

Enhancing Fish Habitat in Peel-Harvey Waterways.

This document describes a series of works to be performed on each of the three rivers draining into the Peel-Harvey Estuary to meet the following objectives:

- The Labor Government’s objectives to improve the health of the Peel-Harvey Estuary system, stated in their election 2017 commitment.
- Deliver on the Peel-Harvey Catchment Council’s (PHCC) core business linked to the health of the Ramsar site
- Have tangible outcomes linked to improvements in fish habitat and abundance in Peel-Harvey waterways; and
- Involve visible on-ground works; and
- Involve and inspire the community

The proposed works are presented as (a) Key Enabling Project, managed by PHCC which establishes and manages relationships with stakeholders and implements protection and restoration works around the rivers, and (b) a series of seven components aimed at improving habitat for fish in Peel Waterways. These components, summarised in Table 1 will be delivered by partners best placed to do so, with PHCC having responsibility for overall delivery of the program through effective facilitation and collaboration. Costs are indicative only at this stage.

Table 1: Summary of approximate costs of delivering the key enabling project and additional component projects aimed at enhancing fish abundance and habitat quality in Peel-Harvey Waterways. Each component commences June 2018 unless otherwise specified

Priority	Project name	Project lead	Approx. cost	Timeframe
Key	Key Enabler: Restoring our Rivers	PHCC	\$250K	3 years
1	Component 1: Fish Friendly farms on the three rivers	Recfishwest	\$150K	3 years
2	Component 2: Stock enhancement of black bream in the Murray River	Murdoch University	\$150K	2 years (From 2019)
3	Component 3: Harvey River Restoration – Implementation of Demonstration Reach Project	Harvey River Restoration Taskforce	\$150K	3 years
4	Component 4: Measuring Effectiveness of Restoration 1: River Health Assessments in the Murray, Serpentine and Harvey Rivers	PHCC	\$50K	3 years

The Key Enabler and additional components projects were developed after initial consultation on 24 October 2017 with representatives from the Peel Development Commission (PDC), Recfishwest, the WA Fishing Industry Council (WAFIC), the Department of Primary Industry and Development (DPIRD, Fisheries), Mandurah Licensed Fishermen’s Association (MLFA), and subsequent engagement with the following stakeholders and potential project partners:

- The Harvey River Restoration Taskforce (HRRT)
- Murdoch University Centre for Fish and Fisheries Research (Murdoch University);
- Recfishwest; and
- The Nature Conservancy (TNC).

Component 1: Fish Friendly Farms on the three rivers (with Recfishwest)

- **Background**
 - Many farmers have a strong connection to their local waterway. The Fish Friendly Farms concept was developed by OzFish Unlimited to take advantage of this connection and engage and educate farmers in the proactive management of aquatic ecosystems.
 - Currently there is a Fish Friendly Farms project in Albany through a collaborative arrangement between South Coast NRM, Recfishwest and Ozfish Unlimited
- **Description of works**
 - PHCC has existing relationship with landholders on, for example, the Middle Murray River through the implementation of the Middle Murray River Action Plan.
 - This relationship could be extended by identifying sites where on-ground actions (e.g. riparian restoration, fencing, weed control, bank stabilisation) that also benefit native fish and fish habitat have already been implemented or could be implemented. At least two sites would be chosen to be developed as demonstration sites, highlighting these benefits.
 - The Alcoa Foundation *Connecting Corridors and Communities: Restoring the Serpentine River* project will similarly involve engagement with private landholders on the Lower Serpentine River
 - This project may also present the opportunity to implement in-stream works, such as re-snagging reaches of the rivers.
 - Black bream are also known to inhabit the waters above the Pinjarra weir so improving fish habitat would also benefit this important recreational species. This project would link to the re-stocking of black bream in the Murray River component project (see Component Project 2 below).
- **Alignment with PHCC NRM Strategy**
 - Enhanced community engagement and education, using fish (and other indicators of ecological health) as a stimulus
 - Implementation of restoration works on private landholdings guided by the Middle and Lower Murray River Action Plans.
 - Ties in with the Alcoa Foundation-funded *Connecting Corridors and Communities: Restoring the Serpentine River* project.
 - The River Action Plan for the Lower Serpentine, updated as part of the Rivers to Ramsar Project will also guide priorities for the Serpentine.
 - Connection to the REI projects in the Serpentine River.
 - Links to the (Alcoa Foundation) The Nature Conservancy's project and Greening Australia's *Three Rivers* project
- **Benefits for fish and fish habitat**
 - Enhancing habitat for freshwater fish species in upper reaches of the Serpentine, including freshwater mussels at Lowlands
 - Opportunities to establish blue mussels (*Mytilus planulatus*) and black pygmy mussels (*Xenostrobus securis*) in the estuarine portions of the rivers.
 - Restoration of habitat for smooth marron in the lower reaches of the Harvey River (see Component Project 3 below)
 - Restoration of habitat in preparation for or depending on timing in parallel with stock enhancement of black bream in middle and lower Murray river (see Component Project 2 below)
- **Resources needed**
 - Portion of a (PHCC) Program Manager FTE and other support staff.
 - On ground works including fencing and revegetation (\$50K)
 - In-river works e.g. re-snagging (\$50K)

- Salary for Recfishwest project officer (\$50K)
- **Time frame**
 - 3 years commencing 2018/19
- **Costs:**
 - Approx. \$150K - 200K (based on existing program run by OzFish Unlimited and South Coast NRM) to set up two standalone demonstration sites.
 - Additional funding may be sought from OzFish Unlimited