

26 May, 2000

Committee Secretary
Standing Committee on Environment and Heritage
House of Representatives
Parliament House
CANBERRA ACT 2600

**Re: Submission to the Inquiry into Public Good Conservation –
Impact of Environmental Measures imposed on landholders**

Dear Sir,

The Northern Rivers Water Management Committee (NRWMC) has prepared this submission on the issue of public good conservation and the impact this has on meaningful and successful natural resource management.

Background

The NRWMC is responsible for coordinating and preparing water management plans in accordance with principles and guidelines specified in the NSW Water Reforms. These water plans will incorporate;

- A review of the stressed rivers and high conservation classification
- A refinement of the environmental objectives at the subcatchment level
- Recommendations to Government on:
 - ◆ Monitoring programs
 - ◆ Water extraction limits for local subcatchments
 - ◆ Commence to pump levels
 - ◆ Drought management strategies
 - ◆ Riparian management strategies
 - ◆ Weir review priorities
 - ◆ Local trading rules
 - ◆ Wetlands priorities

Goals of the NRWMC that guide the development of the water management plans are;

1. Good Water quality
2. Sustainable productive communities
3. Equitable sharing between users
4. Sustainable surface and groundwater resources
5. Well managed natural structures of rivers and groundwater
6. Well managed and appropriate built structures of river and groundwater
7. Community's different cultural needs and interests are optimised
8. Enhanced biodiversity and aquatic ecosystems
9. Environmental flows identified and established
10. Ongoing capacity for agricultural production
11. Efficient water cycle management.

A fundamental objective of any water management plan is to identify and promote incentives for landholders to conserve and manage their water resources, including streams, wetlands and groundwater. Further, the committee recognises that the provision of incentives and education for landholders to meet environmental flow extraction rules and water quality targets is critical to the plan's overall acceptance and use.

Currently the range of approaches recommended by the NRWMC include:

1. Education to influence landholder ethics and increase awareness of conservation issues and knowledge of management options
2. Fostering community-based action to educate and encourage social norms
3. Regulation to enforce requirements
4. Incentive mechanisms that affect financial returns.

Each of the above approaches has advantages and disadvantages far as equity and social impacts are concerned.

Comments and Recommendations

The provision of incentives is critical to the development and successful implementation of water management plans at the local and water catchment level. By definition the public good component of any resource management plan must be funded by the public rather than individual landholders.

The success of any incentive will be ongoing assistance (technical and financial), linked in some way to a formal agreement between the landholder and the agency providing the assistance.

Incentives should also be allocated in a strategic way, targeting areas of significance, where the need is real.

For details of specific key conservation/landholder issues in terms of water management and planning please see Attachment One. Attachment Two

represents views held by individual members of the Northern Rivers Water Management Committee and is not necessarily representative of the whole committee.

It is clearly evident to the NRWMC that unless financial incentives attractive to landholders are implemented at both the state and national levels, active and meaningful management of the water resource will not occur. The nature of the incentive needs to be flexible enough to suit different needs of landholders and should be linked to a formal agreement, binding all parties to an agreed environmental and social outcome.

If you require further information please feel free to contact the committee's Executive Officer, NRWMC, Rob Learmonth (ph: 02 66270124).

Yours faithfully,

Anne Currey
Independent Chair,
Northern Rivers
Water Management Committee

Appendix One

Key conservation and landholder issues for water management and planning.

Establishing and maintaining environmental flows in rivers

A key principle of the NSW Water Reforms is the establishment and maintenance of environmental flows for our rivers and streams. Wherever possible the environmental flow is to mimic that of a natural system. To do this in the unregulated system, where there are no large storages to supply a security of flow especially in dry periods, the onus is very much on the individual farmer to observe “cease to pump” rules. The greatest impact usually will be on the farmer when he or she requires water most (drought/sustained dry periods). As a result, to maintain access to water for irrigation many farmers on the north coast will need to make provision to draw from high flows. There will also be limitations to trade water in some catchments giving windfall gains to some irrigators adversely affecting on others. This could affect property values and, at times, limit opportunities to diversify farming practices to meet market trends.

