

Chair Report on ISP Meeting 32

10th of September 2019

ISP membership

Dr Cathy Dichmont has resigned from the ISP because of workload issues.

The ISP Chair has invited Dr Erin Bohensky from CSIRO to join the ISP to replace Dr Nadine Marshall in the Social Science expert position, pending confirmation from the Management Committee.

Dr. Erin Bohensky is a sustainability scientist who conducts research on engagement with and adaptation to past, present and future social and environmental change. Her work for more than a decade on knowledge co-production and adaptation through participatory integrated assessment and scenario planning processes has assisted governments and communities in Australia, Papua New Guinea, Indonesia and Africa to understand and respond to complex social-ecological challenges.

She has also led a stream of work on disaster risk reduction, analysing public discourse around climate change, extreme events and coastal development. She has published in journals including Nature, Nature Climate Change, and Global Environmental Change, and has held editorial roles for Ecology and Society and Climate Risk Management. Before joining CSIRO in 2006, Erin completed her Ph.D. at the University of Pretoria on transformation in South Africa's water sector and worked as a technical advisor to the United Nations' Poverty and Environment Initiative throughout Africa. Previously she earned a Master of Environmental Management from Duke University and a Bachelor of Arts from The Johns Hopkins University.

Project updates

- Grades and scores for the different projects are all in progress (with the exception of Indigenous Cultural Heritage and Stewardship which are not being assessed this year).
- The ISP has reviewed and finalised grades and scores for Seagrass, Fish Recruitment and Coral indicators.
- Water and sediment data has been received from PCIMP, and the QA/QC review is in progress
- Reports for Social/Cultural/Economic, Mud Crabs, Mangroves, and the two Fish Health projects have been received and are in various stages of review.

Other updates

- The ISP Chair and Science team have met with the Department of Science about the guideline values for water quality parameters in the Harbour (Appendix 1).
- The revised GHHP Science program budget will be \$100K lower in coming years at \$387.5K plus PCIMP. This means that some projects (Social, Cultural, Economic, Indigenous and Mangroves) will be staggered between years, and Stewardship will be removed.
- The CQU proposal for Fish Health for the 2019-20 year was \$40K over budget, and has been approved after taking out the wet season sampling (in 2020).

Mud Crabs

The ISP noted that while the Mud Crab indicator has scored more poorly in the Gladstone Harbour this year, the scores from the parallel control site (Eurimbula Creek) were an A in every category, consistent with an unfished site. This provides substantial confidence that the indicator is accurate.

The ISP discussed the current selection of zones and benchmark for the Abundance sub-indicator, confirming the current design. The ISP did note that it would be possible to assess mudcrabs at South Tree if it was funded from outside the program (an industry member has asked if it would be possible to include South Trees).

The ISP discussed the appropriate scoring procedure when very few (<5) mudcrabs are caught in a zone. ***The ISP recommended that in these cases Abundance should be scored at zero, and that this would be the score recorded for the zone*** (rather than taking the zone out of the harbour score, as occurred in 2018).

The ISP discussed the potential inclusion of Biomass as a fourth sub-indicator for Mud Crabs, but ***recommended that Biomass not be included because of complications in assessment.***

Coral Coring

The ISP made recommendations about the wording of the Executive Summary of the Coral Coring report to go to both the authors and the Management Committee.

Treatment of Missing Indicators

The ISP recommended that the scores from the previous year are to be used for the Cultural Heritage indicator in 2019, and that this be the future rule applied to any staggered (missing) indicators.

Economic Performance indicator

The ISP considered how to update the frontier for Shipping numbers in the Economic Performance indicator. It was agreed that there should be an audit of shipping capacity conducted at the time when the Economic indicator is next assessed.

Staggered Projects and Fish Health

The ISP noted that the Science Program budget adopted by the Management Committee tentatively scheduled the Economic component for 2019-2020 and the Social and Cultural components for 2020-2021. As the CATI survey underpins each of the Social, Cultural (Sense of Place) and Economic components, ***it was recommended that these be conducted simultaneously in 2020-2021 instead.***

The ISP recommended that an additional \$40,000 be allocated to the CQU Fish Health project in 2019-20, so that the full project can be run with two sampling events (dry season and wet season). This would repeat the full Fish Health program for the second year, and establish greater confidence

in the methodology and results. It would also provide a second comparison between wet season and dry season sampling, so as to inform future decisions about whether a sampling event can be dropped. A revised budget over the forward years is shown incorporating this option. This would have an average Science program cost of \$375,000 over five years (\$12,000 below budget per annum).

