INLAND RIVERS NETWORK

Inland Rivers Network NEWS

Spring 2010

PHOTO: N. Zoglaven

PHOTO: A. Hankinson

BASIN PLAN BEST OPPORTUNITY FOR RIVERS AND COMMUNITIES

Anne Reeves, BSc OAM, Hon President of IRN

The Murray-Darling is the fifth largest river system on earth and the Basin Plan is a world first attempt at large scale water planning.

The Inland Rivers Network fully supports the Basin Plan concept as the best opportunity this century to get the ailing and over allocated Murray-Darling Basin back to health.

A *Guide to the proposed Basin Plan* was released on 8th October to provide a further opportunity for comment back to the Murray Darling Basin Authority (MDBA) prior to the formal public exhibition of the Draft Plan and accompanying plain text.

The task is complex with a range of jurisdictions, data sets, history of use and expectations. The demise of the Murray-Darling has been caused by past failures of state and federal users and decision makers to achieve a positive bipartisan commitment and a realistic understanding of natural resource limitations.

The river system hasn't just suffered 10 years of hard drought. There has been an artificial drought before that due to over extraction. The result has been a 90% loss of floodplain wetlands, 90% loss of native fish populations, 80% loss of waterbird populations and an 80% loss of River Red Gum wetland forests.

To restore the resilience of the Murray-Darling system, water needs to be returned at low, medium and high flow events to improve natural variability.

The Basin Plan Guide identifies a return of 7,600 gigalitres (GL – billion litres) as the Sustainable Diversion Limit (SDL)[1] needed to get the entire river system back to health. However the MDBA, after considering a preliminary study on the socio-economic impacts of water reduction, is proposing scenarios between only 3,000GL and 4,000GL in the Guide.

The 3,000GL scenario is less than half the water needed and would still leave 4 Basin rivers in poor condition while improving 2 rivers to good condition. The 4,000GL scenario would leave 2 rivers in poor condition, another 3 rivers in a minus moderate condition and only one other river gaining good condition.

It is obvious that more water needs to be returned to achieve the objectives of the bi-partisan Water Act 2007. The 4,000GL scenario is the bottom line for a successful outcome of the process.

There is need to also factor in the economic impacts of high salinity levels, blue-green algae, turbidity and other poor water quality conditions as critical for community and ecosystem health.

Communities that are dependent on irrigation for their economic viability are very vulnerable to drought and climate change. The Basin Plan is a good opportunity to identify these vulnerable communities and consider regional development assistance packages to help them diversify.

IRN has been disappointed that the MDBA has not adequately communicated the volume of water already purchased by the Commonwealth Government from willing sellers to assist in reaching the SDL targets.

Business as usual is not an option. A dying river system cannot support the economy and will leave an irreversible legacy for future generations. River health and community health go hand-in-hand.

See inside for the map of the Basin showing the percentage reductions for each river system with water buy backs included.

1 SDLs represent the long-term average amounts of water which can be used for consumptive purposes after the environmental water requirements have been met. *Guide to the proposed Basin Plan,* Volume 1, page 101.

Engaging in the Basin Plan Process

The Murray Darling Basin Authority (MDBA) was established under the Commonwealth *Water Act 2007* with the purpose of developing a Basin Plan to manage the system as a whole.

The Basin Plan Guide with accompanying technical papers and catchment summaries is the first stage of the planning process to explain the outcomes of the work behind developing the plan. The Guide has been released for community comment and feedback to assist the next stage of producing a draft Plan.

The immediate opportunity to have your say and send a strong message in support of the environment of the Murray-Darling is to write a submission in response to the Guide **before the end of November** (see Action Box below).

The series of information meetings conducted around the Basin by the MDBA became political rallies with little opportunity for balanced comment.

It is very important that politicians and decision makers hear from people who care for the wetlands, water birds, native fish and ecological functions that make up a healthy river system. It is also important to speak up for viable, healthy regional communities with diverse economies.

Another opportunity is to write a submission to the Parliamentary Inquiry outlined below.

The next stage of the planning process is to put the Draft Basin Plan, a legal document, on public exhibition for 16 weeks in early 2011. This will be another chance to provide feedback.

The final Plan is anticipated before the end of 2011.

Please make the time to participate and add your voice to the many Australians who want to see a restored and resilient Basin to hand on to future generations.

