Paddock to Reef program
Management practice and social data collection

Paddock to Reef program

Each year significant investment (by the Australian and Queensland governments) is directed towards increasing the adoption of best practice farm management systems as well as improving our understanding of what influences people to make changes. This helps drive progress towards the Reef 2050 Water Quality Improvement Plan's (Reef 2050 WQIP) land and catchment management and human dimensions targets. All the targets in the Reef 2050 WQIP contribute to ecosystem health, social resilience and social benefits and aim to improve water quality to help the Great Barrier Reef withstand other pressures.

The effectiveness of these investments is monitored and reported by the Paddock to Reef Integrated Monitoring, Modelling and Reporting Program (known as the Paddock to Reef program/P2R). Progress towards the targets is reported annually through the Reef Water Quality Report Card.

The Paddock to Reef program is a collaboration involving:

Why is data collected?

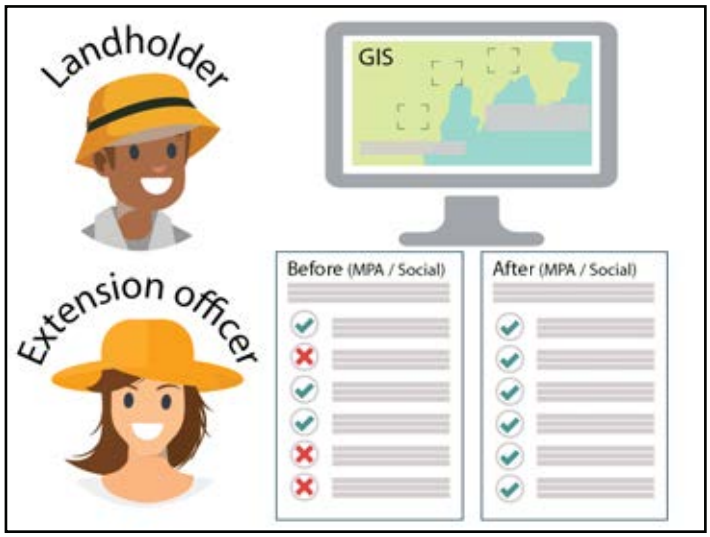
Regional Natural Resource Management (NRM) organisations, industry groups and private services deliver government-funded projects to improve farm management practices. They report annually on the impact of agricultural management practice adoption and social factors that influence the adoption of management practices. This information is collated and used to report the progress towards the Reef 2050 WQIP targets and objectives. The information is also used to model the likely impact of these improvements on water quality.

Australian Government

Queensland Government

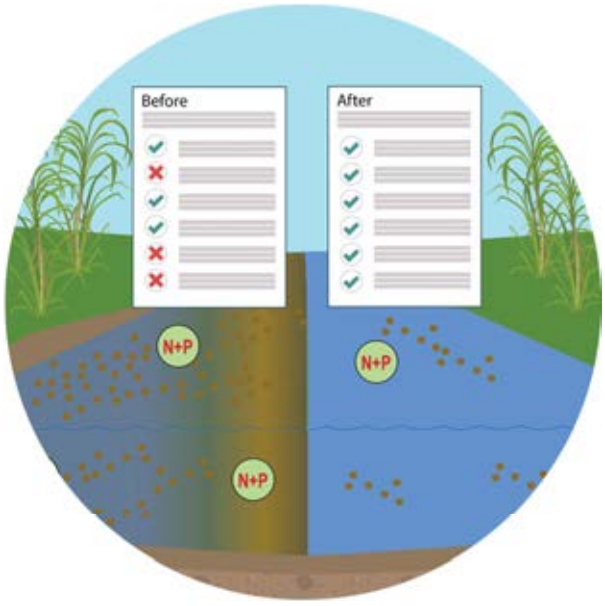
How it looks in practice

Extension officers work with landholders on projects to improve management practices for water quality outcomes. They record the spatial areas where a management practice change takes place; they ask 'management practice' questions and voluntary 'social' questions about what influences change. For each spatial area, the management practices employed in that area are recorded, before and after the change takes place. The voluntary social survey is connected to the practice change through a unique identifier, however the data is managed through a separate system to maintain the privacy of the landholder's location.



The management practice questions are linked to industry-specific management practice frameworks (focused on practices relevant to water quality risk). Practices are ranked from lowest risk (innovative practices that have the lowest water quality risk) to high risk (superseded practices that have the highest water quality risk) for agricultural industries. The frameworks were developed in consultation with industry experts.

