



Anindilyakwa
Land Council



TOWARDS CLOSING THE CIRCLE: Communication outputs



An aerial photograph of a vast, clear blue body of water, likely a lagoon or bay, with a small island visible in the distance. A large, semi-transparent white circle is overlaid on the left side of the image, containing the title and a list of topics. The water's color transitions from a deep blue in the foreground to a lighter turquoise further out, indicating varying depths or seabed compositions. A small boat is visible in the lower-left quadrant of the white circle.

OVERVIEW

- What we're doing
- Some issues
- How we could do it
- How others do it

WHAT WE'RE DOING...

- What?

- Help communities address Healthy Country Management Plans for IPAs
- Support decisions on the environment

- Who?

- Indigenous Rangers
- Traditional Owners across all generations

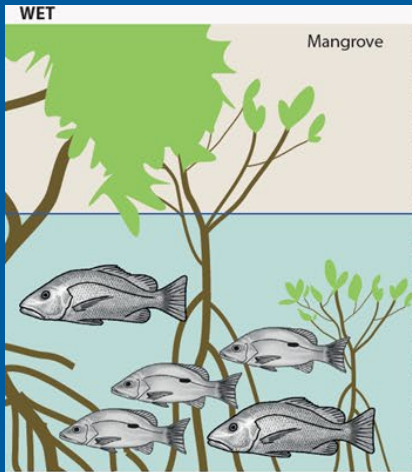
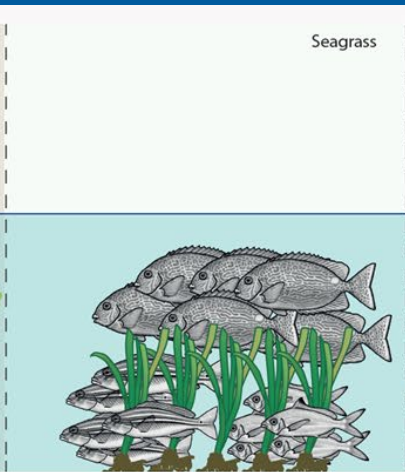
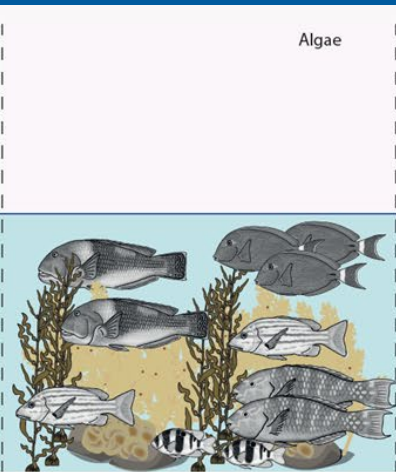
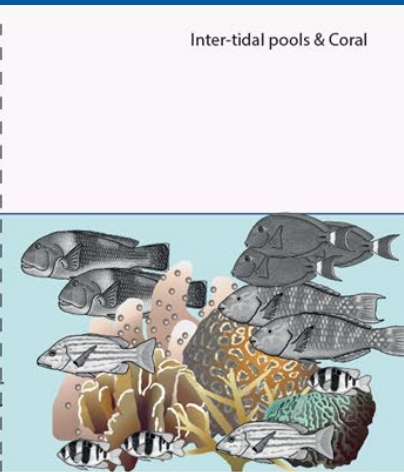