Don't hesitate to contact IRN for assistance in preparing your submissions. Encourage friends and family to get involved.

ACTION REQUIRED

Points for Basin Plan Guide Submissions

Please support a good environmental outcome from the Basin Plan process.

Initial comments on the Guide are due by the end of November.

Please send your submission to:
engagement@mdba.gov.au

For more information on the *Guide to the proposed Basin Plan* go to:
www.mdba.gov.au

For the IRN 'Guide to the Guide' visit our website: www.irnnsw.org.au

Use some of the following points in your own words:

- Additional scenarios of 5,000GL, 6,000GL and 7600GL need to be developed
- The 3,000GL scenario will not halt ongoing decline of river health
- Current Federal investment in water buy back and infrastructure efficiencies needs to be taken into account
- Business as usual is a dead end for the Murray-Darling Basin
- Value of ecosystem services need to be included in socio-economic analysis
- Regional renewal and economic diversification needs support
- Healthy rivers equal healthy communities

Parliamentary Inquiry into Impact of Murray-Darling Basin Plan in Regional Australia

Independent Tony Windsor is chairing an inquiry into the Basin Plan.	Submissions are due by Monday 20 December 2010.	Send in your submission to: ra.reps@aph.gov.au

Terms of Reference

The Standing Committee on Regional Australia will inquire into and report on the socio-economic impact of the proposed MDBA's *'Guide to the Proposed Basin Plan'* on regional communities, with particular reference to:

- The direct and indirect impact of the Proposed Basin Plan on regional communities, including agricultural industries, local business activity and community wellbeing;
- Options for water-saving measures or water return on a region-by-region basis with consideration given to an analysis of actual usage versus licence entitlement over the preceding fifteen years
- The role of governments, the agricultural industry and the research sector in developing and delivering infrastructure and technologies aimed at supporting water efficiency within the Murray-Darling Basin.

In examining each of these issues, the Committee will also consider community views on:

- Measures to increase water efficiency and reduces consumption and their relative cost effectiveness;
- Opportunities for economic growth and diversification within regional communities; and
- Previous relevant reform and structural adjustment programs and the impact on communities and regions.

The committee will report back to Parliament by the end of May 2011.

Please use this opportunity to highlight the economic value of ecosystem services, other industries such as floodplain grazing, tourism, alternative crops and fibres that are low water users (eg. hemp) and the costs of poor water quality.

ACROSS THE BASIN

Interpreting the facts and figures presented in the Basin Plan Guide – the real story about the reductions required to meet the proposed Sustainable Diversion Limits.

The 'plain-English' Guide is not clear when it comes to many of the Basin facts and figures...

The MDBA has not communicated the actual reductions needed when including the current held environmental water purchased from willing sellers across the Basin. Information presented at the MDBA community engagement sessions has not clearly demonstrated the full picture. The reported figures of between 27% - 37% reductions are not relevant to the majority of catchments.

IRN has conducted its own analysis using figures presented by the MDBA in the *Guide* and accompanying documents.

