Tri-State Murray NRM
Regional Alliance

Proceedings of the Floodplain Specialist Fish Forum:

Bringing back the Magnificent Six

11-12th June 2019
Lakeside Hotel
Bendigo

Floodplain Specialist Fish Forum: Bringing Back the Magnificent Six
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The Tri-State Murray NRM Regional Alliance is developing a proposal to recover six threatened floodplain specialist fish species in the Murray Corridor. As part of the proposal development process, a forum was held in Bendigo to bring together experts and waterway practitioners to share the latest information and management approaches being used to address the plight of the Murray hardyhead, Olive perchlet, Flat-headed galaxias, Yarra pygmy perch, Southern purple spotted gudgeon and Southern pygmy perch.

The forum ran over two days, with the first day covering the status of each of the fish species, as well as some of the ways in which different groups are attempting to support the revival of these fish in different parts of the Murray Corridor. The second day used a workshop format to get the views of forum participants on the priorities needing to be addressed in the proposal document.

Forum: http://www.finterest.com.au/natives-and-introduced/floodplain-specialist-fish-forum-bringing-back-magnificent-six/

Introduction:

A welcome to country was provided by Rhianna Kerr from the Dja Dja Warrung people, in which she encouraged forum participants to explore Bendigo, and value the region's social, cultural and environmental heritage. Rhianna was followed by an address from Gamilaroi man, and World Fish Migration Day Ambassador Phil Duncan, who appealed to forum participants to combine Aboriginal and Western knowledge, work together, and build on the strengths of the past, in order to bring back the 'Magnificent Six'. Brad Drust, Chief Executive Office of the North Central Catchment Management Authority then spoke about the purpose of the Tri-state Alliance and how the forum will underpin the ongoing development of this important initiative.

Session One: Status and Research

This session covered the status of each of the six fish species in the Murray Corridor, including recent research, knowledge gaps and some genetics work on Southern purple spotted gudgeon and Olive perchlet. An analysis of these six species has been prepared by Whiterod etal entitled 'The present status of key small-bodied threatened freshwater fishes in the southern Murray-Darling Basin, 2019'. In the interests of sharing forum proceedings widely, each of the presentations has been developed into an article for the Finterest website (www.finterest.com.au), with a summary of key points, photos and references for further information provided.

Articles and hotlinks are provided on the following page.

- Overview of the ecology and state of play for floodplain fish species: the South Australian experience (Nick Whiterod) See present status document.
- Recent research, knowledge gaps and the status of Murray hardyhead and Flatheaded galaxias (Dan Stoessel)

http://www.finterest.com.au/fish-habitats/research-reveals-murray-hardyhead-salinity-specialists/

- Southern purple spotted gudgeon and Olive perchlet – recent genetics work (Peter Unmack) in progress
- The state of Yarra pygmy perch in the basin (Nick Whiterod) http://www.finterest.com.au/natives-and-introduced/third-time-lucky-future-yarra-pygmy-perch-murray-darling-basin/

Session Two: Management success and failures

Stories were shared in Session Two about different management approaches to breeding, creating habitat and supporting the recovery of the 'magnificent six'. Wetland restoration, working with landholders to release fish into farm dams, and other translocation strategies were discussed, as well as the need for clearer guidelines and expectations as they relate to the breeding and release of fish in different jurisdictions. This session showed very clearly the enormous potential for landholders and communities to get involved in 'bringing back the Magnificent Six'.

Session Two presentations are also provided as articles on the Finterest website, with hotlinks below:

- Fish in Surrogate Habitats (FISH) project. (Scott Raymond)

http://www.finterest.com.au/natives-and-introduced/landholders-providing-new-homes-southern-pygmy-perch-victoria/

- The NSW Fisheries Experience – what works and what does not (Luke Pearce)

http://www.finterest.com.au/natives-and-introduced/returning-wetland-warriors-stories-wins-losses-little-fish/

- Murray hardyhead translocation project from SA to NSW (video and discussion)

http://www.finterest.com.au/natives-and-introduced/murray-hardyhead-returns-western-nsw/

  - Murray hardyhead goes wild https://www.youtube.com/watch?v=xjehhHini-Q
  - Reintroducing the Murray Hardyhead to NSW

http://www.finterest.com.au/natives-and-introduced/follow-monitoring-murray-hardyhead-shows-translocation-success/

- Deniliquin wetlands project (John Conallin)

http://www.finterest.com.au/natives-and-introduced/deniliquin-lagoons-community-restoration-project-bringing-back-wetland-warriors/

- Finding and breeding Southern pygmy perch for the Gunbower and lower Loddon Native Fish Recover Plan (Peter Rose and Chris Lamin)

http://www.finterest.com.au/natives-and-introduced/wild-pyg-hunters-help-little-fish-big-trouble/

Day Two: Workshop Discussions

Following a wide ranging discussion on Day One, two areas of discussion were used to structure the workshop for Day Two. Forum participants were broken into groups of 5-6 people, with a mix of researchers, waterway managers and community group representatives to ensure the conversation could encompass a number of different perspectives on the same issue. Each group was facilitated by a catchment management authority representative who undertook to scribe and report back to everyone at the end of each discussion.