Project ID	2020	2021	2022	2023	2024
ISP005: Social Cultural + survey		\$40,000		\$40,000	
ISP005: Economic		\$30,000		\$30,000	
ISP006: Gladstone Harbour Model & ISP007: Connectivity indicators	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
ISP009: DIMS maintenance	\$41,000	\$41,000	\$41,000	\$41,000	\$41,000
ISP011: Seagrass Indicators	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
ISP012: Cultural Heritage		\$60,000			\$60,000
ISP013: Fish Recruitment	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
ISP014: Coral	\$18,000	\$18,000	\$18,000	\$18,000	\$18,000
ISP015: Mud Crab	\$65,000	\$65,000	\$65,000	\$65,000	\$65,000
ISP016c: Fish Health Case Study					
-CQU project	\$105,000	\$65,000	\$65,000	\$65,000	\$65,000
-InfoFish Australia project	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
ISP018: Mangrove			\$40,000		
ISP020: Scripts for cultural heritage		\$5,000		\$5,000	\$5,000
Stewardship (separate budget)					
Sub-Total (w/o Stewardship or inflation)	\$344,000	\$439,000	\$344,000	\$379,000	\$369,000
PCIMP	\$517,500	\$517,501	\$517,502	\$517,503	\$517,504
Total	\$861,500	\$956,501	\$861,502	\$896,503	\$886,504

Nutrients in the harbour

The ISP notes that there may be a strong link between ongoing high nutrient levels in the harbour, excessive levels of macroalgae, and very poor coral health. Dr Rebecca Bartley from CSIRO contributed to the discussion on this issue. This is an ideal case study to start to look at trends and integration between a small set of different indicators. **The ISP recommended that the ISP convene a one-day workshop in early 2020 to explore links between high nutrient loads and other relevant indicators in the Gladstone Harbour.** The workshop may be supported by a small budget allocation of up to \$10,000 to involve some experts and provide some background modelling.

Appendix 1: Meeting with DES regarding water quality parameters

On the 22nd of August 2019, GHHP met with DES to discuss how water quality grades and scores would change if methods were updated to be more aligned with QLD Water Quality Guidelines. This meeting was to fulfil an actioned item from Management Committee Meeting 31.

DES was represented by Dane Moulton, Ben Hammill and Michael Newham; GHHP by John Rolfe and Mac Hansler. Jim Fewings, Rachel D'Arcy and Paulina Kaniewska were apologies for DES.

Activity

GHHP presented three documents for the meeting:

1. GHHP water quality investigations for 2018 GHHP_DES discussions
2. GHHP water quality investigations for 2015 to 2018
3. GHHP cluster analysis results

The meeting commenced with Dane Moulton indicating that GHHP had put a clear and succinct case forward, in terms of how to review how scores/grades would change if the methods were updated.

John Rolfe summarised the documents, reiterating that the underlying issues GHHP has regarding the methods update are:

- Sample size inadequacy (e.g. zones with 2-3 sites, Boyne Estuary with one site), with regard to using percentiles or the median
- Mixed results when testing HEV zones to the 20-50-80 (e.g. Below Pass, Pass, Mixed, Fail)
- Zonation, with regard to the HEV zone classification
 - HEV zones are more similar to MD zones
 - HEV zones result in guaranteed failing scores for aluminium and copper using the department's approach, even with the change in LOR methods

John Rolfe explained that because of these issues, and because the tests are showing little difference in results between the current GHHP approach (using means) and the recommended DES approach (using medians and percentiles), GHHP was proposing to maintain their current system.

Dane Moulton indicated that outside these issues, results were fairly consistent between the two methods. He indicated DES are currently investigating alternative methods with consideration of the typical sample size constraints that many programs have. He recommended updating the historical analysis to reflect two changes:

1. Update the LOR scores to the MC-approved LOR/2 value – this would have the greatest effect on copper scores
2. Update the coloration for mixed results where there are no "Fail" results recorded – these results should be considered "Pass/Below Pass" and coloured green

At present, DES has a number of reviews that will be handled before the Gladstone Water Quality Objectives are updated. DES will keep GHHP informed, however, it appears that the current GHHP system may not be challenged for the 2019 and 2020 report cards. DES could not support our current methods because it is not consistent with their approach but will discuss the matter and get back to GHHP. Dane Moulton did recommend that the current paper(s) be published on the GHHP website to provide a record of the tests.