TERRA ROSA
CONSULTING

Task 6: Final Report

ISP012-2016: Indigenous Cultural Heritage Indicators for the Gladstone Healthy Harbour Partnership (GHHP) Report Card

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Submitted by: Terra Rosa Consulting Pty Ltd

Acronyms

The following terms and acronyms are utilised throughout the report. Definitions are provided below for reference.

Term / Abbreviation	Definition
ACH Act	*Aboriginal Cultural Heritage Act 2003* (Qld)
DATSIP	The *Department of Aboriginal and Torres Strait Islander Partnerships*
DIMS	Data and Information Management System
GHHP	Gladstone Healthy Harbour Partnership
Gidarjil	Gidarjil Development Corporation
ICHD	Indigenous Cultural Health Database
ISP	Independent Science Panel
MS	Monitoring Station
PCCC	Port Curtis Coral Coast Native Title claim
Registered Place	A place that has been entered on to the Queensland Heritage Register created under provisions of the Queensland Heritage Act 1992.
Terra Rosa	Terra Rosa Consulting

Citation

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Coordinate Capture

The authors advise that all coordinates quoted in this document were initially obtained with a Garmin hand held GPS, using the GDA datum. All grid references are projected in MGA Zone 55, unless otherwise stated. Dependent on external conditions, these units afford an optimal spatial accuracy of ± 5 m.

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Project Summary

This report relates to the 2017 Gladstone Harbour Report Card which details the results of the Indigenous Cultural Heritage Health[1] of Gladstone Harbour in the second year of assessment. In 2015, the health of four zones within the wider Gladstone Harbour area (The Narrows, Facing Island, Wild Cattle Creek and Gladstone Central) were assessed. For the second year of assessment the Wild Cattle Creek zone was extended to include Hummock Hill Island, the Narrows zone extended to include Mt Larcom, and Gladstone Central zone extended to include the Boyne and Calliope rivers. In total, 11 new sites were assessed and scored during the 2017 fieldwork.

The 2017 fieldwork focused on finalising the archaeological baseline data for all zones by assessing any important areas or sites that were not visited in 2015, and in establishing ethnographic data for all sites assessed from 2015 to 2017. As such, no 2015 sites were reassessed as part of the 2017 fieldwork, however moving forward each year, the project will focus on revisiting important sites to establish change and impacts over time. The management scores were reassessed with the addition of new sites and the extension of zones. As the management scores are assessed at zone level, they should be reassessed every year of the project regardless of whether sites are revisited or not.

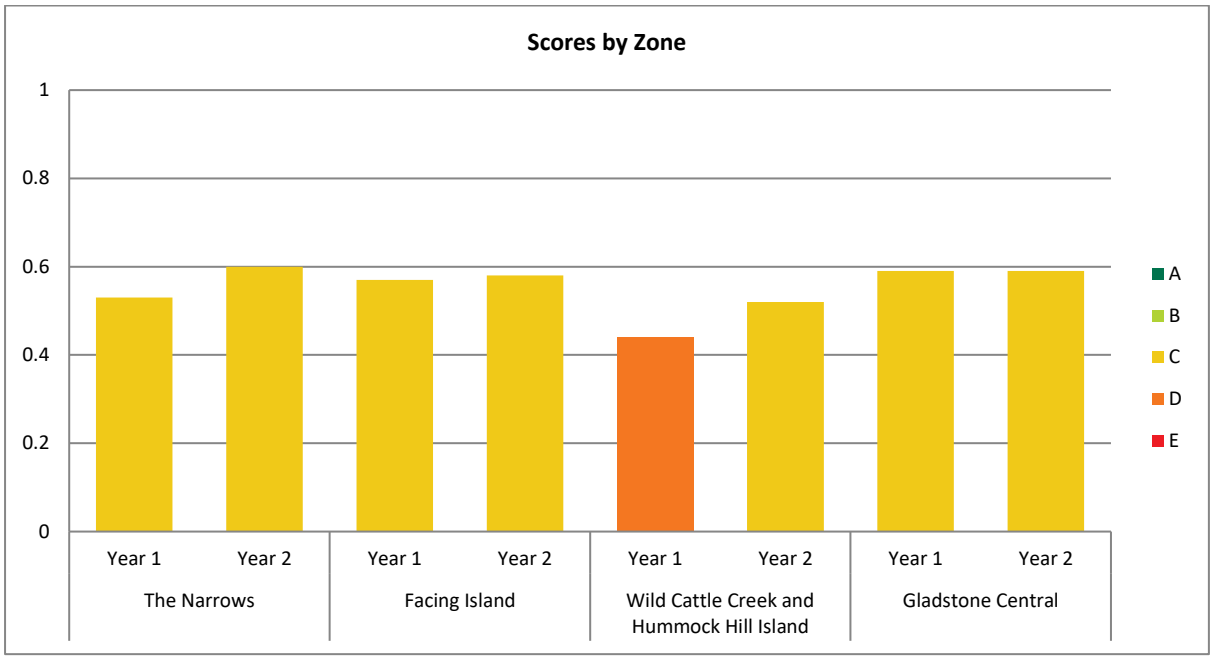
The overall grade for the Cultural Heritage Health of Gladstone Harbour in Year 2 of the project is a C. While this is the same grade as in the first year of the project, with the addition of new sites the score has improved from 0.53 to 0.57. A breakdown of the Year 1 and Year 2 scores are shown in table 2 and figure 1 below.

Table 1: Cultural heritage scores for the Gladstone Harbour Year 1 and Year 2

Zone	Year 1 Zone Score	Year 1 Zone Grade	Year 2 Zone Score	Year 2 Zone Grade
The Narrows	0.53	C	**0.60**	**C**
Facing Island	0.57	C	**0.58**	**C**
Wild Cattle Creek and Hummock Hill Island	0.44[2]	D	**0.52**	**C**
Gladstone Central	0.59	C	**0.59**	**C**
Average	0.53	C	**0.57**	**C**
Cultural heritage grade for Gladstone Harbour	C		**C**	

[1] Indigenous Cultural Heritage Health is referred to throughout this report as Cultural Heritage Health
[2] Note that there were no sites assessed on Hummock Hill Island during the course of the Year 1 field work due to problematic access, and so this score only includes sites from Wild Cattle Creek.

Figure 1: Cultural heritage scores by zone for Gladstone Harbour Year 1 and Year 2



In response to recommendations by the ISP and challenges on the ground during fieldwork in 2015, Terra Rosa Consulting (Terra Rosa) developed a new method for measuring the health of sites and presented it to the Independent Science Panel (ISP) for use in the future years of the project. As requested by the ISP, sites in 2017 were assessed using both the old method and the new method to enable an evaluation of both methods and a clean transition to the new method moving forward. This new proposed framework and the resultant scores are explained in a separate report.

The scores presented in this report were assessed using the original methodology that was developed in Year 1 of the project; explained in the 2016 reports. As per the proposal for Year 2 of the project, two aspects were modified for this year. In Year 1 of the project, cultural locus sites were given an arbitrary weighting of 50% due to a lack of ethnographic consultation. In Year 2, however, a focus of the project was to enable ethnographic consultation, and so the weightings for sites in Year 2 have been informed by consultation with Traditional Owners. As per the request of the ISP, in Year 2 all measures were also assessed on a ten point scale instead of the five point scale used in Year 1. Moving to a ten point scale provides more consistency with the Sense of Place indicator and enables statistical analysis.

The final grades are provided on an ‘A’ to ‘E’ scale as per the Gladstone Healthy Harbour Partnership (GHHP) Report Card grades. This process is demonstrated in table 2 below.

Table 2: Scoring grades

Score	Grade	
0.85 – 1.00	A	Very good
0.65 - 0.84	B	Good
0.50 – 0.64	C	Satisfactory
0.25 – 0.49	D	Poor
0.00 – 0.24	E	Very poor

Given that the project in 2017 focused on engaging with the local Traditional Owners and establishing meetings with key Elders, eleven days were spent in the field recording sites with an extra five days used to establish connections and enable consultation and involvement of Traditional Owners and Elders.

The field program involved project teams from Goreng Goreng and Byellee and focused on recording sites on Hummock Hill Island, as well as any sites that were not recorded in the first year of the project but that were identified as important by the Traditional Owners in consultation. As part of this fieldwork, all team members were trained in the site recording methodology for the project, and the two team leaders, Anne-Marie Johnson and Michael Cook, both completed the nationally-recognised Certificate III in Aboriginal Sites Work. Elders from Goreng Goreng were engaged in the project through meetings, phone calls and a day-trip out to the islands. Facing Island, Hummock Hill Island and Wild Cattle Creek were all visited with the Elders and project team leaders on this day trip, enabling a discussion about the project and the heritage values of the area. An ethnographic report which underpins site scores has been produced and provided to GHHP, however it is not available to the public.

Table 3 compares the number of sites assessed in the first year of the project with those assessed during the 2017 fieldwork. Fewer sites were assessed in 2017 due to the focus on ethnographic consultation, and the difficulty in accessing hard to reach sites. No sites on Facing Island were recorded on 2017, however during the Elders trip FAC15-06 and FAC15-04 were visited.

Table 3: Cultural heritage sites assessed across the five zones

Zone	Number of sites assessed in Year 1	Number of new sites assessed in Year 2
The Narrows	6	3
Facing Island	6	0
Wild Cattle Creek and Hummock Hill Island	11	5
Gladstone Central	3	3
Total number of sites assessed	**26**	**11**

For detailed information of the places assessed, the method and the results, please review the cultural landscape map that was generated as a part of the project. This has been developed as an online repository for the information generated in the project, to both showcase the heritage of the area, and to allow the Traditional Owners and project teams to be able to visually monitor change over time.

1 Year 2 of the Cultural Heritage Health Report Card

Year 2 of the project focused on expanding the baseline data that was collected in Year 1. As part of this, the goals identified for the project were to enable ethnographic consultation through Elder and Traditional Owner involvement in the project, and to record sites in the areas that needed further research. Any sites that were identified during consultation as being significant to the local Aboriginal people, but that hadn't been previously recorded, were also made a priority. As Hummock Hill Island was not assessed at all during the first year, this initially took precedence.

While in 2015 the project was designed to involve the Gidarjil Land and Sea Rangers and to train them to take over the project in future years, they were no longer willing to be involved in the project. The focus was therefore turned to engaging with Goreng Goreng and Byellee Traditional Owner groups directly, both in consultation and in the fieldwork aspects of the project. The project was designed to include teams of people from Goreng Goreng and Byellee in the fieldwork, training them in the project methodology so that in future years of the project the local Traditional Owners would be able to continue the assessment and management of the sites in the region. This occurred successfully, with nine fieldwork team members from Goreng Goreng and Byellee all trained in the methodology, and the two project team leaders both officially receiving their Certificate III in Aboriginal Sites Work. A training report has been provided to GHHP to illustrate the skill sets and leadership capacity developed by project leaders during the fieldwork.

Ethnographic consultation was successfully undertaken with six elders and four senior Traditional Owners from Goreng Goreng and Byellee. They were very supportive of the project, and of fieldwork teams from Goreng Goreng and Byellee to continue working together. They provided vital local knowledge regarding the area including the importance of places and cultural sites.

1.1 Limitations of the project

The project was designed with best practice heritage management practices in mind, which emphasise the need for involvement by Traditional Owners for the project area; and so a major limitation of the project in the first year was the lack of involvement and consultation with senior Traditional Owners and Elders. This limitation impacted the second year of the project, as with Gidarjil not being involved in the project there was no central agency from which to engage with Goreng Goreng and Byellee, resulting in the consultation process taking an extensive amount of time. This limitation was successfully overcome, however, and the establishment and training of project teams from Goreng Goreng and Byellee and the involvement of several Elders was a major achievement of the second year of the project.

Access to Hummock Hill Island and Wild Cattle Island once again proved problematic this year, with fieldwork recording time cut short due to the highly variable tides and the long hikes required to reach sites with no vehicle access. As most of the hard-to-reach sites were not recorded in 2015 and left for this year of the project, fewer sites were recorded during this field season compared to the first year of the project.

Plate 1: Project team hiking to reach sites on Hummock Hill Island

Many archaeological sites in the Gladstone Central zone that the project teams identified as being important to visit were unable to be accessed or had been destroyed during previous undocumented salvage or high levels of disturbance. The project team tried to access four known Aboriginal sites along the Calliope River including a large artefact scatter, midden and fish trap, all recorded around five years ago for the Wiggins Island Export Coal Terminal (WICET) project. Access to the sites was however blocked by the WICET conveyor belt and deep mud among the mangroves. Additional time restrictions to access the Boyne River and find an alternative way of accessing the Calliope River meant only a preliminary recording of the rivers could be achieved.

2 Indicator framework

As explained in detail in the 2016 Milestone 2 Report, the cultural heritage (Indicator Group) of Gladstone Harbour is assessed as a combination of two Indicators; the Cultural health of sites within a zone; and the Management strategies applied to that zone (see figure 2). An aggregation of all zone results then provides a single report card score. There are four zones for consideration within Gladstone Harbour: The Narrows, Facing Island, Wild Cattle Creek and Hummock Hill Island, and Gladstone Central.

This allows firstly for a calculation of the cultural heath of individual sites, as well as an understanding of the management strategies within each zone. When combined, and with a weighting applied to the cultural health of sites (see section 3.4), a score is provided for each individual zone. These are then aggregated so as to provide a holistic calculation of the cultural heritage of Gladstone Harbour.

For example, the cultural health of The Narrows is assessed as a combination of the cultural health of its individual sites, in conjunction with the management strategies for the whole of The Narrows zone. The indicator framework is summarised in table 4.

Figure 2: Example of assessing the cultural health of a zone

Table 4: Measures, Sub-indicators and Indicators for assessing the Cultural Heritage Health of Gladstone Harbour as established in the first year of the project

Level 1: Component	Level 2: Indicator Group	Level 3: Indicator	Level 4: Sub-indicator	Level 5: Measure
Cultural	Cultural heritage	Cultural health of sites e.g. NAR15-01	Spiritual / Social Values (by site) *Requires Traditional Owner consultation*	Ethnographic and historical information
				Connection to the cultural landscape
				Contemporary use
			Scientific Values (by site; includes an aggregation of monitoring station results when necessary)	Diversity
				Density
				Representativeness
				Uniqueness
				Excavation potential
				Artefacts *in situ*
			Physical Condition (by site)	Ground surface disturbance
				Impacts on heritage values
				Threats and controls
		Management strategies by zone e.g. The Narrows	Protection	Monitoring
				Registration of sites
				Management of threats
			Land use	Accessibility
				Developmental pressure
			Cultural maintenance	Identification and research of sites
				Cultural resources
				Cultural management activities
				Stakeholder engagement

3 Fieldwork methodology

Due to the extended process of engaging with Traditional Owners, Terra Rosa conducted fieldwork across two visits from the 14 to 22 of June, and 6 to 13 August 2017. While the second fieldtrip was conducted outside the 2016-17 monitoring period, this was necessary in order to ensure Traditional Owners could participate in the fieldwork. The first trip involved multiple consultation meetings, with one Goreng Goreng Traditional Owner taking part in fieldwork with the project team from Terra Rosa. It was identified that more time and fieldwork notification was needed to establish project teams of numerous people from Goreng Goreng and Byellee. For the second trip, the project teams from Goreng Goreng and Byellee were pre-organised and took part in the fieldwork.

The fieldwork followed the same methodology as in Year 1 of the project, with teams establishing monitoring stations at each site to record site features, the condition, and the cultural heritage values of each site through a series of 360° photos using panoramic imaging equipment. This imagery is used to create a visual record of the area surrounding each monitoring station, allowing yearly comparison and assessment of the cultural health of sites (Indicator 1).

The project teams then collaborated after fieldwork to arrive at appropriate weightings to apply to sites, and to assist in the scoring of the management strategies at zone level (Indicator 2). The management strategies by zone were all rescored based upon observations and research by team members during the 2017 fieldwork. The criteria for scoring both indicators is provided in appendix 2.

Plate 2: Establishing a monitoring station at NAR17-03

Plate 3: Recording site features at NAR17-02 (The Stone Arrangement)

3.1 Project team composition

Project teams comprised of representatives of both Goreng Goreng and Byellee completed the on-ground site recording and condition assessment work in partnership with Terra Rosa heritage consultants (three archaeologists and one anthropologist). Project leaders Anne-Marie Johnson (Goreng Goreng) and Michael Cook (Byellee) were chosen based on nomination by senior Traditional Owners and relevant cultural heritage managers. They were responsible for choosing project team participants, deciding on site recording priorities and selecting daily activities for the team. Both had numerous heritage resources for previously recorded sites, and took it in turns to prioritise areas for visitation and assessment.