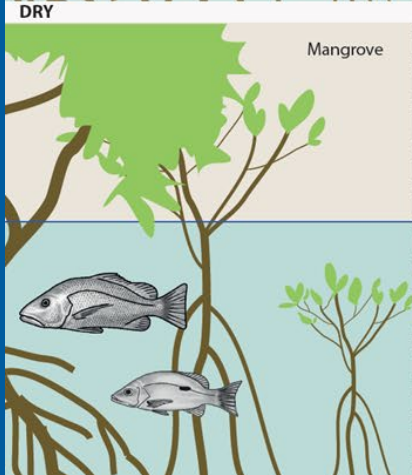
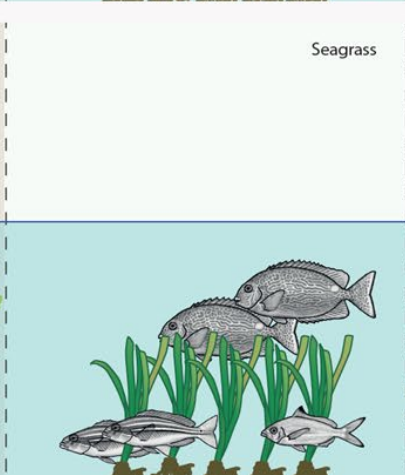
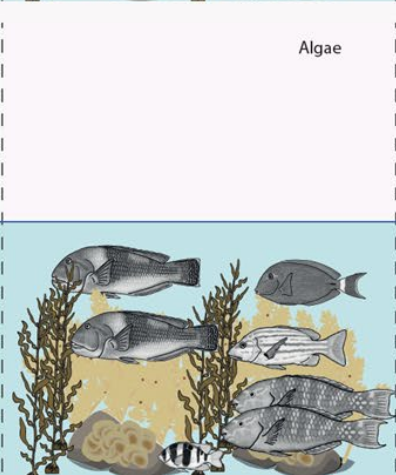
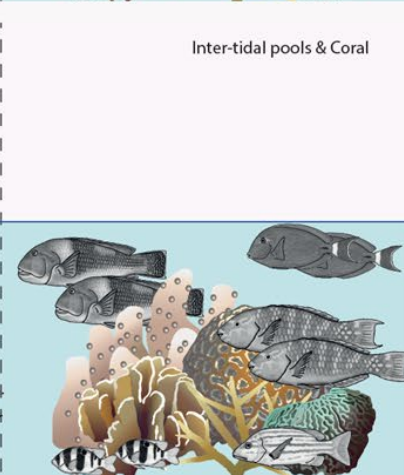







Australian Government



Australian Institute of Marine Science

EXAMPLES

WET				
Mangrove	Seagrass	Algae	Inter-tidal pools & Coral	
				 <i>Lutjanus argentimaculatus</i> maarrarn  <i>Lutjanus russelli</i> linlirr  <i>Siganus lineatus</i> barrbal  <i>Scaevius milli</i>  <i>Gerres oyena</i>
DRY				
Mangrove	Seagrass	Algae	Inter-tidal pools & Coral	
				 <i>Choerodon cyanodus</i> lgoolan  <i>Acanthurus grammoptilus</i> gambarl  <i>Lutjanus carponotatus</i> joorloo  <i>Scarus ghobban</i> gilgil  <i>Dischistodus darwiniensis</i> doodany



MARINE MONITORING: Bardi-Jawi Sea Country

AARLI ☆ BRUVS

TIME	PLACE	DROPS
2018	Djulbard	5 - mangrove 5 - reef
2019*	Ngamagoon	5 - mangrove 5 - reef
	Jigoorlooon	5 - mangrove 5 - reef
	Joorrol	5 - mangrove 5 - reef

MARNANY

TIME	WATER	PLACE	TRANSECTS
2018	Sub-tidal	Ngayini	2
2019*		Ngamagoon	2
		Joorrol	2
	Inter-tidal	Joorrol	3

*Repeated every year in the same month



BARDI-JAWI BASELINE DATA



MONITORING
SEA COUNTRY
2018



2. Ngamagoon

★ BRUVs average number aarli

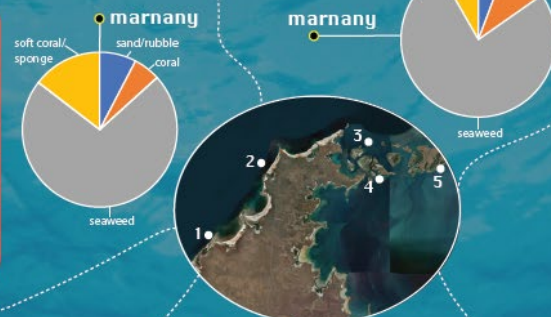
	mangrove	no.	marnany	no.
gambarl	1.6	7.1		
goolan	1.4	1		
barrambarr	0.4	1.1		
biidib	0.8	0.4		
irrariny	0	0		
maarrarn	4.8	0		
jooloo	0	1.8		
barrbal	0.4	0		
jirral	1.2	5.1		
biindarral	0	0.2		

