The qualities of wetlands have long been recognised internationally. Formal recognition came in an international convention adopted in Ramsar, Iran, in 1971. This was ratified by the NZ Government on December 13, 1976. Although the Ramsar Convention has never been recognised expressly in New Zealand legislation, the RMA reflects the Ramsar principles, particularly the obligation to "promote … as far as possible the wise use of wetlands".

As recommended by the Ramsar Convention, in 1986 the New Zealand Government adopted a policy on wetlands. In approving this policy, the cabinet committee noted "that the policy is intended to indicate that in broad terms the Government regards the protection of representative important wetlands as being desirable, rather than bind the Government to any course of action or to justify restrictions on actions of the private sector". Recently the Department of Conservation advised Ramsar that this policy is becoming outdated, and this advice may lead to a formal review.

While international agreements do not bind local authorities unless embodied in subsequent legislation, the principles of the Ramsar Convention have provided this chapter with important guidance.

7.4 Resource management issues

7.4.1 Wetland decline—the causes

The causes of wetland decline and loss may be direct—such as when a drain is cut into a wetland, or indirect—such as when any change lowers the water table and reduces the wetness.

Wetlands have been reclaimed, artificially drained, and flows have been intercepted. General land drainage, alterations to watercourses, and even irrigation have all also had an effect. Schemes to manage rivers and reduce flooding have sometimes impacted on wetlands.

Wetland hydrology is complex. Probably more than any other part of the catchment, wetlands reflect the subtleties of changes in land use. The direct effects of localised drainage are only one factor; many changes have the potential to affect wetlands. These include the activities already mentioned as well as surface and groundwater takes, and changed vegetation cover, such as from tussock or scrub to forestry. Like other ecosystems, wetlands are never static but continue to change and evolve over time. Sudden change, however, does not allow enough time to adapt.

Along parts of the Canterbury coast, long-term coastal erosion poses a threat to wetlands that have also been affected by saltwater inundation, encroachment, and infilling by beach sediments and deposited debris. Coastal wetlands, caught between an eroding coastline and the developed hinterland or coastal stopbanks have nowhere to retreat unless an effort is made to accommodate some landward movement. Artificial lakes formed behind dams have also inundated wetlands.

When vegetation is lost, the habitat for fauna is also lost. Fire was the earliest tool of wetland transformation. Burning began the opening up of drier wetlands, thereby facilitating stock access and weed invasion. Attempts to drain wetter areas quickly followed.

Grazing depleted the vegetation, and was accompanied by trampling and pugging. Dung and urine inputs altered nutrient status. Frequently the resulting changes in plant cover led to drying out and further loss of indigenous plant vigour and stature. In response to less water and higher nutrient levels, the structure and composition of the plant community then changed. Exotics invaded more easily and natives less tolerant of the new conditions disappeared. Wetland functioning then tended to decline, lessening habitat value, flood buffering, and water purification and storage. Many wetlands were simply ploughed up, and still others were drained and reclaimed in the course of building cities and towns.

As well as domestic livestock, feral deer have also been implicated in grazing impacts on wetlands. Even in otherwise unmodified wetlands, exotic plants—grasses, herbs, shrubs, and trees like willows and wilding conifers—are frequent agents of wetland change.

Except in the conservation estate and some reserves, people have generally not realised the full value of wetlands, and even in legally protected areas grazing sometimes continues to damage wetlands. Beyond protected areas, wetlands have been lost almost in direct proportion to the intensity of land development. In the hill and high country and some coastal fringes, wetlands have fared better than in more arable areas. Settlement has also taken its toll.

On private land there is sometimes a lack of awareness of wetland values, and a perception that remaining wetlands are no more than unproductive land. This seems to have hindered wetland protection.

Two surveys of rural landholder attitudes towards wetlands[2] suggest that landholders:

(a) Generally appreciated wetlands as an important natural resource that should have some protection, but thought those on their own properties did not have any significant attributes.

(b) Took a pragmatic view of wetlands. They were useful for grazing, but generally were not aware of other wetland values or that agricultural practices can have adverse effects.

(c) Strongly favour voluntary methods and incentives over regulatory controls.

