows resulting from water abstraction for hydroelectric power generation. The mouth of the river is constrained between the North and South Moles, Some 180m apart.

2 ECOLOGICAL

The natural vegetation of the study area is that associated with coastal sand hills and swamp. Thus scrub and wetland species predominated in the past. This environment resulted from rapid movement of sand blown from the coast by the prevailing west to northwest winds (Day 1968). The vegetation has experienced a high degree of modification, with there now being few remnants of what once existed. The seaward extreme of the area has a mixed dune grass/ low scrub flora, and there are other patches planted in native scrub/ small tree species. Much of the rest is in mown grass or in untended wasteland grass and weeds, (see Photos IIBii and IICv, Maps IIB and IIC). The high salt load of west to north west and strong southerly winds are a major limiting factor in the establishment of new vegetation, especially trees. This difficulty is compounded by the extremely free draining character of the alluvial soils. Such conditions demand special management practices if plantings are to be successful.

On land the main fauna were the nectar and insect dependent birds such as kereru, tui and fantails, along with flightless species such as pukeko and weka. Today the flightless species are absent and the arboreal land birds are severely reduced due to loss of habitat, introduced predators and competition from introduced bird species. The aquatics seem less affected, still being present in relatively large numbers, (see Photo IBi, Map IB). The area is not a breeding site for these species and their feeding mainly takes place on the mid - river tidal flat (Ogle pers. comm). They seem quite tolerant to moderate levels of human activity, having a mid - river sandbank to which they can retreat. The tidal flats provide a rich feeding ground for a wide range of aquatic birds, some migratory, others resident. These include gulls, terns, royal spoonbills, pied stilts, godwits, shags, kingfishers, as well as hawks. In total 50 species have been observed in the area (Randle 1989).

3 RECREATIONAL USE

In the second Community Views Survey carried out by the Wanganui District Council over 50% of respondents reported using some part of the river bank during the previous twelve months, with 23% doing so at least once a month (Community Views Survey 1991 p13). The predominant

activities in the river area were walking/running 38%, and watching/ doing water activities 25%.

Most users were either satisfied with or had no opinion on the condition of the part of the river bank they used. Those expressing dissatisfaction mainly cited dirty/untidy/not looked after. Only a small percentage of non users (5%) gave untidy/polluted as their reason. It seems there is a fairly high level of use of river bank areas, with high levels of satisfaction and limited concern for tidiness. It must be noted that these comments relate to any part of the river bank within the city, not just the study area. Substantial parts of the non study area are in a more formed and managed state than the study area. These areas also have a greater proportion of residential land immediately adjacent to them and so are more likely to be used. They include the Kowhai Park children's play ground and the Wanganui Motor-boat Club where races are held several times a year. From this data it is not clear what the present level of use is in the study area. Sites of known recreation activity are shown on Maps IA, IB and IC. These include fishing, walking, off road motor cycling, viewing and bird watching, along with on - river activities such as boating, yachting and sail boarding, (see Photos IAi, IIBii, Maps IA and IIB).

The District Council has also published a Walkways Development Plan, following a users survey and consultation with those interested in walking opportunities (Walkways Development Plan 1992). A limited direct survey of walkway users found that 39% were walking for pleasure. Unfortunately the survey did not clearly differentiate between inter-street links and more substantial walking settings eg around Virginia Lake. Also, although carried out in summer it did not cover evenings, a popular walking time. In addition, it did not include some significant non-street walking areas which would not be classified as walkways eg Castlecliff Beach. The report did identify the importance of upgrading the existing semi-formed river bank walkways and the potential for extending the system to Castlecliff, in the context of a continuous system from Aramoho to Castlecliff, via Kowhai Park.

4 AESTHETICS AND CULTURAL AND HISTORICAL INFORMATION

4a AESTHETICS

Evaluation of aesthetic factors has been kept at a general level, as befits information intended for a concept plan. More detailed study of particular sites, sights and requirements would be undertaken at the stage of development and site planning. The general information can be summarised thus: almost all of the far side views are interesting and reasonably attractive as they are, ranging from mixed hillside housing to farm land and Corliss Island, from Landguard Bluff to coastal sand dunes, all with the river forming the foreground. On the near side there is a much greater range, much of it unattractive but capable of improvement or screening. Many of the industrial or commercial buildings are of the large corrugated iron style, with uninterrupted walls facing the river. The photographs with the maps, especially plates IIAiii, IIBiii, IICiii and IICv, provide the best presentation of this information.

4b CULTURAL AND HISTORICAL INFORMATION - MAORI

Maori use and occupation of the present city river area has a history covering at least 24 generations. The main areas of permanent settlement were further up river, in places more fertile, sheltered and secure (Smart and Bates 1973). However, the estuary and nearby areas were significant as seasonal food supply areas and camping sites for summer ocean fishing, and there was some permanent settlement.

The Kokohuia wetland was a major source of flax and eels (Mete Kingi pers. comm.). The small stream draining Kokohuia into the Whanganui was also important. The tidal river flats supplied shell fish and flounder. The main right bank settlement was Te Ahituatini Pa on the hill beside the present Cobham Bridge road way. The small fishing village of Te Oneheke lay on the bank of the Karamu (Carlton) Stream, near the present railway yards, (see Photo IICiv, MapIIC). At Castlecliff was the small fishing village of Pungarehu. Across the river was the larger settlement of Putiki, which presently exists close to its original site. The view of the present authorities at Putiki is that any development which improves the health and appreciation of the river is highly desirable. There are several sites of special significance not directly within the study area but

potentially linked to it.

There are two iwi authorities relevant to the study area. One is Whanganui River Maori Trust Board, representing Te Atihuanui - A - Paparangi, chaired by Mr Archie Taiaroa; the other is the Nga Rauru Trust Board of the Waitotara based iwi which has fishing rights in the area, chaired by Mr Potonga Neilson. Both of these groups are represented on the recently formed (late 1992) Wanganui District Council Iwi Liaison Working Party - Te Roopu Whakakotahi, consisting of three District Councillors and three iwi representatives.

