

PRELIMINARY FEEDBACK FOR FAR WEST COAST (GAB) MARINE PARK LOCAL ADVISORY GROUP TO ASSIST WITH THE MEETING ON THE 11th MAY 2011

Rapid Assessment on Comprehensive, Adequate and Representative (CAR) Principles for the Far West Coast - GAB (Marine Park 1) suggested zoning options

Overview

DENR has undertaken a rapid assessment of the CAR principles for the possible sanctuary zone options for the Far West Coast Marine Park suggested at the Marine Park Local Advisory Group meeting held on 15th February 2011.

Community feedback and MPLAG advice has resulted in sanctuary zones suggested at three locations within the marine park, with alternative zones suggested at two of the locations (Zones B and C).

Using combinations of alternate suggested zones (B1, B2, C1, C2) with the suggested zones (A1), three zoning options for the marine park were suggested by the MPLAG (See Figure 1 to 3 below).

This rapid assessment¹ 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.

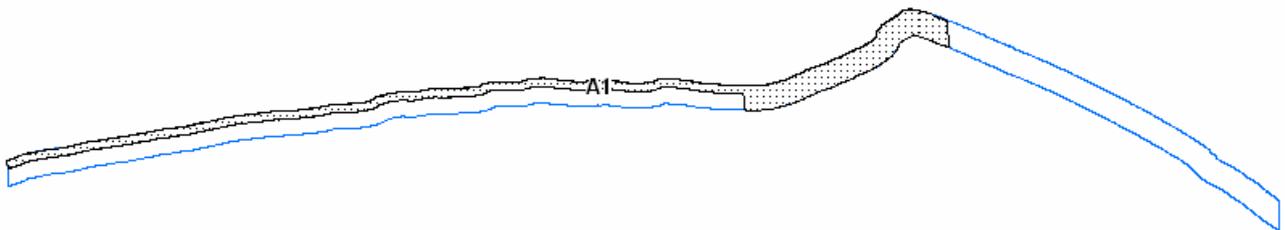
Adequate: To be adequate, the marine parks system should provide for the maintenance of the ecological viability and integrity of populations, species and communities

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 options for marine park 1

Figure 1: Zoning Option 1 (35% of MP)
1 possible zone: A1



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.

Figure 2: Zoning Option 2 (37% of MP)
3 possible zones: A1, B1, C1

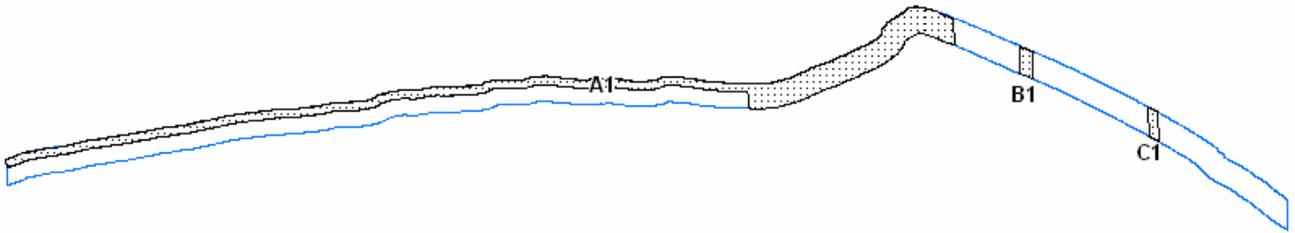
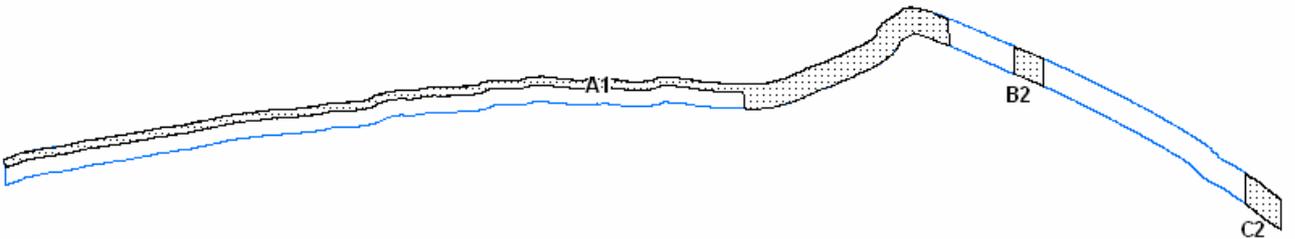