Plate 4: Briefing with project teams before fieldwork in the Narrows

3.2 Consultation with Elders

Elders representing Goreng Goreng provided project guidance and advice through various consultations including phone calls, a project meeting at the Gladstone Library and a day trip to Hummock Hill, Wild Cattle, and Facing Islands. Maureen Eggmolese was invited to speak on behalf of Byellee, but politely declined and noted that the involvement of her daughter Trisha as a senior Traditional Owner in the project was sufficient. Elders supported an approach which saw Byellee and Goreng Goreng people working together. The Elders recognised they could not be involved in the site recording work itself which required younger people, and so welcomed the idea of attending a consultation boat trip to the islands. Where invited Elders were unable to attend a consultation, they sent a family representative.

Plate 5: Terra Rosa anthropologist Nell Taylor consulting with some of the Goreng Goreng Elders at FAC15-06 on Facing Island

3.3 Cultural loci and bench-marking

The Cultural Locus sites are listed in table 5 below. The locus site is the most representative site in that zone, which all other sites in the zone are benchmarked against. With the addition of sites on Hummock Hill Island, the locus site for Wild Cattle Creek and Hummock Hill Island has changed from WCC15-10 to HH17-04. The locus site for the Gladstone Central zone has also changed from GLA15-03 (Police Creek) to GLA15-01 (Barney Point). This was changed as per the request from the local Traditional Owners, who saw Barney Point as being a positive place of significant cultural and social meaning and so more representative of the area than Police Creek.

Table 5: Cultural locus sites within Gladstone Harbour

Zone	Cultural locus site Year 1	Cultural locus site Year 2
The Narrows	NAR15-01 (The Narrows Quarry)	**NAR15-01 (The Narrows Quarry)**
Facing Island	FAC15-06	**FAC15-06**
Wild Cattle Creek and Hummock Hill Island	WCC15-10	**HH17-04**
Gladstone Central	GLA15-03 (Police Creek)	**GLA15-01 (Barney Point)**

Plate 6: New Cultural Locus for Gladstone Central, GLA15-01 (Barney Point)

3.4 Site weightings

The weightings of sites were previously based upon an arbitrary significance weighting of 50% given to the locus site for the zone, with all other sites combining into the other 50% of the score. This weighting system was used in the absence of ethnographic consultation; however the scoring system was designed for each individual site to be weighted according to how significant it is to the Traditional Owners, with weightings established during consultation. Therefore, for Year 2 of the project, the weightings of site scores were attributed by the Traditional Owners during ethnographic consultation, as was originally designed.

Each year, as new sites are added or current sites are further researched and/or visited more by the Traditional Owners, these weightings will be reviewed and reassigned accordingly. This enables the cultural health score to not be static and instead change as the cultural landscape changes, always being relevant and reflective of current significant sites. As sites are culturally significant to all Goreng Goreng and Byellee people, it does not matter if the individual people consulted changes between years as long as Traditional Owners from both Goreng Goreng and Byellee are consulted with. The significance of sites and their meanings are also recorded in an ethnographic report each year, enabling a review of the consistency of information and significance weightings.

4 Grades and Scores

4.1 Original framework with adaptation to 10pt scores

As recommended by the ISP in response to the 2015 scoring method, each measure this year was measured on a ten point scale instead of the five point scale used in 2015. All previously recorded sites were converted to a score out of ten so that the final scores from sites recorded in 2015 were kept consistent for 2017. In order to keep the same final score, the five-point scores were simply doubled to give a score out of 10 (see table 6 below). While this does not provide the sensitivity desired from the 10 point scores, it was necessary in order to keep the scores consistent, as these sites were not able to be revisited in 2017 and so were not able to be scored directly on the ten point scale. In future years of the project, these sites will be revisited and scored based on the new scale, which will provide the desired sensitivity that the ten point score provides. All newly recorded sites were recorded on the new ten point scale. The measures and indicators were otherwise kept the same as in 2015. The criteria for each measure was also kept the same as in the first year, with the ten point scale simply allowing for higher sensitivity and accuracy within the criteria than simply a five point range. The scoring criteria from the 2016 report with the adaptation to a ten point scoring criteria is provided in appendix 2.

4.2 Grading method

This Cultural Health report card uses the common terminology developed by GHHP to describe the hierarchy of scores for the Cultural component. This includes all five levels of aggregation: component, indicator group, indicator, sub-indicator and measure. Each indicator has a baseline and five ranges (‘A’ to ‘E’) that determine the grade for each measure after it has been scored. Each threshold is a decimal value of between 0.00 and 1.00 (see table 7).

Table 6: 5-10 pt Score Conversion - WCC15-01

Sub-indicator	Measures	*5 point score*	*10 point score*	*Final Score (out of 1)*
Scientific values	Diversity	*1*	*2*	*0.2*
	Density	*2*	*4*	*0.4*
	Representativeness	*2*	*4*	*0.4*
	Uniqueness	*1*	*2*	*0.2*
	Excavation potential	*2*	*4*	*0.4*
	Artefacts in situ	*3*	*6*	*0.6*
			Average scientific score	**0.37**
			Grade for scientific values	**D**

Table 7: Grade ranges

Score	Grade	
0.85 – 1.00	A	Very good
0.65 - 0.84	B	Good
0.50 – 0.64	C	Satisfactory
0.25 – 0.49	D	Poor
0.00 – 0.24	E	Very poor

4.3 Presentation of results

4.3.1 ICHD and DIMS

All new data was incorporated into the Indigenous Cultural Health Database (ICHD) and upon finalisation will be uploaded into the GHHP Data and Information Management System (DIMS). The raw scores data has been formatted in the same way at the 2015 data, with three components:

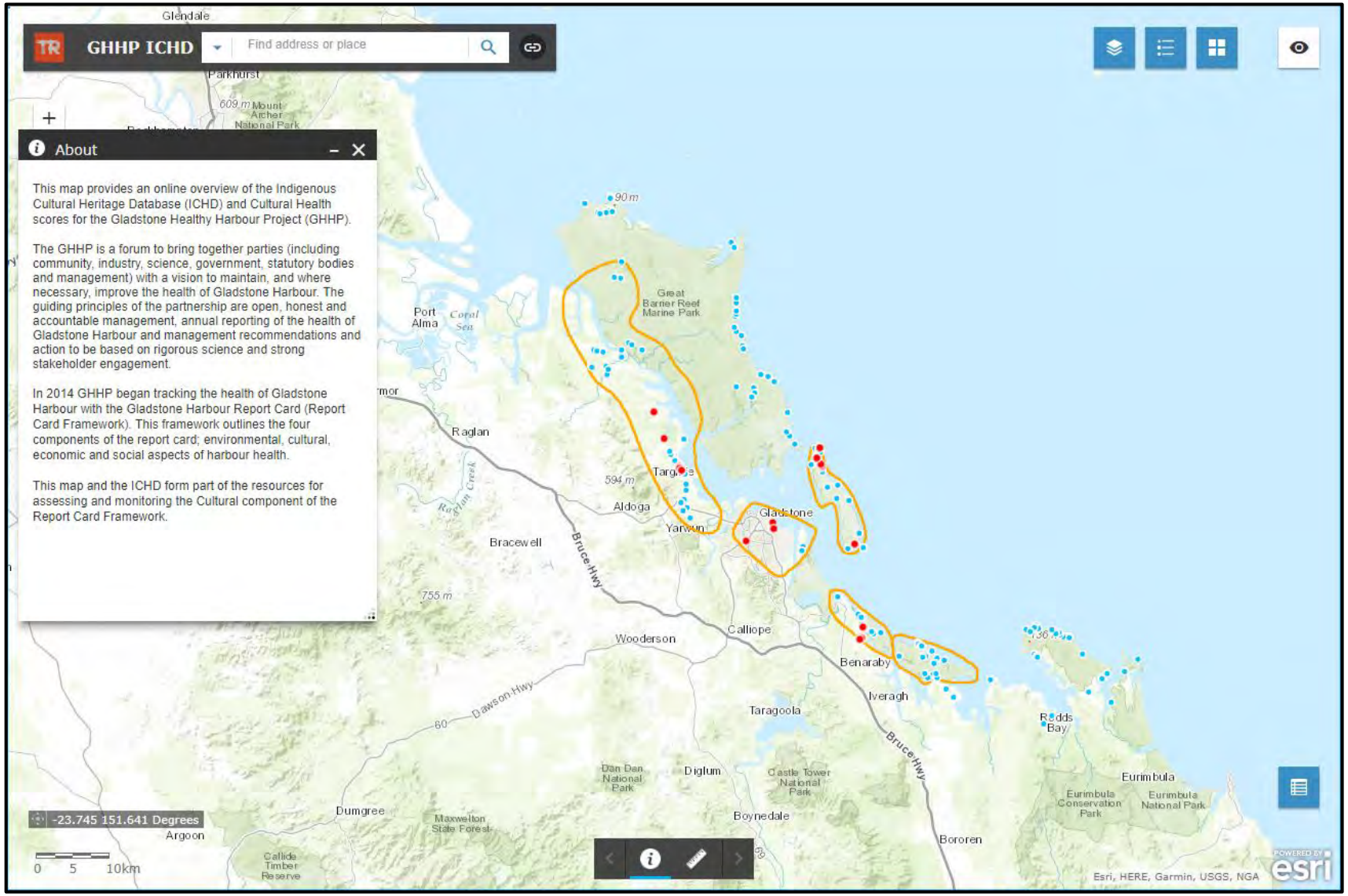
- Management strategies for each zone;
- Spiritual / social value and physical condition of heritage sites; and
- Scientific value of monitoring stations within the heritage sites.

4.3.2 Cultural landscape map

The 360° panoramic photos taken at monitoring stations have been developed in a virtual tour software suite and have site features plotted in using GPS data to accurately display their positions with respect to the monitoring station. This seamless, content rich description of each monitoring site is then used to effectively assess the physical health of sites over time.

The cultural landscape map was created with the aid of ESRI ArcMap which provides a web based interface with the ability to link the panoramic image elements to the underlying GIS data of the monitoring stations. Other topographic data and/or background datasets can be added to this to provide more contextual information. The map includes the scorecard results linked to each site, providing a comprehensive overview of the results of the project.

Plate 7: GHHP ICHD online map



5 Score card results

The following figures and tables show the score card results for Year 2 of the Indigenous Cultural Health scorecard, using the same framework and methodology as in Year 1. The zones scored reasonably, with all achieving a C grade. The final score of 0.57 is a minor improvement on the Year 1 score of 0.53. The greatest improvement was the Wild Cattle Creek and Hummock Hill zone score, which improved from a D to a C (see figure 3 below). This is largely due to the addition of new sites on Hummock Hill Island that scored well above the sites recorded in the previous year at Wild Cattle Creek, as can be seen in figure 5.

As can be seen in figure 3 and table 8, the scores for Facing Island and Gladstone Central remained very similar in Year 2 as in Year 1, with Facing Island going from 0.58 to 0.59 and Gladstone Central retaining a score of 0.59. The Facing Island score increased through a minor increase in the management score for the zone, informed by ethnographic consultation. Despite three new sites being recorded in Gladstone Central and the management score changing slightly, the final score for Gladstone Central averaged out to remain the same. The Narrows zone health score increased, largely due to the addition of three new sites that all scored reasonably well, particularly Mt Larcom, which was the highest scoring site across the board with a score of 0.92.

Figure 3: Cultural Heritage score by zone for Year 1 and Year 2.

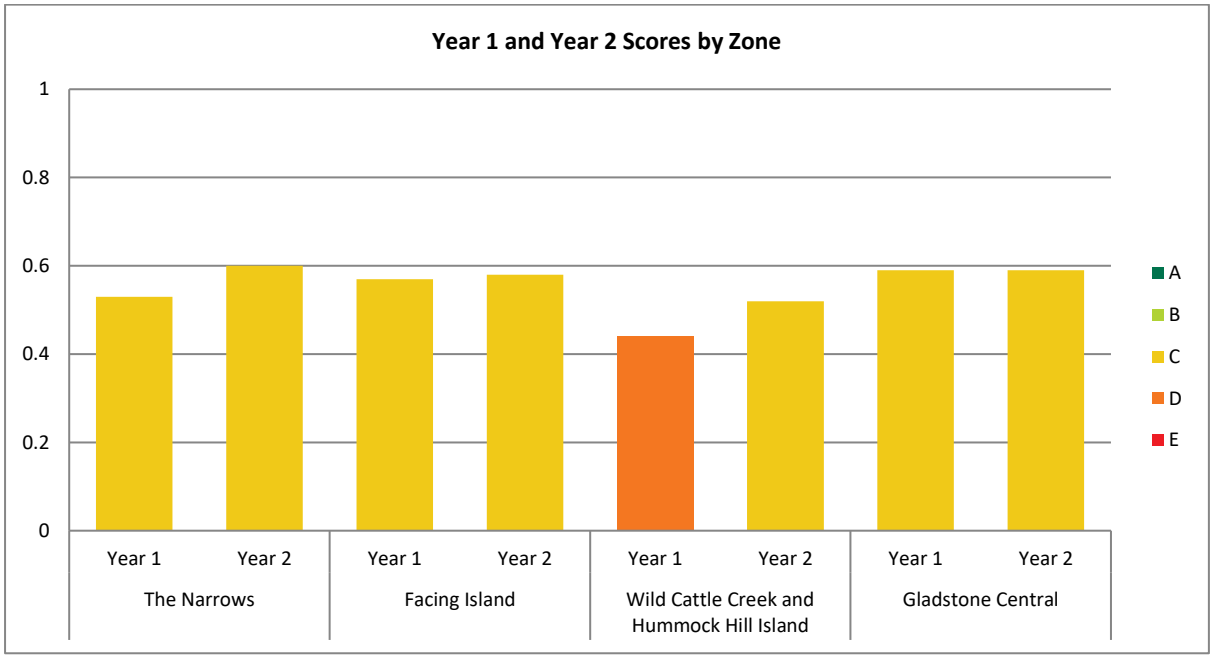


Table 8: Year 2 Cultural heritage scores for Gladstone Harbour

Zone	Year 1 Zone Score	Year 1 Zone Grade	Year 2 Zone Score	Year 2 Zone Grade
The Narrows	0.53	C	**0.60**	**C**
Facing Island	0.57	C	**0.58**	**C**
Wild Cattle Creek and Hummock Hill Island	0.44	D	**0.52**	**C**
Gladstone Central	0.59	C	**0.59**	**C**
Average	0.53	C	**0.57**	**C**
Cultural heritage grade for Gladstone Harbour	C		**C**	

Figure 4 and table 9 show how the heritage sites indicator score was well above the management strategies indicator score in all zones. The same result occurred in Year 1 and clearly shows that the management strategies need to improve across all zones. If these management scores are improved, the overall health score would dramatically increase as the condition of sites would also improve from better management activities. Recommended management activities are discussed in section 6, below.