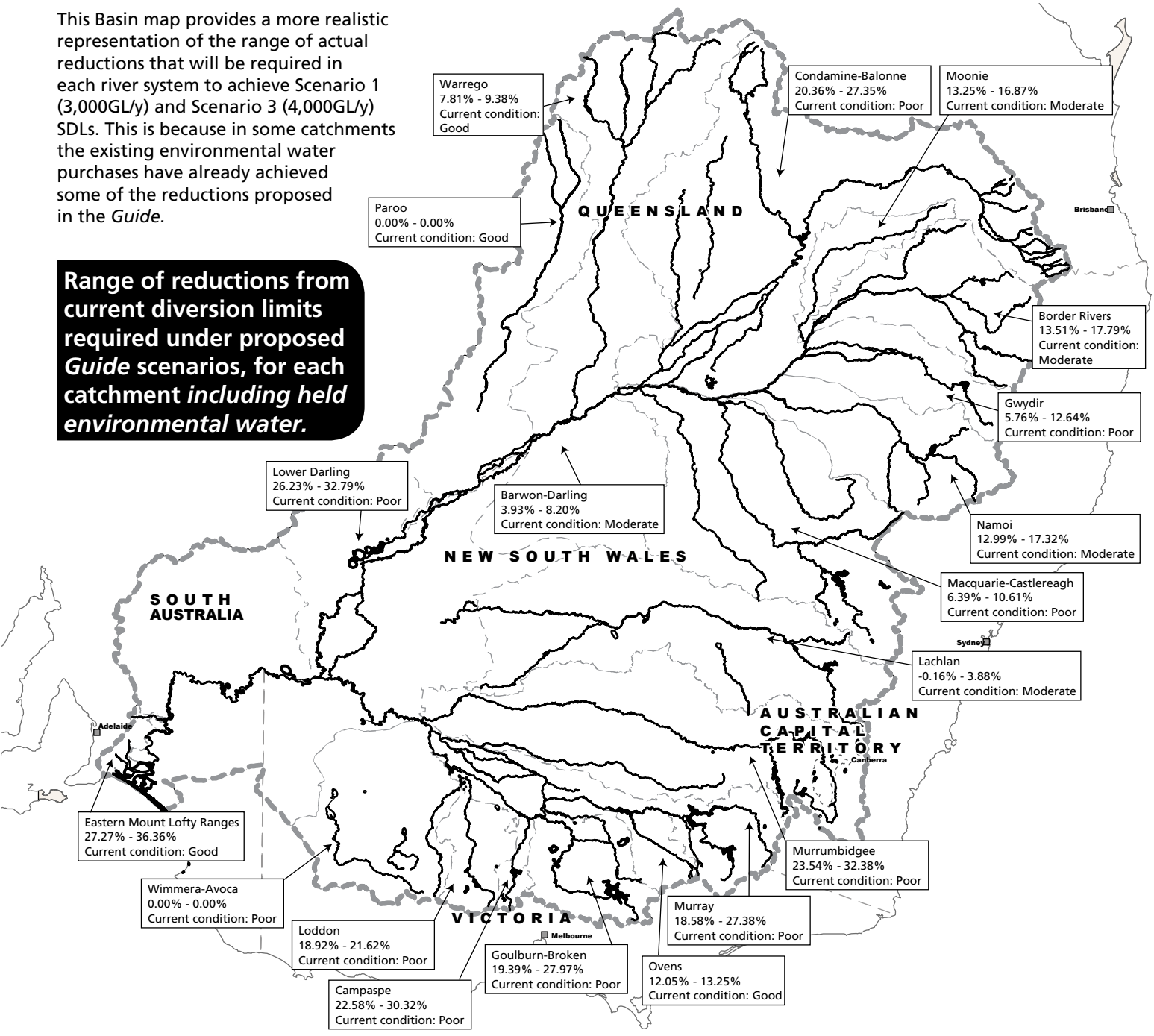
This Basin map provides a more realistic representation of the range of actual reductions that will be required in each river system to achieve Scenario 1 (3,000GL/y) and Scenario 3 (4,000GL/y) SDLs. This is because in some catchments the existing environmental water purchases have already achieved some of the reductions proposed in the *Guide.*

Methodology to calculate figures presented

- Take the Current Diversion Limits for each catchment (as presented in MDBA Regional Summaries and the *Guide,* Vol. 1, page 211).
- Identify the volume of reduction needed in each catchment to achieve the proposed SDLs in Scenario 1 and Scenario 3 (*Guide*, Vol. 1, page 214 & 22).
- Deduct the amount of water held by the Commonwealth and States for environmental purposes in each catchment (as presented in Guide, Vol.1, page 153) from the current diversion limit and then identify the gap between the reduction volumes proposed in the Guide and what is still needed to be purchased.
- Convert the gap (ie. the difference between the proposed reduction volumes and the current purchased water) into a percentage of the current diversion limit – these are the figures appearing in the catchment boxes.

IRN believes that in order to achieve the objectives of the Basin Plan, sustainable diversion limits need to be greater than those proposed by the MDBA in the *Guide*.

Range of reductions from current diversion limits required under proposed *Guide* scenarios, for each catchment *including held environmental water.*



Healthy Rivers - Healthy Communities

Terry Korn, Australian Floodplain Association

Toorale western floodplain on the Warrego River, 7th May 2010 (PHOTO T. Korn)'

The Australian Floodplain Association is composed primarily of floodplain graziers with some dry land farmers and community members, who support the sustainable use of rivers and their associated floodplains and wetlands.

