

PRELIMINARY ASSESSMENT FOR LOWER SOUTH EAST MARINE PARK LOCAL ADVISORY GROUP TO ASSIST WITH MEETING ON THE 2nd of MAY 2011

Rapid Assessment on Comprehensive, Adequate and Representative (CAR) Principles for the Lower South East (Marine Park 19) suggested zoning options

Overview

DENR has undertaken a rapid assessment of the CAR principles for the possible sanctuary zone option for the Lower South East Marine Park suggested at the Marine Parks Local Advisory Group meeting held on the 21st of February 2011.

Community feedback and MPLAG advice has resulted in one sanctuary zoning option, with zones being suggested at two locations within the marine park (A1 and D1) (see Figure 1).

This rapid assessment¹ helps to measure the zoning option against 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.

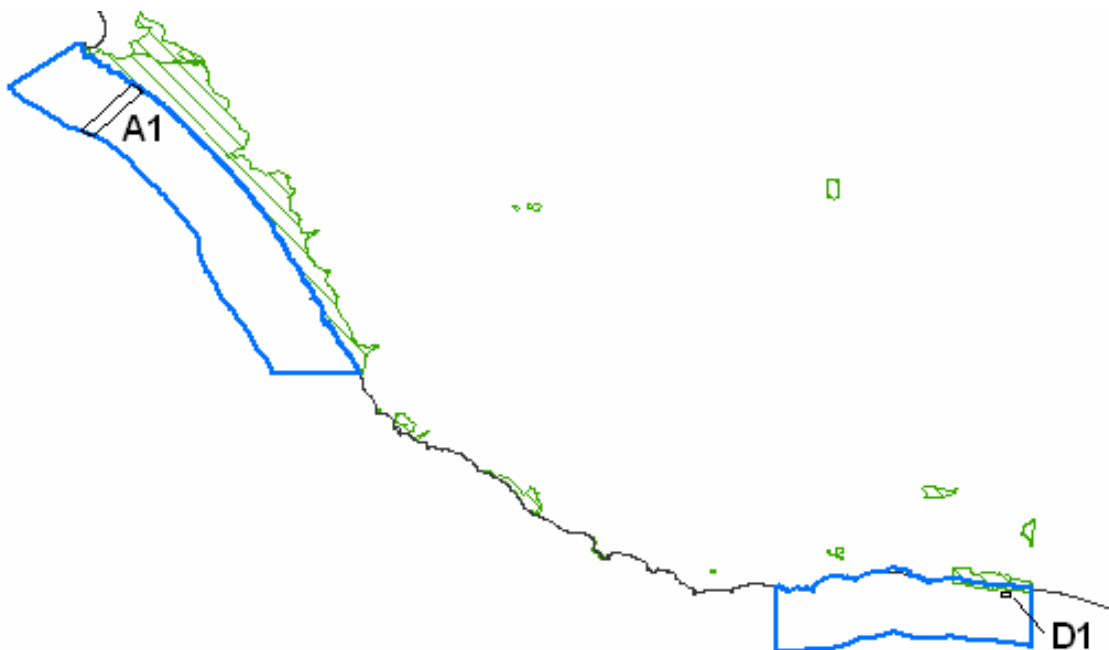
Adequate: To be adequate, the marine parks system should provide for the maintenance of the ecological viability and integrity of populations, species and communities

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 options for marine park 19

Figure 1: Zoning Option (2% of MP)



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 seafloor (benthic) habitats:

- ✓ Reef
- ✓ Soft bottom habitat
- ✓ Unmapped habitat

The zoning option does not include the following shoreline types:

- ✗ Cliff
 - ✗ Fine-medium sand beach
 - ✗ Mixed beach
-

Representativeness

Each option was assessed against the proportion of environmental values² 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. Each 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 >20%:

Nil

Environmental values that are represented between 10-19%:

Nil

Environmental values that are represented <10%:

- ✓ Rocky Reef (0 to -10m)
- ✓ Rocky Reef (-10 to -30m)
- ✓ Soft-bottom habitat (0 to -10m)
- ✓ Soft-bottom habitat (-10 to -30m)
- ✓ Unmapped habitat (-10 to -30m)
- ✓ Unmapped habitat (-30 to -50m)

Environmental values that are not represented (0%):

- ✗ Coastal wader birds
- ✗ Emergent land
- ✗ Estuaries
- ✗ Offshore islands
- ✗ Sea bird sites
- ✗ Reef (-30 to -50m)
- ✗ Cliff (exposed)
- ✗ Cliff (sheltered)
- ✗ Fine-medium sand beach (exposed)

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

- × Fine-medium sand beach (moderate)
- × Fine-medium sand beach (sheltered)
- × Mixed beach (sheltered)

Note:

- A more detailed assessment of environmental values and the percentage included in each zoning option 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 each of the four options 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.

Zone	From the coast to offshore (length) (km)	Coastline along shore (width) (km)	Size of zone (km²)
A1	6	1	6
D1 (offshore)	480m	775m	<1

Areas of alternative Options

One zoning option was developed using the individual zones suggested at the two locations.

Total area (km²) and the percentage sanctuary zones can be seen in Table 2.

Table 2. Total area and percentage of sanctuary zones in the zoning option (rounded to the nearest whole number).

Suggested zoning option	Total area of sanctuary zones (km²)	% of sanctuary zones located in the marine park
Option 1	7	2

Appendix A

Table 3. The percentage of each environmental value included in the zoning option.

	Option1 Total in all Zones (%)
Ecological Importance	
Coastal Wader Birds	0
Emergent Land	0
Estuaries	0
Offshore Islands	0
Sea Bird Sites	0

	Option1 Total in all Zones (%)
Underwater Habitats	
Rocky Reef (0 to -10m)	1
Rocky Reef (-10 to -30m)	2
Rocky Reef (-30 to -50m)	0
Soft-bottom Habitat (0 to -10m)	2
Soft-bottom Habitat (-10m to -30m)	3
Unmapped Habitat (-10 to -30m)	1
Unmapped Habitat (-30 to -50m)	3
Total	2

	Option1 Total in all Zones (%)
Shoreline Habitats	
Cliff (Exposed)	0
Cliff (Sheltered)	0
Fine-medium Sand Beach (Exposed)	0
Fine-medium Sand Beach (Moderate)	0
Fine-medium Sand Beach (Sheltered)	0
Mixed Beach (Sheltered)	0
Total	0

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

Note: Areas rounded to the nearest whole number

Appendix B

Table 4. Environmental values represented in each suggested zone.