1. Djulbard

★ BRUVs average number aarli

	mangrove	no.	marnany	no.
gambarl	0.6	17		
goolan	0	2		
barrambarr	0	1		
biidib	0.6	1.2		
irrariny	0	0		
maarrarn	1	0		
jooloo	0	1.8		
barrbal	0	0.6		
jirral	1.8	0.4		
biindarral	0	0.6		

3. Ngayini



4. Jigoorloon

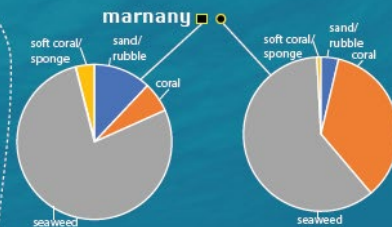
★ BRUVs average number aarli

	mangrove	no.	marnany	no.
gambarl	2.2	53.6		
goolan	1.2	1.6		
barrambarr	0	0.4		
biidib	0.6	0		
irrariny	0.4	0.6		
maarrarn	0.6	0		
jooloo	0.6	6.6		
barrbal	3	0		
jirral	4	0.4		
biindarral	0	0.4		

5. Joorrol

★ BRUVs average number aarli

	mangrove	no.	marnany	no.
gambarl	1.8	5		
goolan	3.6	4		
barrambarr	0	0.2		
biidib	1.2	0.4		
irrariny	1.4	1.4		
maarrarn	2.4	0		
jooloo	4.2	1		
barrbal	8.2	0		
jirral	1.2	0		
biindarral	0	0.2		



AARLI ★ BRUVs

gambarl goolan barrambarr biidib irrariny maarrarn jooloo barrbal jirral biindarral
surgeonfish blue tuskfish blackspot tuskfish cods grass emperor mangrove jack stripey snapper rabbitfish trevallies blindarral
trouts

MARNANY ● DropCAM
■ Reef Walk

marnany coral seaweed garah/goulby sand/rubble soft coral/sponges



Australian Government



Australian Institute of Marine Science

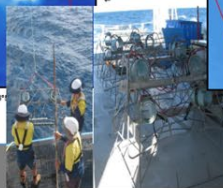
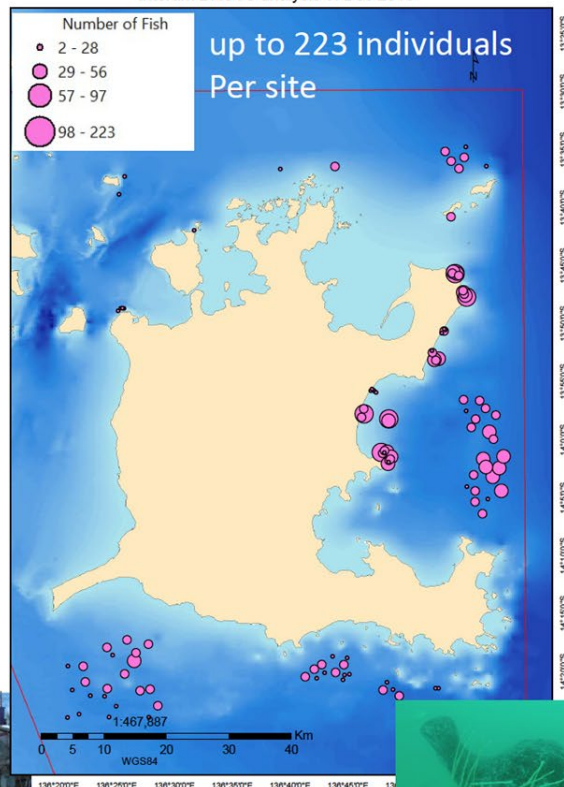
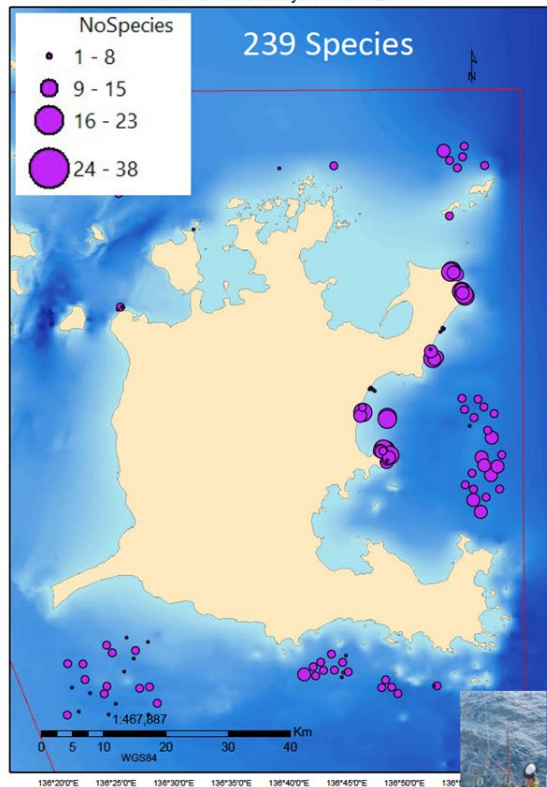
BRUVS Analysis Solander + Ranger interim results 176 sites

