AusSeabed Steering Committee

Meeting no. 4: 17th December 2019, 9:00-17:00, Melbourne

Notes prepared by Aero Leplastrier

Attendees: Ralph Talbot-Smith (WA DoT), Tara Martin (CSIRO MNF), Nathan Quadros (FrontierSI—Vice Chair), Kim Picard (GA—Chair), Hugh Parker (Fugro), Kevin MacKay (NIWA), Daniel Ierodiaconou (Victoria/Deakin), Aero Leplastrier (GA—Secretariat)

Online attendees: Jonathan Kool (AAD), Nigel Townsend (AHO), Paul Kennedy (Guardian Geomatics), Alan Jordan (proxy for Tim Ingleton; NSW DPIE)

Apologies: James Daniell (JCU), Vanessa Lucieer (UTAS)

Meeting Overview

Context

This was the Fourth meeting of the AusSeabed Steering Committee (SC). Representatives from Commonwealth and State Governments, Academic and Private sectors met up to progress the coordination of seabed mapping efforts in Australia. This 4th quarter meeting aimed to define the upcoming 20/21 work plan priorities, address general governance details, and identify a ten-year vision.

Actions list

	Follow up item	Responsible party	Date for completion	Outcome/Comments
1	Share Executive Presentation Online	AL	24th December	Shared with SC on GovTEAMS
2	Fill out your recent engagements in the engagement spreadsheet on GovTEAMS	SC	Ongoing	

3	Schedule meetings with renewing positions	KP/NQ	End of February	In progress
4	Investigate a working group under IMOS to develop value proposition for AusSeabed program and outputs	DI/KM	End of January 2020	TO DO
5	Develop value propositions for the next EB meeting	SC	March	Related to above point. Revise costings for data management and government seabed mapping acquisition costs. Decision needs to be made if this should be presented as a white paper.
6	Investigate other potential avenues for funding application	NQ: CRCP/longer term new CRC? AJ: FRDC KP: ARDC RTS: WAMSI/NERA/APPEA TM: SOI tech funding	End of January 2020	SC members to provide context, best approach, and timeline for each of the funding options. National Energy Resources Australia, Australian Petroleum Production & Exploration Australia
7	Progress the nomination process for committee renewal.	AL	April	TO DO
8	Investigate the potential to leverage JAMSTEC processing pipeline etc. and organise a group video meeting	KM	End of January 2020	TO DO

9	Talk to Rachel Gabara for investment options with LINZ	KP	End of January 2020	TO DO
10	Establish whether other ARDC proposal partners are still going to contribute.	KP	End of January 2020	Completed—See Section 2.3
11	Meet with Chris Gentle / Andrew Treloar for feedback and options with ARDC funding. Distribute info back to group	KP	End of January	Discussed with Chris Gentle and awaiting ARDC feedback, which A. Treloar informed me were underway (23/01/20)
	Engage Products & Promotion at GA to revamp the video with appropriate supplementary material (Touch base with CSIRO Communications to OK footage use before publishing)	AL	End of January 2020	CSIRO has been contacted and use of footage in the AusSeabed prototype video is approved. Footage has been sent to the GA comms team and will be fit into their schedule when possible.
	Share the UN Ocean Best Practices website with the SC.	KP	24th Dec	https://www.oceanbestpractices.org/
	Share actions from that National Energy Resources Australia/Western Australia Marine Science Institute meeting	KP	24th Dec	Minutes shared on GovTeams under AusSeabed outreach files in WA IMSA folder
	Pull together an indigenous strategy for future engagement	NSW OTE, CSIRO, GA	AMSA 2020	TO DO