Figure 4: Year 2 Zone score breakdown

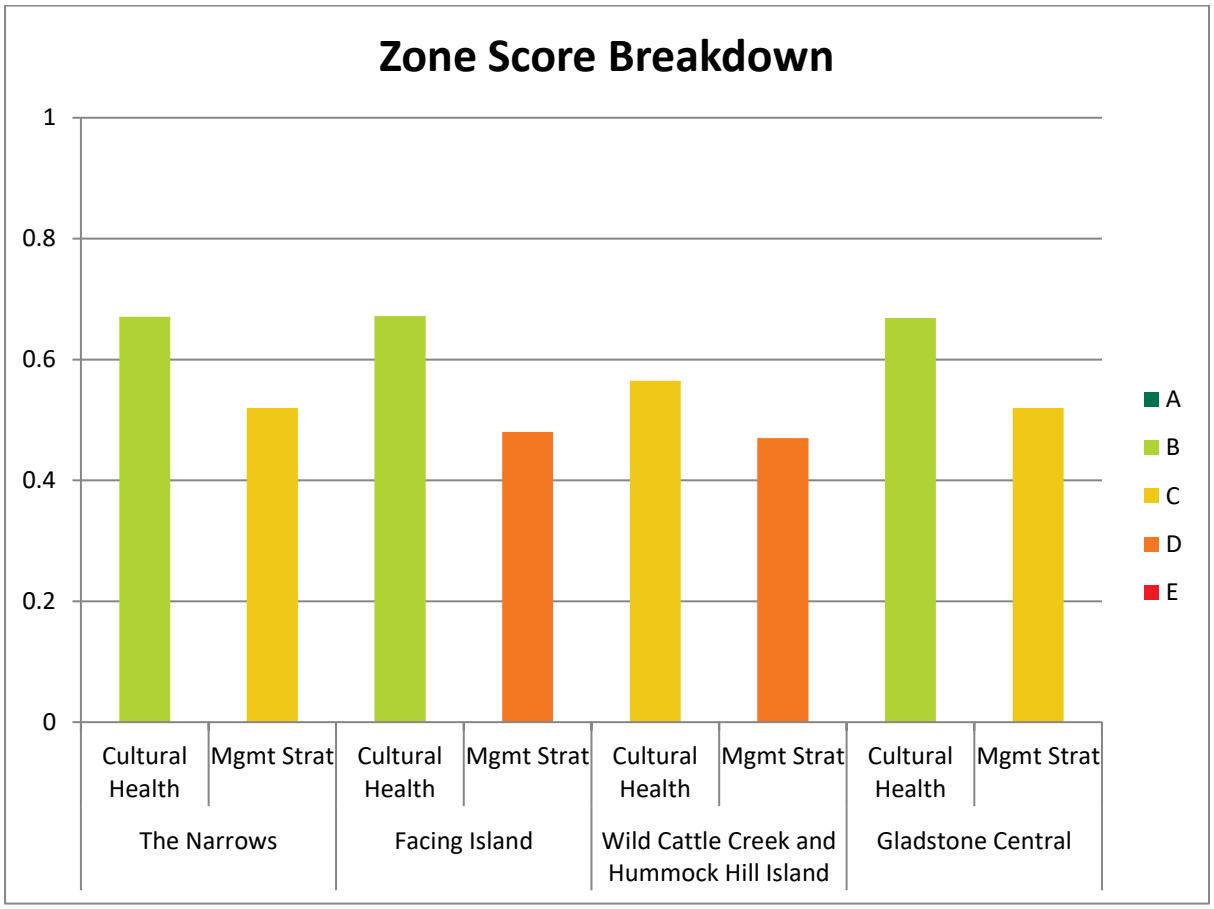


Table 9: Year 2 Zone score breakdown

Zone	Heritage Sites	Management Strategies
The Narrows	0.67	0.52
Facing Island	0.67	0.48
Wild Cattle Creek and Hummock Hill Island	0.57	0.47
Gladstone Central	0.67	0.52

Figure 5 shows the individual site scores and grades for all sites recorded over both years of the project, while table 10 provides the specific scores for each of the new sites recorded in 2017. As many of the sites recorded in 2017 were identified by Traditional Owners as being of cultural significance and importance to record, they received much higher health scores. This can be clearly seen for NAR17-01 (Mt Larcom) and the three new Gladstone Central sites.

Figure 5: Year 2 Cultural heritage scores at site level

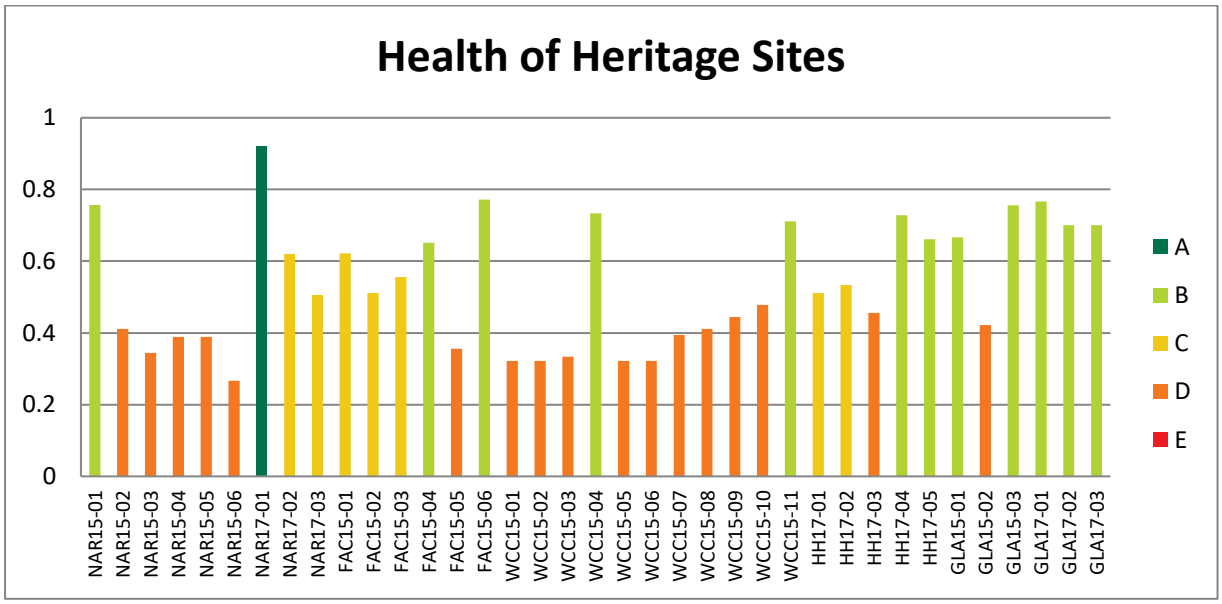


Table 10: Year 2 Cultural Health of New Sites Recorded

Site	Score
NAR17-01	0.92
NAR17-02	0.62
NAR17-03	0.51
GLA17-01	0.77
GLA17-02	0.70
GLA17-03	0.70
HH17-01	0.51
HH17-02	0.53
HH17-03	0.46
HH17-04	0.73
HH17-05	0.66

Figure 6 and table 11 both show the individual scores for the three management strategies sub indicators; protection, land use and cultural maintenance. As can be seen below, the cultural maintenance scores were consistently lower than the protection and land use score in each zone. The cultural maintenance score was particularly low on Facing Island and Wild Cattle Creek and Hummock Hill Island, indicating that these should be a focus in order to

improve the management scores. As these low scores drag down the average score dramatically, by improving them the entire management strategy scores for each zone will improve. Overall, however, these results show that many aspects of management need to be improved if the management scores are to be improved for each zone.

Figure 6: Year 2 Management Strategies scores by zone

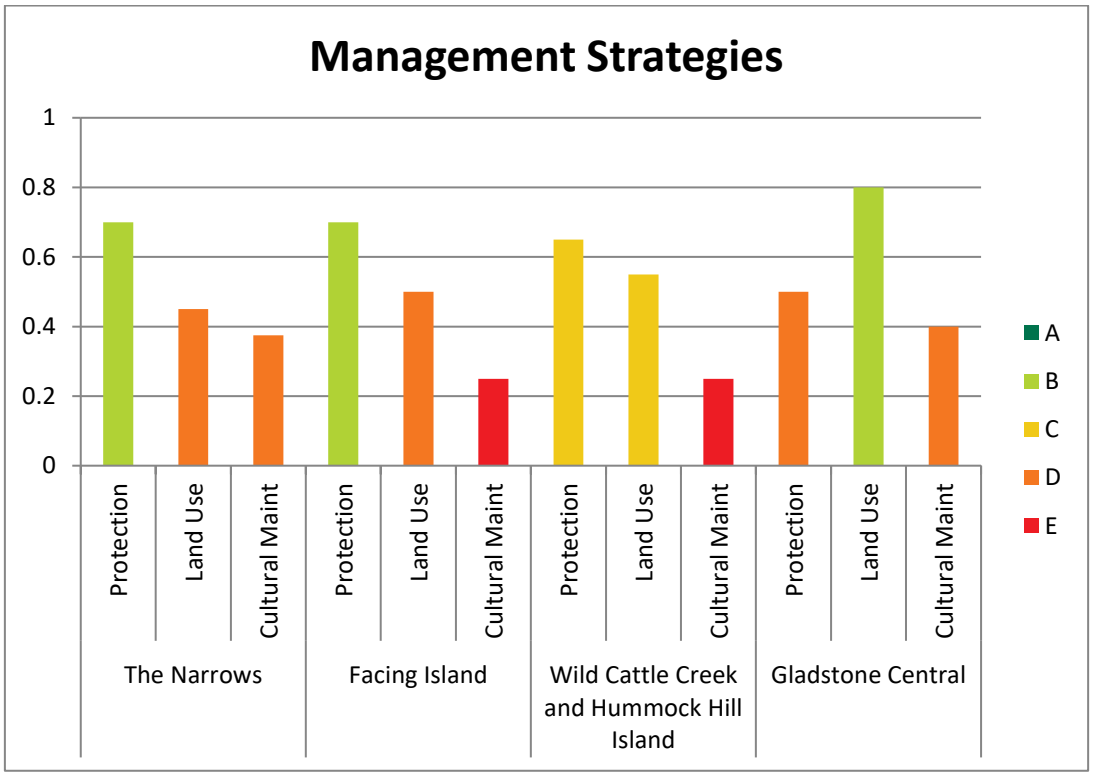


Table 11: Year 2 Management Strategies by Zone

Zone	Protection	Land Use	Cultural Maintenance
The Narrows	0.70	0.45	0.38
Facing Island	0.70	0.50	0.25
Wild Cattle Creek and Hummock Hill Island	0.65	0.55	0.25
Gladstone Central	0.50	0.80	0.40

6 Discussion and next steps

The second year of assessment for the Indigenous cultural health scorecard was successful in engaging with appropriate Traditional Owner groups and establishing solid archaeological and ethnographical baseline data for all zones in the region. Traditional Owners from Goreng Goreng and Byellee were trained in all aspects of the project methodology and are ready and eager to continue the project in future years with a view to taking on independent management of the project.

6.1 What does a 'C' score reflect?

With the addition of multiple ethnographic sites in relatively good condition, the cultural health score of the area has improved from 0.54 to 0.57, however this is a minimal increase and the overall score is still quite low. The management strategies score has remained very low, indicating that this is where improvement needs to occur. As all the zones have now been baselined and sites from all areas have been assessed, the cultural management activities for the zones can now be addressed to improve the scores. Without an increase in the cultural management activities in the area, the scores will not improve.

6.1.1 Threats and impacts

The scoring largely reflects the lack of management activities at sites to minimise current impacts or future threats. Land use and developmental pressures, natural impacts such as erosion and storm surges, and human impacts from activities such as recreational vehicle access are all negatively impacting the health of sites. This is particularly an issue for the majority of the sites recorded on Facing Island that are currently at risk of destruction from unrestricted four-wheel-drive access.

6.1.2 Access to sites and stakeholder engagement

A major theme which arose from discussions with the project teams from Goreng Goreng and Byellee is that Traditional Owner controlled access to important cultural places and sites is currently lacking. Many sites were unable to be accessed due to private landowners or industry and development. While sites may be protected or avoided in these areas, it is highly culturally damaging if they cannot be visited by the local Traditional Owners. It was highlighted by the Traditional Owners that in future years of the project, a priority would be facilitating discussions with these stakeholders to enable monitored access to such sites. The GHHP includes all industry partners in the Gladstone region, but many sites and areas in the region continue to be inaccessible due to land restricted by these companies. An important step moving forward will be to engage relevant stakeholders in the Indigenous cultural heritage indicators, and gain their support of the project and of cultural management activities moving forward. Access will need to be attained to conduct site recording for the purposes of this project, as well as for establishing a more permanent agreement to enable access permissions for certain Goreng Goreng and Byellee people so that the intergenerational transference of cultural knowledge can continue at these places.

6.1.3 Research of sites

Sites such as The Narrows Quarry (NAR15-01) and Gatcombe Heads midden (FAC15-06) were discussed by Traditional Owners as sites which would benefit from ongoing

archaeological research through more comprehensive site recording, excavation and potential scientific dating (e.g. radiocarbon, luminescence, etc.). This could involve partnerships with Universities and Traditional Owners. Further research will not only benefit the documentation of sites but will assist gaining a better understanding of the traditional land use of a zone. These are recognised best practice methods in cultural heritage management which could be applied to appropriate Aboriginal heritage sites in the Gladstone region.

6.2 How can Gladstone Harbour improve on this score?

6.2.1 Improving the physical condition of sites

The physical condition of sites would be improved over time by carrying out management activities across sites within each zone. Focusing these management activities on more significant sites that have higher weightings would have a greater impact on the overall health score. For example, fencing the Narrows Quarry would stop cattle from trampling the site, improving the physical health of the site, which would then count for 25% of the final Narrows zone health score. Relevant management activities vary for each site and could include:

- Fencing;
- Weed control;
- Dune rehabilitation;
- Rubbish collection;
- Moving or blocking 4wd access tracks;
- Installing cultural signage; and
- Conducting further research.

To ensure the most effective management strategies for each site or zone are carried out, a cultural heritage management plan should be produced. This is discussed below.

6.2.2 Improving the scientific and spiritual value of sites

The scientific and spiritual value of sites could be improved by further research to improve what is known about the site. Increased access and visitation of sites by knowledge-holding Elders and Traditional Owners would also improve the spiritual value of a site, as regular visitation increases the social importance of a site to the local people and allows for the intergenerational transference of cultural knowledge.

6.2.3 Increasing cultural heritage management strategies within each zone

Increasing the cultural heritage management strategies score will need to start with engaging the local private and industry stakeholders in the project, and would be greatly assisted by producing a Cultural Heritage Management Plan for each zone. Once a plan is in place, appropriate management activities can be prioritised, individually resourced and gradually undertaken, which will in turn improve the physical condition of sites and the scientific and spiritual value of sites.

Increased culturally appropriate signage and the creation of cultural interpretation materials, either physical or digital, on both the cultural indicators project and on the sites themselves

and the cultural heritage of the region will also improve the cultural heritage management strategies score.

6.3 Future years of the project

6.3.1 Reassessing sites

This project and scoring framework was designed for yearly monitoring of cultural health over time, and so future years of the project are very important. As this year was largely focused on finalising the baseline data for the project and not revisiting previously recorded sites, site scores for those recorded in 2015 did not change. In the following years of the project, however, the focus should be on revisiting recorded sites and monitoring stations to assess change and condition over time. Similarly, as management strategies are undertaken it will be important to revisit and assess if the condition of sites is improving in response. Processes and practical field based tools for reassessing and monitoring site health and management strategies by zone have been developed, with project teams trained in its use and application.

6.3.2 Ownership by Goreng Goreng and Byellee Traditional Owners

This year there was a major focus on training the project teams from Goreng Goreng and Byellee in the project and fieldwork methodology. This resulted in the team leaders achieving their Certificate III in Aboriginal Sites Work, a nationally recognised qualification. The project was always designed so that it could be passed on to Traditional Owner groups to continue the monitoring and cultural management activities in the area. In 2018 and following years, Gehgre Aboriginal and Torres Strait Islanders Corporation and Byellee Cultural Heritage Services wish to take more ownership over the management of the project, enabling it to become fully Traditional Owner led. Both groups now have the knowledge, skills and practical experience to competently lead the project. This will result in a project that will be at the forefront of best practice cultural heritage management.

Elders and Senior Traditional Owners highlighted that the future involvement of junior Traditional Owners in any aspect of the project, including in site recording, monitoring and/or management strategies must be under the cultural supervision of Senior Traditional Owners who are qualified or highly experienced Aboriginal site workers. Their preference would be to involve younger members who have prior experience in the project, working within cultural protocols, and who have trained in the project-specific methodology.

6.3.3 Curtis Island as a fifth zone

Many of the Traditional Owners identified during consultation that Curtis Island was highly culturally significant, and that there are many important sites on the island. For the future years of the project it is suggested that Curtis Island is added as a fifth zone to the project. Now that all other zones have been baselined, it may be feasible for Curtis Island to be added in 2018.

6.3.4 Additional site recording

Some sites that were not able to be accessed this year were identified by Traditional Owners as being important to record in 2018. This includes a ‘Green Chert Quarry’ located in the Narrows zone that is of high significance, both archaeologically and social / spiritually. The outer extent of the quarry was located by project teams at the end of fieldwork but could not be fully accessed.

Discussion about what would constitute a suitable site recording and monitoring framework for the rivers led to suggestions from the project teams for a boat to travel up each of the rivers from the mouth to relocate heritage sites and discuss the spiritual significance of the rivers. The Traditional Owners have prioritised this as an activity for fieldwork in 2018.

6.3.5 Cultural heritage management plans

Now that all zones are baselined and Traditional Owners are exercising leadership in the project, it is recommended for 2018 that a Cultural Heritage Management Plan be written for the four zones (The Narrows, Facing Island, Wild Cattle Creek and Hummock Hill Island, and Gladstone Central). This is an important step in improving the management score for the zones and for conducting management activities in each zone. Some sites are of higher priority than others, and different management activities will be needed at each site, and so it is recommended that any plan is based primarily upon Traditional Owner consultation and best practice cultural heritage management and environmental management practices before conducting such activities.

6.3.6 Funding for Indigenous cultural research programs

Much of the archaeology in the Gladstone region is un-researched or unknown. A small research program each year, or over multiple years of the project would greatly increase the management strategies score of the zones. It would also highlight the best practice and proactive nature of GHHP.

