PRELIMINARY ASSESSMENT FOR FRANKLIN HARBOR MARINE PARK PARK LOCAL ADVISORY GROUP TO ASSIST WITH MEETING ON THE 13th of MAY 2011

Rapid Assessment on Comprehensive, Adequate and Representative (CAR) Principles for the Franklin Harbor (Marine Park 9) suggested zoning option

Overview

DENR has undertaken a rapid assessment of the CAR principles for the possible sanctuary zone options for the Franklin Harbor Marine Park suggested at the Marine Parks Local Advisory Group meeting held on 25 February 2011.

Community feedback and MPLAG advice has resulted in sanctuary zones suggested at five locations within the marine park (A1 part 1 and 2, B1, C1, D1) (see Figure 1), resulting in one zoning option for this marine park.

This rapid assessment[1] helps to determine if the zoning option meets the core biophysical principles of:

Comprehensive: To be comprehensive, examples of all ecosystems and habitats within the marine park should be included within sanctuary zones.

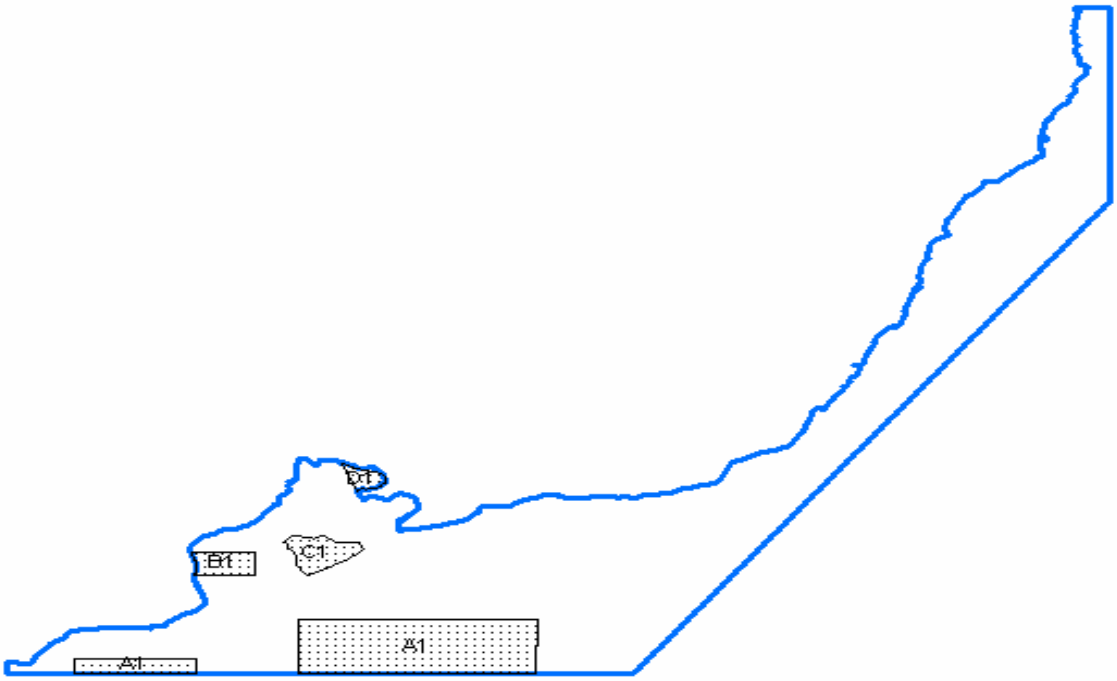
Adequate: To be adequate The marine parks system should provide for the maintenance of the ecological viability and integrity of populations, species and communities

Representative: To be representative, the system of sanctuary zones should reflect the biodiversity and variability naturally present in the marine park.

MPLAGs should seek to apply the full suite of 14 design principles in any further zoning advice generated.

Possible zoning option for marine park 9

Figure 1: Zoning Option 1 (13% of MP)
(possible zones: A1, B1, C1, D1)



[1] GIS processing formed the basis of the rapid assessments. A number of data layers captured at various scales were used in the analysis, these include layers such as: state and national benthic mapping; coastal shoreline types; and sea lion haul out and breeding locations. Procedures such as intersections, unions, frequency analysis as well as manual measurements were used in this assessment. All information is subject to the scale and accuracy of the data used.