	Send costs to Alan Jordan (last AMSA workshop)	GA/RTS	January	Done
	Next SC meeting to endorse the AMSA workshop agenda	All SC	Late March	TO DO
	Newsletter request to people who are considering applying for AMSA to contact Tim and let him know so that we can encourage strategic integration of other talks	CSIRO	December Newsletter	No longer relevant
	Conference team to put forward a proposal communications strategy/target audience to the SC for endorsement.	AJ, Scott Nichol, TM, KM, Evgenia Bazhenova, NT	Early February	TO DO
	Get a beta link up for the non-prod survey planning tool on the AusSeabed website	AL	January	Final touch being made on the new portal, launch planned from mid-Feb
	SVP only goes and refreshes once the marine portal zoom refreshes.	Maggie Tran	February	TO DO
	Update the upcoming surveys information and links on the AusSeabed website	AL	January	
	Natalie and Lachlan to establish staging area	GA/FrontierSI	February	

access for the training and demonstration of SVP			
Workshops and reviews of Survey Planning Tool	NL / Lachlan Hurst		Workshop on Testing with Nigel Townsend AHO 12th of March. Friday 13th testing link goes out to Tara Martin, Dan Ierodiaconou, and Ralph Talbot-Smith. Work on the survey planning tool will recommence at the start of May.

Workshops and review of QC tools	NL / LH / MB		1. Matt Boyd has taken on Product Ownership until the end of financial year for QA tools component.
			2. A meeting in Mid-Feb with AHO has identified the following milestones for the remainder of the financial year to be facilitated by Matt:
			  a. Extension of the raw data checks within MATE
			  b. Extension of the visualisation out of selected QC Tools (Hydro Office)
			  c. Preparation of a forward plan for the tools for comment.
			3. In addition to this work, GA also are intending to deploy their new DevOps engineer to help deliver "Check to standard" within the tool kit during this time period.

Nigel is back on the 2nd of January. We need to establish a late January/early February meeting to specify the detailed requirements of the AHOs requirements for the tools and discuss the data hub transfers etc.	KP	Dec 24th	Completed

Organise meeting with Josh Sixsmith and David Gavin on the grid implementation in the DEA	NL		Investigations to commence in house to identify potential options for multi-resolution data storage in AWS and options will be provided for comment to the steering committee throughout the process
Organise a meeting with Vanessa (and Kim) to discuss the integration of the two guidelines (AMGs and the NESP guidelines)	DI	Before the end of January	The NESP user case for habitat mapping etc. could be included as an appendix case study.
Review the QA ARDC and SPT ARDC milestones to help develop 20/21 work plan	NQ	February	
Develop comprehensive draft with costings (FTE) for the 20/21 work plans	RTS, NQ, KP	End of January	
Organise a meeting with Jacqui Brown	TM	Early February	Look into the Climate systems sciences sector of Oceans and Atmosphere to inform 10-year plan.
Update AusSeabed 10 year timeline	KP NQ	Mid-February	Include supplementary timeline for impact area and then the stakeholders associated with each time period.
Discuss potential of Secretary support for AusSeabed	KP	March	To be raised with the EB.
Organise an hour team meeting for the Shallow survey challenge	KM	January	Participants: Daniel Ierodiaconou, Stuart Edwards, Kim Picard, Paul Kennedy.

Meeting notes

Meeting opened 0906

1 Introduction

1.1 Call for other business

AL: Review of collaborators discussion

AJ/TM: Discussion on end-user representation – not at this point, it's an overhead we can't afford.

1.2 Outcomes sought for this meeting

- Committee renewal strategy

- Work plan to July

- Work Priorities for 2021

- Ten-year timeline (strategic vision for deliverables, impacts, stakeholders)

- AMSA 2020 sponsorship

- Participation in the shallow survey challenge (decision)

1.3 Steering Committee 3 acceptance of minutes and actions

- Minutes were accepted and publishing endorsed

2 Governance

2.1 Committee Membership and Secretary Position

Committee renewal was established in the TOR as being a staggered renewal process. This process was discussed in the meeting and the following process was endorsed:

- One academic position will go to re-election in July 2020, the other one July 2021

- o Proposed action that is in line with the TOR (i.e. one representative has to attend 2 of 4 meetings), JCU will be nominated as a position for re-election.
- Two State Government will go to re-election in July 2020, the other one July 2021
  - o WA decided as the State rep to continue, Vic and NSW have nominated to go to re-election.
- One industry will go to re-election in July 2020, the other two in July 2021
  - o Since one Industry partner was absent during this section of the meeting a separate follow up discussion with all industry representatives and the Chair has been flagged as an action item.
- The Federal Government and International representatives will also go to re-election in July 2020, and July 2021
  - o Since JK (AAD) is also on the Executive Board and the SC, it was moved that in the interest of maintaining crucial international program links that the Federal Government position go up for re-election.

