

# Central and Northern California Coastal Marine Habitats: Oil Residence and Biological Sensitivity Indices

## RELATIVE ABUNDANCE OF MAJOR MACROBIOTA\*

Taxa	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
<b>ROCKY INTERTIDAL MACROBIOTA</b>															
Acorn barnacles	0	0			0		0	0	0	0		0	0	0	0
Chlorophyta					0		0	0	0	0		0	0	0	0
Porphyra spp.												C			
Pelvetiopsis limitata	0	0			0		0	0	0	0		0	0	0	0
Endocladia muricata	C-A	C			C-A		C-A	C-A	C-A	C-A		C	C-A	C-A	C-A
Pelvetia fastigiata	C	C			C		C	C	C	C		0-C	C	C	C
Fucus distichus	0	0			0		0	0	0	0		0	0	0	0
Gigartina spp.	C	C			C-A		C-A	C-A	C-A	C-A		C	C-A	C-A	C-A
Pollicipes polymerus	C	0			0-C		0-C	0-C	0-C	0-C		0-C	0-C	0-C	0-C
Mytilus californianus	C	0			C		C	C	C	C		0-C	C	C	C
Corallina spp./Gigartina spp.	C	C			C		C	C	C	C		C	C	C	C
Postelsia palmaeformis															
Halosaccion glandiforme	0				0-C		0-C	0-C	0	0		0	0	0	0
Iridaea spp.	C	C			C		C	C	C	C		0	C	C	C
Odonthalia spp./Rhodomela larix												C			
Coralline algae	C	C			C		C	C	C	C		C	C-A	C-A	C-A
Phyllospadix spp.	C	C			C		C	C	C	C		C	C	C	C
Alaria marginata	C				C		C	C	C	C		C	C	C	C
Egregia menziesii	C	C			C		C	C	C	C		C	C	C	C
Laminaria spp.															
Lessoniopsis littoralis															
<b>OTHER MACROBIOTA</b>															
<b>Kelp beds:</b>															
Macrocystis spp.	C-A	C-A	C		C-A	C-A	C-A	C-A	C	C	0	0-C	0-C	0-C	C
Nereocystis luetkeana	0	0	0-C		0-C	0-C	0-C	0-C	0-C	0-C	0	0	0	0	0-C
<b>Marine mammals:</b>															
Elephant seal															
Harbor seal					0-C					0		C			
Steller sea lion															
California sea lion															
<b>Seabird nesting colonies:</b>															
Fork-tailed storm petrel															
Leach's storm petrel															
Ashy storm petrel															
Brandt's cormorant															
Double-crested cormorant															
Pelagic cormorant															
Black oystercatcher															
Western gull															
Common murre															
Pigeon guillemot								C	C	C					
Cassin's auklet															
Rhinoceros auklet															
Tufted puffin															
<b>Threatened/Endangered Species:</b>															
Aleutian Canada goose															
Southern sea otter	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

\*Relative abundance for summer conditions: 0 = occasional, C = common, A = abundant.

## PHYSICAL SHORE-ZONE CHARACTERISTICS

UNIT IDENTIFIERS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
ALONGSHORE LENGTH (km)	2.5	0.3	0.7	0.3	0.6	0.3	0.1	0.9	0.1	0.5	0.7	2.0	0.1	0.2	1.0	
ACROSS-SHORE WIDTH (m)	50-150	75	100-150	-	30-60	50	<5	30-60	40	<5	100	10-20	<5	40	20-30	
WAVE EXPOSURE	10	10	10	1-10	10	10	8-10	10	10	8-10	8	10	8-10	10	10	
ACROSS-SHORE COMPONENTS (morphology, texture)	Ca, Rs Pi, Ccb Rs Ore, Rs	Ca, Rs Bi, Csp Pf, Ccb Rs Ore, Rs	Dl, Csp Bb, Csp Bf, Cs Rs	Rs, Cs Ie, Cs Bt, Cs	Ca, Rs Pf, Rs Ore, Rs	Ca, Rs Bb, Cg Bf, Csp	Ca, Rs Ore, Rs	Ca, Rs Pf, Rs Ore, Rs	Ca, Rs Bs, Csp Ore, Rs	Ca, Rs Ore, Rs	Cp, Rs Bb, Csp Bf, Cs	Ca, Rs Bs, Cgb Rs Bf, Csp Rs Ore, Rs	Ca, Rs Ore, Rs	Cp, Cg Rs Bb, Cg Bf, Csp Ore, Rs	Ca, Rs Bi, Cgb Rs Ore, Rs	Ca, Rs Ore, Rs
Primary	Ca, Rs Bi, Cgb Rs Pi, Ccb Rs Ore, Rs	Ore, Rs	Rs		Ca, Rs Bi, Csp Pf, Rs Ore, Rs		Ca, Rs Ore, Rs				Ca, Rs Bi, Csp Pf, Rs Ore, Rs	Ca, Rs Bw, Rs Bb, Cgb:Rs Bf, Csp Rs Ore, Rs		Rs, Csg Ie, Cg Bf, Cg	Ca, Rs Ore, Rs	
Secondary																
MICRO RELIEF	R	S	S	-	R	S	R	R	R	R	S	R	R	S	R	
MACRO RELIEF	R	R	S	-	R	S	R	R	S	R	S	R	R	S	R	
SUMMARY CHARACTERISTICS	RPb;mv0	RPbav	bs	Ie	RPb's0	bm	R	RPb's	bs	R	bs	Rbgv0	RO	bgIe	Rbmv0	
OIL RESIDENCE INDEX	3	3	2	1-2	3	3	3	3	3	3	3	1-2	3	1-2	3	
GROUND TRUTH	0	0	0	0	0	0	0	0	0	0	2	0,4	0	0	3	

