

11.5 North Creek Dredging - Planning and Approvals

---

11.5 North Creek Dredging - Planning and Approvals

**Delivery Program**      Operations Support

**Objective**              To advise Council, as part of the 2016/17 budget deliberations, on the cost of acquiring planning approvals for the dredging of North Creek, including the preparation of planning documentation and undertaking requisite technical and environmental studies.

---

**Background**

In October 2014, Council successfully secured an opportunity from Crown Lands to extract sand from North Creek. A budget of \$150,000 was then sourced from the Quarry Reserve to finance the approval process.

The approvals process is a two-stage approach:

- Stage 1 is a "scoping study", which was completed in April 2016.
- Stage 2 is the preparation of a planning application, including supporting studies/information and associated permits and licences.

The outcome of Stage 1 has been to more clearly define the project's scope, to determine the requisite planning pathway, and to identify the extent of additional studies/information needed to obtain a planning approval.

A small amount of work originally intended for Stage 2, principally the shorebird survey, was brought forward into Stage 1 because of the seasonal nature of the work and to help better define the project's scope.

The majority of Stage 2 work has yet to commence and will significantly exceed the current budget allocation.

Currently, no financial provision has been made to undertake the full scope of works, which is estimated at around \$500,000.

**Key Issues**

- Planning approvals
- Budget allocation
- Risk

**Information**

At the time of the initial budget allocation of \$150,000, little had been done to evaluate the scope of the project and the full extent of sand extraction opportunity. Hence, a firm budget assessment at that time was not feasible.

The Stage 1 scoping report has since identified a total in-situ volume to be dredged of approximately 575,000 m<sup>3</sup>, encompassing a footprint of 34.7 ha. The timing, sequence and duration of the dredging works could potentially extend over several years.

**11.5 North Creek Dredging - Planning and Approvals**

---

With Stage 1 complete, significantly greater certainty now exists as to the costs associated with the planning approval process including the associated technical and environmental studies.

These cost estimates are broken down as follows:

- Project management, planning documentation, and consultation - \$86,000
- Shorebird evaluation – \$35,000 (completed).
- Sediment coring and characterization - \$82,000
- Economic assessment - \$15,000
- Estuarine habitat studies - \$20,000
- Hydrodynamic and sediment modelling - \$160,000
- Minor technical studies - \$50,000
- EP&A Act approval, permits and licences - \$52,000.

The extent of these works has been determined by consultation with government agencies and by the analysis of applicable testing and other standards. This information has been applied to the scope of works determined from the information arising from the feasibility assessment.

**Sustainability Considerations**

- **Environment**  
Environmental studies are required to assess the proposal and to obtain any planning approval.
- **Social**  
The proposal will improve the social amenity available from this waterway.
- **Economic**  
This proposal has the potential to support economic development by providing a sustainable source of building material.

**Legal / Resource / Financial Implications**

Council had previously allocated \$150,000 from the Quarry Reserve to finance the approval process.

The recent scoping study completed in April 2016 has resulted in a much improved definition of the project scope and a more detailed evaluation of the additional studies/information needed to facilitate a planning approval. A revised budget of \$500,000 is required to allow the continuation of the planning process. Currently, there is no financial provision beyond the initial allocation of \$150,000.

**Consultation**

Not applicable.

**Options**

1. Proceed with the project.

**11.5 North Creek Dredging - Planning and Approvals**

---

To proceed with this project now funding approval is required. In light of the amount of money needed, if this is the preferred option, the suggested resolution of Council is that the General Manager provide a report outlining a funding strategy for this project.

2. Terminate the project.

Based on the risks associated with this project, the time frame and costs the Council may prefer to terminate this project now. Under this option Council could continue to advocate for commercial interest in the project and assume a facilitative role in the event there was interest from the private sector.

3. Defer to a briefing.

It is some time since the Council discussed the outcomes of the feasibility study. The Council may wish to workshop further the risk profile and funding opportunities for this project prior to making a decision.

This is a question of risk and allocation of Council resources and therefore this is a matter for Council to determine the extent of its commitment to this project.

On balance the preference is to firstly defer the matter to a briefing. Funding options and risks with the project would then be able to be discussed in more detail in that briefing. Council's consultant can also be in attendance to discuss the technical aspects of this report.

It is also recommended that Council invite members of the Port Ballina Taskforce to that briefing. The members of that Taskforce have a strong interest and experience in maritime matters and their input into the briefing, along with their ability to communicate to key stakeholders, will be of overall benefit to the project.

**RECOMMENDATIONS**

1. That Council notes the contents of this report regarding the project risks and funding options for the North Creek Dredging project.
2. That Council hold a briefing to examine the risks and funding options prior to making the next decision on this project.
3. That Council invite members of the Port Ballina Taskforce to that briefing.

**Attachment(s)**

Nil

11.6 North Creek Dredging - Planning and Approvals Funding

---

11.6 North Creek Dredging - Planning and Approvals Funding

**Delivery Program**      Operations Support

**Objective**              To consider the provision of funds for the next stage (sediment investigations) of the project planning and approvals process for the North Creek Dredging Project

---

**Background**

A report was presented at the 23 June 2016 Council meeting regarding project risks and funding options for the North Creek Dredging project. Council resolved at that meeting to hold a briefing to examine the risks and funding options prior to making the next decision on this project. A copy of the earlier report is provided as attachment one to this report.

At the briefing on 22 July 2016, Council's consultant provided an update and discussion on the project's progress. Members of the Port Ballina Taskforce also attended.

The general consensus following the briefing was to continue on with the next stage of the project planning and approvals process; this being sediment investigations aimed at providing certainty regarding the nature and quantity of the extractive resource.

**Key Issues**

- Planning approvals
- Budget allocation
- Risk

**Information**

The information provided to the briefing recapped the scoping work previously undertaken. This work identified the potential volume of material that could be considered for dredging purposes, the environmental issues to be mitigated, the planning approval pathway options, the operational context and financial feasibility.

This information suggests that the project, at this point in time, is economically feasible, appropriate environmental management and mitigation measures can be applied and that a range of social and other benefits can potentially be achieved from the project.

However the range of studies and other costs to achieve project planning and approval is anticipated to be \$729,000.

This is a relatively minor cost, on a per cubic metre of reclaimed material basis (dependent on the material ultimately reclaimed), although it does represent a significant cost at the commencement, without certainty in regard to whether or not planning approval can be achieved and if so, what consent conditions may apply.



**11.6 North Creek Dredging - Planning and Approvals Funding**

---

It is possible to incrementally stage the preconstruction works and assess the risk profile at the conclusion of each stage.

The next stage relates to sediment investigations and these are necessary in order to confirm/modify the current assumptions regarding the extractive resource. This will then inform the economic assessment of the project.

This stage is expected to cost between \$60,000 and \$100,000.

The reason there is a wide range in expected costs is the upper limit represents the cost of the prescribed number of samples required for this volume of extraction. It may be possible, and less expensive, to reduce the amount of testing if the initial results are sufficiently indicative of the overall profile and provide a case that the full range of testing is not justified.

**Sustainability Considerations**

- **Environment**  
Environmental studies are required to assess the proposal and to obtain any planning approval.
- **Social**  
The proposal will improve the social amenity available from this waterway.
- **Economic**  
This proposal has the potential to support economic development by providing a sustainable source of building material.

**Legal / Resource / Financial Implications**

There is approximately \$90,000 remaining in the existing budget allocation for this project. The purpose of this report is to assess the total cost for preconstruction activities against the risks involved in seeking the required approval.

**Consultation**

Members of that Port Ballina Taskforce were invited to the briefing. They have a strong interest and experience in maritime matters and their input into the briefing, along with their ability to communicate to key stakeholders, was considered beneficial to the project.

**Options**

1. Council authorises the use of the existing funding allocation for the next stage (sediment investigations) of the project planning and approvals process.

As mentioned there is approximately \$90,000 currently available in the existing budget for these works. This amount may cover all of the expected costs.

**11.6 North Creek Dredging - Planning and Approvals Funding**

---

However Council needs to be mindful that substantially more funds are required following this stage of works if the results from this stage support continuing the project.

2. Council seeks grant funding for the next stage (sediment investigations) of the project planning and approvals process.

The maintenance of North Creek is important to the local community, however the Creek is not under the care and control of the Council. Therefore it is appropriate that the NSW Government provides financial support and risk sharing for this stage of the project. Making a submission to Government will delay the project, however this may well reduce the financial burden on the local community and it will provide an opportunity for the new Council to consider its priority and risk profile for this project. The existing budget could be used to make a contribution if that was a condition of a funding agreement with the State Government.

In light of the general consensus at the briefing to proceed, and based on the above points about jurisdiction, this is the preferred option. Furthermore, if the approach to Government is unsuccessful, Council can return to option one.

3. Terminate the project.

Based on the risks associated with this project, the time frame and costs the Council may prefer to terminate this project now. Under this option Council could continue to advocate for commercial interest in the project and assume a facilitative role in the event there was interest from the private sector.

**RECOMMENDATIONS**

1. That Council notes the contents of this report regarding the project risks and the information that the total cost of all the preconstruction activities for the North Creek Dredging project is estimated to be \$729,000.
2. That Council write to the NSW Government with a request for part or full funding to allow the next stage of the preconstruction activity for this project, being sediment investigations, to proceed, with the expected costs between \$60,000 and \$100,000.

