A Water Quality Protection Plan (WQPP) is being created for Darwin Harbour and its catchment as recommended in the Darwin Harbour Regional Plan of Management in 2003.

The Plan will identify and address key water quality risks to the values of Darwin Harbour and its catchment and is expected to be completed in 2009.

It is being funded by the Australian Government through its Coastal Catchments Initiative with further financial contributions being made by participating Northern Territory Government Agencies and project partners.

The Aquatic Health Unit of the Environment Protection Agency Program, within the Department of Natural Resources, Environment and The Arts, is responsible for the development of the WQPP.

A number of the project’s components will involve engaging with key stakeholders and the community, with the Darwin Harbour Advisory Committee (DHAC) playing an integral role in gaining community input.

One such component is the review of the current Beneficial Uses Declarations for Darwin Harbour and its catchment. Public consultation for the review of Beneficial Use Declarations will commence in mid-April this year. The review will give the community an opportunity to voice their opinions on values and uses of water bodies or portions of water bodies.

In the Northern Territory Beneficial Uses Declarations is a legislated process under the NT Water Act 1992 that determines the level of protection, and guides the management, of a water body or declared water control district that reduces the effects of water pollution and assists in the protection and management of water. Currently the review process is targeting only the Darwin Harbour Catchment and all recognised water bodies within this area.

A detailed explanation of the process and the beneficial use categories will be provided in public information sessions to be held in Darwin, Litchfield and Mandorah. These sessions will target people who have a high regard for the protection of our water bodies, but who may have limited knowledge or background of the related issues.

For more information on the Beneficial Use Declarations Review call the Water Quality Protection Plan Project Officer on 8999 4538.

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According to a recent report, the water quality of Darwin Harbour today is of a similar standard to the early 1990’s, but DHAC is concerned about some worrying trends.

The Health of the Aquatic Environment in the Darwin Harbour Region report has presented some good results about the current water quality and environmental health of the Darwin Harbour region, but also highlights some important risks to the health of Darwin Harbour.

The report, produced by the Department of Natural Resources, Environment and The Arts Aquatic Health unit, revealed the rivers and streams of Darwin Harbour’s catchment are generally in good health. However:

• The water quality of Buffalo Creek shows signs of being impacted from wastewater and urban stormwater.
• About 20 per cent of the catchment’s native vegetation has been cleared for development.
• Although only 3 per cent of the catchment’s area, urban land has increased the amount of lead and zinc entering the harbour by, respectively, four and three times.
• Urban stormwater has also doubled the amount of phosphorus entering the harbour.
• Treated wastewater adds an additional 60 per cent of nitrogen and more than doubles the amount of phosphorus entering the harbour.
• Overall, urban stormwater and wastewater increases by about six times the amount of phosphorus entering the harbour compared to pre-urbanisation amounts.

The report reveals that river flows have not been significantly modified by dams or weirs, and river water quality is good with a diverse range of plants and animals.
New Coordinator

Robyn Henderson is the new Project Coordinator for the Darwin Harbour Regional Plan of Management and will be providing support to DHAC. Robyn was handed the baton from Merrilyn Barnes in January 2007. Merrilyn supported DHAC in the project coordinator role from mid 2006 onwards.

Robyn is enthusiastic about her new role, for which she has moved from her position as a Senior Environmental Policy Officer with the Environment Protection Agency Program.

She has extensive experience within the Northern Territory Government, working on environmental matters ranging from the management of contaminated sites to the development of policy on sustainability issues. DHAC would like to thank Merrilyn for her support over the past six months and wishes her all the best in her future endeavours.

Water Quality Survey from page 1

This includes at least 24 species of native freshwater fish recorded within Darwin Harbour catchment. Furthermore the streams are largely free of weeds and introduced fish. However, streams that drain catchments with more than half of their native vegetation cleared (e.g. Rapid Creek, Mitchell Creek) tend to have fewer types of macroinvertebrates, though the cause is not clear but may be associated with modifications to flow in the streams and the amount of sediment they carry. No streams are considered to be highly polluted.

