

Meeting Title: EP Desal Project – Site Selection Committee Meeting 11

Project Name: Eyre Peninsula Desalination Plant Project

Meeting Purpose: To provide an update on project activities

Date: Thursday 4 August 2022

Time: 11.00am – 5.00pm

Location: Port Lincoln Hotel

Attendance:

Name	Role	Present
Peter Treloar	Chair	Yes
Steve Dangerfield	Engagement Facilitator	Yes
Sandra Klein	Community Engagement	Yes
Isaac Glonek	Minute Taker	Yes
Hazel Austin	Project Manager	Yes (online)
Nancy Nguyen	Assistant Project Manager	Yes (online)
Dr Don Plowman	Guest speaker	Yes (online)
Dr Hazel Vandeleur	Guest speaker	Yes (online)
Prof Sean Connell	Guest speaker	Yes (online)
Dr John Luick	Guest speaker	Yes (online)
Shaun Ambrose	District Leader, SA Water	Yes

Committee:

SSC Member	Role	Present	Proxy
Andy Dyer	President, SA Mussel Growers Association	Yes	
Brad Flaherty	Mayor, City of Port Lincoln Council	Yes	
Brian Jeffriess	Chief Executive, Australian Southern Bluefin Tuna Industry Association Ltd	Apology	
Bryan Trigg	Chair, Regional Development Australia Eyre Peninsula	Yes	
Claire Webber	Executive Officer, South Australian Sardine Industry Association Inc.	Yes	
Clare McLaughlin	President, Eyre Peninsula Local Government Association	Yes (online)	
Delfina Lanzilli	Chief Executive, District Council of Lower Eyre Peninsula	Yes	
Gary Neave	Independent Project Director, TSA	Yes (online)	
Hannah Allen-Jordan	Acting Mayor, District Council of Tumby Bay	Yes (online)	
Jack Ritchie	Member, Port Lincoln Chamber of Commerce and Tourism	Yes	
Jo-Anne Quigley	Mayor, District Council of Lower Eyre Peninsula	Yes	Leith Blacker
Jonathan Clark	General Manager, Eyre Peninsula Landscape Board	Yes	
Mark Whitfield	Chair, Eyre Peninsula Landscape Board	Yes (online)	
Matthew Morgan	Chief Executive, City of Port Lincoln Council	Apology	David Levey
Peter Scott	Executive Officer, Eyre Peninsula Local Government Association	Yes (online)	
Rebecca Hayes	Chief Executive, District Council of Tumby Bay	Yes	
Rob Gratton	Chief Executive, Clean Seas Seafood Limited	Yes	
Ryan Viney	Chief Executive, Regional Development Australia Eyre Peninsula	Apology	Trevor Smith
Sam Telfer	Member for Flinders	Yes	
Shane Hodgins	Director, RecFish SA	Apology	

Thomas McNab	President, Abalone Industry Association of South Australia Inc	Yes	
Tom Hyde	Member, Australian Abalone Growers Association	Apology	

We acknowledge the Traditional Custodians of the Eyre Peninsula. We acknowledge their elders past and present, noting in particular their spiritual and cultural connection to the lands and coastal waters of the Eyre Peninsula.

1. Welcome and introductions

The Chair gave an Acknowledgement of Country and welcomed attendees.

Attendees were reminded that face masks are at the discretion of the individual.

The Chair noted the purpose of the meeting was to:

- Provide final details for each of the remaining three sites including:
 - Engineering configurations and costs
 - Possible options available at each site (including cost variations)
 - Risks and implications
 - Community benefits
- Receive a presentation from Dr Don Plowman, Chair of the Independent Marine Science Review Panel, and Dr Hazel Vandeleur, SA Water's Senior Environment Impact Assessment Officer which will:
 - Summarise the MSRP commentary on all reports received
 - Pass comment on MSRP consideration of industry issues
 - Discuss any remaining points that require clarification or commentary based on the information that is currently available to assist the SSC in its decision making
- Respond to questions / comments received on the information dossier
- Provide opportunity for the SSC to engage in final discussions regarding each of the criteria as it relates to the three remaining sites to be assessed
- Present the format and scoring process for the workshop on 8 August.

2. Apologies and proxies

Brian Jeffriess was noted as an apology.

Matthew Morgan was noted as an apology, with David Levey attending as a proxy.

Ryan Viney was noted as an apology, with Trevor Smith attending as a proxy.

Shane Hodgins was noted as an apology.

Tom Hyde was noted as an apology.

3. Declaration of conflicts of interest

The Chair noted SSC members are encouraged to submit any real or perceived conflicts of interest in writing.

4. Minutes of the previous meeting

The minutes of Meeting 10 held on 14/07/2022 were accepted.

5. Business arising

The Chair noted that in the minutes of the previous meeting, it is stated that “discussions recommenced with Barngarla – plans sent to identify whether there are any immediate issues”.

Steve noted that there was no update and no formal feedback had been received.