How to use this document

The rapid assessment shows the range of environmental values/features that are included in MPLAG zoning options and that are omitted. It also shows those features that are well represented and those that are under-represented. **For each under-represented feature, the maps in Appendix C show alternative locations where the feature is mapped.**

The rapid assessment also provides a measure of each suggested sanctuary zone to assist consideration of the adequacy of those zones. **Note: It is better to have fewer, larger sanctuary zones than many smaller ones.**

Comprehensiveness

Each option was assessed for the inclusion of examples of shoreline types and seafloor (benthic) habitats in the suggested sanctuary zones.

The zoning option includes the following shoreline types and seafloor (benthic) habitats:

- ✓ Macroalage
- ✓ Rocky reef
- ✓ Seagrass
- ✓ Soft bottom habitat
- ✓ Unmapped habitat
- ✓ Coarse sand beach
- ✓ Mangrove
- ✓ Saltmarsh
- ✓ Sand dunes

The zoning option does not include the following shoreline types:

- × Cobble
- × Cliff
- × Mixed beach

Representativeness

Each option was assessed against the proportion of environmental values[2] represented in the suggested sanctuary zones. To consider the full diversity and variability of the coastal and marine features, this assessment included benthic habitat types at different depths, shoreline types at different exposures and a range of other ecologically important features. The zoning option was assessed for the proportion (as a %) of environmental values represented in the suggested sanctuary zones. Proportions were broken into 4 categories: ≥20%, between 10% and 19%, <10% and 0.

Environmental values represented within the possible zoning options as a proportion of their availability within the park

Environmental values that are represented at a level ≥20%:

- ✓ Macroalgae (-10 to -30m)
- ✓ Soft bottom habitat (-10 to -30m)
- ✓ Unmapped habitat (-10 to -30m)
- ✓ Mangrove (sheltered)
- ✓ Sand dunes (sheltered)

Environmental values that are represented between 10-19%:

- ✓ Seagrass (-10 to -30m)
- ✓ Soft bottom habitat (0 to -10m)
- ✓ Unmapped habitat (0 to -10m)
- ✓ Saltmarsh (moderate)
- ✓ Estuaries

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[2] In this assessment an environmental value includes seafloor habitats and shoreline habitats and ecologically important features available within the outer boundary.

Environmental values that are represented at a level <10%:

- ✓ Coastal wader bird sites
- ✓ Macroalgae (0 to -10m)
- ✓ Rocky reef (0 to -10m)
- ✓ Rocky reef (-10 to -30m)
- ✓ Seagrass (0 to -10m)
- ✓ Coarse sand beach (moderate)
- ✓ Coarse sand beach (sheltered)

Environmental values that are not represented (0%):

- × Australian Sealions (haulout)
- × Sea Bird Sites
- × Cobble (0 to -10m)
- × Cliff (Sheltered)
- × Mangrove (moderate)
- × Mixed beach (moderate)
- × Mixed beach (sheltered)
- × Saltmarsh (sheltered)

Note:

- A more detailed assessment of environmental values and the percentage included in Zoning Option 1 can be viewed in Appendix A.
- Environmental values included within each suggested individual zone can be viewed in Appendix B.
- The locations of environmental values that are not included or are under represented are shown in Appendix C.

Adequacy

Each of the suggested zones was measured for their approximate lengths (from coast to offshore or longitudinal lengths) and widths (coastline or latitudinal lengths), these are shown in Table 1. The total area of f the zoning option was calculated, as shown in Table 2.

Note: The guideline is that a zone should include whole habitats or areas with minimum linear dimensions of 7-10 km (or 5km where State waters are limited to 3 nautical miles). Smaller dimensions are likely to have a value but not for all organisms.

Table 1. Approximate length, width and size of each suggested zone (areas rounded to the nearest whole number).

Zone	From the coast to offshore (or length) (km)	Coastline along shore (or width) (km)	Size of zone (km^2)
A1 (part 1)	7	1	9
A1 (part 2)	13	4	58
B1	3	2	6
C1	4	3	8
D1	2	2	3

Note: size is not necessarily length x width, it will vary because of the actual shape of the zones and because the numbers have been rounded to the nearest whole number.

