NESP Project: 3.2.2 Assessing the human dimensions of the Great Barrier Reef

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We acknowledge the Traditional Owners of the land where we meet today (Wulgurukaba and Bindal peoples) and Traditional Owners whose land and sea country we discuss today – and their elders past and present.

We recognise that these lands and sea country continue to be sacred to them.
NESP Project 3.2.2: The IMS 2050 Human Dimensions Project: Cost-effective indicators and metrics for key GBRWHA human dimensions.

Work with the Program Design component of the Reef Integrated Monitoring and Reporting Program (RIMReP) to:

- Identify potential indicator sets

- Provide guidelines for a collaborative approach for developing grading scores, using multiple lines of evidence to rate progress towards Reef 2050 Plan targets, objectives and outcomes.

- Prioritise data collection spatially & temporally
Background

Human Dimensions
Human factors that shape social, economic and environmental outcomes for the GBR.

RIMReP
linked to Reef 2050 Plan outcomes

Project 3.2.2
Developed & trialed a collaborative process to benchmark human dimensions to help monitor progress, refine strategies and progress action against the Reef Plan.
Five clusters vs Reef 2050 Plan Themes

- Aspirations, capacity and stewardship – ALL SEVEN
- Community vitality – COMMUNITY BENEFITS
- Culture and heritage – HERITAGE
- Economic viability – ECONOMIC BENEFITS
- Governance – GOVERNANCE
Aspirations, Capacity & Stewardship

ACS1 Levels of community awareness & education about the GBR

ACS2 Community capacity for stewardship

ACS3 Adoption of responsible/ best practice GBR recreational/ artisanal users

ACS4 Adoption of responsible/ best practices Agricultural & land sector

ACS5 Adoption of responsible/ best practices Industry & urban sector

ACS6 Adoption of responsible/ best practices Marine sector
Community Vitality

CV1 Demographic stability affecting GBR outcomes.

CV2 Security including housing, safety & risk management.

CV3 Wellbeing/ happiness within the general community.

CV4 Community health/wellbeing/ satisfaction associated with the GBR.

CV5 Community services & infrastructure supporting GBR communities
Culture & Heritage

CH1 World heritage

CH2 Indigenous (Traditional Owner) heritage

CH3 Contemporary culture associated with GBR

CH4 Historic heritage

Economic Viability

EV1 Size and diversity of regional economic growth

EV2 Economic Viability of Reef-associated industries & impacts on Reef health

EV3 Economic Viability of Reef-dependent industries & impacts on Reef health

EV4 Inclusiveness & economic fairness/equity

EV5 Workforce participation & employment

EV6 Economic confidence
Governance

G1 Strategic focus of governance system

G2 Connectivity within & between key decision-making institutions & sectors

G3 Adaptive management capacity of key decision making institutions & sectors

G4 Adaptive use & management of integrated knowledge sets

IMAGE SOURCE: Reef Water Quality Protection Plan
Constructed
- Indicator framework
- Evidence tables
- Secondary data sets e.g. ABS, QGSO, TRA, ABARE
- Data gaps => SELTMP & regional expert panels

Convened 6 expert panels

<table>
<thead>
<tr>
<th>Rating</th>
<th>Decision Rule</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>The regional community will easily manage the Reef sustainably, .....</td>
</tr>
<tr>
<td>4</td>
<td>The regional community will make reasonable progress on managing the Reef sustainably.....</td>
</tr>
<tr>
<td>3</td>
<td>The regional community will suffer some shocks associated with or making intractable progress.....</td>
</tr>
<tr>
<td>2</td>
<td>The regional community will struggle to manage the Reef sustainably....</td>
</tr>
<tr>
<td>1</td>
<td>The regional community will be unable to manage the Reef sustainably.....</td>
</tr>
</tbody>
</table>
Data sets


- **ABARES** *Catchment Scale Land Use of Australia*

- **GBRMPA** *Vessel registration levels for the Great Barrier Reef catchment area.*

- **GBRMPA** *Environmental Management Charge (EMC) data*

- **QGSO** *Queensland regional profiles*

- **QDAFF** - *State recreational fishing survey*

- **SELTMP** *The Social and Economic Long Term Monitoring Program for the Great Barrier Reef*

- **TRA** *Tourism Research Australia*

- **University of Canberra** *(2017)* *2016 Regional Wellbeing Survey: Results by RDA and LGA.*
Example: Aspirations, capacity & stewardship

ACS1 Levels of community awareness & education 3.5

ACS2 Capacity for stewardship 3

ACS3 Adoption of responsible/ best practice – GBR recreational/ artisanal users 3

