

New partnership network helps to protect Australian mangroves and saltmarsh

Norman C. Duke, Jock Mackenzie, Apanie Wood and Damien Burrows (James Cook University TropWATER Centre and MangroveWatch Ltd.)

MangroveWatch and the new Australian Mangrove and Saltmarsh Network are helping to link communities and promote information sharing to improve monitoring and management of coastal habitats.



Butch' Lindsay Titmarsh, Fraser coast cattle grazier proudly shows Dr Norm Duke, mangrove scientist, an amazing 700 year old mangrove tree on his patch (© Copyright, Norman C. Duke)

Tidal wetlands and mangroves around the world are seriously threatened by rapid rates of coastal expansion and development resulting in mangroves disappearing at an alarming rate, with 30 per cent lost in the last 30 years (Duke et al., 2007).

In Australia, while mangroves are threatened as sea levels rise and climate changes, they are arguably more degraded and lost by impacts from conversion, nutrient pollution, herbicide runoff and altered hydrology.

These factors reduce the capacity of tidal wetland plants to respond effectively. Better management is required urgently before these wetlands and their significant benefits are lost forever.

Around Australia, local communities readily understand the valuable contributions mangroves provide. For example, mangroves provide coastal protection and risk minimisation from erosion and wave damage; somewhere to secure your boat in a

storm; a carbon sink five times greater than any other habitat; as well as marine nurseries and places to catch fish and crabs by all fishers. Losing mangroves also means losing biodiversity, including threatened species such as Illidge's ant-blue butterfly (*Acrodipsas illidgei*), water mouse (*Xeromys myoides*), ant plant (*Myrmecodia beccarii*) and mangrove orchid (*Dendrobium mirbelianum*).

MangroveWatch is a program that partners scientists with community and government and industry partners to monitor the condition of coastlines. Partners include local non-government organisations (such as the Wildlife Preservation Society Queensland), traditional owner groups (including the Gidarjil Development Corporation and the Balkanu Cape York Development Corporation), Natural Resource Management bodies (such as SEQ Catchments, Burnett Mary Regional Group and Torres Strait Regional Authority), environmental education facilities, government agencies (through programs like Reef Rescue), and industry advocates (including Brisbane Airport Corporation and Gladstone Ports Corporation).

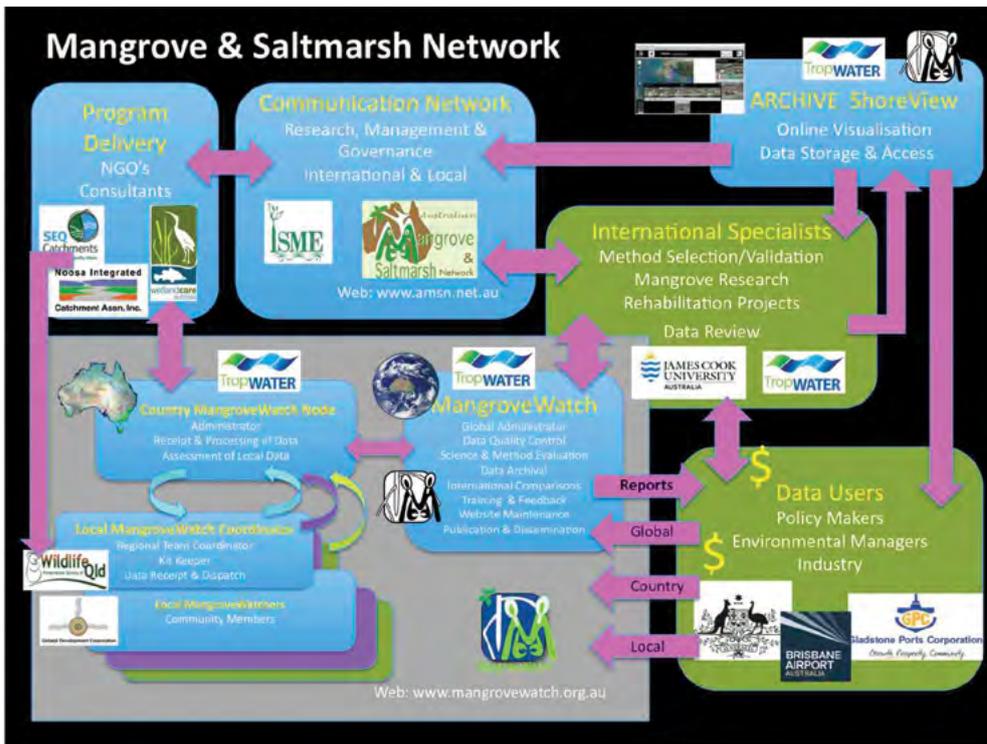
Introduced in earlier editions of *Wetlands Australia* (Duke, Mackenzie 2010; Mackenzie et al. 2011), the plan with MangroveWatch has been to link communities interested in applying scientific rigour to monitoring and assessment, as well as sharing knowledge and skills amongst all stakeholders. Groups are active in nine Natural Resource Management areas, involving more than 15 communities and approximately 500 citizen scientists. To date, these people have filmed and monitored more than 2000 kilometres of the Australian shoreline, providing a significant contribution to more informed and effective shoreline management and restoration.