Discussion on diversifying involvement through the industry representation was held. Difficulties with engagement and buy-in from individual entities was raised and APPEA as an over-arching body to approach for representation was suggested as a solution.

Discussion on whether to open up a position for a port authority member. Lack of buy-in during previous engagement complicates potential membership and it was decided to pass on this for the time being.

A nomination for the secretary position has been unsuccessful for a long time. Lack of resources has been the road block with individual SC members. Discussion on raising the notion of ongoing support in the form of secretary sponsorship from the executive board (March). If this is not a possibility, then looking at other options such as putting forward an elected position at AMSA that might constitute a non-voting membership but integration onto the SC at the coming election.

2.2 Executive Board Meeting update

JK gave an overview of the EB

Role of the EB: High level lobbying and soft messaging across whole of govt.

- Very interested in industry engagement
  - o Lots of progress from AHO in terms of garnering support
- Discussed long term funding
  - o Need to build the value case in terms of investment
- Discussed the detail of engagement/authority the EB has over the program
  - o Don't want to be a handbrake
  - o Want to provide a sanity check
  - o Trevor Dhu elected as Chair for a period of two years

- AIMS is a very interested member. While seabed mapping is not core business to AIMS, Richard Brinkman would like to see the business develop and see opportunity by continuing engagement in the EB.

RT: Excited to hear about the high-level lobbying and messaging. Would like to see the communication strategy when you develop it at the next meeting.

JK: At the moment we are waiting on examples and value propositions catching the different use cases, we will discuss this ammunition at the next meeting in March at IMOS. For us at the very high level that kind of structured business case focusing on the blue economy would really drive us forward and allow us to generate funding.

DI: IMOS is about to put out a call for working groups, they have managed to achieve a lot in the past so it would be good to work for this support.

Kim gave an overview of the three key points that were presented to the EB

- Costs associated with the development and ongoing maintenance/delivery came out at around 1.5-2 % of the total amount spent on seabed data acquisition across government sector. This will need to be revised in the value proposition.

The need for an AusSeabed White Paper was discussed but no outcome was reached over whether this would replace a set of value propositions.

2.3 ARDC Proposal Review and Outcomes

KP: While we were unsuccessful we don't see this as a reason to relinquish this workflow.

The question put to the SC was whether the contributors were still willing to contribute the proposed co-investment amounts.

Entities that are still interested in committing resources to the program

- GA
- CSIRO
- AAD
- Deakin (they had committed a half time post doc—happy to look at other options to get this across the line)
- FrontierSI have strong support from the board to continue with the work but they require an element of co-investment
- AHO is still committed to providing funding support

A number of partners still need to be contacted.

Other general discussion about potential funding:

There are some other ARDC funding calls that will happen, including Data and services. Should look into this

Chris Gentle has insight into where the ARDC is going so we will get that input.

FrontierSI have also gone out for CRCPs in the past which consist of $3 million each year, not sure if AusSeabed is eligible.

FRDC is another opportunity, but we would need a clear case for what their outcome would be and the benefits to industry. They are a major investor in R&D in this space, but have focused on offshore engineering for fisheries. We really would need to work on the state FRDC to explore the value in the business case before we really have a chance at being successful.

With the current MOG changes that are happening at the federal level there may be some opportunities to leverage for new funding proposals.

The Schmidt Ocean institute also has the potential to provide funding for new technology, but these have historically always focussed on equipment and although established as international have not been awarded to applicants outside the United States of America.

3 Program Theme Leader Reports

3.1 Data Hub

Opened with the AusSeabed Data Hub Prototype video, which will be made available as a promotional resource in January. Video needs a call to action which is that "if you would like to see this work happen get involved with AusSeabed.

