

# 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
<b>ROCKY INTERTIDAL MACROBIOTA</b>														
Acorn barnacles				0	0	0	0	0	0	0	0	0	0	0
Chlorophyta				0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C
Porphyra spp.				0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C	0-C
Pelvetiopsis limitata				C	C	C	C	C	C	C	0-C	C	0-C	
Endocladia muricata				0-C	0-C	0-C	0-C	0-C	0-C	0-C	C	C	C	
Pelvetia fastigiata														
Fucus distichus				C	C	C	C	C	C	C	0-C	C	0-C	
Gigartina spp.				0-C	0-C	0-C	0-C	0-C	0-C	0-C	C	C	C	
Pollicipes polymerus				C	C	C	C	C	C	C	0-C	C	0-C	
Mytilus californianus				C	C	C	C	C	C	C	0-C	C	0-C	
Corallina spp./Gigartina spp.				0	0	0	0	0	0	0	0-C	0-C	0-C	
Postelsia palmaeformis				C	C	C	C	C	C	C	C	C	C	
Halosaccion glandiforme														
Iridaea spp.				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	C	0-C	
Coralline algae														
Phyllospadix spp.				C	C	C	C	C	C	C	C	C	C	
Alaria marginata				C	C	C	C	C	C	C	C	C	C	
Egria menziesii				C	C	C	C	C	C	C	C	C	C	
Laminaria spp.				C-A	C-A	C-A	C-A	C-A	C-A	C-A	C	C	C	
Lessoniopsis littoralis				0-C	0-C	0-C	0-C	0-C	0-C	0-C	0	0-C	0	
<b>OTHER MACROBIOTA</b>														
<b>Kelp beds:</b>														
Macrocystis spp.								C	C		0		0	
Nereocystis luetkeana														
<b>Marine mammals:</b>														
Elephant seal														
Harbor seal		0-A			0		0-A				0-C			
Steller sea lion														
California sea lion														
<b>Seabird nesting colonies:</b>														
Fork-tailed storm petrel														
Leach's storm petrel														
Ashy storm petrel							0							
Brandt's cormorant														
Double-crested cormorant														
Pelagic cormorant					A	A	0-A	A		0	0			
Black oystercatcher							0							
Western gull					0	0	0-A	0						
Common murre														
Pigeon guillemot					0	0	0-C	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	L	M	N	
ALONGSHORE LENGTH (km)	2.2	0.6	0.8	1.6	0.3	0.5	1.3	3.0	2.0	0.6	1.7	0.3	1.3	3.0	
ACROSS-SHORE WIDTH (m)	50-75	-	25	10-20	30	20	10-20	10-20	20	<10	10	<10	10-20	50-100	
WAVE EXPOSURE	10	3-10	10	10	10	10	10	10	10	10	10	10	10	10	
ACROSS-SHORE COMPONENTS (morphology, texture)	Drd, Cs Bb, Cs Bf, Cs	Ee, Rs: Csm Is, Cs Il, Cs	Cp, Rm Bf, Cg Bf, Cs: Rm	Ca, Rm Pi, Rm	Ca, Rm Pi, Rm	Ca, Rm Bi, Cpc Pi, Rm	Ca, Rm Ore, Rm	Ca, Rm Bi, Ccb: Rm	Ca, Rm Bi, Ccb: Rm	Ca, Rm Bi, Ccb: Rm	Cc, Rm Ore, Rm	Ca, Rm Bi, Ccb Ore, Rm	Cc, Rm Ore, Rm	Ca, Rm Bi, Ccb Ore, Rm	Dl, Cs Bf, Cs Ca, Rs Bf, Cs
Primary	Rs, Cs			Ca, Rm Bi, Cc Pi, Rm	Ore, Rm	Ore, Rm	Ca, Rm Bi, Cpc Ore, Rm	Ore, Rm	Ca, Rm Bi, Cr Bi, Ccb: Rm						
Secondary															
MICRO RELIEF	S	-	R	R	R	R	R	R	R	R	R	R	R	S	
MACRO RELIEF	S	-	S	R	R	R	R	R	S	R	S	R	S	S	
SUMMARY CHARACTERISTICS	bs	IsE	bs	RPbmVO	RvO	RPbmVO	Rb'mvO	RbmVO	bsv	RvO	RbmVO	RO	RbmV	bs	
OIL RESIDENCE INDEX	2	1	3	3	3	3	3	3	2	3	3	3	3	2	
GROUND TRUTH	0,4	0	0	0	0	0	0	0	3,4	3	0	0	0	0	

\* Summer beach berm, primarily sand.

## 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 B Coastal Bay, Lagoon, Estuary P Platform  
C Cliff I Inlet R River  
D Dune M Marsh S Bar/Trough  
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)**  
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 v 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 u wood (structural; e.g., plings 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., 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).

Prepared for  
**Minerals Management Service**  
Pacific Outer Continental Shelf Region  
Los Angeles, California

by  
**Woodward-Clyde Consultants**  
Environmental Systems Division  
San Francisco, California  
November, 1982

**M.M.S. Map# 86**  
**Sheet 2 of 2**