

Noosa Oyster Reef Restoration Project

Technical Advisory Group

Meeting 1

Date – Wednesday, 13 May 2020

Time – 10.00 am – 13.00 pm

Location – Zoom call

Facilitator – Craig Bohm, TNC

Minutes of Meeting

Meeting Agenda

	Topic	Who	Time	Reference
1	Welcome to Country / Acknowledgement of Country	Kabi Kabi Craig Bohm - TNC	5 minutes	10.00 am
2	Meeting context	Craig Bohm - TNC Craig Doolan – NSC	10 minutes	10.05 am
3	Introductions and roles	All – 5 minutes each	30 minutes	10.15 am
4	Review of draft ToR	Craig Bohm - TNC	15 minutes	10.45 am
5	Overview of TNCs Shellfish Reef Restoration Program and Experiences to Date	Simon Branigan - TNC	15 minutes	11.00 am
6	TNC Oyster Reef Restoration Methodology	Simon Reeves - TNC	15 minutes	11.15 am
	Tea Break			11.30
	Virtual Tim Tams and coffee all round.			
7	TNC-NSC Partnership Agreement	Craig Doolan - NSC	10 minutes	11.50 am
8.	Noosa Oyster Reef Restoration Project - Project Management Plan	Craig Bohm - TNC	20 minutes	12.00 pm
9	Phase 1 Results Overview - University of the Sunshine Coast (USC) project	Simon Walker – Ecological Service Professionals (ESP)	30 Minutes	12.20 pm
10	Other Discussion	All	10 minutes	12.35 pm
11	Next Steps + Actions Arising Summary	Craig Bohm - TNC	5 minutes	12.45 pm
12	Closing remarks and Close	Craig Doolan - NSC	10 minutes	12.50 pm

1. Welcome to Country

The Nature Conservancy (TNC), Noosa Shire Council (NSC) and the technical advisory group acknowledged the Cubbi Cubbi (Kabi Kabi) as the Traditional Owners of the places in which we work on this project. The group also acknowledged the deep cultural, social, environmental, spiritual and economic connection the Kabi Kabi people share with their lands and waters.

2. Meeting Context

Craig Bohm (TNC) and Craig Doolan (NSC) provided a brief context to the meeting.

The key points about the meeting were:

- The Noosa Oyster Reef Restoration Project is Phase II and Phase III of the Noosa 'Bring Back the Fish' initiative. The Noosa Shire Council (NSC) is a key supporter and driver of the initiative and has entered into a contractual partnership with TNC to restore oyster reefs throughout the Noosa River estuary.
- This was the first *ad hoc* meeting of the Noosa Technical Advisory Group (TAG) for the Noosa Oyster Reef Restoration Project Phase II and Phase III.
- This meeting gave the opportunity for the TAG members to come up to speed about the project and wider operating context and to begin discussion ways to implement the project, that is, to build two permanent reefs in Phase II (2020-2021) and as many reefs as possible (funding dependent) in Phase III (2021-2020).
- The takeaways from the meeting were:
 - A clear understanding of the operating context, goals, approach and timeframes
 - An understanding of roles and responsibilities of each party
 - A first cut sense of the key challenges and next steps

To note:

The TAG noted the need to be sure meetings distinguished between the advisory role of some members to the TAG and their statutory roles, as regulatory agents of the Queensland government, who may, at some point in time, have direct regulatory responsibilities relating to the permitting or final approval of this project.

