

# Newstreams

A NSW DPI email newsletter for recreational fishers and others interested in improving fish habitat to build native fish stocks

**No 10. October 2007**

## **About Newstreams**

Newstreams is an email newsletter to keep people up to date about NSW fish habitat activities, and about important aquatic habitat developments in Australia and around the world. It is published electronically every two months by NSW Department of Primary Industries. In NSW many estuarine and freshwater habitats for juvenile and adult fish have been degraded or lost through urban, industrial and agricultural development. Communities around NSW are working actively to restore fish habitat.

## **NSW DPI NEWS**

### ***Lachlan river revival***

NSW Department of Primary Industries and the Lachlan Catchment Management Authority are conducting a River Revival project on the lower Lachlan River. The project focuses on Fish Friendly Farms and how landholders, through their management of the land, can help improve river health and enhance native fish numbers. The project includes a new snag management plan for the Lower Lachlan and a demonstration reach at Euabalong. River Revival information sessions are being held at Booligal, Hillston; Euabalong and Lake Cargelligo Bowls Club 23-25 October. Landholders with lower Lachlan River frontage who attend these sessions will be eligible to apply for funding towards the cost of their Fish Friendly Farm on-ground works. For more information, contact Charlotte Grove on 6626 1107 or [charlotte.grove@dpi.nsw.gov.au](mailto:charlotte.grove@dpi.nsw.gov.au).

### ***Castlereagh River demonstration reach open day***

Recent developments along the Castlereagh River demonstration reach include installation of 70 tonnes of native hardwood logs in the river to re-establish fish habitat, poisoning of exotic trees and planting of more than 1000 native trees to improve riparian biodiversity and stream structure. Over 3km of fence line has also been installed along the River to protect refuge pools and riparian zones, improve natural recruitment of native trees, and allow access by native animals such as emus, kangaroos and wallabies. If you'd like to see the work first hand, along with carp reduction, gully stabilisation and native fish passage improvements come to the open day at the public recreation reserve at Warrumbungle Way, Coonabarabran, at 10.30am on Friday 26 October. To book, contact Shaun Morris at [shaun.morris@dpi.nsw.gov.au](mailto:shaun.morris@dpi.nsw.gov.au) or 6881 1270.

### ***Native fish passage to be restored on the Barwon-Darling River***

Native fish will be able to access a significant reach of the Barwon-Darling River if a proposed fishway is constructed at the Bourke weir as part of the Brewarrina to Bourke demonstration reach project. NSW DPI have submitted three conceptual fishway designs to Bourke Shire Council which has given in principle support to the construction of a vertical-slot fishway within the existing navigation lock at the Bourke weir subject to a range of conditions. The construction of this fishway will open up an estimated 250km of river for native fish to migrate. Incorporation of a carp separation cage into the fishway is also planned to reduce carp populations. For more information, contact David Cordina, NSW DPI at [david.cordina@dpi.nsw.gov.au](mailto:david.cordina@dpi.nsw.gov.au) or 6881 1277.

### ***Barwon-Darling carp muster***

Carp in the Barwon-Darling River will soon be the target species for recreational anglers with carp musters to be held in Bourke and Brewarrina during the warmer months. The Western Catchment Management Authority and NSW DPI are sponsoring the events with prizes awarded for all categories. The carp musters are part of the Brewarrina to Bourke demonstration reach project which is showcasing techniques that landholders and community groups can use to restore and protect river habitat. Common carp is an introduced species now widespread throughout much of south-eastern Australia. It breeds prolifically and tolerates a wide range of environmental conditions, so is now the most abundant large freshwater fish in the Murray-Darling Basin. All recreational anglers are encouraged to participate in the carp musters and share in the fantastic prizes on offer. For more information, contact David Cordina at [david.cordina@dpi.nsw.gov.au](mailto:david.cordina@dpi.nsw.gov.au) or 6881 1277.

## ***Farmers return water and life to Rocky Mouth Creek***

Fish are finding Rocky Mouth Creek much more to their taste since local farmers installed water control structures to re-wet the acid sulfate soils in the creek catchment. The creek is a subcatchment of the Richmond River, located near Woodburn in north-eastern NSW, and its maze of swamps and wetlands were once extremely productive fish nurseries that also provided healthy, drought-resistant cattle fodder. Drainage over the past 150 years has dried out the soils, leading to the release of sulfuric acid and the death of many fish. Since the structures were installed in early August, the wetlands have burst into life with broilgas stalking the swamps for frogs and fish to the hoots and honks of nesting black swans, and everywhere, the vibrant green water couch is again pushing its way up through the water. For more information contact project manager Simon Walsh at [simon.walsh@dpi.nsw.gov.au](mailto:simon.walsh@dpi.nsw.gov.au).