The Chair noted that in the minutes of the previous meeting, it is stated that in relation to Sleaford North “First Nations peoples have expressed concern at proximity to heritage area and this is their least preferred site”. The Chair noted that he had had a conversation with a member of the Nauo community and understood from that conversation that if the plant and other infrastructure was located a small distance away from the heritage area of interest, the Nauo people could accommodate this.

Steve noted that this was consistent with his understanding but the lack of clarity around how far away the plant and infrastructure would need to be located was an issue.

The Chair noted that in the minutes of the previous meeting, it is stated that in relation to Point Boston “some resident concerns had been expressed via the Development Corporation Board”.

Steve noted that members of the Project Team had met with and presented to the Board, which unanimously supported working with the Project Team to deliver a desalination plant at Point Boston should the SSC recommend it as the preferred site. Steve noted that the Board had mentioned that there were some individual residents, who are members of the corporation, that had written to the Board to express their concerns regarding impacts to amenity and property value.

6. Action items of previous meetings

The Chair noted that all open action items were the responsibility of the Project Team.

The Chair noted that Action Item #1 had been deferred to when a site is selected.

The Chair noted that Action Item #2 was now closed.

The Chair noted that Action Item #3 remains open but did not require consideration from the SSC.

The Chair noted that Action Item #4 was now closed.

The Chair noted that Action Item #6 was now closed.

The Chair asked Steve to provide an update on Action Item #7.

Steve noted that with the project timelines and costs involved, site visualisations were not viable at this stage but would be pursued for the site that is recommended by the SSC.

The Chair asked Shaun Ambrose to provide an update on Action Item #8.

Shaun noted that the SA Water wastewater treatment plant discharges approximately 600 megalitres per annum on average.

The Chair asked Steve to provide an update on Action Item #9.

Steve noted that there is a very large amount of documentation and asked that if any SSC member is interested in this information, they request something specific.

The Chair asked Steve to provide an update on Action Item #10.

Steve noted that the Environmental Performance Criteria were distributed to the SSC on 9 June, however there is an amended version that incorporates the MSRP’s suggested changes. The amended version will be sent to the SSC post-meeting.

7. Project activity update

Steve noted the key activities since the last meeting:

- Meeting with Point Boston Development Corporation Board
 - Unanimous support for working with the Project Team to deliver a desalination plant outcome at Point Boston, noting some members of the Corporation may have different views than their Board

- Discussions with landowners at Sleaford West
- Finalised the costings and distributed
- Finalised dossier and distributed
- Distributed accompanying reports and supporting information
- Further refinement of base engineering concepts including development of additional options
- Distributed SA Water memo – Nutrients and Salinity Modelling
- Funding Sub Committee meeting
 - Pitch document
 - Costings
 - Fishing and aquaculture industry concerns
- Developed draft documentation to support public release of decision post-scoring workshop.

Plant Details

Steve shared a high-level plan of the desalination plant, noting that the design would need to be refined depending on where the plant is sited.

Steve shared the preliminary dimensions of the structures and buildings that would comprise the desalination plant.

An SSC member asked whether it would be possible to excavate the site of the desalination plant to reduce the relative height and visual impact on the landscape.

Steve noted that this is possible, but would be assessed as part of the detailed design process and would depend on a number of factors including geotechnical conditions, presence of groundwater, and cost.

Question arising – why is the desalination plant now set at 5.3 gigalitres per annum?

Steve noted the following:

- Ultimately this is not approved until Cabinet and the Public Works Committee have signed off
- SA Water executive (Steering Committee) have agreed to the need for a greater capacity plant and for the concept designs to be developed accordingly
- SA Water Board have noted without objection
- The extra capacity is to deliver against both existing and predicted demand now rather than building a smaller size plant and needing to immediately look to expansion once stage 1 of the desalination plant is completed
- A 5.3 gigalitre per annum plant will provide capacity in the system for predicted growth and economic development – this can be demonstrated as a required investment in the business case.

Base Case

Steve shared a plan of the base configuration of the base case site at Billy Lights Point.

Steve noted that the base case will not be scored or recommended by the SSC – it is there for comparative analysis only. The base case will only be considered by the Government and SA Water if the SSC cannot meet its objective of providing a recommendation for a viable alternative site with a funding pathway.

Steve noted the key opportunities identified for Billy Lights Point:

- Delivers water security and water quality improvements to all EP customers within the proposed timeframes
- Removes nutrient load from the gulf

- Adequate design response based on MSRP review to address key industry concerns
- Undergrounding the power and the pipeline
- Increase capacity of the plant to 5.3 gigalitres per annum.

Steve noted the key risks identified for Billy Lights Point:

- Industry concerns on impact to existing aquaculture industry
- Risk of litigation and disputes with the aquaculture industry that could potentially impact on project timelines and therefore on water security due to continued extraction from Uley South Basin at current levels
- No social licence.

An SSC member asked what was now considered in the cost estimates for the base case.