3. Introductions and Roles – TAG membership

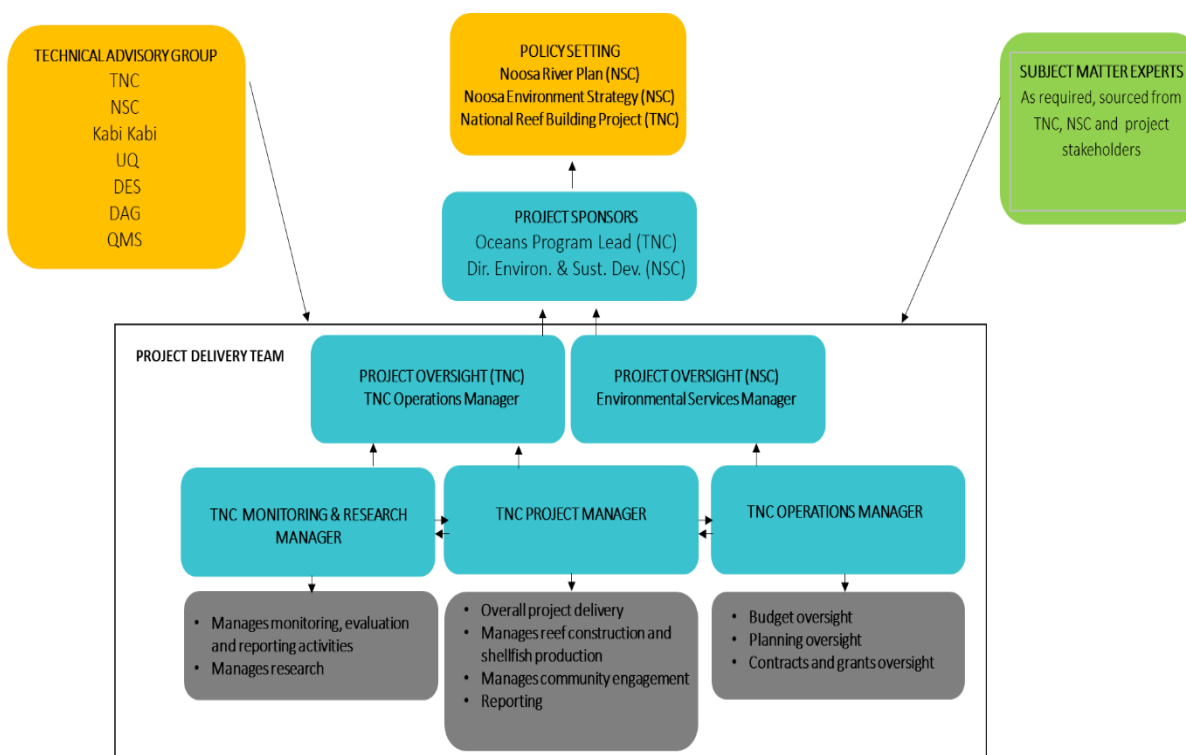
The members of the TAG are included in the table below. The meeting was not attended by a member of Kabi Kabi or from the Department of Environment and Science (DES). Kabi Kabi, through NSC, has expressed a keen interest to participate in the TAG and will do so in the future. DES staff have also been advising the project manager, Craig Bohm, but an appropriate staff member/s have not yet been identified to participate in the TAG.

Action: Craig Bohm (TNC) and Craig Doolan (NSC) to follow up with Kabi Kabi prior to the next TAG

Action: Craig Bohm (TNC) will work with Susan Kodi-King (MSQ) will collaborate to identify an appropriate person or people from DES to join the TAG.