Its aim is to preserve and restore the ecological health and productivity of floodplains in eastern Australia by:

- securing the permanent protection, in terms of their flow, of unregulated iconic rivers;
- having more water over the floodplains of regulated rivers;
- increasing public awareness of floodplain management issues and;
- promoting research of floodplain issues.

It is a non government organisation with members concentrated in the Murray Darling Basin and the Lake Eyre Basin and speaks for the forgotten majority in the water debate – those graziers and dry land farmers who have traditionally relied upon overland flows to prime their land. Before river regulation and large scale irrigation development such lands commanded a premium price because they received regular overland or floodplain flows. These land owners were practising water trading in an unofficial sense well before the current statutory water trading was introduced. Unfortunately this indirect form of water trading was not recognised statutorily and consequently no redress is available to floodplain dependent enterprises disadvantaged by the disappearance or significant reduction of flows over their land.

There are few data available on the contribution floodplain grazing and opportunity cropping make to rural communities. The water debate inevitably focuses on the impact on irrigators and local communities and completely ignores the impacts on and contribution made by floodplain graziers and opportunity croppers. This is despite the fact that it is these very people who fully supported and maintained rural communities in the northern basin prior to the expansion of irrigation over the last 25 years.

In order to stimulate further research in this area by the Murray Darling Basin Authority, the AFA commissioned a scoping study to determine what increase in production occurs when floodplains are inundated. The scoping study found that production increased by an average of 59% over the three properties on three different river systems with an additional annual gross income of $12.50/ha on the 34,333ha of floodplain country. The full report can be viewed on the AFA website www.ausfloodplain.org.au.and has been sent to the MDBA and the issue was raised at the recent Basin Guide Forums.

Of particular concern to the AFA is the continued harvesting of floodwater from Australia's floodplains, and the inability of governments to successfully monitor and manage this damaging practice. Many of our members have been directly affected by the loss of water across their land, and as such, are seeing incomes halve, small communities diminish or disappear, ecosystems deteriorate and populations of water dependent birds, reptiles and amphibians collapse.

The AFA has met with various ministers at both the state and federal level over the last twelve months and urged them to:

- remain focused,
- not repeat mistakes of the past,
- plan carefully,
- adequately fund the Basin Plan and,
- ensure we leave something for which our grandchildren will thank us rather than curse us.

Sadly the current situation suggests few of the above are being heeded by government.

What is a "Healthy" Murray Darling Basin?

It is generally agreed that a "Healthy" Basin is of benefit to everyone, but what does this mean? Much of the emphasis has been on drying wetlands and dying trees, but there is another perspective, that of the quality of water in the Basin. The focus of much of the recent discussion has been the over-allocation of water to irrigators, and hence the reduction in water for agricultural production under the Basin Plan, but this is only one aspect of the problems of the Basin.

Water quality has received less attention, yet the "fitness for purpose" of the water in the rivers of the Basin is a key element of "health". The purposes for water are diverse; they include water for drinking by our population, and by our livestock. Water is used for food processing, for irrigating crops, for recreation from water sports to fishing, and for the life and health of aquatic animals and plants. These uses of water have different quality requirements, a cotton crop is capable of good health with water too salty for human consumption, but lettuces are more sensitive and grow best with high quality water. Human drinking water has to be safe, and the Australian National Health and Medical Research Council set the Guidelines for safe water. Their list of potentially unsafe contaminants in human drinking water is long, and includes pesticides, blue-green algal toxins, heavy metals, organic chemicals and salt.

There are also Guidelines for Fresh and Marine Water Quality, including recreational guidelines. Harmful organisms (pathogens) are included in the appropriate Guidelines, though the recreational safety Guidelines are different from those for drinking water, as drinking water has to be particularly safe, even for people who are already ill.

Food processing in the Basin is an important use of water, and the products have to be safe for human consumption. Fruit juice is an obvious example, especially where the product is reconstituted from concentrate by adding water.

The health of the aquatic life of the rivers and lakes is greatly affected by the quality of the water. The most dramatic example is the 'black water' events, in which de-oxygenated water enters a river and kills the fish downstream, when large dead cod appear- to the surprise of local fishermen, and dead carp, to no-ones surprise! Less obvious but more devastating in the long-term is salinity, which will damage irrigated crops, render the water unsuitable for human consumption and change the natural ecology.