Ecological Importance	Units	A1	D1	Total in Marine Park (count)
Coastal Wader Birds	Count			1036
Emergent Land	Count			2
Estuaries	Count			1
Offshore Islands	Count			1
Sea Bird Sites	Count			1

Underwater Habitats	Units	A1	D1	Total in Marine Park (km²)
Macroalgae (0 to -10m)	km ²			<1
Rocky Reef (0 to -10m)	km ²	<1	<1	62
Rocky Reef (-10 to -30m)	km ²	2		120
Rocky Reef (-30 to -50m)	km ²			1
Soft-bottom Habitat (0 to -10m)	km ²	1	<1	39
Soft-bottom Habitat (-10m to -30m)	km ²	1		20
Soft-bottom Habitat (-30m to -50m)	km ²			1
Unmapped Habitat (-10 to -30m)	km ²	1		35
Unmapped Habitat (-30 to -50m)	km ²	2		82
Total		6	<1	360

Shoreline Habitats	Units	A1	D1	Total in Marine Park (km)
Cliff (Exposed)	km			8
Cliff (Sheltered)	km			3
Fine-medium Sand Beach (Exposed)	km			44
Fine-medium Sand Beach (Moderate)	km			6
Fine-medium Sand Beach (Sheltered)	km			4
Mixed Beach (Sheltered)	km			4
Total				69

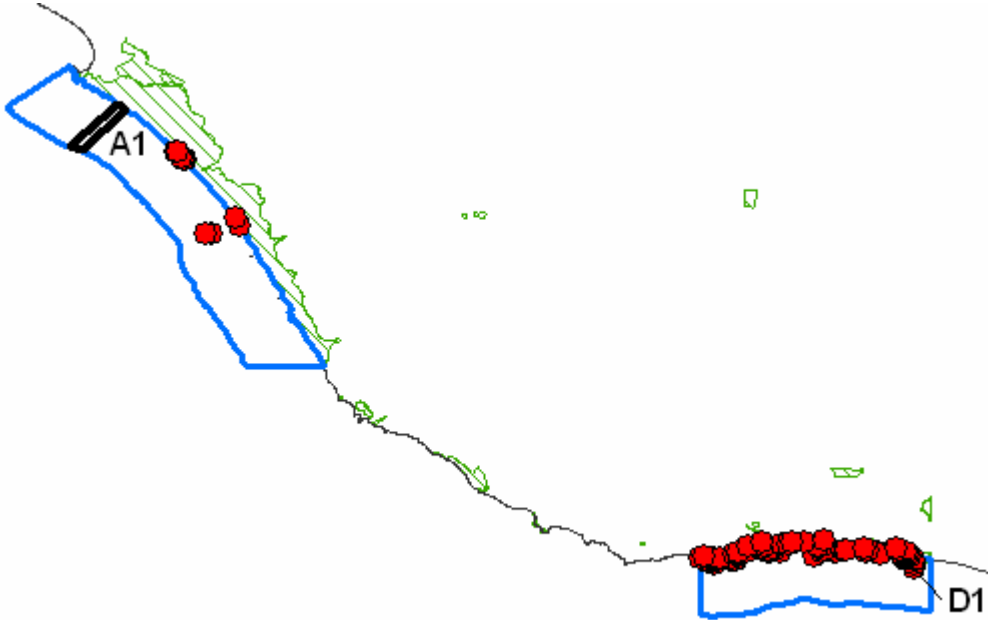
Note: Areas rounded to the nearest whole number

Appendix C. Location of the environmental values <10% or not represented.

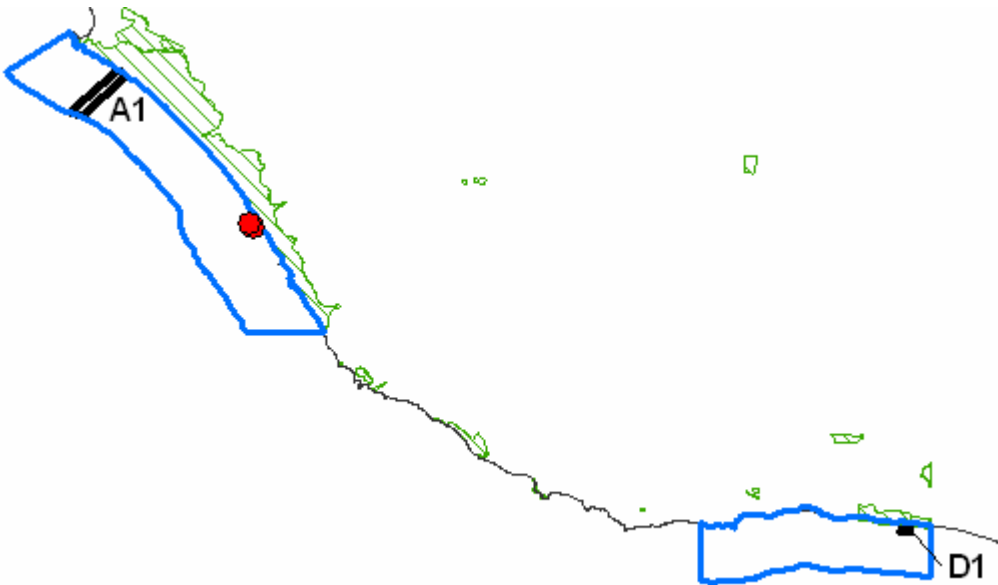
Environmental values that have <10% representation are shown in red, identifying where they could be represented within the outer boundary.

Note: maps are best viewed in colour.