First Name	Surname	Organisation	Position	Email	Phone	Website	Address 1	Address 2	Suburb	Postcode	Comments
Craig	Doolan	Noosa Shire Council	Environmental Services Manager	craig.doolan@noosa.qld.gov.au	PH: 07 5329 6213	www.noosa.qld.gov.au	9 Pelican St	PO Box 141	Tewantin	4564	TNC-NSC contract manager, project manager and local government approvals coordination. Advises on matters relating to regulatory responsibilities of the Noosa Shire Council.
Susan (Sue)	Codi King	Maritime Safety Queensland Department of Transport and Main Roads	Area Manager Marine Operations – North Brisbane/Sunshine Coast	susan.z.coding@msq.qld.gov.au	PH: 07 3632 7538 M: 0428851510	www.msq.qld.gov.au	First Floor Pinkenba Marine Operations Base, Macarthur Avenue East	PO Box??	Pinkenba	4008	Advises on maritime safety and navigation under: Maritime Safety Queensland Act 2002 Transport Infrastructure (Waterways Management) Regulation 2012
Dr Nikki	Moore	Department of Agriculture and Fisheries	Fisheries Officer	Nikki.Moore@daf.qld.gov.au	PH 07 53811335 M 040701 6965	www.daf.qld.gov.au	47 Mayers Road	PO Box 5083	NAMBOUR	4560	Advises on potential development application process and requirements under the Planning Act 2016
Rebecca	Schofield	Department of Agriculture and Fisheries	Fisheries Officer	Rebecca.Schofield@daf.qld.gov.au	07 3087 8365	www.daf.qld.gov.au	Level 5, 41 George Street, Brisbane	GPO Box 46	Brisbane	4001	Policy guidance and advice on Resource Allocation Authority
Simon	Walker	Ecological Service Professionals Pty Ltd	Principal Ecologist (Director)	swalker@ecosp.com.au	+61 428 118 496	www.noosa.qld.gov.au	Unit 1, 16 Industry Place	PO Box 5815	Wynnum	4178	Advises on ecological and physical aspects of the Noosa River and experience with aspects of Phase 1 UCQ project.
Stephen	Wesche	Department of Agriculture and Fisheries	Biosecurity	Stephen.Wesche@daf.qld.gov.au							Advise on biosecurity matters from DAF perspective
To be confirmed		Kabi Kabi									The project is working through Noosa Council to secure the appropriate engagement of the Kabi Kabi Traditional Owners
To be confirmed		Department of Environment and Science (DES)									Sarah Mitchell, Acting Manager - Utilities and Government Organisations Assessment, Waste, Development & Southeast Compliance, Environmental Services and Regulation - has been advising but has not been appointed to the TAG from DES.
Craig	Bohm	The Nature Conservancy	SE Queensland Coordinator, Oceans (Australia Program)	craig.bohm@tnc.org	0410 872 435	https://www.natureaustralia.org.au	32 Katharina Street		Noosa	4567	Noosa TAG Chair TNC Project manager - Noosa Oyster Reef Restoration Project Phase II and II
Dr Simon	Reeves	The Nature Conservancy	Monitoring Coordinator, Oceans (Australia Program)	simon.reeves@tnc.org	0438 466 433	https://www.natureaustralia.org.au					TNC scientific advisor on shellfish reef monitoring and reporting systems and processes
Simon	Branigan	The Nature Conservancy	Operations Manager, Oceans (Australia Program)	simon.branigan@tnc.org	0409 087 278	https://www.natureaustralia.org.au					Coordinates TNC shellfish reef restoration operations in eastern Australia. Coordinates TNC's Victorian reef restoration program.

Project Steering



4. Review of draft ToR

The TAG reflected on the draft Terms of Reference (ToR) for the group and were accepting of its content and the roles and responsibilities of each party.

NOOSA RIVER OYSTER RESTORATION PROJECT

Technical Advisory Group, Terms of Reference

Context

The *Noosa River Oyster Restoration Project* is a component of Noosa's "Bringing Back the Fish" project, an initiative in three stages, which aims to rehabilitate native oyster reefs, which previously occurred in the Noosa River estuary.

The result of this work should be an increase in the complexity of natural infrastructure in the Noosa River thus maximising the ecological, economic and social benefits that stem from rehabilitating the reefs to the Noosa community.

This is a partnership project between Noosa Shire Council (NSC), The Nature Conservancy (TNC), key government and non-government stakeholders and the community of Noosa Shire.

Purpose

The purpose of this Technical Advisory Group (TAG) is to:

- Support detailed project planning for the *Noosa Oyster Reef Restoration Project* that will see reefs re-established in the Noosa River estuary by June 2022.
- Provide ongoing expert advice on the implementation of the Project Plan, and support in overcoming legislative, scientific and practical barriers that occur during the term of the project.
- Ensure that the Project meets all technical, statutory and policy requirements in a timely manner to the satisfaction of relevant decision-making authorities.
- Ensure actions within the Project Plan are effectively delivered and communicated to all stakeholders.