How then does the Basin fare in terms of health, as seen by water quality and fitness for purpose? The Murray Darling Basin Authority recently completed a sustainable rivers audit in which many of the rivers of the Basin came out as poor to very poor quality. Only one river came out well, the Paroo in southwestern Queensland. The Murrumbidgee was rated as poor and the lower Murray very poor. Both of these rivers are afflicted with potentially toxic blue-green algal blooms, which last year resulted in about 1,000km of the Murray River being put on a "Red Alert" in the summer. Water supply authorities were warned to put extra treatment in place to remove algal toxins, and swimming areas were closed or warning signs erected. Two decades ago a blue-green algal bloom on the Darling river, of similar extent to the recent Murray bloom, resulted in thousands of livestock being poisoned and emergency water supplies put in place in the towns to protect the population. The growth of water blooms of blue-green algae depends on the nutrients in the water, the temperature and the flow. These blooms can be controlled by environmental flows, as well as catchment management to reduce sediment and nutrients entering the rivers.

During the recent drought acidification has affected areas of shallow water in lakes and billabongs, when sulphide sediments oxidized to sulphuric acid, killing aquatic life. A recent example of the potential for damaging acidification was in Lake Albert in South Australia, discussed by Kerri Muller.

How then can these quality problems of the Basin health be managed? Water quality and quantity are inextricably mixed. Quality is also linked to catchment management, as it is the nutrients, salts, turbidity and pesticides in runoff and seepage, which determine the outcome. Much has been done to limit salinity in the last decade through the Salinity Management Strategy, with the States cooperating to address the problem. Much less progress is apparent in the control of blue-green algae or water quality in general. Through the implementation of a coherent Basin Plan ensuing increased water provided for the environment, together with careful catchment management, the health of the Basin will be improved and the water more "fit for purpose".

By Em. Professor Ian R. Falconer,
AO, DSc, FRSC.
Water Quality Consultant

Ramsar obligations and the Basin Plan

Next year will mark the 40th anniversary of the Ramsar Convention on Wetlands. While Australia made an early commitment to this Convention many challenges remain for the protection of Australia's important wetlands into the future.

Under the Water Act 2007 (Cth), the purpose of the Murray-Darling Basin Plan includes 'giving effect to relevant international agreements' such as the Ramsar Convention. As such, the extent to which the Basin Plan provides for the protection and conservation of these wetlands has implications under international law.

Recent research by Mr Jamie Pittock (The Australian National University), Prof. Max Finlayson (Charles Sturt University) and Prof. Alex Gardner (University of Western Australia) highlights that the Australian Government risks breaching international law if it does not fully protect wetlands listed under an international treaty in the Murray-Darling Basin Plan.

Many significant wetlands in the Basin are in terrible ecological condition and "under the Ramsar Convention the Australian Government is obliged to allocate enough water to revive them" according to lead-researcher and ecologist Jamie Pittock.

Despite a legal obligation to maintain the ecological character of the entire area of wetland sites along the river, the study found that not even already compromised conservation targets – as low as 20 per cent of some types of wetlands in some Ramsar sites – have so far been achieved.

This study illustrates how much further Australia has to go in wetlands conservation, and how important an opportunity the Basin Plan will be in securing their protection into the future.

The findings of the study will be published in the Vol. 27 Pt. 6 (Nov. 2010) of the Environmental & Planning Law Journal.

At last, some end-of-system flows *Dr. Kerri Muller*

Coorong National Park at the Murray Mouth (Photo: A. Hankison)

After our fantastic wet winter and spring, Lakes Alexandrina and Albert are full again. It is wonderful to see. Acid Sulfate Soils and collapsing banks have been inundated and life is returning to the lakes. The drought and over-allocation saw lake water levels drop to a metre below sea level, far lower than anything experienced in the 7,000 years since the lakes formed. All the aquatic vegetation was exposed and dried off, leaving only the open, unsheltered and relatively inhospitable lake as aquatic habitat. Salinity rose to 6600 EC at the peak earlier this year, almost an order of magnitude greater than the acceptable limit for this Ramsar-listed wetland (700 EC).

