Native Fish Strategy

Public Comment: 1 July – 31 December 2002

Report on Public Submissions

Excerpts taken from submissions to the draft Native Fish Strategy (1 July – 31 December, 2002)

"… the comprehensive strategy should lead to significantly improved sustainable returns for recreational angling while at the same time ensuring the recovery of all the presently endangered fish species" Patrick Washington, VRFish Chairman

"The draft strategy has enormous potential to bring about healthier native fish populations and healthy rivers" NSW Irrigators' Council

"Enhanced native fish numbers and habitat will improve tourism, recreational and community development opportunities as well as help to link Local Government to good natural resource management outcomes." Adrian Wells, Murray Darling Association

"We would like to express our total support of the proposed strategy and look forward to being able to be involved in some way to ensure its adoption, implementation and ultimate success". Warwick District Recreational Fish Stocking Association Inc.

"Great to see a strategy being formed to help rehabilitate declining native fish numbers….Please advise me as to what further I can do or we as "Fly Fish Bathurst" can do and we will to the best of our ability". Ken Smith, Kelso NSW

"We would like to congratulate you on both the initiative and the high quality of the current draft document, and to lend our support to this strategy". World Wife Fund For Nature

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1. Introduction

1.1 The Native Fish Strategy

The Native Fish Strategy (NFS) has been developed in consultation with stakeholders throughout the basin, including the scientific, Indigenous, conservation and fishing and communities, as well as catchment management organisations, all levels of government and the general public. The NFS seeks to initiate short, medium and long term actions for rehabilitating native fish communities in the Basin back to 60 per cent of their estimated pre-European settlement levels after 50 years of implementation.

The NFS provides a response to the key threats to native fish communities in the Murray-Darling Basin which include flow regulation, habitat degradation, lowered water quality, man-made barriers to fish movement, alien fish species, fisheries exploitation, disease, and translocation and stocking of fish. The 13 management objectives outlined in the NFS will be achieved by implementing the following six priority actions:

- rehabilitation of fish habitat;
- protection of fish habitat, including environmental flow restoration;
- management of riverine structures, including fish passage;
- control of alien fish species, particularly carp;
- protection of threatened native fish species;
- management of fish translocation and stocking.

The Murray-Darling Basin Ministerial Council endorsed a draft NFS on 12 April 2002 and agreed to release the NFS for a six-month public comment period. The objectives of the public comment period included raising awareness among partners about the purpose and scope of the NFS, providing opportunity for partner input, building widespread support for the implementation of the NFS, and stimulating discussion about responsibilities and investment aspects of implementation.

1.2 The public comment period

The NFS public comment period began on 1 July 2002 and finished on 31 December 2002. An extensive media campaign, distribution and promotion events as well as public forums, meetings and presentations occurred during the period as a commitment to wide and extensive public consultation. Events and activities were coordinated by the Native Fish Strategy team at the MDBC, the NFS Community Stakeholder Group, the NFS Fish Working Group and the Communications team at the MDBC.

Media campaign

Large advertisements outlining the Strategy were placed in national and regional newspapers at the beginning of the public comment period. Articles about the NFS were written in various newspapers regional newspapers, particularly where community meetings were held, as well as in the Sydney Morning Herald. The NFS also made the front page, a feature, the editorial and Opinion sections in Albury's Border Mail.

Radio interviews were conducted prior to all public forums, to raise community awareness and advertise the events. Interviews were aired on regional ABC stations (eg Albury, Canberra, Adelaide, Orange, Central West, Wagga, Southern Queensland) as well as 2UE rural news, Radio Landcare and 2QN Deniliquin. Television interviews were conducted on WIN Mildura and WIN Berri.

Articles about the status of native fish in the Basin, and information on the NFS were featured in Freshwater Fishing Australia, Angler Action, River Basin News, Anglers Association, FishFax, The Water Report, Codwatch newsletter and the Landcare magazine.

Distribution and Promotion
NFS brochures were distributed in Basin newsletters, including RecFish, Riverlander Notes, River Basin Management Society. Brochures were also distributed at field days, including River Fest and Ag-quip. Information was sent through existing email lists of Wordwide Fund for Nature, ICM and NRM Communicators network and numerous recreational fishing websites. The MDBC website maintained links to NFS information.

Personal letters, including a brochure and draft Strategy were sent to Director Generals and CEO's of government and industry agencies, inviting a formal response. Letters were written to Program managers of government and industry agencies requesting an audience to discuss the NFS. Letters were written to catchment management organisations, local and state governments, community groups, fishing organisations, landcare groups, conservation groups, Indigenous communities and landholders, to alert the public to the release of the Strategy, to offer to discuss the Strategy in person and to invite comments.

Meetings, presentations and forums
Closed meetings were held with senior officers of departments and agencies in Queensland, New South Wales, Victoria, South Australia, the Australian Capital Territory and the Commonwealth.

Presentations were given, following requests, to the National Carp Task Force, Victorian fishing and conservation representatives, the NSW Murray Catchment Management Board, the NSW Western Catchment Management Board, NSW Murray Wetlands Working Group, the Murray Catchment Board, the Western Catchment Management Board, New South Wales NGO's, CodFish Rugby Club, northern Victorian catchment management authorities, the MDBC Community Advisory Committee, the Charleville Natural Resource Management group and the South West Natural Resource Management group. Presentations were also given at Annual General Meetings of RecFish and the Murray Darling Association.

Eighteen public forums were held throughout the Basin. Locations of the forums were Berri, Murray Bridge, Brisbane, Toowoomba, Canberra, Echuca/Moama, Albury/Wodonga, Mildura/Gol Gol, Swan Hill/Barham, Bourke, Moree, Goondiwindi, St George, Deniliquin, Dubbo, Cowra, Yarrawonga/Mulwala and Wagga Wagga.

1.3 **Submissions to the draft Native Fish Strategy**

Throughout the six month public consultation period, the Native Fish Strategy team at the MDBC received submissions to the draft NFS. Submissions were made by email, letters and telephone. Specific comments made at the public forums as well as meetings and presentations, were also treated as formal submissions.

A great deal of submissions were made, which represented a broad range of stakeholders (Table 1). A total of 161 organisations from across the Basin made submissions to the draft Strategy (Appendix 1). Most submissions came from New South Wales and Victoria (Figure 1), which can be expected given the large proportions of the Basin that these two states occupy. 54% of submissions were made through public forums, 40% were made through letters (138 written submissions were received) and 6% were made through other means.

Table 1. List of Stakeholders who made submissions to the draft Native Fish Strategy, including the percentage contribution each Stakeholder group made to the total public submissions.

Stakeholder Group	Contribution (%)
Agriculture	2.6
Business	3.1
Catchment Management Organisations	4.9
Commercial Fishing	0.7
Commonwealth Government	2.3
Community	29
Community Group	4.9
Conservation	3.2
Hatchery	0.3
Indigenous	0.6
Irrigator	0.3
Landcare	0.3
Landholder	0.6
Local Government	5.7
Media	1.1
Recreational Fishing	22.7
Research	0.9
Retail	1.7
Sporting Club	1.7
State Government	10.9
Tourism	1.1
University	1.1

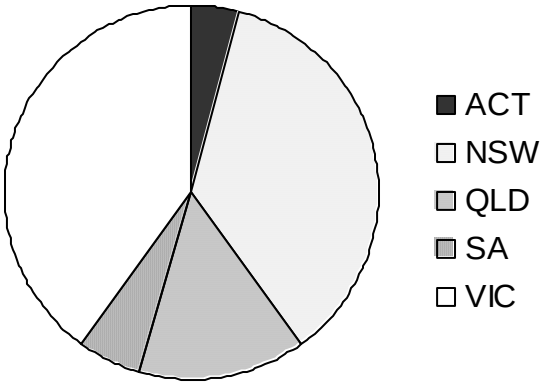

Figure 1. State and Territory proportions of submissions to the draft Native Fish Strategy

1.4 This report

The purpose of this report is to present a series of recommendations for the final NFS based on stakeholder comments in the NFS public comment period.

In addition to formal recommendations, the report also lists the summary of public comments made, as well as the concise list of responses submitted throughout the six month public comment period. The summary and full list of responses have been presented in order to show how the recommendations were derived and to maintain transparency and accountability in the consultation process.

2. Recommendations

- Provide a greater level of explanation of "aquatic protected areas" in the text.
- Change the name of "aquatic protected areas".
- Remove the Hume-Barmah case study.
- Modify the presentation of Figure 2 to allow easier interpretation.
- Provide explanation to Figure 2.
- Provide an explanation of the 10% and 60% estimates, including the process which resulted in these estimates, and the need to use them as guides only.
- Indigenous inclusion in the Strategy to be strengthened.
- Lists of alien species to put most threatening species first.
- Links to other strategies and initiatives discussed, including the Living Murray.

- Reference to companion documents given including Communication and Investment Plans.
- Greater discussion of environmental flows and the relationship to fishes.
- Commitment to monitoring fish passageways to be mentioned.
- Present some examples of where previous interventions have had some positive effects.
- Outline the benefits of rehabilitating native fish populations, including social and economic benefits
- A list of Further Reading to be added

3. Summary of Public Comments

The summary of public comments has been broken down into two sections, based on the analysis of all comments made and discussions held with stakeholders. The first section deals with the comments categorised as the "Key Issues" which are those considered vital to address. Without considering the following "Key Issues" the final Native Fish Strategy is unlikely to be supported by the general community.

The second section in the summary deals with the comments categorised as "Issue for Discussion" and are those additions, modifications or deletions of the Strategy which emerged as important during the public comment period. Both sections are presented according to the broad themes used in Chapter 4.

All comments categorised as "Edit" will be addressed directly and the draft Strategy will be modified accordingly. All comments categorised as "For Action" will also be addressed directly and appropriate action undertaken. All comments categorised as either "For communication plan" or "Reflects the need for community education" will be incorporated directly into the development of a comprehensive Native Fish Strategy Communication Plan.

All other comment categories required no further action.

3.1 Key Issues

3.1.1 Demonstration reaches, RMZ's, APA's etc

The Aquatic Protected Area concept

The comments received relating to Aquatic Protected Areas (APA's) reflects general community confusion regarding the concept, and a great deal of unease about what the implications of APA's are for local communities. Community perception was that APA's would effectively close down complete stretches of river from all activities, including boating, fishing and camping. People expressed fear that APA's would hurt regional economies, as well as impede on their leisure activities. The result of these perceptions and fears was a very strong backlash against APA's which effectively prevented people from considering the Strategy in a favourable light. While the communities fears are unfounded, the text of the document does not clearly explain

the APA concept, nor outline details of how they will be implemented, the effects they will have (positive and negative) on regional communities and the process for APA implementation. Greater explanations and details are required

The Aquatic Protected Area name
A great deal of community angst was generated by the name "Aquatic Protected Area" as it was felt the name implied strict "no-go zones". When discussions were held with stakeholders, explaining the APA concept, many were surprised and acknowledged that similar areas already exist and that an APA would be unlikely to affect them adversely. The general feeling was that the name itself had negative connotations. A name which more accurately reflected the nature of the APA, and which did not have attached assumptions would be preferable.

Hume-Barmah Reach "Case Study"
The case study listed on page 37 received a great deal of criticism. While the text clearly states that the case study merely "outlines a *typical* rehabilitation and protection program", the general public made an assumption that it was an action outline. The topic dominated many public forums as well as submissions, and was used as negative publicity in the press. It became clear that many people were reading only that page and making ill-informed submissions on the draft; in fact one submission stated "I left three pages of the draft (p2, p22 and p37) with…caravan parks, sporting supply businesses and keen anglers". The damage caused by such reactions has been immense, and inability of many people to read the case study as simply a worked example, and more significantly as a part of a much bigger strategy to rehabilitate native fish populations has been detrimental. While the damage has been caused and work will need to be done to inform and educate people, in the first instance the case study should be removed.

3.1.2 General

Figure 2 –Cumulative impact of all interventions
Figure 2 was a discussion point in many submissions, with criticisms focused around the difficulty of interpreting the figure to scepticism about the implications given no references were given and no description of how the data was quantified. It also became evident that presented in its current form, the figure allowed for misinterpretation by people, with assumptions made of intervention prioritisation. While easily rectified with a different presentation and an explanation, the Figure was considered a major stumbling block for many people.

3.1.3 NFS Goals and Objectives

The population estimate and goal
The estimate that native fish populations are currently at 10% of their pre-European settlement levels, and the goal of rehabilitating native fish back to 60% of their pre-European populations has been highly criticised. The major criticism has been that there is no direct evidence available to determine exactly what pre-European fish populations were like. This problem then escalates in the communities minds as they have questioned how to measure a 60% increase in populations when you do not know the original figure.

A second significant problem has been confusion surrounding the choice of a 60% increase in populations. A common question has been "Why that figure in particular –

why not more, why not less?" Both problems can easily be rectified with better explanations in the text of the Strategy; in particular it may be wise to emphasise that the goal is aspirational and that population estimates are not "uninformed guesses", they are valuable estimates based on scientific data.

3.2. Issues for Discussion

3.2.1. Alien Species

Prioritisation of alien species

In several parts of the text of the Strategy, examples of alien species are listed. Several people have misinterpreted that the order of these listings indicates priority status. For example, the sentence " Predation by and/or competition from trout, redfin, gambusia, carp, weatherloach " (p. 3) implies that trout are more of a threat to the system than carp. It has been suggested that species be listed more strategically.

3.2.2 Communication

Linkages

Concerns have been raised that the Strategy does not consider linkages to other Basin strategies and initiatives. Although this is not the case, text needs to be added to indicate that there many potential relationships with existing programs.

Community Engagement

The management of ongoing community consultation, public education and knowledge transfer did not receive a great deal of attention in the Strategy as a separate Communication Plan has been prepared. The Communication Plan needs to be referred to in the Strategy, with details required on how to access the Plan.

3.2.3. Environmental Flows and Water Management

Environmental Flow Discussion

Due to The Living Murray initiative at the Commission, environmental flows were not dealt with comprehensively in the draft Strategy. However, the community has commented that more discussion is needed in the Strategy which pertains specifically to fish and their relationship with flows. In addition, there is a need to specifically outline the relationship the Strategy will have with The Living Murray

3.2.4. Fish Passage

Monitoring

There was a great deal of community concern that fish passages were being built without any commitment to monitoring of the fish that use them. Monitoring was seen as critical for both data on native fish populations, and also for preventing alien fish species using the passage ways. While there is a commitment to monitoring fish passage ways that are being built, this commitment was not outlined in the text.

Barrier Removal

In some cases it may be more cost-effective to remove barriers to fish movement than build new passage ways. It has been suggested that the removal of obsolete structures be added as an action item in the strategy. In addition, it has been suggested that structure removal be included in the strategy as an important aspect of fishway programs.