4c EUROPEAN

European use of this section of river bank has been a reflection of an industrial and commercial culture, strongly linked both functionally and physically, by way of transportation, with its pastoral hinterland. As the young settlement grew from its core in the area at the foot of the Queens Park hill (Pukenamu), it developed wharfage facilities in the area immediately downstream of the City Bridge (King 1968). These were later joined by the railways and their associated goods yards (Kirk pers. comm.). These two occupied the initial artificial high bank section of the area, near the present day City Marina - (see Photo ICiii, Map IC). The river training walls were built in a largely futile attempt to maintain the river port as opposed to the Castlecliff port. The wharfs finally closed in 1955 and Rail Corp substantially reduced its holdings in the area in the early 1990's.

The next major activity and land holding zone of Gonville and Balgownie was originally owned by Peter Imlay, who established the slaughter and then freezing works in the early years of the settlement. This major riverside industry occupies a central point of the study area. Upstream of the plant the land to the river bank was subdivided by the freezing company for residential use, with about 40 generally well kept houses in the 60 to 30 year age range existing today. Adjacent to the works the meat company built and operated a substantial jetty, the piles of which still remain, (see Photo IBii, Map IB).

The third major activity area was that centred around the port of Castlecliff. For a few years there was a whaling station using the hill as a look-out to spot passing or nursing whales. As the size of shipping increased, port facilities were developed at the expense of the town facilities, despite the resistance of town traders. The Basin Wall was built to protect the port from silting by the river. Various industries have been established in association with the port and its rail link, and have continued despite the diminished importance of them both, so that the whole stretch from Imlay to Castlecliff is now backed by industrial land, most of which is occupied, (see Photo IIAiii, Map IIA).

MAP ONE: AESTHETIC, NATURAL AND HISTORICAL:

Map One records part of the information gathered during the case study. It focuses on positive features and uses of the area.

General

Along most of the river bank there are interesting prospects, either along or across the river.
There is an extremely limited amount of refuge: ie shelter from sun wind or rain.
There is a variety of bird life to be seen at all points along the river.

Significant Features:

Map IA

Recreational shore based fishing is a major activity in this area.
It is an area with a variety of views.
The river in the area is often enhanced by sea waters around high tide, especially in summer.
Clean tidal flow at times reaches as far up stream as the City Bridge.

MAP IB

This is the richest area for aquatic bird life.
The bank is low in all of this area.
The continuous across - river views are almost entirely natural or farmed.

The wide tidal belt is predominantly sand.

MAP IC

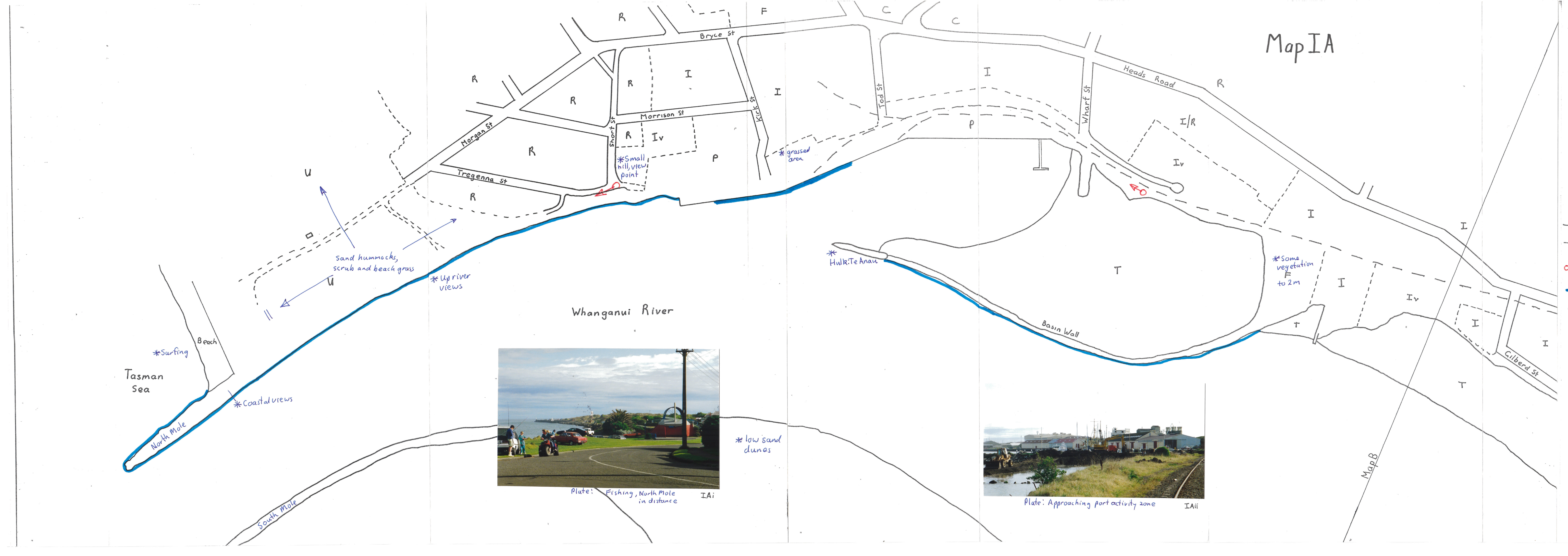
There are a variety of high quality across - river views.

Bank height varies from 0.5 to 3 - 4m.

There are scattered patches of established vegetation.

The City Marina is an existing attractant to the river, with seating and trees. Fishing takes place here.

69A 70



REFERENCE

MAP I A Follows 69

R Residential

I Industrial

Iv Industrial, vacant

C Commercial

F Facility

U Undeveloped

T Tidal Flats

Railway Line

Boundary

Photo location and direction

Fishing

Site of significance to Maori

N

SCALE

1:3000

1 cm = 30 metres

0 100 200 m

MapIB

Heads Road

Leamington St

Beach Rd

Beaumaris Av

Karoro Rd

Gilberd St

Area of summer weeds and grasses

*Kokohuia Stream

*Jetty remains.

