

# 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
<b>ROCKY INTERTIDAL MACROBIOTA</b>																			
Acorn barnacles	0		0		0	0	0		0	0	0		0	0					
Chlorophyta	C		C		C	C	C		C	C	C		C	0					
Porphyra spp.											C		C	0					
Pelvetiopsis limitata									0	0	0		0						
Endocladia muricata	C		C		C	C	C		C	C	0-C		0-C	0					
Pelvetia fastigiata	C		C		C	C	C		C	C	0		0						
Fucus distichus	0		0		0	0	0												
Gigartina spp.	C		C		C	C	C		C	C	C		C	0-C					
Pollicipes polymerus	C		C		0-C	0-C	0-C		0-C	0-C	0		0	0					
Mytilus californianus	C		C		C	C	C		C	C	C		C	0					
Corallina spp./Gigartina spp.	C		C		C	C	C		C	C	C		C	C					
Postelsia palmaeformis																			
Halosaccion glandiforme			C		C	C	C		C	C									
Iridaea spp.	C		C		C	C	C		C	C	C		C	C					
Odonthalia spp./Rhodomela larix																			
Coralline algae	C		C		C	C	C		C	C	C		C	C					
Phyllospadix spp.	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					
Laminaria spp.									C	C	C		C	C					
Lessoniopsis littoralis																			
<b>OTHER MACROBIOTA</b>																			
<b>Kelp beds:</b>																			
Macrocystis spp.	0-C		0-C		0-C	0-C	0-C			C	C	C	C	C					
Nereocystis luetkeana										C	C	C	C	C					
<b>Marine mammals:</b>																			
Elephant seal																			
Harbor seal				0		0-C				0-C									
Steller sea lion														0					
California sea lion															0-A				
<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																			
Cassin's auklet																			
Rhinoceros auklet																			
Tufted puffin																			
<b>Threatened/Endangered Species:</b>																			
Aleutian Canada goose																			
Southern sea otter																			

\*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	
ALONGSHORE LENGTH (km)	3.0	0.4	1.2	0.6	0.9	0.3	0.9	0.5	0.4	1.2	3.4	0.4	0.2	3.8	0.7	0.7	0.1	0.7	0.2	
ACROSS-SHORE WIDTH (m)	0-30	60	0-30	60	0-30	50	0-30	60	50	50	0-30	10	50	0-10	5-15	150	-	150	-	
WAVE EXPOSURE	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	1-10	10	1-10	
ACROSS-SHORE COMPONENTS (morphology, texture)	Ca, Rs Or, Rs	D1, Cs Bb, Cs Bf, Cs	Ca, Rs Or, Rs	D1, Cs Bb, Cs Bf, Cs	Ca, Rs Or, Rs	Ca, Rs Ph, Rs	Ca, Rs Or, Rs	D1, Cs Bb, Cs Bf, Cs	Ca, Rs Ph, Rs	Ca, Rs Ph, Rs	Ca, Rs Or, Rs	Cp, Rs Bb, Cs Bf, Cs	Ca, Rs Ph, Rs	Ca, Rs Or, Rs	Ca, Rs Bi, Cs Bi, Csb	As, An Bb, Csp Bf, Cs Bt, Cs	Rs, Cs Ae Is, Cs	Cp, Rs Bb, Csp Bf, Cs	Rs, Cs Ae Is, Ae	
Primary	Ca, Rs Bi, Cs Or, Rs	Rs, Cs Ie, Cs Bf, Cs	Ca, Rs Bi, Cs Or, Rs	Rs, Cs Ie, Cs Bf, Cs	Ca, Rs Bi, Cs Or, Rs	Ca, Rs Bi, Cs	Ca, Rs Bi, Cs	Rs, Cs Ie, Cs Bf, Cs	Ca, Rs Ph, Rs Bi, Cs	Ca, Rs Ph, Rs Bi, Cs	Ca, Rs Ph, Rs Bi, Cs	Ca, Rs Bw, Cs Or, Rs	Ca, Rs Ph, Rs Bi, Cs	Ca, Rs Ph, Rs Bi, Cbs						
Secondary	Ca, Rs Ph, Rs		Ca, Rs Ph, Rs		Ca, Rs Ph, Rs		Ca, Rs Ph, Rs		Ca, Rs Ph, Rs		Ca, Rs Ph, Rs	Ie, Cs Bf, Cs	Ca, Rs Ie, Cs Bf, Cs							
MICRO RELIEF	R	S	R	S	R	R	R	S	R	R	R	S	R	R	R	S	S	S	-	
MACRO RELIEF	R	S	R	S	R	R	R	S	R	R	R	S	R	R	R	S	S	S	-	
SUMMARY CHARACTERISTICS	Rb's	bsIe	Rb's	bsIe	Rb's	RPb's	Rb's	bs	RPb's	RPb's	Rb'sIe	bsIe	RPb's	Rb's	Rbs	bs	Ie	bs	Is	
OIL RESIDENCE INDEX	3	1-2	3	1-2	3	3	3	1-2	3	3	1-3	1-2	3	3	3	2	1-2	2	1-2	
GROUND TRUTH	0	0	0	0	0	0	0	0	0	0	0,4	0	0	0	2	0	0	0	0	

\* Significant amounts of organic debris may be present on summer beaches.  
\*\* Beach width significantly wider 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 t 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)**  
e estuary

**Inlet (I)**  
a 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 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 # 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., Cs:Ri).

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**M.M.S. Map# 70**  
**Sheet 2 of 2**