Fish Habitat Action!

Making more fish, naturally

11 Habitat Action Grant case studies supported by funds from the NSW Recreational Fishing Trusts

NSW GOVERNMENT
Department of Primary Industries

Recreational Fishing Trusts

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Native fish need shelter, clean water, food and room to move. Rivers, creeks and wetlands throughout NSW have undergone extensive change due to urban, industrial and agricultural development. These changes have put significant pressure on native fisheries and recreational fishing opportunities.

The rehabilitation of degraded fish habitat has become progressively more important in NSW, as communities recognise the value of healthy waterways for their well-being, recreational enjoyment, and for native plants and animals.

Since 2008 the NSW Recreational Fishing Trusts have supported the Habitat Action Program, which has funded approximately 3.2 million dollars' worth of Habitat Action Grants (HAG). Recreational anglers, community groups, individuals and local Councils have utilised the Grant for projects to improve fish habitat and enhance recreational fishing opportunities across the State.

This brochure highlights 11 of these inspiring projects and demonstrates how grassroots efforts can do something positive for a local fishery!

Contents

Angling for a better fishery

Korogoro Creek Foreshore Rehabilitation Stages 1 & 2

Proponent:	Hat Head Bowling & Recreation Club Amateur Fishing Club
Land use:	Crown reserve
HAG:	$8,000*
In-kind:	$9,450*

*total over 3 grants

The site

Korogoro Creek is located near Kempsey on the NSW Mid-North Coast. The southern bank of this small coastal creek was heavily impacted by unrestricted vehicle access, particularly during the holiday periods. This access resulted in fragmented and damaged native riparian vegetation including sensitive areas of saltmarsh.

The project

The health of the creek and its surrounds are important to the local Hat Head Bowling & Recreation Club Amateur Fishing Club. Recognising the declining health of the area the Club's members decided to be proactive in securing the future of their local fishery. Working in partnership with Kempsey Shire Council, the Club developed a staged approach to rehabilitating the foreshore, which aligned with the recommendations of an Estuary Management Plan for the creek.

The outcomes

Outcomes of the project include:

- More than 1,800 native plantings, including saltmarsh species.
- Rehabilitation of a total riparian area of 3.2 ha.
- Over 300 volunteer hours devoted to activities on the site.

In conjunction with the Club's project, Kempsey Shire Council also controlled invasive foreshore weeds and installed bank erosion protection measures.

The Club's dedication was demonstrated by the high level of volunteer involvement in planting, mulching and watering activities.

Figure 1. An excellent turnout for a Club planting bee - Stage 1.

Figure 2. Preparing the vehicle tracks for planting – Stage 2.

Images: Hat Head Fishing Club.

Big Wood for BIG Fish

Making fish happen in the Macquarie River & Mending our Macquarie

Proponent: Inland Waterways Rejuvenation Association

Land use: Crown reserve

HAG: $43,348*

In-kind: $45,702*

*total over 2 grants

The site

The Macquarie River and surrounding region is popular with recreational fishers. However, native fish populations in the Macquarie reflect those across the Murray-Darling Basin, which are estimated to have declined by as much as 90% over the past 200 years. One of the key threats has been a loss of fish habitat including instream woody structure (or snags), which Murray Cod and Golden Perch use for shelter and spawning sites, as well as assisting them in ambushing prey. Direct removal of this timber, coupled with clearing of riverbank vegetation, had resulted in a loss of woody habitat in the river system.

The project

The Inland Waterways Rejuvenation Association (IWRA) is a very active local fishing group which has developed a strong interest in supporting and assisting projects to restore fish habitat. The mapping of the Macquarie River by NSW DPI Fisheries revealed a deficiency of snags around Dubbo, so in partnership with local fisheries staff, IWRA set out to reintroduce snags into the Macquarie River with funding made available from the Habitat Action Grants.