An emerging issue is the inappropriate use of all-terrain vehicles, mainly within estuarine and riverine wetlands, destroying vegetation, forming unnatural channels, stirring up sediment and disturbing wildlife.

7.4.2 Wetland decline—changing wetland economics

Historically, areas of former wetland yielded some of Canterbury's most productive farmland, as well as land on which to establish settlements large and small. In the hill and high country, draining the wetlands was often the only way to create places suitable for fodder crops and hay production. In such circumstances it was almost universally accepted that wetlands were areas ripe for development. Those that had not yet been drained were known disparagingly as swamps, bogs, quagmires and the like, implying that they should really be "improved" for pastoral or similar uses.

But perspectives change. In the last 30 or so years it has become recognised world wide that too little wetland now remains, and that wetlands are not the wastelands they were once perceived to be. Reflecting this new awareness, global commodity markets increasingly demand evidence that New Zealand practices good environmental stewardship. The various new forms of tourism based on unspoiled back country experiences are an even more tangible example of monetary benefit from wetlands and other natural areas. Times have changed and the economic value of many preserved wetlands already compares favourably with their potential use as farmland[3]. It only remains to find some way to offset some of the costs associated with these new public good benefits, particularly the opportunity costs to private landholders.

7.4.3 Resource management conflict

Sustainable management recognises the need to enable people and communities to provide for their own social and economic wellbeing, but also requires any adverse effects of their doing so to be avoided, remedied or mitigated. This very often results in conflicting resource management goals.

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[2] Jones D, Cocklin C, Cutting M, 1994. *Wetland Management in New Zealand, Journal of Environmental Management* : 143-161, Taranaki Regional Council, 1996. *Wetlands in the Taranaki Region*. Taranaki Regional Council, Stratford.

[3] A recent Ministry for the Environment study set out to quantify the extent to which particular New Zealand exports benefit from positive perceptions about our environment. That study placed the annual value of New Zealand's clean green image to the dairy industry alone at between $241 million and $569 million, and the value to tourism at between $530 million and $938 million (*Valuing New Zealand's Clean Green Image*, PA Consultants for the Ministry for the Environment, August 2001).

Under the RMA, land may be used in any way that does not contravene a rule in a plan. But to utilise resources other than land generally requires resource consent unless rules in a plan enable the activity. For example, unless a rule permits the taking, use, damming or diversion of water, doing so requires resource consent.

It is frequently difficult to frame permitted activity rules, either because we cannot foresee some of the potential adverse effects or cannot write conditions that people can interpret with sufficient certainty. There is then a choice to leave control of the activity under the RMA itself or to introduce a rule that requires resource consent. A rule is frequently the better choice because it narrows the range of issues to be considered. This in turn allows a prospective applicant to assess in advance whether consent is likely to be granted and also the conditions likely to be imposed.

A single chapter of the Proposed NRRP is rarely able to resolve every aspect of an issue, and so each chapter must ensure as well as it can that gaps and overlaps do not occur.

Resolving conflict between the aims of sustainable management and within and between plan chapters not infrequently involves settling for a net benefit. For example, more efficient irrigation is a generally desirable goal that may sometimes have undesirable effects on wetland values. Sometimes these values are not so significant as to outweigh the benefits of increased water efficiency; in other cases ways can be found to preserve wetland water levels during and after the transition to more efficient irrigation. Occasionally, however, it may be necessary to forego improved water efficiency to protect a significant wetland.

A rare but sometimes more difficult conflict to resolve is where a development of regional or even national importance entails the loss of wetlands. While there is very definitely no presumption that such development should prevail, the Proposed NRRP does have to provide for the possibility that wetlands will sometimes come second.

A more common conflict is between a private landholder wishing to use a wetland area in some other way when doing so may adversely affect water flows beyond the property boundary, and/or destroy the incumbent ecosystem. This type of conflict is perhaps the key issue this chapter deals with. It focuses on resolving these types of issue in accordance with the principles of sustainable management discussed next.