Whanganui River

Whanganui River

Map A

Map C

Plate: Birds and South Spit. I6i

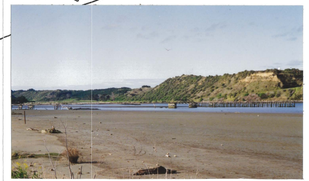


Plate: Imlay Jetty and Lanfguard Bluff. I6ii

REFERENCE

MAP I B Follows 69

- R Residential
- I Industrial
- Iv Industrial, vacant
- C Commercial
- F Facility
- U Undeveloped
- T Tidal Flats
- Railway Line
- Boundary
- Photo location and direction
- Fishing
- Site of significance to Maori

N

SCALE

1:3000

1 cm = 30 metres

0 100 200 m


69C
Map IC
Whanganui River
Whanganui River
Plate: Landguard Bluff. ICi
Plate: Prospect and refuge, looking upstream ICii
Plate: Braeburn Flats and hill view ICiv
Putiki: Historic Church, marae plus Kura Kaupapa Maori
City Bridge
to Heritage area
Path to Kowhai Park
Durie Hill steps Elevator and Look out tower
REFERENCE
MAP IC Follows 69
R Residential
I Industrial
Iv Industrial, vacant
C Commercial
F Facility
U Undeveloped
T Tidal Flats
Railway Line
Boundary
Photo location and direction
Fishing
Site of significance to Maori
N
SCALE
1:3000
1 cm = 30 metres
0 100 200 m

HUMAN USE AND CONSTRAINTS

The following information relates to the activities and needs of land holders in the study area, ie residents and enterprises.

1 RESIDENTIAL INTERVIEWS

Successful interviews were carried out with adult representatives from 24 of the 30 households which occupy land on the immediate river bank. The bulk (66%) were in the 50 plus age group, with the remainder in the 30 to 40 group. Just over 50 per cent have occupied their homes for over twenty years, with a further 33 per cent being in the less than one to five years occupancy group. This reflects an area established 40 to 50 years ago with a stable population, which is now experiencing rejuvenation as the older residents leave the area for various reasons.

On the idea of a walkway along a raised pipe at the rear of properties the results shown in Table 3 below were obtained.

Opposed	9
Ambivalent	5
In favour	10

Table 3 Showing river bank residents reactions to walkway proposal, derived from personal interviews, June 1992.

It should be noted that those opposed are strongly so while those in favour tend to be mildly so. One respondent claims he would sell his property if such a project is carried out. The dominant concern, for two thirds of those interviewed, is the issue of security. The concern is for the security of property rather than the person. A walkway is seen as providing an additional means of access for thieves. There is an evident contradiction in that it is clear that the river bank base

route is already being utilised, it being above water most of the time and burglaries having already taken place. Privacy was mentioned by five people, noise by three, rubbish by one. At a later meeting between residents and Council engineering and planning officers, unrelated to this study, strong opposition to any river bank walkway in this area was expressed (Wanganui Chronicle 24/8/1992 p2). It is apparent that an attempt to provide a walkway on this section of river bank would be difficult in terms of expense and the adverse impact on residents. The other finding of this survey is that in the majority of cases the river has eroded the land which is designated as Karoro Road so that the river bank now lies within the properties. This is confirmed by detailed study of aerial photographs and cadastral maps at a scale of 1:1000.

ENTERPRISE INTERVIEWS

Personnel from the following enterprises and interested bodies were interviewed.

Ocean Terminals Ltd., lessees of Council owned Harbour land.

Wanganui Trawlers Ltd, agents for Pacific Oyang, sub lessees of the seaward-most part of the wharf area.

Wanganui Engineering, boat builders, repairers, operating a river slip way.

Affco Freezing Co Ltd., operating the Imlay freezing works.

Works Civil Construction Ltd., lessees of a riverside yard.

B Bullocks Ltd., operating timber yards.

New Zealand Rail Ltd., operating goods yards.

New Zealand Fire Service.

Wanganui Gas Co.

Powerco Ltd. (Rangitikei Wanganui Electric Power Board).

The results of these interviews are presented on the maps which follow. The common theme which emerges is the same as that voiced by residential land users - that of security of property. Much of the discussion therefore revolved around how "good" public access could be enhanced while reducing the potential for "bad" public access. Public safety in working areas was also mentioned several times. In general all of the enterprises were supportive or tolerant of the

walkway concept.

MAP TWO: HUMAN USE AND CONSTRAINTS

Map Two focuses on industrial and commercial uses of on or near bank areas, and on constraints to aesthetic, ecological and recreational use.

General

Much of the river bank has been protected with rubble which is unsightly, with protruding reinforcing and beams.

Although low lying, the area is not particularly flood prone: for example, only very small portions were covered in the one in fifty year event of March 1990.

Significant Features:

Map IIA

With the Port this is a comparatively intensely used area spatially. However much of the time there is little activity.

Security is a major concern to many enterprises.

MAP IIB

Although there is more space for walking, unattractive industrial facilities are visually intrusive.

If the stop behind Imlay is not solved a lengthy diversion is involved for those who wish to continue on up river.

There is evidence of vehicle based recreation in the area.

Most security problems in this area are presently addressed by means of fencing.

MAP IIC

There are a number of industrial and commercial properties which present unattractive views.

The Bedford/Balgownie Avenue area presents difficulties because of the absence of public land between residences and the river bank.

Map II A

Plate: Pacific Cyang and up river. II Ai

Plate: Wharf Construction II Aii

Plate: Wanganui Engineering II Aiii

REFERENCE

MAP II A Follows 72

- R Residential
- I Industrial
- Iv Industrial, vacant
- C Commercial
- F Facility
- U Undeveloped
- T Tidal Flats
- Railway Line
- Boundary
- Photo location and direction

SCALE

1:3000

1 cm = 30 metres

0 100 200 m

Map II B

Map A

Heads Road

Gilbert St

Railway line

* Some large industrial buildings

* 33Kv River line

* Formal planted plots

F – native species up to 3m.

