

2018

National Fish Habitat Strategy

:Recreational fishers managing fish habitat



A National Fish Habitat Strategy is an effective and efficient way to protect and improve our recreational fisheries into the future.

All fish need habitat. **The better the habitat, the more fish will survive and thrive.**

The more diverse the habitat, the more species will flourish. Many things are affecting our fish populations BUT the most important factor is the decline in quality and availability of habitat.

This is bad news not only for fish, but also for those of us who love fish and who love fishing. Recreational fishing is important, not only because so many of us enjoy this sport, but also because it is the backbone of many regional economies throughout Australia. Recent estimates reveal that Australians spend more than \$10 billion annually on recreational fishing related activities.



**Fixing fish habitat is good for fish
...and it's good for us.**

Recreational fishers...the key to fish habitat rehabilitation

How good our fisheries are depends on us. We need to manage fish habitat a whole lot better than we have done in the past. We need to rehabilitate our waterways if we want to bring the fish back and we need to work together a whole lot more effectively to do this. Governments have a role to play but so do recreational fishers.



Photo: IWRA

More and more in recent times we are seeing how this can work. And, **we are seeing the fish respond.** We need to get these stories out there, we need to show how fixing habitat is bringing the fish back, we need to learn from our experiences and we need to encourage each other to keep up the good work.

By contributing time and money and by getting our hands dirty to protect and restore habitat **we can realistically maintain the diversity and increase the abundance of all fish species.** More fish means better fishing and this will boost the economic contribution of the recreational fishing sector throughout Australia, and enhance the viability of regional communities.

Recreational fishers are getting more involved than ever before.

This Strategy will help make sure that all our efforts to improve and manage fish habitat are supported, guided by evidence and promoted.



Photo: OzFish Onkaparinga Chapter

Fixing Fish Habitat Works

- > **Resnagging the Murray River** between Lake Hume and Yarrawonga, on the Victorian– NSW border, has led to 3-fold increase in the Murray Cod population along this reach.
- > **Putting in fishways along the Murray River** means that fish can now migrate the way they once could. Fish passage has been restored for an estimated 20 species over a distance of 2,225km.
- > **Opening floodgates in Hexham Swamp**, Hunter River, NSW, have increased Yellowfin Bream numbers by 62 times.
- > **Construction of fishways in the Nepean River**, NSW, have restored a vibrant fishery for Australian Bass.
- > **Restoring riparian zones and fish passage in the Condamine River**, QLD led to 1,000% in the numbers of Golden Perch and 300% increase in the numbers of Dewfish.



And this is why we need to do it...

Over the last 200 years we have lost extensive amounts of fish habitat throughout Australia. Just imagine ...

“That night we went to Palmers Island [Clarence River] in a small boat pulled by the friends who came to meet us. All the way up the mullet and jewfish leaped and splashed in thousands and in the phosphorescent water we could see the luminous trail of huge fishes as they darted away into the depths below. The river swarms with bream, mullet, jewfish and whiting”.
Brisbane Courier 2 June 1880.

“Speaking of the river reminds me that a good paying trade could be done with fish, with which it is fairly teeming. My own opinion is that the Canning [River] is the great spawning ground from which Perth and Melville Waters are supplied with matured stock”. Daily News 1892.

“If however the country is poor, the river is rich in the most excellent fish, procurable in the utmost abundance”. Journal of John Oxley (1820 - Lachlan River).

There are now thousands of barriers to fish passage, poor water quality in most rivers and many estuaries, and significant loss of riverbank vegetation and coastal fish habitats.

>In Western Australia, in Cockburn Sound 78% of seagrass meadow is gone (that's 3,100 ha); in Princess Royal Harbour it's 66% and in Oyster Harbour at Albany, it's 46%.

>NSW has suffered losses of up to 60% of saltmarsh and seagrass since the 1970s.

>In excess of 30% of Great Barrier Reef saltmarshes have been lost, and in some basins such as Fitzroy and Burdekin the losses are closer to 60%.

>Over 5,500 barriers in the wet tropics region of Queensland blocking fish passage to nearly 20,000 km of waterways.

>In South Australia over 1,100 km of natural oyster beds have been lost.

>In Victoria more than 17,000 ha of seagrass lost from Westernport Bay.

>In NSW over 62,000 ha of prime fish habitat has been lost between Taree and the Qld border.

>Over 50% of rivers within the Murray Darling Basin have had their fish habitat significantly modified or removed.

>Most of the rivers in the Murray Darling Basin have been desnagged.

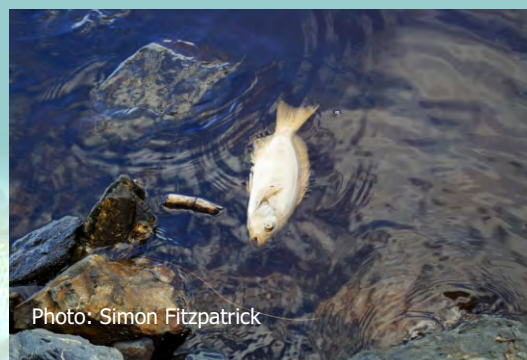
>Over 10,000 barriers to fish passage in the Murray Darling Basin and over 4,500 unscreened irrigation pumps.

>Over 3,000 km of lowland rivers affected by cold water pollution.

>Increasing water temperatures in highland streams reducing trout populations

>Over 84% of the assessed length of NSW waterways had elevated loads of sediments, and 95%had elevated levels of total phosphorous.

