

Appendix I

Management Options - Unranked

Option ID	Option Type	Description	Location	Technical Feasibility*	Compatibility with Legislative Framework*	Notes	Primary Responsibility	Indicative Cost of Implementation	Indicative Annually Recurrent Costs	Net Present Value	Environmental Criteria			Socio-Economic Criteria						Raw Benefit Index	Stakeholder Response (Average Score)	Adjusted Benefit Index	Cost Benefit Ratio	Rank
											Coastal Processes	Flooding	Ecology	Cultural Heritage	Recreation, Access & Amenity	Visual Amenity	Public Safety & Critical	Infrastructure	Private Property					
		Management Zone 1																						
1.01	Seawall	Provide for ongoing monitoring and maintenance of the existing 75 m long seawall protecting the public reserve (Lions Park).	Burrum Heads River	Feasible	Permissible	FHA B and Conservation Park Zoning adjacent. It is permissible to maintain an existing structure. Main beneficiaries: Residents who use the park, small no. freehold lots behind the seawall.	FCRC	\$ 327,750	\$ 16,888	\$ 506,656	-2	0	-2	-1	-1	-1	1	0	0	-6	1.20	-4.80	-0.84	26
1.02	Seawall	Provide for ongoing monitoring and maintenance of the existing 1,230 m rock wall.	Burrum Heads River/Beach	Feasible	Permissible	Costings assume replace 30% of rock the first year, replacement rates as per CES (1999). FHA B adjacent. Conservation Park and Habitat Protection Zonings adjacent. It is permissible to maintain an existing structure. Main beneficiaries: Small no. freehold lots & tourist park behind the seawall.	FCRC	\$ 886,650	\$ 55,850	\$ 1,478,326	-2	0	-2	-1	-2	-1	2	1	1	-4	1.20	-2.80	-0.45	21
1.03	Groynes	Add a field of 6 groynes to existing seawalls (west of Dudley Street).	Burrum Heads Beach	Feasible	Not Permissible	Source: BPA (1989). FHA B and Conservation Park Zoning adjacent. Not permissible. Main beneficiaries: Residents who use the beach, small no. freehold lots behind the seawall.																		
1.04	Combination	Combination of Options 1.01 and 1.03.	Burrum Heads River	Feasible	Not Permissible	See notes on Option 1.03. Main beneficiaries: Residents who use the park & beach, small no. freehold lots & tourist park behind the seawall.																		
1.05	Artificial Beach Nourishment	Undertake nourishment works east of Burrum Heads Road for a distance of 1,400m along Burrum Heads Beach.	Burrum Heads Beach	Feasible	Permissible	Assume 135,000 m3 sand. Assume need to re-nourish every 7 years and approvals cover this activity. FHA B and Habitat Protection Zone adjacent. Main beneficiaries: Residents who use the beach, small no. freehold lots behind the beach.	FCRC	\$ 5,660,875	\$ 687,500	\$ 12,944,260	-1	-1	-1	0	1	1	1	1	1	2	0.80	2.80	0.39	14
1.06	Combination	Combination of Options 1.02 and 1.05.	Burrum Heads Beach	Feasible	Permissible	FHA B adjacent. Conservation Park and Habitat Protection Zonings adjacent. It is permissible to maintain an existing structure. Main beneficiaries: Residents who use the beach, small no. freehold lots behind the beach.	FCRC	\$ 5,591,650	\$ 743,350	\$ 13,466,710	-2	-1	-2	-1	0	0	2	1	1	-2	-0.20	-2.20	-0.31	20
1.07	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags along Burrum Heads Beach where the erosion scarp is closest to the adjacent residences (on an as needs basis).	Burrum Heads Beach	Feasible	Permissible	Assumes up to 770 m length in total based on proximity of structures to the shoreline. FHA B adjacent. Conservation Park and Habitat Protection Zonings adjacent. It is not permissible to place sand bags on that portion of the beach located adjacent to the Burrum Heads River due to the Marine Park Zoning. Therefore, it has been assumed that the sandbagging would take place on freehold land, which would be permissible. Main beneficiaries: Small no. freehold lots behind the seawall.	Private landowners	\$ 4,467,750	\$ 77,000	\$ 5,283,489	-2	-1	-2	-1	-1	-1	0	1	-1	-8	-1.20	-9.20	-1.37	34
1.08	Sand Push	Conduct regular sand pushes to reprofile Burrum Heads Beach.	Burrum Heads Beach	Not Feasible																				
1.09	Dune Management	Work with Community Environment Program volunteers and private landholders to undertake ongoing management of the dune running parallel to Burrum Street (south of Dudley Street).	Burrum Heads Beach	Not Feasible		Aeolian (wind) transport of sand is not considered significant (BPA, 1989), therefore, dune stabilisation would have very limited success as an erosion protection measure.																		