The recent launch of the Australian Mangrove and Saltmarsh Network further supports this growing interest in tidal wetlands, facilitating greater communication between stakeholders.

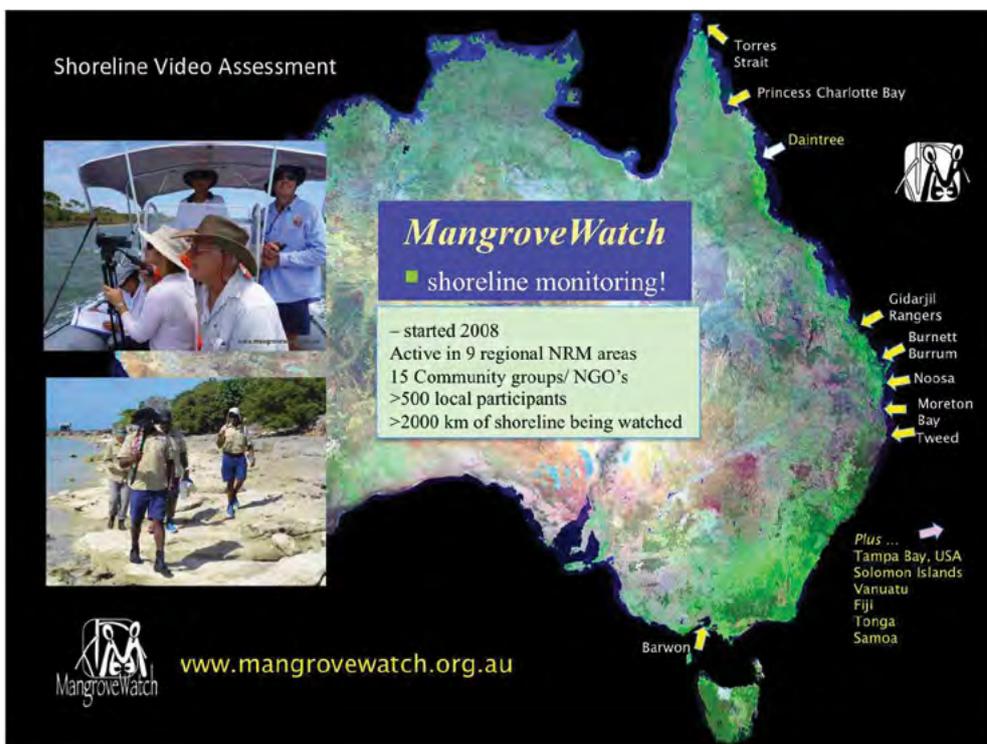
To discover who-is-who amongst participants please visit the Australian Mangrove and Saltmarsh Network website www.amsn.net.au. And, to learn more about MangroveWatch see the website www.mangrovewatch.org.au. Also, follow us on Twitter: @MangroveWatch, like us on Facebook: MangroveWatch or email: mangrovewatch@gmail.com.

References

- Duke, N. C., J.-O. Meynecke, S. Dittmann, A. M. Ellison, K. Anger, U. Berger, S. Cannicci, K. Diele, K. C. Ewel, C. D. Field, N. Koedam, S. Y. Lee, C. Marchand, I. Nordhaus, F. Dahdouh-Guebas. 2007. A World Without Mangroves? *Science* 317: 41-42. (<http://mangroveactionproject.org/letters-a-world-without-mangroves/>).
- Duke, N.C., and J. Mackenzie. 2010. Pioneering mangrove monitoring program partners experts with the community. *Wetlands Australia* 18: 24-25.
- Mackenzie, J., N.C. Duke, K. Baba, A. Wood, B. Rogers, A. Haller and J. O'Mara. 2011. MangroveWatch Burnett Mary region is one year old! Outcomes and lessons learned. *Wetlands Australia. National Wetlands Update* 2011 19: 26-27.



MangroveWatch works as an environmental monitoring program implemented by local community groups (bottom left), supported by partners ranging from the scientist trainers and assessors of data collected by community members, to educators, government managers, and industry; the latter assist with funding and support of community programs. Communication between stakeholders is facilitated by the Australian Mangrove and Saltmarsh Network (© Copyright, MangroveWatch)



In 2015, a number of MangroveWatch groups are active in eastern Australia, including a small number overseas. Inset images: top left, Wildlife Queensland Citizen Scientists aboard Moreton Bay Environmental Education Centre's 'Janjari' for Moreton Bay MangroveWatch (© Copyright, Peter Wear); and lower left, Torres Strait Rangers surveying on foot the shoreline of Warraber Island (© Copyright, Norman C Duke) (© Copyright, MangroveWatch)