Term

All members of the TAG shall meet at least quarterly during the term of the project up until September 2022, either in person or through a video link. The role of the group, and its terms of reference, will be reviewed should the project be extended beyond that timeframe.

Membership

Membership of the TAG shall include representation from key agencies with a legislative, technical or policy management role, as well other organisations with a level of expertise in the project such

that they can make a valuable, independent, input. This membership will be determined by TNC and NSC, subject to the *Alliance and Funding Agreement* for the project.

The TAG shall include the following members (or proxies nominated by each agency):

- The Nature Conservancy – Project Coordinator and restoration technical advisor
- Noosa Shire Council – Environmental Services Manager + one other relevant officer
- Department of Environment & Science (permits and approvals expert)
- Department of Agriculture & Fisheries (with fisheries and permitting expertise)
- Maritime Safety Queensland (with local river navigation expertise)
- Kabi Kabi Traditional Owner
- Independent aquatic ecologist/biologist – one or two, as selected by NSC and TNC.

Roles and Responsibilities

Members of the TAG will:

- attend all scheduled TAG meetings (in person where possible, and electronically otherwise), and if necessary nominate a proxy;
- review and provide input it to the implementation planning of the Noosa River Oyster Restoration Project;
- contribute relevant technical, policy and any other advice in a timely and informative manner;
- liaise with, and facilitate the attendance, of other relevant personnel within their respective agency from time to time, to articulate details of key policy requirements;
- facilitate communications of relevance to other TAG members as it relates to this Project in a timely manner;
- contribute to, and participate in communication initiatives outlined in the finalised Project Plan;
- contribute to the TNC Monitoring and Evaluation Plan at key stages of preparation; and
- contribute to the TNC Comprehensive Risk Assessment to ensure it is accurate and relevant.

TNC undertakes to:

- chair and provide executive support for the TAG - including the preparation and distribution of meeting agendas and associated documents; arranging meeting times and venues; preparing and distributing meeting outcomes and actions; and
- provide TAG members with adequate information about the Project in timely and informed manner to ensure that TAG members are able to respond to technical issues and policy requirements within agreed timeframes, as outlined in the Project Plan.

5. Overview of TNCs Shellfish Reef Restoration Program - Presentation

TNC Operations Manager, Oceans - Simon Branigan, presented a global perspective on shellfish reef restoration, followed by an overview of TNC's shellfish reef restoration program in Australia.

Simon also provided insights into his work as a Project Coordinator in Port Phillip Bay, Victoria, including key outcomes and lessons learnt.

Key points from the presentation included:

- TNC has a target to restore 60 reefs around Australia in 6 years
- 5 reefs in Australia have been restored to date
- TNC actively working in Victoria, South Australia, Western Australia and Queensland, with close collaborations in New South Wales and Tasmania under development.
- Port Phillip Bay is a showcase of how to do shellfish reef restoration at scale and gives Queensland plenty of great case studies on how to go about getting reefs built, at scale, with strong community engagement and support.
- In 2014, TNC began an Australian-first program to accelerate and increase the scale of restoration and conservation of shellfish reefs in areas where people need them most – the populated bays and estuaries across eastern and southern Australia.
- After five years of demonstrated success with five reefs completed or in construction across WA, SA, Vic and Qld, we know that shellfish reefs can be restored at scale and their social, economic and ecological benefits returned.
- The program has received funding from Federal Government (including infrastructure focused, National Stronger Regions Fund) and from State and Local Government in all aforementioned states. The project has also attracted over \$10m in philanthropic and corporate support.

To note:

Where opportunities arise, the TAG will reflect on the successes of other shellfish reef restoration projects in an effort to build the confidence of regulators that the reef restoration methodology applied in Noosa will deliver permanent, fully functioning (in-tact) shellfish reefs.