Analysed so far 239 Species with up to 223 individuals



Interim BRUVS analysis of Dec 2018

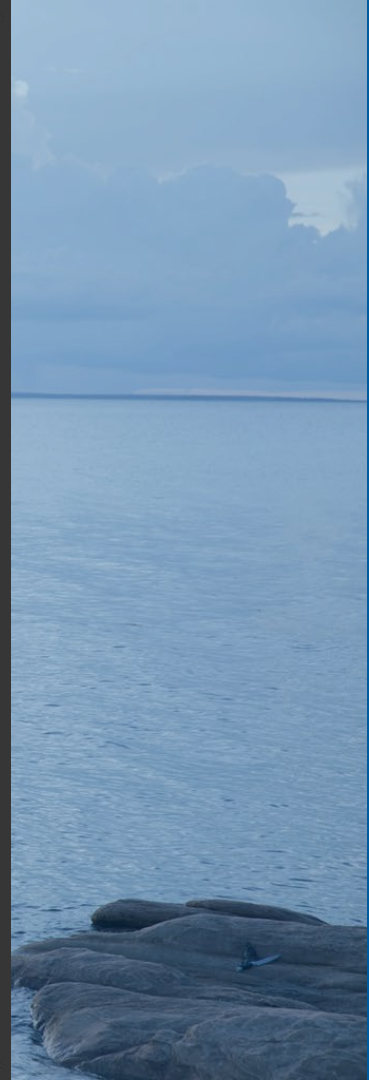
Interim BRUVS analysis of Dec 2018



Diversity

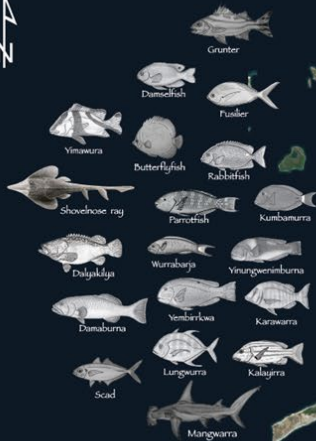
Abundance

AIMS: Australian Institute of Marine Science

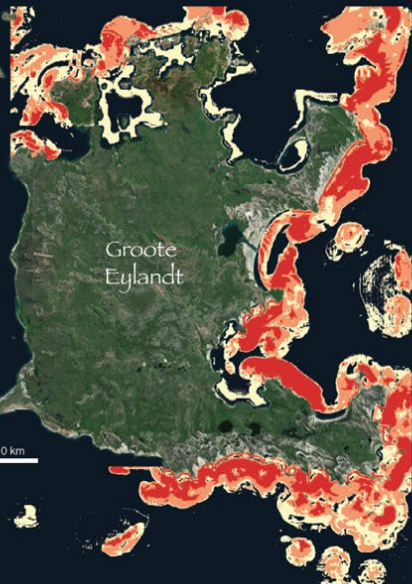


We have more than **239** species of fish in our Makarda

11



HOW MANY FISH SPECIES
 < 13
 13 - 16
 17 - 20
 21 - 33



Mangiyuwanga

CHANCE OF FINDING
 < 22 %
 22 - 39 %
 40 - 61 %
 62 - 97 %



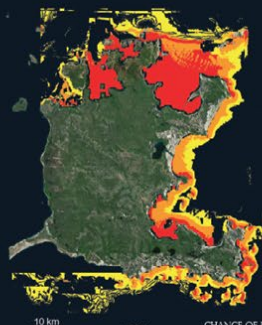
Yembirrkwa

CHANCE OF FINDING
 < 22 %
 22 - 39 %
 40 - 61 %
 62 - 97 %



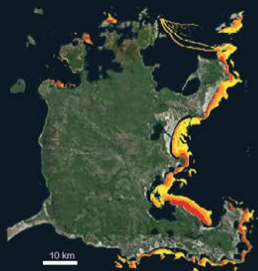
Kalajirra

CHANCE OF FINDING
 < 22 %
 22 - 39 %
 40 - 61 %
 62 - 97 %



Rabbitfish

CHANCE OF FINDING
 < 22 %
 22 - 39 %
 40 - 61 %
 62 - 97 %

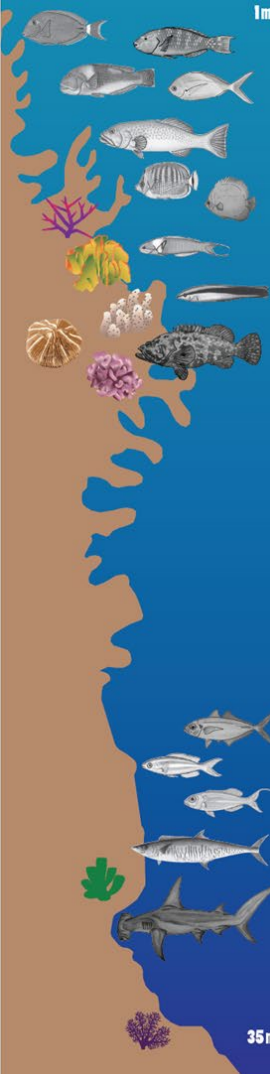


Dinnarra

CHANCE OF FINDING
 < 22 %
 22 - 39 %
 40 - 61 %
 62 - 97 %



Anindilyakwa Land Council

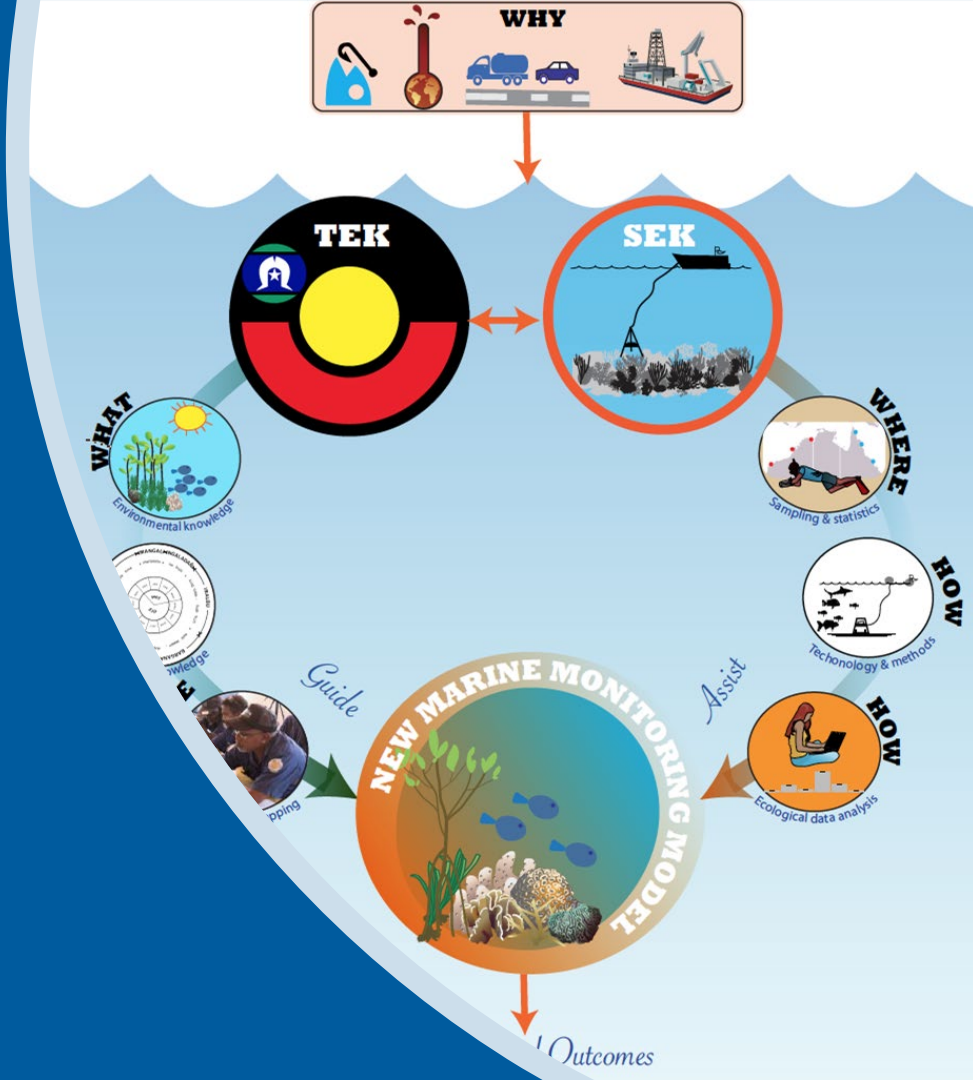


35 m



SOME ISSUES...

- Inclusion of TEK