1.10	Channel Realignment	Realign the main channel in Beelbi Creek from its current location northwards in order to relieve the erosional processes currently impacting on the existing revetment in this location.	Toogoom	Feasible	Not Permissible	Source: WBM (2004). FHA A and Conservation Park Zone adjacent.																		
1.11	Seawall	Provide for ongoing monitoring and maintenance of the 870 m long rock wall west of Martins Creek.	Toogoom	Feasible	Permissible	Assume replace 55% rock in first year, replacement rates as per CES (1999). FHA A and Conservation Park Zone adjacent. It is permissible to maintain an existing structure. Main beneficiaries: Small no. freehold lots behind the seawall.	FCRC	\$ 1,023,788	\$ 39,650	\$ 1,443,840	-2	0	-2	-1	-1	-1	1	1	0	-5	1.20	-3.80	-0.62	23
1.12	Combination	Combination of Options 1.10 and 1.11.	Toogoom	Feasible	Not Permissible	See Option 1.10.																		
1.13	Seawall	Construct a new seawall of approx. 410m length eastward from the location of the beach access point.	Toogoom	Feasible	Not Permissible	FHA B and Conservation Park Zone adjacent.																		
1.14	Artificial Beach Nourishment	Undertake nourishment works along Toogoom Beach.	Toogoom	Feasible	Permissible	Costing assumes 75,000 m3 of sand required for nourishment. FHA B and Conservation Park Zone adjacent. May be permissible if nourishment is considered consistent with Marine Park Zoning. Main beneficiaries: Small number of local residents who use the beach, small no. freehold lots behind the beach.	FCRC	\$ 3,245,875	\$ 938,875	\$ 13,192,330	-1	-1	-1	-1	1	1	1	1	1	1	-0.60	-0.60	-0.08	17
1.15	Combination	Combination of Options 1.13 and 1.14.	Toogoom	Feasible	Not Permissible	See Option 1.13.																		

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1.16	Dune Management	Work with Community Environment Program volunteers and private landholders to undertake ongoing management of the dune running parallel to Kingfisher Parade, Desmond Drive, Shellcot Street and O'Regan Creek Road.	Toogoom	Not Feasible		Aeolian (wind) transport of sand is not considered significant (BPA, 1989), therefore, dune stabilisation would have very limited success for erosion management purposes.																		
1.17	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags on Toogoom Beach where the erosion scarp is closest to the adjacent residences (on an as needs basis).	Toogoom	Feasible	Permissible	Assumes up to 1,000 m length in total based on proximity of structures to the shoreline. FHA B and Conservation Park Zone adjacent. It is not permissible to place sand bags on the beach due to the Marine Park Zoning. Therefore, it has been assumed that the sandbagging would take place on freehold land, which would be permissible. Main beneficiaries: Small no. of freehold lots behind the beach.	Private landowners	\$ 5,035,000	\$ 100,000	\$ 6,094,401	-2	-1	-2	-1	-2	-1	1	0	-1	-9	-1.40	-10.40	-1.53	37
1.18	Sand Push	Conduct regular sand pushes to reprofile Toogoom Beach.	Toogoom	Not Feasible																				
1.19	Dune Management	Work with Community Environment Program volunteers and private landholders to undertake ongoing management of the dune along Dundowran Beach.	Dundowran Beach	Not Feasible		Aeolian (wind) transport of sand is not considered significant (BPA, 1989), therefore, dune stabilisation would have very limited success.																		