Figure 3: Zoning Option 3 (41% of MP)
3 possible zones: A1, B2, C2



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 benthic habitats in the suggested sanctuary zones.

All three zoning options include the following shoreline and seafloor (benthic) habitats:

- ✓ Rocky reef
- ✓ Soft bottom habitat
- ✓ Unmapped
- ✓ Cliff
- ✓ Coarse sand beach
- ✓ Fine medium sand beach

All three zoning options do not include the following shoreline types and seafloor (benthic) habitats:
nil

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: $\geq 20\%$, between 10% and 19%, $< 10\%$ and 0%.

Environmental values represented as a proportion of the park in the suggested sanctuary zones

Environmental values that are represented in all three options at a level $\geq 20\%$:

- ✓ COSEMA - Endangered Macroalgae
- ✓ Rocky reef (0 to -10m)
- ✓ Rocky reef (-10 to -30m)
- ✓ Soft-bottom habitat (0 to -10m)
- ✓ Soft-bottom habitat (-10 to -30m)
- ✓ Unmapped habitat (0 to -10m)
- ✓ Unmapped habitat (-10 to 30m)
- ✓ Unmapped habitat (-30 to -50m)
- ✓ Unmapped habitat ($> -50\text{m}$)
- ✓ Cliff (exposed and sheltered)
- ✓ Coarse sand beach (sheltered)

In addition options 2 and 3 included:

- ✓ Soft bottom habitat (-30 to -50m)
- ✓ Coarse sand beach (moderate)
- ✓ Coastal Lagoon habitat

Option 3 also included:

- ✓ Fine-medium sand beach (exposed)

Environmental values that are represented between 10-19%:

- ✓ Soft bottom habitat (-30m to -50m) – option 1 only
- ✓ Fine-medium sand beach (exposed) – option 1 and 2

Environmental values that are represented $< 10\%$:

Nil

Environmental values that are not represented (0%):

- ✗ Coastal wader bird sites
- ✗ Fine-medium sand beach (sheltered)

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

In addition option 1 does not include:

- × Coarse sand beach (moderate)
- × Coastal Lagoon habitat

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 then 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 (values 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	2 (part A) 6 (part B)	213	597
B1	6	3	17
B2	6	7	39
C1	7	2	14
C2	7	10	55

Note:

- Zone A1 has two coast to offshore lengths.
- 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.

Areas of alternative Options

Three alternative zoning options were developed using different combinations of the individual zones suggested at each of the three locations.

A comparison of the total area (km²) of each of the zoning options and the percentage sanctuary zones in each option can be seen in Table 2.

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

Suggested zoning option	Total area of sanctuary zones (km ²)	% of sanctuary zones located in the marine park
1	597	35
2	627	37
3	691	41

Comparing the four zoning options

- All three options vary in the percentage of sanctuary zones located within the marine park. Zoning Option 3 is the largest and includes 41% (691 km²) sanctuary zones within the park. Zoning Option 2 includes 37% (627 km²) and Option 1 includes 35% (597 km²) sanctuary zone in the marine park, however Option 1 only includes Zone A1.
- Option 3 includes higher percent representation for 7 of the 17 environmental values found in the Far West Coast Marine Park.
- Option 2 and 3 both include additional environmental values/habitats represented; with 37% and 41%, (respectively), of underwater habitats in sanctuary zones (compared to 35% in Option 1).
- Options 2 and 3 include 7% more soft bottom habitat (-30 to -50m) and includes coarse sand beach (moderate).

Appendix A. A comparison of the percentage of each environmental value included in each zoning option (values rounded to the nearest whole number)..