Stop bank

* rubble bank protection

Sailing Club launching ramp

* Erosion

* Timber faced bank

Sailing Club Rooms

Balgownie Landfill. Proposed large passive/informal park ☆ 2000AD

Heads Road

Leamington St

Beach Rd

Beaumaree St

Pump Station

* long diversion

Karaka Rd

Large Freezing Works (Affco Inlay)
Visual Impact
Odour (Treatment Jan. 1993)

* Stopped.

High fence – vehicle access

Gas gate

Access to gas gate

* Rear view of industrial yards and buildings. Fenced

* 33Kv River line

* Vehicle tracks, recreational driving

major gas line

Whanganui River

Whanganui River

Map C

Plate: Bank erosion II6i

Plate: Behind Heads Road industries II6ii

Plate: Semi-sealed part of Karaka Road II6iii

Plate: Stopped access behind Inlay II6iv

REFERENCE

MAP II B Follows 72

- R Residential
- I Industrial
- Iv Industrial, vacant
- C Commercial
- F Facility
- U Undeveloped
- T Tidal Flats
- Railway Line
- Boundary
- Photo location and direction

N

SCALE

1:3000

1 cm = 30 metres

0 100 200 m

Plate: Imlay Gate. Lab. on left. IICi

Plate: Concrete Dump IICii

Plate: Bullocks Yard IICiii

Plate: Rail yard IICiv

Plate: Liquorland. IICv

WIDER COMMUNITY CONTACT - VIA "MIDWEEK"

This method attracted a limited response. Six persons telephoned to give their opinion or suggestions. As the article was published after Bedford and Balgownie Avenue residents had been interviewed, no further response from them was anticipated or received. All callers were supportive of developing the river bank for recreational purposes such as walking and park like areas, eg the area in Photo IICii, Map IIC. Features such as plantings and bird life were also mentioned. Present negative activities such as rubbish dumping were also noted, although only one instance of this was observed by the author. Specific suggestions are incorporated into the Concept Maps to follow.

PLANNING STATUS

The significance and role of the river are recognised in several statements and provisions in the District Scheme.

> "It (the river) offers both visual and physical recreation opportunity. Much greater utilisation of the river as an aquatic reserve can be expected when the sewerage scheme is completed."(Wanganui District Scheme 1989 p14, para 438).

The recreational potential of the riverbank area, and role of walkways, is also recognised.

> "Designation of Land
>
> Class A - Private and Public Recreation.
>
> iii) Land which will link existing and proposed reserves by means of walking, cycling and horse riding tracks and will generally follow along the banks of natural water courses, streams and rivers. Such land will be designated "Proposed Recreation Purposes - Walkway."
>
> 1. General:
>
> c) "Wanganui River Esplanade." Stage 1 (1986 -91)" (WDS 1989 p55 - 57)

The Wanganui River Esplanade is a continuous strip of land and river bed stretching from the City Marina to the landward end of the harbour basin wall. Its existence is an indication of a degree of Council interest in this area, but its legal status has had limited bearing on this study.

The need to preserve the natural character plays a part in recreational policy.

"Recreation Zone para 1104.

Policy: To observe the following general principles in achieving the levels set down for the provision of reserves:

a) retention of distinctive natural landscape areas.

b) development of an inter-connecting walkway system.

c) establishment of buffer strips.

Reason:

Adherence to these principles will help ensure that the reserves are of high standard and ultimately form a City-wide linked network." (WDS 1989 p51)

The specific protection of the river environs is also a matter of policy.

"Water and Soil Conservation

Policy: para 2008

To ensure that the water resources of the city are not compromised by unsuitable development proposals.

Reason: para 2009

The City has a number of important water areas, such as the Wanganui River,... that are used for a variety of active and passive recreational and tourist opportunities. In addition, a wide variety of wild life and vegetation is to be found at these sites. It is important that these locations are not detrimentally affected by unsuitable developments as they represent significant local and regional assets." (WDS 1989 p113)

It should be noted that this was written when the Scheme covered the City only, and before the spelling of the river's name had changed.

The conservation of the river environs is reinforced by policy on wild life.

"Wildlife Resources

Policy: para 2104

To ensure that policies relating to residential, commercial, industrial, recreational activities and water and soil conservation, make adequate recognition and provision for significant wildlife habitats." (WDS 1989 p114)

The concept of buffering between industrial and other users is also employed.

"Manufacturing Zones

Proposal 9: para 916

"Green belts between selected manufacturing zones and residential and commercial zones shall be designated as follows: ...

- between the Balgownie and Taupo Quay industrial area and the river. (others follow)

Reason:

These green belts will provide additional screening and separation between manufacturing zones and adjacent land uses and will therefore reduce the necessity of imposing more restrictive performance standards and bulk and location requirements." (WDS 1989 p41)

The above scheme provisions are evidence that the river and the adjacent area are regarded as significant by the people of the city. The degree to which this regard has been translated in to action is rather less clear. What has certainly been lacking is a coordinated and systematic program of protection and development.

ANALYSIS

As stated earlier, much of the information gathering stage included elements of analysis, in that respondents provided their views on what might be, as well as on what already is. From the information gathered it is possible to reach the following conclusions:

The study area has ecological roles, both in and of itself and as part of its wider area. These functions can be supported and enhanced by the appropriate actions eg planting appropriate plant species; control of plant and animal pests; educating human users.

The area has important aesthetic, cultural and historic qualities which have potential to be incorporated into people's use of the area.

Existing recreational use of parts of area could be enhanced by the development of specific sites, routes and facilities.

Existing land users are capable of accommodating additional public use of the area provided their concerns relating to security and safety are met.

There is official recognition of the importance of the area and the values within it.

The above analysis, based on the information gathered, is the basis of the concept plan which follows.

