

News, research, on-ground works, innovation and events with a focus on improving fish habitat

AUSTRALIAN NEWS

And the winner is ... the Glenelg River (and its fish)

The Glenelg River in Victoria is the 2013 Australian Riverprize winner. The award recognises the Glenelg Hopkins CMA's success working with the community on river restoration activities and the improvement in river health those activities have led to. The river was at the point of ecological collapse during the mid-2000s due to low flows, poor water quality, loss of habitat, and weed and carp invasion. Over 620 farming families, conservation groups and industry have all rallied together to construct 1600km of fencing, plant over 500,000 trees and directly seed 770km of riparian zone to protect the river. The

result? Over 150% increase in native fish populations in restored river reaches. For more information:

<http://www.ghcma.vic.gov.au/riverprize/>

More information about the project:

http://www.ghcma.vic.gov.au/media/uploads/FINAL%208431%20Glenelg%20River_R_1706.pdf



The Glenelg River – a focus for restoration work that is bringing about dividends for fish and local communities. Image: www.ghcma.vic.gov.au

Another *Fish Friendly Marina* gets onboard

Sydney's Middle Harbour Yacht Club is the latest marina to be awarded 'Fish Friendly' status and accredited as a Level 3 'International Clean Marina' by the Marina Industries Association (MIA). The *Fish Friendly Marinas* initiative, developed by Fisheries NSW in collaboration with the MIA and the NSW Boating Industry Association, acknowledges that marinas can provide important habitats for fish. It outlines how to manage marinas to maximise the benefits for fish and recognises those operators actively working to improve fish habitat. Being *Fish Friendly* aligns with the International Clean Marina Program goals to reduce non-point source pollution and promote clean water and clean air. For more on this story:

www.marinas.net.au/associationnews/international-clean-marina-fish-friendly-accreditation-for-mhyc

For more about *Fish Friendly Marinas*:

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



An accredited *Fish Friendly* marina spreading the fish habitat message to its clients and visitors. Photo: Scott Nicholls

Bass anglers habitat heroes

The ongoing work of Bass Sydney for the benefits of their beloved Australian Bass has been highlighted in a feature in the FRDC's magazine, *Fish*. The Club's habitat work is no short-term hobby with plans to work on the Nepean River site for the next five to 10 years. For Alan Izzard, whose love for fish has led to a passion for the environment, care for waterways is a simple matter of cause and effect. He says: "I consider rivers and creeks to be the veins and arteries of the land. If we let them die, the whole country dies. Riparian vegetation is not just food for bass, but it also acts as a filtration system and holds the banks together, as well as supplying important habitat for platypuses, birds and other creatures." To read the article:

http://frdc.com.au/knowledge/publications/fish/Pages/21-4_articles/36_Bass-anglers-take-up-habitat-cause.aspx



The club's environmental focus has resulted in three members becoming qualified bush regenerators, including club president Ashley Thamm, pictured here enjoying the rewards of the Club's efforts to make more fish naturally. Photo source: Ashley Thamm.

Fresh, salt – it's no worries for Tilapia

Researchers have found that the highly invasive Tilapia readily adjust to widely varying levels of water salinity, from fresh to salty. The fish are able to alter the proteins in the skin of their gills to adjust the amount of salt that can enter the body, allowing them to both survive and thrive in any aquatic habitat. Tilapia are a concern in northern Australia and pose a threat to the Murray-Darling Basin due to their proximity in coastal waterways. For more about this research:

<http://phys.org/news/2013-10-fish-saltwater.html#jCp>

For more information about Tilapia in Australia:

www.daff.qld.gov.au/fisheries/pest-fish/stop-the-spread-preventing-tilapia-establishing-in-the-murray-darling-basin

Another Sunday morning, another creek bank

A hot summer's Sunday morning and a good group gathered to revegetate a severely eroding creek bank along the Fawcetts Creek boundary of the Kyogle Golf Club, in north-eastern NSW. The group planted over 150 native plants and learnt a bit more about how fish need trees. The work has lots of hands-on support from the Kyogle Fish Acclimatisation Society and local Landcare with funding through the NSW Habitat Action Grants.