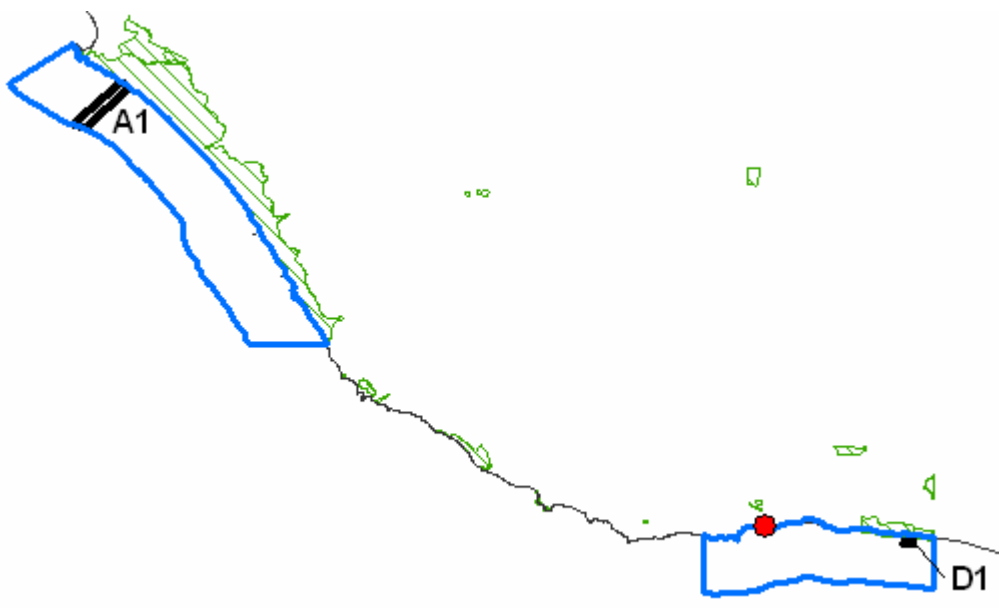
Coastal Wader Birds



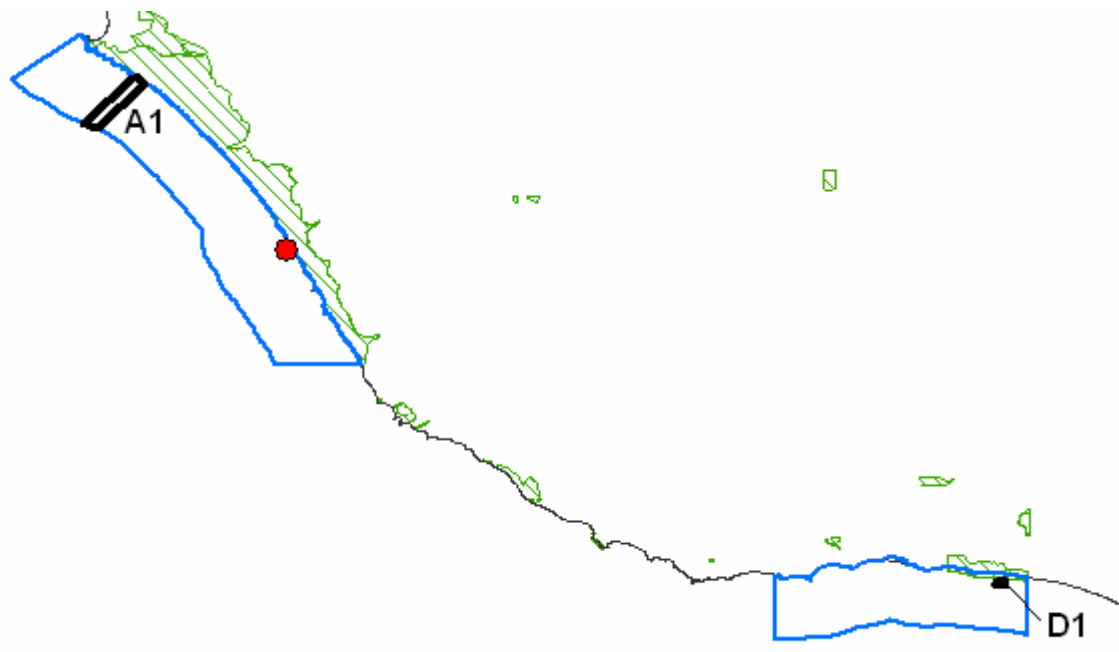
Emergent Land



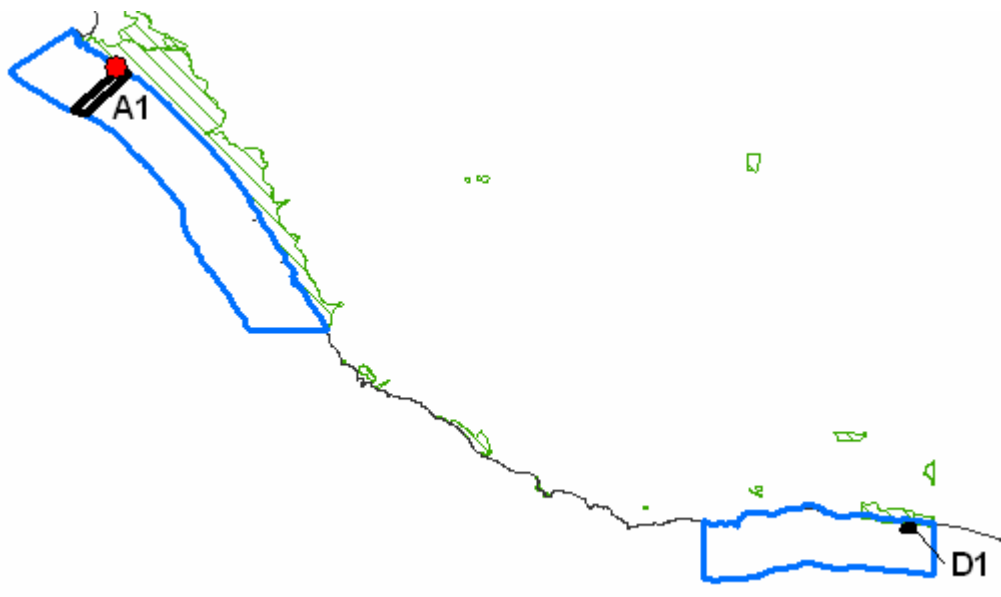
