

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	P	Q	R	S	T	U	V
ROCKY INTERTIDAL MACROBIOTA																						
Acorn barnacles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlorophyta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Porphyra spp.	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	C-A	0	0	0
<i>Pelvetiopsis limitata</i>																						
<i>Endocladia muricata</i>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<i>Pelvetia fastigiata</i>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<i>Fucus distichus</i>												0							0			
<i>Gigartina</i> spp.									0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pollicipes polymerus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Mytilus californianus</i>																						
<i>Corallina</i> spp./ <i>Gigartina</i> spp.	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<i>Postelsia palmaeformis</i>	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Halosaccion glandiforme</i>																						
<i>Iridaea</i> spp.	C	C	C	C	C	C	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Odonthalia</i> spp./ <i>Rhodomela larix</i>																						
Coralline algae	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<i>Phyllospadix</i> spp.	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
<i>Alaria marginata</i>																				0		0
<i>Egregia menziesii</i>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	0	0	C	C	C
<i>Laminaria</i> spp.																						
<i>Lessoniopsis littoralis</i>																						
OTHER MACROBIOTA																						
Kelp beds:																						
<i>Macrocystis</i> spp.	C	C	C	C	C	C	C	C-A	C-A	C-A	C-A	C-A	C-A	C	C	C	C	C	C	C	C	C
<i>Nereocystis luetkeana</i>	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
Marine mammals:																						
Elephant seal																				0-A	0-A	
Harbor seal							0					0		0		0						
Steller sea lion																						
California sea lion															0-A				0-A	0-A	0-C	
Seabird nesting colonies:																						
Fork-tailed storm petrel																						
Leach's storm petrel																						
Ashy storm petrel																						
Brandt's cormorant																0-A				A	A	
Double-crested cormorant																						
Pelagic cormorant					0		0	0							0-C	0				0-C	0-C	C
Black oystercatcher							0	0							0	0				0	0	0
Western gull							0	0							C	C				0-A	0-A	
Common murre																						
Pigeon guillemot															0-C	0				0	0	
Cassin's auklet																						
Rhinoceros auklet																						
Tufted puffin																						
Threatened/Endangered Species:																						
Aleutian Canada goose																						
Southern sea otter	C	C	C	C	C	C	C	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	P	Q	R	S	T	U	V	
ALONGSHORE LENGTH (km)	0.4	0.3	0.6	0.7	0.8	0.2	2.0	0.3	0.5	1.0	0.2	0.4	0.8	2.2	0.1	0.5	0.3	0.7	0.1	0.7	0.2	1.7	
ACROSS-SHORE WIDTH (m)	30	20-30	25	75	20	30-50	20-75	<5	0-20	20-75	<5	10-30	100	20	<5	30-50	20	20	20	20	<5	10-30	
WAVE EXPOSURE	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
ACROSS-SHORE COMPONENTS (morphology, texture)	Ca, Rs Bi, Cbg: Rs Bi, Cb: Rs Ore, Rs	Ca, Rs Bi, Cgr Rs Ore, Rs	Ca, Rs Bi, Ccb: Rs Ore, Rs	Ca, Rs Bi, Cgb: Rs Ore, Rs	Ca, Rs Bi, Cbr: Rs Ore, Rs	Ca, Rs Bi, Cbg: Rs Ore, Rs	Ca, Rs Bi, Cbg: Rs Ore, Rs	Ca, Rs Bi, Cbg: Rs Ore, Rs	Ca, Rs Ore, Rs	Ca, Rs Ore, Rs	Ca, Rs Bi, Cbg: Rs Ore, Rs	Ca, Rs Ore, Rs	Ca, Rs Bi, Cbg: Rs Ore, Rs	Cp, Rs Bb, Cg: Bf, Cag: Bt, Cs S, Cs	Ca, Rs Bi, Cbr: Rs Ore, Rs	Ca, Rs Ore, Rs	Ca, Rs Bi, Cbg: Rs Ore, Rs	Ca, Rs Bi, Cbr: Rs Oe, Rs	Ca, Rs Bi, Cbr: Rs Ore, Rs	Ca, Rs Bi, Cbr: Rs Ore, Rs	Ca, Rs Ore, Cbr: Rs Ore, Rs	Ca, Rs Bi, Cbr: Rs Ore, Rs	Ca, Rs Bi, Cbr: Rs Ore, Rs
Primary																							
Secondary																							
MICRO RELIEF	R	S	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	
MACRO RELIEF	R	R	R	R	R	R	R	R	R	R	R	R	R	S	R	R	R	R	R	R	R	R	
SUMMARY CHARACTERISTICS	RbmV	bg	Rbm	bm	Rv	RbmV	Rb'mvO	R	Rb'm	Rb'mvO	R	RbmV	bs	Rv	R	RbmV	Rv	bm	Rv	RvO	R	Rb'mvO	
OIL RESIDENCE INDEX	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	
GROUND TRUTH	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	

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, Cbg ← 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)

a 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 m multiple intertidal bars 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)

b enclosed bay e estuary

Inlet (I)

e ephemeral a opening fixed by offshore structures
s stable f flood-tidal delta l 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)

h 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)

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 u wood (structural; e.g., pilings or boards)
e concrete (individually formed)

Biogenic sediments (B)

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

Clastic sediments (C)

b boulder s sand m mud
c cobble f silt g gravel
p pebble # 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., Ca/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., Ca:Rl).

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Sheet 2 of 2