

Chair Report on ISP Meeting 28

11th of September 2018

Projects

All of the teams required to complete the 2018 report card have been contracted, and most of the reports are finalised or close to finalisation. Project work is progressing well and is largely on schedule. Key issues of note are:

- The PCIMP data and report have not been received yet
- There have been delays in contracting the Stewardship project
- There have been changes to the CQU Fish Health Project to allow for a dry season sampling event in October.

	Project ID	Notes
1	ISP005-2018: SCE indicators	This project is completed and awaiting final invoice.
2	ISP006-2018: Model Housing and Updates for the Gladstone Harbour Model, Gladstone Hydrodynamic Model and CONNIE Module.	This project includes the housing and maintenance of the entire Gladstone Model suite (with the Atlantis model in a scenario ready state), the GHHP seaview website, the Gladstone Harbour section of the CONNIE3 web interface. The project is under contract and will be completed 30 June 2019.
4	ISP009-2018: DIMS maintenance	This project is completed and awaiting final invoice.
5	ISP011–2018: Seagrass Indicators	The draft 2018 seagrass has been received and the final feedback to the seagrass team will occur after the 11 September ISP meeting.
6	ISP012-2018: Indigenous Cultural Heritage Indicators	The final report is under ISP review.
7	ISP013-2017: Fish Recruitment Indicators	This project is completed.
8	ISP014–2018: Coral Indicators	The 2018 draft coral report has been reviewed by the ISP and feedback has been provided to AIMS
9	ISP015-2018: Mud Crab Indicators	A draft report including report card grades and scores has been received and is currently under ISP review.
10	ISP016c: Fish Health-CQU	The project has progressed well and the team is planning to complete dry season sampling in Sep-Oct period.
11	ISP016c: Fish Health-InfoFish	This project is on track and we are expecting the final report by 15 October.
12	ISP018: Development of Mangrove Indicators	This project is currently being contracted with JCU/TropWater a draft report will be presented at the 11 September ISP meeting.
13	ISP019: Coral coring	A draft report has been received and reviewed by the ISP. Still waiting for a response from AIMS
14	ISP020-2017: Scripts for cultural heritage indicators	We are awaiting the final invoice from CSIRO to close the project.
15	ISP020-2018: Scripts for cultural heritage indicators	A contractor has been chosen and provided data to analyse.
16	Stewardship 2018	Under contract, draft report due 29 October.
17	PCIMP Data	The data request for 2018 report card has been sent to the PCIMP.

Indigenous Cultural Heritage

It was noted that there were currently calls out for new tenders for the Social, Cultural, Economic and Indigenous Cultural Heritage components of the Report Card. The ISP recommended that an Indigenous expert could be invited to be part of the selection process for the Indigenous Cultural Heritage tenders. A member of the Management Committee might also be invited to participate.

Social, Cultural and Economic indicators.

Potential changes in the names of indicators were discussed that would involve simpler language and improve communication.

- Distinctiveness → Place attachment
- Self-esteem → Pride in the region
- Self-efficacy → Well-being
- Attitudes to Gladstone Harbour → Appreciation of the harbour

It was agreed to consult with the Communications team before a decision was finalised. These changes will be implemented in the 2019 report card.

Commercial Fishing Data

There are ongoing gaps in the commercial fishing data for each report card. The ISP agreed to maintain the current reporting timeframe (financial year), but to ask the new SCE team for 2019 to make recommendations about whether historic averages should be used in place of missing data.

Marine incidents and oil spills.

The ISP agreed that these two measures are not fully consistent within the Social Component. The ISP will review the Stewardship component to identify if it would be a more suitable area to include these measures, as well as identifying if replacement questions should be added to the CATI survey.

Water Quality Issues – Guideline values

The ISP discussed whether the guideline values for nutrients and Phys-Chem properties of water quality should be upgraded.

In the Port Curtis Water Quality Objectives 2014 set by the government the guidelines vary slightly between zones if the waterbodies are categorized as either 'slightly to moderately disturbed zones (MD)' or 'high ecological value (HEV)' zones. In Gladstone Harbour, The Narrows and Colosseum Inlet are categorized as HEV zones. All other zones have MD status. According to the Port Curtis Water Quality Objectives 2014, all MD zones should adopt the 80th percentile of the guideline value, while test data from HEV zones should be compared with the 20th, 50th and 80th percentile guideline values. However, water quality is tested only four times a year in the PCIMP program, resulting in four data points. Because of this the above comparison could not be made in HEV zones, so a simpler approach of using the 50th percentile as the guideline has been adopted.

The GHHP is currently using the 50th percentile guideline value for Nutrient and Phys-Chem measures across all the zones, consistent with initial email advice from the Department of Environment and Heritage Protection (at the time).

Verbal advice in 2017 and 2018 from the Department of Environment and Science (DES) was that

- the water quality guidelines were set extremely low with the intention that they would compared to median values. By using mean values, the GHHP system is 'failing' more than it should.
- It would be more appropriate to use the 80th percentile as the guideline values in the MD zones
- GHHP can choose to apply any guideline in the zones and is not bound to the guidelines.

