

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 Industry & Investment NSW. 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.

DEPARTMENT NEWS

Fishers hyped on habitat

Over 100 recreational fishers met to talk about fish habitat at the recent Fishers for Fish Habitat Forum at Lake Macquarie. Over a full and productive 2 days they caught up on recent habitat research, heard from habitat heroes about their work and experiences, braved the wild weather and got their hands dirty, planting close to 100 trees in about 20 minutes. They also identified habitat issues in catchments across the State. Tom Sadler, a keen fisher and conservationist from the USA, provided valuable insight into how they have got fish habitat onto the political agenda and demonstrated the level of on-ground commitment to habitat activities that many recreational anglers have in the USA. ABC Radio's *The Big Fish* interviewed participants, including Tom Sadler, Rodney Tonkin about his ongoing war on willows and Christian Gough about his group's Ledgecare initiative. The Forum was funded by the Recreational Fishing Trusts, the Forum bus trip and tree planting were sponsored by the Hunter-Central Rivers CMA and Bioline, SolFX and Enviroweight provided goodies for participants. To hear the interviews:

http://blogs.abc.net.au/nsw/2010/06/habitat-and-greenbacks-on-this-weeks-big-fish.html?site=sydney&program=central_coast_the_big_fish and

http://blogs.abc.net.au/nsw/2010/06/the-big-fish-saturday-the-19th-of-june.html?site=sydney&program=central_coast_the_big_fish

Fish get a leg up on the Wallamba

NATIVE fish such as Australian Bass will be able to move more freely along the Wallamba River thanks to the construction of another fishway on Dargavilles Crossing, 23 kilometres northwest of Forster. The 'rock ramp' fishway opens up an additional three kilometres of upstream habitat to native fish. An important aspect of the success of this project was the support of the landholder who provided access through private paddocks. This fishway project was a collaboration between Industry and Investment NSW, Hunter-Central Rivers Catchment Management Authority (CMA), Greater Taree City Council, the Council of Freshwater Anglers and the NSW Recreational Fishing Trusts. Construction was managed by Streamline River Restoration.

For more information contact [Jenny Fredrickson](#) at Port Stephens Fisheries Institute on 02 4916 3834.



Recreational fishers doing their bit to improve fish habitat in the Kooragang wetlands.

Photo: E. Baker



The Dargavilles Crossing fishway links important estuarine and freshwater aquatic habitat areas of the Wallamba River.

Photo: R. Argent

Recycling carp from Moira Lake

Approximately 32 tonnes of juvenile European carp, or about 1.5 million fish, have been successfully removed from Moira Lake, south of Deniliquin. Moira Lake once supported one of the largest commercial fisheries in inland Australia, but now carp comprise around 96 per cent of the lake's fish biomass. The regular carp catch is part of a strategy developed by Industry & Investment NSW, Forests NSW and the Murray Wetlands Working Group to rehabilitate Moira Lake. The carp have gone to a processor to be made into fertiliser and to other markets including fish emulsion and crayfish bait, while some of the smaller fish (up to 70mm) are going to Japan for pet food trials. A further 40 tonnes of carp (size 50-100mm) could not be removed from the lake as their state of decay made them unsuitable for processing. These remaining fish provided a welcome meal for waiting birds, including sea eagles and kites. More information:

<http://www.dpi.nsw.gov.au/aboutus/news/recent-news/fishing-and-aquaculture/carp-removed-from-moira-lake>

Water weed workshops

The Recognising Water Weeds workshops held over the last few months have provided nearly 200 people with skills in weed identification and management. Live plants were used to show the key features that distinguish noxious weeds from their native look-a-likes. Early detection is critical for the eradication of aquatic weeds as it enables infestations to be addressed when they are small, saving time and money. Having more people across the State trained to identify these pests will help. More workshops will be offered in the summer.

For more information on the Recognising Water Weeds workshops contact the NSW Aquatic Weeds Project Officer on 6640 1644 or email melissa.freeman@industry.nsw.gov.au.

If you suspect a water weed infestation please contact your local council Weeds Officer or contact the Weeds Hotline on 1800 680 244 or email weeds@industry.nsw.gov.au.



Workshop participants had the opportunity to learn how to identify water weeds and distinguish them from natives that look similar. Photo: N. Wale

Fish Friendly Councils

The Fish Friendly Councils Program encourages local councils to play a greater role in native fish conservation and also helps recognise those councils doing good work for fish without knowing it. Councils' activities in water and sewer management, vegetation rehabilitation, stormwater management and roads construction and associated maintenance have a great impact on the health of waterways and native fish. Councils can – and many do - play an important role in restoring fish habitat and encouraging native fish to return to the rivers and creeks. The program was launched with the distribution to 152 local councils of the *10 Top Tips for Fish Friendly Councils* brochure supported by a web page on the I&I NSW website.