- Via participatory mapping, site selection, what to monitor
- Include stories, notion of what's there
- Highlight TO knowledge, interest and respect for environment, monitoring own resources
- TIME— cultural awareness, personal contact
- RESOURCES



HOW WE COULD DO IT: Media types

- RANGERS


- Reports – online, print
- General summary booklets
- Newsletter

- ALL TOs

- Workshops
- Interactive activities
- Brochures, posters
- Apps
- Displays
- Photo/audio/video
- Infographics
- Artwork
- School activities
- Performance



HOW OTHERS DO IT...



**NWT
Environmental
Research Bulletin (NERB)**

2018 Volume 3, Issue 15

NWT Cumulative Impact Monitoring Program (NWT CIMP)

A source of environmental monitoring and research in the NWT. The program coordinates, conducts and funds the collection, analysis and reporting of information related to environmental conditions in the NWT.

NWT Environmental Research Bulletin (NERB)

A series of brief plain language summaries of various environmental research findings in the Northwest Territories. If you're conducting environmental research in the NWT, consider sharing your information with northern residents in a bulletin. These research summaries are also of use to northern resource decision-makers.

Tracking Wildlife in the Sahtú Region

To help address concerns raised about potential impacts from oil and gas exploration on wildlife and their habitat in the Sahtú region, a three-year community-based monitoring program to survey wildlife tracks in the winter from 2014-2017 was implemented. Results from the long-term surveying of winter tracks can be used by communities, industry and others to help detect changes in the distribution of several mammals and possibly relate changes to future development in the region.


Why is the research important?

Snow track surveys are an easy and non-invasive way for community members to monitor the relative abundance and distribution of several mammal species that are active during winter. The program could be applied at a regional scale by communities, industry and government to detect the cumulative impacts of human development and natural change.