3.2.5. General

Positive examples

Public forums in certain towns on the Murray River were dominated by people who felt that fishing in their area had never been better. They felt that the Strategy would "punish" them for problems in other parts of the Basin. A certain amount of this problem can be solved by an education campaign. A great deal of fishing success can be attributed to stocking programs which do not reflect healthy rivers. In addition the increased numbers of one or two species in no way reflects the health of the whole fish community. In fact, when queried, many people admitted that although they were catching cod and silver perch, they hadn't seen a catfish in twenty years. However, there was concern that the Strategy was too negative and some positive examples of river health needed to be presented to give a more objective view of the Basin. It was particularly felt that positive examples were needed to show that interventions have already occurred in some areas and that these interventions have been successful.

Benefits

There were some comments that the Strategy was presumptive and assumed that everyone would understand the benefits of implementing all the driving actions. Many submissions suggested adding a section which outlined the potential benefits of rehabilitation efforts, and that outlining these benefits would take the edge off the costs in many people's eyes. A social vision was considered necessary to get people involved in and supportive of the Strategy.

Bibliography

There was disappointment expressed at the lack of referencing in the Strategy. References were not added in the Strategy because it is a policy document and not a research document. Referencing of every statement would make the document cumbersome and would defeat the purpose of having the goals and objectives presented in a summary fashion. However, it is acknowledged that a list of further reading and important material should be added to the back of the Strategy

3.2.6 Implementation

Implementing the Strategy

An extremely common question at public forums and in submissions was "How will this Strategy be implemented?" The Strategy was not intended to be an Implementation Plan or and Action Plan, it was a policy document outlining goals and objectives. There are detailed Implementation and Action Plans which will accompany the final Strategy and these will be referred to in the Strategy text.

3.2.7 Indigenous Issues

Improved reference to Indigenous issues

Several people commented that the draft Strategy made very little reference to Indigenous issues and the value of a healthy river to Indigenous peoples. In particular, there is no Aboriginal Statement within the Strategy such as those that are included in other Commission publications. It is important that Indigenous involvement is included as an integral part of the Strategy.

4. Complete List of Public Comments

Listed below is a complete list of every comment which was submitted in the Native Fish Strategy public comment period. Comments have been categorised into broad themes. Themes were not predetermined; rather, they simply reflect issues that public comments centred around. Following each comment is a letter which indicates how each comment has been dealt with (Legend: Table 4.1). The lists of comments reflect a small component of the strategy and generally refer to local issues. It is important to note that there was a great deal of confusion in the community with other documents, such as the Lake Mulwala land management plan. It is also important to note that the comments simply reflect public opinion and no judgement has been given to whether or not they are accurate.

Table 4.1. Legend explaining all letters used next to public comments

E	Edit
K	Key issue, must be resolved
I	Issue for discussion
F	For action
N	Noted
A	Question answered in meeting
S	State specific issue
P	Provide advice to appropriate agency
C	For communication plan
D	Action completed
R	Reflects the need for community education
L	Local issue

4.1 Formal Responses

- EPA (Qld) commends the MDBC on taking the initiative, and for developing what appears to be a realistic strategy that will advance the sustainable management of our native freshwater fish.
- Corowa Shire Council will not support the Strategy due to the potential impacts of aquatic reserves
- The Murray Darling Association Region 1 welcomes the release of the Strategy and gives in-principle endorsement to the Strategy
- Murray Shire Council is concerned about the implications of aquatic reserves on its communities, as well as issues regarding resnagging, stocking, increased environmental flows, fish ladders, wetlands.
- NSW Murray Wetlands Working Group supports the overall aim of the draft strategy
- ACT Fly Fishers Inc. is concerned about potential loss of trout fisheries and also that freshwater protected areas may reduce recreational fishing activity
- Murray Catchment Management Board congratulates the MDBC on the release of the draft, and welcomes the draft strategy as being a very proactive document.

- River Murray Catchment Water Management Board congratulates the MDBC and hopes it will lead to substantial action to restore native fish populations.
- The Murray Darling Association Region 2 gives in-principle endorsement to the NFS
- Warwick District Recreational Fish Stocking Association express their total support for the strategy and look forward to being involved in its implementation
- Environment Victoria strongly supports the native fish restoration targets detailed in the draft Native Fish Strategy
- The Institute of Freshwater Anglers (NSW) supports the need for the restoration of all our freshwater environments, together with the preservation of Australian aquatic native species
- Freshwater Fishing and Stocking Association of Queensland Inc. fully endorses the Strategy and congratulates the MDBC on the initiative
- South West Anglers Association Inc. criticise the overall goal and objectives of the Strategy and feel the MDBC should right the wrongs they have committed (e.g. thermal pollution, fish passage, flow regulation)
- Trout Rivers Restoration Foundation criticise the Strategy as emotive and irrational and does not consider the economics of angling
- Goulburn Broken Catchment Management Authority congratulates the MDBC on the Native Fish Strategy
- VRFish supports the Native Fish Strategy
- NSW Irrigators Council is generally supportive of the initiatives and actions identified in the Strategy
- The Far West Anglers Association supports the Native Fish Strategy although suggests that water extraction is a serious threat not adequately addressed in the Strategy
- Native Fish Australia (SA) Inc. supports the messages and objectives of the draft Native Fish Strategy
- The Mid Northern Association of Angling Clubs provided comments for future management
- Queensland Department of Primary Industries supports the Native Fish Strategy in principle.
- The Murray Darling Basin Board welcomes the release of the Strategy and gives in-principle support
- The National Carp Taskforce welcomes the draft Native Fish Strategy
- The Inland Rivers Network (Australian Conservation Foundation) generally supports the Native Fish Strategy
- The Namoi Catchment Management Board supports the 13 strategy objectives in principle
- World Wide Fund for Nature congratulates the MDBC on the Strategy and lends support to the Strategy
- The MDBC Community Advisory Committee supports the Native Fish Strategy
- The Mallee Catchment Management Authority supports the strategic approach presented in the Strategy for rehabilitating native fish populations
- The Broken Creek Landcare Group submitted suggestions on restoring Broken Creek

- The Wimmera Catchment Management Authority states that the Strategy provides a good strategic approach to management of native fish resources across the Basin
- The North East Catchment Management Authority supports the Strategy
- Sydney Flyrodders' Club generally welcomes the draft strategy and supports its intentions
- The Nature Conservation Council of NSW generally supports the implementation of the Strategy and would like to commend the MDBC on this initiative
- NSW Fisheries supports the broad objectives of the Strategy
- Moira Tourism raised concerns about the Strategy
- The Victorian Department of Sustainability and Environment supports MDBC's initiative in preparing a Native Fish Strategy **N**

4.2 Alien Fish

- Will trout be removed from the Murray River under this Strategy? **A**
- Redfin destroyed the crayfish fishery **N**
- Redfin used to be bad, but now numbers are very low and it is happening with carp (lower Murray). Nature takes care of itself. **N**
- Is there a register of alien species stocked in farm dams, and where they are located? **A**
- Carp have significantly declined in the last few years (Barham) and many native fish are recovering already. **N**
- Carp numbers have declined in the last five years and no redfin have been caught in ten years (Mildura to Swan Hill). **N**
- The demise of native fishes is due to carp **R**
- How bad are gambusia? **C**
- Has there been any information of farmed fish getting into the system, such as barramundi? They are farmed in the Basin and if they get out they could be worse than carp. **A**
- Are mosquito fish affecting the breeding of cod downstream of Renmark? **A**
- What plans are there now for carp management now that commercial fishing has been taken away? **A**
- Will carp still be monitored even though their numbers are declining? **A**
- Is there going to be control of the carp that come from Barmah-Millewa when you flood it? **A**
- Barmah Lake is the greatest breeding area for carp in the Basin **N**
- Research on carp at Barmah is not well known but it does look very promising **N**
- Redfin liked clear water and were really abundant when water quality was better. Now that the water is muddy, carp have taken over. **N**
- Is the proposed Daughterless Carp technology species specific? **N**
- If we control Carp, will another alien species (e.g. redfin) simply take its place? **A**
- Why is the community debate on 'daughterless carp (which will be the result of introducing genetically modified organisms into the rivers) not being held as the technology develops? **A**

- The draft strategy recognises that we may have to live with pest fish in the long term **N**
- Aim of the strategy is to advantage native fish – no aim to provide commercial opportunities for pest fish. **N**
- Attack the carp problem with every dollar that you can get your hands on **R**
- Carp should be electro fished in the Boggabilla weir pool **L**
- Aren't carp actually the biggest problem at the moment? **R**
- Are carp responsible for the catfish decline? **A**
- Why don't we learn from the carp mistake and not let invasives take over? **A**
- We really need to educate people about how bad alien species are –things like trout and redfin people don't really understand the problems **C**
- Cotton farmers think it is carp that is causing all the water quality and erosion problems **C**
- What are the 11 pest fish? **A**
- Will you eradicate trout? **R**
- The change in Wentworth and the Gol Gol wetland because of carp is immense –we need to eradicate carp urgently **N**
- Carp have increased alarmingly in the Albury/Wodonga area in the last 20 years **N**
- ACT Fly Fishers oppose broad scale removal of trout, or reduction in their numbers. They support, however, measures to reduce trout numbers in areas of critical habitat for threatened native species **R, N**
- The NFS fails to acknowledge the social and economic value of the trout fishery in the MDB –a full cost-benefit analysis should be undertaken and included in the NFS decision making process. **R**
- Carp management will achieve a great gain in restoring the health of the river system **N**
- P30 you should add research into carp screens on wetlands and how they affect natives **N, E**
- Carp numbers have declined in the Echuca, Deniliquin, Barmah areas **N**
- We need to highlight gambusia and carp issues and also highlight that trout are only in a small portion of the basin. **C**
- Carp have significantly declined around Wagga **N**
- It is obvious that the aggressive and territorial nature of cod have an impact on carp numbers **N**
- Anglers have an effect on carp, I personally kill hundreds each year. **N**
- By classifying all 11 species of introduced fish as alien without ranking the impact of each species is misleading. **I**
- While the pretext of the draft is that alien species such as trout must be eliminated, a more conciliatory approach which recognises the value of the trout fishery would enable negotiations to take place. **R**
- The primary problems of the rivers are that 90% of the biota is carp –this must be dealt with first. No amount of riparian revegetation, fish ladders etc will have an impact without carp eradication **R**
- Trout anglers are the guardians of our cold water streams. Without an alliance with the trout anglers the NFS will fail **R**
- Carp will not be totally eliminated from our rivers and identifying management measures rather than eradication measures should be the priority **R, N**

- Stricter controls, greater educational efforts, harsher penalties and a complete restructure of the aquarium industry should ensure that we never have undesirable species introduced **N**
- Without floods, alien species will stop all native fish breeding **N**
- Not only do alien fish compete against natives, but they also provide a degree of disturbance that allows for the invasion of weed species and other non native fish **N**
- The National Strategy for the Management of Carp seems to have "slipped through the cracks" and needs to be evaluated and reviewed **N**
- An education program must be implemented for the people who enjoy targeting alien species as a sport, and the problem these species generate **C**
- There is little research to suggest, with the possible exception of trout in headwater streams, that the magnitude of exotic fish impacts approaches those of other physical threats such as flow regulation and abstraction **N**
- Victoria's trout fishery is a valuable asset to the state **N**
- Trout have been in Australian waterways for over 120 years, eradicating them is not the answer to the problem of declining native fish **R**
- Page 30. 4.9. What about alternative lower technology methods such as triploid fish to disrupt breeding success? This is also biotechnology but less expensive than the daughterless carp method. **N**
- Alien fish control should focus on managing the combined effects/impacts of aquatic system modification, rather than an attempt to eradicate numbers **R, N**
- Regulators should be put on wetlands and creeks to catch alien species **N**
- The aims of the strategy regarding trout are not transparent; are not specifically defined; and appear to be ambiguous. **N**
- References in the draft to alien and pest species are much more general than the actual context, which appears to focus on carp. It would be beneficial to be more specific **N**
- The Strategy should contain a clear and unambiguous statement in relation to the treatment of trout **C**
- In most cases, the presence of trout is not the fundamental problem and is among the less significant factors affecting native fish populations. **N**
- Control of trout should only be considered after significant restoration of natural environments has progressed to the point where wild, natural propagation of native fish can occur in the long term. **N**
- Anecdotal evidence suggests trout removal may speed up the decline of endangered native fish populations. In some systems trout aid in controlling more harmful alien species such as gambusia. **R**
- Angling organisations could easily become a readily available resource in undertaking alien fish control programs as long as there was a benefit for the fishery **C**
- If you stop cold water, carp will infest the entire waterway and breed to unimaginable numbers, dirtying the upper section of the Mitta and other tailrace rivers of Victoria. **R**
- How dare you classify trout with carp, as done on page 21 and them call them alien fish. These fish you call alien have created the biggest recreational sport in freshwater and provide to the Victorian economy 1.037 BILLION DOLLARS **N**
- This proposed draft will wipe out trout from the Mitta **R**

- Why can't you people of this draft realise that within tailrace rivers native fish and trout are co-existing **N**
- Without effective control of Carp the opportunity of a 60% level in native fish will be difficult to achieve **N**
- The indicator to reduce the distribution and abundance of all exotic species by 30% will concern many anglers and should be considered in context with estimates that carp make up to 90% of fish biomass in the Basin **N**
- The Strategy needs to identify the public value of introduced recreational fish species **N**
- The issue of species such as trout needs further explanation on how extensive stocking has been, known impacts and the social and economic imperatives associated with trout fishing **N**
- Actions 3.4-3.6 have potential to impact on recreational fisheries based on trout in Victoria. The possible economic and social consequences of these actions need to be mentioned **N**
- The Strategy should clarify which of the 11 alien species are considered pests **N**

4.3 Communication

- Communication of the driving action "control and manage alien fish" can be aided by a close relationship with the National Carp Taskforce, particularly now that the Taskforce has a broadened focus to encompass all alien fish. **C**
- There are a great deal of other strategies in the Basin and there must be an integration among them all, otherwise people get confused **I, P**
- There needs to be a communication strategy which informs all people of the Native Fish Strategy –including people in cities who may not be so aware of the issues. In addition, the communication strategy needs to focus on the positives in order to effectively gain community support **C**
- The Murray-Darling is too far away from most Australians for the issue to be widely recognised. The Native Fish Strategy must be taken to the capitals to educate people who don't see these problems in their day to day lives **C**
- Local government needs to take a bigger role in the communication of the Strategy. Councils must talk to each other. **C**
- You need to get out into the real world and talk to fishing clubs etc. to get some real time information that will be of value –there are more fish in the rivers today than pre-European times. **C**
- NAP and NRM groups should be individually briefed to raise the profile of the Strategy. Specifics that relate to each group could be highlighted to show how the Strategy can affect them. **D**
- The Strategy should be presented at Regional Government Department forums, as well as the State CEO meetings **D**
- What sort of community input is required? **A**
- Has there been any consideration of developing a formal education strategy? **A**
- There needs to be education into species identification –many people don't know what species they are catching **C**
- Why not target local governments? If they came to these meetings and saw how much people cared, it would put pressure on them. **D**
- The community stakeholder group is too small, there should be more representatives to give a better community input **N, P**