THE CONCEPT PLAN

> "Concept plans...outline the overall physical arrangement of recreational areas and facilities and their support elements... Concept plans are not working drawings and do not provide accurate layouts for recreation areas and fields or construction details for structures and facilities." (Lancaster 1983 p25)

The following concept plan is the product of the analysis and evaluation of the data gathered during the study. It incorporates as far as possible the needs and concerns of the different present and future users of the area, both human and non-human. It is based on the assumption that workable compromises can be achieved where necessary. This assumption is in turn based on the responses received in interviews with the majority of present territorial users.

The plan has six major components, each of which is to a degree complimentary to the others.

Component One: The development of sites with seating, interpretation and plantings to facilitate viewing activities.

Component Two: The development of walkways to facilitate access to viewing areas and to eventually provide a continuous interlinked system from one end of the area to the other, and with links to other nearby areas and features.

Component Three: The general enhancement of the aesthetics of the area with plantings designed high - light positive views and to screen negative views.

Component Four: The enhancement and restoration of ecological functions by appropriate plantings and the control of competing species.

Component Five: The development of the cultural and historic character of appropriate sites.

Component Six: Improving security by specific physical means and by validating and encouraging public access on foot or bicycle.

Two points of difficulty are evident, associated with Component Two - walk ways. Both relate to the Balgownie Avenue - Bedford Avenue - Imlay area. The first is the difficulty of constructing a walkway at the foot of the river bank in the tidal zone. An alternative route is therefore proposed for this section, a distance of some 700 metres. This would involve following the bank on the river side of the Works Civil Construction (formerly M.O.W.) site and then diverting on to Bedford and Balgownie Avenues. From these tree lined streets an access point must be found on to the river bank before reaching the Imlay site. This is the second difficulty, as yet unresolved. The ideal time to have provided such an access route would have been upon the subdivision/ amalgamation of sections at 25 - 49 Balgownie Avenue in 1991. A linking walkway similar to

those linking streets throughout the city could have been provided at modest cost.

MAP THREE: PROPOSALS

Map Three presents the conceptual proposals which would form the basis for detailed design planning.

General

A continuous walkway to disabled standard is proposed, with access to non target users restricted ie motorcyclists and drivers.

Small rest/observation sites are situated along the walkway.

Mixed height planting where ever possible - with minimum lawn.

"Straight" sections to have sufficient inflection to maintain interest/variety.

Further details of development follow in Suggested Policies and Standards.

Based on the Wanganui District Council's Walkways Development Plan, path costs are in the order of $15 to $20 per metre, with plantings and facilities extra. If the present Council budget of about $30 000 per annum for walkway development were applied to the area, much of the work could be completed over a five year period.

Significant Features:

MAP IIIA

Clear marking of the trail is required on existing sealed surfaces.

A strong symbolic start/end point is needed.

Further negotiation and formalisation is required through the port and industrial area.

MAP IIIB

The area with the greatest ecological potential because it has the most space.

Toilets are suggested at the Council sewerage pump station - this is close to the half way point.

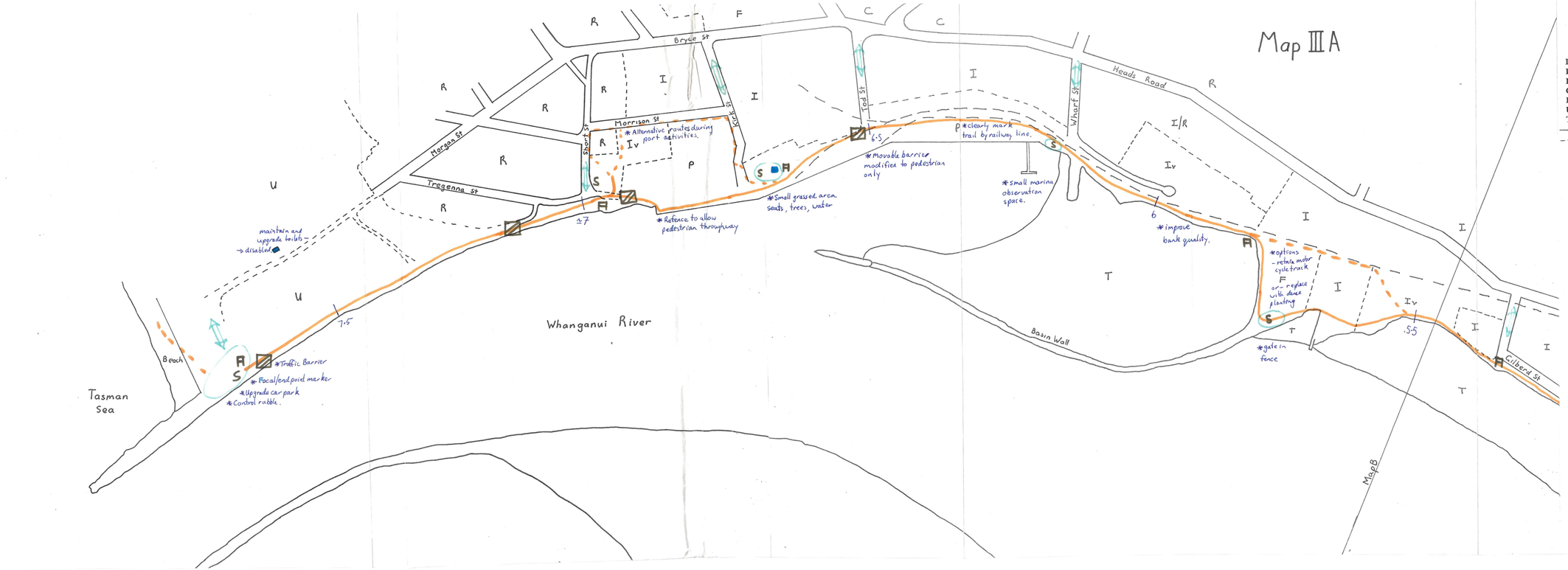
MAP IIIC

The area City Bridge to Cobham Bridge has many possible links to other areas of interest.