A report from AIMS showed that moving to treat all zones as MD and using the 80th percentile values as the guideline values (only for Chlorophyll a, Total Nitrogen, Total Phosphorus and Turbidity) does change the scoring, and would push the sub-indicators for Nutrients and Phys-Chem up by one grade in previous report cards.

The ISP noted that it would be problematic to specifically apply guideline for the HEV and MD zones, as this would have the perverse outcome that the HEV zones would often 'fail' while the MD zones would often 'pass' – simply because of the large differences in guideline values between the 50th and 80th percentiles. Consequently, the ISP recommended that the water quality guidelines should be applied to all zones using the same percentile guideline (either all MD or all HEV). A precedent for this is already established with the guideline for Aluminium.

The ISP recommended that the 80th percentile be used as the guideline value for the phys-chem and nutrient in water, e.g. Chlorophyll-a, Total Nitrogen, Total Phosphorus and Turbidity measures across all zones, on the basis that:

- This is consistent with 10 zones in the harbour that are graded as MD,
- It is consistent with Gladstone being a working harbour that is slightly to moderately disturbed, even in the three HEV zones
- It compensates for the use of mean values (of water quality samples) in the assessment (instead of the median values the guidelines were designed for)
- It avoids the issues with the 50th percentile measures being so close to limits of detection of some water quality measures
- It is more consistent with the guidelines (for MD zones 95% species protection) for the dissolved metals in water.
- It is more consistent with the standards set with other indicators in the report card, where guideline values tend to be the 'average' of previous measures or accept the current levels of development as the norm for assessment.
- It is more consistent with the water quality standards of other report cards (Wet Tropics and Mackay Whitsunday uses 'Moderately Disturbed' guidelines for estuaries, and Healthy Waterways uses a mix of MD and HEV standards for estuaries and Moreton Bay).

The ISP has identified some downsides to making the adjustment:

1. It will lead to large changes in water quality scores, making it difficult to compare with previous report cards (across most years Water quality would be one grade better)
2. The current report card results are well accepted – making large changes may lead to reduced trust in the report card and increased perceptions that results are a bit arbitrary
3. Moving a universal 80% standard across zone means that we have to treat two HEV zones as Moderately Disturbed – because to differentiate them leads to perverse outcomes

4. It would mean that water quality would appear to improve between 2017 and 2018 (and nutrient scores would improve) – but at the same time the Coral report would say that high nutrient loads were causing high levels of algae and poor scores for coral.
5. It relaxes water quality standards ahead of potential channel duplication in the harbour, so may lead to perceptions of undue influence on the ISP/GHHP.

The ISP noted that only some of the water quality guidelines would be changed, and made the recommendation on the basis that it makes the report card more scientifically accurate, even though there may be challenges in communicating the changes to the broader public.

Mangroves

The ISP was briefed on the Mangrove project by Norm Duke. A draft report has been submitted, recommending three indicators to assess mangrove health:

- Wetland cover index (proportion of area covered by mangroves from remote sensing data)
- NDVI index (greenness of mangroves from remote sensing data)
- Shore line condition (percent live/dead trees from helicopter filming)

The ISP had some discussion about the baseline data available for the evaluation of each indicator, and will consider further once members review the draft report.

Mud crabs

The ISP considered the draft Mud Crab report and the appropriateness of the different scoring systems. Measures for the three indicators are each evaluated against a Benchmark value and a Worst case scenario (WCS) value, where there is a lack of historic or reference data. The three WCS values and the benchmark value for rust lesions were considered appropriate. The following recommendations were made:

- For the Abundance measure, the benchmark should be calculated as a moving average of available data until a stable estimate is reached (other indicators, such as in Corals and Seagrass use 10 years of historic data to set benchmarks).
- For the Sex ratio, reduce the benchmark to 2 males : 1 female (down from 3:1), based on 2 studies recently provided by Fisheries Qld (one from an uncrabbed estuary in northern NSW and from an uncrabbed estuary in a part of Moreton Bay). This was considered to be more appropriate than the previous benchmark which was drawn from a study in the Philippines.

Seagrass.

The ISP considered the draft Seagrass report together with the changes to the methodology that was previously approved. There was some discussion about how seagrass meadows should be defined, but no further changes were recommended.

Fish Health

An update on the two fish health projects was provided. Both projects are progressing well, with the CQU team still to complete the dry season sampling in October. There was discussion about

potential for changes to sampling and assessment, whether health should be assessed in terms of individual fish health or fish population health, and whether results from the two projects could be combined to create an indicator.

The ISP agreed that the data and findings were too preliminary to directly include Fish Health into the 2018 report card, but that the progress of the research could be highlighted.

There was also some discussion about whether the results of the fish health indicator would indicate that fish in the harbour were safe for human consumption. It was noted that additional information would be needed to achieve this, and that it would be going beyond the original purpose of the indicator.