The outcomes

The group sourced snags from a road upgrade and contracted a local earthmover to transport and install the woody habitat. Sites were strategically chosen to link areas of existing healthy habitat, which were adjacent to or close to Crown Reserves, with easy boat or bank access. Combined, the two projects, which ran over two years achieved;

- The installation of 72 snags in 14 complexes at two reserve locations (stage 1).
- The installation of 60 snags at 13 complexes in a 10km priority reach (stage 2).
- 2 ha of willow management.
- 2 ha of native riverbank revegetation.

Figure 3. New fish habitat ready for installation.

Figure 4. Resnagging at Dickygundi Reserve.

Figure 5. Newly installed homes for fish!

Grand actions for Bass!

Russell Street, Emu Plains Rehabilitation

Proponent:	Bass Sydney Fishing Club
Land use:	Council Crown reserve
HAG:	$4,981.30
In-kind:	$88,568

The site

The Nepean River is the largest river in the greater Sydney metro region. In urban areas that are highly developed having dedicated public access points, such as crown reserves, are important to the local community. Penrith City Council's reserve at Emu Plains is identified as a River Flat Eucalypt Forest - Endangered Ecological Community. The health of the reserve was in a poor state with severe infestations of noxious weeds smothering the site – hampering the growth of native vegetation and restricting community access.

The project

Bass Sydney Fishing Club devoted themselves to improving the Bass fishery. Recognising the value of the reserve at Emu Plains for fishing access and environmental importance, the club applied to Council for co-management of the reserve. With approvals granted, the Club then applied for a Habitat Action Grant to improve fish habitat.

The outcomes

- The Club ran monthly working bees throughout the duration of the project.
- Heavy infestations of Balloon vine, lantana and madeira vine were removed.
- Once cleared of weeds, native plant regeneration started to occur in some areas.
- Supplementary native planting was undertaken to help stabilise the bank and provide habitat.
- The Club has committed to maintaining the site for 5-10 years.

The Club's dedication to the restoration of the reserve is significant. In May 2015 they reached the considerable milestone of 1,000 hours of volunteer labour devoted to the site.

Figure 6. Bass Sydney members controlling noxious weeds.

Figure 7. Fishers clocking up their 1,000th hour of voluntary rehabilitation time at the reserve.

Images: Bass Sydney Fishing Club.

Fish Friendly Farming

Coopers Creek Fish Habitat Restoration Project

Proponent: Robert Hunter
Land use: private, grazing
HAG: $35,167*
In-kind: $35,950*
*total over 4 years

The site

Coopers Creek runs through the Hunter family's Corndale property approximately 20km from the township of Lismore. Downstream of the property, the creek flows into the Wilsons River, a major tributary of the Richmond River. It's a popular fishing spot with regular catches of prized Australian Bass, however historical tree clearing in the region and heavy stock grazing of the creek banks resulted in a degraded riparian zone and increased erosion and sedimentation into the waterway.

The project

Robert Hunter has a strong desire to farm sustainably. Recognising the impact his livestock had on the creek he applied for funding for a rehabilitation project. Robert's goal was to restrict stock access, control weeds and plant native local species to restore fish habitat. From the success of Stage 1, the Hunter family have undertaken three subsequent stages of works. Each project targets small, easy-to-manage riparian areas, which has been acheivable to manage whilst also operating their farm.

The outcomes

- 2.2km of riparian fencing.
- Approximately 4,500 native plantings.
- Rehabilitation of 21,000 sqm of riparian habitat.

To maximise plant survival, the Hunter family have made important in-kind contributions. These have included providing fencing materials and labour for fence installation, tubestock planting, weed control and ongoing maintenance of the plantings and fences. Robert's long-term commitment to the project and the health of the creek is an excellent demonstration to other farmers that you can have a productive farm and look after the environment too.

Figure 8. Stage 1 plantings, six months old.

Figure 9. A proud fish friendly farmer.

Figure 10. The next reach ripe for rehabilitation!

