

# 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
<b>ROCKY INTERTIDAL MACROBIOTA</b>											
Acorn barnacles											
Chlorophyta	0-C	0-C	0-C	0-C	0-C	C	0-C	0-C	0-C	0-C	0-C
Porphyra spp.	0	0	0	0	0	0	0-C	0-C	0-C	0-C	0-C
Pelvetiopsis limitata	0-C	0-C	0-C	0-C	0	C	0-C	0-C	C	C	C
Endocladia muricata	C	C	C	C	C	C	C	C	C	C	C
Pelvetia fastigiata							0	0			
Fucus distichus	0-C	0-C	0-C	0-C	0-C	C	0-C	0-C	0-C	0-C	0-C
Gigartina spp.	C	C	C	C	C	C	C	C	C	C	C
Pollicipes polymerus	C	C	C	C	C	C	C-A	C-A	C	C	C
Mytilus californianus	C	C	C	C	C	C	C	C	C	C	C
Corallina spp./Gigartina spp.											
Postelsia palmaeformis	C	C	C	C	C	C	C	3	C	C	C
Halosaccion glandiforme	C	C	C	C	C	C	0-C	0-C	0-C	0-C	0-C
Iridaea spp.	C	C	C	C	C	C	C	C	C	C	C
Odonthalia spp./Rhodomela larix	0-C	0-C	0-C	0-C	0-C		0-C	0-C	0-C	0-C	0-C
Coralline algae	C	C	C	C	C	C	C	C	C	C	C
Phyllospadix spp.	C	C	C	C	C	C	C	C	C-A	C-A	C-A
Alaria marginata	C	C	C	C	C	C	0-C	0-C	C	C	C
Egregia menziesii	C	C	C	C	C	C	C	C	C	C	C
Laminaria spp.	C	C	C	C	C	C	C	C	C	C	C
Lessoniopsis littoralis	C	C	C	C	C	C	C	C	C	C	C
<b>OTHER MACROBIOTA</b>											
<b>Kelp beds:</b>											
Macrocystis spp.						0	0	0	0	0	0
Nereocystis luetkeana	C	C	C	C	C	C	C	C	0-C	0-C	0-C
<b>Marine mammals:</b>											
Elephant seal											
Harbor seal	0	0	0	0-C		0-C	0-C	0			
Steller sea lion											
California sea lion				0					0		
<b>Seabird nesting colonies:</b>											
Fork-tailed storm petrel											
Leach's storm petrel											
Ashy storm petrel											
Brandt's cormorant											
Double-crested cormorant											
Pelagic cormorant	C	C	C	A			C		0-C		
Black oystercatcher											
Western gull							0		0-C		
Common murre											
Pigeon guillemot	0	0	0	0			0				
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
ALONGSHORE LENGTH (km)	1.7	0.5	2.2	1.7	0.3	0.2	5.5	1.3	3.3	0.3	0.9
ACROSS-SHORE WIDTH (m)	10-50	20-50	0-20	5-30	0-20	50	0-20	0-20	5-30	50	10-50
WAVE EXPOSURE	10	8	10	8	10	10	10	8	8	10	10
ACROSS-SHORE COMPONENTS (morphology, texture)	Ca,Rs Pi,Crb Rs Ores,Rs	Ca,Rs Bi,Ccb Pi,Cb Ore,Rs	Cc,Rs Pi,Cr Rs Ores,Rs	Ca,Rs Pi,Crb Rs Ore,Rs	Ca,Rs Pi,Crb Rs Ore,Rs	Ca,Rs Bf,Csr Rs	Cc,Rs Ca,Rs Ore,Rs	Cc,Rs Pi,Crb Rs Ore,Rs	Ca,Rs Pi,Crb Rs Ore,Rs	Ca,Rs Bi,Cs Ore,Rs	Ca,Rs Pi,Crb Rs Ores,Rs
Primary	Ca,Rs Bi,Cr Bi,Cbs Pi,Rs Ore,Rs			Ca,Rs Bi,Cr Rs Bi,Ccbs: Rs Ore,Rs					Ca,Rs Bi,Cr: Rs Bi,Cbs: Rs Ore,Rs		Ca,Rs Bi,Cr Bi,Cbs Pi,Rs Ore,Rs
Secondary											
MICRO RELIEF	R	R	R	R	R	S	R	R	R	S	R
MACRO RELIEF	R	R	R	R	R	S	R	R	R	S	R
SUMMARY CHARACTERISTICS	RPb'mvO	RbsvO	RvO	RPb'mvO	RPv	Rb's	RvO	RPvO	RPbmvO	bsO	RbmV
OIL RESIDENCE INDEX	3	3	3	3	3	3	3	3	3	3	3
GROUND TRUTH	0	0	0	0	0	3	0	3	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, Ccb + 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  
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 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)**  
b 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 v delta plain  
f fan s single channel p 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 b boulder g mud  
c cobble s 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., 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:R).

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Pacific Outer Continental Shelf Region  
Los Angeles, California

by  
**Woodward-Clyde Consultants**  
Environmental Systems Division  
San Francisco, California

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**M.M.S. Map# 93**

**Sheet 2 of 2**