## ***Risk management for resnagging projects***

NSW DPI and Murray Darling Basin Commission have produced a brochure identifying key issues in managing risks and public liability for resnagging projects. The brochure provides an overview of the experience gained in identifying and managing risk for the Murray River Resnagging: Hume Dam to Yarrowonga Project. Resnagging is becoming a widely recognised method for rehabilitating aquatic habitat for native fish species, and projects are being established by government agencies, community groups and landholders on farms with river frontage. For more information or for a copy of the brochure please contact Jenny Fredrickson at [jenny.fredrickson@dpi.nsw.gov.au](mailto:jenny.fredrickson@dpi.nsw.gov.au) or 6042 4208.

## ***Fishways PhD opportunity***

The University of New England and NSW DPI have established a postgraduate project to assess the effectiveness of rock-ramp fishways for improving fish passage in coastal rivers near Gloucester. The successful applicant will need to demonstrate a strong background in aquatic ecology, fish physiology or hydrology; enjoy team work and interacting with rural communities; hold a Class 1 or 2A Honours (or equivalent) degree in a related field; and be an Australian citizen with a valid driver's licence. To find out more go to <http://www.une.edu.au/research-services/pgstudy/scholarships/> and contact Glenn Wilson at [glenn.wilson@une.edu.au](mailto:glenn.wilson@une.edu.au) or Cameron Lay at [cameron.lay@dpi.nsw.gov.au](mailto:cameron.lay@dpi.nsw.gov.au) or 6783-8520. Closing date for applications is 9 November 2007.

## **NSW NEWS**

### ***Fishing clubs recognised for habitat work***

The NSW Council of Freshwater Anglers has recognised Southern Bass Fishing Club (SBFC) and Bass Sydney for their contribution to freshwater fisheries and habitat.

SBFC formed in 1996 and set about tackling problems caused by the Tallowa Dam on the Shoalhaven River. These included blocking of fish passage and extinction of downstream weed beds due to heavy metals and low water temperature. The club has worked with Sydney Catchment Authority and NSW DPI to construct a high level fishway and has since tagged fish to establish if the fishway is working. Water quality has been improved by installation of aerators that have raised the water temperature significantly.

Bass Sydney's habitat activities include working with Greening Australia to plant 1600 trees, shrubs and lomandra along South Creek, in western Sydney; working with Parramatta City Council to establish fish passage in four weirs and barriers on the Parramatta River; supporting the construction of a fishway on the Lane Cove River; negotiating with Campbelltown City Council and providing labour for the construction of a rock ramp fishway on the upper Georges River; and liaising with various authorities to establish a fishway on the Audley Weir in the Royal National Park. More details at <http://www.freshwateranglers.com.au/Adobe%20Files/Email%20N-letter%2027.pdf>.

### ***National Riverprize goes to Murray wetlands group***

NSW Murray Wetlands Working Group has won the \$100,000 National Thiess Riverprize for its work since 1992 in delivering 75,000 megalitres of water to more than 200 wetlands across 71,000 hectares in the Murray and Lower Murray-Darling catchments. The group developed several grant schemes for landowners, community groups and government agencies to rehabilitate natural wetlands. On-ground works included fencing, revegetation and earthworks to rehabilitate privately owned and public wetlands. Source: <http://www.riversymposium.com/index.php?element=2007WinnerNational110907>.

### ***Snowy River flows to be cut***

Environmental flows in the Snowy River are to be cut in response to drought conditions in the Murray Darling Basin. Flows from Jindabyne Dam will be progressively reduced to 25ML/d from the end of

October to make more water available for diversion to the Murray and Murrumbidgee River valleys via the Snowy Mountains Scheme. The fishway on Dalgety Weir will be boarded up to prevent drainage of Dalgety weir pool and secure the water supply for the township. For more information contact Allan Lugg at [allan.lugg@dpi.nsw.gov.au](mailto:allan.lugg@dpi.nsw.gov.au).