What a great way to spend a Sunday morning!
Volunteers planting trees for fish at the Kyogle Golf Club.
Photo: Liz Baker.



Saltwater electrofishing

Electrofishing is the primary technique for surveying freshwater habitats but now researchers can survey estuarine and marine fish populations using the world's only electro-fishing boat capable of operating in salt water. The research paper *Using new electrofishing technology to amp-up fish sampling in estuarine habitats* is available at:

<http://onlinelibrary.wiley.com/doi/10.1111/jfb.12044/full>

Or watch a video of electro-fishing in Victoria:

<http://www.youtube.com/watch?v=9Z-12p9-OIM>

Recognition for fishy business in Dubbo

They may not have won but getting to the semi-finals of the 2013 NSW / ACT Regional Achievement and Community Awards recognises the huge effort Dubbo Macquarie River Bushcare Group is putting in to make their area more fish friendly. Their 'Protect-Repair-Connect' project aims to clean up the Macquarie River and other waterways in and around Dubbo in central west NSW. The group and their project partners have been working on 17 different areas and to date have clocked up over 1370 volunteer hours, removed 831kg of rubbish, planted 270 native trees and shrubs and placed logs into the river to create some extra snaggy homes for the local native fish. They have also started the big job of managing willow infestations. To keep track of their efforts:

<https://www.facebook.com/dubbomacquarieriver.bushcare>



The group have treated 8.7 hectares of weeds to prepare riparian areas for replanting. Photo: Dubbo Macquarie River Bushcare Group.

Golden Perch spawning ends 8 year 'dry spell'

Recent monitoring found good levels of Golden Perch spawning in the Barmah Millewa section of the river for the first time since 2005. The long drought and blackwater events experienced in the mid-Murray River have meant spawning of Golden Perch has been almost non-existent in the region for the past eight years. Spawning levels have remained low despite the return of higher flows over the past two years and an increased number of adult Golden Perch. This year, naturally higher spring flows down the Murray were extended by environmental water releases, which may have contributed to the Golden Perch spawning event. For more information:

<http://www.depi.vic.gov.au/about-us/media-centre/media-releases/golden-perch-spawning-ends-8-year-dry-spell>



Golden Perch eggs – the result of the first detected spawning in the mid-Murray River since 2005. Photo: Zeb Tonkin.

Willows in the spotlight in Victoria

Willows are classified as a Weed of National Significance and are one of the most serious riverbank and wetland weeds in Australia. Recent action and focus on willows in Victoria includes:

- The removal of a one kilometre stretch of dead Crack Willow trees along the Campaspe River, north-central Victoria: www.nccma.vic.gov.au/Media_and_Events/Media_Releases/index.aspx?itemDetails=7007
- A new willow management strategy for north-east Victoria: www.necma.vic.gov.au/NewsJobsTenders/MediaReleases/Documents/images/20130913_Willow_Management_In_NorthEastVictoria.pdf
- Willow control work in the Yea River Wetlands as part of Goulburn Broken CMA's 'Hooray for Yea' program: www.gbcma.vic.gov.au/default.asp?ID=news_events&post=419&tpl=news_full

1 day - 3.2 tonnes of debris

In just 3 hours, 3.2 tonne of debris was removed from Kincumber Creek as part of the Brisbane Waters Foreshore Clean Up Program. Local oyster grower, Simon Funnel, and representatives from the Fisheries NSW, Oceanwatch Australia, Gosford City Council and volunteers from Macmasters Beach Surf Life Saving Club were there to help volunteers from the Tangaroa Blue Foundation. Tangaroa Blue Foundation is the winner of the Coastcare Award in the 2013 WA Landcare Awards. The Foundation coordinates the Australian Marine Debris Initiative, a network of volunteers, communities, organisations and agencies around the country. More information:

<http://tangaroablue.org/about-us.html>

Katarapko gets a drink

Environmental water has started flowing into Carpark Lagoons at Katarapko and will continue until March 2014. Katarapko Creek, an anabranch of the Murray River in the Riverland region of South Australia, has had reduced frequency of natural flooding over many decades. This has meant that many of the system's temporary wetlands are less frequently inundated and, as a result, declining in health. Although an improvement in the environmental condition of the wetlands was observed following the 2010/11 flood event, the extra water between floods helps continue the gradual improvement of the ecological condition of the wetland and supports many plant and animal species. Fish will benefit too, particularly Murray Hardyhead and Golden Perch, and potentially, the Southern Purple Spotted Gudgeon that was once so common in these wetlands they were used as bait. For more information:

www.naturalresources.sa.gov.au/samurraydarlingbasin/news/131202-pumping-the-wet-into-wet-land



Carpark lagoon when dry and when wet. Source: SA Department of Environment and Natural Resources.

Howard Hendrick, a local who has lived and fished around the Katarapko since the 1920s, is one who is happy to see more water to help the wetlands maintain themselves for longer periods between high river cycles and to see the benefits for fish. He says: *But the last 12 to 14 fourteen years we've had no floods, no breeding up and these fish have gone out and there's very few are being hatched out and coming down this way.* Source:

www.dpi.nsw.gov.au/_data/assets/pdf_file/0019/411742/Katarapko_FINAL_Jan-2013-for-web.pdf

Estuary perch habitat crucial to spawning success

Research on the habitat Estuary Perch need for successful spawning has found that complex structure, such as woody debris, is a crucial requirement. During their winter spawning, these fish generally make multiple, large-scale (up to 50 km) spawning migrations from where they are living downstream to specific locations close to river entrances. Once there, they have a small home range around a preferred site, and areas of woody debris are prime real estate. Degradation of riverbank habitat, particularly riparian vegetation, means that there is very little recruitment of new large wooden debris and it appears spawning output may be limited by the number of fish that can physically fit into the area of preferred habitat present within a spawning ground. For more on this research by van der Meulen and others in *Marine and Freshwater Research*:

<http://dx.doi.org/10.1071/MF13060>



Estuary Perch in ideal habitat.
Photo: Dylan van der Meulen.

What champions!

In 2013, students involved in the Creative Catchment Kids program researched and wrote stories about 'Catchment Champions'; people who have made important contributions to managing natural resources in their local community. The list includes 5 boys who decided to 'De-reek the creek' and along the way found out a whole lot more about what native fish need to survive and thrive:

www.envirostories.com.au/portfolio/2013-book41/

A familiar habitat hero in the form of Luke Pearce:

www.envirostories.com.au/portfolio/2013-book57/

And another champion who likes to think like a fish, John Conallin:

www.envirostories.com.au/portfolio/2013-book30/

To view all the Catchment Champion books:

www.envirostories.com.au/stories/story-books/2013books-2/



The 'De-reek the Creek' boys



Luke Pearce



John Conallin

ImageLImages sourced from each Envirostory (www.envirostories.com.au/stories/story-books/2013books-2/)

Plastic top to ocean habitats

On average, each square kilometre of Australian sea surface water is contaminated by around 4,000 pieces of tiny plastics, mostly less than 5mm across. The disposable packaging, bottles, cups, bags and other plastics that end up in the ocean break down into increasingly smaller pieces mostly due to the effect of sunlight and heat. Small fragments of hard plastic were the most common type, but soft plastics, such as fragments of wrappers and fishing lines were also common. Small enough to be eaten by zooplankton, these microplastics can cause the accumulation of toxins up the food chain. For a plain English summary of this research:

<http://theconversation.com/australian-waters-polluted-by-harmful-tiny-plastics-20790>

Or read the research by Reisser and others in *PlosOne*:

<http://dx.doi.org/10.1371/journal.pone.0080466> [Open access]

INTERNATIONAL NEWS

Action for fish in the West Thames

Fishway construction, reestablishment of riffle beds, resnagging, fencing, revegetation are some of the works to improve fish habitat in the West Thames region of the UK over the past year. This report summarises the range of projects:

http://a0768b4a8a31e106d8b0-50dc802554eb38a24458b98ff72d550b.r19.cf3.rackcdn.com/West_Thames_Fisheries_and_Biodiversity_Project_Summary_2012_13_%282%29_3c1c9a.pdf