The report found the water quality of the main body of Darwin Harbour was similar between the 1990-91 survey and the 2001-04 surveys, and despite development of the Darwin shoreline, the area of mangroves remains large (27,340 ha) and healthy.

Urban run-off and the discharge of treated sewage have led to increases in the amounts of nutrients, metals and sediment entering the harbour. Based on the increased loads to the harbour, phosphorus, then lead, zinc, chromium, copper and nitrogen have the greatest potential impact on water quality. However, the fate of these contaminants and their effect on the harbour ecosystem is not well understood and requires research. The impact of increased loads to Darwin Harbour will be localised, but may spread to the whole of the harbour.

The most significant water weed threat in the Darwin Harbour region during the past decade was Cabomba caroliniana at Darwin River in 2004 and Marlow Lagoon in 1997. Current eradication efforts have been successful and ongoing.

While the aquatic environment of the Darwin Harbour region is relatively healthy, it is vulnerable to localised degradation mainly from wastewater, urban stormwater, and the impact of aquatic pests.

The report took about two years to compile with the next report to be released in 2010. The report is available online at http://www.nt.gov.au/nreta/environment/water/watermonitoring/aquaticreport.html

Member views

Although the bigger picture study of the Health of the Aquatic Environment in the Darwin Harbour Region indicates that the Harbour, rivers and streams are in good health, there are still community concerns about point source pollution. There is concern about heavy metals and bacteria in locations such as Buffalo Creek that may accumulate in fish and shellfish that are consumed by the local Aboriginal community. Donna Jackson, DHAC member, states “Apart from a study done several years ago by CDU I am not aware of any other Harbour studies that have focussed on seafood consumption by Aboriginal people” Donna also states “Our families have noted a reduction of fish size [weights] and numbers in the Harbour. On a more positive note, since the formation of the Darwin Harbour Advisory Committee there are more scientific studies providing much needed baseline knowledge, so our management can only improve.” (Donna Jackson, Larrakia Nation Representative).

At the recent DHAC meeting on 12 February 2007 Power and Water Corporation indicated their intention to place signage at sewage outfalls. DHAC understands that the signage will cover health and environmental issues (Duncan Dean, Community Member).

Message from the Chair

John Bailey

The Darwin Harbour Advisory Committee has achieved numerous milestones in implementing the Harbour’s Plan of Management, however, we have a big year planned for 2007.

The Committee will be publishing its regular Status Report of the Plan of Management in the coming months. This will not only highlight achievements, but cite our upcoming challenges.

The finalised Northern Territory Stormwater Management Strategy will be released shortly with one of its key objectives to ensure comprehensive Stormwater Management Plans for target catchments are developed.

Later this year a review of the Darwin Harbour Regional Plan of Management will be undertaken by the Committee which will involve consultation with you, the public, as users and admirers of the Harbour’s values. This review will provide an opportunity for the community to participate in the management and protection of our waterways, and the cultural, recreational and heritage values of the Harbour.

I envisage healthy participation from the community with this review and look forward to seeing you at these sessions.

John Bailey
Chair

Northern Territory Government www.harbourplan.nt.gov.au
If Darwin grew to a million people, what would happen to the Harbour?

The possible effects on the ecosystem of Darwin Harbour from an urban area of one million people is analysed in a recent report.

The report “Providing a Scientific Basis for Managing the Regions Development”, has been published by the Ecosystem Research Group (ERG), a working group for Darwin Harbour Advisory Committee. The report looks at sources of sediment, nutrients and metal from the Darwin catchment and the possible ecological impacts of these inputs on Darwin Harbour.

The report details the main sources of sediment and concluded that 80 per cent of fine-grained sediment comes from the erosion of stream channels and river banks. This means stream banks and riparians zones are important areas for management.

Evidence in the report also shows that any release of polluting substances in the rural area will end up deposited in stream channels, on floodplains and in the Harbour.