Current water levels are around +0.77 mAHD (77 cm above sea level), which means the barrages are open and water is being discharged out the Murray Mouth to the sea, as it should be. It started slowly, just a few gates open in mid- September but now all the fishways are open, as well as 103 of the 593 barrage gates. Each gate can pass about 300 ML per day plus more through the fishways so at the moment approximately 32,000 ML per day is going into the Murray Mouth embayment and out to sea (NB: inflows to SA are about 23,000 ML/d). Salinity in the lakes has dropped to about around 3000 EC and the discharging water will be starting to reduce the salinity downstream of the barrages to less than seawater. This is the first significant discharge in nearly a decade. Small volumes were released through the fishways in 2006. Some diadromous fish species such as Congolli need to move between fresh and estuarine/marine waters to complete their life cycles. They are relatively short-lived (c. 5 years) and field sampling in early 2010 showed that most were around 4 years old so the current connections between the lakes and the Coorong/ Murray Mouth have come just in time to prevent their probable extinction.

The lakes have a very short memory when it comes to salinity. Outflows can vary year to year but unless we discharge the equivalent of 6,000 GL every three years, there will be a rise in lake salinity from incoming salt load and evaporation. Salinity in the lakes is still more than four times the acceptable limit. We need lot more flushing before we can say everything is OK. We know that approximately 2 million tonnes of salt are mobilised across the Murray-Darling Basin each year and that discharge to the sea is the only way to remove that salt from the basin (salt interception schemes only move it from floodplain to dryland areas to reappear in groundwater). Given that there has been very little outflow in the last decade that means that 20 million tonnes of salt have accumulated in the basin over the last decade, some of which will move downstream now that the river is flowing.

Depending on inflows we can expect the barrages to be open for a few months, which will have enormous benefit to the Lakes and Coorong as well as to the Basin as a whole. Hydrology, salinity and connectivity are the fundamental drivers of Ecological Character of most, if not all, sites within the Basin and it is vital that we return enough water to the environment to make these critical connections and improve ecological function so that the Basin can continue to support our needs.

NEWS FLASH

2009 NSW State of the Environment Report just released.

The NSW State of the Environment Report for 2009 has just been released and can be accessed via the NSW Department of Environment, Climate Change and Water website at; http://www.environment.nsw.gov.au/soe/soe2009/

This report details the overall ecosystem health of each valley in the NSW part of the Murray-Darling Basin, including hydrological condition and the condition of fish and macro-invertebrate populations in each river valley. It highlights the poor ecosystem health of the vast majority of river systems in inland NSW.

For more on what this State of the Environment Report says about our rivers and wetlands see the next edition of IRN News.

Macquarie Marshes Magic

Debbie Love, Senior Wetlands & Rivers Conservation Officer, DECCW

It is likely to be of no surprise to readers of the IRN newsletter that the Macquarie Marshes wetlands have been under increasing levels of stress over many years.

The recently declared-over drought of almost ten years duration has seen the demise of a substantial area of river red gum woodlands and forests.

However, not all is lost.

While the wetlands have no doubt seen better days, and their capacity to rejuvenate is yet to be fully tested, the very wet conditions of the last three months have raised expectations that this will be a good year.

The rainfall we have experienced in 2010 in the Macquarie catchment is in the 80th - 90th percentile range.

This is not a normal or average year it is a very wet year and this is why we are now seeing both large areas of inundation in the wetlands and full dams.

There is currently around 50,000 hectares of inundation in the marsh area and substantial flows out of the marshes and into the Lower Macquarie River.

More than 75% of river red gum woodlands are being watered this year, much of this will be wet for three or four months, which should go a long way to improving forest health.

Fifteen thousand pairs of straw-necked ibis have commenced nesting at a site where they have not nested successfully for 9 years.

Environmental flows in Terrigal Creek, September 2010 (PHOTO: D. Love)

Frogs, fish and fowl are taking full advantage of wet conditions to migrate and reproduce.

By the end of October, over 300,000 megalitres will have flowed into the marsh area since the 1st July 2010.

Burrendong Dam, which regulates river flows in the valley, reached 100% of supply capacity in mid-October and releases are currently being made from the Flood Mitigation Zone, with much of this water also flowing to the marshes area.

With Burrendong Dam at full supply level, approximately 260,000 megalitres is now available in environmental water accounts, representing nearly 22% of the storage capacity of Burrendong Dam.

The environmental account water will be used, in conjunction with any further tributary inflows and dam spills, to extend the duration of flooding in all wetland areas, support colonial waterbird breeding where possible and also provide water to the marsh next year.