Steve noted that the following were now included in the base case:

- Larger capacity plant (5.3 gigalitres per annum)
- Undergrounded power and transfer main
- Material cost escalation and labour
- Extended intake and outfall and new configuration to the east.

Sleaford West

Steve shared a plan of the base configuration of the Sleaford West site.

Gary noted that while the existing 525mm main to transfer water from a desalination plant in Sleaford to North Side Hill Tanks would be sufficient for the initial 5.3 gigalitre capacity of the plant. However, any capacity upgrade in the future may require an upgrade to or replacement of that transfer main, which would be a significant cost.

Gary noted that the outlet structure in the base configuration of Sleaford West has been designed to avoid the reef and abalone out from Sandy Point. Gary also noted that the outfall is approximately 2.7km from the coast in this configuration.

Steve noted that the exact distance of the outlet structure would be determined through further marine assessment and detailed design if Sleaford West was selected as the preferred site.

Steve noted the key opportunities identified for Sleaford West:

- The majority of residents are supportive – social licence from the majority of stakeholders likely
- Community have an opportunity at this site to co-design infrastructure to deliver community benefits
- Delivers water security and water quality improvements to all EP customers.

Steve noted the key risks identified for Sleaford West:

- Risk of litigation and disputes due to impact on local business and tourism that could potentially impact on project timelines and therefore on water security due to continued extraction from Uley South Basin at current levels
- Distance from the network – significant impact on costs
- Construction timeframes due to challenging oceanographic conditions
- Abalone presence
- Nesting area for hooded plovers
- EPBC referral will be necessary
- Timeframe challenges if EPBC concern triggers further response from regulatory bodies – needs close attention

- Heritage – not anticipated to be an issue in this location based on initial feedback from First Nations, although Native Title, if resolved, may require an Indigenous Land Use Agreement (ILUA).

Steve noted that construction would need to be worked around the various seasonal activities of the fauna at Sleaford West, including nesting season of the hooded plovers and whale aggregation periods.

An SSC member noted that information they had received indicated that the hooded plovers nest at Sandy Point between August and March.

Steve shared a plan of an alternative configuration of the Sleaford West site for the SSC's consideration. This site was located to the north of the Sleaford West site on a different privately owned property, and information about the site was in the process of being collected.

Steve noted potential funding benefits for Sleaford West as follows:

- Possible opportunity to include energy recovery on down-hill section of Fishery Bay Road – potentially near the corner of Fishery Bay Road and Sleaford Bay Road
- Support monitoring of whales through data collection work
- Research centre opportunity might attract grant funding.

Sleaford North

Steve shared a plan of the base configuration of the Sleaford North site.

Steve noted the key opportunities identified for Sleaford North:

- Delivers water security and water quality improvements to all EP customers.

Steve noted the key risks identified for Sleaford North:

- Risk of litigation and disputes due to impact on whales, residents and Aboriginal communities that could potentially impact on project timelines and therefore on water security due to continued extraction from Uley South Basin at current levels
- Construction timeframes due to challenging oceanographic conditions
- Limited social licence from local residents
- Whale aggregation
- Potential for Indigenous heritage issues resulting in voicing of concerns in public forum (public protests)
- EPBC referral
- Timeframe challenges if concerns to do with whales triggers further response from regulatory bodies – needs close attention
- Constrained by use of existing 525mm transfer main, which is sufficient for a 5.3 giga litre per annum plant but would not support future capacity growth to 8 giga litres per annum without a capital cost upgrade.

Steve noted potential funding benefits for Sleaford North as follows:

- Possible opportunity to include energy recovery on down-hill section of Fishery Bay Road – potentially near the corner of Fishery Bay Road and Sleaford Bay Road
- Discharge pipe for Sleaford North could lend itself to an energy recovery initiative but this would add to the infrastructure at the coastal interface
- Support monitoring of whales through data collection work
- Interpretive Centre opportunity at pumpstation site might attract grant funding, although this would mean more built form on the coast.

Point Boston

Steve shared a plan of the base configuration of the Point Boston site.

Steve also shared a plan of an alternative configuration of the Point Boston site.

Steve noted the key opportunities identified for Point Boston:

- Point Boston Development Corporation Board is unanimously supportive of working with the Project Team to deliver a desalination plant outcome at Point Boston
- Delivers water security and water quality improvements to all EP customers within the proposed timeframes
- Community benefit opportunities (boat ramp, boat/caravan storage, walking trails)
- Adequate design response (regarding distance of outlet structure from coastline and diffusion) based on MSRP review to address key industry concerns
- Native Title – can be addressed through an ILUA
- Site has already achieved native vegetation clearance.

Steve noted the key risks identified for Point Boston:

- Industry concerns on impact to existing aquaculture industry
- Risk of litigation and disputes with the aquaculture industry that could potentially impact on project timelines and therefore on water security due to continued extraction from Uley South Basin at current levels
- Additional engineering response to mitigate risk of impacts from outfall
- Point Boston Development Corporation – may require all members to support land transfer (yet to be confirmed).

