

Coastal Management Study – City of Rockingham

Community Information Session

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01 Background

02 Options considered & recommendations

03 Q&A

04 Appendix A: Multi-criteria Assessment



01 Background



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Study area extent and coastal management sectors

- > Sediment cells (----)
- > Sector 1 Cape Peron North (---)
- > Sector 2 Cape Peron South (—)
- > Sector 3 Shoalwater Bay North (—)
- > Sector 4 Shoalwater Bay South (—)





Historical erosion/accretion trend (10yrs)





Considerations & objectives

Considerations

- > Impact of the sediment cells
- > Impact of climate change (in 10year to 2030, in 30year to 2050)
- Impact of future sediment transport and activity on Tern Bank, The Pond and the Bent Street Boat Ramp
- > Current and future demand for boat launching facilities
- > Effectiveness of current coastal protection and coastal infrastructure management

Objectives

- Identify possible locations for additional boat launching facilities (in the study area)
- > Identify most effective coastal management strategies
- > Develop sound strategic approach to coastal management for the next 10 years to 2030



Systematic approach to coastal management study

- > Review literature
- > Consult with key stakeholders (DBCA, DoT, research agencies Meetings, phone calls)
- > Segment and profile coastline in management sectors (Sediment cells)
- > Define coastal management options (2-5 alternative options)
- > Engage with the City of Rockingham (Workshops)
- > Assess coastal management options (Multi-Criteria Analysis)
 - Technical feasibility (performance, safety)
 - Economic viability (Opex, Capex, NPV10)
 - Social and environmental desirability (impact, regulation, public acceptance, independence of operations)
- > Select preferred management options (Rank, sensitivity check)
- > Summarise recommendations
- > Review study outcome against study objectives



02 Options considered & recommendations



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Option 3 – Shift Spur Groyne northward and added groyne



Sector 1 – Cape Peron North – Preferred Option 3







quo - Ad hoc nourishment in proximity of stock





Option 2 -Nourishment -Truck and place





Option 3 -Nourishment -Slurry pump and temporary pipe

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Option 4 -Nourishment -Slurry pump and permanent pipe



Sector 2 – Cape Peron South – Preferred option 4





Option 4 - Nourishment -Slurry pump + permanent pipe

- Pros 1. Potential win-win solution between CoR and DBCA.
 - Improved local beach widths. Efficient extraction from beach sand trap directly with no intermediate stockpiling. Potentially freeing land. No trucks on the road. Yearly sand trap clearing operation. One-off clearing of vegetation for installation of permanent pipeline followed be re-vegetation.
 - Reduced Opex due to streamlining of sand management without double handling with stockpile. Substantial NPV 10yr reduction (66%) from trucking to landfill option (~\$1M saving).
- Cons 1. Minor Capex requirement for permanent buried pipeline installation.
 - 2. Potentially more onerous approval requirements due to one-off vegetation clearance.
 - Requires coordination and ongoing agreement between DBCA and CoR.



Sector 3 – Shoalwater Bay North – Preferred option 1





Sector 4 – Shoalwater Bay South – Option 1 (Mersey Pt. seawall)



Option 1 extend and reinforce the existing seawall at Mersey Point





Sector 4 – Shoalwater Bay South – Option 2 (1+nourishment)



Option 2 -Renourish beach in front of seawall



Sector 4 – Shoalwater Bay South – Option 3 (2+groyne)



Option 3 -Renourish and contain beach in front of seawall



Sector 4 – Shoalwater Bay South – Preferred option 1



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Option 1 - Status quo - continual operation and maintenance of current assets (navigation channel)





Option 2 -Stabilise Tern Bank with terminal groyne and sand trap management (local)





Option 3 -Stabilise Tern Bank with seawall and terminal groyne and sand management (local)





Option 4 - Tern Bank natural progression with realigned channel parallel to coast nearshore







Option 5 - Carlisle Street Upgrade -Allow Bent Street to close





Sector 5 – Safety Bay – Preferred option 2





Sector 6 – Warnbro Sound (Donald Drive) – Option 1



Option 1- Maintain Bent Street and Donald Drive facilities



Sector 6 – Warnbro Sound (Donald Drive) – Option 2



Option 2 - Close Bent Street facilities and **Upgrade Donald Drive facility**



Sector 6 – Warnbro Sound (Donald Drive) – Preferred option 1





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Future boat launching opportunities for the next 10 years

Recommended options for near term

- > Cape Peron North Point Peron Boat Launching Facility extension
- > Safety Bay Bent Street boat ramp and associated facilities upgrade

Not recommended options at this stage

- > Construction of new boat launching facility (\$10M)
- > Carlisle Street or Donald Drive valuable option in the future

Further technical studies recommended, e.g.

- > Car park extension (traffic study, environmental permit)
- Tern Bank stabilisation study (engineering and environmental planning)

Further community engagement:

> Community Plan Strategy - Coastal Facilities Strategy in 2020/21





03 Q&A



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