

Native Fish Strategy

5th Year Review

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Murray Darling Basin Native Fish Strategy

NFS goal:

- Rehabilitate native fish communities in the Basin back to 60% of their estimated pre-European settlement levels after 50 years of implementation
- Includes requirement that its activities and outcomes are reviewed every 5 years



NFS objectives

1. Repair and protect key components of aquatic and riparian habitats;
2. Rehabilitate and protect the natural functioning of wetlands and floodplain habitats;
3. Improve key aspects of water quality that affect native fish;
4. Modify flow regulation practices;
5. Provide adequate passage for native fish;
6. Devise and implement recovery plans for threatened native fish species;
7. Create and implement management plans for other native fish species and communities;
8. Control and manage alien fish species;
9. Protect native fish from threats of disease and parasites;
10. Manage fisheries in a sustainable manner;
11. Protect native fish from the adverse effects of translocation and stocking;
12. Ensure native fish populations are not threatened from aquaculture; and
13. Ensure community and partner ownership and support for native fish management.



Implementation guided by 6 driving actions

1. Rehabilitating fish habitat – helping to achieve objectives 1–8;
2. Protecting fish habitat – helping to achieve objectives 1–8;
3. Managing riverine structures – helping to achieve objectives 4–8;
4. Controlling alien fish species – helping to achieve objectives 6–9;
5. Protecting threatened native fish species – helping to achieve objectives 6 and 10; and
6. Managing fish translocation and stocking – helping to achieve objectives 9–12.



5th Year Review – what it is ...

- A review of progress against NFS objectives over the first 5 years of implementation:
 - A summary of the initiatives and outcomes that have been progressed under the NFS over the past five years;
 - An analysis of the extent to which the Strategy has achieved its stated objectives in terms of the increasing health of fish populations across the Basin; and
 - Recommendations on future directions.



5th Year Review – what it is ...

- Evaluation of progress against resource condition targets and the high priority actions outlined in the NFS and its companion document.
- Based on materials and information provided by the MDBA and complemented by feedback on various issues from stakeholders.



5th Year Review – what it is not ...

- Not a financial audit
- Not a detailed synthesis of all information generated by every project (although certainly want to be assured projects performed overall).
- Review of achievements of previous 5 years, therefore does not set the priorities for next 5 years (beyond the scope of this project).



What were we looking for?

- Confirmation that NFS objectives and driving actions were still relevant
- Confirmation that the NFS was being well-managed
- Clear terms of reference for the Implementation Working Group (IWG), Community Taskforce and other task forces
- Areas of investment – were any driving actions missing out?



What were we looking for?

- Did R&D projects:
 - meet their objectives,
 - report appropriately
 - generate peer-reviewed papers (as appropriate)
- Most importantly – what progress had been made against the strategic targets and actions listed in the NFS.
 - Can we demonstrate progress?
 - Are priorities still valid?
- Alignment with other initiatives across the Basin
- Appropriate monitoring and evaluation – consistent with adaptive management cycle.



Activities during the review

- Consultation with stakeholders
 - List of 50+ people we were asked to contact (face to face, telephone, email)
 - At least 1 IWG member, 1 NFS Coordinator and 1 extra from each jurisdiction (face to face or telephone)
 - 2 Community Taskforce members (face to face, telephone)
 - Discussions with project Steering Group
- Review of materials supplied by the NFS management team
- Literature search based on whether NFS funding was cited
- Review of R&D projects
- Assessment against NFS objectives and resource condition targets.



What lessons are there from overseas?

- Colorado River (multi-jurisdictional)
 - Environmental flows from Glen Canyon Dam to provide fish habitat
 - Lots of agencies involved
 - Very slow progress (too many involved, can't get agreement on action)



What lessons are there from overseas?

- Rhine River (multi-jurisdictional, multi-national)
 - River engineering works, fish passage, water quality improvement
 - Many countries involved
 - Works being implemented
 - Water quality has improved
 - Waiting on salmon to return



What lessons are there from overseas?

- Others such as the Thames and Seine – can get fish back; don't lose hope.



Current status of fish populations

From: Sustainable Rivers Audit

Fish populations in river valleys:

- 3 valleys with populations moderate (Paroo, Border Rivers, Condamine)
- 9 valleys with populations poor (Namoi, Ovens, Warrego, Gwydir, Darling, Murray (lower and central), Wimmera, Avoca)
- 11 valleys with populations very poor or extremely poor (the rest).



Current status of fish populations:

- Many reasons for relatively poor condition of populations:
 - Drought
 - Flow regime
 - Habitat availability and condition
 - Connectivity issues (barriers)
 - Water quality
 - Add you own reason here ...
- NSW fish survey – a decade ago. Similar concerns about status of native fish populations.