Discussion of a piece of work on an industry engagement schedule. One value proposition for industry is the time savings and efficiency gain in terms of searching for data or having to acquire for their exploration phase, including Environmental Plan submission. However, there are many more and they are different for each industry partner.

Coverage is not up to date, GA has put a stop work on this and will make the updating dynamic rather than once a year.

Priorities:

1. Update and automate survey coverage published to web portal

2. Publish the L3 data 'as is' from all organisations, expecting QA and standardisation of all dataset will be done later.

3. Finalise QA tools and run all GA and CSIRO backlog data associated with the system

A suggestion from the Outreach side of things is to have a demonstration area online for showing stakeholders.

3.2 Tools, Guidelines and Standards

- Work has been done on the Survey planning (SV) tool and QA tool

- Other work in terms of guidelines has not progressed

Priorities

1. Roadmap for each priority/activity (feed descriptors into the annual report) but the plan for the next year will be to get the roadmaps up, and provide clarity on activity/task definition.

2. Continuing to provide support for the maintenance and delivery of the SP and QC tools

3. Deliver community driven guidelines or suggestion of guidelines by end of FY.

3.3 Education, Training, and Outreach

- WAMSI are moving towards an IMSA (Index of Marine Surveys for Assessment)

  - o Any data collected for the purpose of environmental plan submissions by big companies are being incorporated in a central repository and the big companies will be looking at rapid ways of accessing this share data for other submissions

  - o Have started indigenous engagement (and we have had a severe lack of that in this space).

  - o Had a very successful trial with work experience program

AMSA Symposium has been accepted: Mapping within AusSeabed and Seabed 2030 mapping for science. Location options: MQU, SIMS, CSIRO etc., Alan Jordan has approval to cover some of the workshop costs up to a total of $1000.

The AMSA workshop proposal is awaiting the acceptance.

Ed. Since this steering committee meeting an AusSeabed abstract has also been submitted for the UN Decade of Ocean Science Symposium (which is under review).

A request was made to ensure that we work with the conference coordinators and ensure that the symposium is the day before the workshop to maximise the number of participants who attend both events.

Priorities

1. Private Industry engagement

2. State representatives

4 Activity: Progress on tool development

4.1 Survey Planning Tool (SPT)

Natalie Lennard gave an overview of the tool and its development status, then identified future work and volunteers to help with finalising the tool

The SPT is currently in production (AWS cloud environment):

- User access can be organised by contacting: Lachlan Hurst lhurst@frontiersi.com.au

- Interfaces to the AusSeabed Marine Data Portal: portal.ga.gov.au/persona/marine through the beta version of the survey planning tool

- Source code is in the AusSeabed GitHub repository https://github.com/ausseabed/survey-request-and-planning-tool

Progress since last meeting

- 18 changes requested during last review (AMSA 2019, July)

- 8 were immediately actionable

What is left?

- Do we want a home page? *No, but a temporary help/description page that you can hide for future visits could be good. Or just a help button. People don't want to have to hide help page every visit.*

- Provision of a search/filter function

- Two levels of access control within the SPT were implemented, one is the survey planning activity and the second is the survey management record (the custodian). Issues to do with being able to edit "others" records were encountered due to the same logins being distributed to multiple users.

- Information about the code available on the GitHub website (above), however, a user guide has not yet been developed.

- Identity management is locked to an organisation, not to individuals. This means that anyone from an organisation can edit shape files from any of their internal colleagues, but not any shape files that have been registered by people from outside organisations.

- Some fields requested while using the SPT to input upcoming surveys are not appropriate across all seabed mapping purposes. To this end, anyone interested in carrying out user-testing is asked to take note of any unnecessary fields to specific seabed mapping purposes so that we can filter the required fields more appropriately by mapping purpose.

- Discuss the survey parameters and their useability.

- Review process to ensure that the duty of care and records management gets carried out with due diligence. Or a system generated email that contacts the survey Chief Investigator 3 days after the survey to confirm the state of the survey (i.e. completed)?