\* Significant component of organic debris may be present on summer beaches.

## ABBREVIATED PHYSICAL SHORE-ZONE CODING EXPLANATION

This is an abbreviated legend for the physical shore-zone coding sheets; consult the main text for a complete discussion of codes and rationale. Only the across-shore descriptors for morphology and texture are discussed.

ACROSS-SHORE COMPONENTS - dominant morphologic and textural character of each across-shore component, described in a landward to seaward sequence. Each component consists of a geomorphic form descriptor and a substrate descriptor:  
FORM + Bb, Csp + TEXTURE

The primary geomorphic forms are initially described by a series of 12 codes:

A Anthropogenic E Coastal Bay, Lagoon, Estuary P Platform  
B Beach I Inlet R River  
C Cliff M Marsh S Bar/Trough  
D Dune O Offshore Rocks T Delta

Each of these groups is then further modified by codes as indicated below.

**Anthropogenic (A)**  
e causeway j jetty m marina t trench  
f float g groin r boat ramp s seawall w wharf

**Beach (B)**  
b berm i inclined slope s storm ridge  
c washover channel t low-tide terrace  
f beach face r single intertidal bar w washover

**Cliff (C)**  
a active or erosional p passive c caves present

**Dune (D)**  
b blowout f foredune s ridge and swale  
d stabilized r random form l longitudinal

**Coastal Bay, Lagoon, Estuary (E)**  
e estuary

**Inlet (I)**  
e ephemeral a opening fixed by offshore structures  
s stable f flood-tidal delta i ebb-tidal delta

**Marsh (M)**  
c tidal creek

**Offshore Rocks (O)**  
e intertidal reef s sea stack  
r rock outcrop (>2 m above M.S.L. and <10 m in width or length)

**Platform (P)**  
b high-tide platform f horizontal t terraced  
l low-tide platform r ramp i irregular

**River (R)**  
b braided m multiple s single channel

**Bar/Trough (S) subtidal**  
r with rip channels

**Delta (T)**  
c channel m multiple channels p delta plain  
f fan s single channel v crevasse  
l levee

Substrate type or sediment texture are described in detail by a series of codes. The sediments or materials of the shore are initially coded into one of four groups:

A anthropogenic materials C clastic sediments  
B biogenic sediments R bedrock

Each of these groups is then further modified by texture or composition as indicated below.

**Anthropogenic materials (A)**  
a metal n concrete (solid) w bark or wood debris  
d debris, rubble t logs  
e concrete (individually formed) u wood (structural; e.g., pilings or boards)

**Biogenic sediments (B)**  
l trees or wood particles o organic litter  
s shell hash (with a texture as described below)

**Clastic sediments (C)**  
s sand m mud  
c cobble g silt  
p pebble f clay r rubble

**Bedrock (R)**  
i igneous m metamorphic s sedimentary

Where more than one texture is present in an across-shore component, several substrates or textures may be indicated. Where one texture physically overlies another, it is indicated by a slash (e.g., Cs/Rs, and over rock). Where several mutually exclusive textures occur within a component, such as rock outcrops within a sand beach, a colon is used to indicate that association (e.g., Cs:Ri).

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**M.M.S. Map # 52**  
**Sheet 2 of 2**