Need for strong start/end point.

Major remaining point of difficulty at Imlay/Balgownie/Bedford Avenues.

Views From Cobham Bridge - main entrance to city - to be enhanced. This does not relate directly to the use of the area, but is significant to the image of the city as a whole.



REFERENCE

MAP III A Follows 79

R	Residential
I	Industrial
Iv	Industrial, vacant
C	Commercial
F	Facility
U	Undeveloped
T	Tidal Flats
——	Railway Line
- - -	Boundary

Trail

Access/exit points

Seating — S

Seating/observation nodes

Interpretation/signs — A

Vehicle barriers

Drinking water

Toilets

Distance from City Marina — 4·5

Screen planting

N

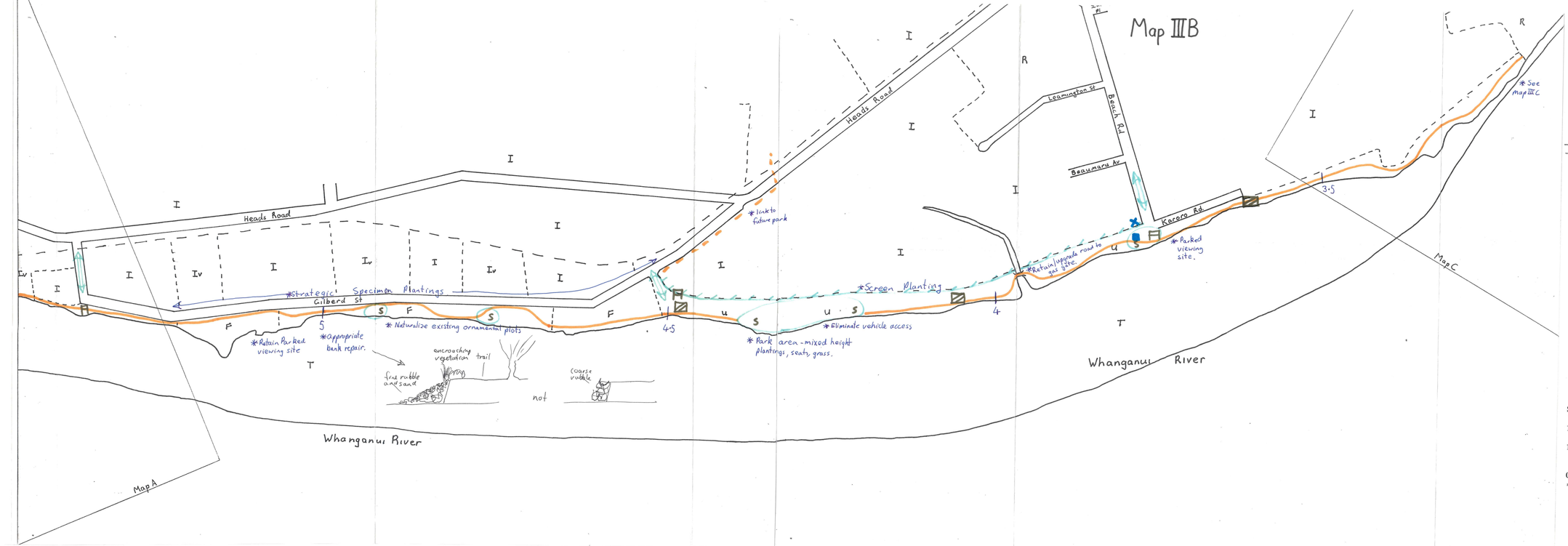
SCALE

1:3000

1 cm = 30 metres

0 100 200 m

Map IIIB



REFERENCE

MAP III B Follows 79

R	Residential
I	Industrial
Iv	Industrial, vacant
C	Commercial
F	Facility
U	Undeveloped
T	Tidal Flats
— —	Railway Line
- - -	Boundary

- Trail
- Access/exit points
- Seating (S)
- Seating/observation nodes
- Interpretation/signs
- Vehicle barriers
- Drinking water
- Toilets
- Distance from City Marina (1, 4·5)
- Screen planting

N

SCALE

1:3000

1 cm = 30 metres

0 100 200 m


Map III C
REFERENCE
Follows 79
MAP III C
R Residential
I Industrial
Iv Industrial, vacant
C Commercial
F Facility
U Undeveloped
T Tidal Flats
Railway Line
Boundary
Trail
Access/exit points
Seating
Seating/observation nodes
Interpretation/signs
Vehicle barriers
Drinking water
Toilets
Distance from City Marina
Screen planting
N
SCALE
1:3000
1 cm = 30 metres
0
100
200 m
Whanganui River
Heads Road
Bedford Av
Taupo Quay
Whanganui River

INDICATIVE POLICIES AND STANDARDS FOR THE STUDY AREA

The following policies and standards are presented to illustrate the types of guide-lines which would need to be generated in a live planning project. They would be subject to alteration and negotiation as part of the planning process. They would also be open to periodic review to allow for adjustment to changing circumstances.

USER FACILITIES

Objective: To ensure that use is practical and safe for as wide a range of people as possible.

Policies: Provide seating of a standard that allows prolonged sitting in comfort.

Provide sufficient seating at larger sites for large numbers - say 12 minimum.

Orientate seating to views and shelter from wind.

Average distance between seating areas of 500m.

Drinking water to be supplied near end points and at least three other points - average distance two kilometres.

Toilets to be provided near end points and near mid point to disabled access standard.

Provide lights to be at a moderate height - human, not vehicle, scale.

Lights to be non glare to avoid obscuring dazzle.

Lights to be sited in relation to trees to avoid deep shadows within three metres of trail.

Avoid dense plantings within three metres of trail or seats.

Provide vehicle barriers of an extremely robust standard allowing only pedestrian, wheel chair and bicycle access. Service vehicle access via locked gates.

New surfaces to be well graded in local shell rock.