Estuaries



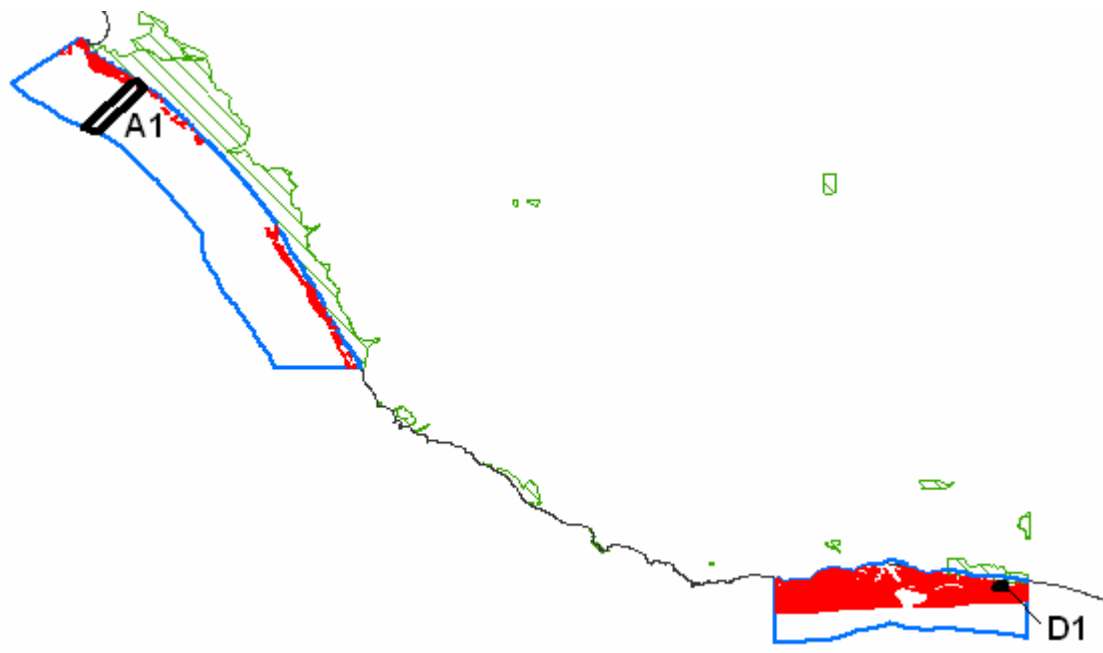
Offshore Islands



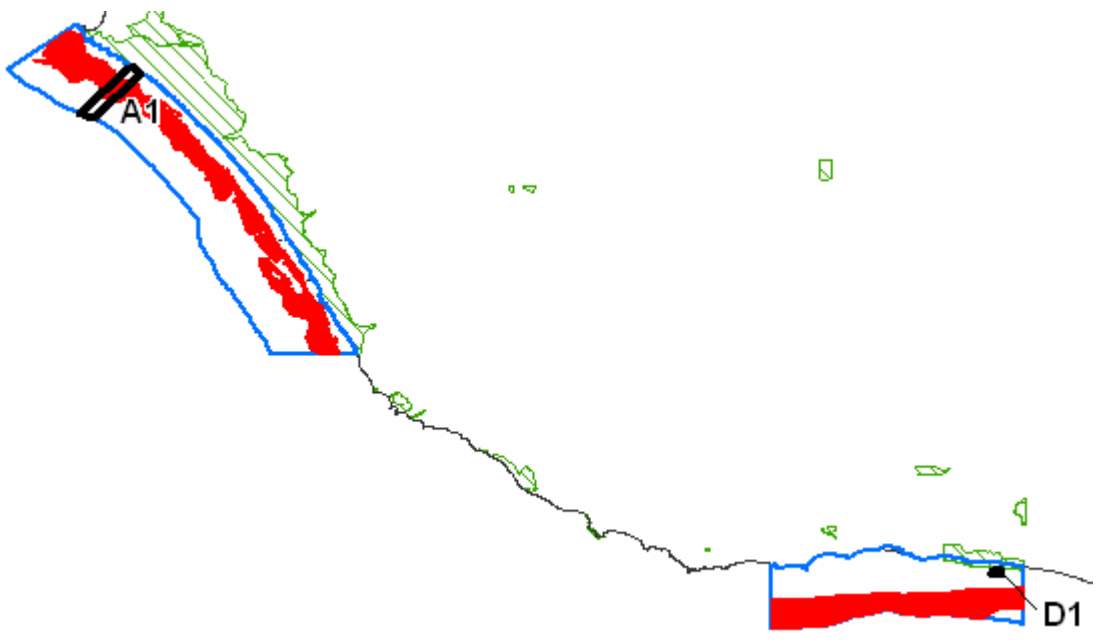
Seabird Sites



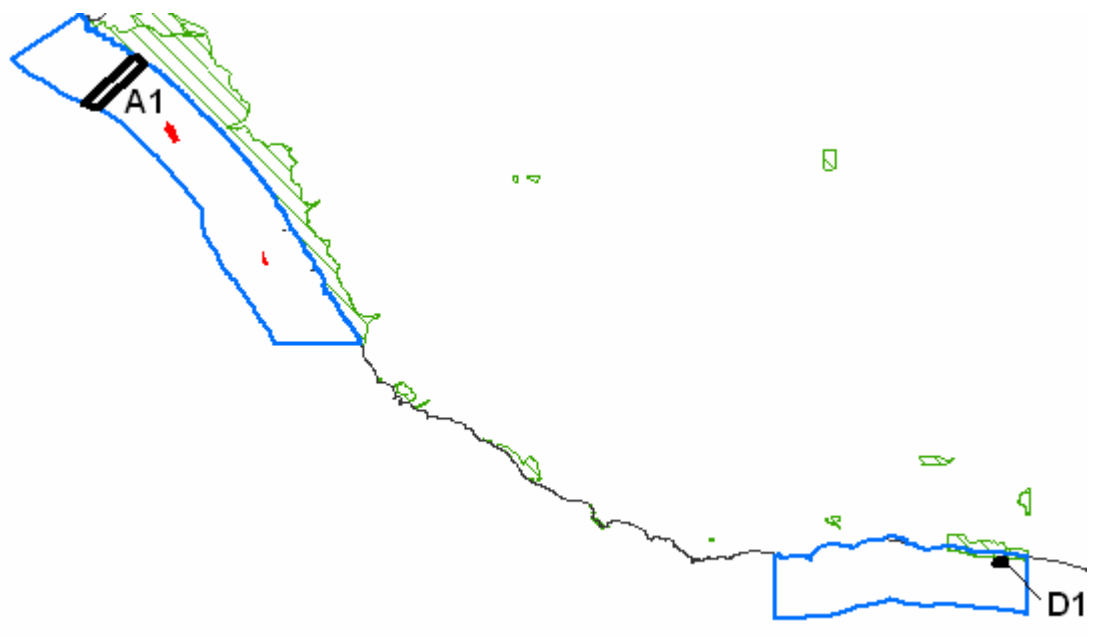