### ***New NCC water trust***

The Nature Conservation Council of NSW is establishing the Nature Conservation Water Trust to obtain water rights to provide water for environmental purposes (prevent critical watercourses from drying out, flood wetlands, and provide bird breeding habitat). Wetlands expert Richard Kingsford, University of NSW, will chair the Trust's scientific advisory panel that also includes Terry Hilman, Latrobe University; Kathleen Bowmer, Charles Sturt University; and Wayne Meyer, University of Adelaide. For further information go to <http://www.freshwateranglers.com.au/Adobe%20Files/Nature%20Conservation%20Water%20Trust%2025%20Sept%202007.pdf>.

## **AUSTRALIAN NEWS**

### ***Murray inflows among lowest on record***

Murray System inflows through winter 2007 have been marginally better than those received in 2006 (which was the driest year on record), but are still among the lowest on record and substantially less than the long term average. August and September were particularly dry across most of the Murray-Darling Basin. Read the MDBC's latest drought update at [http://www.mdbc.gov.au/\\_data/page/1366/RMSystem\\_Drought\\_Update10\\_October07.pdf](http://www.mdbc.gov.au/_data/page/1366/RMSystem_Drought_Update10_October07.pdf).

### ***Despite the drought native fish improve***

Despite the prolonged drought and historic low levels of water in the Murray-Darling Basin, the status of native fish continues to improve. According to the MDBC's latest Native Fish Strategy report native fish populations are up at some crucial locations and moving in greater numbers through the new river 'fishways', and the battle against the European carp is gathering pace. Download the 2005-06 report at [http://www.mdbc.gov.au/\\_data/page/672/NFS\\_Annual\\_implementation\\_report2005-06.pdf](http://www.mdbc.gov.au/_data/page/672/NFS_Annual_implementation_report2005-06.pdf).

### ***Paroo River wetlands now a Ramsar site***

Australia has listed the Paroo River wetlands in north-western NSW as the country's 65th Ramsar site, wetland of international importance. The wetlands support several threatened plant and animal species, significant native fish communities and is one of the most important wetland systems for migratory waterbirds in south-eastern Australia. Find out more at <http://www.environment.gov.au/water/publications/environmental/wetlands/paroo-river-factsheet.html>.

### ***Water to save the Murray hardyhead***

The Victorian government has allocated 1200 megalitres of water to ensure the survival of the tiny Murray hardyhead fish. Only four populations of the fish continue to survive in four lakes in northern Victoria, and the water will be used to prevent the lakes drying out this summer. While the fish can live in highly saline wetlands and survive droughts, the flows this year are proving too low even for them. Source, Sunraysia Daily 9 October [http://mildura.yourguide.com.au/detail.asp?class=news&subclass=general&story\\_id=1065933&category=general](http://mildura.yourguide.com.au/detail.asp?class=news&subclass=general&story_id=1065933&category=general).

### ***Adding wood increases stream biodiversity***

Victorian research has found adding wood to streams in cleared agricultural areas increases the richness of most functional feeding groups in the stream. Researchers introduced wood in eight streams in intensively grazed regions and measured the effect on aquatic macroinvertebrate communities. Of all sampled habitats, wood supported the greatest density of families and was colonised by all functional feeding groups. Read the abstract 'Does adding wood to agricultural streams enhance biodiversity? An experimental approach' by Lester et al in Marine & Freshwater Research at <http://www.publish.csiro.au/nid/126/paper/MF06198.htm>.

### ***Aquatic drought refuge research***

An eWater CRC research project is identifying persistent refuge waterholes as streams and rivers stop flowing. Aerial surveys reveal the need for a landscape approach because individual pools are sometimes isolated by tens of kilometres. Knowledge developed by this project will guide efforts in protecting and restoring refuge habitats to enhance the resilience of aquatic ecosystems to drought and other large-scale hydrologic disturbances. Read more at <http://www.ewatercrc.com.au/documents/Research%20Highlights%201%20-%20Sept%2007.pdf>.

### ***Tide to Table expands***

OceanWatch Australia's habitat program Tide to Table has expanded into Queensland with funding from the Burnett Mary Regional Group. The 12 month project will undertake 5 onground projects with the sugarcane, banana, horticulture, commercial fishing and aquaculture industries in the Bundaberg area to improve fish habitat. In NSW the program has expanded into Hunter Central Rivers and Hawkesbury Nepean CMA regions. The program's pilot project in Sydney has resulted in \$880,000 being invested across 29 sites, with 814 people were actively involved planting over 67,000 tube stock, opening up over 8km of fish passage and protecting or enhancing over 17.5 ha of wetland. Sydney Metropolitan CMA has funded the Sydney program for another 12 months to rehabilitate priority fish habitat sites and to foster a better appreciation of catchment-estuary connectivity. Read more at <http://www.oceanwatch.org.au/campaignAquatic.htm>.