Cost

The cost to farmers in making changes outlined above (mainly in the form of building dams and establishing bores) will vary according to factors such as location topography, soils, groundwater availability and agricultural activity for example:

- ◆ Dam construction is about \$2:50/cubic metre of earth moved depending on local conditions. A one megalitre dam costs about \$1000 of earth moved. Modelling will be required for details on required storage size. As an example to irrigate 10 ha of pasture in an average season will require in excess of 60 Ml storage capacity. Storages can cost \$5,000 to \$50,000 depending upon a variety of factors.
- ◆ Establishing a bore can also vary from \$3,000 to \$8,000.
- ◆ Establishing and maintaining ongoing activities of Water User Groups is about \$20000 per year.
- ◆ Providing community staff gauges/ communication network is about \$1200 per site.

Incentives/Grants

There are some limited funds to landholders at present through Rural Adjustment packages, Waterwise and State government incentives for Water User Groups.

Possible incentives for consideration could include:

- ◆ No interest loans to farmers for dam construction or other means of storage to extract from high flows. This removes irrigators from the low flow periods where there is a threat of affecting beneficial environmental flows.
- ◆ Concessions or rebates on rainwater tanks for riparian users.
- ◆ Concessions for on farm effluent systems for recycling nutrient enriched water and water extraction. The benefit is improved water efficiency thus lowering the need to extract from rivers and streams.
- ◆ Tax concessions for irrigators demonstrating BMP in water efficiency and related farm planning activities.
- ◆ Financial support for the operation of Water User groups, including administration charges, meetings, maintenance of staff gauge and monitoring equipment.

- ◆ Groundwater concessions to farmers to establish bores for irrigation purposes in stressed catchments where it can be identified that groundwater extraction will not adversely impact on environmental flows.
- ◆ Market benefits for farmers trading out of stressed stream.
- ◆ Limited grants and incentives currently exist through NHT and Rivercare for BMP riparian management practices.
- ◆ Tax concessions exist for Landcare related activities relating to erosion control.

Suggestions

The NRWMC suggests the following:

- ◆ Support for the self-regulation process by encouraging the establishment of more Water User Groups.
- ◆ Support for the maintenance of existing Water User Groups.
- ◆ Assistance to farmers, especially those operating in streams being adversely affected at times of low flow, for low interest loans or financial incentives to enable the storage water or an alternate mode of supply as long as these measures do not adversely affect environmental flows.
- ◆ Industry information packages on water efficient practices, including drought tolerant species to be developed.

Wetland care

The conservation and management of wetlands on farms and the landscape generally is a major principle of the Water Reforms, NSW State Wetland Policy and also the *Native Vegetation Conservation Act 1997*.

In the northern rivers area of the State there are many significant wetlands including those on farms. Integrally linked are major networks of drains primarily for flood mitigation /drainage purposes, and at times, for the ongoing management of acid sulphate soils. Major floodplain agricultural activities include sugar cane, tea tree production, dairy and beef.

The far north coast has lost well over 50% of its wetlands to rural enterprises. Some landholders have used wetlands to augment fodder for stock in dry times.

The sugar industry is currently working with local government, NSW Fisheries and local communities towards the better management of these drains including rationalising floodgate operation to permit a system more allied to nature. Modified drain works floodgate augmentation, vegetation management, and erosion control, riverworks and channel modification will permit fish passage and while replenishing flow replenish wetlands. These activities will lead to ensuring improvement in wetland health and meeting the needs of the ecosystem. Similarly the advent of farm drainage plans linked to the needs of the environment are being encouraged.

Cost

Once again cost is influenced by locality. Costs can be incurred by: fencing off wetlands from stock access; construction of dams and storages to provide for dry periods; fodder purchase; on-farm mitigation works; drain shallowing and the development of farm management plans.

Incentives/Grants

Some conservation agreements initiated through Dept of Land and Water Conservation and National Parks and Wildlife Service provide funds to landholders for the preservation and rehabilitation of on farm wetlands.

Suggestions

The NRWMC suggests the following:

- ◆ Support to local government, industry groups and landholders in the development of floodgate management strategies by the provision of incentives/funds.
- ◆ Maintenance by the State of existing funds for conservation agreements with individual landholders for the preservation of habitat and endangered species.
- ◆ Tax incentives for the preservation of wetlands and as compensation for the loss of viable rural land.

Rehabilitation of riparian zones

A major influence on water quality in the northern rivers region is unacceptable sediment loads through streambank erosion. These loads result from cleared riparian zones and, at times, poorly managed stock access. Similarly, removing of habitat has a significant impact on biodiversity within the riparian environment.

Faecal coliform contamination by stock is another water quality issue. Pesticide and herbicide intrusion into streams by an inadequate riparian buffer and poor farming practice leads further to degraded water quality in streams. Many of our streams also have a large proportion of exotic vegetation leading to a decline in native riparian vegetation and animal diversity.