6.3.7 New proposed method

Terra Rosa recommends that GHHP utilise the new proposed method for future years of the project. Terra Rosa developed a new simplified framework for measuring the health of the cultural sites in the Gladstone region that removes the ‘sub-indicators’ from the framework, and moves the spiritual and scientific significance of sites out from being a measure of health to instead informing the significance weighting of sites within their zone. This new framework, how it compares to the original framework and the results of the 2017 fieldwork using this new framework has been provided to GHHP in a separate report.

Appendix 1 Report card terminology

Indicator group

- The cultural heritage of Gladstone Harbour.

Zone

- One of four geographical locations considered for the project: The Narrows, Facing Island, Wild Cattle Creek and Hummock Hill Island, and Gladstone Central.

Cultural locus

- Focal or key site identified within each zone and considered to be the most important for ongoing monitoring and management of that zone. All other sites in the zone are scored in reference to the locus site.
- In the first year of the project, a 50 % score weighting was attributed to this site.

Site Weightings

- A percentage weighting attributed to each site within a zone, determined through ethnographic consultation.
- This weighting is applied to the site scores when determining the total zone score.

Site

- A concentrated group of heritage features within a landscape.

Monitoring station (MS)

- A location within a site from which the heritage features, heritage elements and non-heritage features are monitored.

Heritage element

- A single stone tool e.g. flake, chopper tool.
- Often a component part in a larger heritage feature within a site. But can also be an isolated artefact.

Heritage feature

- A group of interrelated heritage elements e.g. knapping floor, reduction sequence.
- A single element worthy of consideration as a feature e.g. backed blade, stone arrangement.
- Cultural, archaeological and ethnographic features e.g. signage, monuments, gravestones.

Non-heritage features

- Disturbance e.g. refuse, tracks, animal impact.
- Other features that are not archaeological but are useful in the overall assessment of cultural heritage.

Appendix 2 Ten point scoring criteria for original method

Indicator 1 - Cultural Health of Sites- Scoring Framework

The Cultural Health of sites in each zone is assessed by considering the Scientific Value, Spiritual / Social values and Physical Condition of the heritage features and elements within a monitoring station or site (as appropriate). These criteria are consistent with those developed and provided in the 2016 Milestone 2 Report, however they are provided here with a ten point scale instead of a five point scale.

Spiritual / Social values (Sub-indicator)

The Spiritual / Social values of a site are measured at the broader site level, with consultation focussed on the holistic values of the site and its context within any ethnographic narratives. The values are designed to be derived from a framework of anthropological enquiry including ethnographic interviews with key Indigenous community members and elders (where possible).

As mentioned previously, the PCCC elders at Gladstone were largely unavailable during Year 1 of the field work program and the grades for the measures under this Sub-indicator were based on the desktop and anecdotal information gathered to date. Despite having ethnographic consultation during the Year 2 fieldwork, the measures and criteria remained the same so as to be consistent with the original method and scoring, as requested by GHHP and the ISP.

Table 1: Ethnographic and historical information grades and criteria

Grade	Criteria (all years)
10	Desktop research continues to inform ethnographic and historical information about a site. Detailed archaeological recording of site features and elements continues to build an understanding of its previous use. The Traditional Owners are aware of this information and the growing narrative of the site.
9	
8	Desktop research has informed the ethnographic and historical information about a site. Monitoring station/s have given an insight into its previous use. The Traditional Owners are aware of this information and the growing narrative of the site.
7	
6	Desktop research has provided limited informed regarding the ethnographic and historical information about a site. Monitoring station/s provide limited insight into its previous use. The Traditional Owners are aware of limited information about the site.
5	
4	The site or its type does not occur in the written record. Monitoring station/s provide minimal insight into the previous use of the site. Limited consultation with Traditional Owners has taken place.
3	
2	No desktop research has occurred. The site has not been previously documented or recorded. No consultation has occurred with Traditional Owners about the site.
1	

Table 2: Connection to the cultural landscape grades and criteria

Grade	Criteria (all years)
10	The heritage features of a site clearly demonstrate its importance and significance in cultural life within the zone, past or present. There is a clear narrative that the site was a focus of past activities within the zone. The information about the site adds greatly to the cultural narrative of the zone.
9	
8	The heritage features of a site suggest its probable importance in cultural life within the zone, past or present. It is consistent with the broader ethnographic narrative that has been developed for the zone.
7	
6	The heritage features of a site suggest previous use for cultural purposes within the zone, past or present. It is consistent with the understanding of past cultural activities of the zone.
5	
4	The heritage features of a site provide limited information regarding its use for cultural purposes within the zone. The site does not clearly show a spiritual or social connection to the zone.
3	
2	The site is contextually isolated to the point where it contains no measurable spiritual or social values in the context of the zone.
1	

Table 3: Contemporary use of the place grades and criteria

Grade	Criteria (all years)
10	The site is visited at least annually by members of the Traditional Owner group. Visitation of the site may also be in a digital format.
9	
8	The site is visited at least every second year by members of the Traditional Owner group. Visitation of the site may also be in a digital format.
7	
6	The site has been visited in the last 5-10 years by members of the Traditional Owner group. Documentation and digital resources of the site have been created.
5	
4	The site has historically been visited in living memory by members of the Traditional Owner group. Limited documentation and digital resources of the site have been created.
3	
2	The site is not currently visited by members of the Traditional Owner group and there is no available digital access to the site.
1	

Scientific values (Sub-indicator)

Scientific values are measured at a site level by monitoring stations. When more than one monitoring station is installed at a site, an aggregation of all monitoring stations score results produces a score for the overall scientific value of that site. Scientific value is assessed by the measures of diversity, density, representativeness, uniqueness, excavation potential and whether or not the artefacts are *in situ*.

Measuring the scientific or archaeological value is important in building the baseline record of sites within each zone. This allows the rangers to monitor change over time to the heritage features and elements at monitoring stations within sites.

In assessing scientific value, only heritage features are considered, whilst non-heritage features e.g. track disturbance, are considered under the physical condition Sub-indicator.

The grading framework for scientific values has been designed so that any of the measures can be excluded from assessment and grading for particular monitoring stations that do not have certain heritage features. In this way, only relevant scientific measures are applied to monitoring stations so that an accurate score can be generated. For example excavation potential is not considered for sites that have no potential for stratified deposits such as WCC15-11, a culturally modified scar tree. The measures of density and diversity are also excluded in this instance as they are irrelevant when assessing the scientific value of a culturally modified scar tree site. This exclusion of certain measures and their grades is decided upon for each individual monitoring station. Similarly, scientific measures will be largely non applicable to sites with mainly ethnographic values, for example GLA15-02 (Hector Johnson Park).

Table 4: Diversity of heritage features grades and criteria

Grade	Criteria (all years)
10	90-100% diverse
9	80-89% diverse
8	70-79% diverse
7	60-69% diverse
6	50-59% diverse
5	40-49% diverse
4	30-39% diverse
3	20-29% diverse
2	10-19% diverse
1	0-9% diverse

Table 5: Density of heritage features grades and criteria

Grade	Criteria (all years)
10	The monitoring station contains 17 or more heritage features.
9	The monitoring station contains 15-16 heritage features.
8	The monitoring station contains 12-14 heritage features.
7	The monitoring station contains 9-11 heritage features.
6	The monitoring station contains 7-8 heritage features.
5	The monitoring station contains 5-6 heritage features.
4	The monitoring station contains less than 4 heritage features.
3	The monitoring station contains 3 heritage features.
2	The monitoring station contains only 2 heritage features.
1	The monitoring station contains only 1 heritage feature.

Table 6: Representativeness grades and criteria

Grade	Criteria (all years)
10	The heritage features of a monitoring station occur in 90-100% of other monitoring stations in the zone.
9	The heritage features of a monitoring station occur in 80-89% of other monitoring stations in the zone.
8	The heritage features of a monitoring station occur in 70-79% of other monitoring stations in the zone.
7	The heritage features of a monitoring station occur in 60-69% of other monitoring stations in the zone.
6	The heritage features of a monitoring station occur in 50-59% of other monitoring stations in the zone.
5	The heritage features of a monitoring station occur in 40-49% of other monitoring stations in the zone.
4	The heritage features of a monitoring station occur in 30-39% of other monitoring stations in the zone.
3	The heritage features of a monitoring station occur in 20-29% of other monitoring stations in the zone.
2	The heritage features of a monitoring station occur in 10-19% of other monitoring stations in the zone.
1	The heritage features of a monitoring station occur in 0-9% of other monitoring stations in the zone.

Table 7: Uniqueness grades and criteria

Grade	Criteria (all years)
10	The monitoring station contains heritage feature/s that have not been identified anywhere else in the zone, or are seen to be the best quality examples of this heritage feature type.
9	
8	The monitoring station contains heritage feature/s that have been identified in less than 25% of other monitoring stations in the zone, or are seen to be amongst the best quality examples of this heritage feature type.
7	
6	The monitoring station contains heritage feature/s that have been identified in 26-50% of other monitoring stations in the zone.
5	
4	The monitoring station contains heritage feature/s that have been identified in 51-75% of other monitoring stations in the zone.
3	
2	The monitoring station contains heritage feature/s that have been identified in 76-100% of other monitoring stations in the zone.
1	

Table 8: Excavation potential grades and criteria

Grade	Criteria (all years)
10	The deposit exhibited clear and deep stratification (greater than 15 cm).
9	
8	The deposit exhibited clear stratification but is less than 15 cm deep.
7	
6	The deposit exhibited stratification with minor disturbance.
5	
4	The feature exhibited stratification with significant disturbance.
3	
2	The feature exhibited shallow and significantly disturbed stratification
1	

Table 9: Artefacts in situ grades and criteria

Grade	Criteria (all years)
10	90-100% of the heritage features and elements are *in situ* and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
9	80-89% of the heritage features and elements are *in situ* and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
8	70-79% of the heritage features and elements are *in situ* and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
7	60-69% of the heritage features and elements are *in situ* and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
6	50-59% of the heritage features and elements are *in situ* and artefacts can be refitted and/or the behavioural relationship of the elements is unclear.
5	40-49% of the heritage features and elements are *in situ* and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
4	30-39% of the heritage features and elements are *in situ*.
3	20-29% of the heritage features and elements are *in situ* and artefacts can be refitted and/or the behavioural relationship of the elements is apparent.
2	The artefacts are largely not *in* situ, artefacts cannot be refitted and the behavioural relationship of the elements is not apparent.
1	

Physical condition (Sub-indicator)

When monitoring a site, its physical condition is the most obvious indication of the health of that site. Its assessment facilitates firstly, a baseline condition report for that site and any visible impacts and disturbances to the site, and secondly allows for future heritage management planning specific to that site. Consideration is given in this grade assessment to ground surface disturbance, the impact of this on heritage values within a site and the control of threats for a site.

Table 10: Ground surface disturbance grades and criteria

Grade	Criteria (all years)
10	Less than 10% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
9	10-19% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
8	20-29% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
7	30-39% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
6	40-49% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes
5	50-59% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
4	60-69% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
3	70-79% of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.
2	80-89% of the ground surface within the site has been heavily impacted.
1	90% or more of the ground surface within the site is disturbed, outside of a low level of expected site formation processes.

Table 12: Impact on heritage values grades and criteria

Grade	Criteria (all years)
10	Ground surface disturbance has not impacted the heritage value of the site.
9	
8	Ground surface disturbance has compromised less than 25% of the heritage values of the site.
7	
6	Ground surface disturbance has compromised 25-50% the heritage values of the site.
5	
4	Ground surface disturbance has compromised 51-75% the heritage values of the site.
3	
2	Ground surface disturbance has compromised more than 75% of the heritage values of the site.
1	

Table 12: Threats and controls grades and criteria

Grade	Year 1 - Criteria	Years 2, 3, 4 etc. - Criteria
10	There is no present threat to the site.	The site is under no present threat and/or all identified threats have been controlled. The site is stable.
9		
8	1-2 threats identified within the site.	More than 75% of identified threats to the site have been controlled.
7		
6	3-4 threats identified within the site.	50-75% of identified threats to the site have been controlled.
5		
4	5 or above threats identified within the site.	25-49% of identified threats to the site have been controlled.
3		
2	Site is under immediate threat from environmental, animal or human disturbance.	Less than 25% of identified threats to the site have been controlled. Site is under immediate threat from environmental, animal or human disturbance.
1		

Indicator 2 - Management Strategies by zone - Scoring Framework

To assess the effective management of each zone (The Narrows, Facing Island, Wild Cattle Creek, Gladstone Central and Hummock Hill Island), three Sub-indicators have been established:

- Protection;
- Land use; and
- Cultural maintenance

These encompass the holistic suite of activities that the rangers will work on to manage, protect and build knowledge of the heritage resource within a particular zone. Examples include: compiling a threats register for each zone; implementing site specific management activities such as fencing or signage in each zone; accessing and updating the GHHP database; maintaining online Panoramic Tours of zones; and continued research of new and existing sites within each zone. Concurrently, this management strategies Indicator will contribute to an understanding of what the rangers are achieving in regards to promoting heritage health.

It is likely that these Sub-indicators and their informing Measures will not be assessed in the field at individual monitoring stations, but in the office upon reflection of the cultural heritage management works completed during the year in each zone.

Protection (Sub-indicator)

This management strategy Sub-indicator is based on the physical implementation of protective measures within a zone so as to ensure the protection of that zone and the sites within. This involves the site monitoring, the registration of sites with GHHP's ICHD and where possible, DATSIP, and the management of threats to sites at zone level.

Table 13: Monitoring grades and criteria.

Grade	Year 1 - Criteria	Years 2, 3, 4 etc. - Criteria
10	13 or more monitoring stations are established within the zone.	90-100% of existing monitoring stations are visited annually and/or new monitoring stations have been established within the zone.
9	11-12 monitoring stations are established within the zone.	80-89% of existing monitoring stations are visited annually and/or new monitoring stations have been established within the zone.
8	9-10 monitoring stations are established within the zone.	70-79% of existing monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
7	7-8 monitoring stations are established within the zone.	60-69% of existing monitoring stations are visited annually and/or new monitoring stations have been established within the zone.
6	5-6 monitoring stations are established within the zone.	50-59% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
5	4 monitoring stations are established within the zone.	40-49% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
4	3 monitoring stations are established within the zone.	30-39% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
3	2 monitoring stations are established within the zone.	20-29% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
2	1 monitoring station is established within the zone	10-19% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.
1	No monitoring stations are established within the zone.	0-9% of identified monitoring stations are monitored annually and/or new monitoring stations have been established within the zone.

Table 14: Registration of sites grades and criteria.

Grade	Years 2, 3, 4 etc. - Criteria
10	90-100% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
9	80-89% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
8	70-79% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
7	60-69% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
6	50-59% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
5	40-49% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
4	30-39% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
3	20-29% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
2	10-19% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.
1	0-9% of sites identified within the zone are registered on GHHP's ICHD. Consultation with PCCC has identified whether or not to submit information to other parties.

Table 15: Management of threats grades and criteria

Grade	Years 2, 3, 4 etc. - Criteria
10	90-100% of control measures for the zone are implemented.
9	80-89% of control measures for the zone are implemented.
8	70-79% of control measures for the zone are implemented.
7	60-69% of control measures for the zone are implemented.
6	50-59% of control measures for the zone are implemented.
5	40-49% of control measures for the zone are implemented.
4	30-39% of control measures for the zone are implemented.
3	20-29% of control measures for the zone are implemented.
2	10-19% of control measures for the zone implemented.
1	0-9% of control measures for the zone are implemented.

Land Use (Sub-indicator)

This management strategy Sub-indicator is based on The Australian Land Use and Management Classification system (ALUM) which reflects the current land use in the zones. An examination of land use allows for a desktop assessment of the limitations for heritage management activities and potential developmental pressures upon individual sites within each zone. This desktop assessment is confirmed yearly through field work assessments and monitoring.

Table 16: Accessibility grades and criteria.

Grade	Criteria (all years)
10	90-100% of the sites within the zone are easily accessible for heritage management activities.
9	80-89% of the sites within the zone are easily accessible for heritage management activities.
8	70-79% of the sites within the zone are easily accessible for heritage management activities.
7	60-69% of the sites within the zone are easily accessible for heritage management activities.
6	50-59% of the sites within the zone are easily accessible for heritage management activities.
5	40-49% of the sites within the zone are easily accessible for heritage management activities.
4	30-39% of the sites within the zone are easily accessible for heritage management activities.
3	20-29% of the sites within the zone are easily accessible for heritage management activities.
2	10-19% of the sites within the zone are easily accessible for heritage management activities.
1	0-9% of the sites within the zone are easily accessible for heritage management activities.