Steve noted potential funding benefits for Point Boston as follows:

- Opportunity to connect to the network at Summit Tanks in the future has the ability to deliver greater value/benefit to the agriculture industry in northern Eyre Peninsula, in terms of economic development (valued by northern Councils)
- A desalination plant close to the coast could feed into the grid for a mini-hydropower system for energy recovery on the basis of changes in elevation
- Could deliver a saving with network connection into Summit Tanks and reconfiguration of the network to back-feed to North Side Hill Tanks (as opposed to a new and separate pipeline)
- Could deliver a cost benefit by moving the plant closer to the coast
- Required marine monitoring could be beneficial to other bay users for overall bay management (PIRSA may support SA Water to undertake additional monitoring to support industry)
- Community benefit to the area – boat ramp, facilities, walking trails, landscaping/screening to support future development.

Costings

In relation to the costings, Steve noted:

- Includes intake and outlet structures, marine works, shore-based pumpwells, and intake and outlet pipelines to connect to plant interface
- Secondary power supply to pumpstation
- All materials for construction and is based on known geotech and survey models where available
- Includes all pipe work from plant to network connection and valves, terminations and network interface upgrades
- Based on SAPN supplied pricing, including sub-station upgrades, supply lines, and transformers (includes contestable works)
- Base case is quoted, others are design estimates

- Changes to tank sites and the Iron Knob to Kimba pipeline reversal (\$6.8M is funded elsewhere)
- Plant is effectively the same for all sites – small variances based on site information, earthworks, site location, and transfer pump requirements
- More information is known about Billy Lights Point which is why the risk contingency allowance is smaller. Quantity surveyor risk allowance – varies with reliability and volume of available data at each site (geotech, survey, market) and includes some allowance for the impact of climate, marine, and terrestrial conditions through construction.

Costing estimates for each site were discussed.

High-level project schedule by site

Steve shared high-level project schedules for the base case site at Billy Lights Point, Point Boston, Sleaford West and Sleaford North.

Steve noted the following:

- Schedules are based on current information available
- While all three sites (Point Boston, Sleaford West and Sleaford North) can be delivered by December 2024, they have varying degrees of risk that would need to be managed
- Sleaford North and Sleaford West have constructability risk and are at risk of an EPBC trigger (Commonwealth Environment Act) which could add further time to the schedule
- The base case, Billy Lights Point can be delivered by December 2024.

Marine Works – Risks

Steve noted that based on marine constructability, the greatest risk to project timelines (requirement for longer weather windows) and cost are for the two Sleaford sites:

- Both Sleaford sites feature more complex and high-risk construction methods, primarily driven by the shallower (potentially unforeseen) hard rock and rougher marine environment, compared to within Boston Bay:
 - A substantial temporary jetty structure within the wave zone, in addition to a cofferdam to enable seabed excavation for the intake/outfall pipes may be required
 - As the surf-zone pipeline trench excavation will most certainly need to be within the shallow hard rock at the Sleaford sites, it is highly likely that rock blasting will be required – the seasonal presence of marine mammals adds further program constraint to the marine works, especially when blasting and piling is considered
 - The more exposed marine environment also makes it more difficult to obtain suitably detailed geotechnical data, especially within the shallow water, which increases risk (time and cost)
 - Requires more robust marine plant, which is costlier and has additional mobilisation lead times as the locally available suitable plant and equipment within SA is limited
- Construction within Sleaford Bay requires the favourable convergence of a number of elements – appropriate plant available, suitable weather windows, rock blasting not coinciding with marine mammals present in the area – and adds a degree of unknown risk with respect to more complex geotechnical conditions which has inherent higher design and construction risks.

An SSC member questioned, with the tight timeframes and complexities of the project in mind, whether consideration has been given to installing water restrictions.

Gary noted that this would be something for SA Water, the Department for Environment and Water, and other interested parties to consider if the project cannot be delivered according to the project timelines. Gary also noted that the current indication, from the state of the basin report, is that the Uley South Basin can sustain extraction at current levels until the summer of 2024/25, with contingency for sustainable extraction through to the summer of 2025/26.

An SSC member noted that approximately 50% of the potable water supply is used in town water supply. The majority of restrictions are targeted at urban water users, and the last time restrictions were in place, average water use stayed the same when the restrictions were lifted. Water users are now more educated and water-wise, and new water restrictions likely wouldn't see a great reduction in water use.

Gary noted that this was a good point and that the project team had considered the ultimate capacity of the desalination plant based on those kinds of trends.

8. Information matters arising from the dossier for clarification

Steve noted the feedback received on the information dossier:

- Commentary received from aquaculture members regarding the need for more information on the marine science – it was noted that this information would be provided in addition to the dossier as it was relevant to the work of the MSRP and would be dealt with separately
- Received some key facts and commentary from members that was included and addressed
- Some information just cannot be provided at this time – every effort has been made to quantify what can be without undertaking a complete detailed design on each site
- Question about the number of residents affected at the Sleaford sites, their proximity to sites and why not referenced in the same way as at Point Boston
- There is an active Progress Association at Sleaford comprising approximately 20 residents – these residents have all expressed reluctance to see a desalination plant at Sleaford for varying and different reasons
- At Point Boston there are approximately 200 residents with either homes or land membership – Point Boston Development Corporation represents these residents, and the Board has expressed unanimous support providing the plant is located away from residential areas or developed in such a way that it cannot be heard. All residents have been directly written to and three responses were received that were against the plant being located there.