**Attachment(s)**

1. Copy of Report from June 2016



# North Creek Dredging

Project Update June 2018



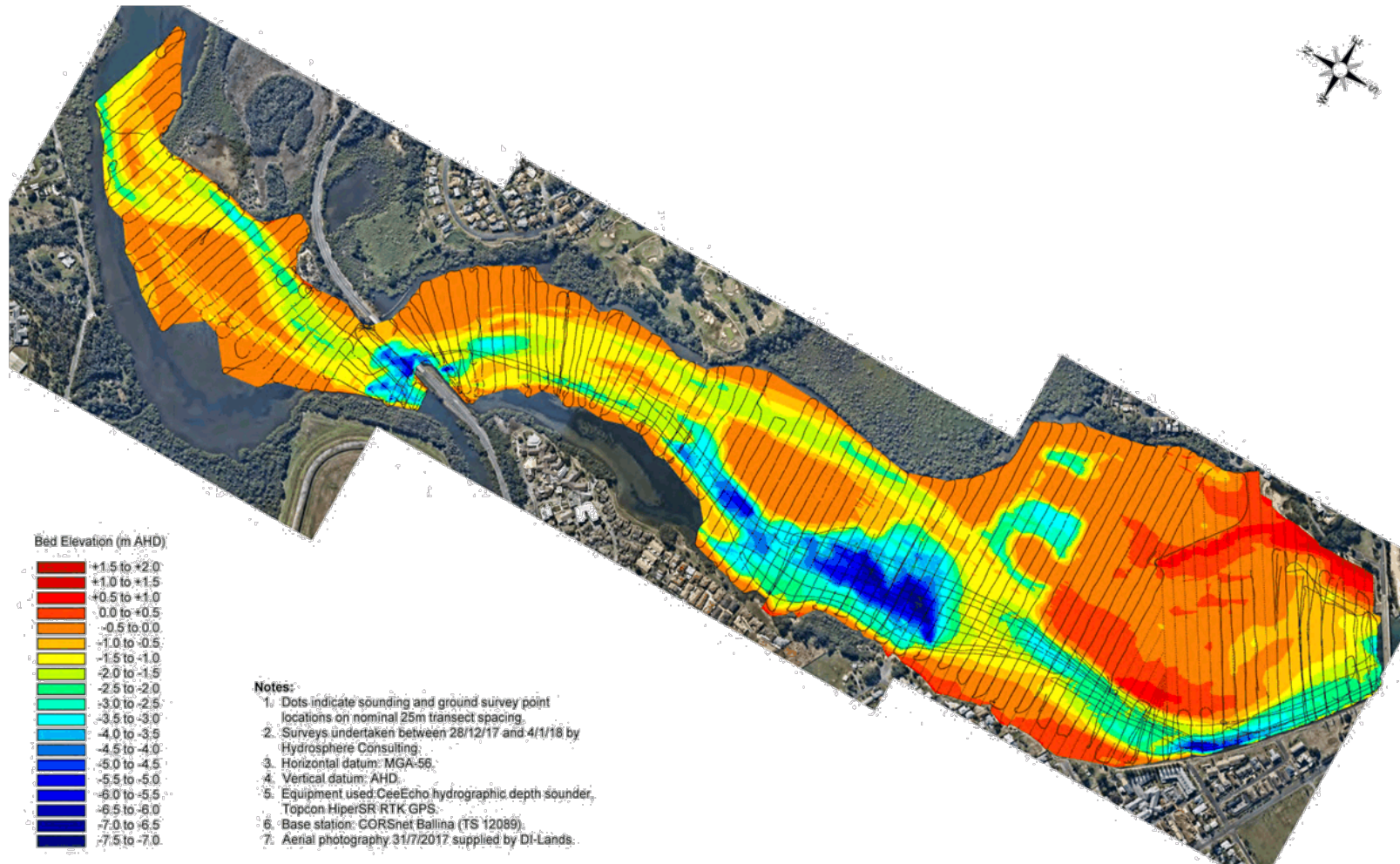
**Mick Howland**  
14 June 2018

## Topics

---

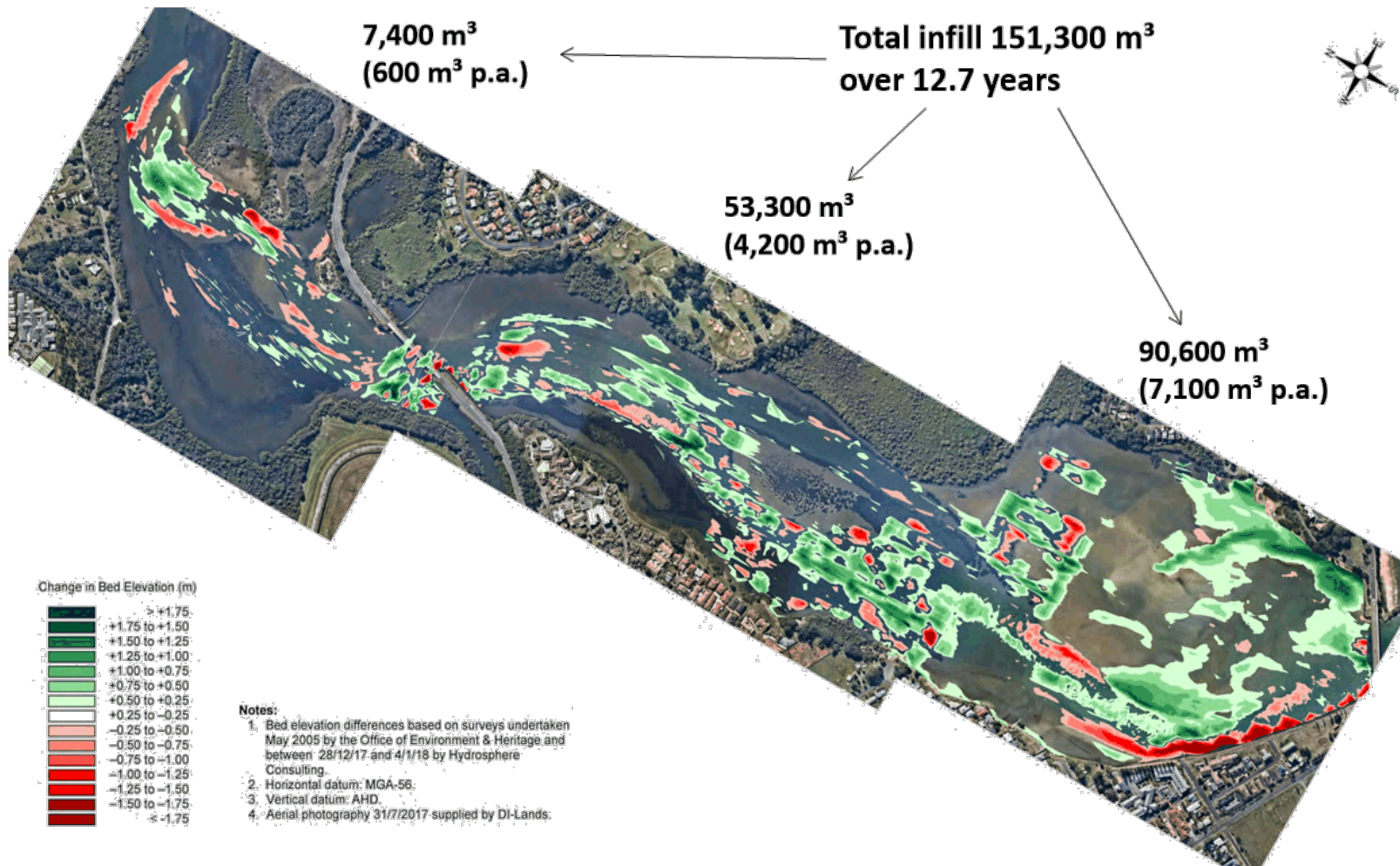
- Hydrographic survey and infilling
- Telecommunications cable
- Sediment investigations
- Risk register
- Dredging targets
- Costs
- Next steps