- Does the National Farmers Federation support the NFS, as they are an important group to have on-side? **A**
- How will we educate the community about the NFS and its activities? **A**
- Can we use catchment groups as a focal point to draw together a range of interested parties and focus community support and action under the NFS? **N, C**
- How many people in the ACT are aware that the ACT is part of the Murray-Darling Basin? **A**
- What is the most problematic of the 13 objectives as far as scouring community support, and are there going to be any special education programs dealing with environmental flows **A**
- There would be benefits in putting together an aquatic ecosystem kit of education materials (fish, birds aquatic mammals etc) **N**
- We should write to nrm/NAP bodies – Greg Clayden (MDBC contact) should have the details **D**
- MDBC should write to all CEO's (including Premier's Department and Treasury), inviting a whole-of-government submission; Qld needs to ensure that Ministers are in the picture – a Cabinet Submission will be required to consider resource implications. **D**
- A national freshwater fish awareness week would really help promote awareness **C**
- The public should be kept informed of what happens to the Native Fish Strategy and how well things have worked **C**
- We need to get the locals involved –the people that live on the river need to look after the river –how can we do that? **C**
- This is the first time our community has ever been consulted on such issues. Are we going to be kept in the loop once you leave? **C**
- The western rivers have such huge problems –we need to get people talking about the problem so they can get focused **N**
- How can the community feel confident about the improved management of fishes and fish habitats? **A**
- You must listen to the locals for the strategy to work **N**
- Education of school students is vital **C**
- The Murray Darling Association commends the MDBC for its broad consultative process **N**
- The community wants clear accountability guidelines and procedures, including regular reporting to the community on progress with implementing the Strategy **C**
- The Strategy needs to be supported by an education and communication strategy. **N**
- Community involvement and participation must be maintained and enhanced well beyond the printing of the Strategy in 2003. There must be opportunities to engage the community even more during the implementation phase. **C**
- The Murray Catchment Management Board commends the MDBC on the comprehensive nature and scope of the community consultations on this important issue. **N**
- Community participation and involvement must be maintained and enhanced well beyond the printing and release of the final strategy –the community must be engaged through implementation. **C**
- P13 para1 how is cooperation with, or involvement of jurisdictions created? **A**

- The Murray Darling Association commends the scope of community consultation and asks the MDBC to consider using this kind of consultation process with other strategies **N**
- Community participation and involvement must continue well beyond the printing and release of the strategy. **C**
- The strategy must be open to change as new knowledge is acquired. **N**
- We need more media releases and education regarding how we can clean up our waterways and look after our native fishes. **C**
- The community must have meaningful input into local systems as many managers come from elsewhere **N**
- Need for fishermen to have ownership of the strategy or it won't work **C**
- Will we come along to another meeting next year and see another presentation on what action has happened? **A**
- What can the community do from here on? **A**
- Public perception and distribution of information is a problem **C**
- Use fishing tackle shops as key points of contacts to supply information to the community **C**
- The Commission and State agencies must become much more effective in reaching the community with information programs about the condition of our rivers and status of our native fish. **C**
- There needs to be a consistent point of contact **N**
- Fishing clubs are a good point of contact **C**
- Progress reports are essential, as well as a communication strategy **N**
- The public forums were well attended and information presented was clear and informative **N**
- It is important to show relationships to related strategies and how they can input and support this document **I**
- School children must be involved to change attitudes **C**
- Community support of the Strategy and its initiatives is essential and this will also ensure long term government support **N**
- The Strategy is unclear about community engagement and linkages with existing state government regulatory strategies **I**
- For successful implementation, it is crucial that local communities have ownership over the desired outcomes, objectives and key actions **C**
- Despite its pivotal importance, public education and knowledge exchange does not receive a strong focus as an objective with specific actions. **I**
- No public forums were held in any town where the aquatic reserves are proposed **D**
- The people in the areas proposed for aquatic reserves should be directly informed of plans **N**
- Consult angling clubs in Victoria and ask what problems they have observed and ask for suggestions for improvement **N**
- More information needs to be supplied to fishermen on all issues and any new, relevant information should be supplied through fishing clubs **C**
- The document is light on fish catch information which could be helped by obtaining information from fishermen **N**
- The MDBC should use the consultative process used in this Strategy, for other initiatives **N**
- The Strategy needs to be supported by an education and communication strategy **N**

- Community participation must be maintained beyond the final Strategy **C**
- Fishing clubs want more effective involvement in monitoring and managing native fish **C**
- Fishing tackle shops can also be important distributors of information. **C**
- Community consultation and government networks must be comprehensive to emphasis the integration of indigenous communities and views in management and ensure that it is not tokenistic. **N**
- Detail on how the Strategy aims to manage ongoing community consultation is required **I, C**
- Utilisation of fishing magazines and bait shops would provide significant coverage to a very large stakeholder group **C**
- Ongoing consultation at community and local levels needs to be strengthened **C**
- Communication of current and new knowledge needs to occur to CMA staff and other environmental managers **C**
- Appeal to fishermen to assist in sustaining fish numbers **C**
- Promote Rivers/streams as sacred sites **C**
- We believe that education of the community, but particularly education programs targeted at home aquarium/garden pond owners, anglers and waterway users should form a greater part of the strategy. **C**
- There is a need to link up with more fishing groups as they are doing a lot of good work **C**
- The Commission and State Agencies must become much more effective in reaching the community with information programs about the condition of our rivers and the status of our native fish **C**
- I want to show my disappointment that the ministerial council did not inform people of the recreational fishing industry that this draft was out for public discussion **N**
- It is my hope that you sit down with recreational anglers of all forms and to other interested parties and work out a better proposal to help save our native fish and other forms of wildlife within our rivers **C**
- It was felt a comprehensive communication strategy had not been implemented to publicise or promote the Strategy **C**
- DSE strongly supports the need to educate the community on river degradation and the need to address threatening processes to reinstate fish populations and would support a major awareness program **C**

4.4 Demonstration Reaches, RMZ's, APA's etc

- In order to get community support, you must explain Aquatic Reserves adequately because the community won't support a Native Fish Strategy if they think they won't be able to use the resource. **K**
- SRA have functional audit zones and E-flows have management zones, the mention of River Management Zones in the Strategy heightens a management problem. There need to be a co-ordinated approach to all management zones, to prevent confusion and allow a practical method of managing Basin-wide **N**
- EPA and water planning groups are talking about comprehensive aquatic reserves, we need a fish input to make these a valid ecological reserve **N**
- Will there be areas you are not allowed to fish in Aquatic Reserves? **K**
- The Strategy presents a case for an aquatic reserve below Mulwala –does this mean you will close fishing and camping in this stretch? You really need to

clarify what you intend to do with this strategy because it is very large and so many families use the area recreationally. **K**

- Would you consider extending a reserve to the lower Ovens? **A**
- How long will protected areas last? **A**
- What was the background to choosing the Mitta as a demonstration reach? **A**
- You should give better flows, and do all the interventions, monitor the response and then work out where the aquatic protected areas go –you shouldn't just put them in now without that information. **N**
- What is the point of living on the Murray if you can't fish on it? Aquatic Protected Areas just aren't fair if they stop you fishing. **K**
- Fish are migratory and so a fixed reserve system may not protect fish at all times **N**
- How does catch and release recreational fishing practice fit in with an aquatic reserve system **K**
- Are there examples of freshwater aquatic reserves already in existence **K**
- The notion of 'protected aquatic zones' are not new – from time to time, fish agencies impose severe restrictions on fishing to protect native fish numbers **N**
- I do not believe that locking the river away from the fishing public is the way to go **N**
- If we want to set up a demonstration reach, do we need to get permission from the landholders? **A**
- The NFS Investment Plan should extend the ACT demo reach downstream to Burrinjuck. **N**
- Maybe the FAR system could be funded under the national component of NHT. **N**
- NSW Fisheries is not allowed to use the words "freshwater aquatic reserves"; this issue is "bad politics" in NSW; we need alternative words such as "special management zones" or "high conservation rivers" **K**
- The CAR model is OK, although there is a problem with the "representative" aspect. **N**
- Most beds of rivers are privately owned – NSW legislation only applies to Crown Land **N**
- Are aquatic reserves just a discussion point at this stage, or have they been fully developed? **K**
- Will demonstration reaches be competitive? It must be merit based, through strict guidelines and community sponsored, not just preached by MDBC. **N**
- Will aquatic protected areas close down or restrict use in areas? **K**
- Aquatic reserves scares tourism operators as well as fishers –are you just going to slap a ban on the users? **K**
- Everyone here wants the strategy to work but no-one wants outsiders to tell us there will be bans on fishing **K**
- 68 petitions received opposing the "proposed aquatic reserves upstream and downstream of Lake Mulwala" as "exclusion from these areas would create an economic disaster to the towns and businesses associated. **K**
- Given Victoria's history with coastal reserves turning into Marine National Parks, the community is nervous about the implementation of freshwater reserves. **K**
- The reference to aquatic reserves in the Strategy is too generalised and does not permit an assessment on the impact on Corowa Shire communities **K**

- There needs to be a greater clarification of aquatic reserves in the Strategy – what they are, how they will be identified and managed. This is particularly important in the Murray where different state agencies will be involved. **K**
- The Lake Mulwala reference as a proposed aquatic reserve must be clarified due to concern of closures or restriction **K**
- Murray Shire Council is concerned that the Strategy looks to designate the river between Lake Mulwala and Barmah as an aquatic reserve. **K**
- The creation of FAR's will reduce fishing opportunities –they should only be used when the area protected is critical habitat for a threatened species eg Seven's Creek for trout cod. **K**
- "Demonstration Reaches will integrate all land and water…"is this too ambitious? What about seepage and saline groundwater flows? **N**
- How does the strategy fit in with the NSW Fisheries potential listing of an endangered ecological aquatic community for the River Murray? **AA**
- The community is not satisfied with the explanations of what aquatic protected areas are and how they will be identified and managed **K**
- The community is particularly worried that APA's won't be adequately resourced, managed or monitored, particularly along the Murray River where a number of state agencies would be involved. **K**
- The Mulwala to Barmah area should not be an aquatic reserve as it will exclude too many activities which the towns depend on for economy **K**
- We need to explain options, describe some protected areas already in place, address angling issues and highlight benefits **K**
- The proposed reserve from upstream of Mulwala to Barmah will impact negatively on tourism and business in the area **K**
- If an area is closed for whatever reason, it should be opened back up again for fishing when it regenerates **K**
- The proposed aquatic reserve from Mulwala-Barmah should be postponed until more research has been carried out on the NSW section of the river **K**
- There is a real concern over the proposed aquatic reserves and what they mean **K**
- Aquatic reserves mean no fishing! **K**
- Need to clearly explain what aquatic reserves are –they need more debate and discussion **K**
- Reserves should have a different name **K**
- Why not call reserves "recreational fishing reserves" **K**
- The establishment of a system of aquatic reserves must be a priority for the Victorian government **N**
- Fishers are heavily regulated so there is no need for freshwater aquatic reserves **K**
- The Mitta Mitta proposal only serves to alienate and polarise **K**
- The declaration of an aquatic reserve, regardless of the conditions placed on it, will impact on the freedom of people and their way of life **K**
- How can you take away everything that makes camping fun **K**
- Of course it is important to preserve our native fish but it seems fairly ridiculous to set up a Native Fish Strategy where so many camp along such a great distance of river **K**
- It would be better to set up the Strategy in a place where not so many towns depend on caravan parks, and not so many people holiday **K**

- Taking away such a vast area for tourism will have great economic and disastrous effect on many people **K**
- The introduction of the Strategy will devastate the local community and caravan parks **K**
- I know it is important to preserve and look after our native fish but closing the area to fishing will make my holidays really boring **K**
- The proposed river management zones must align with current water management areas **N**
- The creation of demonstration reaches within river management zones is crucial in allowing trials of different management activities **N**
- Monitoring programs must be integral to demonstration reaches to allow evaluation and modification **N**
- Simply designating an area as a reserve or national park does not necessarily result in desired environmental outcomes **N**
- The idea of reserves, while well meant, would end up being exclusion zones and would impede on the recreational aspects of waterways **K**
- The introduction of aquatic reserves must be treated with extreme caution **K**
- Officers from the EPA have recently completed the publication of national "Guidelines for Protecting Australian Waterways" for Land and Water Australia (previously the Land and Water Resource Research and Development Corporation). The Guidelines include a framework for prioritising waterways for protection and identifying their conservation values and therefore would seem to have direct relevance to the draft NFS. **N**
- The Commission should be aware that in the current Draft Directions Statement on National Reserve System (NRS) the National Reserves System Taskforce has recognised the need for an inland, aquatic ecosystem reserves policy to be integrated into the current NRS framework. **N**
- The Commission should note that there is provision under the Queensland Fisheries Act 1994 to declare Fish Habitat Areas in freshwater. These areas are declared to protect fish habitats and do not restrict recreational fishing. **N**
- In general the concept of "reserves" is supported by Queensland agencies but it must be recognised that to be effective a "whole of Catchment "approach will be required. **N**
- Officers from all three Queensland departments would be interested in contributing to the prioritisation process for identifying appropriate reaches and to progressing the demonstration reach concept. **N**
- Page 17. A river management zone implies the management of just the main stream. The diagram on page 18 implies this. Is this the intention? If not then catchment or subcatchment management zones may be more appropriate, as this implies the management of lower order tributaries and wetlands as well. **N**
- The strategy must clarify what the intended management strategies are for aquatic protected areas **K**
- The area proposed for an aquatic protected area is too vast and the proposal lacks community and business consultation **K**
- The proposed aquatic area will have a devastating effect on local economies along the river **K**
- More information is needed on the designation of demonstration reaches and aquatic reserves **K**

- There must be explicit reference to the place of demonstration reaches and aquatic reserves within the CAR system to avoid ad hoc designation **N**
- Demonstration reaches provide an ideal means and appropriate scale for trialling the Riverine Management Zone concept **N**
- More information must be included to assist States in understanding the importance of following MDBC advice for demonstration reach and reserve designation. **N**
- The establishment of aquatic reserves is a key component of future freshwater management in Australia **N**
- There is significant community concern over the poor explanation of how the proposed aquatic reserves will be identified, managed, monitored and resourced **K**
- The document needs to more clearly state that repair of aquatic and riparian habitats would be commenced in well defined, representative Riverine Management Zones not the whole length of river (objective 1) **N**
- Is there a link between River Management Zones and Catchments? **N**
- Demonstration Reaches deserve much more prominence with a better description of how they work. They should be in a separate section, outside of the Management section **I**
- The strategy should avoid any suggestion that demonstration reaches are somehow linked to aquatic protected areas or River Management Zones **I**
- The strategy should not pre-empt decisions about the location of demonstration reaches **N**
- The NE CMA supports demonstration reaches suggested in the strategy and acknowledges these will showcase what the system should look like **N**
- Demonstration reaches need to show that interventions are improving fish populations and river health **N**
- Demonstration reaches deserve much more prominence, with a better description of how they are to work. **N**
- The Strategy should not pre-empt decisions about the location of demonstration reaches. There needs to be a careful, inclusive process of selection –almost a competition- with active participation by all stakeholders. **N**
- FAR legislation needs to be consistent across the Basin **N**
- The Strategy must provide clear definitions and targets for FAR to guide State government implementation **N**
- A system of FAR and demonstration reaches should be created in the Basin with a minimum of 20% of the Basin protected in no-take aquatic reserves and the majority in multiple use FAR **N**
- Each FAR should be buffered by demonstration reaches to enhance native fish recovery and the effectiveness of the FAR **N**
- The Strategy does not appear to acknowledge that alteration to current fishing regulations could have a negative impact on the economy of local communities **R**
- The social impact of alterations to the current regulations had not been taken into consideration **R**
- Of greatest concern is the lack of definition of the term “aquatic reserve” **K**
- Is an aquatic protected area the same as an aquatic reserve? **K**
- NSW Fisheries believes that Action 2.1 should be deleted from the Strategy. A superior approach would be to implement such initiatives as voluntary

conservation agreements or to provide Commonwealth funds for landholders to implement direct action (eg riparian fencing) **E**