Chub, dace, roach and pike (pictured) were all caught around the new riffle and woody debris features. Image: West Thames Fisheries and Biodiversity Project



Not seeing red over seeing 'redds'

'Redds' are the spawning nests built by salmon and steelhead in gravel beds. Monitoring of the effects of two major dam removal projects in the Northwest USA is showing that the fish are spawning by the hundreds and the number of redds has more than doubled since the dams were first removed. The largest run of Chinook in decades has been seen in the Elwha River, Washington, and 75 percent of the fish were seen upstream of the former dam site, proving that the dam removals are working to increase access to critical habitat. For more information:

www.habitat.noaa.gov/highlights/nwfishpassagesuccess.html

For an overview of the Elwha River catchment restoration, the world's largest salmon restoration project:

http://e360.yale.edu/feature/the_ambitious_restoration_of_an_undammed_western_river/2701/



Steelhead in the Elwha River taking advantage of access to habitat. Credit: John McMillan, NOAA

Damage a fishery? Pay up!

The UK's Fish Legal has secured more than £8,500 (about A\$15 000) in compensation for Ripon Angling Club for the damage to their fishery caused by poorly-managed flood protection works by the UK Environment Agency. The 6 month job on the River Skell, North Yorkshire, began in March 2010 but works did not finish until October 2012. The overrun disturbed fish spawning over two seasons and has led to serious problems for the fishery. Key bank side habitat has been lost as well as spawning areas used by the wild salmon that returned to the Skell in 2009. The Club estimates that it may take 6 years for the river to get back to something like its 'pre flood work' condition. For more:

www.anglingtrust.net/news.asp?itemid=1825&itemTitle=Environment+Agency+Pays+Up+After+Flood+Works+Damage+Fishery§ion=29§ionTitle=Angling+Trust+News

More habitat, more herring, better economy

Plymouth, like every coastal community in the New England region of the USA has a herring run - and, like other communities, has learnt that there is a direct connection between the health of streams and small rivers and the health of the fishing industry and local economies. Herring were once so plentiful that they were used as fertilizer. After the rivers were dammed, populations of river herring plummeted and nearly 300 acres of spawning habitat became inaccessible. The investment in ongoing works to remove barriers and restore habitat is the beginning of the benefit to the local economy of improving fish habitat: Read more:

www.wickedlocal.com/plymouth/news/x1745252705/TOWN-BROOK-More-herring-more-striped-bass-better-economy#ixzz2n1tNoELM

RESOURCES

Living Waters

Nick Romanowski explores the worlds within our wetlands, following the plants, animals and ecological patterns that link inland waters from Tasmania to the tropics.
www.publish.csiro.au/nid/18/pid/6961.htm



Workbook for Managing Urban Wetlands in Australia

An eBook, this publication by the Wetland Education and Training program at Sydney Olympic Park contains information about managing both freshwater and estuarine wetlands in urban Australia.

http://www.sopa.nsw.gov.au/resource_centre/wet_ebook_workbook_for_managing_urban_wetlands_in_australia

Oyster Coast oyster growers on the (fish habitat) ball

These growers are contributing to improved fish habitat in their estuaries and it's great to hear their perspectives on how it just makes sense.

<http://www.youtube.com/watch?v=g10mZMvoNlg&app=desktop>

Fish in the saltmarsh

A great resource about all things to do with saltmarsh, including footage of fish using the Spring tides to access this habitat:

<http://saltmarsh.enviroed.com.au/SaltmarshEcology/TidallNundation.aspx>

Fish on the 'Wetland Indicator Species List' - Queensland

The Fauna Wetland Indicator Species List has been compiled to support the determination of whether a site is a wetland. The fish lists exclude most marine species as the wetland definition excludes marine water more than 6m below low tide. To view:

<http://wetlandinfo.ehp.qld.gov.au/wetlands/ecology/components/fauna/fauna-indicator-species-list.html#fish>

Victorian Waterway Management Strategy

A new eight-year strategy designed to improve the health of Victoria's rivers, estuaries and wetlands and to guide government investment:

www.depi.vic.gov.au/water/rivers-estuaries-and-wetlands/strategy-and-planning

FROM THE ARCHIVES

Willow woes

*'But see, what happened with the willows years ago was that they'd snap a branch off, stick it in the ground, use it as a springer and then when they leave they take their line off. But they'd never take the springers with 'em. So, that stick **will grow and make another tree.**'*

(Spider Cunningham, quoted *Namoi: Talking fish: making connections with the rivers of the Murray-Darling Basin*, Murray-Darling Basin Authority, Canberra.)