Steve noted that the project team received a comment on the information dossier as follows: "Comments such as "Impacts dependent on location/construction method" etc make it impossible to actually assess against that criteria (example seen on page 21 under outfall impacts)". Regarding this feedback, Steve noted:

- All potential impacts can be mitigated to an extent, but it really does depend on the method, time period, construction length, season and equipment used – none of which can be specified without going out to the market
- How exactly the marine works are carried out will also be part of discussions with the Regulatory Agencies, dependent on the site
- Marine works impacts have been quantified as much as possible, with Sleaford options having higher risk and potentially greater impact.

Steve noted that the project team received an enquiry regarding which unnamed shipwreck the dossier was referring to and if there was a link to this information. Regarding this feedback, Steve noted:

- All shipwrecks (and names or lack thereof) are as per the Register of Historic Shipwrecks as shown on NatureMaps environment.sa.gov.au (name is unknown to the team on this particular shipwreck).

Steve noted that the project team received a request to "quantify likelihood of storms interrupting supply". Regarding this feedback, Steve noted:

- There is not enough water quality data to be certain, but there is a reasonable possibility of storm events at Sleaford North leading to sand entering the intake pipe resulting in minor reduced pipe capacity
- However, it would then need to be cleaned out which may result in some minor downtime whilst being cleaned – however this would need to be managed through the operational philosophy to be adopted.

Steve noted that the project team received a comment relating to both the base case and Point Boston as follows: "Potential to disturb cysts that exist in the seedbed floor that can be harmful to the ecology of the area. Potential toxic species of micro algae and dinoflagellates which once disturbed could cause blooms". Regarding this feedback, Steve noted:

- Algal cysts are covered in section 1.1a (iii) of the dossier and identified that further data is required. As discussed in previous meetings with the aquaculture industry, SA Water is willing to review the existing data held by the industry to fully assess the risk.

Steve noted that the project team received a comment on the information dossier as follows: "Although the direct Billy Lights area has sparse seagrass (probably due to the SA Water outfall and commercial slip) Proper Bay has large seagrass beds that cover the majority of the area". Regarding this feedback, Steve noted:

- The two reports commissioned by SA Water show the extent of the seagrass in the area and its current habitat condition. If the plant was to be at Point Boston (or the base case preferred by SA Water and Government) the intake and outfall would be placed outside these areas (as demonstrated) in order to reduce potential for impacts upon seagrass beds.

Steve noted that the project team received a comment relating to the base case as follows: "Check proximity to aquaculture leases at Billy Lights Point. I don't think 1.75km is correct". Regarding this feedback, Steve noted:

- The 1.75km referred to the distance from the wet/dry well to the nearest lease. While this means the initial preliminary intake was approximately 1.4km away from the nearest lease (intake near existing jetty and outfall near the wastewater treatment plant), the amended intake/outfall is over 2.5km away and co-located at the outfall location.
- The SSC is NOT scoring BLP and will NOT be recommending this site.

Steve noted that the project team received a comment on the information dossier as follows: "The modelling suggests no difference between Billy Lights point and Point Boston site, 40:1 dilution before it reaches the seabed. This seems very much like a copy and paste and there has to date not been modelling done for this location". Regarding this feedback, Steve noted:

- When the dossier was drafted the modelling had not yet been received. The modelling has confirmed that for both sites the 40:1 minimum dilution can be achieved but that the Point Boston site has greater dispersion potential than the base case site. Briefing note from SARDI has been submitted to MSRP and circulated to the SSC.

Steve noted that the project team received a request to "provide evidence and explain why noise is only an implication for marine mammals at this location [Sleaford] versus inside Boston Bay". Regarding this feedback, Steve noted:

- Marine mammals can occur anywhere around the coast. Sleaford Bay however is recognized as a consistent and ongoing aggregation area rather than a transitory area (hence its protection and identification as a whale aggregation area by the Commonwealth Government).
- The Federal Department of Environment and Energy's 2011-21 Conservation Management Plan for the Southern Right Whale identifies Sleaford Bay as an area of emerging importance for the species.

Steve noted that the project team received a comment on the information dossier as follows: "Sleaford West site is noted as having the same impacts and issues as Sleaford North. These are separate sites and have separate issues - e.g. First Nations heritage matters are listed as affecting both Sleaford North and Sleaford West. This could lead to incorrect assessment determinations". Regarding this feedback, Steve noted:

- Native Title issues at Sleaford North and Sleaford West will be the same. Native Title will also apply at Point Boston (Barnjarla people)
- Actual heritage matters will differ between the sites. Nauo people indicated that Sleaford West was their second preferred site (after Uley South Shoal Point), and Sleaford North is their least preferred because of nearby heritage interests – this is identified in the dossier

- The heritage surveys referred to in the dossier for the Sleaford West site are specific to the Sleaford West area (notably where the desalination plant was first located). Heritage surveys have also been undertaken for the Sleaford North site and Sleaford Mere.