- The establishment of reference sites would be an important tool in providing baseline data to measure the success of the restoration actions **N**
- I think it will be very silly not to be able to swim, boat or fish in the Murray River **N**
- We would not be able to go camping anymore, my Dad said **N**
- An aquatic reserve from Hume to Barmah would destroy the tourism industry in the region, with disastrous consequences **N**
- The proposal to designate the river reach between Lake Mulwala and Barmah as an aquatic reserve requires much more consideration and communication of its need before it should be entertained. **K**
- The entire concept of Aquatic Protected Areas, or Aquatic Reserves, should be formally defined, as should the consequences of their declaration upon the individuals and communities that would be affected by them. **K**
- Aquatic reserves is the only approach discussed in the Rehabilitating Habitat Section **K**
- The Strategy is unclear about what APAs are meant to achieve **K**
- Victoria does not intend to pursue the establishment of an aquatic reserve system at this stage **N**

4.5 Editing

- p.4. Figure title says CPUE but y axis says catch –which is correct? **E**
- Table 2 has two mistakes –"and" under Macquarie perch should be in column 3, "under" under silver perch should be in column 3 **E**
- on p.9 it refers to 'poor river regulation'. It might be better to say 'river regulation using existing rules'. Poor river regulation might be interpreted that the operators do a poor job - whereas they do a good job at implementing the existing rules. **N**
- p.28.-Redfin perch box, first paragraph –should read "western carp gudgeon" **N**
- The photo of the netted fish on the title page should be removed. The net is not recommended in fresh water and the fish in the photo has been extensively damaged by the net. The photo will offend many fishers. **E**
- Change the photo on inside page –it is not a fish friendly net. **E**
- P1 para 1 "native fish management" should read "…populations". **E**
- See John Koehn's written comments on the Strategy **N**
- Figure 1 is irrelevant as it does not include recreational catch **N**
- Table 1: threat –flow regulation. Permanent flooding or high water is also a problem for the lower Murray **E**
- Page 4 (status of native fish) –several species are already extinct from the lower River Murray –trout cod, southern purple spotted gudgeon and glassfish, while others are highly restricted and locally endangered **E**
- Table 2 see Native Fish Australia (SA) Inc. submission for SA status and legislation **E**
- Page 5, Table 2. Update table to include Porochilus sp. This is known from two sites only in the Basin near Chinchilla in Queensland. Its taxonomy is still unclear. **E**
- Page 10, Point 11. Stocking and Genetics. Carefully managed stocking can play a significant role in species recovery programs. **E**

- Page 13. Define aquatic structural habitat values. It may mean different things to different people. How these values need to be measured is unclear. **E**
- Page 14. State Government Roles. Second last dot point. Undertake research, monitoring and stock assessment. Stock assessment is important because it can be used to assess the sustainability of fish populations subject to commercial or recreational harvest. It goes beyond basic monitoring but is not really research. **E**
- Page 29 Management. Priority should be given to implementing quality assurance in fish hatcheries to prevent the translocation of unwanted species with native stocked species. **E**
- Page 30. 4.8. Carry out research projects to fill gaps in knowledge about carp. Carp is only one of a number of exotic pest fish. The above should also apply to Gambusia, redfin, weatherloach, goldfish etc., and also Tilapia. Gaps in the knowledge of all these species should be identified and appropriate research carried out. **E**
- P.14 3rd dot point –a third action needs to be added: "restoration of natural wetland, floodplain and river connectivity where practical" **E**
- P14, community and individual roles, last paragraph: should add removal of exotic species **E**
- Objective 2 should read "Rehabilitate and protect the natural functioning of wetland and floodplain habitats" **E**
- Table 1: Barriers process should read "resulting from the construction and operation of" instead of "caused by" **E**
- Table 2 should include scientific names **N**
- Wetlands must be added as a physical habitat p.17 para2 **E**
- Wetlands must be added to last dot point p.17 **E**
- P.17 Rehabilitating habitat must include "restoration of connectivity between rivers, floodplains and wetlands" **E**
- See CAC edits on Strategy **N**
- P14. State Government roles –need to include "enhancing" as current measures may not be enough **E**
- Dwarf flat headed gudgeon is not on Vic's list, but flat head gudgeon is. **E**
- The photo on page 6 is not the correct technique for fish handling **E**
- Changes to Table 1 are needed: a) with respect to flow regulation, the following should be added as a threat: increased periods of no flow; b) for water quality , lowered water temperature should be listed after pesticides; c) for alien species, carp must be listed first; d) remove exploitation as a threat as fisheries are managed, and remove EHNV as it has never been detected in the wild **E**
- P14 last para left column: say "should be encouraged" **E**
- Section 1.2 p18 criteria should include cost benefit analysis **E**
- P17 highlighted text, right column: should state "adequate environmental flows" **E**
- Section 2.2 first para, last sentence: another issue to be considered is the impact on recreational anglers, especially if fishing is prohibited **E**
- In action 6.2 the word maximised needs to be replaced with monitored **E**
- P28 right column under first box: should read "The focus of pest species management should be on reducing….." **E**
- P23, right column, highlighted text. An additional dot point should be added: loss of shallow backwaters below large impoundments **E**

- P28 left column –point out that EHNV never recorded in the wild **E**

4.6 E-Flows and Water Management

- Obviously environmental flows are critical to rehabilitating fish communities –will there be a close relationship between the two projects? **I**
- Will there be links with the e-flows project so that we can determine which reference points are best for the fish? **I**
- We need to do the right thing ecologically in terms of floodplains and wetting and drying cycles – decisions must be well researched. **N**
- If we wish to return to pre-regulation conditions (reference to E-Flows), will we allow a complete cessation of flow at times, such as that which used to occur naturally in drought? **R**
- Rehabilitation is dependant on flows, but how can you possible improve environmental flows? **A**
- There are environmental flow strategies in place for Condamine in the Water Plans, and technical reports are available. **N**
- A great deal of damage has been done by the release of quota flows, it sands up the holes the fish used to live in **N**
- Huge volumes of water are released in summer but it is cold water –too cold for the success of fish spawning **N**
- Before the dams were built there were no flows to the rivers anyway, so where is the use in trying to simulate natural conditions? **R**
- Water management is the most important factor in ecological rehabilitation; the way the rivers are managed in the Basin is extremely bad. Instead of pumping millions of dollars into all of the Strategy's objectives, you need to address the management of the water. **N**
- Water management is too political and you will never be able to implement the strategy because of this –the Snowy flow was only done because an election depended on it. **N**
- The 1500GL reference point of the Living Murray is exorbitant, it cannot ever go past 350GL **N**
- The rivers are not managed properly, water management is terrible and natural resource management is ineffective **N**
- Flows are needed desperately by wetlands **N**
- If you want fish you need water, but currently the management of water is very bad. Flows must be improved and evaporation from channels must be prevented **N**
- Dartmouth is a good dam but the Mitta can't carry enough of the storage when it is needed **N**
- Environmental flows are absolutely critical to fish rehabilitation and protection, but even 1500GL is not nearly enough. **N**
- It is vital that environmental flow allocations aren't just pumped from one end of the river and left to flow out of the river. Flows must be managed properly; so much water is needed to inundate wetlands and floodplains too. **N**
- The management of water is very bad in the Basin and we should address this issue as the starting point. For instance, maybe we should be putting bore pipes underground, or storing water underground to prevent evaporation? **N**
- The best and healthiest river systems need QUANTITY of water –we need to get flows and floods back into the Basin. **N**

- We need to change irrigation practises to get more water back into the system **N**
- If you got better water flows and better water quality, you wouldn't need to do any more **R**
- There is a huge problem with sleeper licenses –water trading does not mean more water goes to the environment **N**
- SA are just going to ask for more water, it is not fair that we pay to have them get more **R**
- It is not just more water that is needed, many areas need to be dried out periodically for fish breeding to occur **N**
- We need to monitor water quality post-environmental flows, sometimes a bit more is needed to flush out acidity problems etc **N**
- Everybody focuses on flows in the media and makes irrigators look very bad. But flows aren't the only problem and this focus is giving the Strategy a bad name **N**
- Environmental flows by themselves will not necessarily help fish habitats and breeding – the flows may need to be applied in different ways in different waterways and reaches **N**
- Environmental flows are critical for fish breeding but are only one tool. **N**
- Environmental flows may be important in triggering native fish breeding in quite specific but short time spans **N**
- purchasing water to just send down the river is criminal. The future of progressive and sustainable farming will come from not buying water by tax rich governments but by the whole of the community paying vast amounts of money into making irrigation systems more efficient. **N**
- A significant debate with the community is needed on this issue – a shift in "mind-set" is needed and fish should be used as a symbolic argument. **N**
- E-flows doesn't have the prominence it needs (in the document) – there should be more on linkages between e-flows and native fish **I**
- Fish that are trapped in weir pools when flow has stopped should be released **N**
- Large pumps on the river kill fingerlings **N**
- Very little water is released between September and December in the Goondiwindi region **N**
- Can we start looking at altering how flows are being released from weirs? Boggabilla dropped 1.5m in a 24 hour period recently which is very bad for the fishes **N**
- Flows are completely out of synch with native fish breeding requirements; can these regulated flows be better managed for our fishes, and also to decrease erosion? **N**
- We have no way to control when and how much water is released is there any way we can have more say? **A**
- It is water flow that is the biggest problem –fish need more water **N**
- All the weir pools near Bourke are a huge problem for fish, as are the pumps which push the water backwards **N**
- Will there be a realistic cap on water use? **A**
- Until governments stop working independently we can't manage the water properly **N**
- Waterways are STILL being blocked off –small fines can impede small business but big business just doesn't notice **N**

- How can you stop the terrible farming practises? **A**
- We need to look at rivers before regulation to learn something –particularly before dams **N**
- Current flows are damaging the habitat, erosion is filling up deep holes and destroying fish habitat **N**
- Dams are causing cold water pollution –who will fix them? **A**
- Regulation in the upper Darling has impacted on fish declines **N**
- There is a problem of seepage on Mulwala channel **N**
- Fish need water so how can you expect to improve fish communities with so much water diverted for irrigation? **N**
- The whole problem of our rivers is land clearing and dams **N**
- Without modification to current flows, native fish communities will continue to decline **R**
- Water is poorly managed across the Basin **N**
- It is vital that environmental flows are not just moved from one end of the river to the other –the flows must be managed properly. **N**
- There should be a variable flow not stable flows **N**
- Murray Shire Council does not believe more water is required, only better management **N**
- Rehabilitation flows must not affect the Irrigation industry **N**
- Current management practises have isolated native fish from wetlands, swamps and lagoons which has contributed to problems for native fishes. **N**
- ACT Fly Fishers are disappointed that no actions listed from p17-33 outline the process to be used for increasing environmental flows –increasing environmental flows will achieve a great gain for restoring the health of the system. **I**
- NFS linkages with the raft of environmental flows works currently undertaken must be ensured. **I**
- Hard work needs to go into making the NFS a part of existing environmental flows projects, and ensuring these programs work **I**
- The definition of e-flows on p17 is not true. Should be “changes in river operations for the Murray River and Lower Darling that should result in general improvements in the environmental condition of these rivers whilst considering the current needs of water users” **E**
- Without modification of current water management practises, native fish will not be rehabilitated **N**
- There are inconsistencies in trying to simulate natural conditions to encourage native fish when in some years there would have been no water in the rivers at all. **R**
- The Barmah-Millewa flood plain must have water in spring and early summer for fish breeding and vegetation **N**
- There needs to be a link to the Living Murray initiative **I**
- Water must be permitted to enter swamps, lagoons and wetlands for fish breeding **N**
- Isolating wetlands has greatly reduced native fish numbers since the 40’s, with trout cod and freshwater eels particularly affected, as well as animals like snakes and frogs **N**
- Creek regulation in the 50’s has had a disastrous effect on the forest wetlands and the ecology of the forests in general. **N**

- Installation of the Edward Weir and increasing the height of Hume Dam has badly impacted native fish numbers **N**
- Variable flows would allow fish better movement opportunities to wetlands etc which are better feeding and breeding areas **N**
- Better flow scenarios does not mean more water, only better management **N**
- Present management allows forest systems to dry out and increases the volume of black water in the following floods **N**
- Strategy assumes you have access to water –where will it come from for the environment? **N**
- Need to link the Strategy with the Living Murray **I**
- Hasn't the NSW Water Sharing Plan allocated water for environmental flows that will also benefit fish? **N**
- What is an environmental flow? Forests, environment, fishes –all want environmental flows, can we co-ordinate to get benefits for all? **A**
- More floods are needed for native fish life cycles **N**
- Normal flows in spring rarely reach fish breeding sites **N**
- The slower waters needed for native fish breeding are just not possible as farmers need upwards of 8000-10000 megs to be released from dams each day **N**
- Current environmental flows can be managed in a way that can maximise wetland inundation, or specific engineering works could be undertaken to improve flows **N**
- Current water management has led to the present state of fish numbers and without modification of this management, fish populations can't be rehabilitated. **N**
- There is a need to manage our systems in the most appropriate way to maximise the benefits of flows targeted for the environment, whilst maintaining reliability of supply to water users **N**
- Sustainability in irrigation was lost years ago –we must find a happy medium to reduce the effects of flow regulation **N**
- Improved flow would improve water quality **N**
- We cannot expect the draft to be meaningful without the redress of water extraction, with Cubby Station an example to prove it **N**
- While irrigation is an essential part of life in the Basin, it must be managed sustainably **N**
- Murray Cod died at Barmah because of no flow. Environmental water was sold because it was a drought yet only 2 KL a day may have allowed those fish to live. **N**
- With no floods there is no food for fish larvae, which results in no fish **N**
- There is concern that the community will have to bear the costs of modifying flow regulation **R**
- Allocation of environmental flows must occur to avoid fish kills in areas such as Broken Creek **N**
- The Strategy must clearly define how it intends to deliver environmental flows across the Basin **I**
- Minimum flow sharing should, at the very least, provide passage for native fish over riffles and past in stream obstructions **N**
- At present there is a desperate need for a single authority to program and manage environmental flows used to inundate wetlands **N**

