

Newstreams

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

No 17 December 2008

About Newstreams

Newstreams is an email newsletter to keep people up to date about NSW fish habitat activities and important aquatic habitat developments elsewhere. 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 work actively to restore fish habitat.

NSW DPI NEWS

DPI's aquatic habitat work wins gold award

Congratulations to NSW DPI's aquatic habitat rehabilitation team whose work won the Environment for Living gold award at the NSW Premier's public sector awards last month. The award recognised the team's work in improving fish habitat in NSW rivers and coastal waterways, much of it reported in Newstreams over the past two years.

Photo: Cameron Lay (left) and Craig Copeland (right) of NSW DPI's aquatic habitat rehabilitation program, with NSW DPI Director-General Richard Sheldrake. Source: NSW Dept of Premier & Cabinet.



Rock fishway opens up Orara River

A new full-width rock-ramp fishway at Skewes Crossing on Orara River near Coffs Harbour has opened up 60km of Orara River for native fish including, hopefully, the endangered eastern freshwater cod. Fish had difficulty swimming upstream due to the height of the crossing and the force of water flowing through the single box culvert. The new culvert is wider and deeper and more secure for fish traffic. NSW DPI project coordinator Matt Gordos says particular thanks go to Rob Argent from Streamline River Restoration for constructing the fishway, and to Coffs Harbour City Council staff who assisted with the box culvert works. Funding was provided by the Australian Federal Government, the NSW Recreation Fishing Habitat Trust via the Orara Valley RiverCare, and Coffs Harbour City Council.

matt.gordos@dpi.nsw.gov.au

<http://www.dpi.nsw.gov.au/aboutus/news/recent-news/fishing-and-aquaculture/improving-fish-passage>



Balranald's Deelder lock now automated

NSW DPI showcased the world's only automated Deelder Lock at Balranald last month. The lock is an innovative fishway, initially developed in Belgium in 1950, and adapted to suit the Balranald site in 2003. Similar to a navigation lock for boats, it operates on one, two or four-hour cycles. Fish enter a chamber which fills with water and then move into the weir pool and swim on. Until recently, the lock was operated manually, which meant fish could only migrate when staff



were present. The Environmental Trust funded automation equipment so that fish passage is always available. An initial assessment identified that more than 14,000 fish and shrimp (from 11 species) moved through the automated fishlock in 39 days. The design is now being installed at several sites on the lower Murray River. For more information contact Lee Baumgartner.

lee.baumgartner@dpi.nsw.gov.au

<http://www.dpi.nsw.gov.au/aboutus/news/recent-news/fishing-and-aquaculture/workshop-new-fishlock>

NSW key fish habitats mapping

NSW DPI is undertaking a statewide project to identify key aquatic habitats important to recreational and commercial fishing, and survival and recovery of threatened aquatic species. Key fish habitats include marine, estuarine and freshwater habitats including rivers, creeks, lakes, lagoons, billabongs, weir pools and impoundments. Dry gullies and some artificial habitats such as sewage treatment ponds and concreted channels have generally been excluded. The features that make up key fish habitats have been selected from a variety of existing digital data sources and combined into maps to help local councils and CMA with their planning. The maps will soon be available on the DPI website. For further information, contact Allan Lugg 02 4441 8969 or Antonia Creese 02 4916 3810.

Sydney weir removal opens up Cabramatta Creek

A joint project between Sydney's Fairfield and Liverpool City Councils has removed a 1.5m weir in Cabramatta Creek allowing fish to travel another 16km up the creek in moderate flows. The removal was funded by Bringing Back the Fish project and complements Fairfield Council's earlier removal of another weir further downstream. NSW DPI is now in discussions with Liverpool City Council to remove a low dropboard weir 200m upstream to improve fish movement in low flows.