1.20	Sand Push	Conduct regular sand pushes to reprofile Dundowran Beach.	Dundowran Beach	Not Feasible																				
1.21	Seawall	Construct a new seawall at the private property boundary.	Zone 1	Feasible	Permissible	Total length of freehold land falling within the 2030 EPA is 11,667 m. Cost calculated based on low amenity seawall. Main beneficiaries: No. freehold lots behind the beach.	Private landowners	\$ 67,775,250	\$ 583,350	\$ 73,955,268	-3	-2	-3	-2	-3	-2	2	3	-2	-12	0.80	-11.20	-1.42	35
Management Zone 2																								
2.01	Sand Push	Conduct regular sand pushes to reprofile the beach.	Point Vernon	Not Feasible	Not Permissible	Conservation Park Zone adjacent.																		
2.02	Seawall	Construct a new seawall at the private property boundary.	Zone 2	Feasible	Permissible	Total length of freehold land falling within the 2030 EPA is 1,240 m. Cost calculated based on a low amenity seawall. Main beneficiaries: Small no. freehold lots behind the beach.	Private landowners	\$ 6,740,000	\$ 62,000	\$ 7,396,829	-2	-1	-2	0	-2	-2	1	2	-2	-8	0.80	-7.20	-1.05	31
Management Zone 3																								
3.01	Seawall	Provide for ongoing monitoring and maintenance of the 1,050 m long rock wall between Toaan Toaan Creek and Frank Street.	Scarness	Feasible	Permissible	Assume replace 55% rock in first year, replacement rates as per CES (1999). General Use Zone adjacent. Main beneficiaries: Large no. local residents & visitors who use the park, tourist park & other businesses behind the beach or on the Esplanade, freehold lots on the Esplanade.	FCRC	\$ 1,229,063	\$ 47,750	\$ 1,734,927	-2	0	-2	0	-2	-2	2	2	1	-3	1.20	-1.80	-0.29	18
3.02	Artificial Beach Nourishment	Undertake nourishment works along the beach in Scarness (approx. 1,000 m in length; volume 135,000 m3).	Scarness	Feasible	Permissible	General Use Zone adjacent. Main beneficiaries: Large no. local residents & visitors who use the beach & park, tourist park & other businesses behind the beach or on the Esplanade, freehold lots on the Esplanade.	FCRC	\$ 5,643,625	\$ 1,679,125	\$ 23,432,299	-1	-1	-1	0	2	1	1	1	2	4	0.00	4.00	0.54	10
3.03	Combination	Combination of Options 3.01 and 3.02.	Scarness	Feasible	Permissible	Main beneficiaries: Large no. local residents & visitors who use the beach & park, tourist park & other businesses behind the beach or on the Esplanade, freehold lots on the Esplanade.	FCRC	\$ 6,820,938	\$ 1,726,875	\$ 25,115,476	-2	-1	-2	0	1	1	2	2	2	3	1.00	4.00	0.54	11
3.04	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags where the erosion scarp is closest to the adjacent structure (on an as needs basis).	Piabla/Scarness	Feasible	Permissible	Assumes up to 700 m length in total based on proximity of structures to the shoreline. Main beneficiaries: Tourist park & other businesses, small no. freehold lots.	Private landowners	\$ 4,065,250	\$ 70,000	\$ 4,806,831	-2	-1	-2	0	-1	-1	1	1	0	-5	-0.20	-5.20	-0.78	25
3.05	Sand Push	Conduct regular sand pushes to reprofile the beach.	Scarness	Not Feasible																				