6. TNC Oyster Reef Restoration Methodology - Presentation

TNC Monitoring and Evaluation Manager, Oceans, Simon Reeves, presented an overview of TNC's shellfish reef restoration methodology including planning, design, construction, monitoring, evaluation and reporting systems. Key points from the presentation included:

- TNC's shellfish reef restoration methodologies are fully grounded in scientific research and refinement of restoration techniques.

- TNC collaborates with restoration specialists across the globe, invests significantly in scientific research, critical to guide restoration techniques, and publishes extensively in the scientific literature about shellfish restoration.
- Project targets are defined under five ecological and social categories, each with a number of associated measures:
 - *Shellfish*- assessment of density, growth and survival of the ecosystem engineer, *S. glomerata*
 - *Biodiversity* - assessment of increase in marine life and biomass
 - *Fish*- assessment of increase in desired fish species and biomass
 - *Reef Integrity*- assessment of structural features of the reef including height, shape and stability
 - *Social-economic*- assessment of social outcomes including volunteering, job creation, community support.
- The project's annual progress is reported in digestible, community friendly project report cards.
- A more detailed technical monitoring report and annual project report are also developed.
- Project outputs (including results) are stored by TNC and made available through the recognised portals and the publication of peer reviewed papers in the scientific literature.

7. TNC-NSC Partnership Agreement

Craig Doolan (NSC) gave a brief overview of the context and content of the TNC-NSC Partnership Agreement.

Key aspects of the agreement are:

- The agreement sets out the contractual arrangement between TNC and NSC.
- The Partnership commenced on 25 July 2019 and runs for three years and three months, with the outcomes of the Partnership to be reviewed in July 2022.
- The total operating budget is \$2.4M, inclusive of \$1.2M from The Nature Conservancy (which includes \$200,000 from the Australian Marine Conservation Society) and \$1.2M from Noosa Council, with the expectation that TNC will raise further funding from a variety of other sources to support.

The focus of the Partnership is to:

- Improve the health and resilience of Noosa's marine and estuarine environment through innovative restoration and coastal resilience projects;
- Capitalize on the expertise of The Nature Conservancy's global networks and experience (through knowledge brokering, mentoring, study tours and access to subject matter experts) to improve Noosa River management and strengthen the long-term social, environmental and economic health and resilience of the Noosa River and surrounding marine environment;

- Demonstrate a leading example of a replicable, environmentally focused, collaborative alliance that achieves superior outcomes for the environment and local communities compared to existing river and marine management models; and,
- Increase government (State and Federal), private, industry and community support for restoration and conservation-focused activities that improve the long-term social, economic and environmental health and resilience of the Noosa River and surrounding marine environment.

The Partnership prioritizes the restoration of oyster reefs in the Noosa River estuary in addition to:

- Providing general strategic support/advice for planning, management and evaluation associated with the new Noosa River Plan and Noosa Environment Strategy and other initiatives and projects associated with the river system;
- Engaging the Noosa community and businesses in meaningful volunteering, citizen science and marine education opportunities;
- Coordination of research and associated projects that will inform and contribute to implementation of the Noosa River Plan and Noosa Environment Strategy, with a particular focus on seagrass mapping and restoration and living shorelines; and,
- Critical evaluation and potential reform of current and future management activities with a particular focus on opportunities for sustainable commercial and recreational fishing and associated activities.

8. Noosa Oyster Reef Restoration Project – Project Management Plan

Craig Bohm (TNC) provided an overview of the draft Project Management Plan, which had been distributed to TAG members, in full, prior to the meeting.

No specific comments from the TAG members were received; however, an opportunity was left open for TAG members to review the plan more closely, if they wished to, and to provide comment back to Craig Bohm by Friday the 22/5/20.

Action: TAG members to provide any specific comments on the draft Project Management Plan to Craig Bohm by Friday the 22 of May 2020.

Note: No comment was received on the draft Project Management Plan by the finalisation of the minutes, so the Plan, in this format will be presented to the Noosa Shire Council for formal endorsement.