ACS4 Adoption of responsible/ best practices – Agricultural & land sector 3

ACS5 Adoption of responsible/ best practices – Industry & urban sector 3.5

ACS6 Adoption of responsible/ best practices – Marine sector 3.5

Rating 19

Maximum score for this cluster 30
<table>
<thead>
<tr>
<th>Attribute Component</th>
<th>Possible Indicators</th>
<th>Evidence</th>
<th>Conclusions</th>
<th>Proposed Value and Logic</th>
</tr>
</thead>
</table>
| 1.4 Adoption of responsible best practice – Industry & urban sector. | Extent & type of stewardship practices of urban councils & industries. | • Urban & other intensive uses = 10% regional particulate nutrient load & 4% regional DIN. Point sources (e.g. sewage treatment plants) may be significant to local management areas (Folkers et al. 2014). • MWHRP Report Card assessed Urban stewardship as partially effective due to poor implementation of environmental management plans & low compliance (67%) with environmental legislation & approval conditions (HR2RTWG, 2016; Eco Logical Australia & Adaptive Strategies, 2016). • Upgrades to sewage pump stations at 40 sites across the Mackay region will boost network resilience & reliability, improve services & access during emergencies, & reduce sewerage overflows (QDSD, 2017). • RC Urban project (completed 2016) multi-agency collaboration to restore wetlands, construct bioretention systems & install gross pollutant traps. Resulted in reduced net sediment & urban pollutant loss & improved WQ. Biodiverse native plantings & strategic weed management built resilience, improved connectivity & ecosystem condition under pressure from coastal urban development. Founded on strong working relationships developed with state government agencies, councils, industry groups, community groups and others (Reef Catchments, 2016). • MWHRP Report assessed stewardship of Heavy Industry as 'Effective', as they complied with all environmental regulations (Eco Logical Australia & Adaptive Strategies, 2016). | • Industries with a point source pollution impact are generally well regulated under the Qld Environmental Protection Act. • A stewardship rating of Partially Effective indicates room for improving urban stewardship. • This could be offset by multi-agency collaborations to improve local WQ & restore degraded coastal & marine habitats. • Mackay Council provides leadership in sustainability practices and community based education. • Can be low compliance rates among some urban industries | 3.5

Strong regulatory framework for point source pollution, but low compliance rates
Comparison of regional scores against the five human dimension clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Eastern Cape York</th>
<th>Wet Tropics</th>
<th>Burdekin</th>
<th>Mackay-Whitsunday</th>
<th>Fitzroy</th>
<th>Burnett-Mary</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS</td>
<td>17/30</td>
<td>20/30</td>
<td>20/30</td>
<td>21/30</td>
<td>20/30</td>
<td>21/30</td>
</tr>
<tr>
<td>CH</td>
<td>11.0/20</td>
<td>11.5/20</td>
<td>11.5/20</td>
<td>12.0/20</td>
<td>12.5/20</td>
<td>14.5/20</td>
</tr>
<tr>
<td>EV</td>
<td>13.5/30</td>
<td>17.5/30</td>
<td>17.5/30</td>
<td>19/30</td>
<td>18.5/30</td>
<td>20.5/30</td>
</tr>
<tr>
<td>G</td>
<td>10.5</td>
<td>11.5/20</td>
<td>11.5/20</td>
<td>11.5/20</td>
<td>11.5/20</td>
<td>13.5/20</td>
</tr>
</tbody>
</table>
Priorities for GBR monitoring

Aspirations, capacities & stewardship
• How many people visit the GBR? Where do they go? What do they do? Why do they go?
• Extent to which communities and industry are enabled and engaged in activities to promote Reef health.
• Capacity of communities and industries to respond to unforeseeable change.

Community Vitality
• Levels of satisfaction with (a) GBR experiences; (b) GBR management; (c) perceptions of GBR and coastal ecosystem health
• Community understanding of GBR and catchment ecosystem health
• Equitable GBR access

Culture & Heritage
• GBR aesthetics; sense of place, place attachment and personal connection
• GBR maritime historic heritage
• Indigenous-led indicators

Economic Vitality
• Economic contributions of Reef-dependent industries
• Non-market valuations
Priorities for Governance monitoring

• Identification of
  o key opportunities for improved Reef 2050 Plan Governance

  o governance subdomains (or policy areas) that have the potential to counteract the targets and actions identified in the Reef 2050 Plan

  o system-wide problems associated with the delivery of key targets established under the Reef 2050 Plan
Critical assessment and monitoring activities

- SELTMP
- Compliance monitoring – GBRMPA, State government
- Social media analysis
- Recreational index
- Rec. fishing surveys
- Aesthetics monitoring including sentiment analysis
- Traditional – Owner led indicators – through RIMReP process
- Maritime historic heritage assessment & monitoring
- Media tracking & analysis
- Stewardship & behaviour change analysis
- Human Dimensions & Governance benchmarking
Other significant findings

- Need to shift towards a stronger free, prior and informed consent-based approach in working with Traditional Owners, particularly in Cape York

- Need to build a significant social license across the international and Australian community if policies that apply a more triage-based approach to GBR protection and restoration are to be considered in the face of climate change

- To avoid the worst impacts of climate change on GBR communities, the need for Australian and State governments to more actively explore policies that will increase economic diversity in GBR dependent regions north of Gladstone
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