If Darwin expanded to a population of one million people, it is estimated that five times the current amount of fine-grained sediment along with the accompanying nutrients, metals and pollutants would enter into the Harbour.

This increase would have dramatic effects on the upper reaches of the arms of the Harbour. In particular, the amount of microscopic plants and animals that live in water would be reduced. This would impact severely on all organisms living in the Harbour, particularly fish stocks, as the microscopic animals form the basis of the food chain.

It is difficult to determine exactly what the result of the loss of the main food source for aquatic species in the Harbour would be and the subsequent effects on the food web and the ecosystem of the Harbour.

The report raises many questions which need further investigation before they can be answered. But it did highlight that urban designs that reduce the export of sediment, nutrients, organic matter and metals, and incorporate management of sewage treatment and riparian zones in the rural areas are all important priorities.

The full report is available online at www.harbourplan.nt.gov.au.

Stormwater Strategy to Reduce Pollution

Stormwater may start as crystal clean rainwater or town drinking water sprayed on a sudsy car but by the time it gets to the Harbour it can become far more sinister.

It is widely known that stormwater provides a conduit for pollution and litter, and that improved stormwater management is required to reduce pollution while keeping our catchments well drained and flood resistant.

The Darwin Harbour Regional Plan of Management identified stormwater from urban areas as a significant threat to the long term health of the Harbour. In the last newsletter, DHAC stated its support of the draft Stormwater Management Strategy document, which was developed and released for public comment last year.

It is anticipated that the finalised version of this Strategy will be released shortly.

The draft Strategy is essentially a ‘best practice’ manual and draws on the National Water Quality Management Strategy Guidelines for Urban Stormwater Management (2002). One of its key objectives is to ensure comprehensive Stormwater Management Plans for target catchments are developed. This will put all the issues ‘on the table’ and allow all the key players to improve coordination and design and reduce infrastructure fragmentation.

Opportunities to ‘road test’ this approach will be piloted in the next two years as new subdivisions are developed at Palmerston and industrial developments at East Arm Port. Some of the strategy objectives will also be incorporated into design guidance for Water Sensitive Urban Design, which is in the process of development both nationally, and specifically for the Territory.
Meet the Committee

The Darwin Harbour Advisory Committee consists of a diverse group of Territorians who are well placed to consult and represent the community in the management of the Harbour.

As a Darwin resident, Duncan Dean has worked to protect the environmental integrity of Darwin Harbour. Professionally, Duncan has planned and managed programs in remote Indigenous communities, both at a state level and overseas. He has recently been consulting on various community planning and management programs and is developing the Chinese tourism market in the Northern Territory.

As the DHAC member representing the community, Duncan will continue to encourage the Northern Territory and Australian governments to improve the planning, legislation and regulations protecting the Darwin Harbour.

“We owe it to our grandchildren, and their grandchildren, not to do to Darwin Harbour what our modern society has done, and continues to do, to the rest of the planet over recent decades.”

Chris Makepeace represents the Amateur Fishermen’s Association of the NT (AFANT). He is the Executive Officer of the Association and is involved in many other recreational fishing organisations and events. Naturally, he’s a very keen angler. Chris also has a background in education, public administration and publishing.

With more than 32 per cent of Territorians fishing and spending over $40 million a year in the process, Chris sees recreational fishing as an important part of the Territory lifestyle and economy. He identifies Darwin Harbour as the most fished location in the Northern Territory with some 30 per cent of all fishing taking place in the Harbour area.

AFANT’s objective, working with the Darwin Harbour Advisory Committee, is to ensure that the environment of the Harbour, its water quality and future development will ensure it continues to be a great place to fish for future generations.

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In the next DHAC newsletter we will profile other members of the Committee.

DHAC Membership

| John Bailey | Independent Chair |
| Chris Makepeace | Amateur Fishermen’s Assoc NT |
| Peter Robertson | Environment Centre NT |
| Robert Wasson | Charles Darwin University |
| Donna Jackson | Larrakia Nation |

Alastair Black
Luccio Cercarelli
Maree Domelow
Chris Young
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