Steve noted that the project team received a request to “advise how the plant operation will impact whales”. Regarding this feedback, Steve noted:

- Underwater noise during construction may impact the ability of cetaceans (whales, dolphins and porpoises) to conduct critical life processes such as foraging, finding mates, and navigating through their underwater environment. SA Water will need to submit an EPBC referral in relation to the protected species (including whales)
- SA Water will also have to demonstrate how they will remove, manage and mitigate risk to these species. Management plans will need to have measures to further outline exactly how this will be achieved, including only working at certain times of the year
- If SA Water don't specify adequately or the risks are too great for those species then we will not be given the approvals for the construction works to proceed (or we will have consent conditions attached to reduce the impact)
- Community will also expect this issue to be adequately addressed.

9. Discussion on criteria

An SSC member noted that Sleaford North does not seem to be preferred by anyone and questioned whether it should be excluded from consideration before the site scoring workshop.

After further discussion, the SSC agreed that Sleaford North would remain for consideration and assessment.

An SSC member questioned whether the SSC would be voting on an alternative configuration of the Sleaford West site, or only the base configuration.

After further discussion, the SSC unanimously determined to score the alternative configuration of Sleaford West as a separate site – meaning that four sites would be scored: Sleaford West, Sleaford West Variation, Sleaford North, and Point Boston.

Steve noted that the project team would create an addendum to the information dossier for Sleaford West Variation and distribute it to the SSC before the site scoring workshop, noting that this site did not have the same level of understanding as the other sites given no assessment work had been undertaken. The site could only be considered based on the general knowledge of the area and some initial site inspections.

10. Marine Science Review Panel

Dr Don Plowman as the Chair of the MSRP, advised that the SSC has received a report from the MSRP and that the MSRP sees itself as having two key roles:

1. Assisting the SSC in selecting its preferred site
2. Working with SA Water and contractors to ensure that the location and operation of the intake and outlet structures has minimal impact on the marine environment.

The MSRP Chair then presented:

- Meetings of the Panel
- Brine discharge
- Fish assemblages and salinity tolerance
- Seagrass and habitat mapping
- Nutrient distribution
- Risk assessment

- Assessment criteria.

Hydrodynamic modelling report

A series of maps were presented from the SARDI far-field oceanographic modelling memo showing seasonal residual current circulation patterns averaged over the 5-year model simulation from the preliminary SARDI hydrodynamic modelling report with the final report due for completion in October.

The MSRP noted that there has been monitoring of the currents within the bays for 12 months with the aim of validating the various models that SARDI already have. There is already a lot of information, at a coarser scale, about currents in this area. The maps shared are based on five years of waterflow data.

In reference to side-by-side seasonal maps, it was noted that the waterflows change with season.

An SSC member asked if the outflows modelled are indicated in their correct positions.

Hazel Vandeleur advised that the maps shared show the simulations before the outfall locations were amended and that SARDI have not had time to change the model yet.

Gary advised that the key point is that a better outcome would be expected with the amended locations.

Seasonal maps of the bottom salinity anomaly (PSU) associated with an 8 GL/annum plant discharging at Billy Lights Point were presented. The MSRP advised that the ANZECC guidelines specify a salinity impact of 1 PSU or less and the preliminary results indicate that at no stage, in relative proximity to the outfall at Billy Lights Point, does salinity increase by more than 0.2 PSU.

Seasonal maps of the bottom salinity anomaly (PSU) associated with an 8 GL/annum plant discharging at Point Boston were presented and again it was highlighted that the preliminary modelling shows that at no stage, in relative proximity to the outfall at Point Boston, does salinity increase by more than 0.2 PSU.

Two animations of the salinity level in the bay with and without a desalination plant at Billy Lights Point were shared, with the modelling showing that the increase in salinity around the outfall was less than or equal to the natural seasonal variation. A further animation showing the difference between the two previous animations was also shared. The MSRP's conclusion is that the difference in salinity from the outfall at Billy Lights Point does not exceed 0.25 PSU. Further to this, if an animation was available for Point Boston, the MSRP do not expect the difference in salinity to be more because of the strength and direction of the waterflow.

An SSC member noted that the hydrodynamic modelling report has been referred to as an interim report and asked for clarification that the full report would be available in October.

Hazel advised that a draft of the full report is expected in September with the final report by October 2022.

An SSC member asked what the ANZECC guideline of 1 PSU or less salinity impact is trying to avoid or minimise.

Hazel advised that there is a significant number of background documents available online which detail the science and reasoning behind the ANZECC water quality guidelines.