Below: The weir site before and after removal. The headwalls remain in place to maintain bank stability. Photos: Scott Nicholls



Joint government award for environment data project

A NSW Government project to help Murray and Murrumbidgee councils better manage development impacts on the environment was awarded the rural and regional planning achievement award by the Planning Institute of Australia in November. The local government spatial data project is a joint effort by NSW Government departments of Primary Industries, Water and Energy, Environment and Climate Change, to make it easier for the councils to access information on the environment. Significantly for NSW DPI and aquatic habitat, the award recognises the considerable input that fisheries ecosystem staff have contributed to the final mapping product. The mapping tools will give our waterways and fish populations added protection during assessment of future developments.

http://www.waterweek.nsw.gov.au/mediarelnr/mm20081117_3953.html

Tide to Table project roundup

For the past three years NSW DPI has worked with OceanWatch Australia's Tide to Table program to improve water quality and aquatic habitat to benefit fish and oyster stocks in the Hawkesbury Nepean and Hunter Central Rivers catchments. Projects excluded stock from waterways upstream of oyster harvest areas, regenerated saltmarsh, removed derelict oyster lease waste, stabilised banks, upgraded dairy effluent systems and installed seagrass-friendly moorings. Work at the 44 project sites involved landholders, oyster farmers, local councils and state government and community groups. The program has also raised awareness of environmental needs of the local seafood industry with connectivity tours around oyster harvest areas and fishing grounds, stakeholder workshops and open day displays. The three year project, funded by the National Landcare program through the Hunter Central Rivers and Hawkesbury Nepean CMAs and partnered with NSW Food Authority and NSW Farmers, is now coming to a close. If you'd like to know more contact Ben Rampano at NSW DPI or Simon Rowe of OceanWatch.

ben.rampano@dpi.nsw.gov.au simon@oceanwatch.org.au

Below left: Commercial fisher workshop at Hexham. Photo: Simon Rowe OceanWatch Australia.

Below right: Bank stabilisation, riparian revegetation and stock exclusion at Glenworth Valley. Photo: Ben Rampano, NSW DPI



Central West road crossings project

NSW DPI is mapping road crossings that affect fish movement in the Castlereagh, Talbragar and Little River catchments in Central West CMA area. In the past three months, 148 sites have been mapped and audited in the Castlereagh catchment. The project is funded by Central West CMA and will help identify ways of providing adequate passage for native fish. Funding has been allocated to remediate crossings that have a major effect on fish movement. Structures will be removed, repaired or replaced with fish friendly road crossings. For more information contact Kirby Byrne, DPI conservation officer at Dubbo.

kirby.byrne@dpi.nsw.gov.au

Barraba road crossing made more fish friendly



NSW DPI teamed up with the Namoi Catchment Management Authority, NSW Environmental Trust and local landholders and contractors to modify a private road crossing that had reduced fish passage and water exchange on Manilla River near Barraba. Fish movement was restricted due to an excessive drop on the downstream side, low water depth, sedimentation and turbulence. Fish-friendly box culverts have improved fish passage and water exchange, and reinstated access to 30km of aquatic habitat in the upper Namoi region. Funding was provided by Namoi CMA through Namoi Aquatic Habitat Initiative, and NSW Environmental Trust through the 'Restoration and rehabilitation' program. So far, nine structures in the catchment have been replaced with fish-friendly designs. For more information, contact Anthony Townsend, NSW DPI conservation officer at Tamworth.

anthony.townsend@dpi.nsw.gov.au

Namoi carp muster removes 410 carp

Despite appalling weather conditions the Namoi carp muster held in Manilla last month was a huge success with almost 300 anglers braving the cold winds to catch over 410 carp weighing over 1040kg. The greatest number of carp caught by an individual was 33 and the largest carp weighed 6.6 kg. The event was run by Namoi CMA, NSW DPI and Manilla Fishing Club. There are now plans to hold similar events in conjunction with local fishing clubs across the catchment.

http://www.namoi.cma.nsw.gov.au/attachments/MR_Manilla_Carp_Muster_a_huge_success_23Nov08%5B1%5D.doc

NSW NEWS

Bringing back fish to St Albans

A project to bring fish back to St Albans has helped restore river health and promote native fish recovery in the Macdonald Valley, part of the Hawkesbury-Nepean catchment. Sixty landholders have eradicated willows, fenced off and revegetated riverbanks, and installed off-stream stock watering systems. In June 2007 a flood gouged many new river channels, creating solid foundations for ongoing improvements in river health. The project produced 5 valley zone maps and brochures, including one on recreational fishing in the Macdonald Valley (right). A community fish locker was built to house fishing gear, and equipment bought with grant funds, including a Streamwatch kit and scales. A fyke net trial was undertaken and bass stocking program commenced. The major event of the project was the carp fishing competition on the St Albans Common lake which attracted 60 entrants who took 600 kg of carp. Project partners were Hawkesbury City Council, Hawkesbury Nepean CMA and Macdonald Valley Association, and funding was provided by the Commonwealth Government's Recreational Fishing Community Grants Program. For more information, contact Kate Hughes.

katehughes@bordnet.com.au

Recreational Fishing in the Macdonald River



A Visitor's Guide

Cooks River renewal plan

Fish in Sydney's Cooks River will have a brighter future with a \$2 million project to reduce the impacts of urban stormwater run off and remediate wetlands to improve water quality, reduce nutrients and increase fish stocks. Sydney Metropolitan CMA will administer the project which is funded by the Commonwealth Government.