## **INTERNATIONAL HABITAT NEWS**

### ***Fisheries 2027***

The UK has developed a 20-year vision to help fishing communities and businesses prosper, safeguard fish stocks and protect the marine environment. Fisheries 2027 aims to optimise economic and social benefits for society from commercial fishing and recreational angling while protecting marine life and habitats. Details at <http://www.defra.gov.uk/fish/sea/sfp/index.htm>.

### ***Acid rain may hit coastal waters hard***

New research suggests that nitrogen and sulphur released into the air by human activities may be making coastal waters more acid than expected. The hardest-hit areas are those closest to air-polluting sites, because reactive nitrogen and sulphur compounds tend to come raining back down within days of being emitted, giving them little time to travel. Source: <http://www.nature.com/news/2007/070903/full/070903-3.html>.

## **FISH HABITAT RESOURCES**

### ***New Murray wetlands atlas***

A new atlas of 4000 Murray River wetlands details geographic and environmental information on wetlands from the Hume Dam to the SA border. SA already has a similar atlas for its wetlands. The atlas sets out river heights at which wetlands receive water, shows where new regulated flows go along the river and how each wetland might be affected by changes in weir pool levels and flow rates. The atlas can be purchased from the Wetlands Working Group. Contact Deb Nias on 02 6051 223 or [deb.nias@cma.nsw.gov.au](mailto:deb.nias@cma.nsw.gov.au).

### ***River Heroes: Lessons from Thies Riverprize 1999-2006***

This report brings together 13 case studies from a selection of Thies Riverprize winners and finalists who have made a substantial difference to restoring the health of river systems, including major rivers, lake and wetland systems, and small but important waterways. The case studies include seven from Australia: Torbay catchment WA, Bulimba Creek Qld, Blackwood Basin WA, Lake Macquarie NSW, Goulburn Broken catchment Vic, Wallis Lake NSW, and Tweed River NSW. Download the 60 page report at

<http://www.riverfoundation.org.au/images/stories/pdfs/IRF%20Publications/IRFReportRiverHeroes.pdf>.

### ***Impacts on fish & fish habitat from climate change in western NSW***

Luke Pearce, conservation manager with NSW DPI at Tumut, gave a presentation on fish and fish habitat at a recent climate change forum in Cowra. Access the presentation at the forum website: <http://www.lachlan.cma.nsw.gov.au/index.cfm?objectId=6D614D38-1708-51EB-A646B811F345E00C>

### ***Fishes of the Murray-Darling Basin; an introductory guide***

This free 157-page book by fisheries ecologist Mark Lintermans, has been funded and published by the Murray-Darling Basin Commission. To obtain a copy, email [info@mdbc.gov.au](mailto:info@mdbc.gov.au) or ring 6279 0434.

### ***Cyprinus carp newsletter***

The Murray Darling Association publishes the Cyprinus newsletter, focusing on carp and other pest species in the Murray Darling system. The latest edition has news on carp in the Lachlan River, progress of the 'daughterless carp' program, articles on fishways and various pest management methods, plus comments on the past 10 years of work by the National Carp Task Force. To subscribe, email a request to [awells47@bigpond.net.au](mailto:awells47@bigpond.net.au).

### ***Letting down the marshes***

An article in the June-July issue of CSIRO's Ecos magazine discusses the demise of the Macquarie Marshes due to water extraction for commercial use. Read the article at [http://www.publish.csiro.au/?act=view\\_file&file\\_id=EC137p20.pdf](http://www.publish.csiro.au/?act=view_file&file_id=EC137p20.pdf).

### ***Wise use of wetlands***

This handbook by Ramsar provides information and case studies on wetland management, based on experiences around the world. Download it at [http://www.ramsar.org/lib/lib\\_handbooks2006\\_e.htm](http://www.ramsar.org/lib/lib_handbooks2006_e.htm).

### ***Woody debris removal***

A threat abatement plan for the removal of large woody debris from NSW rivers and streams has been approved by the Minister and is now available at <http://www.dpi.nsw.gov.au/fisheries/habitat-protection/threat-abatement-large-woody-debris>.

### ***Defending deadwood***

This 2001 US article provides an excellent background to understanding the importance of wood in waterways. 'If you want live things, you need dead trees.' Find the article at <http://www.sciencemag.org/cgi/content/full/293/5535/1579>.