Surfaces near railway ballast to be upgraded with finer material.

Sealed/concrete surfaces to be free from pot holes.

PLANTINGS

Objective: To enhance aesthetic, ecological and recreational functions.

Policies: Maximize mixed height and species plantings, predominantly native species.

Plantings may obscure view of river from trail for short distances.

Low growing ground covers to reduce mowing

Medium height to provide shelter from wind, especially near seating areas.

Larger trees to provide shade and shelter from rain.

Investigate watering for at least the first summer after planting.

MAINTENANCE

Objective: To provide low cost non-intrusive maintenance

Policies: All facilities to be checked /repaired /replaced on a regularly scheduled basis.

Grass areas either to lawn standard or twice annual cut and remove basis (early and late summer), with rubbish removal more frequently.

WALKWAY FORM

Objective: To provide an interesting walking setting.

Policy: The walkway should be sinuous rather than straight, with forward sight - lines of varying length.

USE OF CARS

Objective: To provide access to river views for car bound users

Policy: Some suitably landscaped parking with river views should be retained for use in inclement weather and by the severely mobility disabled.

USE PROMOTION

Objective: To encourage use of the facilities developed.

Policies: Investigate and encourage provision of return trips by rail or river on commercial or semi-commercial basis.

Investigate and encourage the provision of associated attractions - eg a river museum, a "modern historic" ship, on - water activities, city to sea train rides.

Provide information via Council publications, Information Centre, and to local schools, organisations and groups. Initial and on going.

Organise, or initiate through other groups, special events - guided walks, runs, competitions.

INTERPRETATION

Objective: To inform users and potential users of the existence and significance of features.

Policies: Provide interpretive displays of a robust design to inform users of notable points, facilities, routes and distances.

Provide clear strong signage to avoid route confusion.

SYMBOLISM and IMAGE

Objective: To provide for symbolic expression by different groups.

Policies: Facilities should incorporate such symbols as are appropriate to the bicultural nature of the community.

All built facilities to be in similar materials and style.

"OWNERSHIP"

Objective: To create a sense of care and public ownership.

Policy: Provide for wide spread public contribution to design, establishment and maintenance by contacting all possible interest groups and arranging appropriate means of interaction.

PROTECTION

Objective: To secure the existence of the walkway in enterprise areas.

Policies: Incorporate the rights of the walkway into Council leases.

Make formal arrangements in the limited cases of use of private land.

Derive and publish a code of practice for the upkeep of properties impacting on the walkway.

The above plans and suggestions are the product of the work done so far, and are indicative of the sorts of results that would need to be produced by joint working groups, in order to properly establish and maintain development of this river margin in a way which fulfilled the goals of the framework presented.

CONCLUSION

The application of the River Corridor Planning Framework to the Whanganui River is developed through to the stage of completing a concept plan. As stated earlier the main deviation from the Framework is in the area of public participation. Although there has been some input via the residents survey and the wider newspaper contact, this is not the degree of involvement proposed in the Framework. Such involvement should particularly focus on the residents of Gonville and Castlecliff, but also include the wider community. The Concept Plan derived is thus a compromise effort, rather than the product of the Framework in its complete form. The physical products of a consensus process may or may not differ from those presented here, but what would most certainly be different would be the sense of involvement, ownership, empowering and stewardship. Specialists and community participants would be expected to produce subsequent detailed plans for facilities and the development of particular areas.

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CHAPTER SEVEN

CONCLUSION

This thesis develops a planning framework to address a number of problems associated with the lack of an appropriate set of planning guide-lines for planning people's activities in urban river margin corridors. Guide-lines have been lacking because the types of area are non-conventional in the planning sense, because they are in locations where natural aesthetics and ecology impinge on urban settings, rather than being purely rural or natural settings, or purely urban or park settings. The need for planning in such areas is related to the types of use or misuse presently prevalent in such areas. In generating guide-lines it was necessary to examine the values which form the basis and rational for the inclusion of a range of functions and uses, which have previously not been considered in detail in traditional park or open space planning. The synthesis of the River Corridor Planning Framework is the primary solution to the problem of the lack of suitable guide-lines.

The Framework is based on values and actions derived from the review of a range of literature dealing with potential values and activities in river corridor areas. Potential values and activities include the aesthetics of natural, historical and cultural areas, ecology, and recreation, along with any nearby residential, industrial, transportational and waste land uses. The chief aesthetic value to be satisfied is that of regular and easy contact with features of the natural world. More subtle matters of prospect and refuge, and intimate spaces and viewing places, are also involved. The main recreational demand is for informal recreational space, with walking, sitting, and viewing being important and popular activities. The Framework builds on these basic values in guiding

the development of a river corridor system. A major value attached to most existing uses is security, with concerns for property and personal well-being being an important issue.

A high level of pro - active public participation in the planning process is also built in to the Framework. This is seen as the means of addressing the existing level of disregard for many urban river margins. Having encouraged such participation at all stages of the process, public knowledge and awareness of the potential uses and attractions of such areas should be increased, and a sense of "ownership" created. This reduces the incidence of vandalism and other inappropriate behaviour, which may threaten the majority of corridor users and reduce the value of the setting. This strategy will only be effective if a concentrated effort is made to reach and include those most likely to be responsible for such behaviour ie the under twenties, and some commercial and industrial users. The latter group is generally shown to be less of a problem because it is easily identified, susceptible to reason and compromise, and sensitive to public comment. The former group is difficult to identify, sometimes unreasonable, and can be difficult to meet with, especially the non working, post school age group. As this is generally likely to be the most disaffected group in a community, it is where the greatest effort must be made. The framework suggests a number of ways in which this may be done, with suggested contact points as the initial starting point.

Public participation may have particular relevance as an integrating mechanism in those areas of the country experiencing high levels of immigration, with migrants who are often unaware of the sensitivities of the New Zealand environment. A variety of modes are suggested, to be selected from and added to as required.

