

Reef Guardian and reef catchment Councils seek State and Federal Government support for ensuring that coastal development does not damage the Great Barrier Reef

The Great Barrier Reef is under threat. Some of the threats are now being mitigated by actions taken by local councils, farmers and fishers to reduce their impacts ^(see references 1,2,3 below).

In particular, Reef Guardian and catchment Councils have, collectively, hundreds of programs which reduce the impact of coastal communities and council activities upon the Great Barrier Reef World Heritage Area. These programs address: water and catchment management; waste management; land management; climate change mitigation; community engagement and more.

These programs help to protect the Great Barrier Reef which brings to Queensland over 60 000 jobs and income of over \$6 billion annually – much of which benefits our coastal constituents.

Recent scientific evidence, however, continues to report a decline in the Great Barrier Reef's coral cover, concerns about the status of key inshore habitats and species, and degradation of the health of the Great Barrier Reef ecosystem ^(1,2,4-16).

Now, additional pressure will be realised with significant expansion of ports and industrial development accompanied by a projected near-doubling in shipping, major coastal reclamation works, massive seabed dredging and dredge spoil disposal – all either immediately adjacent to, or within, the Great Barrier Reef World Heritage Area ^{17 - 21}.

We, as Reef Guardian and catchment Councils, believe these activities could further damage our Great Barrier Reef.

However we also support continued and sustainable development of Queensland's coastal catchments.

Therefore, we ask State and Federal Governments work with Councils and industry to create a collaborative community that:

- Ensures new development within existing ports (including the dumping of dredge materials) does not impact on the World Heritage values of the Reef;
- Allows new port developments outside existing port areas if rigorous, independent scientific analysis shows that there would be less environmental impact by spreading industrial port development to other locations;
- Improves environmental standards and technology applied to existing industrial developments along the GBR coastline to ensure maximum environmental protection;
- Requires new development to minimise its footprint through efficient sharing of infrastructure; and
- Improves shipping management to minimise impacts on World Heritage values of the Reef.

References

1. Brodie, J. E. and J. Waterhouse. 2012. A critical review of environmental management of the "not so Great" Barrier Reef. *Estuarine, Coastal and Shelf Science* **2012**:1-22.
2. Russ, G. R., A. J. Cheal, A. M. Dolman, M. J. Emslie, R. D. Evans, I. Miller, H. Sweatman, and D. H. Williamson. 2008. Rapid increase in fish numbers follows creation of world's largest marine reserve network. *Current Biology* **18**:1-2.
3. Great Barrier Reef Marine Park Authority. 2009. Great Barrier Reef Outlook Report. Great Barrier Reef Marine Park Authority, Townsville.
4. Brodie, J. E., J. Binney, K. Fabricius, I. Gordon, O. Hoegh-Guldberg, H. Hunter, P. O'Reagain, R. Pearson, M. Quirk, P. Thorburn, J. Waterhouse, I. Webster, and S. Wilkinson. 2008. Synthesis of evidence to support the Scientific Consensus Statement on Water Quality in the Great Barrier Reef. Page 64, Townsville.
5. Burns, K. and D. Brinkman. 2011. Organic biomarkers describe the major carbon inputs and cycling of organic matter in the central Great Barrier Reef region. *Estuarine, Coastal and Shelf Science* **93**:132-141.
6. Brodie, J. E., F. J. Kroon, B. Schaffelke, E. C. Wolanski, S. E. Lewis, M. J. Devlin, I. C. Bohnet, Z. T. Bainbridge, J. Waterhouse, and A. M. Davis. 2012. Terrestrial pollutant runoff to the Great Barrier Reef: An update of issues, priorities and management responses. *Marine Pollution Bulletin* **65**:81-100.
7. Fabricius, K. E., K. Okaji, and G. De'ath. 2010. Three lines of evidence to link outbreaks of the crown-of-thorns seastar *Acanthaster planci* to the release of larval food limitation. *Coral Reefs* **29**:593-605.
8. De'ath, G., K. E. Fabricius, H. Sweatman, and M. Puotinen. 2012. The 27-year decline of coral cover on the Great Barrier Reef and its causes. *Proceedings of the National Academy of Sciences*. 109(44): 17995-17999.
9. Marsh, H., G. De'ath, N. Gribble, and B. Lane. 2005. Historical marine population estimates: triggers or targets for conservation? The Dugong case study. *Ecological Applications* **15**:481-492.
10. Sobtzick, S., R. Hagihara, A. Grech, and H. Marsh. 2012. Aerial survey of the urban coast of Queensland to evaluate the response of the dugong population to the widespread effects of the extreme weather events of the summer of 2010-11. Final report to the Australian Marine Mammal Centre and the National Environmental Research Program. James Cook University, Townsville.
11. Johnson, J. E. and P. Marshall. 2007. Climate change and the Great Barrier Reef. Great Barrier Reef Marine Park Authority, Townsville.
12. Donner, S. D. 2009. Coping with commitment: projected thermal stress on coral reefs under different future scenarios. *PLoS ONE* **4**:e5712.
13. Knutson, T. R., J. L. McBride, J. Chan, K. Emanuel, G. Holland, C. Landsea, I. Held, J. P. Kossin, A. K. Srivastava, and M. Sugi. 2010. Tropical cyclones and climate change. *Nature Geoscience* **3**:157-163.
14. Great Barrier Reef Marine Park Authority. 2012. Great Barrier Reef Biodiversity Conservation Strategy 2012 - draft for public consultation. Great Barrier Reef Marine Park Authority, Townsville. 44pp.
15. Hoegh-Guldberg, O., S. Andrefouet, K. Fabricius, G. Diaz-Pulido, J. Lough, P. Marshall, and M. S. Pratchett. 2011. Vulnerability of coral reefs in the tropical Pacific to climate change. Pages 251-296 in J. D. Bell, J. E. Johnson, and A. J. Hobday, editors. *Vulnerability of tropical Pacific fisheries and aquaculture to climate change*. Secretariat of the Pacific Community, Noumea.
16. McCulloch, M., J. Falter, J. Trotter, and P. Montagna. 2012. Coral resilience to ocean acidification and global warming through pH up-regulation. *Nature Climate Change* **April 2012**:1-5.
17. Australian Transport Safety Bureau. 2012. Independent safety issue investigation into Queensland Coastal Pilotage. Australian Transport Safety Bureau, Canberra.
18. Department of State Development Infrastructure and Planning. 2012. Great Barrier Reef Ports Strategy 2012-2022 For public consultation. Queensland Government, Brisbane.
19. Department of State Development Infrastructure and Planning. 2012. Great Barrier Reef Ports Strategy Frequently Asked Questions. Queensland Government, Brisbane.
20. Eco Logical Australia and Openlines Environmental Consulting. 2013. Abbot Point Cumulative Impact Assessment. Eco Logical Australia and Openlines Environmental Consulting, Brisbane.
21. Grech, A., M. Bos, J. Brodie, R. Coles, A. Dale, M. Hamann, H. Marsh, K. Neil, R.L. Pressey, M.A. Rasheed and M. Sheaves (in prep) Guiding principles for the improved governance of port and shipping impacts in the Great Barrier Reef.