Reef (0 to -10m)



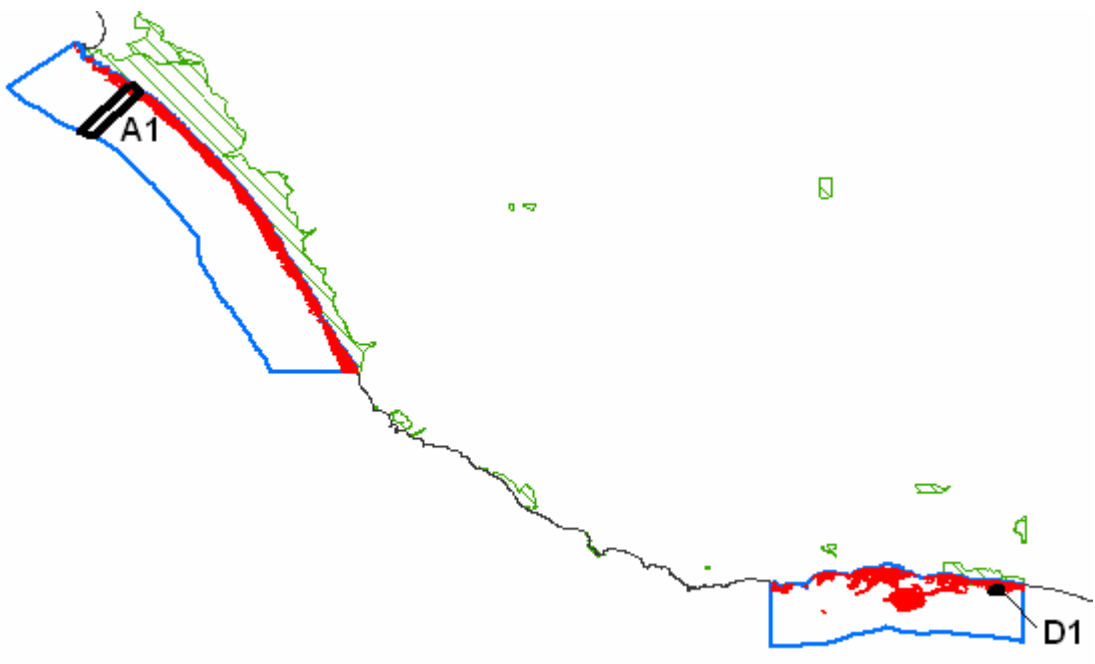
Reef (-10 to -30m)



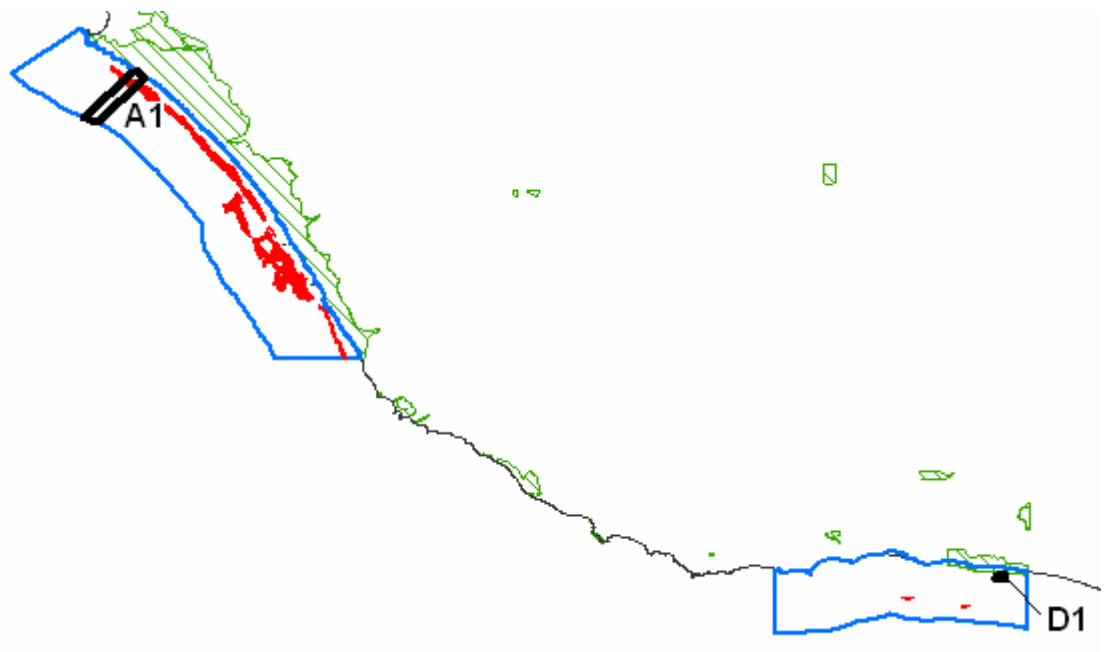
Reef (-30 to -50m)