A Capital idea for fish!

Queanbeyan River Restoration

Proponent:	Capital Region Fishing Alliance
Land use:	Community reserves (Crown & Council)
HAG:	$21,950
In-kind:	$18,700

The site

The Queanbeyan River is a tributary of the Molonglo River which flows through Canberra. Throughout the Queanbeyan City Council (QCC) area, the river's riparian condition, water quality and in-stream habitat is highly modified due to agriculture and urban development. The degraded state of the river is reflected in fish surveys that showed the Queanbeyan River's fish community is severely depleted and dominated by alien species such as Carp and Redfin. Despite this, the river is a popular recreational fishery.

The project

The Capital Region Fishing Alliance (CRFA) is a highly active fishing organisation based in the Canberra region with a view to contribute to the management, conservation and enhancement of fish and fish habitat in the Capital Region.

The CRFA initiated a Queanbeyan River riparian and in-stream habitat restoration project to enhance the local fishery and raise public awareness of river health and native fish. The project also added value to recent willow control works completed by the Queanbeyan Indigenous Green Team and the QCC, whilst also contributing to a river corridor Plan of Management.

The outcomes

The CRFA formed a strategic alliance with NSW DPI and QCC to gain valuable technical advice and assistance. CRFA contracted an operator and coordinated successful re-snagging activities in May 2013. Importantly, the project's activities also coincided with a QCC project to undertake further riverbank restoration works using an Australian Government funded Green Army team. This timely opportunity provided the CRFA with a newly skilled work force to assist in project activities.

Figure 11. QCC supported Green Army team planted native species along 700m of riverbank.

Figure 12. One of 20 snags being installed to provide habitat for native fish.

Photos: CRFA.

Saltmarsh SOS

Saving Saltmarsh at South West Rocks

Proponent:	**Seabreeze Beach Hotel Fishing Club**
Land use:	**Crown foreshore reserve**
HAG:	**$4,500**
In-kind:	**$6,000**

The site

South West Rocks on the mid-north coast is a popular fishing destination for both locals and visitors. The Macleay River breakwall is a favoured fishing spot, offering a land-based fishing opportunity for Flathead, Whiting, Bream and even big Mulloway. As a result, the area closest to the breakwall walking track was frequently accessed by unrestricted vehicles at low tide, driving over and parking on saltmarsh (an Endangered Ecological Community) and mangrove habitat.

The project

The Seabreeze Beach Hotel Fishing Club is a small club that is active in the local community. The club has a strong interest in working to improve fish habitat in the local area. The Club recognised the damage being done to the fragile habitat and developed a plan of action to protect it. With the support of the local Crown Lands office, the Club's project aim was to control and direct vehicles onto a defined route without denying access to the popular fishing spot or the beach.

The outcomes

This Club-driven fish habitat restoration project:

- Protected nearly 13,000sqm of saltmarsh and mangrove habitat and created a defined vehicle corridor via bollard fencing, complete with night reflectors.
- Planted 100 supplementary saltmarsh species.
- Dedicated over 90 hours of voluntary labour.

The Club's dedication will help support a viable fishery for many generations of fishers to come.

Figure 13. Uncontrolled vehicle access through the saltmarsh.

Figure 14. Club volunteers getting their hands dirty for fish habitat.

Figure 15. Sign informing the public of the site's importance.

Images: Seabreeze Beach Hotel Fishing Club.

Productive Partnerships

Tuross Head Fishing Club working to protect their own patch

Proponent:	Eurobodalla Shire Council & Tuross Head Fishing Club
Land use:	Crown reserve (Council managed)
HAG:	$24,260
In-kind:	$30,484

The site

The Tuross River flows into Tuross Lake before reaching its mouth at Tuross Head, where there are exceptional fishing and boating opportunities at popular spots like Snake Flat. Unfortunately the pressure from users on the reserve led to a degradation of the site. Unrestricted vehicle access, wash from speed boats and a loss of vegetation has resulted in severe erosion of the river banks and loss of fish habitat.