<http://www.anthonyalbanese.com.au/news/NXMILSCZYXHYZDBDTBNKKN/index.html>

Kooragang wetlands celebrate 15 years of restoration

Kooragang Wetland Rehabilitation Project recently celebrated 15 years of environmental recovery. The project was initiated by NSW Fisheries through Craig Copeland in 1993 to compensate for fish habitat losses in the Hunter River. It has transformed a degraded industrial landscape into wetlands of international significance, a thriving habitat for fish, shorebirds, threatened species and other wildlife. Aquatic habitat activities include installation of culverts, opening of floodgates, restoration of intertidal saltmarsh and freshwater wetlands, riparian plantings and creation of intertidal lagoons.

<http://www.hcr.cma.nsw.gov.au/kooragang/>

Tree planting for Richmond River

At Casino, on the NSW north coast, 800 m of riverbank has been planted with 2500 trees as part of an sustainable urban business program between Ballina, Lismore and Richmond River councils. Casino Boolangle Land Council and Richmond Valley Council organised the tree planting as part of a project to improve the riparian health of the river and restore the Junbung Walkway, a site of cultural significance to the local indigenous population and severely damaged in the January 2008 floods. For more information contact Bryan Green.

bryang@ballina.nsw.gov.au

Clarence Floodplain Project wins national local government awards

Clarence Floodplain Project has won the 2008 national local government award for natural resource management for its work in reviving floodplain watercourses and wetlands over the past 11 years. The project has also taken out the national local government award for excellence. The awards recognise, reward and promote the innovative work of local governments across Australia.

http://www.clarence.nsw.gov.au/cmst/cvc009/view_doc.asp?id=4225&cat=211



Photo: An aerial view of the part of the Clarence floodplain. Source: Clarence Floodplain Project.

AUSTRALIAN NEWS

Strong link between coastal habitat and fisheries production

Coastal habitat is strongly linked to fisheries production according to recent Queensland research. The presence of mangroves, salt marsh and channels explains the largest proportion of production, suggesting the importance of connected tidal wetlands for fisheries. Barramundi catch-per-unit-effort was best explained by the number of wetland patches, mangrove connectivity and wetland connectivity. Catch-per-unit-effort for the Gulf of Carpentaria was highly correlated with wetland connectivity, the number of estuaries and seagrass patch density. Read the abstract of the paper by Meynecke et al in Biological Conservation 141(4).

<http://espace.library.uq.edu.au/view/UQ:152177>

Tasmanian group wins national Rivercare award

Winner of the MDBC Rivercare award at the National Landcare Awards in October was Mount Roland Rivercare group for its work on parts of the Dasher and Minnow tributaries of Tasmania's Mersey River. This group has developed Rivercare plans, installed rock riffles and large woody debris to slow streamflows and create fish habitat, erected more than 48 kilometres of fencing, installed 117 off-stream watering troughs for livestock, removed willows, and planted 23,000 native plants along 28 ha of streambank which has reduced bank erosion dramatically and improved water quality. Blackfish



Above: The rehabilitated Dasher River. Photo: Eliza Wood.

<http://www.abc.net.au/rural/content/2008/s2399861.htm>

and eels have returned to the Dasher River and rare galaxia fish were recently recorded in the river.