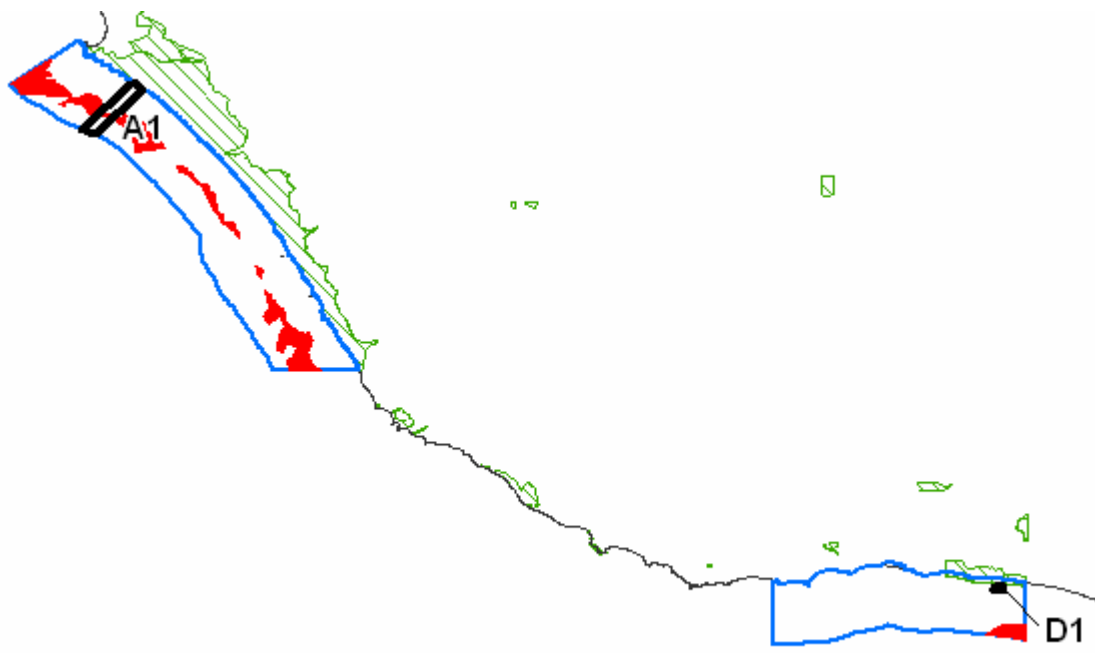
Soft-bottom Habitat (0 to -10m)



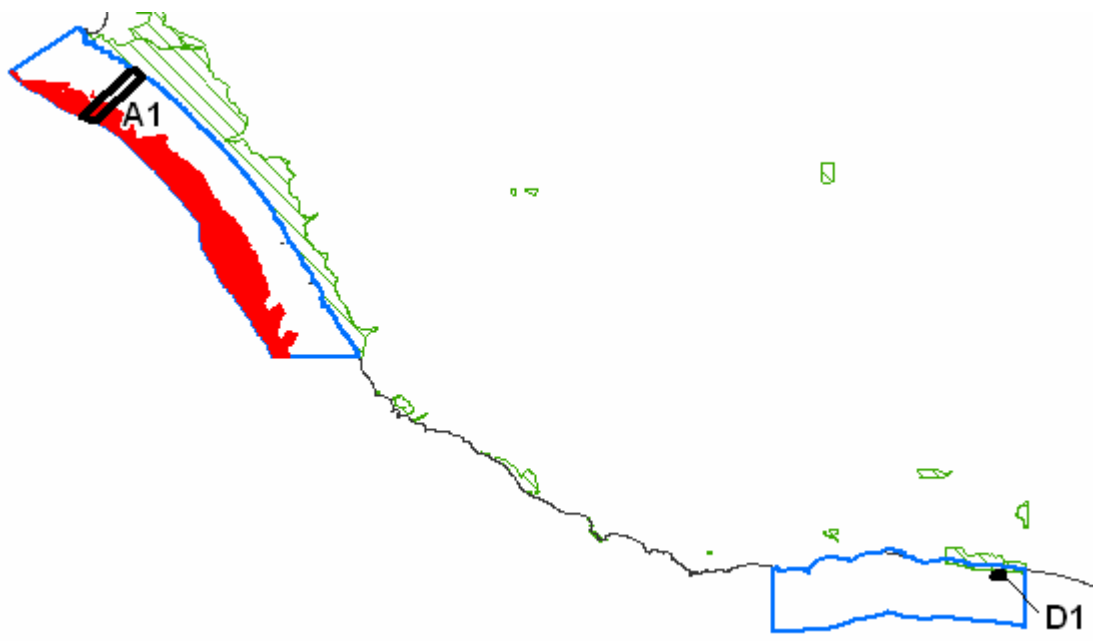
Soft-bottom Habitat (-10m to -30m)