Ecological functions are examined, to determine those which are most appropriate to river margin urban areas. The conclusion is that there are appropriate ecological functions to be accommodated. Due to the typically linear nature of river corridors and the degree of human impact, these are most likely to be in the nature of natural corridors, connecting patches of fauna supporting flora both within and without the river corridor. In some cases other functions may be

possible, if suitable areas exist eg birds breeding on protective cliffs. In considering ecological functions, a degree of compromise has to be accepted due to the urban setting. The Framework builds in a process for considering the ecological functions, and making the compromises debatable, visible and enforceable.

Although there was an initial assumption that the Framework was intended to take the planning process only as far as the concept plan stage, it was felt necessary to design it to carry through the whole process so that the values and goals it is based on would be carried through and incorporated throughout the whole process. The Framework is an improvement on current planning practice because it brings together ideas and concepts from the additional fields of aesthetics, ecology, informal recreational demand and public participation. It provides a visible process which shows how issues may be identified and how information may be obtained and processed. It also gives practical steps towards plan implementation by both professional and lay participants. Accepting the importance of aesthetic, cultural and ecological values in this setting is an important part of the Framework.

The River Corridor Planning Framework will be made more useful by greater knowledge of values which relate directly to the New Zealand setting. The existing literature refers mainly to values relative to American and English settings. There is considerable potential for further research regarding the particular nature of these values in the New Zealand setting, with its different culture, history, and flora and fauna. Research is needed to develop New Zealand standards for the nature and size of ecological corridors and patches. The ways New Zealanders relate to natural settings and recreational spaces also needs clarification. Ideally, these two strands of research could be combined, with the goal of devising descriptions of settings which will function successfully as both ecological and recreational sites. This research would be best carried out by a person or team possessing both ecological and sociological skills. The results would be of benefit to planners and communities making use of the River Corridor Planning Framework.

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The River Corridor Planning Framework is a potentially useful tool for planners in remedying problems in the Wanganui case study area. Because of the limitations on the application of the Framework on the case study, this was not able to be fully tested. Despite this, the case study high-lights a number of positive points about the area. There is more interest in the river area than has been recognised in the past. There are a number of groups capable and willing to be actively involved in the planning of this or similar areas eg Friends of the Shoreline, local hapu, neighbourhood groups, and business interests. There is a much greater willingness on the part of business operators to accommodate other functions than was previously thought. If business concerns regarding security can be dealt with then considerable progress should be possible. Residential users in the areas affected in Wanganui are generally supportive, provided they feel their security is not at risk. The study has used local data to clarify local recreational habits, emphasising the preference for walking and other informal activities. A range of suggestions for the development of different areas is put forward, although these should be seen as a guide to further action, rather than final or binding. These include an eventually continuous walkway, linking with other walkways and park and historic areas. Such a walkway needs to be well defined, managed and provide with facilities to enable its enjoyment by a wide range of pedestrian users. A number of passive recreation spaces are also suggested, with the emphasis on sitting and viewing. The initial findings of the case study have been presented to the Community Services Committee of the Wanganui District Council, where it provided a new way of looking at the river bank environment, especially in light of the imminent improvement in water quality to be effected be the sewerage scheme.

The major future action required in Wanganui is to fully apply the Framework via an official District Council planning process in which all relevant parties may be fully involved. This would be based on the staff and resources of the Wanganui District Council, as the local authority of the area. However, a planning team is envisioned, with council staff working with concerned individuals, environmental and neighbourhood groups, business personal, as many young people as possible, and other interest groups. Maori involvement should be on a partnership basis, rather than an interest group basis, which has caused resentment in other settings. The Council's Te

Roopu Whakakotahi may be the ideal means of doing this.

An additional problem encountered with the case study was the lack of specific ecological standards for sizes of spaces relating to New Zealand species and their needs. The research needed to clarify this is the province of biological disciplines, but may be aided by the historical knowledge of the tangata whenua. It is possible that different standards may be required in different areas of the country, dependent on species, climate and general setting.

The River Corridor Planning Framework could be successfully applied in communities with areas displaying similar problems and potential as those described in theory and in the case study. Application of the River Corridor Planning Framework will assist in meeting the goals of improving aesthetic values and enhancing and restoring ecological functions while meeting the needs of the community for informal recreation, with enhanced access to and along riverine and other linear areas such as railway and pipeline easements, at minimum cost. This can be done in the context of continued but possibly modified commercial, industrial and residential use. The success of such application will in large part be the result of key individuals or groups having the energy and political will to ensure its initiation and continuation.

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APPENDIX

PROPOSED "WALKING" SURVEY

It was proposed to carry out this survey of peoples' walking behaviour, with a target sample of 380 people selected randomly from a Wanganui District Council address list.

SURVEY

1 Are you involved in any organised recreation? If Yes, what?

2 Do you take part any informal recreation beyond your home? If yes, what?

3 Do you walk within your local area? If yes, for what purposes?

4 Do you ever walk purely for recreation or pleasure? Yes to 5 No to 6

5 What are your main reasons for recreational walking?

6 Are there reasons for your not walking?

7 How often do you walk for recreation? Daily / weekly / monthly / less often.

8 Do you usually walk alone or with partner / child / parent / family / friend / dog / other?

9 When do you usually walk? Time of day Time of week.

10 How long would you usually walk for?

11 Is your walking: from home to a destination: a home based circuit: involving other transport?

12 Does your walking change with the seasons? If yes, how?

13 What features make a place suitable for walking?

14 What features make a place unsuitable for walking?

15 Do you ever walk within sight of the river? Why / why not?

16 If a walk way and other facilities were developed in the area between the City Bridge and Castlecliff, would you go there more or less often?

17 If that area of the river bank were to be developed, what developments would you suggest?

18 Which part of the river bank would you most like to see developed?

DEMOGRAPHICS

The following personal information is confidential but is needed to make the survey more useful.

19 In what year were you born? 20 Gender 21 What is your employment status?

22 Do you have the use of a car? 23 Suburb

Thank you for your assistance.

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