Fish assemblage report

The MSRP reviewed the baited fish survey report within the bays with consideration on how the species may be impacted by increased salinity. While there is still further work to be completed, there is a clear and consistent view from the MSRP that the level of brine discharge is not likely to have any significant impact on fish assemblage.

Seagrass and Habitat Mapping report

Details of the habitat survey report were shared including maps illustrating seagrass cover and distribution within Boston and Proper Bays. The MSRP Chair advised that this information would be used to optimise intake and outfall location.

Prof. Sean Connell noted that in Boston Bay, the presence and absence of seagrass can be fairly dynamic in terms of seagrass coming and going in particular areas.

An SSC member questioned whether the MSRP has looked at the seagrass in the bay and thinks that because it's already relatively bare, it would be fine to put an outfall there, or whether it's already an environment under pressure and the seagrass reflects that.

Sean Connell noted that the seagrasses are quite good in terms of their cover and representation, it's more the epiphyte growth on top of the seagrasses which is often an indicator of poor health. This is in addition to the turf cover, which is made up of several different species and is well known throughout the world to be an indicator of poor water quality. There is some concern that the water quality of the bay may not be in the best condition already and it wouldn't take much to potentially cause a change – that is the concern and the risk that is being assessed.

An SSC member questioned what the link is between epiphytes and salinity and increased turf cover and salinity.

Sean noted that the availability of nitrates changes with salinity, but the broader concern is that if there is some kind of future change in the bay, the combination of increased nutrients and a heatwave could negatively impact a particular location within the bay for which the desalination plant could unfairly be apportioned blame.

The MSRP Chair noted that the MSRP were asked to comment on nutrient distribution from the desalination plant. In its report, the MSRP has advised that there is no net increase of nutrients going into the bay but there would be a difference between where the water is extracted and where it is returned. The general feeling of the MSRP is that the likelihood of any significant increase in nutrient as a result of the desalination plant and the outfall is minimal and unlikely to be an issue.

The MSRP noted that they were asked to rank the shortlisted sites in terms of their suitability for a desalination plant without any engineering or operational mitigations. While noting that they were only considering the marine aspects and that some studies are not complete, the MSRP's rankings were as follows:

- Environmental considerations – Marine – Outfall (dispersion and accumulation of brine and other materials):
 1. Sleaford North
 2. Sleaford West
 3. Point Boston
 4. Billy Lights Point
- Environmental considerations – Marine – Intake
 1. Sleaford North & Sleaford West
 2. Point Boston
 3. Billy Lights Point
- Social and Community considerations – Business – Business/Commercial
 1. Sleaford North
 2. Sleaford West
 3. Point Boston
 4. Billy Lights Point

It was advised that while the MSRP ranked Sleaford North and Sleaford West differently, they are fairly similar. Billy Lights Point was ranked below Point Boston in relation to the outfall criteria because of the condition of the seagrass habitat in that environment and because of the slower movement of water.

In relation to the MSRP's intake rankings, the MSRP do not see the operation of the intake being an issue so long as it isn't directly adjacent to a mussel larvae spawning area.

An SSC member asked for clarity about removing water with a certain concentration of nutrient and salinity, and discharging water with a higher concentration, and how that could affect the concentrations within the bay system until it has had a chance to flush.

The view of the MSRP is that the designers would locate the intake where there is minimal intake of biological material, and that there are systems that minimise the amount of nutrient taken in – the amount of nutrient that would be returned was considered to be fairly small. The MSRP also noted that a lot of work would be done to locate the outfall in a place that has minimal effect on the environment and the aquaculture industry. The modelling to date has shown that salinity would not be increased by more than 0.25 PSU within a short distance of the outfall, which is well within the ANZECC guidelines and less than the natural annual variability of salinity within the bay.

An SSC member noted that the MSRP ranked the Sleaford sites higher than Point Boston and Billy Lights Point in all three of its rankings and questioned whether that was because there is less risk in a high-energy area.

The MSRP confirmed that this was the main reason.

An SSC member questioned whether there is concern that epiphyte growth on seagrass is a result of excess nutrients in the system currently.

Prof. Sean Connell advised that epiphyte growth is used as an indicator to investigate such circumstances globally, which is not to say in this particular case that there is a direct causal link but it does cause one to question what the nutrient conditions are like within the bay.

The MSRP Chair noted that this project and the contracted work that SA Water has undertaken to date has generated a set of data that is more detailed and meaningful than previous data – there is an opportunity for all of the interested parties to use this data in a beneficial way.

The Chair acknowledged the MSRP Chair's comment and noted that this discussion is outside of the SSC's remit but may be considered in future.

An SSC member asked whether the MSRP would be able to recommend an outfall location for Point Boston and Billy Lights Point that equalises the marine risk with the Sleaford sites.

The MSRP will work closely with SA Water and the designers to ensure that the marine risks and impacts are minimised – the MSRP is confident that this is achievable for all shortlisted sites.

An SSC member noted that a design for Point Boston and Billy Lights Point that equalises risk would come at a cost, so knowing the cost of sites with equalised risk would be important for the SSC in its scoring of the sites.