# Hydrographic Survey





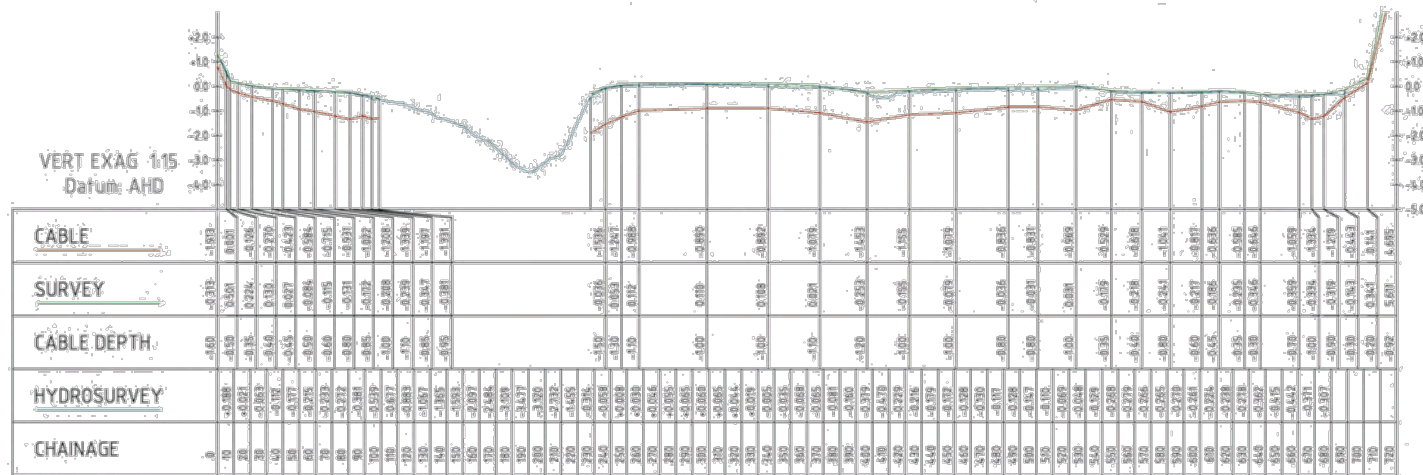
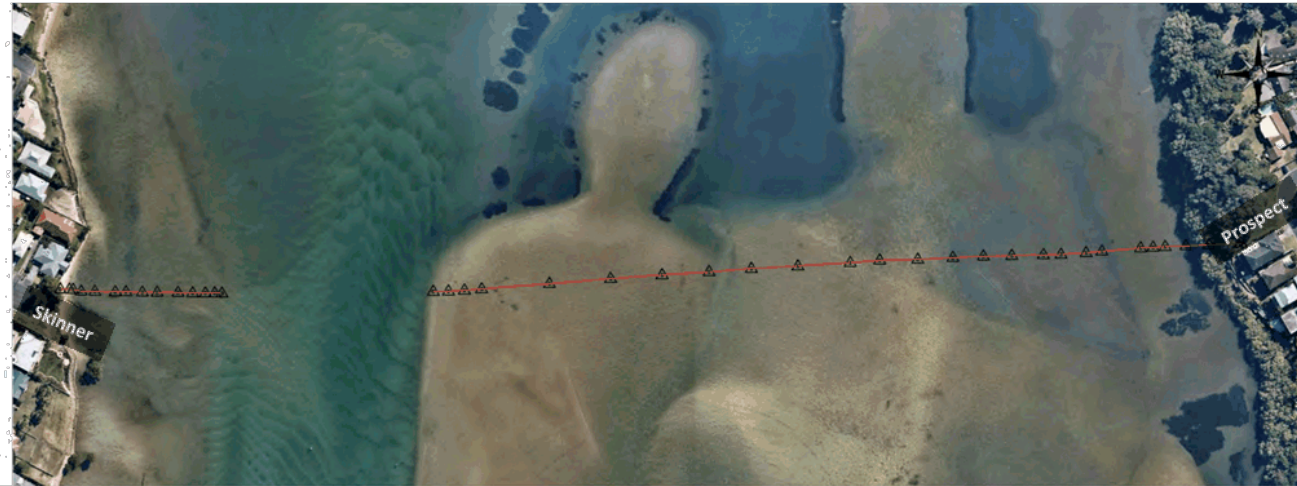
# Bed Level Changes 2005-2018



# Telecommunications Cable

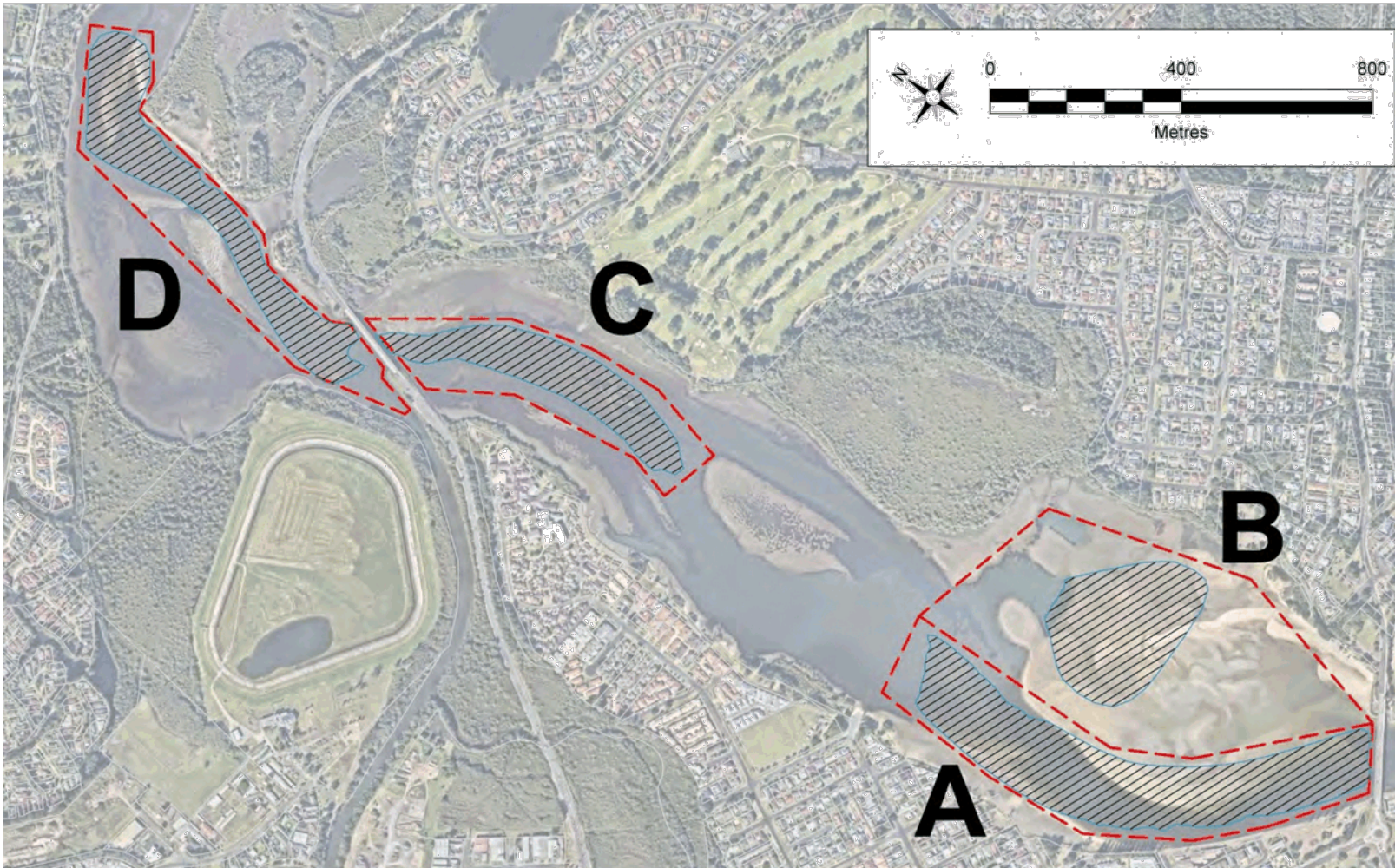
**Notes:**

1. Cable location undertaken by Johns Cable Location, 31 January 2018.
2. Cable depths and location inferred from electromagnetic detection only - cable not physically sighted.
3. Cable location points surveyed by Hydrosphere Consulting 31 January 2018 by RTK GPS.
4. Hydrographic survey undertaken by Hydrosphere Consulting between 28 December 2017 and 4 January 2018.