- How can reversing unseasonal river flows be accomplished without impinging on the rights of the agricultural community? **N**
- The flow reductions due to global warming predicted over the next 50 years could have significant impact on the Strategy outcome **N**
- Given the importance of environmental flows in achieving the Strategy's desired outcome, improving or restoring environmental flows is given little direct emphasis in the driving actions **I**
- The relationship between flow factors and fish health needs to be strengthened and given more emphasis in the report **I**

4.7 Fishing

- Cod populations were severely affected by unsustainable fishing –both recreational and commercial **N**
- Set lines must be banned, minimum length of Murray Cod must be increased and bag limits should be decreased to 2 cod per person per day. **S**
- If Macquarie perch are near threatened, why are you allowed to fish for them? **S**
- Has there been any thought to having a maximum size limit for Murray Cod? **S**
- Fishing has really declined in the Albury region in the last twenty years **N**
- Do fishing competitions with native fish affect their populations? **A**
- Murray Cod have increased greatly in the last ten years; the catch rate has increased tenfold. A lot of this is due to really good recruitment in 93-94 and we need to keep the rivers healthy to maintain this. **N**
- 10 years ago you couldn't catch cod in the Murray, they were all in the Darling, now the situation has been reversed **N**
- There are more fish in this stretch (Mildura) than there were after WW2 **R**
- The only fish not getting caught in this stretch (Mildura) anymore is the catfish **R**
- Silver Perch are still a fishery in certain parts of the Basin **N**
- Birdwatchers have a logbook, why aren't logs given to everyone who gets a fishing license? **A**
- Fishing is better now than before the war, is that because there is less fishing pressure? **A**
- Closures may not be effective –cod season closes September 1, but many breed before then –should be closed August 1 **S**
- At Renmark, they only catch 80-100 pounders, no little fishes. The big fish are eating all the little ones **N**
- If fish numbers increase, will there be an increase in numbers of fish you can catch? **A**
- Why are fishing clubs not consulted for information about fish from fishing competitions? **C**
- There needs to be a website for anglers to put all their catch information on **C**
- There is nothing wrong with the native fish in this area (Barham) and you have presented no facts to show that there really is a problem **R**
- How will the NFS affect trout anglers **C**
- What role has recreational fishing had in the decline of native fish (but not looking to lay blame)? **A**

- There should be river closures when sections of the river get very low to stop destruction of populations **S**
- Seasonal closures during Murray cod spawning seasons need to be reviewed **S**
- Everybody should fish under the same rules and regulations **S**
- Why isn't there a closed season for cod fishing throughout the Basin? **S**
- A huge problem in this area is there are no fishing inspectors **S**
- There is a huge shortage of compliance officers in the region – you can introduce all the rules and restrictions you like but without compliance you are not going to change much. **S**
- According to Kearney's report, rec fishing is a threatening process – should this be a driving action? **A**
- There is a need to work with fishing clubs to collect data **C**
- Commercial fishing using nets is a huge problem and they are "mining" fish out of existence **N**
- There must be consistency across the states for fishing regulations **S**
- Why has NSW banned silver bream fishing in some areas? **S**
- Why is there a maximum size limit on Murray Cod when the bigger females don't spawn anymore? **S**
- Deniliquin fishing club has offered to provide fishing records but NSW Fisheries are not interested –this is very disappointing **S**
- Everyone would like to use a website to log their catches onto **C**
- How much revenue is generated from inland fishing licenses? **A**
- Fishing in the Albury/Wodonga region has declined in the last 20 years **N**
- Murray Shire Council wish to be involved in determining sustainable fishing levels **N**
- P13 point 10 "selective harvest of 10%..."this seems contrary to achieving the target –does the 60% target account for this and does it include commercial fisheries? **A**
- A maximum size limit for cod should be implemented **S**
- Why not have closed seasons for all native fish? **A**
- The best breeding stock of cod and other natives should be protected **N**
- The end of commercial fishing activity in the River must be permanent except for carp control **N**
- Licensing should be done on a reciprocal arrangement, or one license only to fish anywhere in the Basin. **S**
- Anglers are now practising catch and release and respect our native fish by releasing our breeders **N**
- We need more fisheries officers in the field or get better communications to report illegal events. **S**
- We need harsher penalties dealt out to those that are caught doing the wrong thing **S**
- Set lines must be banned **S**
- The numbers of fish and species caught when I was young in the 40's was amazing, but it steadily worsened after the Gulpa and Edwards weirs were built **N**
- What is the NSW recreational fishing industry worth? **A**
- There should be a comprehensive survey of people employed in recreational fishing over the Basin as an economic impact **N**

- Spring to summer 2001 saw big numbers of cod move up from Burrendong Dam in the breeding season. Many fell victim to illegal setlines and anglers keeping cod out of season. **N**
- It upsets me to see anglers killing such big numbers of cod in our streams. At times we see cod populations reduced to near nothing from overfishing –I believe it is possible to catch 90-100% of the cod in holes when they are on the bite **N**
- Exploitation by recreational fishers is now minimal and with current legislation they are no longer threats to fish populations **R**
- Use fishing club information **C**
- The impact of set lines or springers that target fish brood stock is large and this practise must be banned **S**
- There is an inadequate level of enforcement officers to ensure regulations are observed **S**
- The Strategy deserves the support of all Australians who expect their future generations to grow up experiencing the same fishing opportunities that were available to them **N**
- The idea of overfishing is a thing of the past. With present fisheries management, the ability to overfish has been prevented **R**
- Angling clubs are recording the best and better catches than ten years ago. Experts have guessed wrong. **R**
- There are insufficient numbers of fisheries officers to police the waterways **S**
- Anglers in the Wakool, Murray and Edwards Rivers believe cod are the best experienced in decades, and silver perch are on the increase **R**
- The document fails to identify the impact of illegal activities on fish populations **N**
- Passive fishing equipment should be banned **S**
- Set lines must be banned **S**
- Fish should not be taken over a certain size **S**
- Brood stock must be protected. **S**
- The closures of angling season should apply to all natives from September 1 to November 30 **S**
- A log book should be issued with all fishing licenses to gain a database of fish numbers **S**
- More personnel must be employed in fisheries departments **S**
- Opera house nets must be banned as they kill turtles and water rats **S**
- Set lines must be banned **N**
- There should be minimum and maximum size limits **N**

4.8 Fish Passage

- What are the successes of the new fish passages? **A**
- Fish ladders need to be covered because the birds eat the fish. **N**
- Is there monitoring in progress for fish migration through fish passages? **I**
- Sometimes fish passages should not be put in place. For example, if there is a fish refuge upstream, a passageway might open the refuge to alien fish species invasion **N**
- You need to regulate what goes up fish passages because some passages are only used by pest fishes. Either man the passages, such as traps at Torrumbarry, or don't put in passage ways where there is the potential for pest fish to colonise a new area **I**

- You need to stop carp using fish passages, in some cases they are the only users. If we are putting millions into building passage ways there must be a commitment to monitoring them and trapping all alien species **I**
- Fish passages need to work –stop building them so quickly and start trying to make them work. In particular you have to design fish passages which prevent alien fish from using them **I**
- Hume to the sea is proposed to be opened to fish migration, but can fish ever be taken over Hume? **A**
- A lot of work is undertaken on helping fish migrate upstream, but can fish go downstream too? **A**
- If you put fish ladders on structures you must commit to monitoring what uses the ladder, like Torrumbarry **I**
- Euston weir has had a fish ladder since inception and the lock master keeps all the records –this is a great source of data **I**
- Does every dam/weir along a river need a fish ladder for effective migration and breeding? It will depend on length and type of river, type of fish, level of degradation, flow type, natural resource management conditions, etc **N**
- There must be mandatory fish ladders built in all future structures **N**
- What is holding up the installation of a fishway on the Bourke weir? How can we get funding to install a fishway on the Bourke weir? **A, P**
- Do we know if the big cod can utilise the fish ladders? **A**
- No use putting in structures if they are not properly manned, monitored and maintained –so many people would love to do that job **I**
- Fish move both upstream and downstream so why are we only providing access for upstream movements? **A**
- Are there any plans to allow fish passage over Hume Dam? **A**
- There should be a management system to monitor native fish numbers using ladders, as well as to remove introduced species from these structures **I**
- Fish passages need adequate resourcing to make sure they work **I**
- Designs of fish passages need to make sure alien species don't exploit them **I**
- Fish passages also need water to make them operate effectively **N**
- There must be a commitment to monitor, trap and remove all alien species which use fish passages **I**
- Unmanned fish ladders will allow unwanted exotic species to travel the whole Basin. **I**
- All fish barriers must be removed **N**
- Fish passages must be of a design that traps alien species to stop them from navigating up and down our waterways **I**
- All fish ladders should be manned to stop unwanted species. Monitoring would also provide the opportunity to look at species and numbers which are only guessed at this time. **I**
- Not all artificial barriers are detrimental –some protect remaining populations of natives, such as galaxias from trout. **N**
- Page 25. The Queensland priority barriers included in Table 3 were put together as a result of consultation between DPI and DNR&M officers. Nevertheless there should be an opportunity to revisit this list prior to the draft NFS being implemented. More recently collected data should be used to determine whether the priorities should remain the same. **F**
- Fish ladders need water to operate **N**
- Fish ladder designs must ensure pest fish do not exploit them. **I**

- The fish passage program is critical to native fish management in the Basin **N**
- More accurate barrier figures are required than p.10 as road crossings and culverts have not been included **N**
- It would be useful if the Strategy stated the number of barriers according to category **N**
- There is no point in having fish ladders if they are closed due to lack of water, particularly in cod breeding season **N**
- Whenever fish ladders are installed, there must be a commitment to monitoring what uses them **I**
- The database of existing fish barriers should be completed including assessments of their effectiveness **F**
- Basin wide priorities for fish passage works should include the removal of ineffective structures **I**
- Weir removals should be an action item in the Strategy as it is a cost-effective means of restoring fish passage, particularly when the weir is no longer used **I**
- Cages should be installed to monitor fish movements and to enable non-native fish to be trapped and removed. **I**

4.9 General

- Fish numbers are very high and the Murrumbidgee is in an excellent ecological balance. **I**
- Locally (Tocumwal to Swan Hill) is in a very healthy state and native fish numbers appear to be at the highest level experienced for some 40 years **I**
- Golden and Silver Perch populations between Mildura and Swan Hill are thriving **I**
- The NFS is a great initiative **N**
- The NFS is very sensible and very well written –congratulations **N**
- Properties near the border (QLD/NSW) have very few fish left **N**
- Condamine has very high volume pumps and fish are getting sucked in and killed by these pumps **N**
- Silver perch are not in trouble, monitoring at Torrumbarry weir shows that they are the biggest users of the passage way **I**
- Fish are being poisoned by pesticides running off the land in Bourke **S**
- At the moment, there are a lot of fish in the Echuca region with diseases on them **S**
- The Strategy is great and it is great to finally see people getting together to be proactive **N**
- Why haven't crayfish been put into the Strategy? **A**
- You must highlight the fact that some sections of the river have good fish populations due to a range of environmental factors **I**
- Gunbower Island was an excellent breeding ground for fish once, it needs fixing **S**
- The problem with the strategy is it presents no facts, it is all just good guesses. You need a lot more commitment to research and monitoring before you begin with this strategy **N**
- Everybody focuses on the negatives, but there are a lot of positives as well – release practises, general awareness etc. You need to also give some positives in the Strategy. **I**

- What did we learn from the 10 years of the River Murray Fish Management Plan, was it successful, did it secure commitment from the 3 levels of government **A**
- What teeth will the NFS have if a proposed activity is opposed by a local authority **A**
- The language of the NFS is presumptive, it presumes that the benefits of implementing the strategy are known and understood by the community, preaching to the converted. The costs and benefits need to be explicitly stated. **I**
- The strategy should not just refer to fish, but should discuss the protection of the whole river systems and fauna, crayfish etc **N**
- Need to be careful not to talk at community meetings about 'fish experts' – better to talk about 'our very best advice from fish scientists'. **N**
- The Strategy appears to be aspirational **N**
- The big issues are the lack of water and nutrients **N**
- What is the difference between the two cod types in the McIntyre? **A**
- Is native fish breeding temperature dependant? **A**
- The draft seems to indicate that most of the problems are in the south will we be ignored whilst the strategy concentrates on the south. **N**
- Has there been much research undertaken into the reasons for the decline of ribbon weed? **A**
- Is it possible to plant or use other methods to bring back aquatic plants? **A**
- There may be different ways of presenting the expert panel figure, especially to show relativities (eg pie diagrams, bar charts) **K**
- NSW Fisheries would like a summary of the public consultation phase, and comment received. **F**
- On page 31, line 4 redfin are listed in front of all other alien fish which implies it is the most important pest **I**
- Figure 2 needs to have information with it that says it is not a cost-based analysis **K**
- A lot of information is alluded to in the Strategy but the actual information is not presented –more information is needed **N**
- While fish declines have occurred since European settlement, surely the biggest declines have occurred since WW2? **A**
- Pelicans reduce fish numbers **N**
- The Deniliquin area is one of the best breeding grounds for native fish **N**
- Native fish are threatened in the upper Murray and new management actions are required **N**
- NFS is poorly referenced for a planning document. **N**
- The strategy appears relatively light on in proposed on-ground actions **N**
- P2para4 "management plans will be developed" –these need to be integrated with or part of, other planning processes rather than being stand alone. **E**
- It is unclear what the graph is based on –how was it quantified –science? Guesswork? Both? **K**
- The links between targets and actions is weak –you need to attempt to quantify the effect of actions. **I**
- The strategy should propose a lot more actions relating to on-ground works in SA **N**
- The Murray Darling Association recognises that native fish in the Basin are threatened and management actions are required. **N**

- The strategy needs not only a natural resource management vision, but economic and social visions as well **I**
- The populations of some native fish have greatly improved in the Echuca/Moama, Deniliquin, Barmah area –you need some positive examples in the strategy **I**
- Overall, there has been amazing support for this document –the silent and supportive majority must be remembered. **N**
- Some people in regions don't care about the rest of the Basin and would be happy keeping "the best bit" as an attraction. **R**
- Overall concepts of the status of native fish have been hard for the general public to visualise. Most comments reflect only Murray cod, yellow belly and carp **R**
- The document is well researched and is well presented. **N**
- We can't sustain an increase in populations if we don't manage flows and water temperature **N**
- Why the need to put in place a strategy that duplicates what is already in place? **A**
- How do fish rank against other nrm issues like salinity and revegetation **A**
- Will the ACT be a part of the Strategy? **A**
- Is there any political mileage in implementing the NFS? **A**
- Increasing numbers of city people are coming to the Basin to fish **N**
- Will minority groups dominate nrm issues? **A**
- Great to see a strategy being formed to help rehabilitate declining native fish numbers **N**
- Why undertake all factors identified as impacts? Environmental flows, habitat restoration and carp eradication have a greater impact than any other factor. Impacts should be ranked in order of priority **N**
- There is no bibliography nor reference to the scientists involved in writing the draft which reduces the credibility of the document. **I**
- A statement is needed indicating who was associated with compiling the Strategy to indicate the degree of balance in the representation and adequacy in qualifications of those involved. **I**
- The draft plan represents a wish list that is not based on sound principles of economic planning, social considerations, or regional impacts, political ramifications or broad environmental outcomes. **N**
- The draft relies heavily on unsubstantiated assertions and when allied to millions of dollars are irresponsible **N**
- Solutions to ensure the survival of native fish cannot be achieved by reversal of human activity since 1770. Successful outcomes for all stakeholders must be negotiated. **R**
- The Strategy is very comprehensive and is assessed as a positive step in guiding the future management of our vital water resources **N**
- An appendix should be included with related strategies and Fish Recovery Plans **I**
- Given sufficient government and community support, the comprehensive strategy will lead to improved results for anglers as well as ensuring the recovery of all presently endangered fish species **N**
- The paper has a broad view of the Basin as a whole and although some areas are under pressure others are in excellent condition and are doing well. **I**
- Some areas are doing well, the strategy needs to point this out **I**