### ***Great fishing needs great habitat***

Each year, Pennsylvania Fish & Boat Commission is involved in some 700 habitat improvement projects. Cooperators, including other state and federal agencies, angling groups and concerned citizens, invest 10,000 hours annually in improving aquatic habitats. More at <http://www.fish.state.pa.us/anglerboater/2001/jf2001/greathab.htm>.

### ***Why fish need trees***

This US poster was produced by the Pennsylvania fish & Boat Commission in 1999 to promote habitat to young fishers. Find it at <http://www.fish.state.pa.us/anglerboater/1999/sepoct99/falplayy.htm>

### ***Oceans in peril: Protecting marine biodiversity***

Creating marine parks may be the only effective way to reverse trends that have left 76 percent of world fish stocks fully- or over-exploited and marine biodiversity at severe risk, according to this new Worldwatch Institute report. Additionally, fisheries management must radically change from a single-species approach to one that is ecosystem based and that employs precautionary measures to tackle pollution and to reduce carbon dioxide emissions that are changing the temperature and chemistry of the oceans. Find out more at <http://www.worldwatch.org/oceans-in-peril>.

### ***UK fish passage requirements***

This website outlines the different types of fish ladders available for use in the UK and includes several useful references. [http://www.environment-agency.gov.uk/subjects/fish/165773/169852/173177/?lang=\\_e](http://www.environment-agency.gov.uk/subjects/fish/165773/169852/173177/?lang=_e)

## **HABITAT FUNDING**

### ***Envirofund habitat projects***

Waterways around NSW will be better off with successful funding for several riparian projects in Round 9 and 10 of Envirofund .Also funded was a project to monitor sea grass depletion and establish a long term seagrass rehabilitation program along the NSW Coast. Find out more at <http://www.nht.gov.au/envirofund/round9/index.html>.

## **HABITAT DATES**

**7-9 November 2007**

**16<sup>th</sup> NSW Coastal Conference, Yamba**

<http://www.coastalconference.com/>

**12-14 November 2007**

**Climate change & coastal and marine ecosystems, Brisbane**

<http://www.cmar.csiro.au/news/events/climate/index.html>

**26-27 November 2007**

**5th National Waterwatch Conference, Canberra, ACT**

[www.waterwatch.org.au](http://www.waterwatch.org.au)

## **ABOUT NSW DPI AND FISH HABITAT**

NSW DPI is responsible for management of, and research into, fish habitat in NSW.

NSW DPI's on-ground work:

- map, prioritise and modify structures that block fish passage
- map and rehabilitate aquatic habitat such as wetlands
- reintroduce snags (large woody debris) into streams
- revegetate streambanks to provide habitat and improve the quality of water running into streams.

NSW DPI's research work:

- document the fish communities associated with different aquatic habitats
- understand the basic biology of key fish species – what they eat, when they breed, what their habitat requirements are
- evaluate management actions to see how effective they have been and what improvements may be possible.

NSW DPI's legislative, policy and planning work:

- review developments that may impact on fish habitats and negotiate impact reduction and/ or compensatory works
- incorporate aquatic habitat protection requirements into land use planning, water management, and estuary and floodplain management
- help developers, local councils and other state agencies understand the importance of aquatic habitats for fish and options for ensuring their protection and rehabilitation.

### ***Aquatic Habitat staff***

Sydney (Flemington) 02 9764 3229

Sydney (Cronulla) 02 9527 8411

Batemans Bay 02 4478 9103

Huskisson 02 4441 8969

[Port Stephens](#) 02 4982 1232

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### ***Research staff***

Port Stephens 02 4982 1232,

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Cronulla 02 9527 8411

### ***Website***

[http://www.fisheries.nsw.gov.au/aquatic\\_habitats](http://www.fisheries.nsw.gov.au/aquatic_habitats)

### ***Send us your news***

If you have news about fish habitat activities in your area, we'd like to hear from you. Email Rebecca Lines-Kelly at [rebecca.lines-kelly@dpi.nsw.gov.au](mailto:rebecca.lines-kelly@dpi.nsw.gov.au) with your news items and suggestions.

### ***Subscribe to Newstreams***

Newstreams is a free newsletter available to anyone interested in fish habitat. To subscribe to Newstreams, email the editor, Rebecca Lines-Kelly, at [rebecca.lines-kelly@dpi.nsw.gov.au](mailto:rebecca.lines-kelly@dpi.nsw.gov.au). If you no longer wish to receive Newstreams, email the editor with 'Unsubscribe Newstreams' in the subject line.