Table 17: Developmental pressure grades and criteria

Grade	Criteria (all years)
10	The zone is not under pressure by future developments.
9	
8	The zone is assumed to not be under developmental pressures.
7	
6	The zone is known to be under pressure in the long term.
5	
4	The zone is under pressure in the medium term.
3	
2	Development is impending immediately in the zone.
1	

Cultural maintenance (Sub-indicator)

This Sub-indicator is designed to reflect the reality of the cultural health of the zones being managed by the Traditional Owners. In this increasingly proactive role, Traditional Owners will maintain their heritage values through further identification and research of sites, development of digital and physical cultural resources and by engaging and collaborating with stakeholders to fulfil joint cultural heritage aims. This Sub-indicator is intended to be assessed by the fieldwork participants in the office upon reflection of what cultural maintenance activities have been achieved over the year.

Table 18: Identification and research of sites grades and criteria.

Grade	Criteria (all years)
10	7 or more sites are identified and/or researched within the zone for input into the ICHD.
9	6 sites are identified and/or researched within the zone for input into the ICHD.
8	5 sites are identified and/or researched within the zone for input into the ICHD.
7	4 sites are identified and/or researched within the zone for input into the ICHD.
6	3 sites are researched within the zone for input into the ICHD.
5	3 sites are identified within the zone for input into the ICHD.
4	2 sites are researched within the zone for input into the ICHD.
3	2 sites are identified within the zone for input into the ICHD.
2	1site is identified and/or researched within the zone for input into the ICHD.
1	0 sites are identified and/or researched within the zone.

Table 19: Cultural resources grades and criteria

Grade	Criteria (all years)
10	75-100% of sites within a zone have both physical and digital interpretative elements. Signage includes descriptions as to why sites are significant and the digital data for the group is actively promoted and accessed by the public.
9	
8	50-74% of sites within a zone have both physical and digital interpretative elements. Signage includes descriptions as to why sites are significant and the digital data for the group is actively promoted and accessed by the public.
7	
6	25-49% of sites within a zone have either physical or digital interpretative elements. Signage includes descriptions as to why sites are significant and the digital data for the group is actively promoted and accessed by the public.
5	
4	Less than 25% of sites within a zone have either physical or digital interpretative elements.
3	
2	No sites within a zone have any physical or digital interpretative elements.
1	

Table 20: Cultural management activities grades and criteria

Grade	Criteria (all years)
10	A heritage management plan is prepared and implemented for the zone and/or 90-100% of activities are in progress.
9	A heritage management plan is prepared and implemented for the zone and/or 80-89% of activities are in progress.
8	Heritage management planning has occurred for the zone and/or 70-79% of activities are in progress.
7	Heritage management planning has occurred for the zone and/or 60-69% of activities are in progress.
6	Heritage management planning has occurred for the zone and/or 50-59% of recommended activities are in progress.
5	Heritage management planning has occurred for the zone and/or 40-49% of recommended activities are in progress.
4	Heritage management planning has occurred for the zone and/or 30-39% of recommended activities are in progress.
3	Heritage management planning has occurred for the zone and/or 20-29% of recommended activities are in progress.
2	Heritage management planning has occurred for the zone and/or 10-19% of recommended activities are in progress.
1	No heritage management planning has occurred for the zone and/or no activities are in progress.

Table 13: Stakeholder engagement grades and criteria.

Grade	Criteria (all years)
10	Representatives from all the stakeholder groups are actively engaged in the project and support ongoing management activities and future project outcomes.
9	
8	The majority of stakeholders are engaged in the project and support ongoing management activities and future project outcomes.
7	
6	The majority of stakeholders are engaged in the project but do not support or are not aware of ongoing management activities and future project outcomes.
5	
4	A minority of stakeholders do not support the project and are disengaged from the project outcomes.
3	
2	The majority of stakeholders do not support the project and are disengaged from the project outcomes.
1	

Appendix 3 Site Descriptions

1 GHH17-01 Site Descriptions

1.1 Wild Cattle Creek and Hummock Hill Island Zone

1.1.1 HH17-01 Scar Tree

HH17-01 is a scar tree located two meters from the side of an access track running through the middle of Hummock Hill Island. The tree is a mature eucalypt, with a 60cm long, 20m wide scar approximately 1.2m above the ground. The scar has been healing for a long time, resulting in identifying features being unclear as the extensive regrowth around the scar has obscured the shape. The site is highly connected to the habitation sites on the island and could be associated with making shields used for ceremonial practices, or making Yandi/Coolandis (wooden bowls), which can be used for carrying babies, food and water as people travel from place to place.

1.1.2 HH17-02 Stone arrangement (historical)

HH17-02 is a stone arrangement located on the summit of Hummock Hill, and is most likely a historical surveyor's mark. The site consists of a 2m by 2m pile of stones with a 2m stick coming up out of the centre. On the south west side of the arrangement is an iron peg in the ground, 30cm long and heavily rusted.

1.1.3 HH17-03 Stone axe head

HH17-03 is a granite stone axe head / muller fragment found on a coastal dune on the north side of Hummock Hill Island, 140 meters from the ocean. Around the axe head was a very small shell scatter of oyster and snail shells. Given the coastal environment, it is likely there is more material that is exposed or covered depending on the wind direction and dune movement.

1.1.4 HH17-04 Artefact scatter, midden and quarry site

HH17-04 is an extensive artefact scatter, midden and quarry site located on the south side of Hummock Hill Island, directly adjacent to Clarks Rd crossing. A large midden lies closest to the crossing and has been highly disturbed by previous works to create the crossing. Anadara Granosa, Terebralia and Oyster shells can be seen in the midden, with hammer stones and grinding tools found nearby. The hammer stones would likely have been used for opening shells and for knapping artefacts. On the mudflats and near the banks is an extensive scatter of artefacts, mostly of quartz material and consisting of knapping floors, flakes and cores. Out on the mudflat is a raw quartz material source and quarrying site. The site has clearly had multiple occupations, with both a food source and raw material source in the one site likely causing people to continuously return to the site.

1.1.5 HH17-05 Artefact scatter and midden site

HH17-05 is an artefact scatter and shell midden site located on a slope near the mud flats on the south side of Hummock Hill Island. A small gully runs through the site, exposing a shell midden located on both sides consisting mostly of Anadara Granosa shells. The shells show clear evidence of being hit to be forced open. The surrounding area is scattered with artefacts, including quartz flakes, a granite flake and a dolerite hammer stone. The granite flake has been heavily weathered, and so its close association with the quartz flakes suggests that there have been multiple occupations of the place. The dolerite hammer stone shows evidence of once being a basal grindstone, and has also been knapped. This suggests that the tool has been used to open shells, and that it was repurposed due to the good raw material that was not readily available in the area.

1.2 The Narrows Zone

1.2.1 NAR17-01 (Mt Larcom) Culturally significant place

Mt Larcom was recorded as a site due to its ongoing spiritual significance in the lives of Traditional Owners and the interconnectedness of all sites in the region to the mountain. Mt Larcom is known as 'Pyellee', which means 'split the rock'. The site is a spiritual place and is appreciated as an important landmark, visible from all areas in the Gladstone region. At close to 600m above sea level, the mountain has connections with 'Kangaroo-Rat' Dreaming (possibly the Northern Bettong or *Bettongia tropica*) and continues to be a distinct regional landscape marker that creates a sense of place. The Traditional Owners discussed how you can see faces in the rock and how many people recognise it as an old man laying down, with connections to the tribal face shapes of traditional peoples. Elders discussed how Mt Larcom has a connection to ancestral spirits, and cultural protocols must be observed when climbing the mountain.

1.2.2 NAR17-02 (The Stone Arrangement) Stone arrangement and artefact scatter

NAR17-02 is a stone arrangement and artefact scatter located on a tidal mudflat to the south of Phillipies landing. The local traditional owners identified this stone arrangement as being highly culturally significant to the local Aboriginal people for its associations with crocodile or 'Gurabi' dreaming. The arrangement consists of stones arranged on the ground in the shape of a large crocodile. Crocodile dreaming is part of the oral history in the region with elders remembering stories about crocodiles in the Gladstone area. The site has a clear view of Pyellee (Mt Larcom) and is thought to be spiritually connected with the place. Traditional Owners today use the mountain to locate the site by lining up and walking towards a particular view of the mountain. A traditional food source known as 'screws'; a type of shellfish; were also found extensively at the site. The site was previously recorded but has not been placed on the DATSIP register. Since it was first recorded some disturbance had clearly occurred, with some stones likely to have been moved or removed. The artefact scatter was located to the north of the stone arrangement and consisted of flakes and cores *in situ*.

1.2.3 NAR17-03 Artefact scatter/quarry site, ochre quarry

NAR17-03 is an artefact scatter and quarrying site, and a possible ochre quarry site. Despite there being no raw material source for quarrying materials for stone tools, there were an extensive number of large and small cores at the site with few utilised or retouched artefacts. This suggests that the site is still a quarrying site and that tools were initially flaked here and taken from the site to be used and retouched elsewhere. The bank of the mudflats was an ochre wall; however the ochre was not very powdery, resulting in the Traditional Owners being unsure of whether the ochre was high quality enough to have been used.

1.3 Gladstone Central Zone

1.3.1 GLA17-01 (Auckland Creek and Police Creek) Culturally significant place

GLA17-01 is a fishing place and a place with strong family connections for Byellee people. The place is characterised by the meeting of Police Creek and Auckland Creek (the fresh and the saltwater). A levy exists between the two creeks today. Prominent Byellee ancestors were known to have lived near the place and Traditional Owners continue to use the area for fishing today. The area also has a line of sight to the historical Aboriginal camp at Police Creek Park (GLA15-03) and therefore is connected with the Police Creek massacre event.

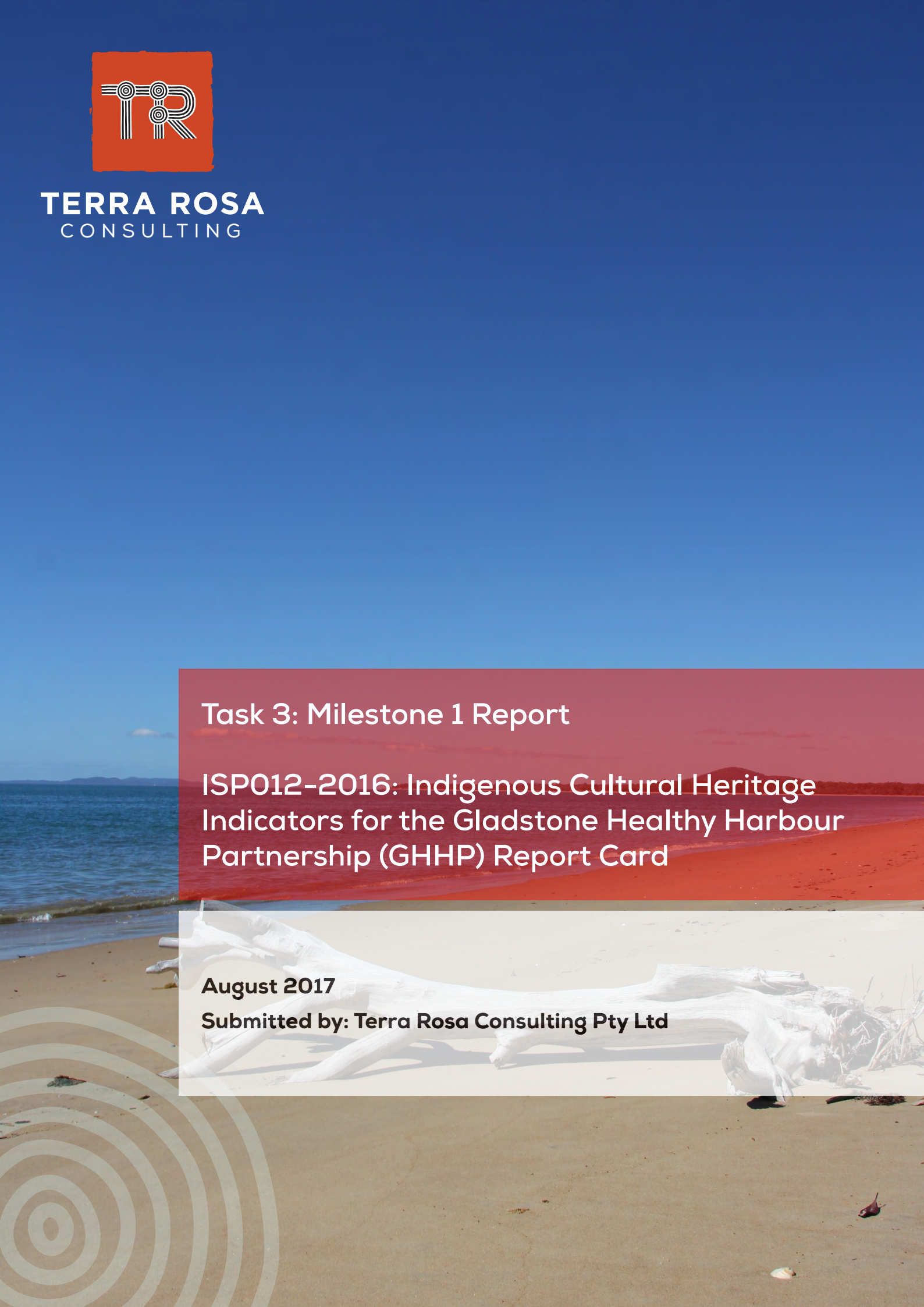
1.3.2 GLA17-02 (Boyne River) Culturally significant place

GLA17-02 (The Boyne River) is a culturally significant place for Traditional Owners of the Gladstone region. Major rivers continue to hold high spiritual and cultural heritage value as epicentres of occupation by traditional people. The rivers are also associated with creation spirits and are revered for their connection with these beings. The Boyne River is also associated with many cultural heritage sites including scarred trees, middens and artefact scatters. Further recording of the Boyne River is slated for 2018.

1.3.3 GLA17-03 (Calliope River) Culturally significant place

GLA17-02 (The Calliope River) is a culturally significant place for Traditional Owners of the Gladstone region. Major rivers continue to hold high spiritual and cultural heritage value as epicentres of occupation by traditional people. The rivers are also associated with creation spirits and are revered for their connection with these beings. The Calliope River is also associated with many cultural heritage sites including fish traps, middens and artefact scatters. Further recording of the Calliope River is slated for 2018.

Appendix 4 Milestone 1 Report



TERRA ROSA
CONSULTING

Task 3: Milestone 1 Report

ISP012-2016: Indigenous Cultural Heritage Indicators for the Gladstone Healthy Harbour Partnership (GHHP) Report Card

August 2017

Submitted by: Terra Rosa Consulting Pty Ltd

Acronyms

The following terms and acronyms are utilised throughout the report. Definitions are provided below for reference.

Term / Abbreviation	Definition
ACH Act	*Aboriginal Cultural Heritage Act 2003* (Qld)
DATSIP	The *Department of Aboriginal and Torres Strait Islander Partnerships*
DIMS	Data and Information Management System
GHHP	Gladstone Healthy Harbour Partnership
Gidarjil	Gidarjil Development Corporation
ICHD	Indigenous Cultural Health Database
ISP	Independent Science Panel
MS	Monitoring Station
PCCC	Port Curtis Coral Coast Native Title claim
Registered Place	A place that has been entered on to the Queensland Heritage Register created under provisions of the Queensland Heritage Act 1992.
Terra Rosa	Terra Rosa Consulting

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Executive Summary

This Milestone 1 report relates to the second year of the Gladstone Healthy Harbour Partnership (GHHP) Indigenous Cultural Heritage Health scorecard and describes the 2017 field work method and results, outlines some minor changes to the scoring methodology from the year 1 program, and provides a draft assessment of Gladstone Harbour's cultural health.

The methodology and scorecard framework was established in the first year of the project, and so the 2017 fieldwork focused on engaging with local Traditional Owners from Goreng Goreng and Byellee, and on baselining additional sites of cultural importance. The Project Team spent 15 days in the field and established 16 monitoring stations across 11 sites within the four zones. The 2017 fieldwork involved two project teams from Goreng Goreng and Byellee, and all participants were trained in the fieldwork methodology with the two team leaders completing the nationally recognised Certificate III in Aboriginal Sites Work.

A new indicator scoring framework was developed by Terra Rosa in response to the 2015 fieldwork and recommendations by the Independent Science Panel (ISP). As requested by the ISP, however, this report uses the original indicator methodology for the official scorecard. A separate report outlining the results of the fieldwork using the new method will be provided at a later date to enable a review by the ISP of both scoring frameworks.

This year all sites were scored on a ten-point scale instead of the previous five-point scale, and the weightings of sites were decided upon by the Traditional Owners, based upon the significance of the sites within each zone. Every effort has been made to ensure that the indicator assessments between reporting periods are as robust as possible, and that direct comparisons between grades can be made across years. The draft scores for the year two cultural heritage scores can be seen in Table 1. At the request of the Traditional Owners, Wild Cattle Creek and Hummock Hill Island were combined into one zone, and The Narrows and Gladstone Central were extended to include Mt Larcom and the Boyne and Calliope Rivers.