Owing to the diversity of river styles and landscape features a universal management strategy will not work for north coast streams. Many streams are prone to flooding with subsequent loss of rehabilitated area or inappropriate remedial actions are taken with regards to stream geomorphology

Cost

Costs are relevant to locality and include:

- ◆ Provision for fencing off the riparian zone where practical. (Approx \$5:00 to \$7 metre of fencing.)
- ◆ Maintenance of riparian zones, including eradication of weeds and fence maintenance. (\$1000 < per annum per hectare)
- ◆ Replanting of riparian habitat including stock, fertiliser mulch, and machinery. (about \$6m <)
- ◆ Rivercare works, including erosion control. (\$1000 + per small work) where necessary.
- ◆ Off stream watering points for stock including troughs/pipes/pumps/shade trees (\$600< a unit)
- ◆ Education packages for landholders on basic streambank care and land management practices such as rotational grazing/cropping.

Incentives/Grants

State grants under the Rivercare and Native Vegetation Conservation agreements can assist with fencing off and maintenance such as weed removal. Similarly, federal programs supporting better riparian zone management, especially at the rural based industry level, are required.

Suggestions

The NRWMC suggests the following:

- ◆ Better publicised grant schemes for landholders, including the financial benefits of good riparian zone management. This will require additional funding to existing programs, which are already oversubscribed.
- ◆ Maintenance of NHT and State based Rivercare programs to assist groups and individuals.
- ◆ Initiatives in this area will go a long way towards solving some of the major environmental impacts on water quality and flow in north coast streams.

Metering

With the advent of volumetric conversion the NSW Water Reforms will require that all licensed irrigators in unregulated streams have a water meter, so that volumes pumped can be measured. This will be determined by access conditions, however, and impacts on pumping rules under low flow conditions. A meter is also necessary for effective water sharing and trading. Water meters are a water efficiency tool in matching watering to crop type, soils and climate. They are fundamental to best management water conservation practice.

Cost

An efficient water meter depending on whether, it is electric, time pulsed, mechanical etc will cost from \$600 to \$1000.

Incentives/Grants

Rural adjustment packages can supply some funding towards the purchase of meters. These packages, however, are not appropriate to the bulk of north coast landholders whose major income source is usually off farm. A declining rural economy and industry restructures has heightened this problem.

Suggestions

Rural adjustment packages for water efficiency on farms should be more attuned to the financial climate of the majority of landholders. Money is available for water conservation practices but guidelines do not meet the entry requirements for the average north coast farmer.

Managing stock access to riparian zones

See comments on riparian rehabilitation.

This is a contentious issue on the north coast. Livestock has been targeted as one of the major sources of Faecal Coliform contamination as well as a prime factor in the degradation of the riparian zone.

There is no one solution to this issue as different farm practices will be required to suit local conditions.

Incentives for landholders to better manage stock access to riparian zones would make a significant improvement to the water quality and conservation value of riparian habitat on the north coast.

Buffer zones to contain nutrient/pesticide/herbicide run off and to reduce sediments entering waterways

See comments for *Riparian rehabilitation and Limiting stock access to riparian zones*.

A well-established riparian zone and the effective on farm containment of herbicide/pesticide and related agricultural activities all work to conserve environmental values including water quality and flow.

Strategies employed may include education packages on agricultural chemical use and farm planning guides on the creation of riparian buffer zones and the recycling of chemical/nutrient rich water on farm ie the use of more holistic practices.

The cost to farmers of all strategies relating to the riparian zone will be high as this is usually where the most fertile soil is found, and at times this area can be quite extensively utilised for agriculture.

Drainage measures for the management of acid sulphate soils

See statements on Wetland Care.

Acid sulphate soils present a major problem on the floodplains of the Tweed and Richmond river catchments. Fish kills and the decline of aquatic plant and animal species can be attributed partly to poor acid sulphate soil management,

Currently at the landholder level the major industry leader in managing acid sulphate soils is the sugar cane industry. Through the Sugar Grower's Co-operatives acid sulphate soil testing and acid sulphate soils farm management plan is a pre-requisite on the grower before cane can be milled. The industry has also advocated a strict regime of liming as well as the practices leading to shallower and wider drains and soil best management practice guidelines.

The sugar cane industry is currently working with government agencies and local landholders in the operation of floodgates. Better floodgate management leads to

improved environmental management resulting in healthier ecosystems and a returned biodiversity of species to wetlands and waterways.