>In WA 70% of wetlands have been lost from the Swan Coastal Plain.



Because Habitat Produces Fish

Mangroves

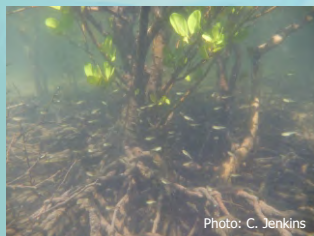


Photo: C. Jenkins

Mangroves are “fish factories”: for example, 75% percent of the fish sampled from mangroves in Moreton Bay are known as being important to regional fisheries.

Saltmarsh



Photo: Liz Baker

Saltmarsh plays a crucial role in supporting estuarine food chains and are used by fish when inundated by high tides. For example, of the 16 fish species using a saltmarsh intertidal zone in Botany Bay, NSW, 6 were of direct recreational or commercial importance.

Seagrass



Photo: Paul Smart

Seagrass meadows are fish nurseries and are also important for blue swimmer crabs, prawns and western rock lobster. 93 species of fish have been collected in NSW seagrass beds. Juvenile King George Whiting spend 3-4 years using estuary seagrass areas before moving offshore to complete their life cycle.

Riparian Vegetation



Photo: Tony Tropiano

Plants growing along the banks of rivers and creeks are known as riparian vegetation. This vegetation reduces erosion and contributes food, such as organic matter and falling insects, to the water. It often acts as a buffer strip, partially filtering out pollutants, such as sediments, pesticides and fertilisers, that otherwise would end up in the water. Streams with well-developed riparian vegetation generally support better fish populations. For example, freshwater mullet can be over 70% less abundant near grassed banks than beside well-vegetated riparian zones.

Freshwater Wetlands

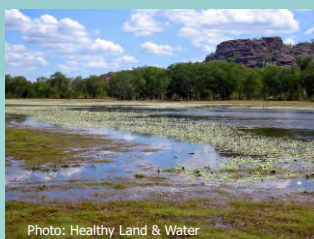


Photo: Healthy Land & Water

Freshwater wetland habitats include lakes, swamps, billabongs and floodplains as well as streams and rivers. These habitats are complex systems that include key features such as riparian vegetation, snags and gravel beds. These environments provide important feeding, spawning and nursery sites for many native fish. When inundated, river floodplains are important habitats for fish;

- Fish can move between wetlands, flood channels and the main river channel.
- Spawning sites for native species such as silver perch, golden perch, bony herring and spangled perch. Once hatched, the fish develop rapidly and feed on small zooplankton and insect larvae.
- Link with rivers to supply nutrients, debris and organic material back into the main channels, which feeds the food chain.
- Provide extensive areas for zooplankton and insect populations to develop, providing food supply for young fish. This is often critical to successful native fish recruitment.

River Flow

The quantity and timing of flow down rivers is a strong predictor of how many adult fish will be in the fishery in future years e.g. there is a strong link between river flows and recruitment of Mulloway.

Water Quality

Fish are very sensitive to the quality of water in which they live. Sediments, pesticides or other pollutants in the water or dramatically increased or reduced temperatures, may prevent native fish from living in affected habitat areas. Pest species, such as carp, are more tolerant of poor water quality.

Fish Passage

Australian native fish require unimpeded access along waterways in order to survive and reproduce. Both fresh and saltwater fish move within waters at different times to access food and shelter, to avoid predators, and to spawn. Of the 83 species of freshwater fish in south eastern Australia, over half migrate at least once as part of their life cycle. Some species can migrate thousands of kilometres while others only move a short distance.



Some references:

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What's our goal?

Protect, restore, and enhance Australia's recreational fisheries through engagement of the recreational fishing community in actions that foster improved fish habitat restoration and management.



How are we going to do this?

Objective 1: Make more fish

Achieve fish habitat conservation results by restoring natural processes and preventing decline.

Actions;

- Identify state, regional and local stakeholders and traditional stakeholders who need to be included in the development and implementation of fish habitat projects.
- Identify local, regional, state and nationwide habitat protection and restoration opportunities.
- Work with local, State and Federal Governments to create, amend or leverage funding programs to support on-ground action fish habitat action.
- Develop funding applications for on-ground fish habitat action.

Objective 2: Get more fishers involved

Broaden recreational fishing community support for habitat action.

Actions;

- Continue Fishers for Fish Habitat Seminars and Workshops to build capacity within the recreational fisher community to undertake fish habitat action.
- Develop new communication tools to enable broad participation in the identification, development and implementation of fish habitat projects.
- Develop and support "champions" – highly visible fishers willing and able to talk about fish habitat issues.

- Seek support from businesses aligned with recreational fishing for improved fish habitat management.

Objective 3: Get smart

Carry out Research and Development to support fish habitat action

Actions;

- Carry out a National Fish Habitat Assessment.
- Continue to support research to understand the relationship between production of key fisheries and habitat restoration.
- Develop citizen science initiatives for recreational fishers to support and report on fish populations and habitat actions.

Objective 4: Get the story out

Communicate fish habitat outcomes and issues to the general community

Actions;

- Create and distribute information on fish habitat and recreational fishing outcomes (including oral histories).
- Tell recreational fishers' stories of positive change.
- Support social and other non-fishing related media platforms to promote habitat issues and action by recreational fishers.
- Synthesize and simplify existing fish and fish habitat science/status for distribution.

Acknowledgements

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