*'In the 1950s when the seriousness of the damage to our river systems first became properly understood ... [N]ative trees were used in the revegetation ... but greater use was made of the willow.... Although the willow was particularly effective in stabilising the stream banks, it ran counter to the desirability to restore the natural native stream bank ecology. ... The answer, longstem native tubestock, a ... method of growing native trees to replicate all the advantages previously attributed only to willow. ... The most important outcome ... is that **there is no need for another willow to be planted along Australia's river systems.**'*

(From Freshwater Fisher, Winter 2002)

*'I've seen pictures of [willow] in streams further east of here where they look like they've actually clogged the whole river up. They just about touched on either side. Actually, Wentworth used to be a bit like that. Fish will still be around snags elsewhere but **they won't be around the willow trees.**'*

(Rod Stone, quoted in *Darling and the Great Anabranch: Talking fish: making connections with the rivers of the Murray-Darling Basin*, Murray-Darling Basin Authority, Canberra.)

*'The principal effects of willow vegetation on the biota ... were due to a combination of shading effects and decreased water quality and alterations to channel morphology in willowed reaches. While reaches in native riparian zones supported higher densities and numbers of taxa, these were significantly lower in willowed reaches. I concluded that **willows act as a poor surrogate for native riparian vegetation.** ... Fish populations at these sites were also depauperate.... Willow [large woody debris] is ... a poor ecological substitute for the more complex native debris. ... reduced or negligible ...L WD corresponded to a reduction in the number and size of particular fish species.'*

(Extracts from Martin Read's 1999 PhD Thesis

Available at

<http://trove.nla.gov.au/work/175634938?q=Willows+%2Bfish&l-availability=y&l-australian=y&c=book&versionId=191314912>)

Two reaches of Nichols Rivulet: with native vegetation (top) and willow (bottom) dominated banks. Images sourced from Martin Read's thesis.



ABOUT NEWSTREAMS

Newstreams is an email newsletter to keep people up to date about fish habitat activities and important developments in fish ecology and habitat. It is free by email subscription. To **subscribe** or send in your habitat news, email the editor, Liz Baker (newstreams@industry.nsw.gov.au). Back issues can be accessed from

www.dpi.nsw.gov.au/aboutus/resources/periodicals/newsletters/newstreams.

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FHN Partners

Amateur Fishing Association of the Northern Territory (AFANT) <http://afant.com.au>

Australian Fishing Trades Association <http://afta.net.au>

Australian National Sportfishing Association - NSW www.ansansw.com.au

Capital Region Fishing Alliance <http://crfa.org.au/>

Ecofishers www.ecofishers.com

Fisheries NSW www.dpi.nsw.gov.au/fisheries/habitat

Fisheries Victoria www.dpi.vic.gov.au/fisheries

Freshwater Fishing & Stocking Association of Queensland (FFSAQ) www.ffaqs.com.au

NSW Council of Freshwater Anglers www.freshwateranglers.com.au

NSW Fishing Clubs Association www.nswfca.com.au

PIRSA Fisheries and Aquaculture www.pir.sa.gov.au/fisheries

Recfish Australia <http://recfishaustralia.org.au/>

RecfishSA www.recfishsa.com.au

RecfishWest www.recfishwest.org.au

Recreational Fishing Alliance of NSW www.rfansw.com.au

SUNFISH www.sunfishqld.com.au

Victorian Department of Environment and Primary Industries www.depi.vic.gov.au

VRFish www.vrfish.com.au

Western Australia Department of Fisheries: www.fish.wa.gov.au/Pages/Home.aspx

Website www.fishhabitatnetwork.com.au

Facebook www.facebook.com/fishhabitatnetwork