For more information, contact [Charlotte Jenkins](mailto:Charlotte.Jenkins@industry.nsw.gov.au) on 02 6626 1107 or visit:

www.dpi.nsw.gov.au/fisheries/habitat/rehabilitating/fish-friendly



Encouraging local councils to promote the fish-friendly work they do is an important aspect of the Fish Friendly Councils Program. Photo: C. Jenkins

Red letter day for river red gums

Riverina Red Gum Forests Agreement will protect the internationally significant River Red Gum forests and woodlands. The decision by the NSW Government will protect 100,000 hectares of trees – many of which are more than 300 years old – and two aquatic endangered ecological communities. It will also create two wetlands of international significance: Millewa and Werai, and support two Living Murray icon sites - Millewa Forest and the River Murray Channel. More information:

<http://www.environment.nsw.gov.au/resources/MinMedia/MinMedia10051901.pdf>

Ongoing information about the protection of the river red gum forests can be found at:

<http://www.riverredgums.nsw.gov.au/home>



Young river red gums on the banks of the Murray River.
Photo: I&I NSW

AUSTRALIAN NEWS

More RAMSAR for Kakadu

Kakadu National Park will become a single, internationally recognised Ramsar wetland, with the expansion and merger of its two separate Ramsar sites. The merger added another 600,000 hectares to bring the Ramsar boundaries in line with the existing park boundaries. More information:

<http://www.environment.gov.au/parks/publications/media-releases/mr12may10.html>

One healthy wetland is worth \$14m

An economic study of Hattah Lakes in northern Victoria has found the wetlands, when healthy, are worth \$14.5 million dollars a year to the economy. The study by the Australian Conservation Foundation attempted to put a dollar value on the Ramsar-listed wetlands' contributions to the rural economy, both 'direct' (tourism and recreation) and 'indirect' (water filtration, flood control, water storage and habitat). These findings are consistent with other assessments around the world of the economic value of wetlands. However, a healthy wetland in the Murray-Darling Basin is an increasingly rare find as 90 per cent of all floodplain wetlands in the Murray-Darling Basin have been lost or severely degraded since European settlement. To download the report (260kb):

http://www.acfonline.org.au/uploads/res/Wetlands_economic_report_1-6-10.pdf



The Hattah Lakes wetlands – providing economic as well as environmental and social value. Photo: www.environment.gov.au

New fertiliser regulations to protect waterways

The Western Australian State Government is to introduce new limits on the amount of phosphorus contained in 'home garden' fertiliser. Currently, phosphorus from residential properties contributes about 5.6 tonnes of phosphorus each year to the Swan-Canning river system. From 1 January 2011 phosphorus in lawn fertilisers would be limited to a maximum of one per cent (currently up to 3.5 per cent). The limit for garden fertilisers is lower still. The regulations will not apply to agricultural or horticultural use. More information:

<http://www.mediastatements.wa.gov.au/Pages/Results.aspx?ItemID=133406>

Hope for the Coorong

The South Australian Government has put together a 20-year strategy to help restore the health of the Coorong, Lower Lakes and Murray Mouth region. Among the programs outlined are key actions for overcoming hypersalinity and restoring marine life in the south Coorong lagoon, guarding against the risk of acidification with large-scale revegetation work and involving local communities and indigenous groups in the future management. There are four projects dealing with the urgent issues of low water levels, reduced flows, increasing salinity and acidification of exposed soils and waters that have received \$21million in priority funding from the Federal Government. More information:

<http://www.environment.sa.gov.au/cllmm/>

Restoring flow regimes has its ups and downs

Restoring rivers' natural flow regimes would seem to be a good idea, however a study by scientists in northern Victoria has shown that it can also have disadvantages. The researchers note that this is scarcely surprising given that the rivers' catchments are rarely pristine and the altered flow regime is only one of the many human-induced changes affecting the state of any given waterway. This research by Paul Reich and others is published in *River Research and Applications* Vol 26, Issue 5. The abstract can be found at:

<http://www3.interscience.wiley.com/journal/122373222/abstract>

INTERNATIONAL NEWS

Effects of oil spills on marine and coastal wildlife

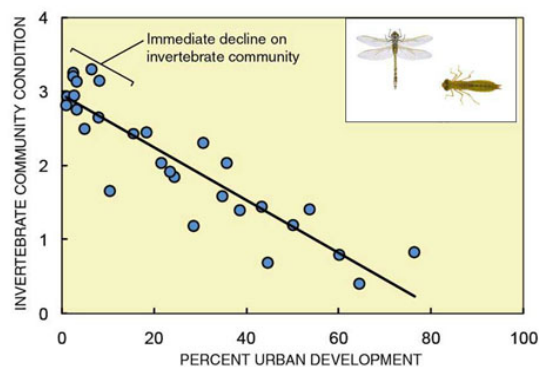
Recent off-shore oil spills off the Western Australian coast and in the Gulf of Mexico are highlighting the diverse impacts such disasters have on natural ecosystems. The University of Florida Extension group looks at the effects of oil spills on marine wildlife and provides a succinct summary.

<http://www.thefishsite.com/articles/909/effects-of-oil-spills-on-marine-and-coastal-wildlife>

A little bit of urbanisation goes a long way in harming aquatic life

The number of native fish and aquatic insects, especially those that are pollution sensitive, declines in urban and suburban streams at low levels of development according to research by the U.S. Geological Survey. The study examined the effects of urbanisation on algae, aquatic insects, fish, habitat and chemistry in urban streams in nine metropolitan areas across the US. When the area covered by impervious materials – which prevent infiltration and promote run-off - reaches 10 percent of a catchment area, many types of pollution sensitive aquatic insects decline by as much as one third. The study found that there is no 'safezone,' meaning that even minimal or early stages of development can negatively affect aquatic life in urban streams. The research also showed that land cover prior to urbanisation can affect how aquatic insects and fish respond. For example, aquatic communities in urban streams where they were already degraded by previous agricultural land-use activities did not decline in response to urbanisation. In contrast, aquatic communities did decline in metropolitan areas where forested land was converted to urban land. For information about the study and its findings:

<http://water.usgs.gov/nawqa/urban/html/pubs/invert2010.html>



The relationship between urbanisation and the condition of aquatic community shows the immediate impact of even relatively low levels of development. Image:
<http://water.usgs.gov/nawqa/urban/html/pubs/invert2010.html>

Seachange

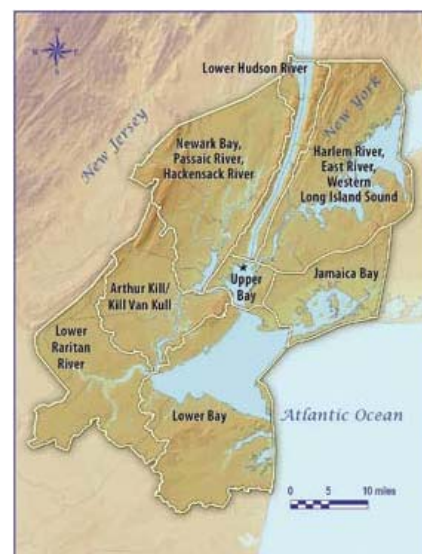
The first comprehensive synthesis on the effects of climate change on the world's oceans has found they are now changing at a rate not seen for several million years. The authors reviewed hundreds of articles on the impact of climate change on the ocean ecosystems and identified a number of universal ways that these important ecosystems are changing, including rapidly warming and acidifying oceans, changes in water circulation and expansion of dead zones within the ocean depths. The results of these changes include less abundant coral reefs, sea grasses and mangroves, all of which are important fish nurseries; fewer, smaller fish; a breakdown in food chains; changes in the distribution of marine life; and more frequent diseases and pests among marine organisms. This article is one in a special edition of *Science* ([Vol 328, Issue 5985](#)) on changing oceans. Read the abstract:

<http://www.sciencemag.org/cgi/content/abstract/328/5985/1523>

A mosaic of fish habitat – big plans for New Jersey

The U.S. Army Corps of Engineers, in conjunction with more than 60 partnering organisations, has unveiled an comprehensive restoration plan for the New York-New Jersey Harbor Estuary, an area of 1,600 square miles. The primary goal of the New York-New Jersey Harbor Estuary Comprehensive Restoration Plan is to develop a mosaic of habitats that provides maximum ecological and societal benefits to the region. The habitats that are being considered for restoration and creation include coastal wetlands, shellfish reefs, islands for waterbirds, coastal and maritime forests, and eelgrass beds. Some of the plan's short-term goals include creating 1,200 acres of coastal wetlands by the year 2015 and 15,200 by 2050 and creating or restoring 250 acres of coastal and maritime forest by 2015 and 1,000 by 2050. Success with salt marshes within some of the estuary's regional areas is providing tangible encouragement. For more information:

http://www.fisheries.org/afs/docs/fisheries/fisheries_3505.pdf (page 213)