- The Strategy has the potential to be an extremely useful tool in directing the management of native fish over the next decade **N**
- The figure on p.7 must be clarified in greater detail **K**
- The document needs to stress the importance of better land management and the role that this will play **N**
- The strategy needs to refer and link to other initiatives, including other plans under the Native Fish Strategy (i.e. Implementation Plan) **I**
- The document is comprehensive and well written although very theoretical and perhaps longer than it needs to be **N**
- The document needs to provide clear recognition of working within the ICM framework **N**
- A summary section needs to be expanded to include the key elements of the Strategy (no more than 5 pages) **I**
- The link between the 13 objectives and 6 driving actions needs to be more up-front **E**
- Details of some actions need to be more specific eg the community engagement activities are vague **I**
- Links to other projects and initiatives must be made **I**
- The Strategy can become a key component in rehabilitating the Basin's damaged native fish community **N**
- Figure 2 needs more explanation **K**
- The terminology used requires clarification: "partner" rather than "stakeholder" appears to imply that important stakeholders could be excluded from participation in the Strategy **N**
- This Strategy is an excellent start to action **N**
- How can you find a balance between conflicting users? **A**
- How do you determine what commitment is needed? **A**
- How will all the strategies in existence be integrated? **A**
- How can the five governments work together? **N**
- Who wrote the draft? There has been no scientific research performed on many aspects of this draft. **N**
- I am eighty years old and have spent a great deal of time on the Murray between Barmah and Tocumwal. Each year that passes there are less fish being caught in this area. **N**
- The MDBC should accept responsibility not only for this plan but for other cross border river issues **N**
- I have grave reservations about the way the document was released, and many of the contents therein **N**
- I approve of the objectives of the Strategy but the details of what is actually planned to occur are very conspicuous by their absence **N**
- The effects of implementing the Strategy on communities are not considered in the document **N**
- Describe the primary sources of knowledge about native fish that informed the Strategy **I**
- State who was on the expert panel **K**
- The strategy does not provide enough emphasis on threatening processes and how to deal with them **N**
- It would be useful to see the impact of each intervention in Figure 2 shown separately and discuss how they were calculated **K**

- The strategy would be easier to understand if the interventions in Figure 2 were the same as driving actions **N**
- Time period in Figure 2 is 40 years not 50 years **N**
- Contribution of habitat restoration in figure 2 is 25%, that of environmental flows over 30% but the cumulative effect of both is less than 50% **N**
- The indicator to have native fish populations capable of sustaining a 10% harvest will vary from region to region and from species to species **N**

4.10 Habitat

- The demise of native fishes is due to habitat loss **N**
- Banks need to be resnagged –not only does it improve fish habitat but it also improves flows **N**
- Why has there been no interest in the wetlands? Wetlands are an extremely important facet of the river system and deserve more attention **A**
- What about all the logs that are completely blocking the river? If they are acting as a weir, can we remove them? **R**
- How and where can we get funding to fix fisheries habitat? **A**
- Willow trees are a huge problem –we need to remove them **N**
- Willows are such a bad problem in some areas –it really destroys the aquatic habitat **N**
- Jet skis and speed boats have an enormous impact on bank erosion **N**
- Edward River is completely desnagged **N**
- Willows are having a bad impact on native fish breeding and feeding **N**
- There are sufficient snags in the river and any money for resnagging would be better spent on restocking. **R**
- Murray Shire Council is of the view that snags have increased since high flows because of trees falling into the river (bank erosion) so a resnagging effort is unnecessary **R**
- The use of the term “fish habitat” needs to be well understood by the community and any discussion of “fish habitat” should include the floodplain and wetland area **N**
- The point of floodplains and wetlands as part of “fish habitat” has been lost in the Summary Document” **N**
- Increasing vegetation along waterways requires better understanding, particularly in regard to the impact of some gum leaves and their effect on water quality and inundated vegetation **N**
- Increasing snags will restrict river flow **R**
- The local forest waterways were once the major areas of native fish breeding in the central Murray system **N**
- What is fish habitat worth to the environment? **A**
- Major works such as the Snowy Mountain Scheme and the Dartmouth and Goulbourn Valley Irrigation regions have ensured that certain regions are forever altered and we must work within these constraints **N**
- Stop timber cutting wrecking swamps **N**
- The greater percentage of the basin has good in-river habitat but not breeding areas **N**
- Work being done on the banks of the Goulburn River in Victoria is excellent **N**
- Flooding wetlands may not be of much value if macroinvertebrates need rotting grass rather than heaps of cow shit **N**

- Harvesting timber in floodplains is a major threat to the habitat **N**
- Willow trees are spreading through waterways and are a big problem **N**
- Stock grazing on our waterways causes degradation of our river banks and pollution of water **N**
- It is difficult to see how the goal of 80% of remaining wetlands will realistically be achieved **N**
- In objective 1 the major causes of habitat degradation are not mentioned. **E**
- The increase in snags suggested in the Strategy would result in further silting up of the river bed. **N**
- The river in the Mathoura area is full of silt and snags with a very slow current compared to what it used to be **N**
- Fish need lagoons and swamps to breed in as they always had until man changed their environment **N**
- Wetlands should be ranked in priority of importance for all aspects of biodiversity. **N**
- The Commission should establish the responsibility of willow control to an organisation and indicate a plan of removal over a period of time. **N**
- Critical aspects of riparian management such as control of stock access, erosion control and riparian revegetation need to be addressed. **N**
- Given the level of water extraction for irrigation and the development of floodplain levees and private land ownership of much floodplain land, it does not seem realistic to re-establish links to 80% of remaining floodplain wetlands **N**
- To reinstate fish populations, habitat degradation needs to be addressed everywhere and driving action 2 should propose a wider range of actions to address the range of threatening processes **N**

4.11 Implementation

- Who is going to pay for this Strategy? **I**
- How do you implement the Strategy? **I**
- There is a growing support for repairing riparian vegetation in the community but we need some guidelines to help us in the process **A**
- The concept of demonstration reaches is very important and needs to be focused on **N**
- How will land buy-back be undertaken? It needs to be strategic, not haphazard. **N**
- A lot of land is owned by the Commonwealth and leased to farmers –the government can just take back leases without a buy-back scheme. **N**
- Areas where commercial fishing has now been banned in South Australia should be given over as a sanctuary or demonstration reach. **N**
- The Strategy should be linked to NRM regional plans –the NAP blueprints. The Strategy can provide priorities and objectives that can be incorporated into their plans. It could become a requirement by State and Commonwealth, to address the Strategy when planning each year. **N**
- Will implementation fall primarily on the States? A cabinet submission needs to be made **D**
- Will a benefits cost analysis be performed? It will be an extremely difficult task **A**
- Can the NFS be incorporated into the new NHT guidelines? It would be good to make all new fish projects align with the NFS objectives. **N**

- The implementation phase needs to incorporate water plans –they are part of ICM **N**
- How do you convince the ministerial council to commit to a 50 year timeframe? How can you maintain a political commitment across such a timeframe? **A**
- What are the benefits of implementing the NFS **I**
- The investment plan should contain a strategy on economic and social impacts **I**
- How has the Native Fish Strategy been incorporated into regional strategies **A**
- The main problem for the ACT is in resourcing large-scale interventions. Related to this, there is a "structural" (bureaucratic) problem in integrating and implementing ACT/NSW nrm issues. **N**
- How can you prioritise actions for funding? **A**
- How will the community have a say in implementation **A**
- Social and economic impact statements must be developed to show there will not be adverse impacts on communities located within Corowa Shire **I**
- There is concern about the ability to maintain long-term political and funding commitment. **N**
- There is a lack of clarity on who will actually implement the Strategy –there needs to be a clear statement of commitment to implementation and funding in the revised Strategy **I**
- The NSW Murray Wetlands working group is concerned that the strategy receives full and proper resourcing to ensure its implementation **N**
- Will you actively seek NGO involvement? **A**
- There are concerns with implementing the strategy, particularly the roles and responsibilities of state agencies and their likely commitment. **N**
- Fishing clubs are looking for more effective involvement in monitoring and managing native fish **C**
- Implementing the Native Fish Strategy must be dependant on the findings of a cost benefit analysis **N**
- It would be encouraging if councils considered best practise with respect to fish habitat when investigating developments **N**
- The absence of a budget line dedicated to compensating farmers for flooding their land casts serious doubt on project cost projections **N**
- You need to identify priority programs, areas and actions **I**
- Costings for achieving targets in 10% increments up to 60% should be prepared **N**
- Without concerted collaboration and careful management, there is an enormous potential for the Strategy to duplicate other efforts and processes **I**
- It is frustrating that there is no reasoning or science to back up the indicators of the level of implementation of the Strategy **N**
- Actions must be encouraged by incentives, not demanded by regulation **N**
- The major shortcoming of the Strategy is that it does not estimate the cost of implementation, and the assessment of environmental benefits **I**
- There are a number of activities currently underway within the State that complement the Strategy. However it is clear that a full implementation of the Strategy will involve a significant resource allocation by each state in the Basin. **N**

- The SRA too will have resource implications and it will be important to consider these two initiatives in context, at the Murray Darling Basin Ministerial Council level, and then by the individual States. **I**
- There is a need for the draft NFS to be properly integrated with other strategies and planning processes within the basin. A conceptual diagram showing the linkages may be appropriate. **I**
- there is a need to ensure appropriate early and ongoing communication between the NFS project team and regional bodies currently active under NAPSWQ and NHT. **N**
- There is a lack of clarity on who will actually implement the Strategy **I**
- There must be reporting on implementation **C**
- How can a 50 year strategy be implemented within three year political time frames? **N**
- Consideration has not been given to how the Strategy will be funded and implemented in NSW **I**
- Catchment Blueprints and Water Management plans do not sufficiently consider in stream biodiversity issues and the objectives of the Native Fish Strategy **N**
- In order to ensure effective implementation, the MDBC will need to examine the accountability criteria within the Strategy **N**
- Each river catchment should have a management plan which indicates how and why the river is going to be managed. It is suggested that a full list of what is required in such a plan should be included as an appendix to the Strategy **N**
- Regional Groups need to be involved in identifying important riverine zones and undertaking local rehabilitation programs **C**
- The main weakness of the Strategy is the lack of clarity about how the strategy will be implemented **I**
- A clear implementation plan needs to be incorporated in the Strategy **I**
- The Strategy needs to identify who will drive the implementation and a resourcing commitment. **I**
- A comprehensive management policy must be compiled to ensure the effective implementation of the Strategy across the Basin **N**
- There is a need to work closely with state agencies on the finalisation and implementation of the Strategy to ensure there is not only a coordinated approach but to also ensure that appropriate community consultation is undertaken. **C**
- Over-arching policies and legislation is needed to guide decision-making and ensure a whole-of-catchment approach in order to direct the states involved in Basin management **N**
- The implementation costs for the Strategy seem significant. Therefore, prioritisation of actions in relation to the benefit achieved for the cost would be useful to guide jurisdictions in agreeing to implementation programs **N**

4.12 Indigenous Issues

- The knowledge of Aboriginal people must be used; they know all the problems in the wetlands, what fish are in trouble, what can be done to help. They have a wealth of knowledge that needs to be utilised **N**
- Will Native Title claims have an impact on the Strategy? **A**
- If parts of rivers are given over to Native Title, how will you manage those areas? **A**

- Aboriginal communities hold a great deal of knowledge which can make important contributions to the strategy and it's implementation **N**
- An aboriginal statement within the strategy on the importance of native fish may be useful **I**
- The introduction needs to include a section on the importance of fish and healthy riverine environments to Indigenous people **I**
- There is a great deal of knowledge about native fish held by Aboriginal communities that can make important contributions to the strategy and its implementation **N**
- The inclusion of indigenous people and their interest is poor in the Strategy. The short paragraph on p.3 must be followed with acknowledgement of the significance that fishing had on the lifestyle of pre-European Aborigines **I**
- Indigenous involvement is an integral component of strategy development. The discussion of indigenous involvement on p.3 needs to be better linked to the text **I**
- The Strategy should contain provisions to actively engage Indigenous communities the management of native fish species in the Basin **I**
- The Strategy gives very little attention to indigenous concerns and the cultural connections indigenous people have with native fish and riverine environments **I**

4.13 NHT and Funding Issues

- Taxes and levies need to be placed on water and produce from the Basin, most consumers are in the cities but don't realise the difficulties faced in the Basin. There needs to be an economic accountability. **N**
- The new NHT is a real problem which needs to be addressed –nobody understands the new system **N**
- So much of NHT is a waste of time, we should use some of the money to buy back water for the environment **N**
- Some profits from things like the sale of TELSTRA should be given to the environment **N**
- NHT funds are often wasted, we should pay the experts to do the work so that it is done properly. **N**
- The Strategy is excellent, the only problem you are likely to have is when it comes to the issue of who will pay. **N**
- Will the MDBC be investing its own money into this Strategy or are they just expecting everybody else to? **A**
- We all put heaps of money into the governments pocket for fishing, including food, rods, bait, beer etc –we need to get something back from the government for all this spending –it could be used to help the fish **N**
- There is funding available from fishing licenses, it should be used to help implement the strategy **N**
- Are there links to aquatic issues in the NHT2 regional funding initiative, as previous NHT funding seemed to concentrate on terrestrial issues **N**
- What is the level of business support (tackle industry, etc) for the NFS and why aren't they at the meeting **A**
- The national component of NHT is relatively small – it could be used to "get things going" (see above) – the bulk of the $$$ is in the regional component. **N**