Table 1: Cultural heritage scores for Gladstone Harbour Year 2

Zone	Year 1 Zone Score	Year 1 Zone Grade	Draft Year 2 Zone Score	Year 2 Zone Grade
The Narrows	0.53	C	**0.60**	**C**
Facing Island	0.57	C	**0.58**	**C**
Wild Cattle Creek and Hummock Hill Island	0.44[1]	D	**0.52**	**C**
Gladstone Central	0.59	C	**0.59**	**C**
Average score	0.53		**0.57**	
Indigenous Cultural heritage grade for Gladstone Harbour	C		**C**	

[1] As Hummock Hill Island was not assessed in 2015, this score only includes sites in Wild Cattle Creek

1 Introduction

In 2015 the Gladstone Healthy Harbour Partnership (GHHP) engaged Terra Rosa Consulting (Terra Rosa) to develop and pilot indicators and reference condition values to inform the Indigenous Cultural Heritage Health[2] score of the cultural component within the GHHP Report Card. At the completion of the first year of the project, cultural health was allocated a 'C' in the report card; however the method was limited by various factors. Therefore for year two of the project and under recommendation by the Independent Science Panel (ISP), Terra Rosa proposed some changes be made for 2017. These changes included modifying the measurement criteria to be on a ten-point scale instead of a five-point scale, and moving the social/spiritual measures and scientific measures to be weightings informing the importance of sites, instead of actual measures of the health of sites.

As part of this process, Terra Rosa developed a new method for measuring the health of sites and presented it to the ISP. As per their request, sites in 2017 were assessed using both the old method and the new method so as to enable an evaluation of both methods and a clean transition to the new method moving forward. This report outlines the 2017 fieldwork and the assessment and scores of sites using the original method, while the new proposed method and score will be provided in a separate report.

The original method has undergone minor changes from the first year of the project, with a change from a five-point scale to a ten-point scale, and the utilisation of ethnographic consultation to determine the weightings of sites. Moving to a ten-point scale provides more consistency with the Sense of Place indicator and enables statistical analysis. In the first year of the project, the weightings were designed to be determined by ethnographic consultation, however in the absence of consultation with the local Indigenous Elders, the method had to be modified and an arbitrary significance weighting of 50% was given to the 'locus' site in each zone. In 2017 ethnographic consultation was able to be had, however, and so the significance weightings of sites were determined by the local Elders.

The fieldwork for 2017 focused on involving the local Traditional Owners in the project and establishing ethnographic significance of the sites recorded. As Hummock Hill Island was unable to be assessed in 2015, this was a focus of the fieldwork, as was any other unrecorded site identified by the Traditional Owners as being significant. Instead of being assessed as two zones, Wild Cattle Creek and Hummock Hill Island were combined into one zone, as was originally proposed in 2015. The Narrows zone was extended to include Mt Larcom, which was identified by the Traditional Owners as being highly significant. Boyne River and Calliope River were also identified as being highly significant to the local Aboriginal people, and so the Gladstone Central zone was extended to include the rivers.

Nine Traditional Owners from Goreng Goreng and Byellee were involved in the fieldwork of the project and took part in training for the Certificate III in Aboriginal Sites Work. All fieldwork team members were trained in the methodology for this project, with the team leaders from Goreng Goreng and Byellee; Anne-Marie Johnson and Michael Cook; each achieving their Certificate III. A day was spent with the elders on the Gladstone harbour, visiting Hummock Hill Island, Wild Cattle Island and Facing Island while talking about the project and the significance of the sites recorded.

[2] Indigenous Cultural Heritage Health is referred to throughout this report as Cultural Heritage Health

1.1 Field work participants

During the course of the project, Terra Rosa was assisted by the following staff members from Terra Rosa Consulting and GHHP, as well as local Traditional Owners from Goreng Goreng and Byellee.

Terra Rosa Consulting	
Address	346 South Terrace, South Fremantle, Western Australia 6163
Field work participants	Scott Chisholm (project leader) Brittany George (archaeologist) Nell Taylor (anthropologist) Sarah Keiller (archaeologist) Mathew Passmore (archaeologist)
GHHP	
Address	Post Box 3465, Tannum Sands, Queensland 4680
Contacts	Uthpala Pinto (project manager / co-ordinator) John Rolfe (Science convenor, Chair of the Independent Science Panel)
Gehgre (Goreng Goreng)	
Address	420 Stowe Rd, Calliope, Queensland
Field work participants	Anne-Marie Johnson (Fieldwork team leader) Tricia Eggmolesse (Byellee) William Hollingsworth Josiah Hollingsworth Jacob Johnson Elijah Warde
Elders	Neola Savage (Elder) Jacqueline Johnson (Elder) Duane Johnson (Elder) Conrad Ingra (Elder) Juliri Johnson (Elder) Lindsay Johnson (Elder)
Byellee Cultural Heritage Services (Byellee)	
Address	byellee.chs@outlook.com
Field work participants	Michael Cook (Fieldwork team leader) Marc Eggmolesse Jaiden Cook

Plate 1: The Project Team at Phillipies Landing

2 Field Work

The method that was followed during field work was consistent with the method followed in the first year of the project, and is explained in the 2015 Milestone 2 Report. The planning of the fieldwork in 2017 attempted to mitigate as many of the limitations that affected the first year as possible, with this planning attempting to account for:

- The access difficulties on Hummock Hill Island and Wild Cattle Island due to the lack of road access and the highly variable tidal rivers.
- Local Indigenous community politics and the time required to engage with local Traditional Owners and to set up meetings with Elders.

2.1 Limitations

Despite the project design and field work methodology, there were some limitations that affected the field work plan.

2.1.1 Inaccuracy of the previously recorded sites

The inaccuracy of the locational data of previously recorded sites was a major barrier in the first year of the project, and was still a limitation in this field program. The Project Team was unable to relocate any sites on Wild Cattle Island, however on Hummock Hill Island there were some more recently recorded sites from other assessments that were able to be relocated.

2.1.2 Consultation with PCCC elders

The ranger team from the Gidarjil Development Corporation took part in the project in the first year, however Gidarjil refused to engage with the project in 2017. This meant that the Project Team had to engage directly with Goreng Goreng and Byellee Traditional Owners, which took time to establish trust and an understanding of the project. While this resulted in an extension to the time required on the ground by the Project Team, the consultation process was successful and fieldwork teams from Goreng Goreng and Byellee were established, and Elders were engaged with the project.

2.1.3 Time and access restrictions

While the field work was planned around gaining access to Hummock Hill Island and Wild Cattle Island, some sites were still difficult to reach once on the island. The lack of car access meant that some sites required long hikes to reach, restricting the amount of time that could be spent recording sites.

Restricted land access was a constant challenge as sites that the Fieldwork teams wanted to record were often in developmental or industrial areas and so were not able to be accessed.

2.2 Field work methodology

The field work in year two followed the same methodology as year one of the project, establishing baseline values for as many sites across the project area as possible. Monitoring Stations were established at most sites, with the more extensive sites having multiple Monitoring Stations established. The social and spiritual significance of sites was discussed with the Traditional Owners, enabling the ethnographic data for the area to also be baselined.

Plate 2: Establishing a Monitoring Station at NAR17-02

2.2.1 Extension of zones

Following consultation with the local Traditional Owners (see below), the cultural indicator zones were modified to include significant cultural landscape features. The Narrows zone was extended to include Mt Larcom, and shortened on the south side to enable the Gladstone Central zone to be extended north. The Gladstone Central zone was extended to include Calliope River and Boyne River, following the rivers a short distance inland. For the Goreng Goreng and Byellee people, the rivers are highly significant and are directly related to the harbour, and so it is important to include them in the cultural health assessment of the area. It was also decided that Wild Cattle Creek and Hummock Hill Island should be recombined into being one zone as they were at the start of the project. It was discussed during consultation that Curtis Island should be included as a fifth zone in future years of the project, as the island is an important cultural place for both Goreng Goreng and Byellee. The modified zones can be seen in Map 1.

Map 1: New Indicator zones encompassing Mt Larcom, Boyne River and Calliope River

Gladstone Healthy Harbour Project - 2017 Indicator Zones

Job №: GHH1701 **Map №:** 1 **Coordinate System:**GCS GDA 1994

Date:17/08/2017 **Author:** GlennC

Disclaimer: *The information in this map is accurate as at the date of issue. Spatial accuracy level of +/- 15m unless otherwise noted.*

N

Scale
1:250,000
0 5 10 15 20
Kilometers

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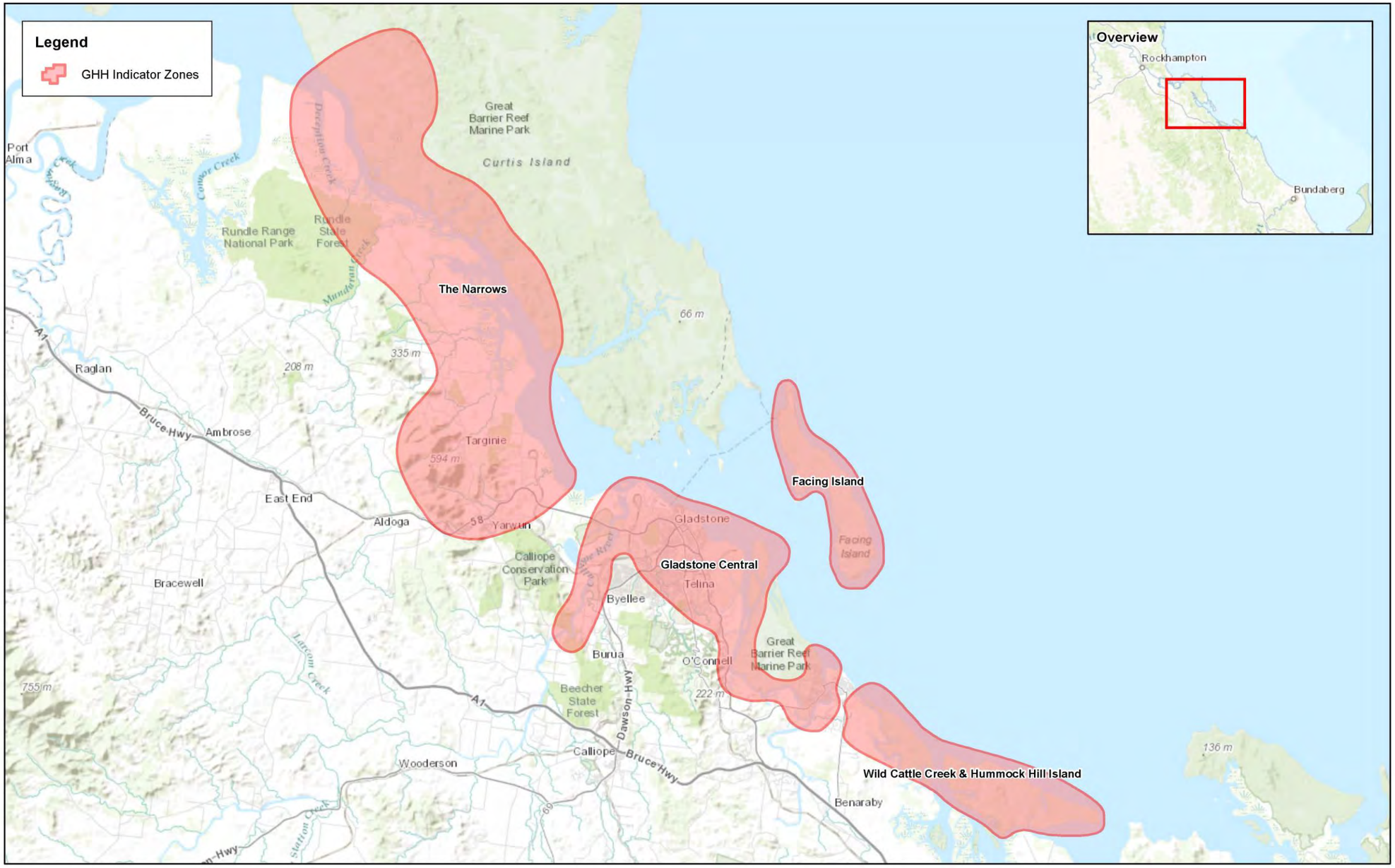


2.2.2 Consultation process

The methodology for this project relies on consultation and engagement with local Traditional Owners and Elders, but only limited consultation was possible in 2015-16. Therefore a main focus of the 2017 fieldwork was to enable this engagement and involve the local Traditional Owners in the project.

Table 2 Stakeholder consultations

Date	Attendees	Discussion and resolutions
16/05/2017	Scott Chisholm, Nell Taylor and Brittany George (Terra Rosa) 2x Goreng Goreng Traditional Owners (Anne-Marie Johnson and Richard Johnson)	• Terra Rosa consultants outlined the aims and objectives of the project and highlighted that it should be seen as an opportunity to be proactive in the heritage space. • Engagement from the local community in site recording and heritage training was discussed with Terra Rosa confirming that GHHP could pay Traditional Owners for fieldwork and training in Aboriginal Sites Work. • Anne-Marie discussed the previous informal training they had undertaken with previous archaeologists in site recording and excavation. They expressed the desire to undertake the formal qualification working with Terra Rosa this year. • Anne-Marie explained how she has significant amounts of data on local heritage sites which she would like to revisit for this project. • Richard confirmed he would coordinate a community reference group for the project – one team for Byellee and one team for Goreng Goreng. • The Narrows Quarry (NAR15-01) was mentioned by both Richard and Annie as a priority site in the region and one which requires more research, detailed site recording and an excavation. They discussed the importance of fencing the site to stop cattle entering. • Both Anne-Marie and Richard expressed interest in the program and resolved to organise project teams from the two groups and a broader community reference group to advise on project specifics. • A project meeting was scheduled for 31st May 2017 to meet the community reference group (this meeting was postponed to the 14th June 2017).
16/05/17	Scott Chisholm, Nell Taylor and Brittany George (Terra Rosa)	• Methodology – ISP confirmed their support for the proposed simplified methodology, however stated they would like the 2017 report to primarily use the 2015 score card

	Uthpala Pinto, John Rolfe (Gladstone Healthy Harbour Partnership ISP)	methodology with a comparative worked example using the proposed new method. The ISP would then be able to assess the new method in comparison to the older methodology. • The ISP also confirmed the adoption of a 1-10 scoring system. • Traditional Owner engagement – The ISP confirmed that they would support an approach which involved a community reference group and local project teams with representatives from local Traditional Owner groups. The ISP indicated that they would support up to $10,000 for Traditional Owner engagement for fieldwork only, and that participating Indigenous corporations should invoice GHHP directly. • The ISP urged Terra Rosa to engage with the Gidarjil Development Corporation and the Gidarjil Rangers, and Terra Rosa confirmed their commitment towards this and that they would invite the rangers to participate in fieldwork in addition to the project teams.
14/06/2017	Scott Chisholm, Nell Taylor and Brittany George (Terra Rosa) 2x PCCC Traditional Owners – Goreng Goreng Elder (Richard Johnson) and Byellee Cultural Heritage Coordinator (Matthew Cook)	• Scott noted that a major aim for 2017 is to develop this program in collaboration with Traditional Owners with the aim of handing the management of the program over to the community in coming years. Richard and Matthew saw this as a great idea and important for both groups to show leadership in this area. • Matthew confirmed he was interested in the program and saw benefit in focusing on areas such as Curtis Island in coming years. He noted Maureen Eggmolese is the only elder left for Byellee people, but suggested the involvement of other Byellee people such as Trisha Eggmolese and Michael Cook. • Richard and Matthew agreed to split the $10,000 equally between Byellee and Goreng Goreng, with each group invoicing separately. • Matthew explained how “we want to see our traditional families engage in [this project]”. He saw importance for cultural heritage to be inclusive for all families living in the Gladstone area. • Richard discussed the potential for 360 degree panoramic images to be tied in with virtual reality systems.

