Survey data for Demonstration Reach Toolbox Fish and flows
ARI is involved in a Fisheries Research Development Corporation (FRDC) project
One new population for each of 2
Following the
ARI is leading
Native fish migration
ARI is contributing to the
ARI has developed
the
Ecosystems, Environmental Management, Fisheries Management & Ecology, Proceedings of
7
4.
3.
2.
1.
Highlights
1. Survey data for Macquarie perch populations in the Yarra River (2007-15) and 4
other Victorian sites was analysed to compare reproductive success over time, and
potential relationships with factors such as flow and temperature. In
addition to identifying how these drivers govern reproductive success, the study
found astounding similarity in patterns of recruitment between populations over
time. Importantly, all populations have exhibited strong reproductive success
the past 2-3 years - great news for the species as a whole!
2. ARI is leading the Victorian Environmental Flows Monitoring and Assessment
Program (VEFMAP) Stage 5. This large-scale, long-term monitoring program is
assessing ecosystem responses to changes in flow regime in several regulated,
Victorian rivers which receive environmental water. Results are used to inform
and support decision-making for environmental water. Stage 5 will include a
focus on sharing stories and results, and using complementary data to
strengthen links between environmental water and ecological outcomes.
3. ARI is involved in a Fisheries Research Development Corporation (FRDC) project
‘Integrating fishery-derived and fishery-independent survey data to better
understand and manage the Murray Cod fishery in the Murray-Darling Basin’.
This involves anglers catching and tagging Murray cod and scientists undertaking
complementary electrofishing surveys, at selected sites, using specific protocols.
This project will provide insights into how angler data can support management.
4. One new population for each of 2 threatened galaxiids (East Gippsland galaxias
and McDowell’s galaxias) were established in East Gippsland by translocation
(Improving Native Vegetation & Threatened Species Management program). A
new species of galaxiids was discovered in East Gippsland during post-fire
monitoring in the Snowy River National Park.
5. A population model has been developed for the Murray cray to evaluate
different management scenarios, as well as the effects of natural catastrophes
such as blackwater events.

Outputs
7 published & accepted journal articles (Aquatic Conservation: Marine & Freshwater
Ecosystems, Environmental Management, Fisheries Management & Ecology, Proceedings of
the Linnean Society of NSW, Ecological Modelling, Marine & Freshwater Research).

Influencing change
• ARI has developed wetland connectivity models (for waterbirds, amphibians and
wind dispersed seed) for Water and Catchments Group, DELWP (a users’ guide is
also being developed). This will help guide prioritisation of onground activities
that support high value wetlands, restore degraded wetlands and protect
wetlands from the spread of weeds and pathogens/diseases. A case study
applied these models to assess the connectivity of wetlands west of Lake
Wellington, Gippsland Lakes (in collaboration with Greening Australia).
• ARI is contributing to the Murray-Darling Basin Environmental Water
Knowledge and Research (EWKR) project. This 5 year project aims to improve
the science supporting environmental water management. ARI is represented on
the leadership group and will be contributing to the data analysis and research
components of the program for wetland vegetation and fish.
• Following the 2014 Orbost fires, monitoring of the Orbost Spiny Crayfish,
McDowell’s galaxias and River Blackfish was undertaken. While there is evidence
of recovery of the galaxid, and persistence of the crayfish, the blackfish has
disappeared from the area of the fire, and declined more broadly across East
Gippsland. This highlights the need for a broader assessment of the status of
River Blackfish within eastern Victoria.

Knowledge transfer and engagement
Presentations and participation - stakeholders and community groups:
• ARI worked with the local community and the Wangaratta Sustainability
Network to remove over 4 tonnes of Carp (Upper Ovens River Carp Removal
program). Other activities along Ovens River - a presentation to school children,
electrofishing demonstrations and release of Macquarie perch (with NECMA).
• Native fish migration talk to State Wide Information Flora and Fauna Teams.
• Fish and flows talk at Euroa Water Forum.
• Demonstration Reach Toolbox presentation to Victorian Waterway Managers
Forum and South Australian river managers meeting.

Congratulations
Wayne Koster received his PhD thesis from Deakin University – ‘Movement
Ecology and Conservation Implications for Riverine Fishes of SE Australia.’