3.06	Seawall	Provide for ongoing monitoring and maintenance of the 970 m long rock seawall between Robert Street and just south of Alexander Street.	Torquay	Feasible	Permissible	Assume replace 35% rock in first year, replacement rates as per CES (1999). General Use Zone Adjacent. Main beneficiaries: Large no. local residents & visitors who use the park, businesses behind the beach or on the Esplanade, freehold lots on the Esplanade & dune vegetation.	FCRC	\$ 1,138,500	\$ 43,675	\$ 1,601,194	-2	0	-2	0	-1	-1	1	1	1	-3	1.20	-1.80	-0.29	19
3.07	Seawall	Upgrade the existing rock wall between Robert and Alexander Streets to high amenity seawall (e.g. stepped revetment incorporating vegetation).	Torquay	Feasible	Permissible	Costed based on a high amenity seawall of 1,000 m length. General Use Zone Adjacent. Main beneficiaries: Large no. local residents & visitors who use the park & beach, businesses behind the beach or on the Esplanade, freehold lots on the Esplanade & dune vegetation.	FCRC	\$ 14,909,750	\$ 125,000	\$ 16,234,002	-2	1	-2	0	0	1	1	2	2	3	1.00	4.00	0.55	9

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3.08	Artificial Beach Nourishment	Undertake nourishment works along the beach in Torquay (approx. volume 135,000 m3).	Torquay	Feasible	Permissible	Source: CLT (2006) General Use Zone adjacent. Large number of local residents & visitors who use the beach, businesses behind the beach or on the Esplanade, freehold lots on the Esplanade & dune vegetation.	FCRC	\$ 5,586,125	\$ 1,679,125	\$ 23,374,799	-1	-1	-1	0	2	1	1	1	1	3	0.60	3.60	0.49	12
3.09	Combination	Combination of Options 3.06 and 3.08.	Torquay	Feasible	Permissible	Main beneficiaries: Large no. local residents & visitors who use the park & beach, businesses behind the beach or on the Esplanade, freehold lots on the Esplanade & dune vegetation.	FCRC	\$ 6,672,875	\$ 1,722,800	\$ 24,924,243	-2	0	-2	0	1	1	2	2	2	4	1.00	5.00	0.68	7
3.10	Combination	Combination of Options 3.07 and 3.08.	Torquay	Feasible	Permissible	Main beneficiaries: Large no. local residents & visitors who use the park & beach, businesses behind the beach or on the Esplanade, freehold lots on the Esplanade & dune vegetation.	FCRC	\$ 20,395,250	\$ 1,804,125	\$ 39,508,176	-2	0	-2	0	2	2	2	2	2	6	0.80	6.80	0.90	6
3.11	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags where the erosion scarp is closest to the adjacent structures (on an as needs basis).	Torquay	Feasible	Permissible	Assumes up to 830 m length in total based on proximity of structures to the shoreline. Main beneficiaries: Small no. businesses & freehold lots.	Private landowners	\$ 4,812,750	\$ 83,000	\$ 5,692,053	-2	-1	-2	0	-1	-1	1	1	-1	-6	0.20	-5.80	-0.86	28
3.12	Sand Push	Conduct regular sand pushes to reprofile the beach.	Torquay	Not Feasible																				
3.13	Groynes	Monitor and maintain the two existing groynes at Churchill and Margaret Streets.	Urangan	Feasible	Permissible	General Use Zone adjacent. Main beneficiaries: A no. local residents & visitors who use the park & beach down-drift of the structures, businesses behind the beach.	FCRC	\$ -	\$ 20,729	\$ 219,601	-2	0	-2	-1	-1	-1	0	0	0	-7	1.60	-5.40	-1.01	30