Area of Zoning Option

One zoning option was developed using the four suggested zones. The total area (km^2) and the percentage sanctuary zones for the option can be seen in Table 2.

Table 2. Total area and percentage of sanctuary zones in the zoning option.

Suggested zoning option	Total area of sanctuary zones (km^2)	% of sanctuary zones located in the marine park
1	84	13

Appendix A.
Table 3: The percentage of each environmental value included in zoning Option 1.

Environmental value	Option 1 Total in all Zones (%)
Ecological Importance	
Australian Sealions (haulout)	0
Coastal Wader Bird Sites	1
Estuaries	18
Sea Bird Sites	0
Total	1
Underwater Habitats	
Cobble (0 to -10m)	0
Macroalgae (0 to -10m)	1
Macroalgae (-10 to -30m)	23
Rocky Reef (0 to -10m)	8
Rocky Reef (-10 to -30m)	3
Seagrass (0 to -10m)	3
Seagrass (-10 to -30m)	12
Soft Bottom Habitat (0 to -10m)	12
Soft Bottom Habitat (-10m to -30m)	64
Unmapped (0 to -10m)	13
Unmapped (-10 to -30m)	37
Total	**13**
Shoreline Habitats	
Cliff (Sheltered)	0
Coarse Sand Beach (Moderate)	<1
Coarse Sand Beach (Sheltered)	4
Mangrove (Moderate)	0
Mangrove (Sheltered)	26
Mixed Beach (Moderate)	0
Mixed Beach (Sheltered)	0
Saltmarsh (Moderate)	12
Saltmarsh (Sheltered)	0
Sand Dunes (Sheltered)	78
Total	**7**

Note: percentages rounded to the nearest whole number.

Environmental values represented	%
Represented	≥20%
Represented between	10-19%
Represented	<10%
Not represented	0%

Appendix B.
Table 4. Environmental values represented in each suggested zone.

Ecological Importance	Units	A1 (parts 1 & 2)	B1	C1	D1	Total in Marine Park (count)
Australian Sealions (haulout)	Count					1
Coastal Wader Bird Sites	Count			1		87
Sea Bird Sites	Count					2
Estuary	Area (km^2)		6	8	3	98

Underwater Habitats		A1 (parts 1 & 2)	B1	C1	D1	Total in Marine Park (km2)
Cobble (0 to -10m)	km^2					<1
Macroalgae (0 to -10m)	km^2		<1		<1	3
Macroalgae (-10 to -30m)	km^2	1				4
Reef (0 to -10m)	km^2	1			<1	11
Reef (-10 to -30m)	km^2	<1				2
Seagrass (0 to -10m)	km^2	3	3	<1	2	312
Seagrass (-10 to -30m)	km^2	7				59
Soft Bottom Habitat (0 to -10m)	km^2	<1	3	3	1	56
Soft Bottom Habitat (-10m to -30m)	km^2	9				14
Unmapped (0 to -10m)	km^2	8	<1	<1	<1	60
Unmapped (-10 to -30m)	km^2	38				103
Total	km^2	**66**	**6**	**8**	**3**	**623**

Shoreline Habitats		A1 (parts 1 & 2)	B1	C1	D1	Total in Marine Park (km)
Cliff (Sheltered)	km					<1
Coarse Sand Beach (Moderate)	km			<1		19
Coarse Sand Beach (Sheltered)	km				1	20
Mangrove (Moderate)	km					10
Mangrove (Sheltered)	km		3	8	2	49
Mixed Beach (Moderate)	km					34
Mixed Beach (Sheltered)	km					40
Saltmarsh (Moderate)	km		<1			4
Saltmarsh (Sheltered)	km					18
Sand Dunes (Sheltered)	km			1		1
Total	km		**3**	**8**	**3**	**195**

Note: numbers have been rounded to the nearest whole number.

Appendix C. Location of the environmental values <10% represented.

Environmental values that have <10% representation are shown in red, identifying where they could be represented within the marine park.

Note: maps are best viewed in colour.

