

Australian Government



Paddock to Reef Integrated Monitoring, Modelling and Reporting program (Paddock to Reef program) OVERVIEW CARL MITCHELL

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The Great Barrier Reef: a high value, connected system

GBR Marine Park: 345,000 km²; ~2,600 km coastline Highly diverse: 2,900 reefs, 1,500 species of fish, 134 species of sharks and rays, 6 of 7 species of threatened turtles, >30 species of marine mammals, important habitats Economic value: \$5.7 billion annually

It's a dynamic, interconnected system with the adjacent catchment area...

Land use: sugarcane, grazing, horticulture, dryland cropping Large increases in sediment, nutrient and pesticide delivery since 1850 associated with agricultural development

Every region is different...



The Great Barrier Reef is in 'very poor' condition



There is strong evidence of declining Reef condition.

The Reef has been through a lot in recent years...e.g.

- Back to back bleaching events, 2016, 2017, 2020
- Cyclones
- Crown of thorns starfish outbreak
- Major floods (drier in recent years)
- Disease

Recovery times of many species are slow...

Great Barrier Reef Outlook Report 2019: "Without local, national and global action on the greatest threats, the overall outlook for the Great Barrier Reef's ecosystem will remain very poor, with continuing consequences for its heritage values"

Where are the priority areas?



Priorities: Burdekin, Herbert, Fitzroy, Mary Priorities: Herbert, Haughton, Johnstone, Mulgrave-Russell, Tully, Plane Priorities: Plane (Sandy Creek), Pioneer, Haughton (Barratta Creek), Moderate -Tully, O'Connell

MANAGEMENT DRIVERS Threats to the Great Barrier Reef



- Nutrients e.g. algal blooms
- Fine sediments reduces light available to seagrass & coral
- Pesticides risk to freshwater, inshore and coastal habitats

REEF 2050 WQIP OUTCOME, **OBJECTIVES** AND 2025 **TARGETS** Australian Governm 2017-2022

Best management practices are defined by this Reef 2050 Water Quality Improvement Plan's water quality risk frameworks priority areas as defined in Appendix 3



Natural wetlands include lakes, swamps and estuarine wetlands.

REEF 2050 WATER QUALITY IMPROVEMENT PLAN CATCHMENT TARGETS

NRM Region	Catchment	Area (ha)	Dissolved Inorganic Nitrogen (DIN) target		Fine sediment target		Particulate Phosphorus (PP) target		Particulate Nitrogen (PN) Target:	
Mackay Whitsun day	Proserpine Biver	249 440 ha	70%	110t	MCL	MCL	MCL	MCL	MCL	MCL
	O'Connell River	238 760 ha	70%	130t	40%	96kt	40%	120t	40%	250t
	Pioneer River	157 360 ha	70%	140t	20%	35kt	20%	23t	20%	61t
	Plane Creek	253 870 ha	70%	260t	MCL	MCL	MCL	MCL	MCL	MCL
	Region		70%	630t	20%	130kt	20%	150t	20%	310t

PADDOCK TO REEF PROGRAM

- **Reports progress** towards 2050 WQIP Plan targets, objectives and outcome.
- A collaborative partnership involving the Australian and Queensland governments, regional groups, researchers and industry.
- Founded on principles of adaptive management and continuous improvement
- The program provides information that enables partners to evaluate, prioritise and continuously improve the effectiveness of Reef 2050 WQIP and Reef 2050 Plan implementation.
- Integrates monitoring and modelling from the paddock to reef scales.
- Strong management-science interaction.



PADDOCK TO REEF PROGRAM



Catchment indicators

- Riparian extent
- Wetland condition
- Wetland extent
- Ground cove

Coral monitoring

eReefs marine modelling



Stewardship – includes human dimensions & economic aspects

REEF WATER QUALITY REPORT CARD 2020 RESULTS

https://www.reefplan.qld.gov.au/tracking-progress/reef-report-card