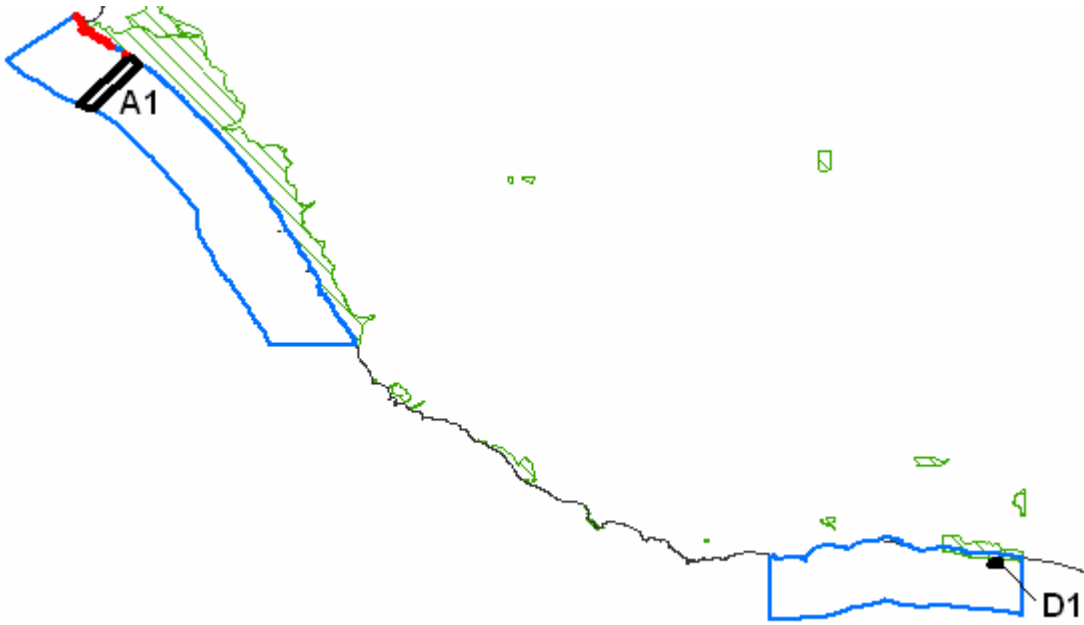
Unmapped (-10 to -30m)



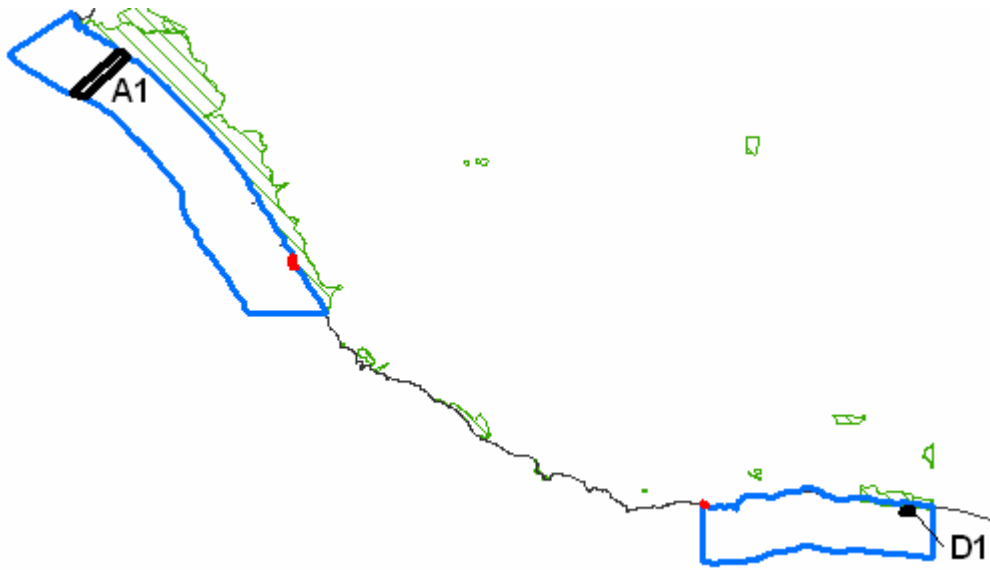
Unmapped (-30 to -50m)



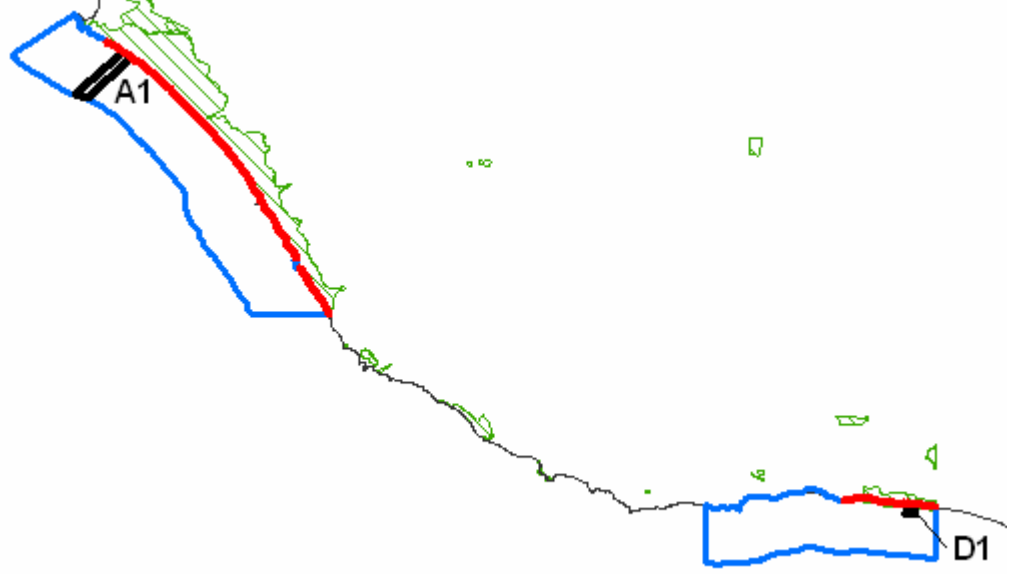
Cliff (Exposed)