Environmental value	Option 1 total in all zones (%)	Option 2 total in all zones (%)	Option 3 total in all zones (%)
Ecological Importance	%	%	%
Coastal Wader Bird Sites	0	0	0
Cosema Endangered Macroalgae	100	100	100
Coastal Lagoon Habitat (there is no mapped area for this feature, so it is represented as present or absent)	x	✓	✓
Underwater Habitats	%	%	%
Rocky Reef (0 to -10m)	71	72	73
Rocky Reef (-10 to -30m)	45	45	49
Soft-bottom Habitat (0 to -10m)	56	58	64
Soft-bottom Habitat (-10m to -30m)	40	45	48
Soft-bottom Habitat (-30m to -50m)	13	20	20
Unmapped Habitat (0 to -10m)	98	98	98
Unmapped Habitat (-10 to -30m)	48	48	54
Unmapped Habitat (-30 to -50m)	26	27	31
Unmapped Habitat (>-50m)	50	50	50
Total	35	37	41
Shoreline Habitats	%	%	%
Cliff (Exposed)	96	96	96
Cliff (Sheltered)	77	99	99
Coarse Sand Beach (Moderate)	0	99	98
Coarse Sand Beach (Sheltered)	49	58	58
Fine-medium Sand Beach (Exposed)	10	13	25
Fine-medium Sand Beach (Sheltered)	0	0	0
Total	68	70	73

Environmental values are:	%
Well represented	≥20%
Room for improvement	10-19%
Under represented	<10%
Not represented	0%

Appendix B. Environmental values represented in each suggested zone.
(Values rounded to the nearest whole number)

Ecological Importance	Units	A1	B1	B2	C1	C2	Total in Marine Park (count)
Coastal Wader Bird Sites	Count						2
Cosema Endangered Macroalgae	Count	1					1
Coastal Lagoon Habitat (there is no mapped area for this feature, it is represented as present or absent)	Present		✓	✓			✓

Underwater Habitats		A1	B1	B2	C1	C2	Total in Marine Park (km²)
Rocky reef (0 to -10m)	km ²	28	<1	1		<1	40
Rocky Reef (-10 to -30m)	km ²	4		<1		<1	8
Soft bottom habitat (0 to -10m)	km ²	72	2	3	1	7	129
Soft bottom habitat (-10m to -30m)	km ²	69	5	11	4	3	173
Soft bottom habitat (-30m to -50m)	km ²	11	2	6	4		85
Unmapped (0 to -10m)	km ²	26				<1	27
Unmapped (-10 to -30m)	km ²	115				15	239
Unmapped (-30 to -50m)	km ²	247	8	17	4	29	944
Unmapped (>-50m)	km ²	17					34
Total	km ²	589	16	38	14	55	1,678

Shore Habitats		A1	B1	B2	C1	C2	Total in Marine Park (km)
Cliff (Exposed)	km	198				1	207
Cliff (Sheltered)	km	5	1	1			6
Coarse Sand Beach (Moderate)	km		1	1			1
Coarse Sand Beach (Sheltered)	km	8	1	1			15
Fine-medium Sand Beach (Exposed)	km	10	<1	4	2	9	93
Fine-medium Sand Beach (Sheltered)	km						1
Total	km	220	3	8	2	10	324

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

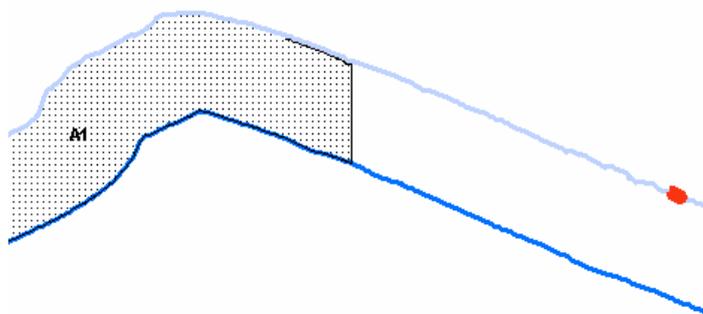
Environmental values that have <10% representation are shown in red, identifying where they could be represented within the marine park.