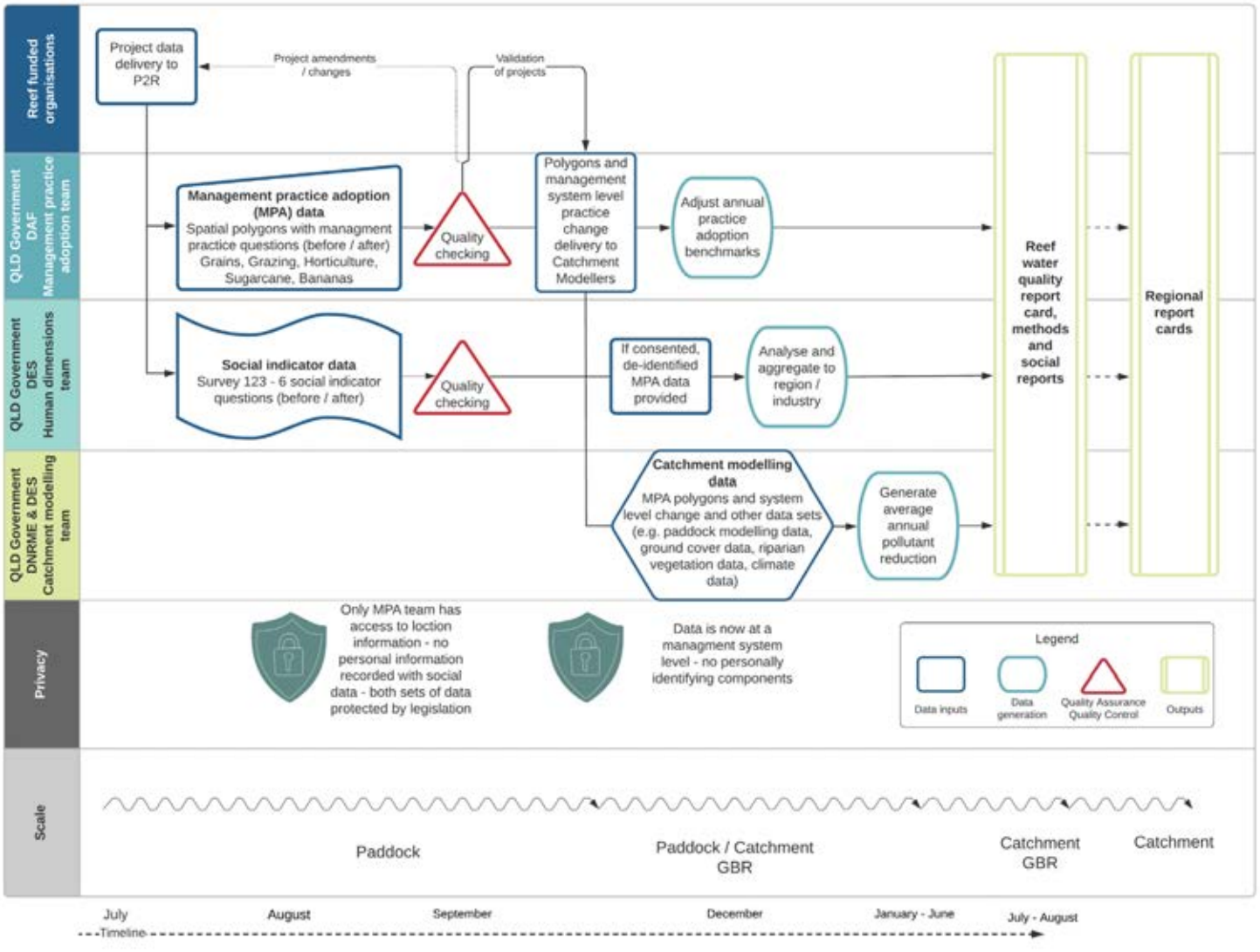
This resulting area and attributed practice change data is submitted to the Paddock to Reef, Management Practice Adoption (MPA) team, in the Queensland Department of Agriculture and Fisheries (DAF) (see P2R data collection flow diagram). Any voluntarily provided and de-identified social survey information is provided to the Human Dimensions team in the Queensalnd Department of Environment and Science (DES) – no personal information is recorded (see P2R data collection flow diagram). Practice scores are then calculated and translated into a water quality risk category and overlaid with information received in the past. This information is used to develop progress results in the Reef Water Quality Report Card. The social survey responses are analysed and used to improve understanding of why people make, or do not make, changes and to improve the delivery of programs.



Water quality risk framework

Terminology	Practice standard			
Water quality risk framework	Lowest risk, commercial feasibility may be unproven	Moderate-low risk	Moderate risk	High risk
	Innovative	Best practice	Minimum standard	Superseded
Industry best management practice (BMP) (generalised)	Above industry standard (typically aligns with moderate-low risk but in some instances aligns with lowest risk state)		Industry standard	Below industry standard

P2R data collection flow diagram



What about data privacy?

The individual site information collected by the Paddock to Reef program is used only to evaluate the effectiveness of water quality improvement programs. The social indicators are used to gain a greater understanding of what influences landholders to undertake management practice improvements. Both data are kept confidential and secure. This information cannot be used for any other purpose and is protected under the Queensland *Information Privacy Act (2009)*.

This means that the Paddock to Reef program cannot supply the raw site-level data (the reported farm management data) to anyone, for any other purpose.

The location of sites where change has been reported are combined into a single file with codes that represent the degree of improvement at the system level. This 'layer' is provided to the Paddock to Reef, Catchment Modelling team, in the Queensland Department of Natural Resources, Mines and Energy (DNRME) and DES (see P2R data collection flow diagram), to model water quality improvements. This layer of information does not contain the site-specific management practices.

The results of Paddock to Reef program analysis are combined at the scale of river catchments (e.g. the Tully River catchment) and published annually in a Reef Water Quality Report Card. Individual property data is not published or made public in any other way.

For more information

Reef 2050 Long-Term Sustainability Plan

https://www.environment.gov.au/marine/gbr/long-term-sustainability-plan

Reef 2050 Water Quality Improvement Plan

https://www.reefplan.qld.gov.au/

Paddock to Reef program

https://www.reefplan.qld.gov.au/tracking-progress/paddock-to-reef

Management practice adoption monitoring

https://www.reefplan.qld.gov.au/tracking-progress/paddock-to-reef/management-practices

Social monitoring

https://www.reefplan.qld.gov.au/__data/assets/pdf_file/0030/95268/social-monitoring-fact-sheet.pdf

Australian Government

Queensland Government