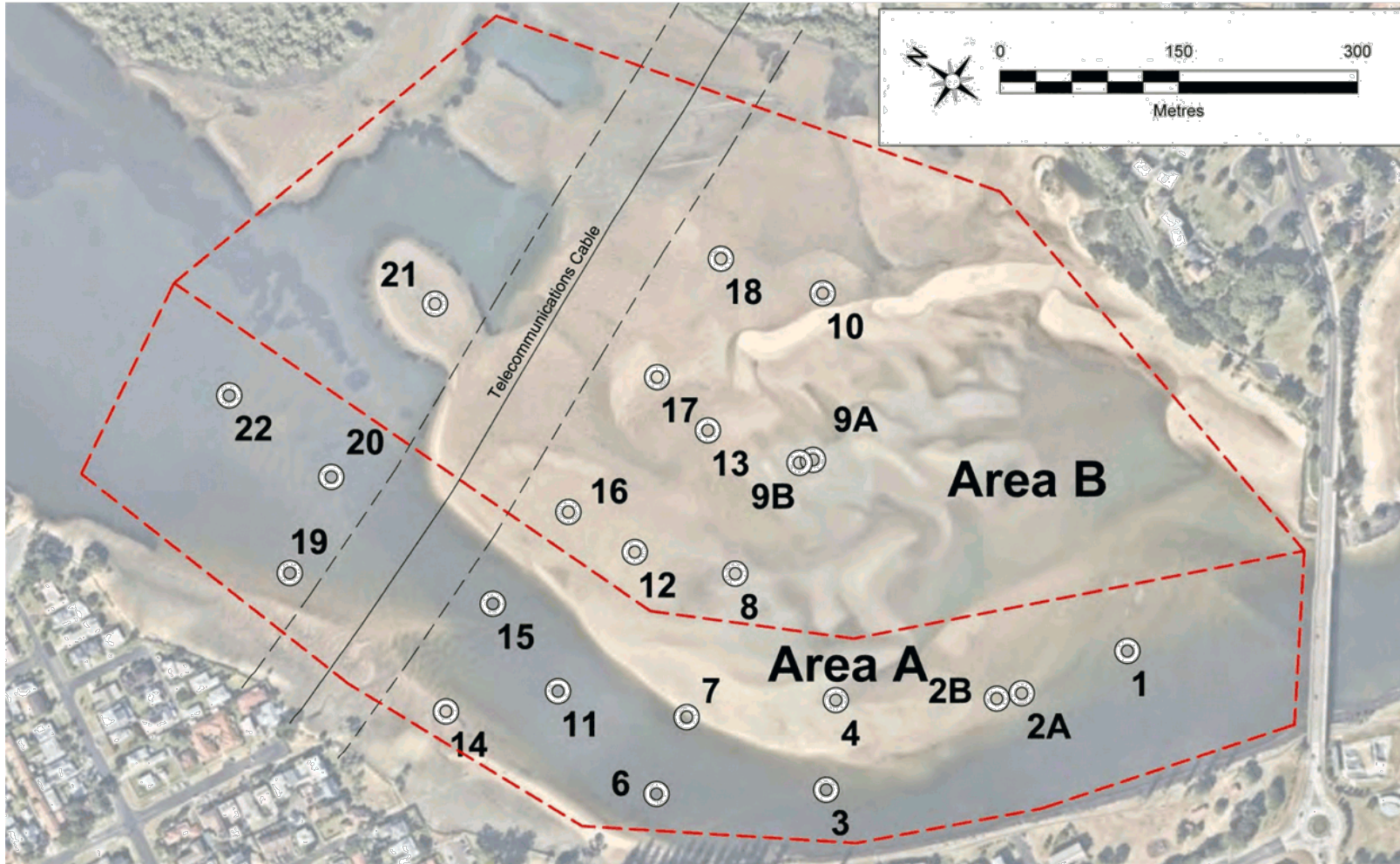


## Investigation Areas



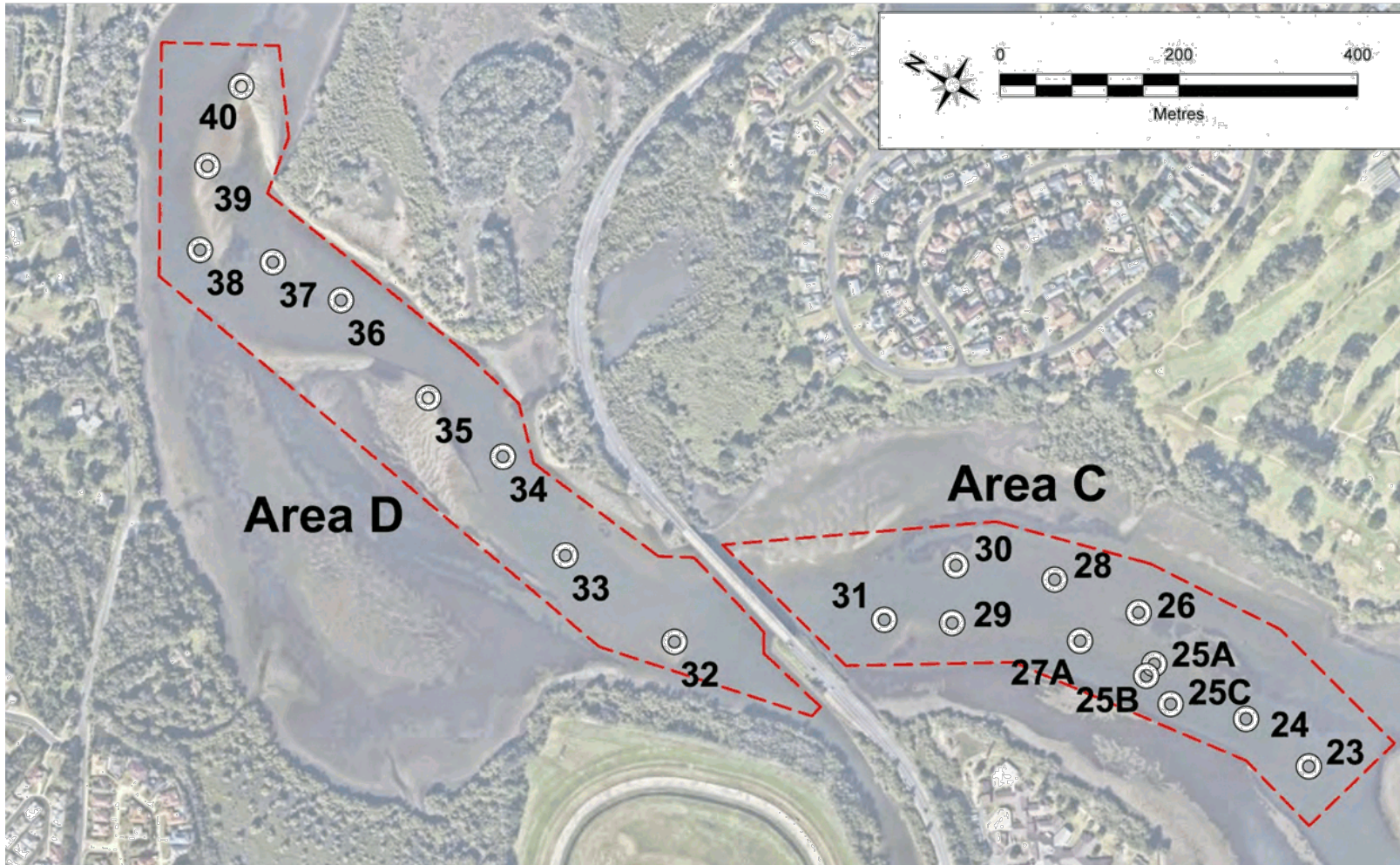


## Core Locations Areas A & B





## Core Locations Areas B & C



## Coring





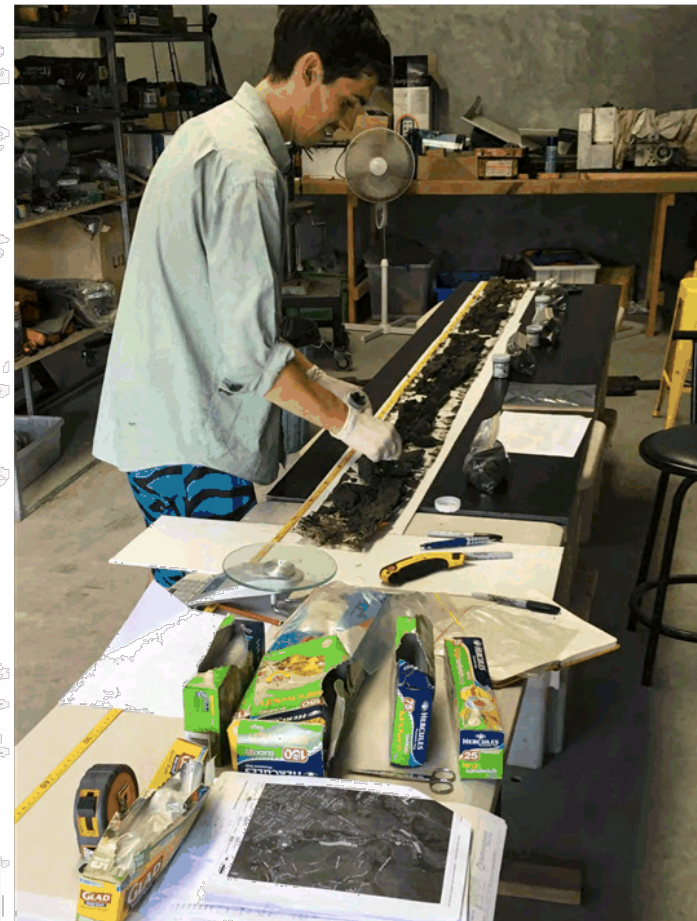


## Cores



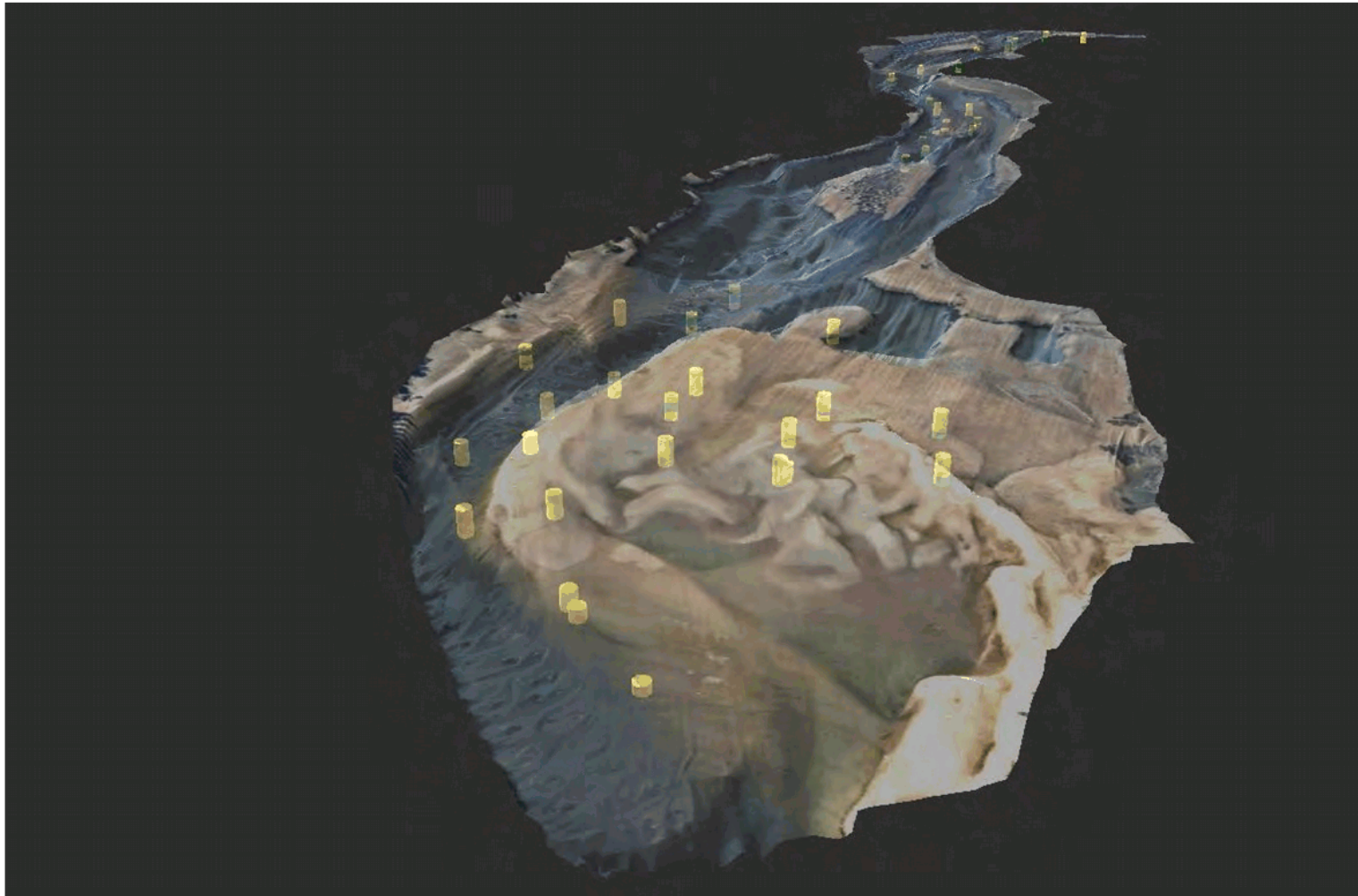
Borehole Log							BH34	
Project Number:		15-021		Core Identifier:		BH34		
Client:		Ballina Shire Council		Date:		13/12/17		
Project Name:		North Creek Dredging Investigation		Method:		Vibrocure 60mm		
Location:		North Creek Ballina, NSW		Position:		555707 6808959		
Horizontal Datum:		MGA-56		Bed Elevation:		-2.44		
Vertical Datum:		Australian Height Datum		Core length:		3.10		
Notes:								
Sample	Datum	Depth	Graphic	Texture	Colour	Comments		
34-ASS-1 34-PSD-1				Sand	Light Brown			
34-ASS-2 34-PSD-2				Slightly silty sand	Medium Grey	Some fine scattered shell		
34-ASS-3 34-PSD-3				Silty sand	Medium Grey	Very high heavy shell content		
34-ASS-4 34-PSD-4				Slightly silty sand	Medium Grey	Scattered large shell		
				Silty sand	Medium Grey	Heavy shell. Similar to strata 3		
				Sand	Light Grey	No shell		
Core terminated in dense sand								
DRAWING PRODUCED BY:		HYDROSPHERE CONSULTING P.O. BOX 7059 BALLINA NSW 2478 WWW.HYDROSPHERE.COM.AU		DATE: 2018-02-15		REVISED: UNK		
		Hydrosphere Consulting		X:\15-021 North Creek Dredging Core Logs\Core BH34.dwg				

