

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	W	X	Y
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
Chlorophyta																									
Porphyra spp.																									
Pelvetiopsis limitata	0	0	0		0-C	0	0	0	0	0	0	0	0	0-C	0-C	0-C		0	0	0	0	0	0	0	0
Endocladia muricata	C	C	C		C	C	0-C	0-C	0-C	0-C	C	C-A	C	C	C	C		C	C	C		C	C	C	C-A
Pelvetia fastigiata	C	C	C		C	C	C	C	C	C	C	C	C	C	C	C		C	C	C		C	C	C	C
Fucus distichus	0	0	0		C	C	C	C	C	C	C	C	C	C	C	C		0	0	0	0	0	0	0	0
Gigartina spp.	C	C	C		C-A	C-A	C-A	C-A	C-A	C-A	C	C	C	C	C	C		C	C	C		C	C	C	C
Pollicipes polymerus	0	0	0		0	0	0	0	0	0	0-C	0-C	0-C	C	C	C		C	C	C		C	C	C	C
Mytilus californianus	C	C	C		0	0	0	0	0	0	0-C	0-C	0-C	C	C	C		C	C	C		C	C	C	C
Corallina spp./Gigartina spp.	C	C	C		C	C	C	C	C	C	C	C	C	C	C	C		C	C	C		C	C	C	C
Postelsia palmaeformis	C	C	C		C	C	C	C	C	C				C-A	C-A	C-A		C-A	C-A	C-A					
Halosaccion glandiforme					C	C	C	C	C	0	0	0	0	0	0	0		0	0	0					
Iridaea spp.	C	C	C		C-A	C-A	C-A	C-A	C	C	C	C	C	C	C	C		C	C	C		C-A	C-A	C-A	C-A
Odonothalia spp./Rhodomela larix																									
Coralline algae	C	C	C		C-A	C-A	C-A	C-A	C-A	C-A	C-A	C-A	C-A	C-A	C-A	C-A		C-A	C-A	C-A		C	C	C	C-A
Phyllospadix spp.	C	C	C		C	C	0-C	0	0	0	C	C	C	C	C	C		C	C	C		C	C	C	C
Alaria marginata	C	C	C		C	C	C	C	C	C	C	C	C	C	C	C		C	C	C		C	C	C	C
Egregia menziesii	C	C	C		C	C-A	C-A	C-A	C	C	C	C	C	C	C	C		C	C	C		C	C	C	C
Laminaria spp.	C	C	C		C	C	C	C	C	0	C	C	C	C	C	C		C	C	0		C	C	C	C
Lessoniopsis littoralis																									
OTHER MACROBIOTA																									
Kelp beds:																									
Macrocystis spp.	C-A	C-A	C-A		C-A	C-A	C-A	C-A	C-A	C-A	C-A	C-A	C-A	0	0	0	0	0	0	0	0	0	0	0	0
Nereocystis luetkeana	C	C	C		C	C	C	C	C	C	C	C	C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C
Marine mammals:																									
Elephant seal																									
Harbor seal		0-C	0-A					0-C												0	0-C				
Steller sea lion																									
California sea lion																			A	A					
Seabird nesting colonies:																									
Fork-tailed storm petrel																									
Leach's storm petrel																									
Ashy storm petrel																									
Brandt's cormorant																				A					
Double-crested cormorant																									
Pelagic cormorant																									
Black oystercatcher								0												0					
Western gull								0												0-C					
Common murre																									
Pigeon guillemot																				0-C					
Cassin's auklet																									
Rhinoceros auklet																									
Tufted puffin																				0					
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	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	W	X	Y	
ALONGSHORE LENGTH (km)	0.1	1.2	2.2	0.4	0.2	0.3	0.1	0.2	0.3	1.2	1.0	0.7	0.2	0.1	0.4	0.6	0.2	0.2	0.2	0.4	0.5	0.3	0.5	0.7	0.5	
ACROSS-SHORE WIDTH (m)	70	30-100	30-50	75	50	30-50	75	75	0-20	50-75	60	50-150	75	30-100	30-50	50	75	30	50-150	0-20	70	30	70	50-75	100	
WAVE EXPOSURE	10	10	10	1-8	10	10	10	1-8	1-8	10	10	10	1-8	10	10	10	10	10	10	10	8	10	10	10	10	
ACROSS-SHORE COMPONENTS (morphology, texture)	Cp,Rs Bs,Cgb Bb,Csp Bf,Cs: Rs Ore,Rs	Ca,Rs Bi,Cg: Rs Pf,Cb Rs Ores,Rs	Ca,Rs Bb,Cg: Rs Bf,Cs: Rs Ores,Rs	Dl,Csp Bb,Csp Bf,Cs Ore,Rs	Ca,Rs Pf,Cb Rs Ore,Rs	Ca,Rs Bb,Cg: Rs Bf,Cs: Rs Ore,Rs	Ca,Rs Bb,Csp Bf,Cs Rs Ore,Rs	Dl,Csp Bb,Csp Bf,Cs Rs Ore,Rs	Dl,Csp Bb,Csp Bf,Cs Rs Ore,Rs	Ca,Rs Bi,Cg: Ore,Rs	Ca,Rs Bi,Cg: Pi,Cb Rs Ore,Rs	Ca,Rs Bb,Csp Bf,Cs Rs Ore,Rs	Ca,Rs Pf,Ccb Rs Ore,Rs	Dl,Csp Bb,Csp Bf,Cs Rs Ore,Rs	Ca,Rs Bi,Cg: Rs Ore,Rs	Ca,Rs Bb,Cg: Rs Ore,Rs	Ca,Rs Pf,Cb Rs Ore,Rs	Cp,Rs Bb,Csp Bf,Cs Rs Ore,Rs	Ca,Rs Bi,Ccb: Rs Ore,Rs	Ca,Rs Pf,Ccb Rs Ore,Rs	Dl,Csp Bb,Csp Bf,Cs Rs Ore,Rs	Ca,Rs Pi,Rs Ore,Rs	Ca,Rs Bb,Csp Bf,Cs Rs Ore,Rs	Ca,Rs Bs,Cgb Bi,Cg: Pi,Cb Rs Ore,Rs	Ca,Rs Bb,Cs: Rs Ore,Rs	Ca,Rs Bb,Cs: Rs Ore,Rs
Primary																										
Secondary																										
MICRO RELIEF	R	R	S	S	R	S	R	R	R	R	R	R	S	R	S	R	R	R	R	R	S	R	S	R	R	
MACRO RELIEF	S	R	R	S	R	S	R	S	R	R	S	R	S	R	R	R	S	R	R	R	S	R	S	R	S	
SUMMARY CHARACTERISTICS	bg	RPbmvO	RPb'mvO	bgO	RP	RbgvO	Ie	bgO	Rb'g	RbmvO	bgO	RPb'mvO	b'gIe	RPbmv	RbgvO	RPb'gO	bsO	Rbs	RPb'mO	Rb'mO	bs	RO	bsvO	Rb'mv	bsv	
OIL RESIDENCE INDEX	2	3	2	2	3	2	1-2	2	3	2	2	3	1-2	3	2	3	2	3	3	3	2	3	2	3	2	
GROUND TRUTH	0	0	0	0	0	0	0	0	0	2,3	0	0	0	0	0	0	0	0	0	0	0	0	0	2,3	0	

* Significant component of organic debris may be present on summer beaches.
** Small berm present during summer.

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, Csg + 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 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
r stabilized d randomized 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) subtidal r with rip channels

Delta (T)
c channel m multiple channels p delta plain
f fan s single channel v cressasse
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 t silt g gravel
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., Cg/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:Rl).

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