7.4.4 Achieving sustainable management

The first function of regional councils is to establish, implement and review objectives, policies and methods to achieve integrated management of the natural and physical resources of the region. This entails a very broad approach to resolving issues, with a range of methods, both regulatory and non-regulatory.

Objectives in the CRPS already provide the broad direction for this chapter. In addition to those objectives, a more detailed assessment has led to the emergence of a further issue to do with the region's more poorly represented wetland types. Resolving that issue adds another compatible dimension to the CRPS objectives. Achieving these objectives requires reliable means of protecting and enhancing wetlands. These means can be difficult to find. For example, the most direct threat to one CRPS objective, protection of the gross area of wetlands, is loss of water, the causes of which range from the obvious (drainage/reclamation) to the very complex and subtle, and may include changes in water movement throughout the wider catchment.

Although section 14 of the RMA itself controls the taking, use, damming or diversion of water in wetlands, obligations are not always crystal clear. For example, when does drain maintenance become drain enlargement? Which areas are actually wetlands in terms of the broad RMA definition, and where do these areas end? For these and other reasons, obligations under section 14 have sometimes been misunderstood or overlooked. In the few cases where resource consent applications have been received, they have been granted.

Better long-term management of wetlands is vitally important, but, while controls can ensure that new adverse effects on wetlands are avoided, remedied or mitigated, they can rarely insist on wetlands being managed better. That relies almost entirely on voluntary measures.

Accordingly, while activities that may impact materially on wetlands will continue to require resource consent, the policies in this chapter place at least as much emphasis on raised awareness, education and incentives. One rule is intended to minimise a quirky anomaly that has meant people wishing to restore a wetland often needed resource consent. This was an obvious barrier to those who were otherwise willing to enhance wetlands.

While the protection of wetlands, and where possible their enhancement or restoration, are requirements of sustainable resource management, so too is enabling people and communities to provide for their social and economic wellbeing. With all taking, use, damming and diversion of water controlled under section 14, and all discharges of contaminants that may affect wetlands controlled under section 15, as things stand people may not feel greatly enabled.

The RMA provides for many forms of control, including some that are stricter than sections 14 and 15, but section 32 tempers those possibilities by requiring justification for whatever level of control is actually imposed. Above all, whatever is done is subject to section 5, the purpose of the RMA.

The overall effect of all this is to make clear that there should only be as much control as is necessary to achieve sustainable management of natural and physical resources. That will sometimes mean less control than exists under sections 14 and 15, and will sometimes mean similar or greater control. The final form of control provided for in the Proposed NRRP is intended to have more sophistication and refinement than the existing controls.

Although lowest in the plan hierarchy referred to earlier, the district plan is still a very important instrument, with a particularly vital role in controlling effects of the use of land. These effects sometimes manifest themselves in wetlands, giving district plans a clear complementary role in helping to achieve the aims of this chapter. Both kinds of plan may regulate activities, and their combined scope to encourage voluntary improvements in wetland management need only be limited by the resources available.

Sustainable management of wetlands need not be difficult. Often all it needs to bring a wetland gradually back to a more healthy self-sustaining condition is to manage it with wetland values in mind. That will usually mean long-term commitment to a sustained though not necessarily big effort. Completely artificial wetlands may also have a place in achieving sustainable management. They have potential to become interesting landscape features and leisure areas, and to help compensate for lost natural habitats. Artificial wetlands have been increasingly successful as means of treating contaminant discharges, although it must be recognised that where wetlands need regular maintenance they have much more limited habitat value.

This Proposed NRRP chapter strives to implement in a balanced and complementary way efficient and effective approaches to achieving the stated objectives, and through them, sustainable management. Some obstacles to fully achieving these objectives still remain, however. Perhaps the most fundamental of these while the wetlands chapter was being prepared, was the lack of a wetland inventory.

A desktop review had been completed, enabling a field study to be planned, but this work would probably take many years to complete to a reasonable degree. As well as providing a baseline for future wetland monitoring the completed inventory will provide definitive answers to such questions as whether areas are wetlands or not, and how significant each wetland is. It will also enable the overall area of wetlands in the region to be ascertained, and among other things, levels of control to be matched more closely to the significance of the wetland.