# Declaration by concerned scientists on industrial development of the Great Barrier Reef coast[1]

Recent scientific evidence continues to document a very serious decline in the quality of the Great Barrier Reef's inshore habitats and the abundance of key species.

Our concern for the health of the Great Barrier Reef is due to:

- A significant decline in water quality due to land-based sources of pollution to a level that brings environmental harm [3,4,5,6];
- A 50% decline in coral cover over the last 27 years with a major factor being recurrent plagues of crown-of-thorn starfish driven by the input of land-based nutrients [7,8];
- Reductions in the abundance of fish stocks to a degree that targeted species are, at best, half their natural stock size or less[9];
- Inshore species for which we have information are either threatened or in substantial trouble (e.g. southern dugong populations are significantly smaller than in the mid-1960s, a situation exacerbated by recent extreme weather events[10,11], the intensity of which may increase with climate change[12]);
- The GBR has already experienced two mass coral bleaching events and climate change is forecast to increase the frequency and intensity of bleaching[13] and possibly the intensity of cyclones and storms [12,14,15] and
- Ocean acidification, from increasing greenhouse gases, is reducing the ability of some corals to grow, especially inshore (due to poor water quality), making these inshore regions even more vulnerable to increases in cyclone and storm intensity [16.17].

As scientists, we therefore are concerned about the additional pressures that will be exerted by expansion of coastal ports and industrial development accompanied by a projected near-doubling in shipping, major coastal reclamation works, large-scale seabed dredging and dredge spoil disposal [18,19,20,21,22] – all either immediately adjacent to, or within the Great Barrier Reef World Heritage Area.

We believe these activities will exacerbate impacts upon an ecosystem already in decline.

We are calling on the Queensland and Australian Governments to:

- Ensure that the Outstanding Universal Value (including all World Heritage Values and Matters of National Environmental Significance) of the Great Barrier Reef World Heritage property are protected;
- Restrict port developments to within existing major, long-established port areas[2,23,24] (excluding Balaclava Island, north Curtis Island and Port Alma amongst others) until an agreed future coastal development strategy for the entire Great Barrier Reef coastline is completed (see sixth dot point below);
- Require new development to minimise its industrial footprint through efficient sharing of infrastructure;
- Improve all aspects of the management of shipping through the World Heritage Area to ensure maximum environmental protection;
- Use independent peer-reviewed research to support the environmental management of all port facilities and associated activities including addressing cumulative impacts over time, space and multiple sources;
- Instigate comprehensive, independent peer-reviewed natural and social scientific research and monitoring to inform, within the next ten years, a sustainable coastal development strategy for the entire Great Barrier Reef coastline;
- Apply improved standards and latest technology to industrial developments and associated activities to ensure maximum environmental protection; and
- Ensure that the capacity and resources of relevant government agencies are adequate to ensure effective and coordinated implementation of these new standards and protocols.

We pledge to review future decisions made by our governments on further industrial development on the Great Barrier Reef coast and keep the public informed of our independent opinions.

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[1] References listed at the end of this document

[2] This has already been agreed to by delegates to the World Heritage Committee including the Australian Government

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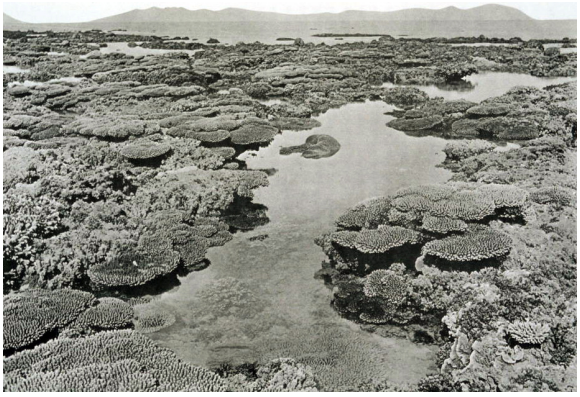

*Stone Island, Great Barrier Reef ~1893*
*(Photos: Commonwealth of Australia, GBRMPA)*

*Stone Island, Great Barrier Reef 1994*

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