The project

Tuross Head Fishing Club has been proactive in looking after their local fishing spots. At Snake Flat, the Club recognised the impact of high visitor numbers and a need to increase vegetation and reduce erosion points while also enhancing local fish habitat. The Club approached Eurobodalla Shire Council to become a key project partner and to be part of the solution to address the issues.

The outcomes

The collaborative approach to undertaking this project meant that complementary activities and initiatives achieved the following outcomes:

- Extensive weed control and follow up revegetation (1,000 plants).
- Installation of instream erosion control and fish habitat including native hardwood rootballs and large trunks.
- Installation of traffic management bollards.
- Engagement of over 30 fishing club and other community group volunteers.
- Funds saved on bollard materials and installation, allowed weed control and revegetation activities (500 plants) of an additional 2km riparian area downstream of Tuross River Bridge.

Figure 16. Bare riverbanks at Snake Flat.

Figure 17. Community support was vital for the project's success.

Figure 18. The dedicated team of Fishing Club volunteers.

Images: Eurobodalla Shire Council.

Keeping Big Fish Moving ①

Provision of fish passage at the Obley Gauging Station Control Structure

Proponent: Yeoval Fishing Club
Land use: Crown (river bed) Private (adjacent land)
HAG: $25,750
In-kind: $29,225

The site

The Little River is a major tributary of the Macquarie River. It's a haven for native fish and is within the historical range of many threatened species including Trout Cod. The Obley gauging station control structure is a low level weir which provides a control point for the River's gauging station, enabling river flows to be accurately measured. The Little River typically discharges low flows, so only during rare larger events do fish have an opportunity to move upstream of the weir.

The project

Yeoval Fishing Club is an enthusiastic, progressive group with a strong local membership of keen recreational anglers and excellent relationships with local landholders and other community groups. The Club, in partnership with NSW DPI, identified the need to improve fish passage in the Little River system. Several road crossings, downstream of the Obley Weir were remediated previously by the State Government, opening up 64km of fish passage. The remediation of fish passage at Obley Weir provided additional free access for fish to upstream habitat.

The outcomes

Yeoval Fishing Club worked closely with NSW DPI to ensure the success of the project. A high level of pre-planning was required to ensure all stakeholders were supportive of the project, that all legislation was adhered to and the project activities progressed smoothly.

- Partial removal of the barrier (10m) down to bed level to achieve passage for fish.
- 46km of fish passage was achieved over a wider range of flows in the Little River.

The outcomes achieved by this small community groups highlight how successful collaboration with government can achieve positive outcomes for native fish.

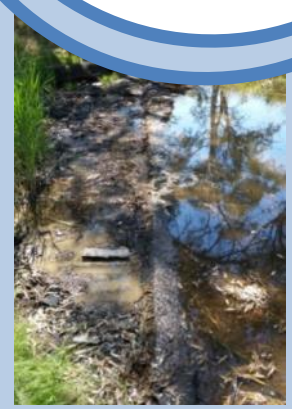


Figure 19. Obley Weir – restricting access for fish to upstream habitat.

Figure 20. Stakeholder consultation was an important part of the planning process.

Figure 21. Now you see it… now you don't!

Keeping Big Fish Moving ②

Remediation of fish passage at Heads Road causeway

Proponent:	Yeoval Fishing Club
Land use:	Crown (river bed), Council owned structure
HAG:	$40,000

The site

The Heads Road causeway located approximately 15km west of Cumnock was identified by NSW DPI as the last remaining high priority fish passage barrier site in the Little River. The causeway provides access for landholders to their properties during all but very high flows in the Little River and blocks fish passage at all other times.