- There should be an opportunity for jurisdictions to work with the MDBC to develop national bids **N**
- The investment plan should be used as information for, and negotiation with, the regions **N**
- In terms of investment, we need to delineate between what is being funded presently under Commission activities, and what else is required. **I**
- While the Strategy is excellent, how can it possibly be funded? You can't depend on small community based funding. **A**
- You have probably missed regional funding because all the blueprints have already been written **N**
- The strategy being funded and applied must be ensured **N**
- How much money has been allocated for this strategy to be implemented **A**
- We will need to improve budgets to get anywhere **N**
- We have to work in co-operation with other NRM funding to get a good impact **N**
- Can't just rely on NSW license money to fund a lot of works and measures **N**
- Need to ensure state governments will provide funding **N**
- If NSW Fisheries won't resource staff and offices and projects, how can the community have confidence the NFS will be adequately funded? **N**
- Environment Victoria urges the Victorian government to invest resources into achieving the targets and initiatives set out in the Strategy. **N**
- There may be opportunities, currently not considered in the draft, to allocate low level funding to achieve significant outcomes **N**
- Program timing should consider times of extreme climactic variations (eg drought) which may reduce costs of implementation **N**
- The document contains little work on costing and funding commitment. This means there is enormous scope for the cost to be born by extractive users and private landholders. This is not equitable. **N**
- There must be a broad sharing of costs between resource users and the broader community in implementation **N**
- In the NW Victoria alone, 7.4 million dollars is raised through GST on recreational fishing. If some of this money were put back into the region to help redress the situation we would at least see a greater outcome. **N**
- P.20 Considerable investments in fish habitat are referred to but examples are required to support the statement **E**
- Where will funding come from? **A**
- Committed State and Commonwealth funding must be secured to deliver the actions of the Strategy **N**
- Unless there is a co-ordinated basin wide funding approach, funded be the MDBC or a joint bid to NHT2 by all jurisdictions, the Strategy will not meet its objectives **N**
- The ideals and objectives of the Strategy can only be achieved by the expenditure of a large amount of money, but it gives no indication as to where this money will be found. **N**

4.14 NFS Goal and Objectives

- The Goal of the Native Fish Strategy is unrealistic. Pre-European fish populations can not be accurately predicted, which makes the specific aim of rehabilitation to 60% meaningless. **K**

- Why was 60% set as a target –why not 20 or 90%? It is a meaningless target. **K**
- The Goal of the strategy is too lofty and you cannot know what the fish community was like prior to European settlement. And the goal doesn't tell you what you want to improve by 60% -is it a species, the community, what? **K**
- The driving action "protecting threatened native fish species" should be ordered before "controlling alien fish species" **N**
- To make some sort of wild assessment as to what fish numbers and types were pre-European times defies logic –are you clairvoyant? **K**
- How was the 60% goal devised and will the goal be continually reviewed. Is it a regional target? **K**
- Why is the draft 2002-2012 –will there be a major review at 10 years? An annual review or report is also needed. **A**
- Why have you said that populations are down to 10% -there should be some justification of this value as it is extremely low and paints a very bleak picture. Are you just being dramatic? Is it realistic? **K**
- The 10% estimate given of fish populations is only a best guess, if you are going to put a figure in the Strategy it must be validated and presented with information to support it **K**
- The NFS needs a statement up front outlining why we need to restore fish populations, what is the benefit, given the high cost of providing environmental flows and restoring fish passage etc. **I**
- There was an opinion expressed that the biodiversity benefits of implementing the NFS is the most important outcome. **N**
- While the community will be very supportive of the strategy increasing native fish numbers and habitats, the community may also be very critical of using terms like 'return to 60 percent of pre European numbers' **K**
- Are targets consistent with NRM Ministerial Council definitions? **A**
- Should look at fisheries management objectives, rather than targets **N**
  "performance indicators":
  capacity/implementation
  resource management (indicators approach)
  natural resource condition (targets)
- we should accommodate both targets and indicators approach in NFS **N**
- The figures (60% and 10%) appear a bit "woolly" **K**
- Although you need to do all the actions listed, in some areas there is a single important issue that, if not addressed, will make all other interventions pointless **N**
- What was the basis for having 60% improvement as a goal? **K**
- There are no specific pre-European numbers so how can you possibly judge if you have improved things by 60% **K**
- If people are still arguing about what pre-European populations looked like, how can you measure the success of the strategy? **K**
- Can the system sustain a 60% increase in fish communities? **K**
- The community needs greater confidence as to how the 10% and 60% figures were arrived at **K**
- The 60% after 50 years seems to be a "grab out of the air" –how was the goal set? **K**
- How does the 2002-2012 relate to the 50 year plan? **A**

- The strategy would be far more credible if it acknowledged that "we just don't know" how the current native fish numbers compare to pre-European times **K**
- It may be more credible to express the target as "significantly increase" as opposed to 60% over 50 years **K**
- While the 10% and 60 % figures are much discussed, no one has come up with better guesstimates. It is essential that aspirational targets remain and people must be accountable. **K**
- Why aim for 60% rehabilitation? Couldn't viable populations be sustained at 50%? **K**
- You cannot return to pre-European conditions **K**
- To aim at 60% of a totally unknown number of fish numbers is fruitless and brings into question the guess of nameless experts. And why not 40% or 50% or 70% **K**
- There is concern that all targets stated are aspirational and that short term "smart" targets should be established **N**
- The goal of the aspirational target needs to be tested over time **N**
- Significant work needs to be done to identify those driving actions which are priorities for investment. **N**
- The continued focus on % return to natural as the measure of improvement to river health is questionable and is not an accurate proxy for environmental improvement. **K**
- There is concern over the symbolism of having (4) controlling alien fish species, listed before (5) protecting native fish species. This sends a poor message as native fish have the clear priority for management **N**
- While rehabilitating populations to 60% is a mammoth task, it must be addressed **N**
- Fifty years is a long timeframe, particularly politically **N**
- Consideration will need to be given to whether this target is interpreted as sixty percent throughout the Basin, or whether for certain areas (e.g., those of identified higher ecological value) a more natural state is sought or maintained (e.g., back to eighty percent natural). **N**
- There needs to be better explanation of the 60% and 10% figures **K**
- The strategy needs to acknowledge that the 10% is merely a "best estimate" **K**
- It should be a goal to "significantly increase" not set the 60% target. **K**
- The strategy objectives should be prioritised making it easier to sell to the community **N**
- The Strategy attempts to aim for a percentage of an unknown quantity **K**
- The priority, or order of necessary works should be more directly stated, or summarised in a chart **N**
- Figure 2 needs more explanation and correction of some details. **K**
- Investment in the creation of FAR and control of alien fish species should be given higher priority in the Strategy **N**
- Some short term goals should be included, such as ten and 25 year goals **N**
- The Strategy should be explicit that the indicators are aspirational **K**
- It would be more logical if the interventions were the same as the driving actions. There should be a direct relationship between the 2012 indicators and the accountability indicators **N**
- Provide an explanation of the basis of the 50 year outcome to rehabilitate to 60% **K**

- Explain the process whereby indicators were established and the impact of various interventions estimated **N**

4.15 Research and Monitoring

- Monitoring of the fish must be accurate and representative –electrofishing does not work in some reaches **N**
- Why have specific fish stock crashes occurred, such as catfish and silver perch? Where is the research? **A**
- We need to know more about the inter-relationships between species so that we can understand why populations get depleted and what can be done to help communities **N**
- Has there been any modelling done to determine the relationship between flow discharge and fish recruitment? **A**
- The Strategy states that 10% of funding will be allocated to monitoring – where did this figure come from. **A**
- Monitoring should not depend solely on the SRA because it may not incorporate the level of detail required, particularly with demonstration reaches –these need to be monitored at a much finer detail. **N**
- Have there been any studies into the effect of town sewerage on fishes? Five million dollars has been set aside by Brisbane council to dump grey water on the Darling Downs **S**
- Have you been able to identify increases in native fish populations so far? **A**
- Where does all the fish stock information come from? **A**
- We need to monitor how the fish benefit from all these interventions –it is not good just doing the work and not seeing if it actually helped **N**
- What is being done about the lack of research effort in Australia? **A**
- There needs to be a lot more monitoring so we really know what is happening with fish communities **N**
- The community is very willing to get involved in monitoring –a lot of data can be collected through fishing competitions **C**
- We need to improve fish health as well as numbers –there is a danger that chemicals can adversely affect fish condition **N**
- You don't need hi-tech monitoring techniques, just talk to the local communities **C**
- How can we identify genetic diversity of fish across the Basin to protect against disasters that may occur? **A**
- If the target of increased native fish populations is achieved, is this sustainable, will there be enough resources (food etc) to support them **N**
- How are fish populations actually ascertained? **A**
- Promoting the NSW Fisheries fish survey in community consultations may put people off as many community people were not happy with the survey **N**
- What confidence do the fish scientists have in the flow chart? (Remember Peter Cullen stressed in Cairns that we cannot always wait for the perfect science). **N**
- When scientists do their studies there should be more contact with local groups to have input –this would probably save lots of time and give the benefit of local knowledge **C**
- Is the sustainable rivers audit going to be the process through which most of the monitoring is going to be done in NSW **A**

- In relation to freshwater fish, a lot of *anecdotal* information dominates – we need to adjust to this. **N**
- How is the NFS linked to the SRA? **A**
- The SRA needs to sample out of the main channel. **N**
- Gross indicators could be: **N**
  - Recovery of M. cod throughout the MD system
  - No further loss of protected species
  - Recovery of lost spp in some sections
- Don't certain habitats support certain species? Surveys which are random, like the NSW Fisheries Survey, may not be a good indicator of what is out there. **A**
- In the NSW Fish Survey –was only electrofishing used? **A**
- How well does electrofishing work in high flow environments? Can you compare different rivers with the same gear? **A**
- Commercial data from history is over a very small area and may not provide accurate estimates of fish stocks **N**
- We need good fish screens **N**
- Who collects the details and researches the status of fish populations in local areas? **A**
- What do silver bream feed on? **A**
- More research is required in respect of the Edward and Gulpa tributaries as well as the Moira Lakes and wetlands. **N**
- Scientists need to get out in the real world and see what is really happening in the real world. **N**
- The general impression from the strategy is that heaps of money will be spent without understanding the breeding cycles of these fish –natives can survive in pretty foul conditions and it won't matter how pristine we make our rivers if we don't understand breeding habitats. **N**
- We do need a Native Fish Strategy, but not until we understand processes better **N**
- More research on fish is needed **N**
- There is a lack of knowledge on food chain interactions that must be addressed –if fish don't have enough food no amount of intervention will help **N**
- Baseline conditions need to be established as a benchmarking point on which to measure improvement **N**
- Scientific research in the form of surveys to determine how fish are in a three to five year period would help. This would give us an understanding of water management that provides for natural recruitment in all our rivers and streams **N**
- Given the paucity of data currently available, allowing ten percent of the budget for monitoring may be inadequate initially. It may be more appropriate to allocate twenty-five percent during the first five years, integrated with the SRA. **N**
- Page 22 The draft NFS proposes the establishment of "scientific reference sites". How do these relate to the SRA in establishing reference conditions in the Basin. **N**
- Freshwater research centres must be fully funded by the government **N**
- We need to monitor the food chain **N**
  - Where has all the scientific information in the Strategy come from **N**
- It is evident significantly more research is needed on native fish, and the impact variations to flows and habitat is having on their population **N**

- The Strategy seems to place importance on monitoring actions, whereas I believe initially more research is needed to confirm actions proposed **N**
- Research and investigation actions need to be carefully balanced against management actions **N**

4.16 State Issues

- It is unlikely that inroads into native fish management will be made when the Basin is managed by different states –there needs to be a single management body. In addition, communication between states must be improved. **N**
- Until Victoria and NSW change their water management procedures, there is no hope – they waster too much water by evaporation **N**
- There needs to be Basin wide size limits and season closures **N**
- It may help to start thinking about legislative requirements now **N**
- There needs to be more legislation in QLD for water use –there should be a minimum water depth in the rivers before water is used for agriculture, all house owners should be allowed to have water tanks on their roofs, Lockyer River is pumped dry by upstream irrigators –this is constitutionally illegal! **S**
- There needs to be consistency among states for fisheries legislation **N**
- In order for the Strategy to work, all states need to align their regulations and legislation, as well as work together for an overall objective **N**
- Are the States just going to baulk at the funding requirement and mean the Strategy is left on the shelf? **A**
- Not only do the States need to come together and co-operate, but government departments within each state need to fit together –they need to have the same priorities and objectives **N**
- There is a lot of confusion within QLD, particularly from goals of each department, this can't be let to swamp QLD's role in the Strategy **N**
- There needs to be a single governing body in the Basin –all voices need to be heard **N**
- The differences in legislation across the States is ridiculous and prevents adequate resource management **N**
- A big problem for fish is that a great deal of their habitat lies in forests which is run by (VIC) DNRE and the fish aren't their priority **N**
- All departments within each state are doing different things –they all need to align their priorities **N**
- The problem with implementing the Strategy is the fact there are four states and a territory involved –how will the four states ever work together? **N**
- How binding will the NFS be on the States/territory, and how will the cost-sharing arrangements for funding actions under the NFS be calculated **N**
- It is vital to have consistency between state agency approaches in the Basin to ensure success of the strategy **N**
- We also need continuity between states , we need national fishing licences, but that is too hard **N**
- NSW and VIC are to implement complementary management arrangements along sections of the Murray (below Mulwala – NSW; below Hume – VIC) **N**
- Does the MDBC have any control over what the states do? **A**
- The ex-commercial reaches (i.e. in the Riverland) may continue for non-natives (esp. carp) – there could be overlaps with FARs here. **S**
- SA needs to think about the linkages between catchment management boards and LAPs. **N**

- Ministers don't listen –will they support implementation of the strategy? **A**
- The strategy may be ruined by actions having to meet different criteria of different agencies in different states **N**
- The ministerial council needs restructuring –recreational fishing needs to be represented **N**
- All management and research must be done by one body and the States should assist this process. **N**
- All regulations of all practises must be standard in all states. **N**
- There is the perception in the community that departments within each state are doing different things –they need to align their priorities and resource commitments to the Strategy **N**
- There is concern that NSW Fisheries was not represented at the Moama meeting **N**
- The forests and wetlands of the Barmah-Millewa constitute a major habitat for native fish breeding but fish habitat are not part of Victoria's or NSW's land management policies or strategies **N**
- The strategy must be consistent across all states to be realistic, all priorities and resource commitments must be aligned. **N**
- The strategy must be co-ordinated between the states and within the states – paid co-ordinators might be worthwhile. **N**
- If all states don't sign off on this it will be a waste of time developing a final strategy **N**
- The recent fish kills in Broken Creek highlights the failure of existing priority setting and decision making processes within government and its statutory authorities **N**
- Victoria's current institutional arrangements and legislative frameworks fail to adequately incorporate the ecological health of rivers and their native fish populations **N**
- Environment Victoria urges the Victorian government to address the institutional and legislative impediments to attaining restoration targets outlined in the Strategy **N**
- Governments, at all levels, have a responsibility to ensure any change in policy or management as a result of this strategy is equitable. **N**
- There must be a cost sharing arrangement between the States and Commonwealth **N**
- The NFS provides an opportunity for all three Queensland agencies to accelerate riverine management planning, biological monitoring and research in the Basin under the strategy's action plans. **N**
- The States need to align their priorities and resource commitments to the Strategy **N**
- The State Government roles outlined on p.14 should include "ensuring effective cooperation between departments and adequate involvement and ownership of issues" **E**
- There needs to be an inter-state management and science committee for implementation of the strategy, which has legislative support **N**
- There is significant concern regarding jurisdiction and inter-agency competition and the consequent lack of commitment and accountability to the Strategy and its implementation. **N**
- The Strategy should indicate its context within the suite of relevant policies and strategies in Murray-Darling Basin jurisdictions. **N**