3.14	Seawall	Provide for ongoing monitoring and maintenance of the 650 m long rock wall running from the shoreline just north of Elizabeth Street to the Urangan Pier.	Urangan	Feasible	Permissible	Assume replace 30% rock in first year, replacement rates as per CES (1999). General Use Zone adjacent. Main beneficiaries: Mod-large no. local residents & visitors, businesses/freehold lots on the Esplanade.	FCRC	\$ 615,250	\$ 39,875	\$ 1,037,686	-2	0	-2	-1	-1	-1	1	1	1	-4	1.20	-2.80	-0.47	22
3.15	Seawall	Upgrade the existing 700 m rock wall and revetment structure between Elizabeth Street and the Urangan Pier to a high amenity seawall (e.g. stepped revetment incorporating vegetation).	Urangan	Feasible	Permissible	General Use Zone adjacent. Main beneficiaries: Large no. local residents & visitors, businesses/freehold lots on the Esplanade.	FCRC	\$ 10,580,000	\$ 87,250	\$ 11,504,328	-2	1	-2	-1	0	1	1	2	2	2	0.80	2.80	0.40	13
3.16	Artificial Beach Nourishment	Undertake nourishment works along the beach in Urangan either side of the Pier (approx. volume 110,000 m3).	Urangan	Feasible	Permissible	Source: CLT (2006) General Use Zone adjacent. Main beneficiaries: Mod-large no. local residents & visitors, businesses/freehold lots on the Esplanade.	FCRC	\$ 4,177,375	\$ 1,250,375	\$ 17,423,866	-1	-1	-1	0	1	1	1	1	1	2	0.80	2.80	0.39	15
3.17	Combination	Combination of Options 3.14 and 3.16.	Urangan	Feasible	Permissible	Main beneficiaries: Large no. local residents & visitors, businesses/freehold lots on the Esplanade.	FCRC	\$ 4,746,625	\$ 1,290,250	\$ 18,415,552	-2	-1	-2	0	1	1	1	1	1	0	1.40	1.40	0.19	16
3.18	Combination	Combination of Options 3.15 and 3.16.	Urangan	Feasible	Permissible	Main beneficiaries: Large no. local residents & visitors, businesses/freehold lots on the Esplanade.	FCRC	\$ 14,628,000	\$ 1,337,625	\$ 28,798,818	-2	0	-2	0	1	2	1	2	2	4	1.00	5.00	0.67	8
3.19	Sand Push	Conduct regular sand pushes to reprofile the beach.	Urangan	Not Feasible																				
3.20	Seawall	Construct a new seawall at the private property boundary.	Zone 3	Feasible	Permissible	Total length of freehold land falling within the 2030 EPA is 920 m. Cost calculated based on low amenity seawall. Main beneficiaries: Small no. freehold lots behind the beach.	Private landowners	\$ 5,911,000	\$ 46,000	\$ 6,398,325	-2	-1	-2	0	-1	-1	1	1	-1	-6	0.80	-5.20	-0.76	24
Management Zone 4																								
4.01	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags where the erosion scarp is closest to the adjacent structures (on an as needs basis).	Urangan to River Heads	Feasible	Permissible	Assumes up to 1,700 m length in total based on proximity of structures to the shoreline. Conservation Park and Marine National Park Zones adjacent. FHA A adjacent (Susan River). It is not permissible to place sand bags on the beach. Therefore, it has been assumed that the sandbagging would take place on freehold land, which would be permissible. Main beneficiaries: Small no. freehold lots behind the beach.	Private landowners	\$ 9,815,250	\$ 170,000	\$ 11,616,232	-2	-1	-2	0	-2	-2	2	2	-1	-6	0.00	-6.00	-0.85	27
4.02	Sand Push	Conduct regular sand pushes to reprofile the beach.	Booral	Not Feasible	Not Permissible																			