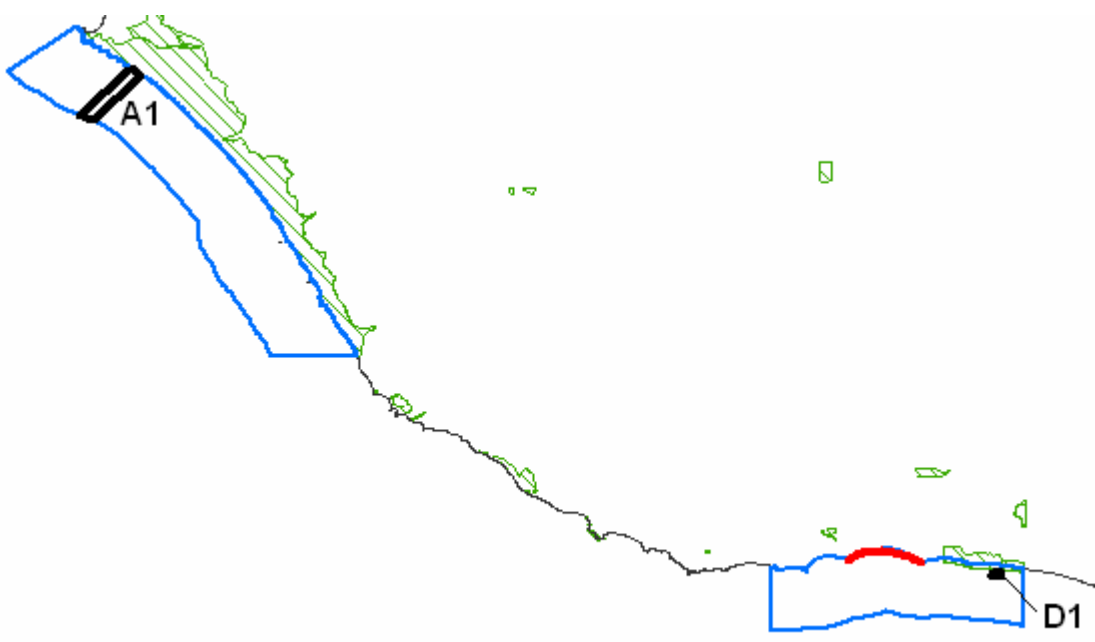
Cliff (Sheltered)



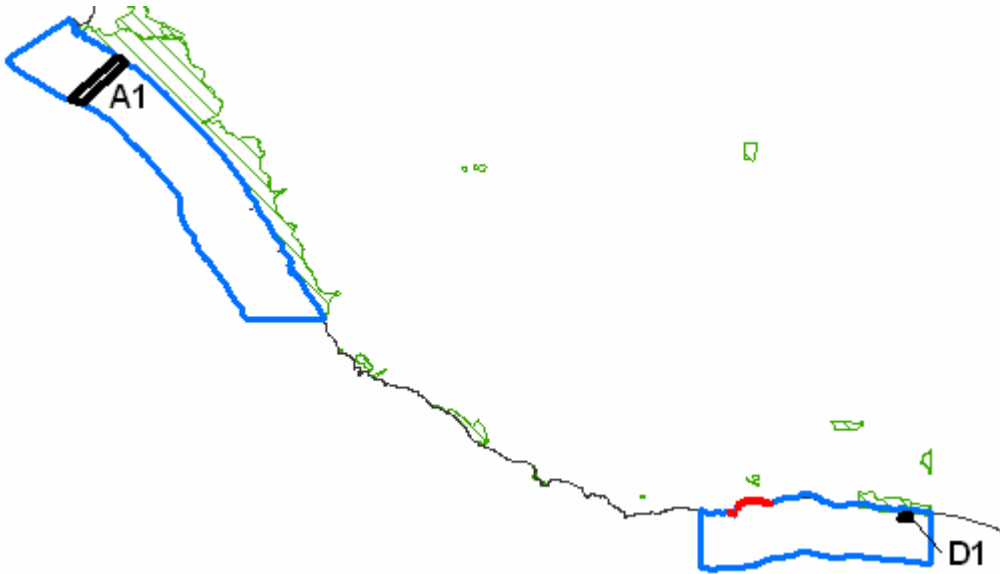
Fine-medium Sand Beach (Exposed)



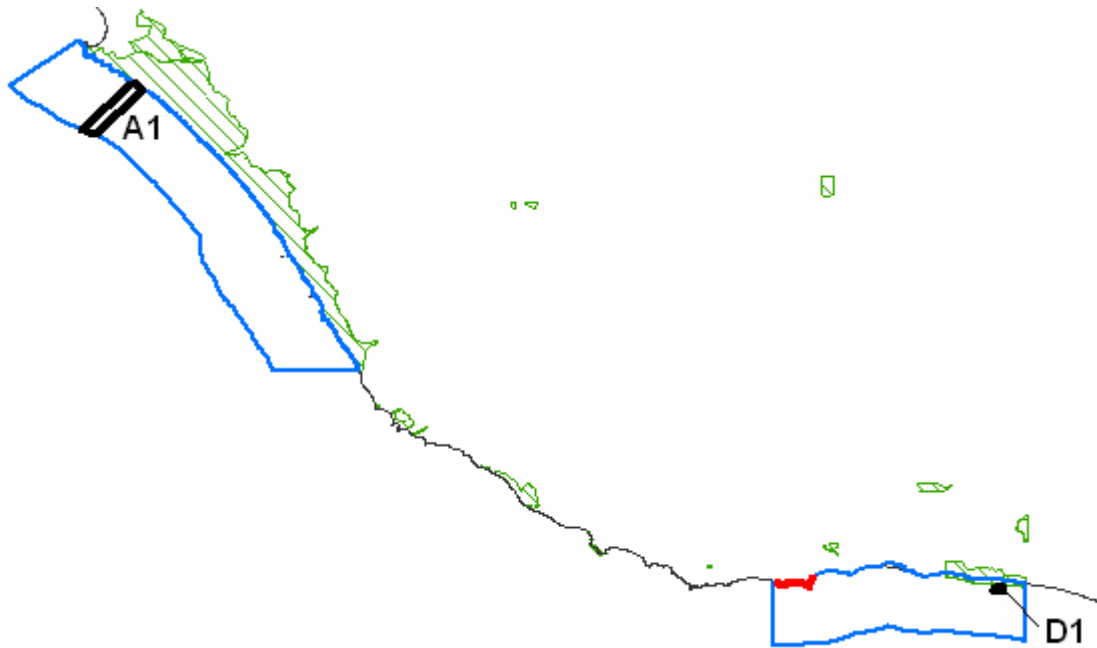
Fine-medium Sand Beach (Moderate)



Fine-medium Sand Beach (Sheltered)



Mixed Beach (Sheltered)



Mapping information:

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