The project

Yeoval Fishing Club in partnership with NSW DPI, Cabonne Shire Council and the Central West LLS aimed to remediate the Heads Road causeway. Consultation was conducted with Cabonne Shire Council, affected landholders and the Rural Fire Service to determine a suitable design for the new crossing.

The outcomes

All partners worked closely together to achieve:

- Barrier removal and installation of a single span bridge. Higher than expected construction costs for the box culverts resulted in this redesign.
- Restoration of 50km of fish passage for native fish in the Little River system.

Keeping Big Fish Moving I & *II* in conjunction with a number of other fish passage barrier projects was the culmination of a three-year program which opened up a significant 114km of prime breeding and feeding habitat for fish in the Macquarie River catchment.

Figure 22. Heads Road causeway – limiting access for fish.

Figure 23. Construction works underway at Heads Road.

Figure 24. Improved access for fish and local residents.

For the love of fish

Richmond River Revegetation

Proponent: Kevin Clark
Land use: Crown (TSR) Private (adjacent land)
HAG: $950

The site

The Richmond River is situated in the Northern Rivers region of the far north coast of NSW. It rises in the hills to the west of Mount Lindesay and flows straight through Kyogle-based fisherman Kevin Clark's backyard on its journey off the hills to the sea near Ballina. The river's health has been altered dramatically in Kevin's lifetime, with impacts from agriculture and development, and he has witnessed many changes in local fish populations. The Richmond still supports a viable fishery which is popular with both locals and visitors.

The project

Kevin Clark is well known and deeply respected in fishing circles as a master lure maker. However, his quiet achievements as a protector and advocate for fish habitat are lesser known. Kevin has been involved in projects to restore fish habitat in the Richmond River since the early 1990s, working with NSW DPI Fisheries to improve passage for fish in the river. Kevin started work to restore the riverbank not only behind his own home, but also the adjacent Travelling Stock Reserve (TSR).

The outcomes

Kevin worked with NSW DPI and Crown Lands to ensure approvals for the project were in place. Activities undertaken along the Richmond River included:

- 200m of temporary stock exclusion fencing along the TSR.
- Revegetated 450m of river bank with local native plants.
- Kevin has committed to maintaining the site for five years, to ensure his rehabilitation efforts are protected and provide long term benefits.

This project demonstrated that no matter how small, we can all make a difference for fish habitat and river health by starting somewhere, even in your own backyard!

Figure 25. Kevin's riparian plantings in his own backyard.

Figure 26. Getting his hands dirty at a local tree planting day.

Figure 27. Kevin discussing his passion for fish and the river.

Viva Volunteers!

UMDR community willow control project

Proponent:	Kosciuszko 2 Coast (K2C)
Land use:	Crown (river corridor)
HAG:	$10,400
In-kind:	$32,668

The site

Located near the national capital, the 100km long Upper Murrumbidgee Demonstration Reach (UMDR) is an initiative that aims to demonstrate the cumulative benefit of collaborative river management interventions for a healthier, more resilient and sustainable river. The reach encompasses known habitat for three threatened native freshwater fish – Murray Cod, Trout Cod and Macquarie Perch – and is characterised by large sections of inaccessible gorge country.

The project

Willow infestation is a significant issue for river management across rivers in NSW including the Murrumbidgee. Willows can create significant impacts for native fish populations including; increased erosion and sedimentation of a waterway, reduction in water quality and the loss of suitable habitat. The emergence of young sapling willows was identified as a threat in the UMDR to the future health of the system. The effective engagement of the community in willow removal, especially at the younger stages of growth, had previously been demonstrated by the successful Willow Warriors program. The UMDR coordinators K2C, decided to utilise a similar approach to this arising management issue.

The outcomes

The effort from community volunteers in controlling willows was outstanding especially given that the project activities were undertaken in remote locations which could only be accessed via the use of kayaks or rafts. The project achieved:

- 17 willow control canoe days.
- 93 volunteers engaged in the project.
- 85% success rate with willow control.