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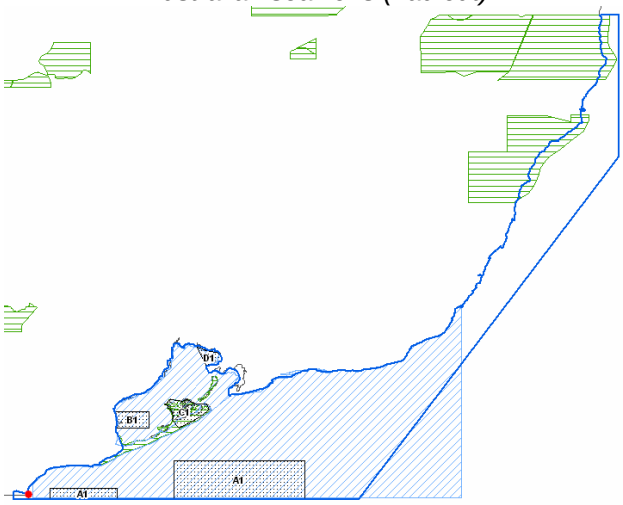
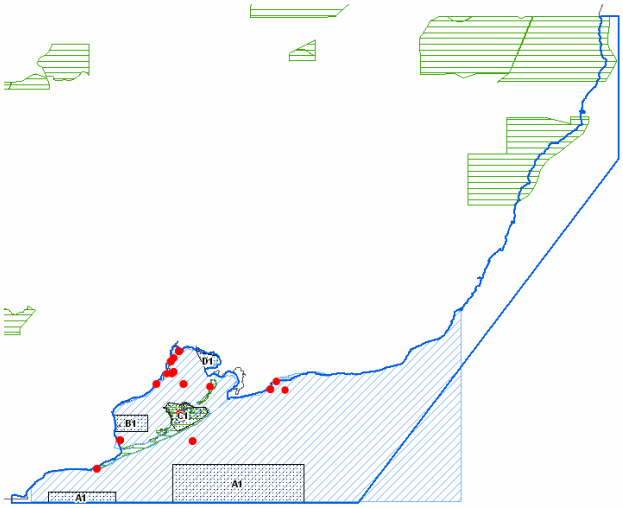
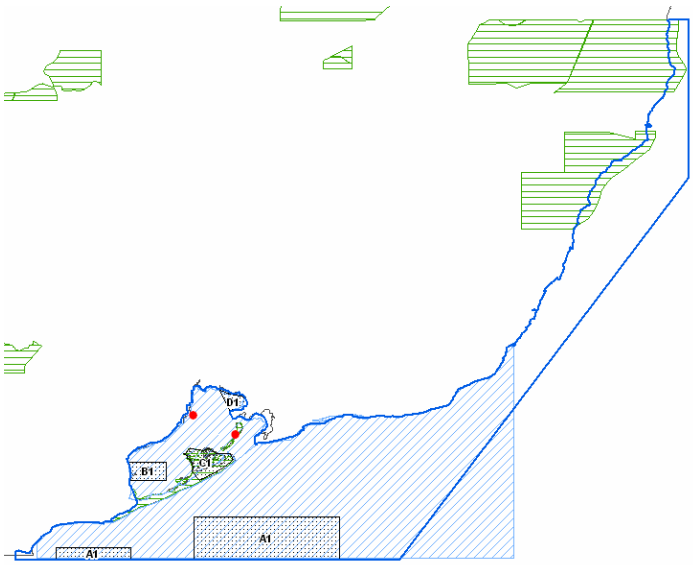
Australian sea lions (haulout)



