



SALTWATER SCIENCE

NEWS FROM THE MARINE BIODIVERSITY GROUP

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The Northern Territory Marine Atlas

A 'one-stop shop' for marine and coastal information

The Marine Biodiversity Group (MBG) together with Charles Darwin University (CDU) have embarked on developing a single, web-based information system for accessing marine and coastal information in the Northern Territory.

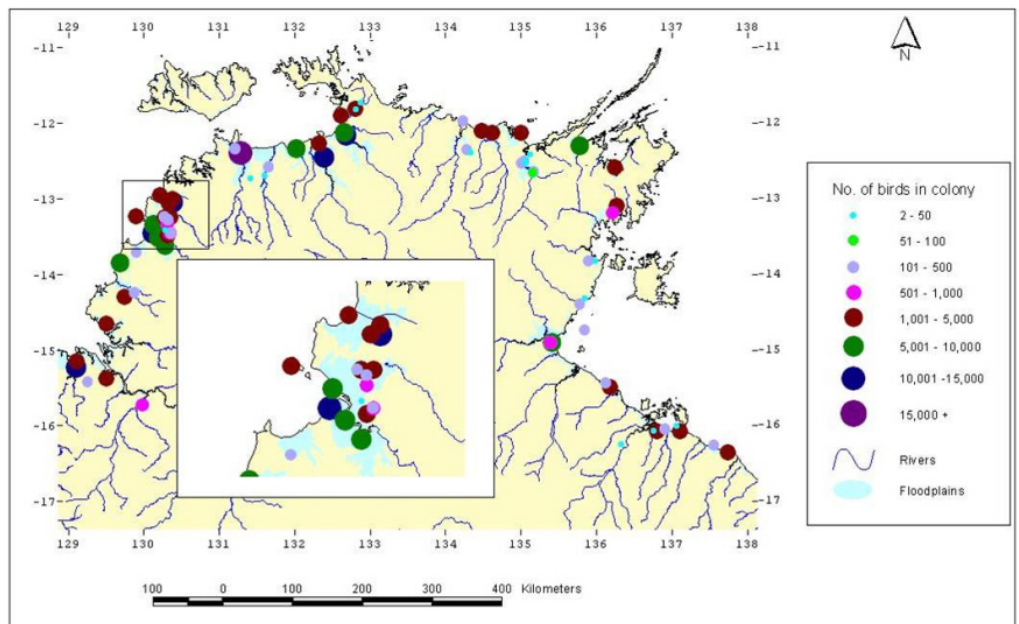
The NT Marine Atlas, a \$600K collaborative project, is lead by Karen Edyvane, Barry Russell, Neil Smit & Shane Penny (MBG) with Guy Boggs and Susan Hosking (CDU) and is partially funded by NHT2.

The project aims to allow interested people and organisations to view, identify and access (when appropriate)

geospatial data (maps) and information about marine and coastal resources in the Territory. The NT Marine Atlas will be delivered through an interactive web-based interface or portal with an underlying GIS database maintained by the MBG in collaboration with data holders and stakeholders.

Marine scientist, Neil Smit, says "These are very exciting times for all stakeholders who have an interest in research and management of marine and coastal resources. We don't have a lot of data for our marine and coastal resources and the precious little bit of

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An example of the kind of data that will be available on the Marine Atlas. Source: Chatto R (2006) 'The distribution and status of waterbirds around the coast and coastal wetlands of the Northern Territory.' Parks and Wildlife Commission of the Northern Territory, 76, Darwin.



NT Marine Atlas

existing information we do have is incredibly difficult to access. We would like to develop a 'one-stop shop' where all data that stakeholders are willing to share is available on a single, web-enabled, GIS. Stakeholders will then be able to overlay their own data and be in a much better position to manage their marine and coastal resources".

Specifically, the Atlas will contain metadata, which describes data sets that are available in the Atlas, known data that have restricted access, and spatial data layers.

Although the final look of the Atlas will largely depend on the feed back from users, it is envisaged that the spatial data layers will be grouped into 5 main themes:

- base maps
- physical environment
- biological environment
- management
- socio-economic

Non-spatial information may be added later in the project.

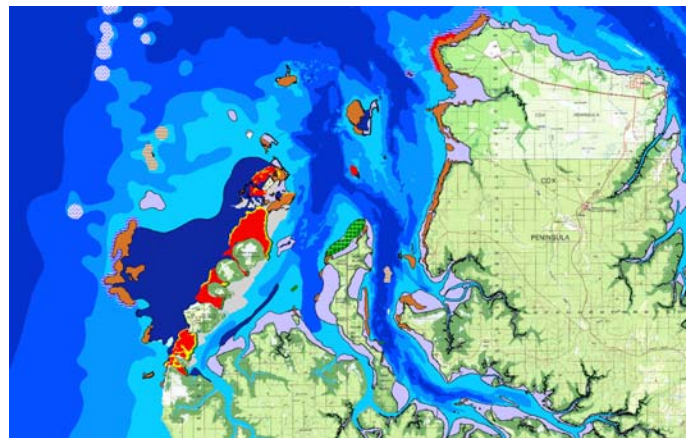
Currently, CDU and MBG staff are identifying and describing existing relevant data sets. Metadata compilation is expected to be 80% completed by the end of July 2007 with a report due by mid August.