Note: maps are best viewed in colour.

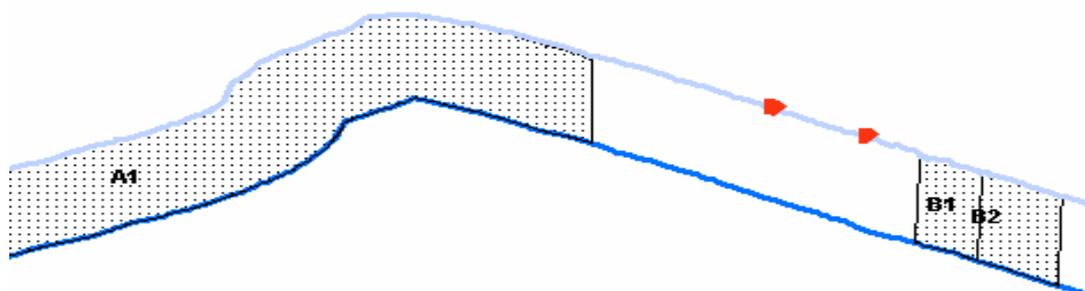
Legend

- Environmental Values
- Marine Park
- LAG Advice
- Netting Closures
- Parks and Reserves
- Coastline

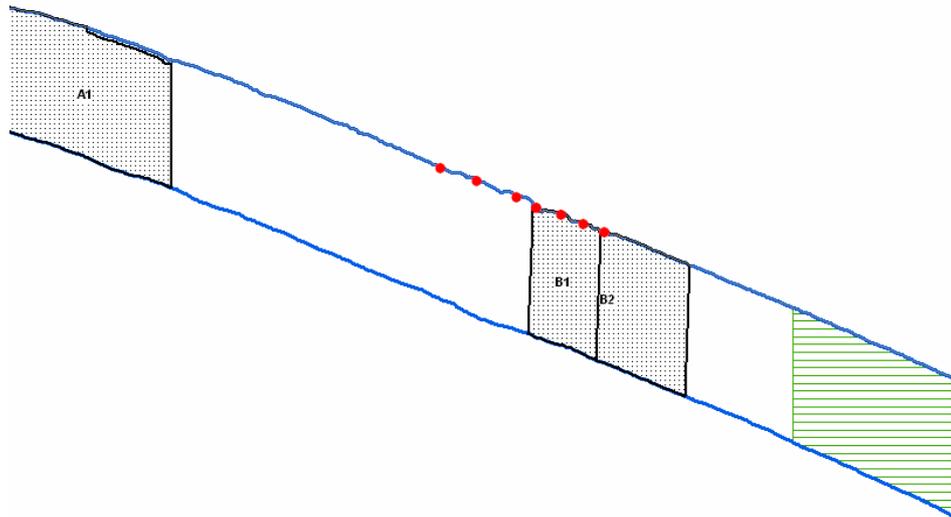
Coarse sand beach (moderate)



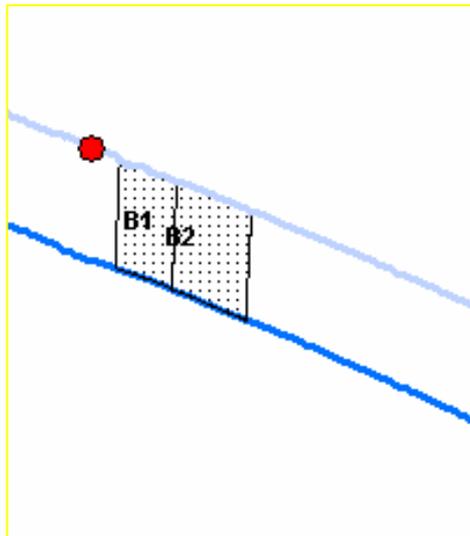
Fine-medium sand beach (sheltered)



Coastal Lagoons



Coastal wader birds



Mapping information:

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