Directly involving community members in the design and implementation of the monitoring program was important to its success. The program also provides an opportunity for knowledge transfer by elders and youth working together to conduct the surveys.

What did we do?

Youth and elders from Tuli't'a and Norman Wells measured whether mammals were present. Surveys of winter animal tracks were conducted by snowmobile along existing trails and seismic lines. Mobile hand-held computers were used to answer standard questions each time observers stopped to record a



Jonathan Yakeleya recording a marten track with the Trailmark™ data collection app on an Archer hand-held computer.



North - West Territories, Canada

- Online information
- Reports
- Bulletins
- Videos
- Multilingual

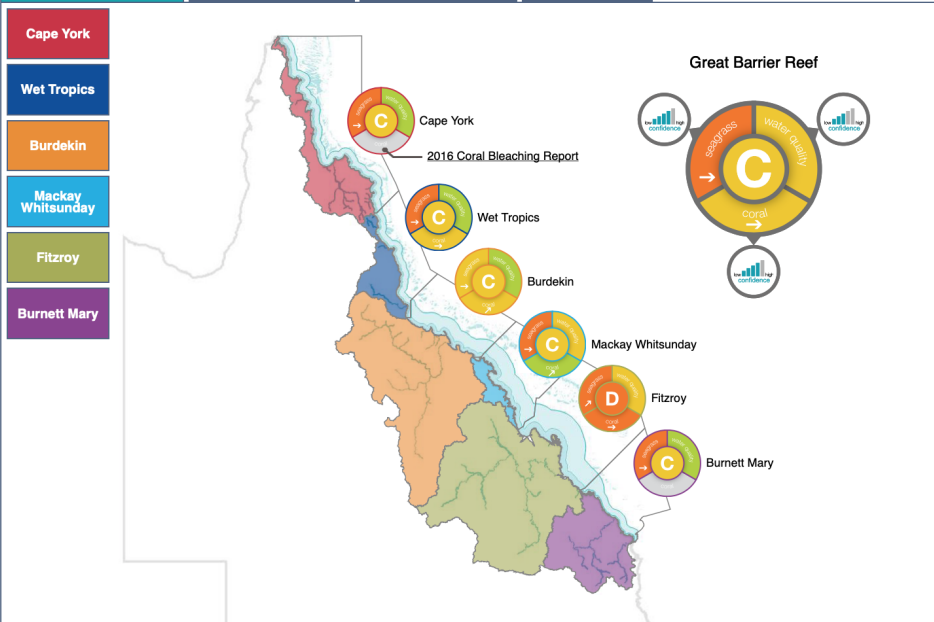
Reef Water Quality Report Card - GBR

Interactive Map - requires [internet](#)

Report Card » 2016 » Inshore Marine Condition

2016 2015

Inshore Marine Condition Management Practices Catchment Indicators Catchment Loads



Scoring

A Very good **B** Good **C** Moderate **D** Poor **E** Very poor ND No data available

Indicator confidence: based on expert opinion and direct measures of error.

Further details on the scoring system and qualitative confidence rankings for each indicator are outlined in the supporting technical information on the Reef Water Quality Protection Plan website, www.reefplan.qld.gov.au/scoring.

NA Not applicable in region

C Highlighted scores indicate priority pollutant for region

Marine trend since 2014-15

↗ Improvement in score

↘ Decline in score

→ No change in score

No arrow indicates change in methodology, trend not applicable

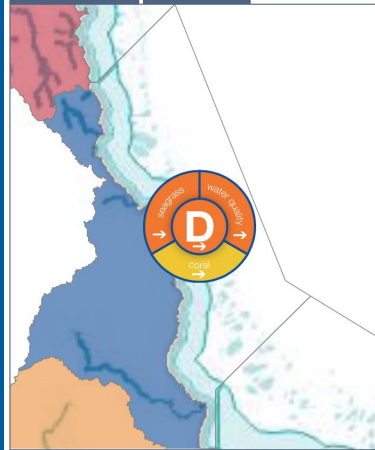
Report Card » 2015 » Inshore Marine Condition » Wet Tropics