4.03	Seawall	Construct a new seawall at the private property boundary.	Zone 4	Feasible	Permissible	Total length of freehold land falling within the 2030 EPA is 11,688 m. Cost calculated based on a low amenity seawall. Main beneficiaries: Small no. freehold lots behind the beach.	Private landowners	\$ 67,712,000	\$ 584,400	\$ 73,903,142	-3	-2	-3	-1	-3	-3	2	2	-2	-13	0.60	-12.40	-1.58	38
Management Zone 5																								

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5.01	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags where the erosion scarp is closest to the adjacent structures (on an as needs basis).	Maaroom	Feasible	Permissible	Assumes up to 500 m based on proximity of structures to the shoreline. Conservation Park Zone adjacent. It is not permissible to place sand bags on the beach. Therefore, it has been assumed that the sandbagging would take place on freehold land, which would be permissible.	Private landowners	\$ 2,915,250	\$ 50,000	\$ 3,444,951	-2	-1	-2	0	-1	-1	1	1	-1	-6	0.00	-6.00	-0.92	29
5.02	Sand Push	Conduct regular sand pushes to reprofile the beach.	Maaroom	Not Feasible																				
5.03	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags where the erosion scarp is closest to the adjacent structures (on an as needs basis).	Boonooroo to Tuan	Feasible	Permissible	Assumes up to 3,500 m based on proximity of structures to the shoreline. FHA A and Conservation Park Zone adjacent. It is not permissible to place sand bags on the beach. Therefore, it has been assumed that the sandbagging would take place on freehold land, which would be permissible. Main beneficiaries: Small no. freehold lots behind the beach.	Private landowners	\$ 20,165,250	\$ 350,000	\$ 23,873,155	-3	-1	-3	0	-3	-3	2	2	-1	-10	0.00	-10.00	-1.36	33
5.04	Sand Push	Conduct regular sand pushes to reprofile the beach.	Boonooroo & Tuan	Not Feasible	Not Permissible																			
5.05	Artificial Beach Nourishment	Nourishment of approximately 2,000m of shoreline.	Poona	Feasible	Not Permissible	Conservation Park Zone adjacent.																		
5.06	Groynes	Construct groynes to trap sand along the foreshore.	Poona	Feasible	Not Permissible	Conservation Park Zone adjacent.																		
5.07	Combination	Combination of Options 5.06 and 5.07.	Poona	Feasible	Not Permissible	Conservation Park Zone adjacent.																		
5.08	Sandbagging	As an interim measure to halt erosion, place sand filled geotextile bags where the erosion scarp is closest to the adjacent structures (on an as needs basis).	Poona	Feasible	Permissible	Assumes up to 2,300 m based on proximity of structures to the shoreline. Conservation Park Zone adjacent. It is not permissible to place sand bags on the beach. Therefore, it has been assumed that the sandbagging would take place on freehold land, which would be permissible. Main beneficiaries: Small no. freehold lots behind the beach.	Private landowners	\$ 13,265,250	\$ 230,000	\$ 15,701,873	-3	-1	-3	0	-2	-2	2	2	-1	-8	0.20	-7.80	-1.08	32
5.09	Sand Push	Conduct regular sand pushes to reprofile the beach.	Poona	Not Feasible	Not Permissible	Conservation Park Zone adjacent.																		
5.10	Sand Push	Conduct regular sand pushes to reprofile the beach.	Tinnanbar	Not Feasible	Not Permissible	Conservation Park Zone adjacent.																		