So for 2010/2011 at least things are definitely looking up for the marsh and if you have the chance to visit you can hear, smell, see and feel the place brimming with life.

Flows in the Great Darling Anabranch

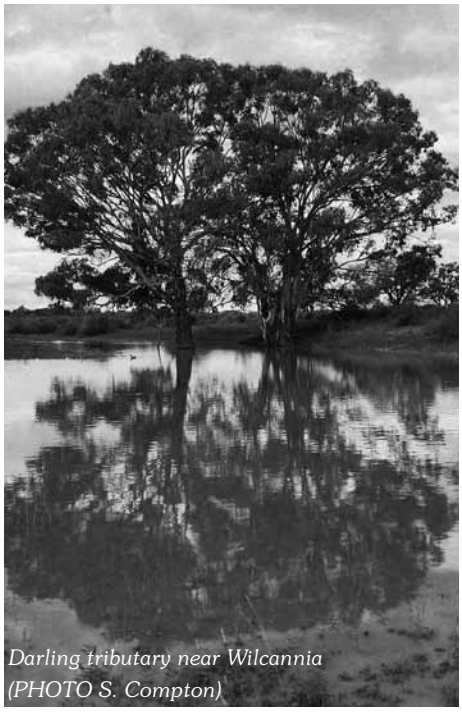
from Howard Jones, Murray Darling Wetlands Ltd

The Great Darling Anabranch of the Darling River and Lower Darling is an important reach and is identified amongst the 18 Key Environmental Indicator sites recognised by the Murray-Darling Basin Authority. Despite being recognised as part of an important environmental asset, the reach has not been given the priority it deserves.

In September 2010, the Great Darling Anabranch received its first environmental flow in nearly a decade. The release of around 50 gigalitres of water from Menindee Lakes into the Anabranch was secured through the combined effort of those at Murray Darling Wetlands (formerly the Murray Wetlands Working Group) and others in the community.

After preparing a submission to the Commonwealth Environmental Water Holder and the NSW Office of Water, the group used contacts in NSW and South Australia to one by one remove the impediments to achieving their aim of seeing water flow down the 400 kilometres of the Anabranch.

The next project of the Murray Darling Wetlands group has been Lake Gol Gol, on the NSW side of the Murray River near Mildura. As a result of the group's activities and the recent rains the much loved Lake, which last flooded in the 1970's, has received a desperately needed and lifesaving drink. The Lake has been filling for several weeks and at the middle of November it was sitting at around one third full.



Darling tributary near Wilcannia (PHOTO S. Compton)

Vale Ross Blick

Those at IRN express their sadness on the recent passing of Ross Blick. Ross was a passionate advocate for better water management and an early contributor to the work of IRN. He was particularly well informed and proactive on wetland and groundwater issues, including through his push for a "capping the bores" programme. He served as Hon. Secretary of the Coast and Wetlands Society and was appointed as ACF representative on the Commonwealth's Great Artesian Basin Consultative Committee. Ross passed away at his White Cliff home on 13th October and his family arranged a memorial gathering at the Australian Museum.

Water and wild country

IRN would like to gratefully acknowledge the support of the The Wilderness Society and the Dara Foundation through their WildCountry Small Grants Program for 2010.

The purpose of the WildCountry Small Grants Program is to support groups involved in landscape scale projects in southern Australia focused on understanding, protecting and restoring important ecological processes and connections at the national, regional, and local scale.

Stay tuned to the next editions of IRN News for more on the WildCountry scientific principles and how this relates to the inland freshwater dependant ecosystems that form part of the interconnected river, groundwater, wetland and floodplain systems of the Murray-Darling Basin.

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INLAND RIVERS NETWORK

About the Inland Rivers Network

Inland Rivers Network brings together community groups and individuals with the goal of restoring and conserving the biodiversity, natural function and health of the inland river systems and wetlands of NSW.

If you support the production of the *IRN News* and would like to see the newsletter and the work that IRN does continued into the future, you are invited to send a donation.

IRN steering committee member organisations:

- Australian Conservation Foundation
- Central West Environment Council
- Coast and Wetlands Society
- Friends of the Earth
- National Parks Association of NSW
- Nature Conservation Council of NSW
- The Wilderness Society Sydney

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