Volunteer Request for:

1. Collaboration and coordination iteration

2. Detailed Survey design and specification

3. Integration with ASB DH Programmatic Quality Assurance

Commitment expectation would be:

- 2 x workshops (online)
- Business process reviews
- Business Requirements review
- System design reviews

- Limited User testing

Volunteers: Nigel, Tara, Dan, Ralph

4.2 Quality Assurance Tools

Natalie and Lachlan Hurst gave an overview of the QA tool prototype, which first focuses on multibeam sonar data, starting with Kongsberg most recent systems. The goal of the QA tool is that the seabed mapper would be able to catch issues at the source therefore preventing them from occurring and being found out later, which is often irreparable.

The QA toolset consists of:

- MATE—A python Repository of checks for raw files

- QAX—A Standard JSON scheme presenting the results of the checks

  o A simple interface that runs the desired checks following a set of standards

- QC Tools (developed by Centre for Coastal and Ocean Mapping, USA)

Comment: The different names makes it confusing and fragmented. We should look at a single name.

Tools are still in development, so feedback is limited:

- Checks are slow to run
- Reporting dash is useful but needs refinement
- There is the opportunity to expand the raw data checks delivered
- The gridded data checks are not yet integrated, but should be soon.

The survey MATE data checks that have been identified to be included are:

Checks against specification for:

- Survey frequency
- Swath Width
- Sounding Density
- Resolution
- Sounding Datum

Checks in advance of processing:

- Raw Backscatter
- Angular resolution
- Installation offsets and lever arm
- Navigation data
- Vessel configuration

Future Design Concepts:

1. Programmatic checks to recognised standards (IHO, ISO, HIPPS etc.)

2. Additional programmatic checks to read specification files from planning tool (as a manual process)

3. Additional programmatic checks to read specifications form the panning tool (seamless)

4. Extension to deliver a packaging service

5. Seamless integration with the ASB processing pipeline

6. Seamless integration with the data warehouse

A suggestion that max ship velocity could be included as a check to help flag bad data out at sea.

Volunteers: Nigel, Hugh Parker (his contacts), Tara Martin.

Priorities:

1. Checking to standards

2. Checking to specifications

5 Activity: Development of draft 2020/21 work plan

5.1 AHO priorities (Nigel Townsend)

Nigel gave an update of the AHO work priorities as these will influence the direction of AusSeabed. For the next six months, AHO is focused on getting the HIPP up and running. The AHO priorities aligned with HIPP and relevant to AusSeabed are:

- To develop the survey planning and request tool to the point where the AHO can use it to receive survey requests

- QA tools in a useable state to facilitate HIPP surveyors.

- Develop the data exchange workflow with the AusSeabed data hub.

5.2 AusSeabed priorities

The SC members divided in three groups to review work plans to the end of FY2019/20 and draft the 2020/21 work plan. Below is the summary provided by each Theme Leader.

5.2.1 Data Hub

5.2.1.1 Revised 2019/20 work plan:

- Update the coverage to deliver an accurate portrayal of the data and who provided it (organisation and sector)

- Metadata standard and profile put in place and revised in the AusSeabed guideline (v.2)

- Scoping exercise for what a reporting tool looks like internally (leveraging DEA work)

- Will scope the 'as is' delivery of L3 data

- Scoping and development of the pipeline for AHO to deliver data through AusSeabed

- As part of the QA development, a Data packaging tool will be scoped to facilitate the ingestion of data into AusSeabed and sorting of data. If this is helps HIPP then it will be a priority otherwise it will be moved down the chain

- Start feeding a layer of backscatter holdings into the portal (just like we do with bathymetry)

5.2.1.2 2020/21 work plan (follows on from ARDC proposal):

- Further the automated processing (cleaning) pipeline to a Minimum Viable Product (MVP) stage

- Scoping report on open source platforms (leveraging off international work)

- Distributed warehouse needs to be in MVP

- Host Vicki and her developer to investigate the GMRT solution

- Scoping exercise on gridding directly (L1 to L3) from point cloud

5.2.2 Outreach, Education and Training (OET)

Priorities:

1. Communications Strategy

2. Private industry stakeholders and engagement strategy

3. Use case benefits needs to be developed for the different user groups.

5.2.2.1 Revised 2019/20 work plan:

- Contacting QLD and NT for State representation (struggling with SA)

- Provision of appropriate Executive Board communication material

- Improve procedure for quantifying and reporting engagement At present, report in monthly newsletter

5.2.2.2 2020/21 work plan:

- Publish a communication strategy

  - Identify the stakeholders (in each state)

  - Identify a strategy for each stakeholder group

  - Cost benefit analysis

- Training package for online tools

- Develop a hydrographic surveyor internship strategy

  - Utilise foundation ships and national mapping programs and identify other programs of opportunity

  - Contact Dave Crossman from IIC

5.2.3 Tools, Guidelines, and Standards

5.2.3.1 Revised 2019/20 work plan:

- Update the following guidelines, finalised by AMSA:

    o Bathymetric Lidar

    o SDB

    o Australian Multibeam Guidelines v.2

Discussion was held on why there are two documents that establish multibeam guidelines (Australian Multibeam Guidelines and the NESP Guidelines) and the possible integration of the two documents.

5.2.3.2 2020/21 work plan has not been addressed.

6 Activity: Ten year work plan

Kim presented a draft timeline over the next ten years. The following comments will be taken into account as the timeline is developed. Once the timeline is endorsed by the Executive Board it will be incorporated into the AusSeabed Strategic Plan and updated online.

NL: I'm still not seeing who the valued users are for each deliverable. It would be good to have a similar timeline for high level stakeholders.

RTS: I think we should raise the issues of sea level rise and also ramping up the impact with machine learning (TM)

Discussion centred on establishing the value proposition of climate risks and the relevant stakeholders/entities (banks/insurance/local councils) from the AusSeabed suite. TM volunteered to discuss this with the Climate Science centre within CSIRO Oceans and Atmosphere. It was also discussed that in terms of technological advance, machine learning should be shifted to 2022.

7 Shallow Survey Challenge

A decision was made that AusSeabed should participate in the Shallow Survey Challenge. The event should be included in the current work plan. Data has to be acquired by 2020 and made published by August 2020. The challenge involves processing the data and making it available over a short timeframe—a perfect challenge for the AusSeabed processing pipeline. More information on the event can be found here: https://confer.eventsair.com/shallowsurvey2021/

8 Other Business

Discussion on end-user representation

A discussion on establishing a separate end-users working group was had and the decision was made to avoid building another workgroup in the interests of keeping activities and energy focused. At this point, it's an overhead we can't afford. We will ensure end-users are well-engaged during the development and at least on a yearly basis at AMSA

Review of collaborators discussion

This discussion was deferred.

Meeting closed 1705

Appendix A Agenda

	Responsibility	Action	Time
SC3 minutes	Kim	Decision	0905-0930
Action List	Kim	Decision	
Committee membership and Secretary Position	AL	Review	
AusSeabed Executive Board Meeting Update	JK	Inform	30 mins
ARDC Proposal Review and Outcomes	KP	Inform	30 mins
Program Theme Leader Annual Reports • Data Hub • Tools, Guidelines, and Standards • Education, Training and Outreach	NQ	Decision	1440-1500
Break			15 mins
Workshop on Progress • Survey planning request, and priority tools • QA/QC tools	NQ	Discussion	1520-1540
Review of AusSeabed Collaborators	RTS	Discussion	1540-1550
• Plans for the location and host of next SC meeting and close	RTS	Discussion	1550-1600
Other Business	KP	TBC	
• Close of meeting	KP		

Appendix B Steering Committee Composition

Revised December 2019. Decision to round Academic up and International down is due to the ability of contributors to attend meetings.

Sector	No. of workgroup members	Proportion of steering Committee	No. on Steering Committee	All rounded up
Government (Five Standing members)	17	0.53	6.9	7
Private	7	0.21	2.8	3
Academic	4	0.13	1.7	2
international	4	0.13	1.7	1
Total	32			13