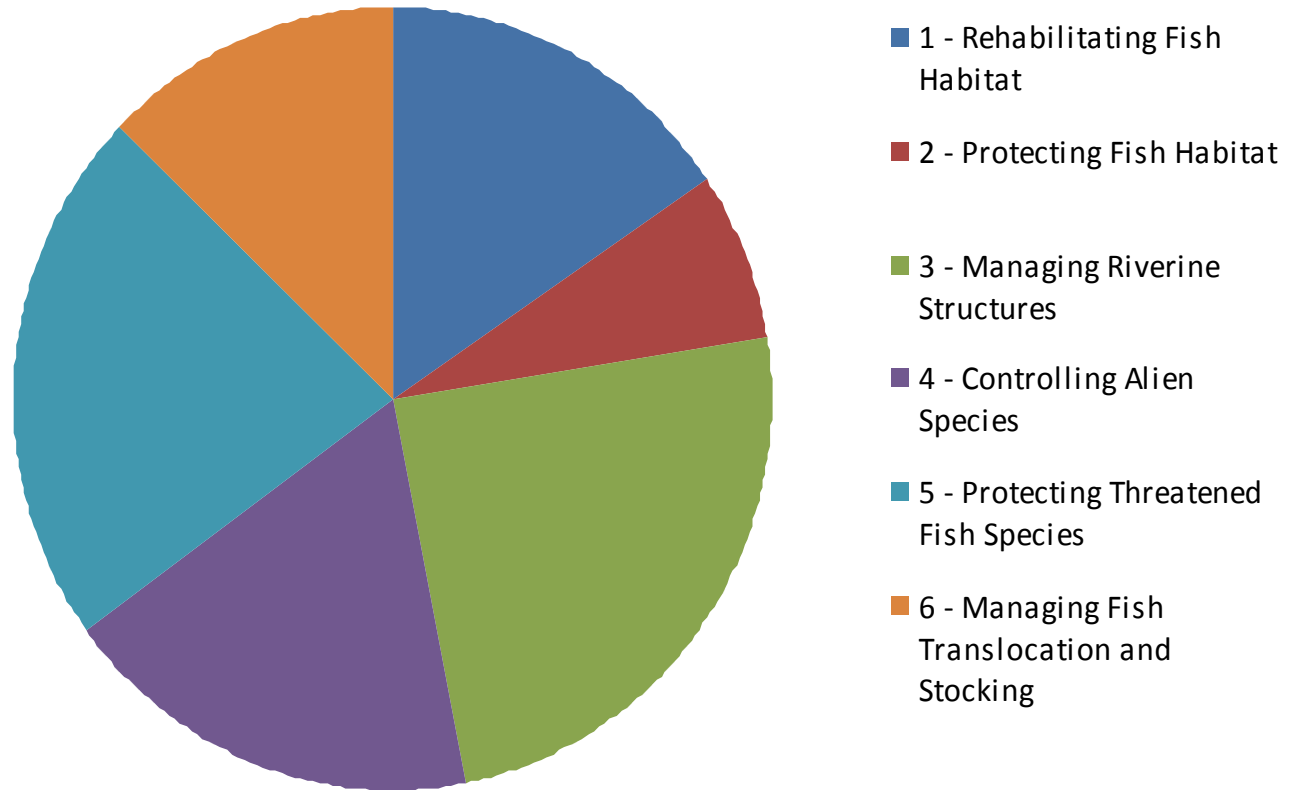
NFS management

- Generally good feedback on the management of the NFS:
 - NFS team, IWG, Task Force(s) and NFS Coordinators doing a good job overall (**consistent feedback**)
 - Terms of reference for each group important
 - Instances of full and frank discussions
 - Often comments along the lines of „there were issues and disagreements in the early days, but we have worked through these now ...“
 - Issues of representation versus perspective
 - Not surprising given the number of stakeholders involved – ***storming, norming, performing*** ...



Allocation of resources

Invested to Date (R&A only)



Links with other MDBA initiatives

- Climate Change
- The Living Murray
- River Murray Water
- MDBA Basin Plan – in development
 - Opportunities
 - Coordinated response to NRM issues, funding
 - Difficulties
 - Objectives and Driving Actions get lost, loss of community support, missed opportunities for collaboration
 - Must get alignment between NFS objectives and actions and that of the Basin Plan.



NFS activities and resource condition targets

- NFS and companion document:
 - Over 180 actions and activities, approx 50% of which were identified as High Priority
 - Numerous resource condition targets
 - Clear and based on SMART principles (to be applauded)
 - Often very difficult to judge if met, especially at Basin scale.
- Feedback from jurisdictions suggests (not surprisingly):
 - Likely to have been mixed progress against High Priority activities
 - Most High Priority activities remain a high priority.