<http://www.landcareheroes.com/profile/mount-roland-rivercare-catchment-inc/63/22/>

MDB icon sites are in decline

Severe drought conditions continue to impact on wetland, floodplain and riverine habitats in the southern Murray-Darling basin according to a new report into the condition of icon sites in the region. The icon sites are the Coorong and Murray Mouth, Chowilla Lindsay-Wallpolla, Hattah lakes, Gunbower, Koondrook Perricoota, Barmah-Millewa Forest, and the River Murray channel. The overall river condition indicates a poor fish population but new fishways are restoring passage for migratory fish and resnagging has increased habitat for large-bodied fish between Lake Hume and Yarrawonga.

http://www.mdbc.gov.au/_data/page/1327/2008_icon_site_report.pdf

Even modest watering brings ecological hope

Despite the small quantity of The Living Murray water available in 2007-08, there have been some key beneficial outcomes. River red gums at Chowilla had a significant increase in canopy cover following a second watering. Highly stressed river red gums at Lindsay-Wallpolla have shown a positive response to the watering with new leaf growth. Fish populations have been sustained in the Wakool River system, and bird, frog and tortoise numbers have increased at watered sites.

www.mdbc.gov.au/_data/page/1327/EnvironWaterReport_2007-08.pdf

Carp cages available to the community

Carp cages are now available to community groups in the Murray Darling Basin. The cages exploit carp's ability to jump over and push under obstacles, and at one wetland removed seven tonnes of breeding carp in 10 weeks. Information about the cages, along with designs for carp push traps currently being developed, are on the website of SARDI Aquatic Sciences. Groups interested in using the cages can contact Ben McDonald or Leigh Thwaites at SARDI.

smith.ben2@saugov.sa.gov.au thwaites.leigh@saugov.sa.gov.au

http://www.sardi.sa.gov.au/pages/aquatic/iw_ee/invspec/is_subpr_ov.htm:sectID=288&tempID=1

New fishway on Loddon river

A 47-metre vertical slot fishway will encourage Murray cod, silver perch, golden perch, gudgeon and Murray rainbow fish to navigate Kerang Weir on the Loddon River in Victoria and migrate between the Loddon, Murray, and Pyramid Creek. The fishway, part of the five-year Loddon stressed rivers restoration plan, required modifications to the weir and the bridge 200m upstream to increase water depth. It opens up 50km of the Loddon River to additional fish passage and habitat.

http://www.weeklytimesnow.com.au/article/2008/11/24/26961_fishing.html

New fishways in southern gulf region

Three new fishways have been constructed in Queensland's southern gulf region after studies found that 24 of the 50 species of native fish found in the Nicholson and Gregory rivers are migratory and need to travel upstream.

Photo: Prefabricated cones inside the Gin Arm causeway create areas of slow moving water.
Source:

http://www.southerngulf.com.au/site/pdfs/SG%20Links%20Sept_Oct%202008.pdf



Riparian canopy is a major source of aquatic food and habitat

Organic matter from riparian areas is a major source of food and habitat for aquatic ecosystems. Researchers have now found that organic matter from riparian areas on agricultural land in south-eastern Australia is less than 20% than from intact remnants of native vegetation. Stocks of streambed organic matters were very low where streamside canopy cover was below 35%. The paper by Reid et al in the November issue of Marine & Freshwater Research recommends restoration of canopy cover along cleared agricultural streams.

<http://www.publish.csiro.au/nid/126/paper/MF08012.htm>

Environmental water advisory committee appointed

The Federal Government has appointed a scientific advisory committee to advise on the use of water purchased to restore rivers and wetlands in the Murray-Darling Basin. Committee members have expertise in hydrology, river and floodplain ecology, wetland ecology, ecological risk assessment and management of aquatic ecosystems. They will advise on environmental watering priorities and monitoring, and knowledge gaps.

<http://www.environment.gov.au/minister/wong/2008/mr20081118.html>

Marine habitat scholarship program expands

The Queensland Department of Primary Industries and Fisheries (DPI&F) has expanded its successful marine fish habitat scholarship program. Originally established with the University of Queensland, the program now also includes James Cook and Central Queensland universities. Honours scholarships of up to \$5000 are available for marine fish habitat projects. For more information call the contact listed in the website below, even if the closing date has passed.

http://www.dpi.qld.gov.au/cps/rde/dpi/hs.xsl/28_11794_ENA_HTML.htm

INTERNATIONAL HABITAT NEWS

French fish communities are changing

Global warming has had a dramatic impact on structure of fish communities in French rivers. Using data collected on several streams and several sites for 15–25 years, researchers have found that the proportion of southern-living and warm-water fish in the rivers has increased from 20% and 40%, respectively, to 50% between 1979 and 2004.

<http://www.sciencedaily.com/releases/2008/11/081106064631.htm>

US freshwater fish dwindling

Nearly 40 percent of US freshwater fish species are in jeopardy according to a recent study which lists 700 species as vulnerable (230), threatened (190) or endangered (280). Another 61 are extinct. Primary causes are habitat loss, dwindling range and introduction of non-native species. Climate change may further affect species.