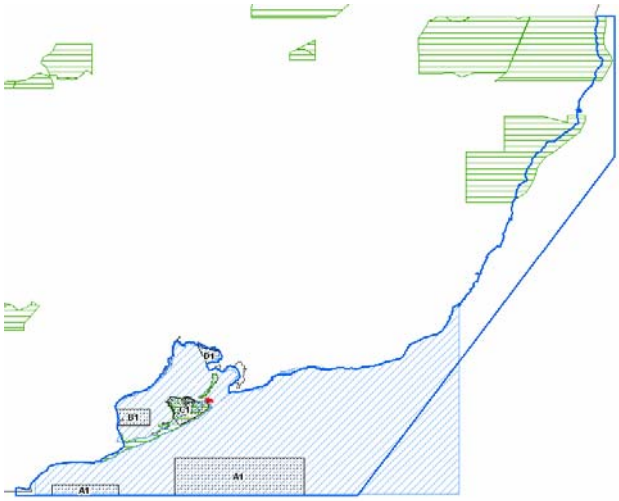
Coastal Wader Bird Sites



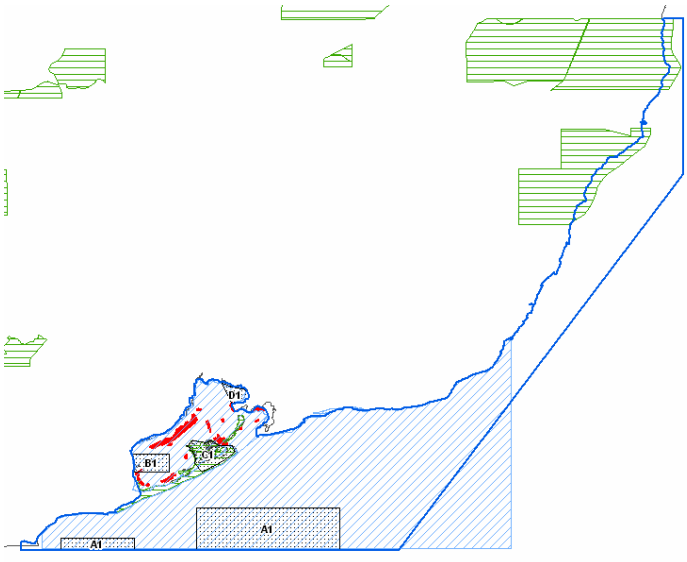
Seabird Sites



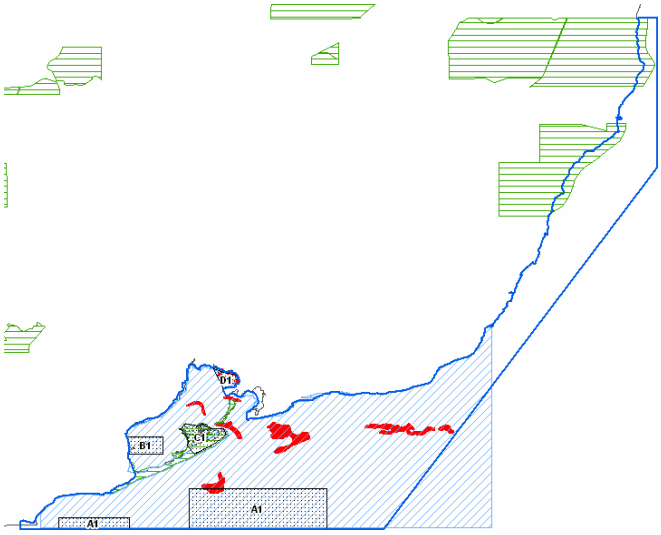
Cobble (0 to -10m)



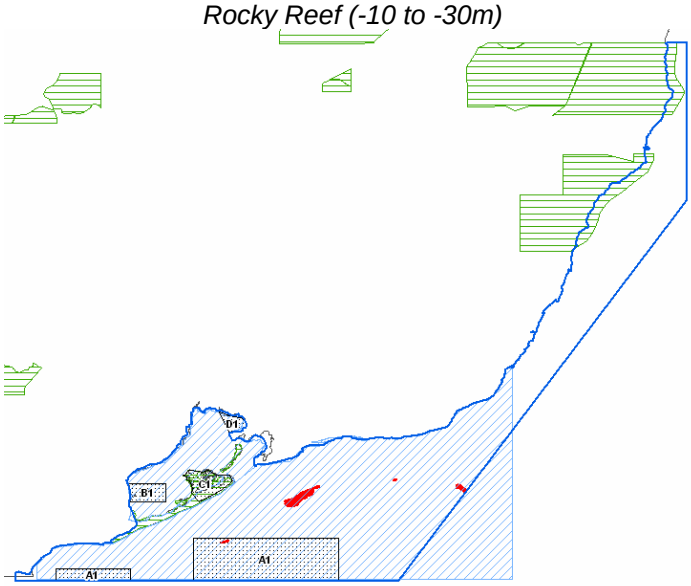
Macroalgae (0 to -10m)