# Core Logs

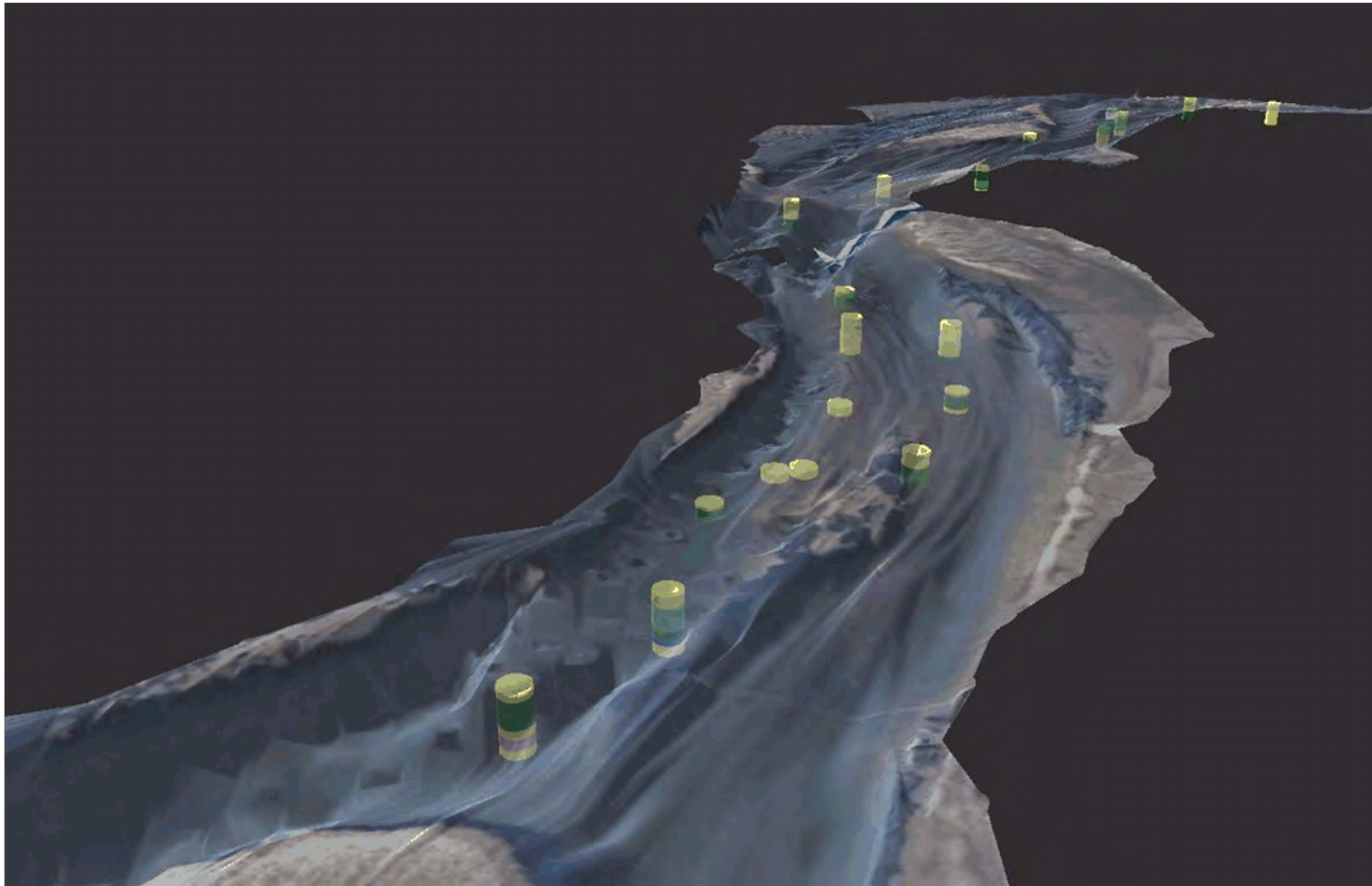




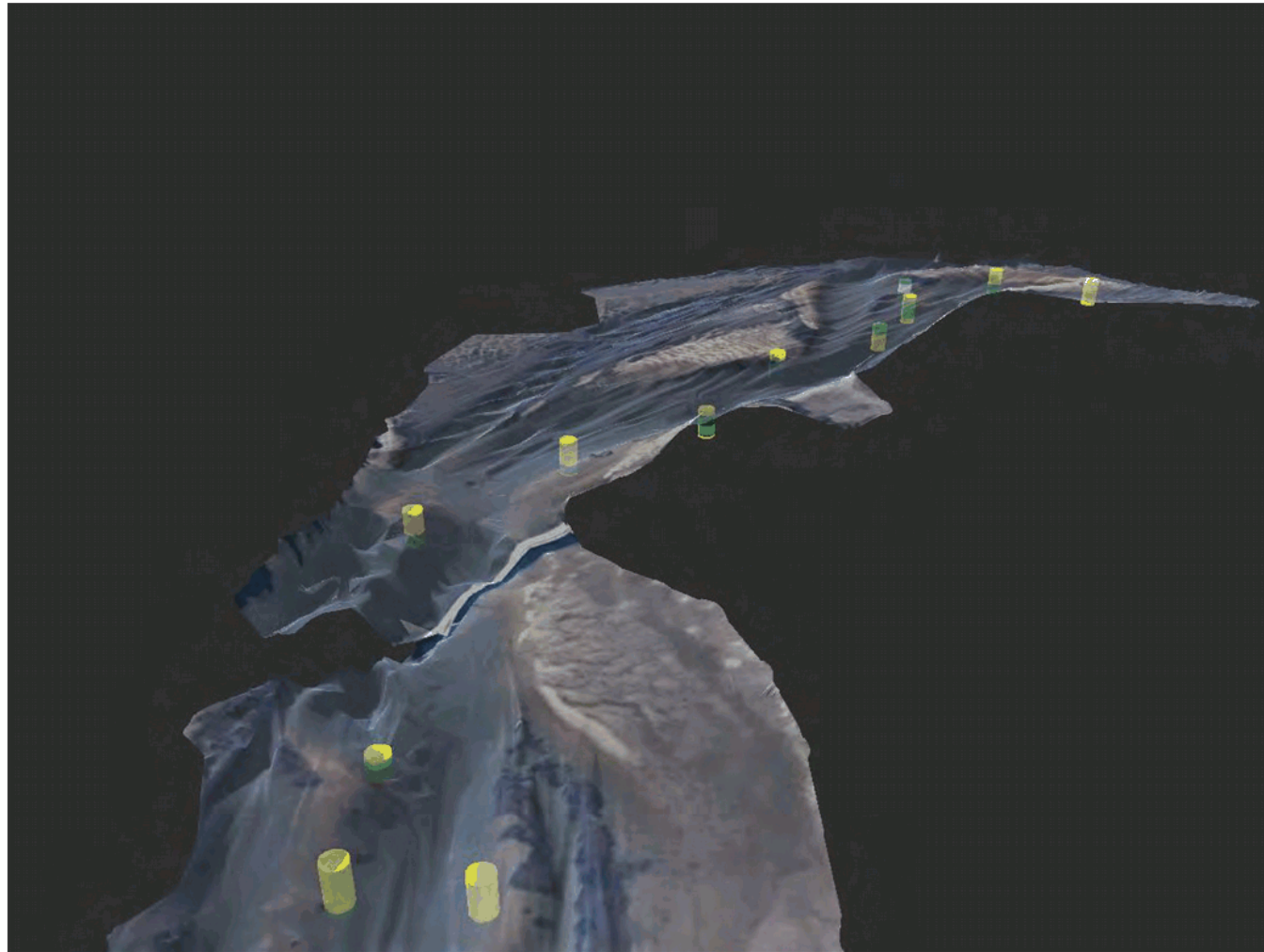
## Areas A & B



## Area C



## Area D





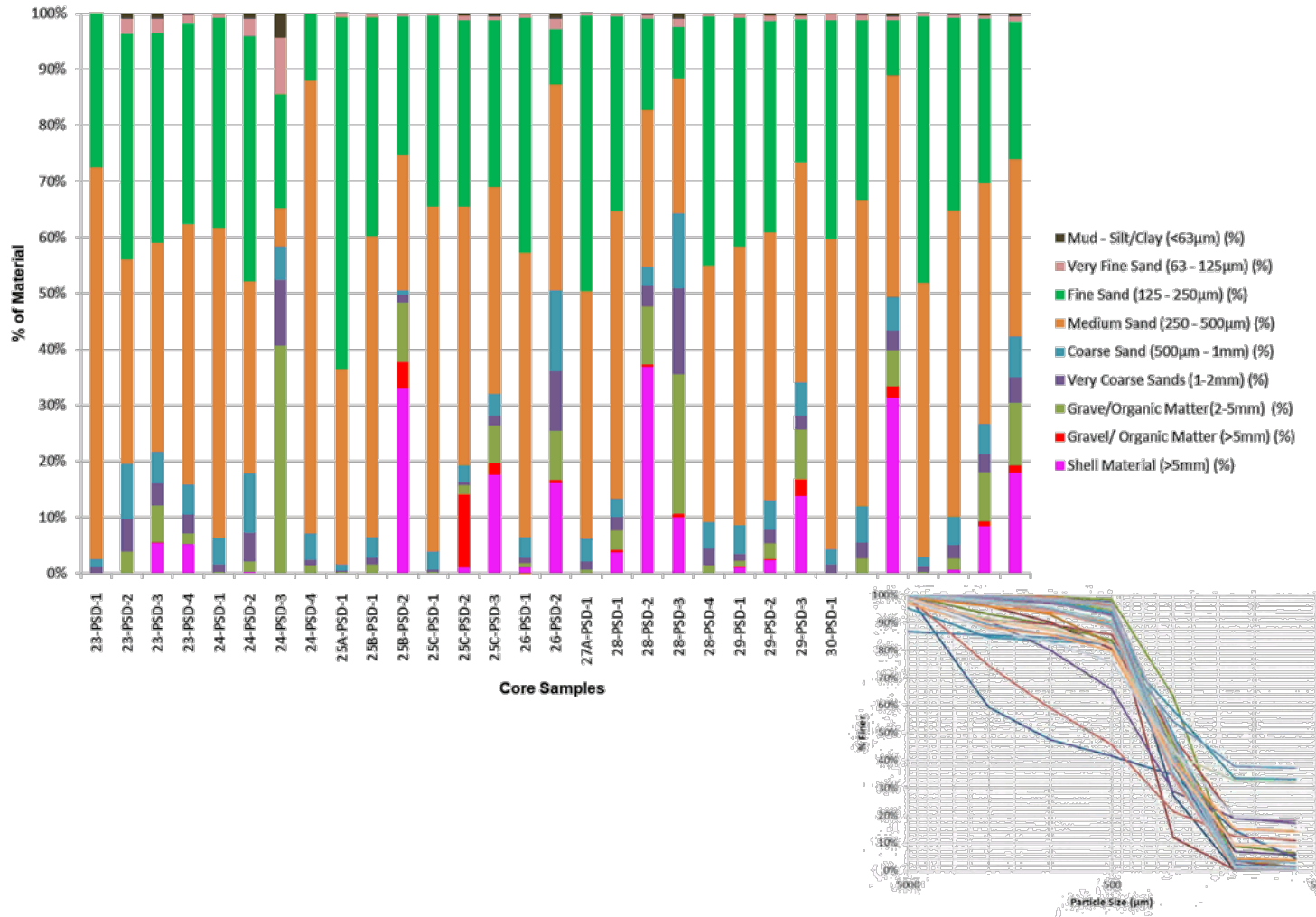
## Sediment Sample Analysis

---

- Particle size distribution (PSD/grain size)
- Acid Sulfate Soil
- All likely common contaminants typically used in confirmation of VENM
  - Hydrocarbons
  - Pesticides (DDT, Dieldrin, Endosufan, PCBs, etc.)
  - Organotins (TBT)



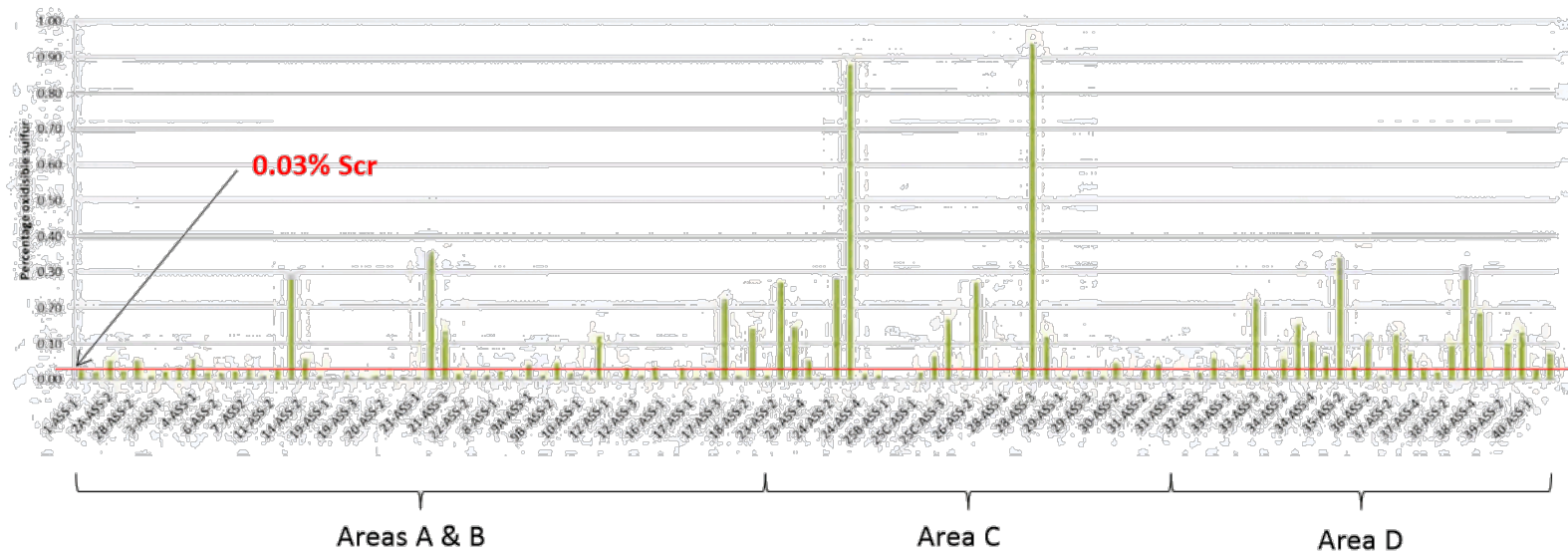
## Area C PSD



## Shell



## Acid Sulfate Soil



## Sediment Summary

---

- No contamination!
- All areas sand dominated
- Area C problematic due to:
  - Presence of coffee rock
  - High ASS levels
  - High shell
  - Higher levels of silt
- All areas with acid sulfate potential