Discussion One: Fish, locations, priorities, knowledge gaps

1. Review the Tri-State Alliance Project Plan and discuss.
2. Priorities, targets, species and ecological objectives?
    a) What/where do we need to protect/conserve first?
    b) Potential natural and artificial habitats (eg: farm dams, town lakes) in the Murray Corridor?
    c) Which fish? Where? How do we upscale production?
    d) What don't we know?
    e) How do we manage threats (carp etc.)

Key themes to emerge from group discussions:

1. Review the Tri-State Alliance Project Plan and discuss.

There were a number of recommendations made about the Tri-State Murray Alliance Project proposal and how it could be further improved:

- Wider range of stakeholders, in particular, schools and key State and Federal government agencies, namely the New South Wales Office of Environment and Heritage, and the Commonwealth Environmental Water Holder.

- Visual representation of what the project is proposing to do that is attractive and meaningful for people to understand what is trying to be achieved (for example, infographic, map etc.). This could be supported with a social media campaign with high quality media using underwater footage to show the types of habitats the fish need and how we can work together to protect and create these refuges to help the 'Magnificent six'.

- Include information (and possibly modelling) about the economic and social returns on investment from supporting the Tri-State Alliance to bring back the 'Magnificent Six'.

- Extend timeframes for the project beyond the three years, the work that needs to be undertaken must be over a much longer timeframe for fish populations to sustainably recover.
- Updated budget that is significantly increased to secure long term population recovery research, breeding and translocation activities.

2. Priorities, targets, species and ecological objectives?

- There is need to develop a more detailed plain outlining the urgent actions required for the next 12 months. This plan needs to include a genetic 'stock take' of the six species in order to secure brood stock.
- Flat headed galaxias are almost extinct with only 12 individuals caught in the last 10 years. We need to know where they are and, if possible, establish a captive breeding program. They are a difficult species to work on as very little is known about their biology and ecology. It may well be the case that there are no populations of Flat headed galaxias left in New South Wales. The Arthur Rylah Institute has had some experience in breeding these fish, as have some private suppliers - a collaborative approach to saving the Flat headed galaxias will be essential.
- Captive breeding, surrogate refuges and translocation efforts need to be upscaled so that more fish can be restocked, more often. This work requires clear guidelines so that when engaging landholders and community groups to provide surrogate refuges they know what is required. There is also a need to have consistent guidelines in place for the permit processes enabling fish breeding enterprises to operate.
- Selecting sites for both refuge and translocation is an important area of activity. Water availability and site permanency are key criteria. It may be possible to consider upcoming Sustainable Diversion Limits projects as possible opportunities for small scale works and measures at suitable wetlands.
- There will be many opportunities for community involvement in protecting refuge sites and creating surrogate and translocation sites. A well-resourced awareness and education campaign will be needed to ensure well-intentioned, but potentially problematic activities are not undertaken, for example, releasing alien fish into refuge habitat. It will also be important to select those species that are more likely to 'have wins' in order to retain community interest and support.
- Blackfish and catfish are in trouble, while not small-bodied, these are 'floodplain' fish and there are concerns about how they will survive when there are no initiatives focusing on them.

Discussion Two: Partnerships, community engagement, resourcing

1. Which partnerships, who needs to be invited?
2. Governance and resourcing, roles, responsibilities?
3. Communications and engagement – options?
4. How are we going to fund? Consider different scenarios (1) no funding (2) seed funding (3) fully funded
5. How do we attract gender, cultural diversity?

1. Which partnerships, who needs to be invited?

A large number of stakeholders were identified, and it was agreed that different messages and activities would need to be tailored to engage this wide range of potential collaborators. This would necessitate the development of a communications and stakeholder engagement strategy so that messages are targeted, clear and consistent. Potential collaborators and stakeholders include:

Murray Lower Darling Rivers Indigenous Nations

Traditional Owner Groups/CMA staff (esp. for rehab works and monitoring)

Murray Darling Wetland Working Group

Commonwealth Environmental Water Holder

Victorian Environmental Water Holder

Victorian Fisheries Authority

Crown Land Management

Murray-Darling Basin Authority

Local Councils

Goulburn Murray Water

Angling Clubs

Field and Game

Ornithological Groups

Native Fish Australia

Australian New Guinea Fishes Association

Waterwatch (citizen science Feral Fish Scan)

Icon Schools (tanks in schools program)

Tertiary and Further Education

Public libraries (tanks)

Ecotourism operators

Victorian Farmers Federation

Irrigation Groups

2. Governance and resourcing, roles, responsibilities?

It was felt that greater clarity is needed about the governance structure for the Tri-State Alliance with the following suggestions made:

- Governance arrangements need to be transparent and supported by shared databases, information repositories (for example, the Aquatic Hub) and consistent protocols.
- A dedicated lead person is required from each State to ensure that activities are coordinated. These people would report to the overarching Program Steering Committee. Both the lead person role and Program Steering Committee require Terms of Reference to be developed.
- Working groups could be established to focus on, and progress specific issues or activities.
- The question was raised as to how to gain commitment from partner organisations like Universities and research agencies, as well as community groups that need funding to be engaged in these projects.
- It will be important to identify key influencers and champions who can support the work of the Tri-State Alliance.

