Protecting Queensland’s waterways

Gully mapping in Great Barrier Reef catchments

Improving water quality outcomes

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Paddock to Reef program

Paddock
- May-November
- Paddock monitoring
- Paddock modelling

Catchment
- December - April
- Catchment monitoring
- Catchment modelling
- Riparian extent
- Wetland condition
- Wetland extent
- Ground cover

Marine
- Seagrass monitoring
- Water quality monitoring
- Coral monitoring
- eReefs marine modelling
Do we need to worry about gullies?
Uncertainty in gully model inputs

- Initial gully density datasets not adequate
- Key attributes
  - Location
  - Gully volume
  - Current activity rate
  - Age (initiation date)
Gully mapping project
Grid based mapping approach

- Presence/absence mapping
- Rules
- Automated GIS tools
- Volunteer workforce
Gully geometry capture
Grid Based Mapping - Outputs

100m Gully Presence/Absence

1km Gully Density

NLWRA Gully Density

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Progress & Results

Gully Count

Average Gully Length per 100 x 100 m cell (m)

Average Gully Cross-sectional area (m²)
Prioritising remediation

To improve targeted management effort:

• accurately map gullies
• differentiate gullies by size, type and sediment yields
• understand gully’s hydrological connectivity to the Great Barrier Reef
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