Noosa Project Management Plan	
Goal	Objectives
To improve the environmental health of the Noosa River estuary	<ol style="list-style-type: none"> 1. Project establishment and management 2. Site selection 3. Community engagement 4. Shellfish restoration 5. Noosa River Plan +
Project Timeframes	Budget
Contract: 25 July 2019 to 30 September 2022	\$2.4 Million
Pilot reef bases: February 2021	50% Noosa Shire Council
Further reef bases: Nov. 2021 – May 2022	50% TNC + AMCS+ The Thomas Foundation
	Additional fundraising actions (TNC)

Key aspects of the Project Management Plan include:

- The Project Management Plan details the workflow of the Project.
- The oyster reef restoration methodology follows standards aligned with best practice oyster restoration and the *Society for Ecological Restoration* global guidelines and draws on TNC's extensive experience globally and domestically.
- Noosa Oyster Reef Restoration Project is split into three work sequences to reduce ecological and financial risks. This is achieved through the application of an adaptive management framework, whereby learnings from previous phases are included in future phases to consider prior learning and minimize risk:
 1. *Optimal design and siting* (2020) which includes pre-planning to determine the optimal design, locations and most cost-effective method of reef restoration in the Noosa River;
 2. *First site implementation* (2020-2021) during which time the project will construct full sized reefs at two sites in the estuary. These reefs will be used to test initial restoration methods and designs; and,
 3. *Full restoration* (2021-2022) during when the project will construct reefs at all suitable (and approved) sites within the estuary, as resources allow.
- The Project Management Plan includes the following 'working' sub-components:
 - Project Risk Assessment
 - Communications Plan
 - Monitoring, Evaluation and Reporting (MER) Plan
 - Implementation Plan (developed for Phase III)

Budget

Craig Bohm (TNC) presented the TAG with an updated working budget. Craig noted that the budget had been updated, from the original budget presented in the TNC-NSC Agreement, to reflect the late appointment of the project manager and impact of COVID-19 on implementing activities.

The budget received no specific comments from the TAG.

Activity	Total Year 1	Total Year 2	Total Year 3 (15 months)	Total
Activity #1 109145 AUST Reef Building	122,824	225,599	513,559	861,982
Activity #2 109146 AUST Hatchery and seeding	30,800	148,681	113,851	293,332
Activity #3 109147 AUST Reef integrity & performance assessment	46,200	227,186	306,903	580,289
Activity #4 109148 AUST Community engagement, capacity build, media	148,240	135,518	140,639	424,397
Activity #5 109149 AUST Project Management	131,215	48,349	60,436	240,000
Grant Total	479,279	785,332	1,135,389	2,400,000

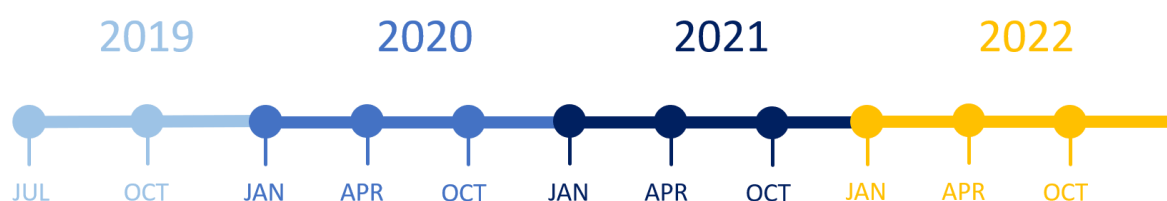
Note: The budget period is by financial year. The project periods are:

Year 1 – 25 July 2019 – 30 June 2020, **Year 2** – 1 July 2020 – 30 June 2021, **Year 3** – 1 July 2021 – 30 September 2023

Project Milestones

Craig Bohm (TNC) presented an overview of the project milestones. Craig noted that the milestones would be periodically reviewed, adapted and presented to the TAG for comment, as the project evolved.