		• Richard noted "we haven't put proposals forward for some time to train Traditional Owners to manage their futures". He explained that this project would recognise the skills people already have. "They've walked this whole country over the years".
15/06/2017	Scott Chisholm, Nell Taylor and Brittany George (Terra Rosa) 3x PCCC Traditional Owners – Goreng Goreng (Anne-Marie Johnson, Richard Johnson and William Hollingsworth).	• Anne-Marie said she would like to relocate the 'Green Chert Quarry' previously identified as part of a survey. • Richard explained how the project is worthwhile and much needed: "[Cultural heritage] would have stayed the same for the next 20 years if we didn't do something like this". • Scott specified how the project will be designed to sit with and be run by the community after this year. • Project team put forward by Richard: Trisha Eggmolese, William Hollingsworth, Anne-Marie Johnson and Michael Cook. • Previous research by Sean Ulm on Facing Island was discussed. Richard remembered flying over Facing Island in a helicopter and seeing a fish trap at the southern end. • Anne-Marie highlighted the lack of an accessible keeping place for artefacts salvaged from country. • The need for fencing at NAR15-01 the Narrows Quarry was again discussed by Richard. • Anne-Marie confirmed she would like to enrol in the Certificate III in Aboriginal Sites Work and take part in the formalised training during fieldwork.
16/06/2017 – 22/06/2017	Scott Chisholm, Nell Taylor, Brittany George, Sarah Keiller (Terra Rosa) 1 x PCCC representative (Anne-Marie Johnson)	• Fieldwork at Hummock Hill Island and the Narrows zone with Anne-Marie Johnson.
22/06/2017	Scott Chisholm and Nell Taylor (Terra Rosa) 2x PCCC Elders (Lindsay Johnson and Juliri	• The purpose of this meeting was to introduce elders to the project, collect ethnographic information on intangible cultural heritage and to obtain feedback on the method and scoring system.

	Johnson)	• Further information from this consultation will be included in an ethnographic report included in the Milestone 2 Report.
12/07/2017 – 1/08/2017	Nell Taylor (Terra Rosa) PCCC representatives and Queensland Department of National Parks, Sport and Racing representatives	• Multiple phone calls, letters and email correspondence with project teams, community reference group members and other stakeholders to coordinate the fieldwork.
06/08/2017	Nell Taylor and Brittany George (Terra Rosa) Fieldwork project teams	• The purpose of this meeting was an initial project briefing prior to commencing fieldwork. • Terra Rosa consultants met the project teams, confirmed attendance, discussed a schedule for the week and discussed safety, training and logistical details.
7/08/2017 – 12/08/2017	Scott Chisholm, Nell Taylor, Brittany George, Matthew Passmore (Terra Rosa) Fieldwork project team leaders 4x PCCC Elders	• Fieldwork at the Narrows and Gladstone Central zones with project teams. • Elders' and project team trip to the Islands (Hummock Hill, Wild Cattle and Facing) facilitated by National Parks representatives.
13/08/2017	Scott Chisholm, Nell Taylor, Brittany George, Matthew Passmore (Terra Rosa) Fieldwork project team leaders	• Debrief with project team leaders. • Finalising paperwork and site recording forms. • Finalising Cert III Aboriginal Sites Work training (both team leaders will attain a Cert III from the project). • Confirming site and zone scores and weightings. • Preliminary recommendations for site management established (to be reviewed after Draft Report is finalised). • Pathway for future monitoring of sites identified.

Plate 3: Project briefing 06/08/17 before commencing fieldwork.

Plate 4: Trip to the Islands with local Elders and the Project team.

2.2.3 Documenting site values

Sites were recorded using the same methodology from year one, with zones initially sampled using targeted surveys in areas where sites have been previously recorded. Once a site was found, time was taken to identify the main features of the site through pedestrian transects, as well as identifying where monitoring stations should be established. Similar to year one, site recording focused on establishing baseline information for each site and monitoring stations were set up to take 360° panoramic photos of the site, with main features plotted in to the photo. The recording forms used (see Appendix 2) were designed for this project to record sites archaeologically and to collect data to inform the scoring of sites. The measures themselves are not scored on the forms, instead along with the archaeological and physical features of the site, the forms include a threats assessment, condition assessment and other management information to inform the scoring of the site. A discussion of the management issues of the site and the relationship of the site within the cultural landscape was also recorded as the traditional owners assessed the social and spiritual significance of the site.

Plate 5: The Project Team leaders discussing the main site features of the stone arrangement at NAR17-02

Plate 6: Senior archaeologist discussing stone artefact identification with project teams.

Plate 7: Recording site features at NAR17-03

2.2.4 Identification of weightings

In order to consider sites within their cultural landscape, in year one the values of each site within a zone were referenced against a site that was identified as the benchmark site of that zone, called the cultural locus. The project was designed for the weightings of all sites to be determined by whether the elders believed the site to be high priority or low/medium priority. This was designed so that the weightings would reflect how important a site is within the cultural landscape, and would impact the cultural health score in reflection of that importance. In the absence of ethnographic consultation in 2015, however, the locus sites were given an arbitrary weighting of 50%. Through consultation with local Aboriginal Elders and the fieldwork project team leaders in 2017, the significance and priority of sites was discussed and weightings given to sites in response. It was identified in these discussions that each zone would need to be considered individually when attributing weightings, as the weightings given to important sites depends on how important the other sites are within that zone. Therefore instead of simply having an arbitrary weighting given to the locus sites, each site was given an individual weighting. The weightings given to each site and the justifications can be seen below in the fieldwork results section. A further discussion of how weightings were attributed will be provided in the ethnographic report provided with the final report.

Plate 8: Discussing weightings for sites within each zone.

2.2.5 Certificate III in Aboriginal Sites Work

As part of the fieldwork, the team members from Goreng Goreng and Byellee took part in training for a Certificate III in Aboriginal Sites Work. The team leaders, Anne-Marie Johnson and Michael Cook, both officially enrolled in and achieved their certificates. It was a focus of the fieldwork to train all participants in the fieldwork methodology in order to make the project sustainable, so that the fieldwork teams can continue the project in the coming years.

Plate 9: Conducting training on how to use the DATSIP register

3 Indicator and Measure frameworks

3.1 Original framework with adaptation to 10pt scores

As recommended by the ISP in response to the 2015 scoring method, each measure this year was measured on a ten point scale. All previously recorded sites were converted to a score out of ten so that the final sites scores from sites recorded in 2015 were kept consistent for 2017. All newly recorded sites were recorded on the new ten point scale. The measures and indicators were otherwise kept the same as in 2015, as shown in Table 3. The criteria for each measure was also kept the same as in the first year, with the ten-point scale allowing for higher sensitivity and accuracy than simply a five-point range.

3.2 Original framework with new site weightings

In 2015, the framework was designed to include ethnographic consultation in order to inform the spiritual/social values and the weightings of locus sites. During the field season, it became clear that ethnographic consultation was not going to be possible, and so the spiritual/social measures were adapted to be able to be scored without ethnographic consultation, and the locus sites were given an arbitrary weighting of 50%. In 2017, a focus of the project has been to enable ethnographic consultation with local Traditional Owners so that the project could work as it was designed to. To minimise change in the original framework, the spiritual/social measures were kept the same (able to be measured without ethnographic consultation) and only the weightings for sites were changed as per ethnographic consultation (requiring ethnographic consultation).

3.3 New proposed framework

In response to difficulties in the application of the original framework in 2015, recommendations by the ISP, and the addition of ethnographic data, Terra Rosa developed a new framework for measuring the health of the cultural sites in the Gladstone region. This new framework removes the ‘sub-indicators’ from the framework, and moves the spiritual and scientific significance of sites out from being a measure of health to instead informing the significance weighting of sites within their zone. This new framework, how it compares to the original framework and the results using this new framework will be provided in a separate report at a later date.

Table 3: Original indicator and measure framework

Component	Indicator Group	Indicator	Sub-indicator	Measure
Cultural	Cultural heritage	Cultural health of sites e.g. NAR15-01	Spiritual / Social Values (by site) *Requires Traditional Owner consultation*	Ethnographic and historical information
				Connection to the cultural landscape
				Contemporary use
			Scientific Values (by site; includes an aggregation of monitoring station results when necessary)	Diversity
				Density
				Representativeness
				Uniqueness
				Excavation potential
				Artefacts *in situ*
			Physical Condition (by site)	Ground surface disturbance
				Impacts on heritage values
				Threats and controls
		Management strategies by zone e.g. The Narrows	Protection	Monitoring
				Registration of sites
				Management of threats
			Land use	Accessibility
				Developmental pressure
			Cultural maintenance	Identification and research of sites
				Cultural resources
				Cultural management activities
				Stakeholder engagement

4 Field Work Results

During the course of the project, the Project Team spent a total of 15 days conducting field work across all four zones. At the end of the fieldwork, a total of 16 monitoring stations were established across 11 sites. Monitoring stations were established at all recorded sites except HH17-02.

All measures for newly recorded sites were recorded on a ten point scale, and went through the same process as the previous year in order to arrive at an aggregate score for the zones. All previously recorded sites retained their score, however the final scores of each zone were affected by the changes in weightings and the addition of new sites.

Table 4: Overall score for Gladstone Harbour Year 1

Zone	2015 Average scores	2015 Grade	2017 Average scores	2017 Grade
The Narrows	0.53	C	**0.60**	**C**
Facing Island	0.57	C	**0.58**	**C**
Wild Cattle Creek and Hummock Hill Island	0.44	D	**0.52**	**C**
Gladstone Central	0.59	C	**0.59**	**C**
Overall average	0.53		**0.57**	
Final Average Grade	C		**C**	

For each of the zones a list of the new sites identified is included, as well as a summary of the significance of sites and their applied weighting as per the ethnographic consultation. A results map illustrating the location of sites within each zone is provided in Appendix 1.

Full details of the sites, their scores and the assembled data will be uploaded to the Indigenous Cultural Heritage Database (ICHD) after the submission of the Draft Report. Updated site data will then be lodged with DATSIP, should the PCCC Traditional Owners consent to this process.

4.1 Field Work Results – Wild Cattle Creek and Hummock Hill Island

In 2015, only sites on Wild Cattle Creek were recorded as access to Hummock Hill Island was not possible. This year, Hummock Hill Island was a priority to add to the Wild Cattle Creek and Hummock Hill Island zone. A total of five sites were recorded on Hummock Hill Island, including:

- One large artefact scatter, shell midden and quarry site (HH17-04)
- One scar tree (HH17-01)
- One stone arrangement (HH17-02)
- One shell midden and artefact scatter (HH17-05)
- One stone axe with shell scatter (HH17-03)

Given the scientific importance of HH17-04; an artefact scatter, shell midden and quarry site; it was determined for this site to be the cultural locus within the entire Wild Cattle Creek and Hummock Hill Island zone.

4.1.1 Cultural locus for Hummock Hill Island: HH17-04

HH17-04 is located on the south side of Hummock Hill Island, directly adjacent to Clarks Rd crossing. A large midden lies closest to the crossing and has been highly disturbed by previous works to create the crossing. Anadara Granosa, Terebralia and Oyster shells can be seen in the midden, with hammer stones and grinding tools found nearby. On the mudflats and near the banks is an extensive scatter of artefacts, mostly of quartz material and consisting of flakes and cores. Out on the mudflat is a raw quartz material source and quarrying site.

Plate 10: HH17-04, MS01, Feature 2: Quartz knapping floor

Plate 11: HH17-04. MS02, Feature 7: Quartz raw material source

Plate 12: HH17-04, MS02, Feature 9: Shell midden

4.1.2 Priority of sites and weightings

The majority of sites within the zone are highly disturbed small midden sites along the edge of Wild Cattle Creek, and so the traditional owners identified HH17-04 as the most significant site in the zone due to its size and intactness. HH17-05 was then identified as also being of more importance than the disturbed midden sites, as were the scar trees found in the area. Therefore, HH17-04 was given a weighting of 20%, HH17-05 and the scar tree sites were each given 10%, and the remaining 40% was distributed equally among the other 11 sites.

4.1.3 Summary Score Card for Hummock Hill Island

Table 5: Summary grades of the Cultural Health of sites (Indicator 1) – Wild Cattle Creek and Hummock Hill Island

Site Number	Total score	Weighting applied	Weighted score
HH17-04 (Cultural locus)	0.73	20%	0.15
HH17-05	0.66	10%	0.07
HH17-01	0.51	10%	0.05
WCC15-04	0.73	10%	0.07
WCC15-11	0.71	10%	0.07
HH17-02	0.53	40%	0.17
HH17-03	0.46		
WCC15-01	0.32		
WCC15-02	0.32		
WCC15-03	0.33		
WCC15-05	0.32		
WCC15-06	0.32		
WCC15-07	0.39		
WCC15-08	0.41		
WCC15-09	0.44		
WCC15-10	0.48		
Sum of weighted scores			**0.57**
Final grade for Cultural Health of Sites Indicator			**C**

Table 6: Grades of the Management Strategies (Indicator 2) – Wild Cattle Creek and Hummock Hill Island

Sub-indicators	Measure	Score	Weighted Score
Protection (40% weighted)	Monitoring	1.0	*0.26*
	Registration of sites	0.3	
	Management of threats	n/a	
Land use (20% weighted)	Accessibility	0.3	*0.11*
	Developmental pressure	0.8	
Cultural Maintenance (40% weighted)	Identification and research of sites	0.2	*0.10*
	Cultural resources	0.2	
	Cultural management activities	0.2	
	Stakeholder engagement	0.4	
		Score	**0.47**
		Final grade for Management Strategies Indicator	**D**

Table 7: Average grades for the Indicator Group – Wild Cattle Creek and Hummock Hill Island

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.57
Management Strategies (Indicator 2)	0.47
Average score	**0.52**
Final grade for Indicator Group	**C**

4.2 Field Work Results – The Narrows

Three additional sites were recorded for The Narrows zone during the 2017 fieldwork. One of these sites, Mt Larcom, was identified by the traditional owners as being highly significant for the cultural landscape of the region, and so the zone was extended. The sites recorded included:

- 'Mt Larcom', a culturally significant place (NAR17-01)
- 'The Stone Arrangement' (NAR17-02)
- 'Phillipies Landing', an ochre quarry and artefact scatter (NAR17-03)

4.2.1 'The Stone Arrangement' – NAR17-02

The local traditional owners identified this stone arrangement as being very culturally significant to the local Aboriginal people. The arrangement consists of stones arranged on the ground in the shape of a large crocodile on a tidal mudflat near Phillipies landing. The arrangement had been previously recorded but had not been placed on the DATSIP register. Since it was first recorded some disturbance had clearly occurred, with some stones having been moved or removed.

To the north of the stone arrangement was an artefact scatter, recorded as part of the same site, with a different monitoring station. The scatter was largely on the mudflats and consisted of flakes and cores.

- *Plate 13: NAR17-02, MS1, Feature 6: Large silcrete flake*

- *Plate 14: NAR17-02, MS1, Crocodile stone arrangement, view east from tail.*

- *Plate 15: NAR17-02, MS2, view east across artefact scatter*

4.2.2 Priority of sites and weightings

The Narrows Quarry was still seen by the traditional owners as being the most archaeologically significant site in the zone, and so remained the cultural locus for the Narrows zone. Mt Larcom and 'The Stone Arrangement' were seen to be of equal importance culturally, however, and so all three sites were given equal weightings of 25% each. All remaining sites in the zone were then given a combined weighting of 25%.

4.2.3 Summary Score Card for the Narrows

Table 8: Summary grades of the Cultural Health of sites (Indicator 1) – The Narrows

Site Number	Total score	Weighting applied	Weighted score
NAR15-01 – The Narrows Quarry (Cultural locus)	0.76	25%	0.19
NAR17-01 – Mt Larcom	0.92	25%	0.23
NAR17-02 – The	0.62	25%	0.15

Stone Arrangement			
NAR17-03	0.51	25%	0.10
NAR15-02	0.41		
NAR15-03	0.34		
NAR15-04	0.39		
NAR15-05	0.39		
NAR15-06	0.27		
Sum of weighted scores			**0.67**
Final Grade for Cultural Health of Sites Indicator			**B**

Table 9: Grades of the Management Strategies (Indicator 2) – The Narrows

Sub-indicators	Measure	Score	Weighted Score
Protection	Monitoring	*1.0*	*0.28*
	Registration of sites	*0.4*	
	Management of threats	*n/a*	
Land use	Accessibility	*0.5*	*0.09*
	Developmental pressure	*0.4*	
Cultural Maintenance	Identification and research of sites	*0.6*	*0.15*
	Cultural resources	*0.3*	
	Cultural management activities	*0.2*	
	Stakeholder engagement	*0.4*	
Score			**0.52**
Final Grade for Management Strategies Indicator			**C**

Table 10: Average grades for the Indicator Group – The Narrows

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.67
Management Strategies (Indicator 2)	0.52
Average score	**0.60**
Final grade for Indicator Group	**C**

4.3 Field Work Results – Facing Island

No new sites were recorded on Facing Island in 2017. The locus site; a large midden on the southern portion of the island (FAC15-06) was visited with the Elders during the trip to the islands.