Steve asked the SSC member to clarify if their question was whether the design costed for Point Boston is adequate in terms of minimising risk.

An SSC member noted that the current design for Point Boston is not adequate because it comes with a higher level of risk against the criteria assessed by the MSRP.

Gary noted that he has heard the suggestion that to equalise the risk for Point Boston, the outfall should be located 11km out from the shore beyond the confines of what would be considered Boston Bay. Gary noted that while doing that may reduce the risk to close to zero, it could also be demonstrated that through the correct engineering design, a solution far closer to shore would also come with a level of risk incrementally close to zero. The project team is committed to the process of working with the MSRP and engineering team to deliver an outcome that achieves this objective.

Prof. Sean Connell noted that he supported Don's overall summary and that it was a fair representation of the MSRP's discussions.

11. Overview of site selection workshop

Steve noted that an independent Probity Advisor has been engaged to oversee the Site Selection Committee scoring process:

- David Kerr from OCM will be joining the SSC in person for the site scoring workshop on Monday 8 August
- OCM works closely with organisations to enhance the delivery of efficient, effective and ethical decision making

- In his role as Probity Advisor, David will help ensure scoring is completed with integrity, fairness and accountability by providing guidance to the Chair, Peter Treloar, on issues that may arise during the scoring process
- David has been provided all the materials that the SSC received to make their decision as well as the SSC's Terms of Reference.

Steve noted that SSC members will be asked to complete a Conflict of Interest Disclosure ahead of the site scoring workshop. Steve advised that all members had received information from David Kerr describing what could constitute a Conflict of Interest and should read this information prior to completing the Conflict of Interest Disclosure.

12. Post site selection roles, responsibilities and expectations

Steve noted the roles of the project team moving forward and how stakeholder expectations are to be managed once the SSC has made a decision.

Steve outlined the next steps in the lead up to the SSC decision and post a decision being made.

13. Media update

Nil noted.

14. Other business

Funding Sub Committee (FSC)

Brad Flaherty noted that David Ryan, Chief Executive of SA Water, and Allan Holmes, newly appointed Chair of SA Water Board, recently visited Port Lincoln and attended a tour of Sleaford West, Sleaford North, and Point Boston.

Brad noted that representatives from the FSC met with David Ryan and Allan Holmes to discuss the project.

Brad noted that the FSC met on 29 July and had further discussions about the funding model, including how much funding may be available from SA Water, how much may be approved by ESCOSA, and other sources that may be able to cover any shortfall in funding.

Brad noted that he and the SSC Chair will meet with the Minister for Climate, Environment and Water after the SSC has determined its recommended site, in order to continue discussions about additional funding from the Federal Government.

Brad noted that another important outcome from the FSC meeting on 29 July was clarification of the position of the broader aquaculture and fishing industries.

Regarding the current funding situation, Steve noted:

- \$99.6 million has been approved by ESCOSA and Cabinet
- The SA Water Board has provisioned \$150 million
- SA Water will need to go back to ESCOSA to demonstrate rationale for increased cost and seek additional funds and/or reallocate money from other projects to fund the base case
- While nothing has been approved beyond \$99.6 million, SA Water is committed to working to deliver funding for the base case
- Additional spend to relocate to another site will most likely require additional funding over and above what is achievable through SA Water's work.

15. Next meeting and close

An agenda for the next meeting will be circulated prior to the next meeting, set for **Monday 8 August from 9.00am to 5.00pm.**

With no further comments, the meeting closed at 4.50pm.

Open action items register

No.	Action Description	By Whom	Date Raised	Date Due	Status
1	Seek advice on alternative construction methodologies – concept design team to consider and engage with industry to identify synergies and leverage knowledge.	Project Team	03/03/22	TBC	Defer to when a site is selected
2	Develop concept designs for the four shortlisted sites: Uley South Shoal Point, Sleaford West, Sleaford North, and Point Boston.	Project Team	11/04/22	TBC	Closed
3	Assessment of the Northern Precinct as a separate project – independently from the functions of the SSC – to look at the viability of supporting economic development in the northern region.	Project Team	07/03/22	TBC	Open
4	Liaise with SA Power Networks to confirm if detailed pricing of electricity infrastructure can be shared with the SSC.	Project Team	11/04/22	TBC	Closed
5	Prepare a visual representation of the desalination plant and pumping station.	Project Team	07/06/22	TBC	Defer to when a site is selected
6	Volume of discharge per annum from the wastewater treatment plant to be shared with the SSC.	Project Team	30/06/22	14/07/22	Closed
7	MCA from the Adelaide Desalination Plant project to be shared with the SSC if available.	Project Team	30/06/22	14/07/22	Closed
8	Final Environmental Performance Criteria to be shared with the SSC.	Project Team	30/06/22	14/07/22	Closed
9	Prepare and distribute an addendum to the information dossier for Sleaford West Variation.	Project Team	04/08/22	05/08/22	Closed