This project has also demonstrated that a team of trained volunteers can achieve strategic environmental weed control in otherwise pristine habitats.

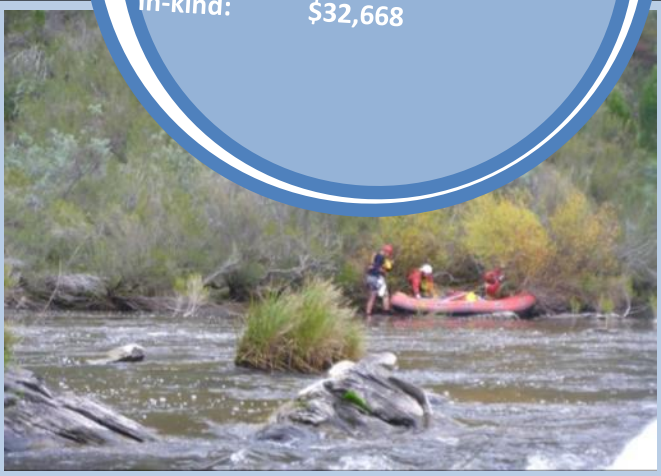


Figure 28. Raft and kayak access only!

Figure 29. Volunteers tackling willows in gorge country.

Figure 30. Controlling willows, an emerging threat to native fish.

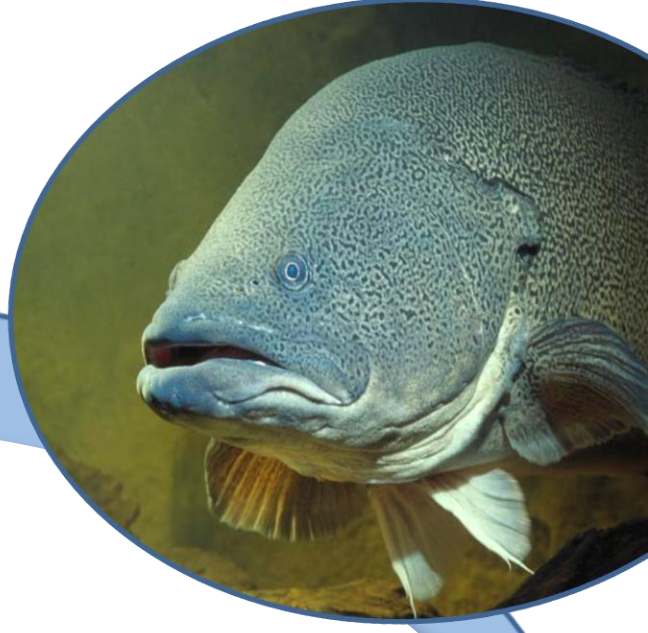
Images: K2C.

More habitat = More fish = Better fishing!

Improve the health of your local fishery!

Here's 5 easy steps to get you started:

1. Talk with other local fishers, local council staff, Landcare or other environment group or your regional NSW DPI Fisheries Manager to identify issues that need attention.
2. Involve your neighbours and your neighbours' neighbours – share skills and spread the work load.
3. Apply for funds and resources and encourage others to contribute (remember permits may be required).
4. Plan well but start quickly and don't bite off more than you can chew!
   Good progress encourages other people to help.
5. Spread the word in your community and involve your local media.



Acknowledgements

Special thanks to the project proponents which feature in this brochure.

Disclaimer: Legislation covering conservation of native vegetation and fish may regulate some fish improvement practices. Inquire through NSW Department of Primary Industries or your regional Local Land Services for further information.

To find out more about Habitat Action Grants

Visit: www.dpi.nsw.gov.au/fishing/habitat/rehabilitating/ahr-grants-programs

Email: fish.habitat@dpi.nsw.gov.au

To find out more about fish habitat issues, projects, or to find out what is happening in your local area follow the Fish Habitat Network on Facebook

www.facebook.com/fishhabitatnetwork

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