4.3.1 Priority of sites and weightings

All sites on Facing Island were discussed with the traditional owners to determine their importance and the weightings that should be applied. Most traditional owners had visited FAC15-04 on the north of the island and believe it to be a very important site. FAC15-06, visited during the trip with the elders, was also seen to be of both high cultural and archaeological importance. It was decided that these two sites would be given weightings of 40% each, with the other four sites having a combined weighting of 20%.

Plate 16: Visiting FAC15-04 with the Elders and project team leaders.

4.3.2 Summary Score Card for Facing Island

Table 11: Summary grades of the Cultural Health of sites (Indicator 1) – Facing Island

Site Number	Total score	Weighting applied	Weighted score
FAC15-06 (Cultural locus)	0.77	40%	0.31
FAC15-04	0.65	40%	0.26
FAC15-01	0.62	20%	0.1
FAC15-02	0.51		
FAC15-03	0.56		
FAC15-05	0.36		
Sum of weighted scores			**0.67**
Final Grade for Cultural Health of Sites Indicator			**B**

Table 12: Grades of the Management Strategies (Indicator 2) – Facing Island

Sub-indicators	Measure	Score	Weighted Score
Protection	Monitoring	*0.8*	*0.28*
	Registration of sites	*0.6*	
	Management of threats	*n/a*	
Land use	Accessibility	*0.6*	*0.1*
	Developmental pressure	*0.4*	
Cultural Maintenance	Identification and research of sites	*0.2*	*0.1*
	Cultural resources	*0.2*	
	Cultural management activities	*0.2*	
	Stakeholder engagement	*0.4*	
Score			**0.48**
Final Grade for Management Strategies Indicator			**D**

Table 13: Average grades for the Indicator Group – Facing Island

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.67
Management Strategies (Indicator 2)	0.48
Average score	**0.58**
Final grade for Indicator Group	**C**

4.4 Field Work Results – Gladstone Central

Three new sites were recorded in the Gladstone Central zone, with the zone being extended in order to include Boyne and Calliope rivers. Despite attempts to relocate known archaeological sites, some had been destroyed and others were unable to be reached due to access restrictions. The new sites recorded included:

- Police Creek and Auckland Creek (GLA17-01)
- Boyne River (GLA17-02)
- Calliope River (GLA17-03)

Plate 17: Access to known sites on the bank of Calliope River was restricted.

4.4.1 Cultural locus for Gladstone Central: GLA15-01 (Barney Point)

During consultation, the traditional owners requested that Barney Point replace Police Creek as the cultural locus for the Gladstone Central zone. This was due to Barney Point being identified as important cultural meeting place both historically and currently for the local Indigenous people whereas Police Creek is a difficult place due to its history as a massacre site.

4.4.2 Priority of sites and weightings

All the sites in the Gladstone Central zone were identified by the traditional owners as all being very culturally significant. Being the cultural locus site, Barney Point was given a slightly higher 20% weighting, with all other sites having a combined weighting of 80%, resulting in a weighting of 16% each.

4.4.3 Summary Score Cards for Gladstone Central

Table 14: Summary Grades of the Cultural Health of Sites (Indicator 1) – Gladstone Central

Site Number	Total score	Weighting applied	Weighted score
GLA15-01 (Cultural locus)	0.67	20%	0.13
GLA15-02	0.42	80%	0.54
GLA15-03	0.76		
GLA17-01	0.77		
GLA17-02	0.70		
GLA17-03	0.70		
Sum of weighted scores			**0.67**
Final grade for Cultural Health of Sites Indicator			**B**

Table 15: Grades of the Management Strategies (Indicator 2) – Gladstone Central

Sub-indicators	Measure	Final score	Weighted Score
Protection	Monitoring	0.8	0.2
	Registration of sites	0.3	
	Management of threats	n/a	
Land use	Accessibility	0.8	0.16
	Developmental pressure	n/a	
Cultural Maintenance	Identification and research of sites	0.2	0.16
	Cultural resources	0.6	
	Cultural management activities	0.2	
	Stakeholder engagement	0.6	
Average score			**0.52**
Final Grade for Management Strategies Indicator			**C**

Table 16: Average grades for the Indicator Group – Gladstone Central

Indicator	Final score
Cultural Health of Sites (Indicator 1)	0.67
Management Strategies (Indicator 2)	0.52
Average score	**0.59**
Final grade for Indicator Group	**C**

5 Discussion and Recommendations

The grades above show an improvement from the first year scores. This is largely due to the updated weightings that reflect all the important sites in a zone instead of just the locus site, as well as the addition of sites in the Narrows and Hummock Hill Island that are more intact. No management measures have been taken in any of the areas recorded since the first year of the project, and so the management scores have only changed through the addition of new sites, instead of through an improvement in the management of sites.

The final report will discuss the scorecard results and will outline recommendations for the project in the coming years. The final report will also include an ethnographic report and outline the recommendations given by the Traditional Owners in how to improve the management and health of cultural heritage in the Gladstone region.

Appendix 1 – Results maps

Gladstone Healthy Harbour Project - 2017 Newly Identified Sites

Job №: GHH1701 **Map №:** 1 **Coordinate System:**GCS GDA 1994

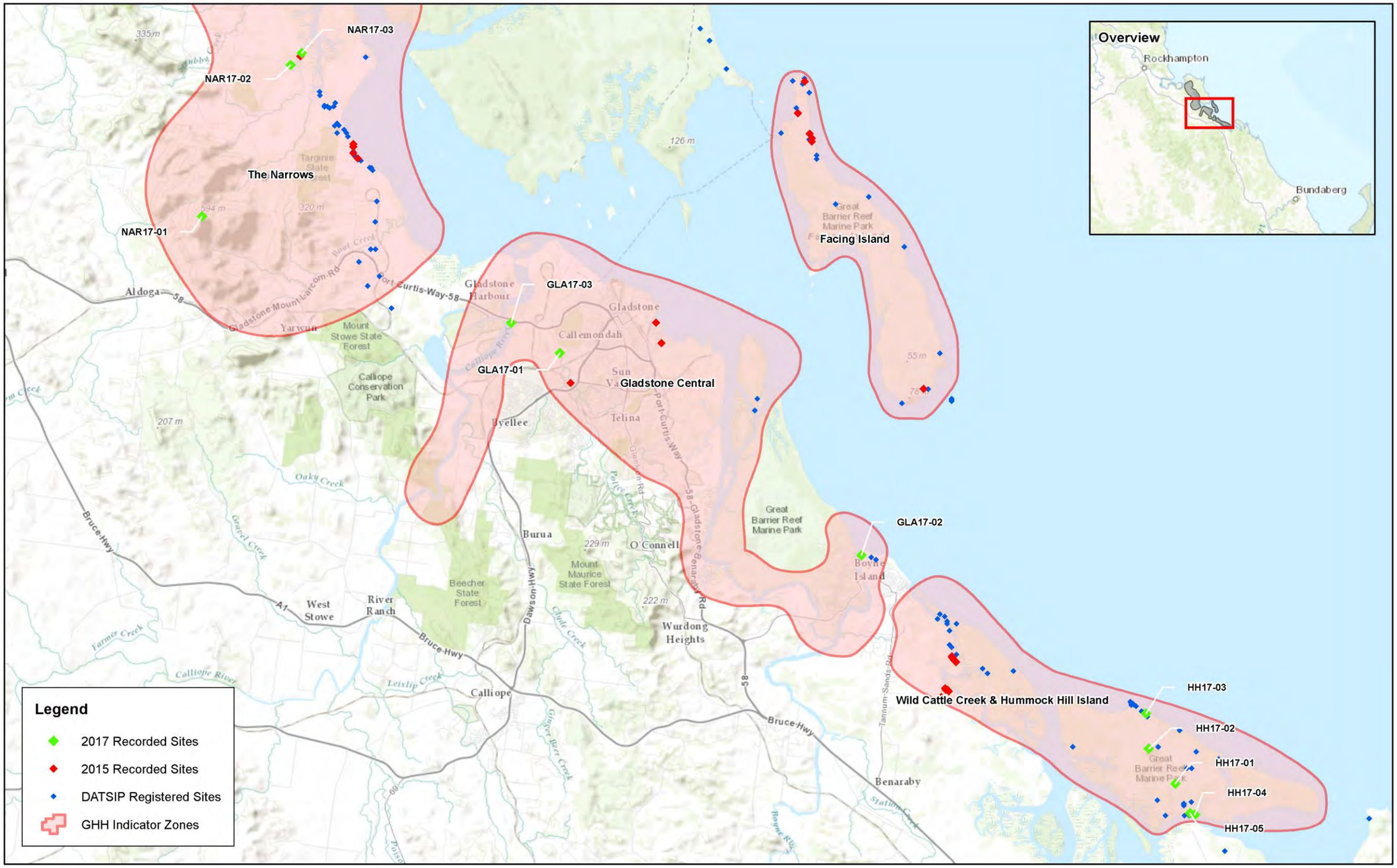
Date:17/08/2017 **Author:** GlennC

Disclaimer: The information in this map is accurate as at the date of issue. Spatial accuracy level of +/- 15m unless otherwise noted.

N

Scale
1:150,000
0 2.5 5 7.5 10
Kilometers

TERRA ROSA CONSULTING



Gladstone Healthy Harbour Project - The Narrows

Job №: GHH1701 **Map №:** 1 **Coordinate System:**GCS GDA 1994

Date:17/08/2017 **Author:** GlennC

Disclaimer: *The information in this map is accurate as at the date of issue. Spatial accuracy level of +/- 15m unless otherwise noted.*

Scale

1:50,000

0 1 2 3 4

Kilometers

TERRA ROSA CONSULTING

Gladstone Healthy Harbour Project - Gladstone Central

Job №: GHH1701 **Map №:** 1 **Coordinate System:**GCS GDA 1994

Date:17/08/2017 **Author:** GlennC

Disclaimer: *The information in this map is accurate as at the date of issue. Spatial accuracy level of +/- 15m unless otherwise noted.*

N

Scale

1:70,000

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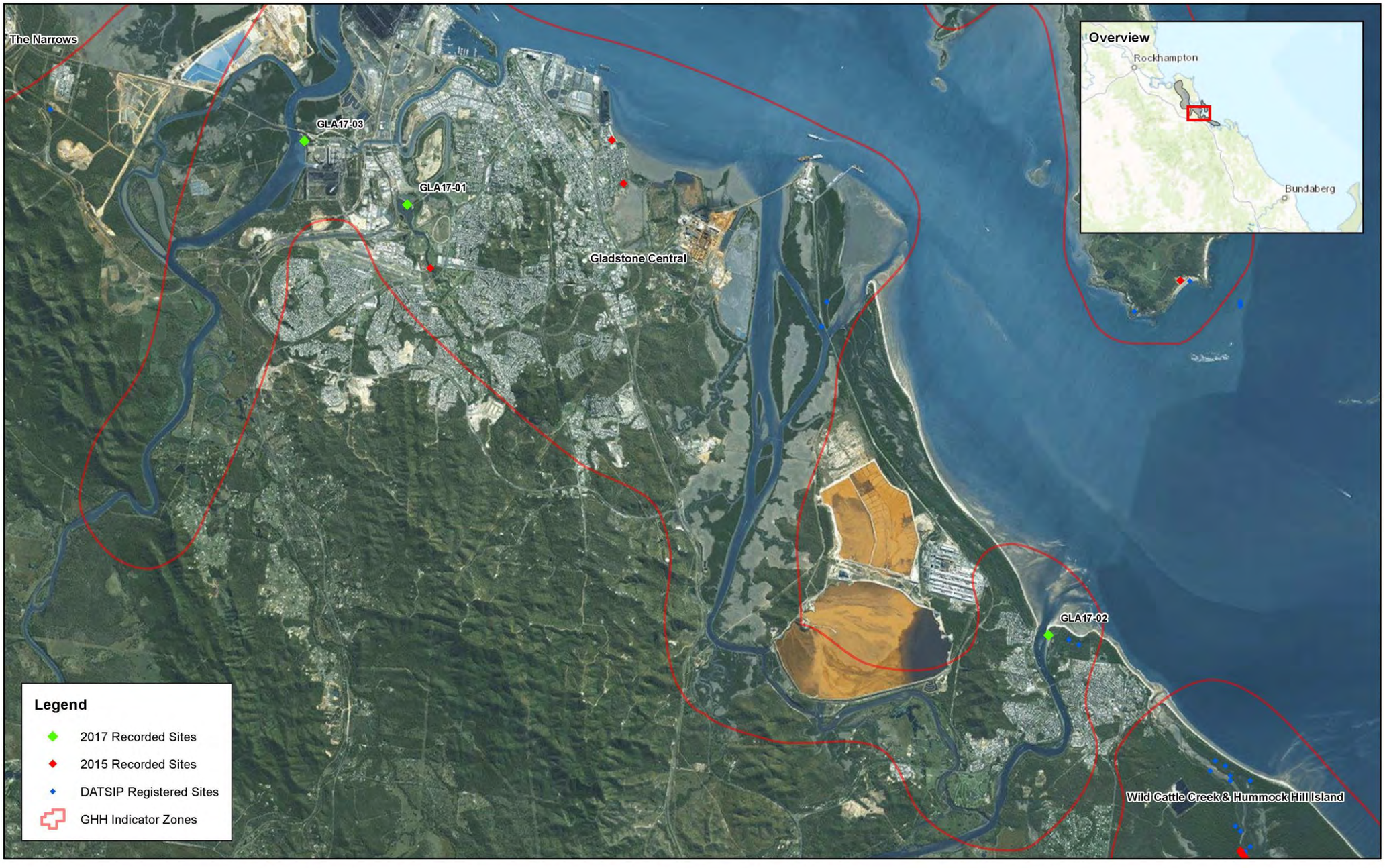
Kilometers

TERRA ROSA CONSULTING



Gladstone Healthy Harbour Project - Wild Cattle Ck & Hummock Hill Island

Job №: GHH1701 **Map №:** 1 **Coordinate System:**GCS GDA 1994

Date:17/08/2017 **Author:** GlennC

Disclaimer: *The information in this map is accurate as at the date of issue. Spatial accuracy level of +/- 15m unless otherwise noted.*

N

Scale

1:30,000

0 0.75 1.5 2.25 3

Kilometers

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Appendix 2 – Site Recording Form

Site Recording Form

Site Name:		Registered Name:		Project name:	
Place Type:		Monitoring Station:	of	Camera:	
Visit No.		Central Co-ord (mE/mN)			

Feature No.	Feature Description	Easting (mE) / Northing (mN)	Photo #

Location – within project area, distance to and orientation of landforms, water sources, nearby roads, tracks, infrastructure, fence lines; other nearby cultural heritage sites

Vegetation – consider upper, middle and under storey, dominant species, Bio-region, Broad Vegetation Group

Current Impacts
(Circle as appropriate – leave blank if not an impact)

1 = Insignificant
5 = Critical

Human	Consequence	Animal	Consequence	Erosion	Consequence
Tracks	1 2 3 4 5	Burrowing	1 2 3 4 5	Land slip	1 2 3 4 5
Vehicles	1 2 3 4 5	Digging	1 2 3 4 5	Inundation	1 2 3 4 5
Paths / Trampling	1 2 3 4 5	Trampling	1 2 3 4 5	Storm surge	1 2 3 4 5
Camping	1 2 3 4 5	Animal Waste	1 2 3 4 5	Wind	1 2 3 4 5
Development	1 2 3 4 5		1 2 3 4 5	Weeds	1 2 3 4 5
Rubbish	1 2 3 4 5		1 2 3 4 5		1 2 3 4 5

Potential Threats (Circle as appropriate – leave blank if not a threat)												1 = Insignificant / Rare 5 = Critical / Almost Certain											
Human	**Consequence**					**Likelihood**					**Natural**	**Consequence**					**Likelihood**						
Development	1	2	3	4	5	1	2	3	4	5	Storm Surge	1	2	3	4	5	1	2	3	4	5		
Increased Access	1	2	3	4	5	1	2	3	4	5	Damaging Weather	1	2	3	4	5	1	2	3	4	5		
Land use	1	2	3	4	5	1	2	3	4	5	Fire	1	2	3	4	5	1	2	3	4	5		
	1	2	3	4	5	1	2	3	4	5	Drought	1	2	3	4	5	1	2	3	4	5		
	1	2	3	4	5	1	2	3	4	5		1	2	3	4	5	1	2	3	4	5		
	1	2	3	4	5	1	2	3	4	5		1	2	3	4	5	1	2	3	4	5		

Are the site features intact?

0% Intact									**100% Intact**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Comments									

What is the extent of current and active disturbance?

100% Disturbed									**0% Disturbed**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Comments									

Are the impacts or threats to the site being managed?

0% Managed									**100% Managed**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Comments									

Cultural Landscape –What has been identified within this place and how does this site fit within the cultural landscape?

Controls and Recommendations – heritage team recommendations e.g. monitoring, fencing, awareness, mediation action, threats