Bring Back the Fish PROJECT TIMELINE NOOSA RIVER ESTUARY



No.	Project Milestone	Anticipated Completion
1	Technical Advisory Group established and first quarterly meeting	May 2020
2	All Project Plans (Communications, Project Management, risk assessment, Monitoring, Evaluation and Reporting) completed	May 2020
3	Initial round of community workshops completed	June 2020
4	Seagrass surveys completed	TBC
5	Oyster Habitat Suitability Index (HSI) Completed	July 2020
6	Shell recycling commences	TBC
7	Seagrass Habitat Suitability Index (HSI) completed	TBC
8	Citizen science activates commence	January 2021
5	Design for pilot reefs completed	July 2020
6	Seagrass restoration trials commence	TBC
7	All permits and approvals for pilot reefs obtained	October 2020
8	Pilot reef construction completed	February 2021
9	Design for large-scale reefs completed	May 2021
10	All permits and approvals for large-scale reefs obtained	July 2021
11	All reef construction contracts and plans established	August 2021
12	Large-scale reef construction	October 2021 + February 2022
13	All post-construction monitoring and evaluation completed	May 2022
14	Complete Monitoring and Evaluation Report	July 2022
15	Completion of Final Project Report	August 2022

9. Phase 1 overview - University of the Sunshine Coast (USC) project overview + discussion

Simon Walker, Principal Ecologist and Director of Ecological Professional Services, presented an overview of the results of the Phase 1 project implemented by the University of the Sunshine Coast (USC). Simon presented several key learnings relevant to this project to the TAG.

Key points about the Phase 1 project include:

- Oyster reefs were constructed of biodegradable coconut mesh bags (1m long * 30 cm diameter), filled with recycled oyster shell obtained from local suppliers.
- Naturally occurring oyster larvae settled and grew on the structures, forming and solidifying the recycled oyster shells together over time, once the coconut mesh casings degraded away.
- Each oyster reef comprised 9 oyster shell-filled bags, staked in 3 piles of 3 in triangular prisms, with one side positioned at lowest astronomical tide (LAT), and with each pile separated by 5m.
- A total of 14 sites were established using this configuration of coir bags.
- Restoration sites were chosen based on historical range of natural oyster reefs in the estuary, positioned to represent the full spectrum of seascape contexts available throughout the estuary, and position to providing stepping stones for fish migrations throughout the estuary.
- Each site sign posted and monitored.
- Sites monitored for oyster recruitment, fish interactions and other related parameters.

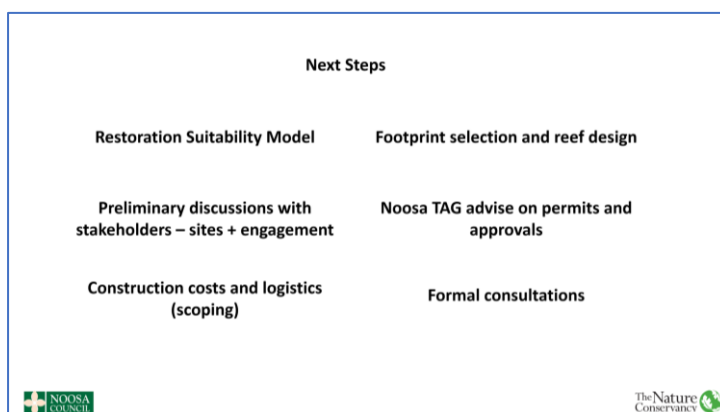
To Note:

The TAG noted the special benefit of tapping into the knowledge of commercial oyster growers, some of whom had extensive and fine-scale knowledge of oyster 'habits' in South East Queensland.

The TAG also noted the benefit of providing hard substrate for rock oyster growth, and that other species, such as hairy mussels, could be beneficial binding agents for the reef base as well as possible mechanisms to help control excessive macroalgal growth on the reefs.

10. Next Steps

Craig Bohm (TNC) presented an overview of the next steps for the project, many of which were already underway. The timing of the next TAG meeting (2) would be in four to six weeks' time, and Craig Bohm will consult with TAG members about the most suitable date and time.



END