A key to the success of the project will be how useful it is. During 2008 there will be informal discussions with user groups to help determine the final direction of the Atlas and to ensure the resource will be useful for all.

The final four months (July-October 2008) will be used to trial the system and fine-tune data presentation.

To ensure that the project will not be snapshot in time, NRETA has committed additional in-kind support equivalent to \$100K towards a server and database to deliver the web-enabled GIS and allow regular updates to data sets.

The project team members are looking forwards to establishing a user-friendly marine information system that will benefit researchers, managers and the wider community in the management of the Territory's marine and coastal resources.



Map of Bynoe Harbour showing various habitats.

MBG farewells marine planner

The Marine Biodiversity Group bids farewell to Patrick O'Leary who is leaving us to work on other environmental policy issues with the newly established Environment Protection Agency.

During his time with the MBG, Patrick played a key role in the development of a draft

Marine Protected Areas Strategy for the NT.

In this planning role, Patrick supported an advisory committee of key stakeholders, and assisted with stakeholder consultation, education, and the preparation of key discussion papers to inform the Strategy.

The draft Marine Protected Areas Strategy is expected to be released to the public for submissions and input later this year.

Patrick is a highly respected and valued member of the MBG and we wish him every success in his new position.

Research Update

The Marine biodiversity Group will soon be able to map the sea floor of the NT with greater speed and definition thanks to the recent purchase of a SportScan side scan sonar system.

Our current knowledge of marine habitats in the NT is poor, which limits our ability to conserve and manage our coastal and marine biodiversity.

This investment will greatly enhance our capability to rapidly map underwater features, such as reefs, seagrasses and sand/mud flat habitats.

In comparison with the currently used single beam sonar

(similar to a conventional fish sounder), which only provides data along a transect line, the side scan will provide full coverage for the survey area.

The SportScan is highly portable and easy to deploy and use. It can be towed from small dinghies as well as larger vessels and plugs directly into the back of a laptop.

Images of the sea floor are immediately accessible via the computer screen but can also be stored on the hard disk for later display



and analysis. When the software is integrated with a GPS, the marine features can be mapped.

These "acoustic" maps provide the basis for future, more detailed, surveys using underwater video to describe the fauna and flora characteristics, which in turn will be used to create broad scale habitat maps.

The SportScan is soon to be trialled in Darwin Harbour and then used later in 2007 to map habitats in the proposed Bynoe Harbour MPA.

Discussions are also underway with Dhimurru Land Management in NE Arnhem Land regarding a pilot marine mapping project adjacent to the Dhimurru IPA coastline.

Stay tuned for results of the trials...

HOW TO CONTACT US:

If you would like to be on our contact list please send your name, postal address, email and phone details to one of the addresses below. A brief comment on your interest in the marine environment would also be appreciated.

Location

NRETA
Marine Biodiversity Group
ATRF
23 Ellengowan Drive
Brinkin NT 0810

Fax: +61(0)8 8920 9222

Email:
marine.nreta@nt.gov.au

Web:
www.nt.gov.au/marine

Postal address:

Marine Biodiversity Group
Department of Natural
Resources Environment
and the Arts
PO Box 496
Palmerston NT 0831

Staff Profile

Neil Smit

Neil joined NRETA in January 1997 as a marine scientist and has close to 20 years experience working in the NT. Neil's early work focused on tropical sponge ecology.

Since then, Neil has moved towards developing, trialling and implementing comprehensive biodiversity assessments of marine and estuarine ecosystems across the NT.

The aim of this work is to address the lack of information on the condition and extent of the NT's coastal and marine assets. Biodiversity assessments include studies of physical and biological oceanography, geology, substrate and acoustic



mapping, and the distribution of invertebrate and fish species.

Neil's work is often a collaborative effort with the Museum and Art Gallery of the NT and would not be possible with the support and collaboration of many Indigenous and Sea Ranger groups across the Territory.

His interests are primarily driven by a desire to understand the physical and biological factors that drive the distribution

of marine invertebrate fauna and flora, particularly on 'soft bottoms' (as Neil likes to call them) and to develop, modify and apply technologies that are appropriate for NT's unique marine environment.

In addition, Neil is working on a number of NRM-funded projects, including developing a web based Marine GIS (see main story) and discussing a collaborative marine habitat mapping and biodiversity survey with the Dhimurru Land Management Aboriginal Corporation.

Neil is also working towards establishing the internationally recognised, community-based, Seagrass Watch program in the NT.



Northern Territory Government



Natural Resource
Management Board (NT)



Natural Heritage Trust
Working Communities Building Australia
An Australian Government Initiative