- The Strategy should be more explicit about how targets to meet indicators on page 13 will mesh with State policy frameworks **I**

4.17 Threatened Species

- Why are many of the "endangered" fishes actually abundant in QLD, but threatened in other states? **A**
- Catfish are extinct from this part of the river (Barham) **N**
- What have we achieved with trout cod management? **A**
- Why are there no state listings of threatened/endangered species in SA? **E**
- If Macquarie perch are threatened, why can people fish for them? **A**
- Fishing and angling clubs do not agree that Murray Cod are endangered. There are healthy numbers of cod from Lake Mulwala to Swan Hill and beyond. **R**
- Trout cod are showing up from Narromine to Warren as are catfish. **N**
- Silver perch are not threatened, there are hundreds in the Murray, Murrumbidgee and Lachlan. **R**
- Recovery planning needs to target those species that are genuinely endangered and can realistically be recovered, and where investment in on-ground action can have the greatest impact **N**
- Fish species that have declined distributions throughout much of the Basin still have some remnant intact populations that warrant particular investigation under the NFS. This is particularly so in Queensland where species such as purple spotted gudgeon and tandanus catfish are still relatively abundant in some rivers. **N**
- Management plans are needed on a community basis to arrest the decline of species that are not yet listed as threatened or endangered **N**
- Threatened species listings, status and legislation must be consistent across the Basin **N**
- The Strategy must be consistent with any recovery plans for threatened species **N**
- The Strategy must acknowledge relevant recovery plans and facilitate relevant implementation of threat abatement plans and recovery plans where threatened species, populations and communities occur **N**
- Table 2 should include threatened species status under the Commonwealth EPB Act **E**

4.18 Translocation, Stocking and Disease

- Why don't we just sustain our native fish populations through stocking programmes? **R**
- Will there be a single native fish hatchery? If so, genetic and climatic issues must be taken into account. **A**
- Translocating and stocking are a bandaid solution and do not help the underlying issues **N**
- In terms of hatcheries, the concept of Basin wide accreditation cannot work. There are hatcheries outside the Basin. Perhaps there needs to be accreditation for hatcheries which supply fish to the Basin **N**
- There needs to be regulations on brood stock –they should only be used for a short amount of time **N**

- Hatchery bred fish are stupid, particularly the bigger ones –they aren't bred for natural conditions **N**
- Most clubs that release fingerlings would be prepared to wear the cost of obtaining bigger fish **N**
- Could hatcheries lease parts of the Murray to breed fish up bigger? Perhaps we can start valuable aquaculture facilities? **N**
- Clubs stock with really small fish, but they just get eaten or die –is there any way we can put them in bigger? **A**
- Where are the guidelines for purchasing small fingerlings, is there a Basin-wide accreditation process? **A**
- How do we make sure that hatcheries are providing correct genetics for our system? **A**
- How do we determine if stocking is going to be beneficial? **A**
- Are there rogue hatcheries that we should avoid? **A**
- Why is there such a need to go to such lengths to preserve genetic integrity of restocked fish when prior to flow regulation fish could freely travel along the entire system and exchange genetics? **R**
- What is the mortality rate of stocked fish? **A**
- Stocked fish will interbreed with wild stocks – wouldn't survival of the fittest apply and the stocking not weaken the gene pool? **R**
- If we started a hatchery should we use locally captured fish? **A**
- How and where will we find local fish with intact wild genes to use for restocking? **A**
- Catfish are not on the dollar for dollar stocking program how can we get it on the list and where should we source stock? **A**
- The danger of fish stocking and translocation programmes is that they mask the real problems **N**
- Are fish stocks genetically distinct in nature? **A**
- Are we contaminating natural stocks with hatchery stocks? **A**
- Private hatcheries do not enforce guidelines and are not honest about their practices –this must be improved **N**
- Commercial hatcheries need more help and support to restock rivers **R**
- We need to put more hatcheries in, breed the fish bigger **R**
- Stocking of yellow belly and cod has been very successful **R**
- How can we better manage the stocking of native fish **R**
- How do we know if hatcheries are giving us healthy fish? **R**
- Will we ever have an organisation to manage all hatchery issues so they are the same in all states? **A**
- Since restocking began, cod, yellow belly and silver perch have increased above expectation. **R**
- NSW Fisheries already has an approved mechanism for authorising hatcheries so why change things? **R**
- NSW Fisheries should screen for diseases in hatcheries. **N**
- There is strong evidence that stocking in the Murray, Edward and Wakool rivers is paying off so stocking is not a threat **R**
- How can stocking be a threat if NSW Fisheries endorse it? **R**
- NSW and VIC are to be commended for their efforts in restocking. **N**
- With fishing clubs and other groups restocking waters, we will have good fish numbers in the future **R**

- Fishing clubs in the Basin are doing their bit by restocking with cod and golden perch **R**
- Dramatic increase in native fish numbers in Wagga is probably due to stocking **N**
- What percentage of natural restocking takes place in the rivers? **A**
- The Macquarie has seen the benefits of stocking with increased natives and a decline in carp. **N**
- Stricter controls of the aquaculture industry by fisheries departments could limit the potential release of genetically restricted material **N**
- We must be vigilant in our aims to control those species that transmit diseases **N**
- The wording of the translocation and stocking objectives needs to be modified to not depict aquaculture so negatively **R**
- Consistent, coordinated and firm Basin-wide approaches for the management of fish translocation and stocking need to be adopted **N**
- Further research is needed on the community effects of stocking large numbers of higher order predators. **N**
- Fish hatcheries should utilise the rivers to further develop fish stocks **R**
- Fish translocation and stocking should not be a driving action in the Strategy **N**
- The following words need to be added to the start of 6.1: The implementation of this strategy will at all times support and be consistent with the National Policy for the Translocation of Live Aquatic Organisms **E**
- Under 6.3 should read "NSW is developing a quality assurance program that may be appropriate for other jurisdictions within the Basin. Once the NSW project is completed the MDBC will consult with other State jurisdictions as a basis for developing a Basin wide program **E**
- Action 6.6 should read "An assessment of risk will be undertaken to identify high-risk diseases and parasites requiring further investigation **E**

4.19 Water Quality

- We need to address mixing in the locks – saline water beneath the fresh water is affecting aquatic communities **N**
- In the early 50's water was clear but since carp, water is so muddy **N**
- The water between locks 1 and 2 is in very bad condition, it is dirty and beyond the point of help – there will be massive fish kills soon. **N**
- How far downstream can you detect the effects of cold water? **A**
- Grey water from boats is a very important issue in the lower Murray and requires attention. **A**
- Water temperatures before the dams were built were too cold for the natives to breed, so dams don't have an impact on temperature of the water **N**
- Whatever you do, unless you start addressing pollution being pumped down into the rivers, you won't get any results **N**
- What is being done about pollution discharges? It is an enormous problem **N**
- There is natural drainage in the Basin which flows into the rivers –can you monitor the quality of that drainage? **A**
- Why is the water so turbid in this area (Mildura), 30 years ago you could see 20 metres below the surface **N**
- Sand has been silting up below Euston Weir for years **N**

- How do salt slugs affect fishes? Can't you just water it down? **N**
- Councils have been looking at stormwater going into the River as a pollution source –is this in the Strategy? **N**
- The quality of water in the river needs to be improved **N**
- Why has the river south from Surat through to St George not cleared in the last 10-15 years? It is very turbid and there is manganese in the water **A**
- Sedimentation is a huge issue and has accelerated in the last 20 years **E**
- Does NSW Fisheries know the temperature of water released from water storages in this region? **A**
- The greatest hurdle to retrofitting dams with anti thermal pollution apparatus is the mentality of State Water – in this region funds were at one stage raised to retrofit one of the impoundments and state water refused to allow it. **N**
- There are numerous smaller weirs downstream of the major impoundments exacerbating the thermal pollution problem? **N**
- Is there any way we can make the cotton farmers pay for the retrofitting of dams to prevent the CWP problems? **N**
- Cotton farmers have been the cause of significant fish kills in the area by allowing polluted water to enter the waterways and they only receive minimal fines, should you try to increase their accountability. **N**
- How can you regenerate warm water if you are taking it from the surface layers of dams for warm water downstream? **A**
- What will be done for the huge problem of sand slugs in the Lachlan? Is there any research underway into amelioration **A**
- How does salinity affect fish? **A**
- Salt water is probably used by fish to clean parasites etc –until it gets too salty, or they are trapped by weirs **N**
- Cotton rotation means empty pastures, when it floods all the dirt and chemicals just go into the rivers **N**
- Houseboats are a big problem –there are no controls and no management of waste water **N**
- Water must enter swamps and lagoons to maintain correct water temperature for native fish breeding **N**
- Forest waterways should be reinstated to improve water temperatures and water quality. **N**
- Addressing cold water pollution is a common and major problem but it can be solved easily **N**
- Cold water pollution is 75% of the problem in the Murrumbidgee **N**
- Water quality below Echuca will always be poor while large ski boats have free access **N**
- Cold water releases have many benefits including quality drinking water, high dO2, lower evaporation loss, lower carp intrusion and high dollar returns from trout farms **N**
- The NSW Irrigators Council is supportive of initiatives to reduce the impact of cold water pollution on native fish, including cost effective methods of mitigation. **N**
- Cold water pollution is a critical issue and requires the effort to improve water conditions **N**
- Spending millions to raise water temperature is grossly inappropriate when our rivers and streams are in such need of funding. The money could be much better spent **N**

- Any existing and future constructed dam outlet structures need to employ engineering principles and operational procedures to avoid thermal pollution **N**
- Thermal pollution should be listed as a threatening process under relevant legislation **N**
- Water Quality objectives should not just focus on attributes that directly affect fish –we also need to protect the food web to make the system sustainable. **N**
- Sedimentation should be added as a water quality problem **E**
- Drainage schemes must be ceased as they cause high levels of nutrients and turbidity in creeks **N**
- Cold water temperatures released from dams cause declined in native fish populations **N**
- Stormwater from towns and cities on waterways must be diverted inland **N**
- How do salt slugs effect fishes? **N**
- Sewage ponds should be removed from flood plains **N**
- The target for "water quality that meets 90% of all biological requirements" may require rewording **N**
- Warm water releases will destroy many aquatic life forms. **R**
- It's a fact through scientific knowledge that water that is cool retains and gains oxygen and the reverse of water when heated. **R**

Appendix 1. List of organisations which, through formal processes or public forums, made submissions in the public comment period.

Organisation	
ACT Fly Fishers Inc.	Gone Fishin'
ACT Sport and Rec Fishing Council	Gonndiwindi Town Council
Agriculture, Fisheries & Forestry Australia	Goondiwindi Sports Store
AgForce Queensland	Got One Tackle Store
Albury Wodonga Sportfishing Club	Gravesend Fishing Club
Alexandrina Council	Griffith University
Arthur Rylah Institute	Hanwood Fish Hatchery
Australian Conservation Foundation	Holmes Fishing Tackle
Barham Angling Club	Inglewood Aquatic Club
Barham Shire Council	Inglewood Restocking Club
Barmah Forest Preservation League	Inland Fisheries Management Committee
Barook Sporting Association	Inland Fishing Association
Berrigan Fishing Club	Inland Natural Resource Management Group
Berrigan Shire Council	Institute of Freshwater Anglers
Bethanga Fishing Club	Inverell Shire Council
Blayney Fishing Club	Irrigation Action Group
Boggabilla Fishing Club	Jelara Caravan Park
Border Rivers Catchment Management Authority	Jerilderie Shire Council
Bourke Shire Council	Just Fishing
Bureau of Rural Science	K & C Fisheries
Burrumbuttock Angler Club	Kyabram Angler Club
Community Advisory Committee (MDBC)	La Trobe University
Campaspe Shire Council	Lake Coolmunda Aquatic Club
Cobram Caravans	Lions Club
Commercial Club Fishing Club	Lovington Anglers Club
Condamine Alliance	MAFRI
Condamine Catchment Management Authority	Main Roads
Corowa Shire Council	Mathoura Chamber of Commerce
Courthouse Fishing Club	Mathoura Classic
Crows Nest Fishing Club	Mathoura District and Serviceman's Bowling Club
Deniliquin RSL Fishing Club	Mathoura Fishing Club
Dirrajbandi Fishing Club	MDBC
Dept. Land and Water Conservation	Mid Murray Council
Dept. Natural Resources and Environment	Mid Murray Field Nationals Inc.
Dubbo Macquarie River Bushcare	Mid Murray LAP
DWLBC	Millmerran Pittsworth Fish Stocking Assn.
EarthTech	Moree Fishing Club
Echuca/Moama Field and Game	Moree Hotel Fishing Club
Echuca/Moama Sportfishing Club	Moree Restocking Committee
Environment ACT	Moree Services Club Fishing Club
Environment Australia	Murray Catchment Mangement Board
Environmental Protection Authority, Qld	Murray Darling Association, National Board
Far West Anglers Association	Murray Darling Association Region 1
Field and Game Australia	Murray Darling Association Region 2
Field and Game Federation of Australia	Murray Irrigation
Fisheries Victoria	Murray Organic Group
Fort Courage Angling Club	Murray River Angling Association
Friends of the Lockyer	Murray River Fishing Tours
Goulbern Broken Catchment Mngmt. Authority	
Glenlyon Dam Fish Stocking Association	

Appendix 1. *continued.*

Organisation	
Murray Shire Council	
National Parks and Wildlife Service	
Natural Resources and Mines	
NE Catchment Management Authority	
NE CMA	
NRE	
NRM	
NSW Fisheries	
NSW Murray Wetlands Working Group	
Outback Fishing Challenge	
PIRSA	
QDPI	
Queenbeyan Landcare	
Radio Landcare	
RecFish	
River Murray Catchment Water Mngmt Board	
Robinvale and District Angling Club	
RRR Fishing Club	
RSL Angling Club	
RSL Fish Restocking	
SARDI	
South Canberra Catchment Group	
South West Anglers Association	
St George and Districts Fishing and Restocking	
St George Fishing Club	
SunWater	
Swan Hill Fishing Club	
Tatura Angling Club	
The Riverine Herald	
Toowoomba City Council	
Towong Shire Council	
Two Mile Fishing Club	
University of Adelaide	
University of Queensland	
Victorian Piscatorial Council	
VR Fish	
Wakool Shire Council	
Warwick District Fish Stocking Association	
Warwick District Recreational Fish Stocking	
Weir to Weir Fishing Club	
Wilga Restocking Club	
Wirradjuri Talbragar People	
Wodonga Fishing Club	
World Wide Fund for Nature	
Yannawarra Shire Council	
Yarrawonga Hardware and Camping	
Yorta Yorta Land Council	