The scale of this restoration project – an area of 1 600 square miles. Image: USACE

Big boats and riverine fish don't mix

A recent study suggests that the currents created by vessels navigating river channels can have negative impacts on certain fish. The research, in a large river system in lowland Germany, found that impacts vary depending on fish life-history characteristics. For example, roach whose larvae settle along the bottom near the shoreline were affected more than perch whose larval stage is in the open water. The key issues associated with boat traffic included direct contact leading to mortality, pollutants and toxins from fuels and paints and increased sediments in the water column. Read the abstract of the article by V. Huckstorf and others in *River Research and Applications*:

<http://www3.interscience.wiley.com/journal/123480366/abstract?CRETRY=1&SRETRY=0>

A catch on carp in New Zealand

The koi carp, which infest the Waikato region's waterways, may be susceptible to trapping at key points in their life cycle. A study has found that most of the koi moved out of the river and into lakes and wetlands during August and September in preparation for the spawning season, which peaks in October. They also moved in response to changes in water levels and flow rates in the channels linking these habitats to the river. It appears that the koi are vulnerable to trapping when they are moving between the river and the lakes, and this may provide an opportunity for population control. More information:

<http://www.waikato.ac.nz/news-events/media/2010/05Koi%20carp%20study%20revels%20life%20cycle%20may%20hold%20answers.shtml>

HABITAT RESOURCES

Wetlands Policy for NSW

The policy provides a set of guiding principles that all government agencies will adopt and all stakeholders can refer to when making decisions on wetlands management and conservation.

<http://www.environment.nsw.gov.au/wetlands/NSWWetlandsPolicy.htm>

Top Ten Tips for Fish Friendly Councils

A resource for local councils who wish to ensure their activities do all they can to improve aquatic habitat and outcomes for native fish. Councils are also encouraged to work with their local communities and promote the good work they do.

www.dpi.nsw.gov.au/fisheries/habitat/rehabilitating/fish-friendly



FishHabitatNetwork

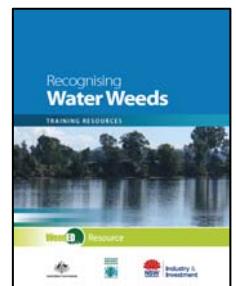
An online resource for recreational fishers interested in learning about and contributing to activities to rehabilitate fish habitat and make more fish.

www.fishhabitatnetwork.com.au

Recognising Water Weeds

A resource for weed professionals in NSW. It covers all aspects of water weed identification.

<http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/training>



Clean Up The River - An Interactive Recycling Game

Clean Up Australia has launched *Clean Up the River: An Interactive Recycling Game for Primary School Students*. This is free resource and can be tailored for State and year level.

<http://www.cleanup.org.au/au/Campaigns/clean-up-the-river---an-interactive-recycling-game.html>



HABITAT DATES

- | | |
|------------------|---|
| 30 June | National Willows Taskforce launch of the willows DVD 'A Way With Willows', Berrima NSW. It will include a guided walk through the managed site and provide an opportunity to talk with others involved in willow management. Contact Kelly.Snell@dpi.vic.gov.au to RSVP.
www.weeds.org.au/WoNS/willows |
| 12-14 July | Australian Fish Biology conference, Melbourne
www.asfb.org.au/ |
| 13 - 16 July | IIFET 2010: Economics of fish resources and aquatic ecosystems: balancing uses, balancing costs, Montpellier, France
/www.colloque.ird.fr/iifet-2010 |
| 11-14 October | 13th International Riversymposium, Perth
www.riversymposium.com |
| 10 - 12 November | 19th NSW Coastal Conference, Coastal Management – all aboard, making it work!, Batemans Bay Soldiers Club, Batemans Bay, NSW
www.coastalconference.com.au |

ABOUT I&I NSW AND FISH HABITAT

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

On-ground activities

- 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.

Research activities

- 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.

Policy and planning activities

- 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 4428 3401
Port Stephens - 02 4982 1232
Wollongbar - 02 6626 1200
Tamworth - 02 6763 1100
Dubbo - 02 6881 1270
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>

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newstreams@industry.nsw.gov.au

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