

## List of Reef 2050 Integrated Monitoring and Reporting Program work packages

	Work Packages
Program Design	PD1: Build and document system understanding of cause and effect relationships, through conceptual or mathematical models, to aid the <b>selection and prioritisation of indicators</b> for key values, assets, processes, pressures, drivers, and management interventions within the DPSIR framework.
	PD2: <b>Translation of Reef 2050 Plan targets to desired states</b> (definition of ‘good’) for indicators of key values and assets at regional and local scales. Define relationship between values to identify any independent, complementary or competitive relationships that are relevant to management objectives.
	PD3: Review and document known ‘exposure-response’ (or “dose-response”) relationships to <b>develop standards and thresholds</b> for indicators of pressure-state interactions associated with key values and assets (Reef attributes) identified in PD1 at regional and local scales.
	PD4: <b>Determination of the statistical power required to detect magnitudes of change that are relevant to management in key indicators at GBR-wide and regional scales</b> (at the level of sensitivity determined by exposure-response work). Link to SR7 (metrics).
	PD5: <b>Review adequacy of existing monitoring programs</b> to satisfy required statistical power at GBR-wide and regional scales, and to comprehensively assess management effectiveness.
	PD6: <b>Identification of gaps, and modifications to existing programs and options to address these based on an analysis of costs, benefits and risk.</b> Prioritisation of options and identification of trade-offs.
	PD7: <b>Develop monitoring protocols</b> , including sampling analysis design (including spatial and temporal design), and desired statistical power, to provide strategy to transition to fully integrated Program, and improve analysis and interpretation of data through agreed metrics (SR4).
	PD8: <b>Implement integrated Program</b> including analysis of data and interpretation of results from existing and modified monitoring programs within the context of cause-and-effect relationships of the DPSIR framework, and support the funding of programs to address gaps as resources allow (e.g. dugongs and social & economic).

	Work Packages
Synthesis and Reporting	SR1: Clearly <b>define reporting requirements at GBR-wide and regional scales</b> to evaluate whether the Reef 2050 Plan is on track to meet its targets and outcomes, address management questions and inform adaptive management.
	SR2: <b>Document initiatives and outputs</b> to support reporting requirements. <ul style="list-style-type: none"> <li>comprehensive list of existing monitoring programs (<a href="#">link PD5</a>) - adequacy</li> <li>comprehensive list of existing reporting products (list/breakdown)</li> </ul>
	SR3: <b>Identify existing core indicators for reporting outputs</b> (that apply to all spatial scales) <b>and elective indicators</b> for reporting that will be relevant to only some areas (e.g. regional reporting). Link to PD1 Need to include stakeholder perspectives (aspirations/key issues/concerns)
	SR4: <b>Market research of audience</b> to inform the development of targeted synthesis and reporting products, including PR advice, key messages, narrative, opportunities for partnerships and innovation to engender 'trusted information'.
	SR5: <b>Mock-up of reporting products</b> , including regional and Reef-wide reporting products
	SR6: <b>Refinement of reporting requirements and core indicators</b> . Core indicators will be developed by the Program Design Working Group
	SR7: Based on reporting requirements, <b>develop consistent approaches for data collection and aggregation into reporting metrics</b> , including robustness and sensitivity. Link to PD4.
	SR8: <b>Automation of synthesis and reporting products</b> , including partnerships with the private sector to develop innovative products targeted to meet the needs of end users. (link to SR4 and SR7)
	SR9: <b>Development of visualisations and web-based systems</b> to share information across programs (scoping project). Link to DMS8

	Work Packages
Data Management and Systems	DMS1: Prepare a conceptual diagram / <b>mock-up of GBR data management landscape</b> (showing interlinked dispersed repositories and access portals) as a communication tool.
	DMS2: Review program design and synthesis and reporting requirements to <b>identify what data is required and in what form.</b>
	DMS3: <b>Identify principles, protocols and characteristics</b> for the Program’s data management approach, including protocols for managing sensitive information and formats for data storage and handling.
	DMS4: <b>Develop protocols for managing culturally sensitive information</b> , including <b>negotiating data sharing agreements</b> with Traditional Owners implementing appropriate storage and handling of this information with Traditional Owners.
	DMS5: Conduct an <b>audit of available data</b> (measured and modelled) against program design and synthesis & reporting requirements (DMS2), including: quality, availability, location/custodian, and caveats for use. <b>Identify data products that need updating, modifications or need for new data sets.</b>
	DMS6: Ensure <b>access, licensing and IP arrangements</b> are fit for purpose. Review licensing, data provenance and transparency, and IP of relevant data sets. Identify requirements to secure access to and use of data, including data-sharing mechanisms to align with the needs of identified audience range and reporting products.
	DMS7: <b>Design and agree on data delivery mechanisms</b> (search and display/ visualisation products).
	DMS8: <b>Scope and deliver data management systems.</b>
	DMS9: <b>Implement continuous improvement program.</b>