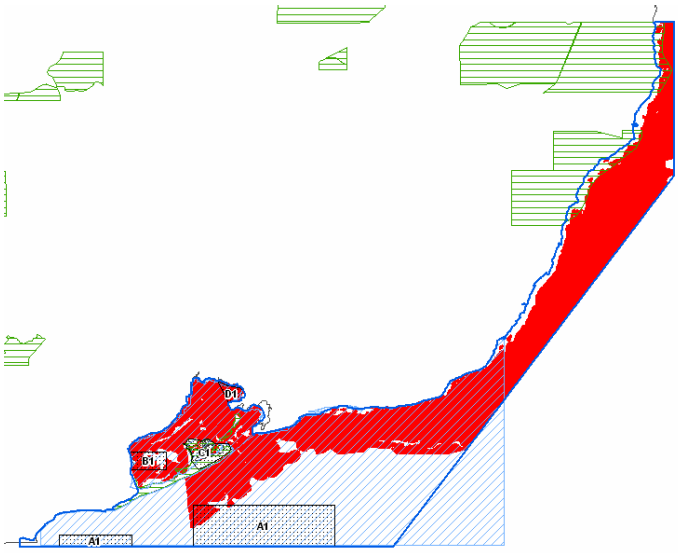
Rocky Reef (0 to -10m)



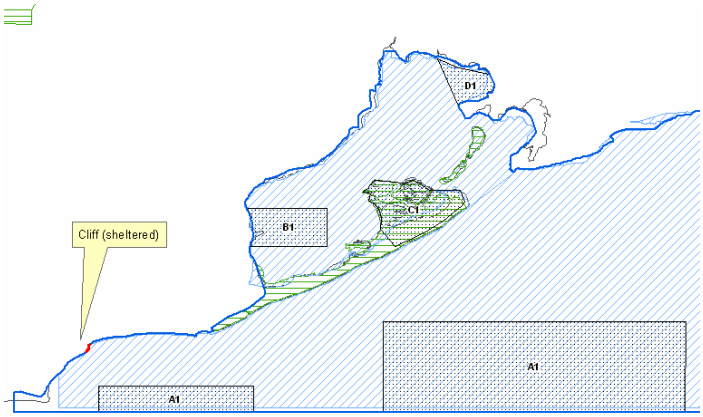
Rocky Reef (-10 to -30m)



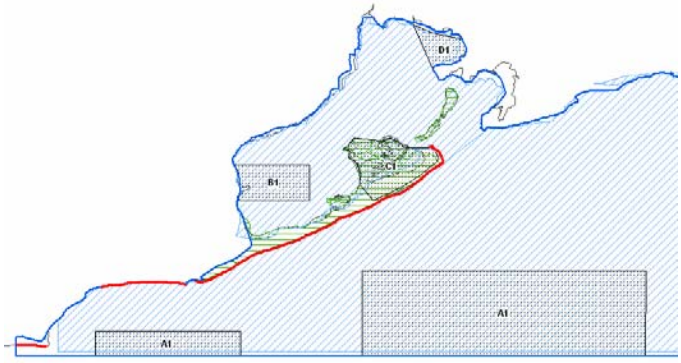
Seagrass (0 to -10m)



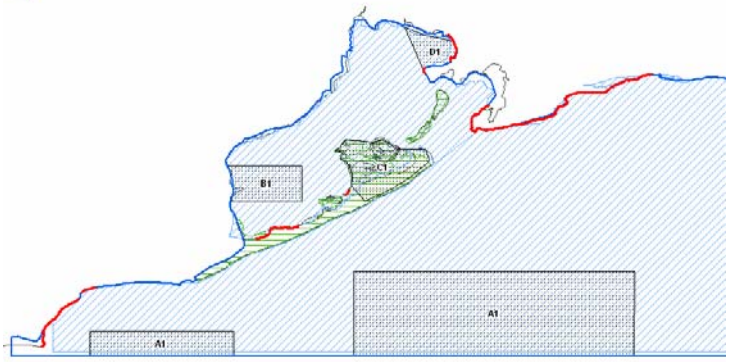
Cliff (sheltered)