<http://fisc.er.usgs.gov/afs/>

FISH HABITAT RESOURCES

First detailed environmental study of Narran Lakes released

The first detailed environmental study of the Narran floodplain wetlands in the northern Murray-Darling Basin suggests the impacts of development could be greater than the potential impacts of climate change. The lakes have been inundated in 27 of the past 32 years, but under current upstream water use, dry periods could increase from 1-2 years to nearly 20 years. Unlike the other river systems of this region the Narran River flows into wetlands, not into the Barwon Darling System.

http://www.mdbc.gov.au/_data/page/15/MDBC_12800_Narran_Ecosystem_sm.pdf

New MDBC report maps farm dams

A comparison of historic and recent satellite imagery has shown the number of dams in the eastern half of the Murray-Darling Basin rose by 6 per cent or 31,000 dams between 1994 and 2005. The highest density of dams is within peri-urban and rural residential areas around major population centres. Catchments estimated to have the greatest overall increase were the Condamine-Culgoa, followed by the Namoi, Moonie and the Gwydir.

http://www.mdbc.gov.au/nrm/Risks_to_Shared_Water_Resource/risks_to_shared_water_resources/man_made_water_bodies_including_farm_dams_in_the_murray-Darling_Basin_report

Wetlands for our future

This new report by the Australian Conservation Foundation and Inland Rivers Network subtitled 'Meeting national and international wetland commitments in the Murray-Darling Basin', proposes ways to recover water for wetlands, improve Ramsar and protected areas designation and management, and integrate wetlands protection within broader environmental legislation.

http://www.acfonline.org.au/uploads/res/Ramsar_paper_final_201008.pdf

New waterway monitoring manual

The Queensland Community Waterway Monitoring Manual outlines methods for monitoring water quality, waterbug and stream condition and habitat assessment. Field sheets and other record sheet templates are included.

http://www.nrw.qld.gov.au/services_resources/item_details.php?item_id=29681

Riparian and wetland areas on cane farms

This booklet is one of the SmartCane Best Management Practice series produced by Canegrowers and the Bureau of Sugar Experimental Stations Ltd. It will assist cane growers and others working with the sugar industry to improve environmental performance on cane farms.

http://www.wetlandcare.com.au/Content/templates/news_detail.asp?articleid=681&zoneid=1

New freshwater fishes guide available

A new freshwater fishes guide written by Gunther Schmida is now available from the Wild Australia Guide range from Steve Parish Publishing. Gunther Schmida is a renowned fish photographer and the guide is packed with his Gunther's beautiful photos. The guide has been developed for the general public and outlines the unique characteristics of Australia's freshwater species, together with their diet and reproduction. For more information go to

<http://www.steveparish.com.au/product?code=1018108>

Saltwater wetlands rehabilitation manual

This new manual from NSW Dept of Environment and Climate Change focuses on rehabilitation of wetlands influenced by brackish or saline water, home to swamp forests, saltmarshes, mangrove forests and seagrass beds. Ring 131 555 for a free copy.

HABITAT DATES

June 2009: Australian Society of Fish Biology conference, Fremantle WA

<http://www.ipfc2009asfb.com/call.html>

July 2009: Marine connectivity AMSA 2009 international conference, Adelaide

http://www.amsa.asn.au/conference/conf2009/images/AMSA2009_Flyer.pdf

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, and their habitat requirements.
- 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 (Cronulla) 02 9527 8411

Sydney (Wollstonecraft) 02 8437 4909

Batemans Bay 02 4478 9103

Huskisson 02 4441 8969

Port Stephens 02 4982 1232

Wollongbar 02 6626 1200

Tamworth 02 6763 1100

Dubbo 02 6881 1270

Tumut 02 6947 4188

Narrandera 02 6959 9021

Albury 02 6042 4200

Research staff

Port Stephens 02 4982 1232,

Narrandera 02 6959 9021

Cronulla 02 9527 8411

Website

<http://www.dpi.nsw.gov.au/fisheries/habitat>.

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

with your news items and suggestions.

Subscribe to Newstreams

Newstreams is a free newsletter available to anyone interested in fish habitat. To subscribe, email the editor, Rebecca Lines-Kelly, at

rebecca.lines-kelly@dpi.nsw.gov.au.

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