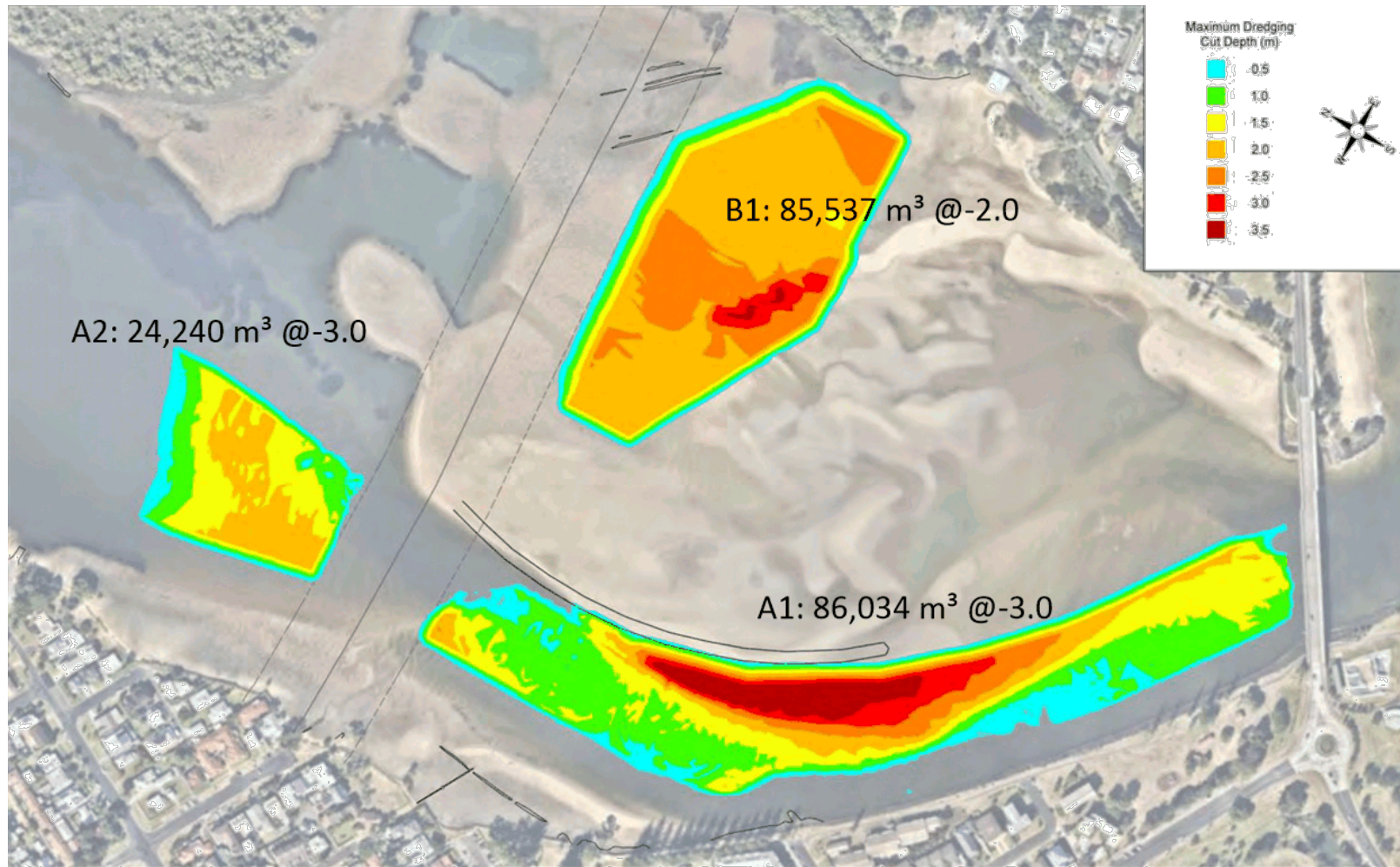
## Risks

---

- **Very High:**
  - Timing coordination with Enterprise Park development
  - Fill demand fulfilled by other sources
  - Shorebirds and EPBC Act (Areas A and B)
  - Seagrass impacts and compensatory habitat payments (Areas C and D)
  - Financial attractiveness
  - Lack of CZMP/CMP guidance and regulatory support
- **High**
  - Pipeline/drainage route
  - EPA consider dredged material to be 'waste'
  - Additional costs associated with PASS treatment
  - Area C (particularly) turbidity
  - Oceanic inundation
  - Effect on Missingham surf breaks
  - Significant coastal sediment budget impact
  - Fisheries habitat and cultural impact (oyster bank, intertidal flats, etc.)