5.11	Seawall	Construct a new seawall at the private property boundary.	Zone 5	Feasible	Permissible	Total length of freehold land falling within the 2030 EPA is 13,316 m. Cost calculated based on low amenity seawall. Main beneficiaries: Small-mod. no. freehold lots behind the beach.	Private landowners	\$ 77,188,000	\$ 665,800	\$ 84,241,495	-3	-2	-3	-1	-3	-3	2	2	-2	-13	1.40	-11.60	-1.46	36
		All Zones																						
6.01	Planning	Develop a standard Condition of Development Permit that applies to all developments within the 2100 EPA that they are required to prepare a climate change/sea level rise adaptation plan.	All	Feasible	Compatible	Ideally this should be a covenant or a similar mechanism that transfers with the title so that any future owners are also required to adopt the adaptation plan for the subject lot(s). Main beneficiaries: Small no. affected freehold landholders.	FCRC	\$ 15,000	\$ -	\$ 15,000	2	1	1	1	1	0	1	1	1	9	1.80	10.80	2.59	4
6.02	Planning	Incorporate the findings of this study on shoreline erosion trends into the Climate Change Adaptation Strategy to assist Council's long term strategic planning.	All	Feasible	Compatible	Costing is based on providing input on the findings of this study to the Strategy, estimated at 5% FTE hours. Main beneficiaries: community at large, visitors to the area.	FCRC	\$ 4,575	\$ 230	\$ 7,012	3	2	3	2	3	0	3	3	3	22	2.00	24.00	6.24	1
6.03	Planning	Review land use zonings and development controls based on the updated 2100 EPA mapping.	All	Feasible	Compatible	Cost of implementation is only for labour to undertake the work and does not include any compensation for affected landowners. It has been assumed that, because Council would do this activity based on the QCP requirements, they would not be liable for any compensation. Main beneficiaries: community at large.	FCRC	\$ 25,000	\$ -	\$ 25,000	3	1	2	1	2	0	2	2	2	15	2.00	17.00	3.87	3
6.04	Planning	Review land use zonings and development controls based on the updated 2100 EPA mapping.	All	Feasible	Compatible	Costing is based on providing input on the findings of this study to the strategy, estimated at 10% FTE hours for the first year, and 5% FTE hours for every year thereafter. Main beneficiaries: community at large, visitors to the area.	FCRC	\$ 9,155	\$ 4,575	\$ 57,623	3	2	0	1	3	0	3	3	3	18	2.00	20.00	4.20	2

Option ID	Option Type	Description	Location	Technical Feasibility*	Compatibility with Legislative Framework*	Notes	Primary Responsibility	Indicative Cost of Implementation	Indicative Annually Recurrent Costs	Net Present Value	Environmental Criteria			Socio-Economic Criteria						Raw Benefit Index	Stakeholder Response (Average Score)	Adjusted Benefit Index	Cost Benefit Ratio	Rank
											Coastal Processes	Flooding	Ecology	Cultural Heritage	Recreation, Access & Amenity	Visual Amenity	Public Safety & Critical	Infrastructure	Private Property					
6.05	Planning	<p>Review existing emergency management provisions relating to coastal hazards and update as required. As a minimum, the Emergency Action Plan should consider:</p> <ul style="list-style-type: none"> - Integration into the local DISPLAN; - Legislative and policy framework for emergency management; - Area covered by the Emergency Action Plan; - Actions to be carried out before the storm, preparedness arrangements (e.g. in relation to approvals, or stockpiling materials); - Actions to be carried out during the storm (e.g. sandbagging, evacuation, restricting public access); - Actions to be carried out after the storm (e.g. to restore the site, assess affected structures, data collection); - Criteria or thresholds at which actions would be implemented (e.g. warnings from BoM); - Any provisions or site specific requirements for private landholder temporary protection works; - Roles and responsibilities for the actions listed; - Contact details for emergency services and key personnel; and - A communication strategy for the Plan. 	All	Feasible	Compatible	<p>Capital cost relates to cost to prepare the Plan. Annually recurrent costs are based on 5% FTE hours to update the Plan as required, provide information to the community, and feed information on the Plan into any other relevant initiatives undertaken by Council. Cost does not include any cost of materials to implement the Plan during a storm, to clean up the affected site after the storm has passed, or other associated costs.</p> <p>Main beneficiaries: community at large, visitors to the area.</p>	FCRC	\$ 85,000	\$ 4,575	\$ 133,468	2	0	-1	1	2	-1	2	2	2	9	1.80	10.80	2.11	5