The effective and timely operation of the floodgates will depend on landholders receiving accurate information and some onus of control.

Incentives/Grants

Incentives for consideration include:

- ◆ Support for rural industries operating on coastal floodplains to encourage better management of acid sulphate soils through extension activities and landholder education.
- ◆ Compensation for landholders required to build new on farm structures or where land maybe periodically inundated to meet new management regimes towards improving environmental values.

Suggestions

The NRWMC suggests that:

Other rural industries such as tea tree operating on coastal floodplains need to take the sugar cane growers' lead. Partnerships between local government, industry and individual landholders need to be fostered in the operation of floodgates and better drainage management.

Some measures may present big dollar costs to local government or to individuals.

Participation on Water User Groups/Associations etc

See comments on "Establishment and maintenance of environmental flows"

It must be noted that Water User Associations are one of the few ways in which the Water Reforms and sustainable water use practices will be accepted and acted upon by the wider community.

Appendix Two

Northern Rivers Water Management Committee

ISSUES FOR THE INQUIRY INTO PUBLIC GOOD CONSERVATION

Submission

Written by Paul Lambert, environment rep. to the NRWMC. Wednesday, 24 May 2000

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Minimalist response due to time constraints.

Introduction

At our last meeting it was pointed out by the TRMPAC that (in a territory with a population of 70,000) 1400 farming families owned the bulk of the Tweed Valleys' water system. Whether this turns out to be an opportunity or a problem will depend on how they are approached and what cost and benefits they perceive.

We need to review the history of their involvement with river management and any attempted interventions. We need to understand their hopes, fears and ambitions, not just in river management, but in all key areas. We need to remember that we have a responsibility to the other 10,000 families and the eco-system as a whole. We need a coherent and pro-active strategy which offers immediate benefits to all parties. An Ad Hock approach here, or in the other valleys of our concern, is doomed to failure.

Metering

Every other kind of consumption of any good appears to be on a user pays principle. The same should apply here. In the event of individual hardship a strategy must be found, but not one which permanently deviates from user pays.

Maintaining environmental flows in rivers / Wetland care

Adequate natural flows are a right and it is the responsibility of the State to ensure they occur. If over allocation has occurred it is for the state to 'square it' with license holders.

It is inappropriate that the wider community is required to pay for any buy-back of licenses to restore the situation, if this is required. Any compensation should be a matter for the current license holders and the authorities charged with water administration.

If the license holders and licensing authorities between them can make a case to the public for funding buy-backs, well and good, but I wouldn't hold my breath.

Rehabilitation of riparian zones / Limiting Stock Access to riparian zones / Buffer zones to contain nutrient/pesticide/herbicide run off and to reduce sediments entering waterways

To successfully perform all functions riparian buffer zones will need to be substantial and designed for their specific location. Under common law, and specifically under the new pesticide act, any contamination of waterways by pesticides (even by accident) will be actionable in criminal rather than civil court, so it would be prudent for all farmers to actively seek effective riparian restoration.

The broader needs of the survival of species and whole (currently isolated) habitats will be strongly enhanced through natural habitat corridors, as restored riparian zones would become. Tourism, property development and fishing interests (river and offshore / recreational and industrial) have a strong interest in riparian restoration. Some of the above do not understand why, so an awareness program is required.

Given the above, it should not be hard for our committee to make a case to the landholders, the public, and targeted industries, for funding of riparian buffer zones.

Case studies are available demonstrating higher yields and property values where riparian zones have been restored.

Tourism, for example, is bigger than all other industries combined in our region and have the most to gain or loose (in dollar terms) from enhancement or decline of the natural environment. If approached with the benefits clearly explained they may be helpful, but handled badly they could sabotage the process.

Handled well it could be the biggest public backed project since the snowy mountain scheme and attract world wide interest which would boost tourism and farming revenues to an extent which, just possibly, may ultimately pay back the costs of the activity.

Such a project is not a back-of-an-envelope job.

Organic farming techniques

This is the best hope for Australian farming in a world market dominated by broadscale, high investment, heavy science competition from highly aggressive dominant power blocks such as the US and EC.

I suggest consideration by reps from environment and farming (with a newly appointed tourism rep) of a combined strategic marketing approach, whereby Australian product is positioned in the world market as genuinely and believably “clean” and free of ‘Frankenscience” (Pesticides and Gene-manipulation etc).

The overall objectives of good river management would be central to such a project.

This is another ‘big ticket’ project and would need to be approached with care.

Participation on Water User Groups/Associations etc

Should be sought