3. Communications and engagement – options?

- Communications and engagement will be critical in gaining support from potential stakeholders, collaborators and funders. It was felt that sharing stories about the current status and efforts to save the 'Magnificent Six' would support the release of a Tri-State Alliance proposal. The 'Magnificent Six' video already produced by the North Central CMA is a great start (http://www.nccma.vic.gov.au/media-events/videos), and the Finterest (www.finterest.com.au) website and social media will be used to share stories about works being undertaken. A number of stories about the 'Magnificent Six' have already been shared on Finterest, and these have been well received and shared on social media platforms like Facebook.
- If the Tri-State Alliance proposal is funded, then it will be important to have a communications and stakeholder strategy document to guide Tri-State Alliance members and support activities. A key stakeholder are those organisations who might be potential funders of the Tri-State Alliance proposal.
- Demonstration sites (as used in the Native Fish Strategy) and case studies (Running River Rainbow Fish) featuring the work being undertaken across the Murray Corridor to support the recovery of the Magnificent Six would enable people to see first-hand the efforts being made, and also how they can get involved.

- Engaging Traditional Owner groups around particular sites and totem species may be another way to target this important stakeholder group. Wetland rehabilitation skills and knowledge is another area where Traditional Owner groups might be keen to play an active role.

4. How are we going to fund? Consider different scenarios (1) no funding (2) seed funding (3) fully funded

(1) no funding

- surrogate farm dams are a low-cost option; however, there are limitations and upscaling risks; tweaks could be made to current e-flows to better consider the needs of small fishes so that they are tailored to individual species requirements
- Catchment Management Authority could allocate staff time where available,
- May be opportunistic funds like Recreational Fishing Grants that could be applied for to do small project
- If this scenario ensues it will be very important to ensure communications with other Tri-State groups so that any opportunities to leverage off funds are taken.

(2) seed funding

- Seed funding (e.g. 300k) could be used to develop a strategy and fund a small scale, targeted project like a demonstration site. It might also be possible to 'badge up' and add value to old wins to help raise the profile of the need for more funding to save these species.

(3) fully funded

- Fully funded scenario would likely be from multiple sources and be based upon a solid proposal with a long-term vision and Tri-State Alliance commitment. The proposal will need to have links back to the plans and policies of funders. It will also be important to let potential funders know what is currently being done on limited funds, but that this is not enough to save these species. Actions need to be coordinated with a blueprint for long term recovery (10-15 years).
- Opportunities include Long Term Intervention Monitoring and Monitoring and Evaluation Research programs, Commonwealth Environmental Water Holder, CSIRO, Basin Plan, ECL 5 (Vic), Threatened Species Commissioner, New South Wales Environmental Trust, local councils, Recreational Fishing Grants

- Corporate sponsorship and the private sector could be interested in demonstration site type activities with the potential for broader community engagement. Crowd sourcing could also be used.

5. How do we attract gender, cultural diversity?

Ideas included the creation of internship positions within Catchment Management Authorities and Local Land Services to encourage cultural diversity. Overseas exchanges might be another way to bring new ideas into institutions. The recreational fishing network could also investigate ways of attracting women into the sector, perhaps by appealing to a broader range of activities involved in native fish recruitment and survival.

At the end of the morning's session groups were asked to rank their top priorities:

- A project officer per state at 0.5FTE to support the project by engaging with stakeholders and coordinating community, government agencies, researchers, permits, site assessments etc. One PO with an oversight role (i.e. extra FTE).
- Establish demonstration sites – identify permanent and artificial wetlands (should include wetlands of national significance) in locations that are accessible and able to accommodate community field visits and activities.
- Develop breeding and translocation protocols – this will require a coordinated and enabling approach that needs to be signed of in a Memorandum of Understanding type agreement between Tri-State Alliance members.
- Synthesize what we have already got underway in research and on-ground activities at whole of catchment and across different fish populations (and catalogue the process).
- Develop clear proof of concept, vision and governance structure for the Tri-State Alliance.
- Highlight that if we act there will be no 'losers' as with combined action and support we can save these fish species.
- Consider expanding the focus to the 'Magnificent Seven' – include the Blackfish!

Related documentation:

Tri-State Murray Alliance Project – overview document provided to all workshop participants as basis for discussion.

A translocation strategy to ensure the long-term future of threatened small-bodied freshwater fishes in the South Australian section of the Murray Darling Basin.

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