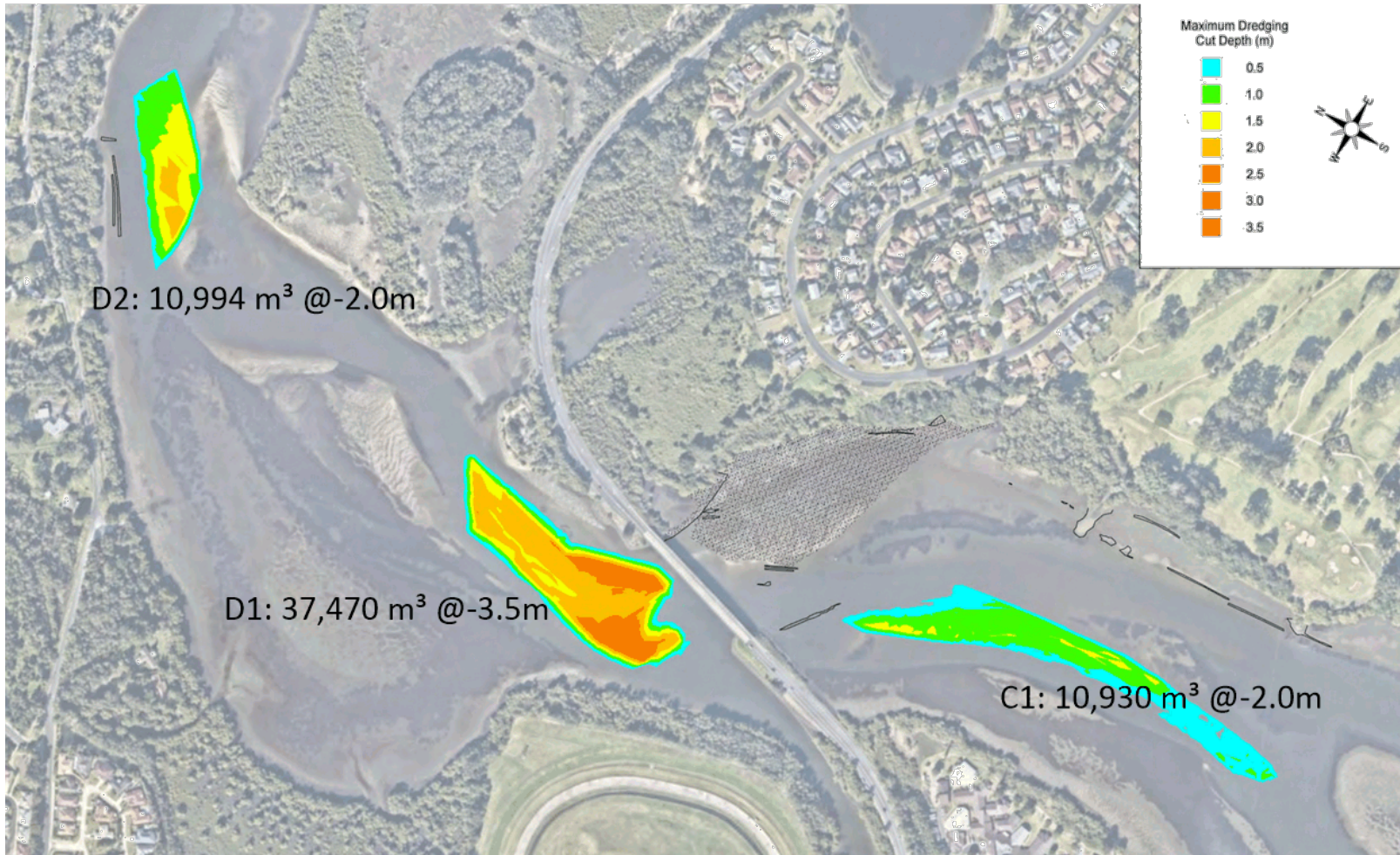


## Areas A & B

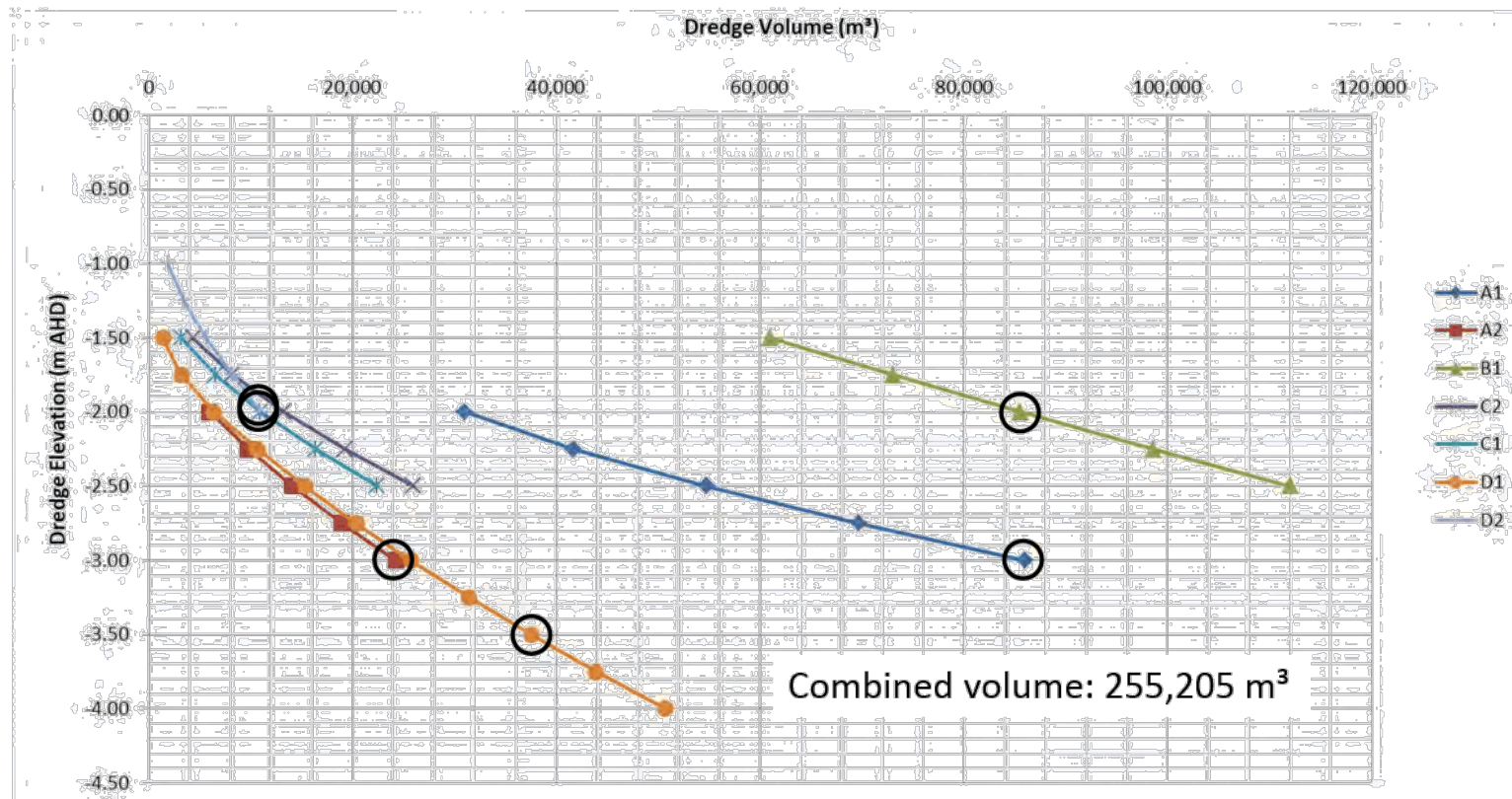




## Areas C & D



# Volume curves



## Costs to Complete

Item	Cost
<i>Costs to date</i>	\$ 178,536
Planning, Studies, Approvals	\$ 721,500
Dredging/Pumping Costs	\$ 4,415,508
Mob/De-mobilisation/Civil/ASS Mgt	\$ 305,000
Habitat Offsets	\$ 90,000
Project Mgt, Monitoring	\$ 60,000
<b>Total Costs</b>	<b>\$ 5,770,544</b>
Crown Lands Rescuing our Waterways grant	-\$ 230,700
<b>Overall nett project cost</b>	<b>\$ 5,539,844</b>
Cost per m <sup>3</sup>	\$ 21.71
Cost per tonne	\$ 13.57

Resource value:

\$25/tonne (\$40/m<sup>3</sup>) for high grade, processed sand.

\$12/tonne (\$20/m<sup>3</sup>) fill.

Large quantities hard to secure.



## Next Steps

---

- Proceed or not?
- Legal assessment of EPA view on dredged 'waste'.
- Hydrodynamic and sediment modelling
  - Sediment budget and erosion risks
  - Channel alignment changes
  - Impact on nearby beaches, surf break
  - Scour impacts on telecomms cable
  - Water quality flushing benefits
  - Flooding and tidal levels
- Stakeholder Engagement
- EIS/DA



## GET INVOLVED!

We are interested in hearing from the community about their views on the North Creek catchment. Your knowledge and feedback can help shape the future management of North Creek.

We would like you to spend 5-10 mins and take part in a survey. Please visit Ballina Shire Council homepage for details of the survey - [www.ballina.nsw.gov.au](http://www.ballina.nsw.gov.au)

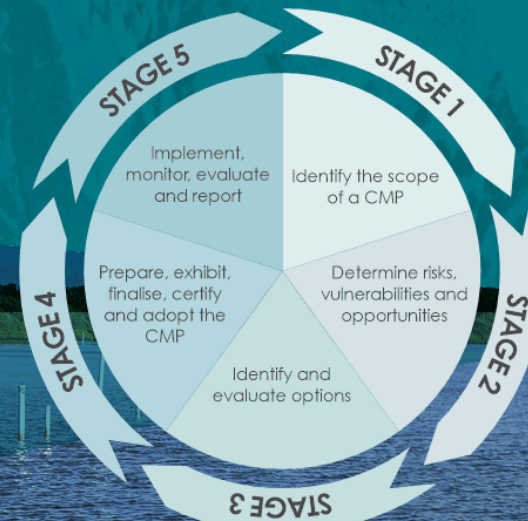
If you would like to discuss the North Creek scoping study further Please contact Misko Ivezich on 0401 048 241 or [misko.ivezich@alluvium.com.au](mailto:misko.ivezich@alluvium.com.au) for more information.



# NORTH CREEK COASTAL MANAGEMENT PROGRAM SCOPING STUDY

## PURPOSE

The North Creek Coastal Management Program (CMP) Scoping Study (Stage 1) aims to work with the community to understand the issues and values within the North Creek catchment. This understanding will help target additional investigations and studies in later stages of the North Creek CMP process.



Oyster farming is an important industry in the North Creek estuary

## CMP FRAMEWORK

Council has been talking with landholders, farmers and oyster growers about water quality and other issues affecting the North Creek catchment.

It is working within the new NSW Government Coastal Management Framework to deliver a plan to improve the health of the creek and its catchment. The recently released Coastal Management Manual sets out mandatory requirements and essential elements for a Coastal Management Program.

Council is talking directly to landholders and interest groups as part of the process. But we would also like to hear from the broader community about how they see North Creek.

Note that dredging is being investigated in the lower reaches as part of a separate process (although the processes are talking to each other). The Coastal Management Program is considering the catchment as a whole.

## ABOUT THE CATCHMENT

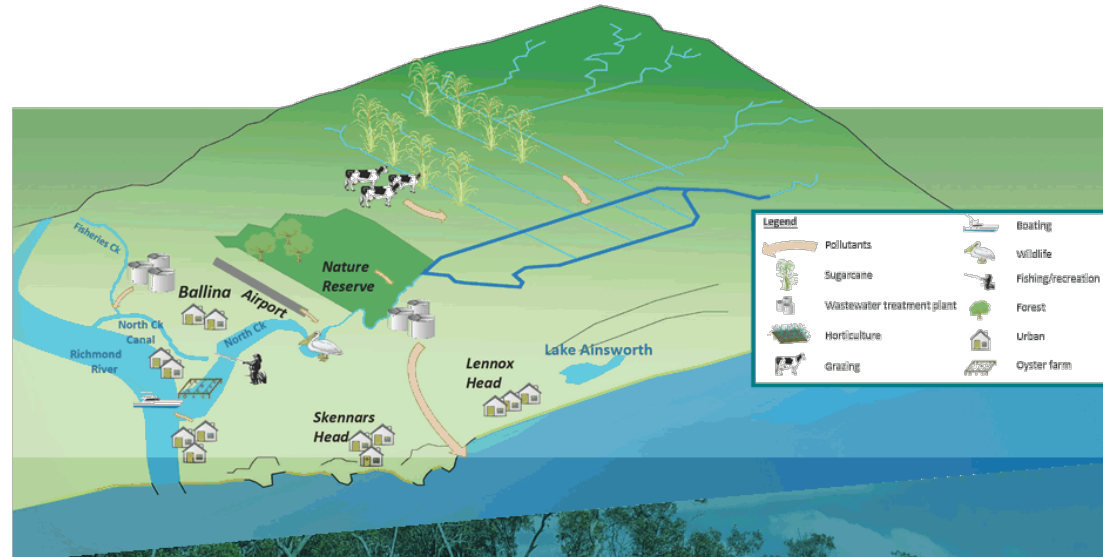
North Creek is vital part of the Ballina region helping contribute to the economic, recreational and environmental values of the area.

Increasing land use pressure in the North Creek catchment is believed to have compromised the ability of North Creek and its receiving waters to support a functioning ecosystem. Urban development in the mid-catchment and drainage from agricultural areas in the upper and mid-catchment is contributing to high nutrient and sediment loads, and modified catchment hydrology.

These catchment pressures are believed to impact on estuary health. The estuary supports a range of important services including fish habitat, oyster production and recreation for Ballina's residents.

The social, environmental and economic impacts of poor water quality in the catchment are not currently well understood. Evidence of pressure due to poor water quality has already been identified in the Ballina

Nature Reserve, by local volunteers and commercial oyster farmers. Over the years, a complex drainage network through the Nature Reserve has been constructed to manage drainage from surrounding grazing and horticultural areas, which has altered the area's natural ability to process floodwaters and pollutant loads.



Riparian habitat is important for estuary health and provides critical habitat for juvenile fish species