2016 2015

Wet Tropics

Inshore Marine Condition Management Practices

Catchment Indicators Catchment Loads



Coral Seagrass Water Quality



Very Good

The marine area is in Very Good condition

Good

The marine area is in Good condition

Moderate

The marine area is in Moderate condition

Poor

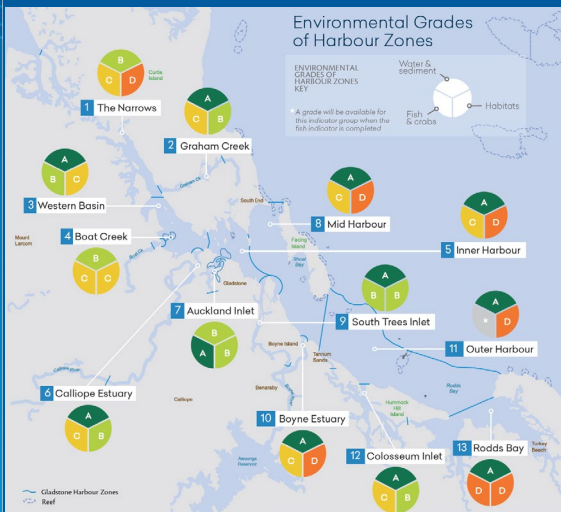
The marine area is in Poor condition

Very Poor

The marine area is in Very Poor condition

score: 100 90 80 70 60 50 40 30 20 10 0

Port of Gladstone



Grading, Confidence & Trends

Grades for this report card were calculated using 32 indicators derived from 91 different measures of the environmental, social, economic and cultural health of Gladstone Harbour. The components and indicator groups were graded A, B, C, D or E, based on the scores of the measures specific to each component.

Confidence levels for the component grades were measured on a three point scale. Low, medium and high levels were established to reflect the confidence of the Independent Science Panel (ISP) in the calculated grades. The confidence levels are affected by multiple factors, including the completeness of indicators used and quality of monitoring data.

Changes in grades for components from the 2017 to 2018 report cards are presented as improved, declined or unchanged.

GRADING SYSTEM

- A** Very good (0.85-1.00)
- B** Good (0.65-0.84)
- C** Satisfactory (0.50-0.64)
- D** Poor (0.25-0.49)
- E** Very poor (0.00-0.24)
- Data not available

CONFIDENCE



CHANGE

2017 to 2018

- improved (up arrow)
- declined (down arrow)
- unchanged (circular arrow)

Seabird die -offs



California, USA: Beach Report Card App

The screenshot displays the Beach Report Card App interface. On the left, a map of Southern California shows several beaches marked with numbered blue circles: 5, 3, 15, 4, 9, and 4. A blue box in the top left corner of the map area says "BEACH REPORT CARD WITH NOWCAST". The right side of the app features a yellow background with a search bar at the top that says "Search For Your Favorite Beach". Below the search bar, a large blue heading reads "Welcome Beach Lover." followed by a paragraph: "We believe that no one should get sick from a day at the beach, and that's why we've created a simple, yet comprehensive tool that lets you search for the latest water quality information at your favorite beach." Below this, another paragraph says: "To get started, enter the location of a beach in the search bar or play around with the map to find water quality information for beaches near you." Further down, a section titled "NowCast Predictions" shows a blue circle with a plus sign and the word "Good", and a red circle with a minus sign and the word "Poor". Below that, a section titled "Beach Report Card Grades" displays five smiley face icons: a blue happy face, a light blue happy face, a yellow neutral face, an orange sad face, and a red sad face with 'x's. At the bottom of the app interface, there is a blue bar with the Australian Government logo, the Australian Institute of Marine Science logo, a fish icon, the text "© 2018 Beach Report Card", and social media icons for Twitter, Instagram, and Facebook. On the far right of the bottom bar are buttons for "Download on the App Store" and "GET IT ON Google Play".

Discussion