R&D projects

- Reviewed projects systematically based on:
 - Clear links to NFS objectives and driving actions
 - Addressed priority management issues or knowledge gaps
 - Stated project objectives met
 - Complemented existing science
 - Outputs - final reports, peer reviewed publications (where appropriate)
 - Outcomes – did it affect populations
- Don't try to read next slide



| PROJECT ID | PROJECT TITLE | PROJECT TYPE | SYSTEM FOCUS | OBJECTIVES CLEARLY STATED? | PROJECT COMPLETED | ADDRESSED KEY KNOWLEDGE GAP | ADDRESSED KEY MANAGEMENT ISSUE | POTENTIAL DUPLICATION OF EXISTING WORK (INTERNAL & EXTERNAL) | STATED OBJECTIVES MET | LINKED TO NFS OBJECTIVES | OBJECTIVES LINKED TO DRIVING ACTIONS (1-6) |
|-----------------------|---|--------------|--------------------|----------------------------|-------------------|-----------------------------|--------------------------------|--|-----------------------|--------------------------|--|
| Sea to Hume | The Sea to Hume Dam: Restoring Fish Passage in the Murray River | Research | Mainstem | Y | 2008? | Y | Y | ? | Y | ? | 3 |
| MD016, MD816 & MD1044 | Assessing the effectiveness of environmental flows on fish recruitment in Barmah-Millewa Forest | Research | Mainstem & Wetland | Y | 2007 | Y | Y | N | Y | 1,2,4 | 1,2,3 |

| PROJECT ID | PROJECT TITLE | LINKS TO OTHER MDBC PROGRAMS & EXTERNAL INITIATIVES | OBJECTIVES REALISTIC GIVEN TIME AND FUNDING (\$, TIME) | SCIENTIFIC PRINCIPLES CONSISTENT WITH CURRENT THEORY | EVIDENCE OF APPROPRIATE /SUFFICIENT METHODS | EVIDENCE FOR TRANSFERABILITY (GEOG, TIME, SPECIES) | INCORPORATE BROADER ECOLOGICAL PROCESSES | OUTPUTS ASSESSED AND RELEVANT | OUTCOMES RELEVANT TO NFS ASSESSED AND RELEVANT |
|-----------------------|---|---|--|--|---|--|--|-------------------------------|--|
| Sea to Hume | The Sea to Hume Dam: Restoring Fish Passage in the Murray River | TLM? | Y although objective 4 is a long term objective | Y | Y | Y, N, Y | N | Y | ongoing |
| MD016, MD816 & MD1044 | Assessing the effectiveness of environmental flows on fish recruitment in Barmah-Millewa Forest | TLM? | Y | Y | Y | Y,N,Y | N | Y | Y |

R&D projects:

- Relevant to the objectives and driving actions of the NFS, and of a good scientific standard.
- Good examples of adaptive management:
 - Sea to Hume program
 - Monitoring the response of fish to watering of Barmah Forest
 - Murray River resnagging
- Great service in promoting cooperation between jurisdictions and stakeholders.
- Scope to include a wider ecological perspective - biota other than native fish and the ecosystem processes that affect the condition of native fish populations.
- Encourage publishing in scientific literature whenever possible, particularly for large investment areas.



Community engagement

- Continued efforts at building engagement
 - Native Fish Awareness Week
 - Annual NFS Forum
 - Workshop series
 - Education materials and publications
 - Demonstration reaches (highly regarded - more)
 - NFS coordinators (highly regarded - more)
- Recognise more effort needed on engagement with catchment management organisations, traditional owners, angling and fisheries groups.
- Challenge is to maintain profile of NFS to upper echelon management and policy staff in jurisdictions.



Key messages

- The objectives and driving actions of the NFS are more relevant than ever. These need to be preserved when aligning with the MDBA Basin Plan and reinforced when RCS are reviewed.
- The NFS has generally been well-served by the management team and various task-groups (fine tune over time).
- The level of collaboration and good-will between stakeholders has generally been good (although still opportunities for improvement).
- The R&D projects are relevant to the NFS objectives and generally of a good standard.



Key messages

- Despite the above, recent SRA results indicate that the condition of native fish populations across most river valleys is poor.
- Original goals and resource condition targets were ambitious (no bad thing), but there is a high proportion of high priority for actions:
 - hard to identify which ones are most important and when.
- Progress towards desired outcomes has been mixed.
- Now is a good time to reflect and prioritise the key medium to long-term outcomes and activities to be pursued by the NFS over the next 5-10 years.



Where to from here?



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“I'm not bad. I'm just drawn that way” - Jessica Rabbit.



Where to from here ...

- Strategic review:
 - Synthesis of NFS R&D as well as that more broadly
 - Don't lose sight of broader ecosystem perspective
 - Review and prioritise actions and strategic targets of the original NFS and companion documents.
 - Smaller number of high priority activities: short medium and long-term goals.
- Ensure M&E arrangements are in place to measure progress against objectives and priority activities
 - Need appropriate mechanisms to collate information in the future
 - Want to know outcomes at a range of scales
 - Are we doing the right things, have we waited long enough to detect responses?
 - Complete the adaptive management cycle.