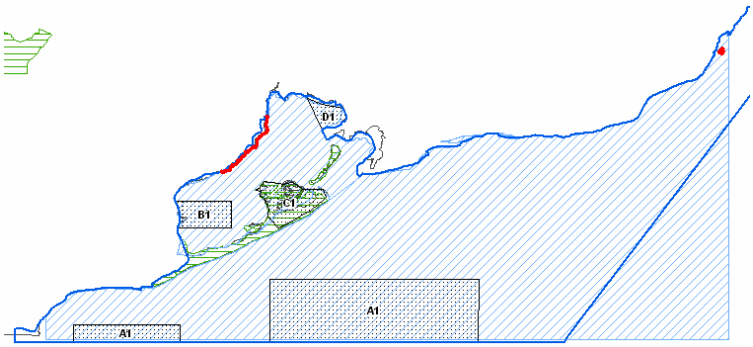
Coarse Sand Beach (moderate)



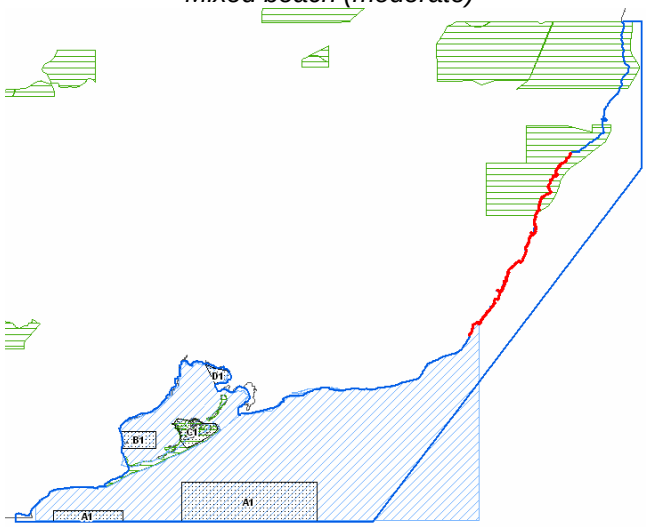
Coarse Sand Beach (sheltered)



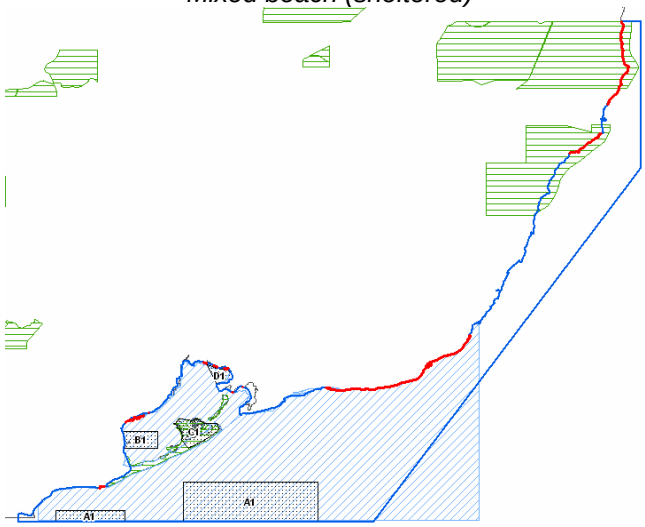
Mangrove (moderate)



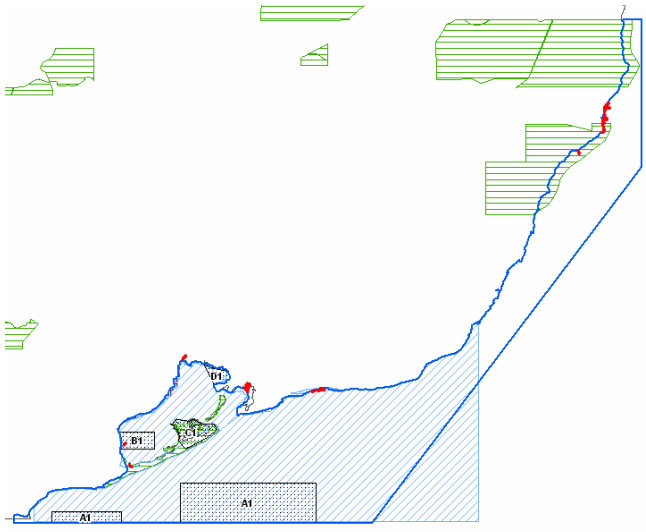
Mixed beach (moderate)



Mixed beach (sheltered)



Saltmarsh (sheltered)



Mapping information: