

Beach Watch Database Workstation User Manual



Introduction to the Beach Watch Program

Beach Watch is a long-term, baseline monitoring program administered through the Gulf of the Farallones National Marine Sanctuary (GFNMS), managed by the Farallones Marine Sanctuary Association, and implemented by Sanctuary volunteers. Beach Watch started in 1993 and has continued uninterrupted through 2005. The program goals are to:

- Provide a baseline of information on the average presence of live and beachcast marine organisms;
- Assist Sanctuary management in the early detection of natural and human-caused environmental events;
- Develop a network of expert shoreline surveyors who can respond during an oil spill;
- Educate the public about the coastal environment; and
- Encourage the public that they can make a difference in protecting their beaches and create stewardship.

This monitoring program covers the outer coast of central California between Bodega Head in Sonoma County to Año Nuevo State Reserve in San Mateo County, including Tomales Bay and Bolinas Lagoon. Beaches are divided into defined, numbered beach segments within seven regions.

Introduction to Beach Monitoring

The objective of beach monitoring is to provide a long-term data set, which can be used to calculate an index of use for a particular beach. Ideally, each beach segment is surveyed at least 13 times each year, minimally four weeks apart. This baseline data set is used to examine the abundance and distribution of wildlife on each beach and to quantify the human recreational use of each beach segment.

Each survey is to obtain an estimated count of dead and live birds and marine mammals, and human activity on the beach. Oil is a constant threat to the wildlife of the Sanctuary. Through the Beach Watch program, oil on wildlife and beaches is monitored and collected.

Monitoring Techniques

Beach segments are monitored every two to four weeks by trained teams of 1 to 4 volunteers. Volunteers must complete a mandatory 80-hour training, which includes surveying protocol, bird and marine mammal identification, age/sex/probable cause of death determination, oil sampling, human activity documentation, record keeping, field trials, and shadowing more experienced surveyors. Volunteers are given a written and a field test. Volunteers are assigned to a particular beach segment and are given a survey schedule. The survey must be completed within two days of the scheduled survey or a replacement surveyor is found.

During each survey, the minimum data collected are:

- Beach segment name and number
- Date, time begin, time end
- Beginning tide height
- Maximum Beaufort Wind Scale number
- Visibility
- Names of surveyors
- Beach profile photograph
- Percentage of beach surveyed
- Survey hours and miles traveled

The survey is then divided into two parts, a “live” and “dead” survey. If the team consists of multiple surveyors, this may be conducted simultaneously; otherwise the beach is walked one direction completing the “live”, and walked back completing the “dead”.

The “Live” Survey

Live birds and mammals are counted using binoculars. Animals which pass within 300 feet (90 m) of the beach (landward and seaward) as well as marine mammals beyond 300 feet that can be identified are documented. A clicker is used to count abundant species. Volunteers are trained to never guess at species identification. If the surveyor can’t determine the identification to species, the closest family or group such as gull, cormorant, alcid, or Otariid is recorded. Species are recorded on the “Live Species Count” Form (Figure 2) using standard four-letter codes (Table 2)

As part of the live survey, visitor activity on the beach is documented. This is a count of the number of people and their associated activities, and number of dogs, on the beach. The data will let us evaluate the human activities occurring at a particular beach. Descriptions of visitor activities recorded and their codes are in Table 1.

If live stranded or injured animals are encountered, volunteers notify the proper authorities.

The “Dead” Survey

The beach is searched carefully in a zigzag pattern to avoid missing carcasses. All dead vertebrates (birds, mammals, reptiles, and fish) found during a survey are recorded in the “Dead Vertebrates” section of the Beach Monitoring Survey Form (Figure 1). A specimen number is assigned to each animal as it is found.

For each dead specimen the following data are collected:

- specimen number
- species code or name
- condition (rate of decomposition)
- sex (when possible)
- age (when possible)
- photo
- whether oiled and oil extent and location
- evidence of scavenging
- probable cause of death (when possible)
- if tagged, tag number, color and location are noted
- deposition when collected/ notification when appropriate
- any notes

Each dead specimen is photographed for later verification of identification. A photo log (Figure 3) is completed and submitted with slide film. After documentation, the carcasses are marked (mammals with a cloth tag, and birds by clipping wings and feet) to prevent recounting on a subsequent survey. Previously documented dead vertebrates are counted and recorded. All dead marine mammals are reported to the Marine Mammal Stranding Network and to the Sanctuary.

Oil Documentation

Almost every beach within the survey area has documented oil or tarballs at least once. If a surveyor finds oil, an Oil Descriptor Form is filled out (Figure 4). The percent cover, width and length of the strip, and description of the oil are documented. In most circumstances the oil encountered is small (< 6” in diameter) weathered tarballs, or will be on a bird, another marine organism, or marine debris.

When oil is found on the beach or on wildlife, surveyors document and collect a maximum of three oil/tarball samples and a feather sample from every dead oiled bird. The total number of tarballs found and collected is recorded, as well as the size range of the tarballs found. If oil is found on a dead bird or mammal, it is

recorded as the cause of death. Photographs are taken of all oil or oiled wildlife encountered.

Volunteers are trained in the proper sampling and documenting of oil. Oil sampling equipment is provided through the State Office of Spill Prevention and Response (OSPR). After the volunteers collect a sample it is turned into the Sanctuary, which then gives it to OSPR for analyses.

Photo Documentation

Surveyors photo document the following on each beach survey:

- beach profile pictures
- all dead vertebrates
- oil on the beach
- any unusual sightings or events

These photographs are taken using 35 mm slide film and documented on the photo log (Figure 3). The film and photo log are turned in to the Sanctuary. After the slides are catalogued the dead vertebrates identification is verified. The slides and photo logs are then archived.

Beach Wrack and Invertebrate Codes

The relative abundance of beach wrack (wood and algae) and invertebrate groups found on the beach during the survey is documented. (See Table 1 for groups and codes). They are tallied as an abundance code on the Beach Monitoring Survey Form (Figure 1).

Sanctuary Violations and Unusual Events

As the eyes and ears of the Sanctuary, volunteers are often the first to report a Sanctuary violation or unusual event. They are trained to contact the proper agencies.

Equipment for a Beach Survey (*Provided by GFNMS)

Binoculars (7-10 power)
Camera- *1 per team
Rubber gloves (several pair)
*Film

*Forms:

Beach Monitoring Survey Form
Live Species Count Form
Photo Documentation Log
Abbreviation and Count Codes
Extra Data Sheets

*Clipboard & Rubber Band
Pencils (bring several extras)
Clicker-Counter
*Waterproof Sharpie Pen
*Photo Scale
Refreshments & Water

Oil Sampling Supplies:

*Oil Descriptor Forms
Aluminum Foil
*Chain of Custody Forms
*Clean Gloves per Sample
*Evidence Envelopes
*Evidence Labels
*Pre-cleaned Jars and Lids
*Jar Labels
*Tongue Depressors

Scissors mor Shears to clip wings/toe
*Strips of Cloth to Mark Pinnipeds
Tidelog
Bird Identification Guide
*Beached Marine Bird & Mammal Guide
*Volunteer Manual

Data Flow and Entry

Volunteers mail their original datasheets (Figures 1-3) into the Sanctuary office after making copies. Datasheets are checked for correct data recording, and quickly looked over for any unusual sightings. The dead vertebrate slides are verified to species identification, age, and sex. These corrections are made onto the original datasheets. Data are entered into the Beach Watch database in Access. Data is quality checked for data entry errors.

Overview of Regions and Beach Segments

The central California coastline (240 km) has been divided into seven regions of beach segments. All estuaries are excluded except Tomales Bay and Bolinas Lagoon.

Region 1: Salmon Creek to Point Reyes

Region 2: Point Reyes to Golden Gate

Region 3: Golden Gate to Pillar Point

Region 4: Pillar Point to Pigeon Point

Region 5: Pigeon Point to Point Santa Cruz

Region 6: Bolinas Lagoon

Region 7: Tomales Bay

These regions differ by the general direction the shoreline faces and general type of shoreline habitat:

Region	Facing Direction	Shoreline
1	W to SW	rocky, sandy
2	SW to S	sandy
3	W	sandy
4	W	sandy
5	SW	rocky, sandy
6	lagoon with a narrow inlet and rapid flood currents	mudflats, marsh
7	somewhat enclosed estuary	sandy, rocky, marsh

The various regions differ with regard to exposure to the open ocean, currents, wind regimes, distributions and abundance of birds at sea, proximity to ship/tanker lanes, and likelihood of being impacted by oil spills.

Within each region, the shoreline is divided into beach segments. A name and number is assigned to each segment, from north to south. In creating segments, we attempted to include only one beach type, within a 1-3 km length, and to provide for efficient access and censusing. No segment exceeds 6.6 km. Maps of the beach segments are provided in the appendix.

Figure 1

Beach Monitoring Survey		Time Begin _____ Time End _____	Page _____ of _____	Date ____/____/____
Beach Segment #:	Beach Segment Name:	% Dead Surveyed:		
No. Boundary:	So. Boundary:	% Live Surveyed:		
Check Box if Survey is Cancelled <input type="checkbox"/>	Reason for Cancellation: _____			
Special Survey Name: _____	Check Box if it is also Scheduled Survey: <input type="checkbox"/>			

Weather

Beginning Tide Height: _____ Max. Beaufort Wind Scale: _____

Approx. Visibility (circle one): <300 ft. (.09 km) <1/4 mile (0.4 km) >1/4 mile (1.6 km)

Volunteer Information

Name of Surveyor	Prep Time (Hrs) A	Survey Time (Hrs) B	Roundtrip Drive Time (Hrs) C	Total Volunteer Time (Hrs) A + B + C	Roundtrip Mileage Per Car
TOTALS					

Dead Vertebrates

Specimen No.	Species	Condition	Sex	Age	Photo	Oiled	Oiled Extent	Oiled Location	Scavenged	Probable Cause of Death	Tag #, Color, & Location	Comments

Previously Documented Dead Vertebrates

Species									
# Found									

Invertebrate/Wrack Codes

Species/Item	Abundance Code #

Oil / Tarball Information

# Oil / Tarball Found	
# Oil / Tarball Collected (3 max)	
Size Range (cm.) of Oil / Tarball Found (min-max)	
# Oiled Specimen Samples Collected	

For Office Use Only	Tracker	Review	Transfer	Enter	Checked	Band Report
	Live	Dead				

Volunteer Comments on Back

Figure 2

[illegible]

Band / Tag Information (Live)

Species	Color		#		Other Types: Brand, Bleached, Radio Tag
	Left	Right	Left	Right	

Figure 3

Photo Documentation Log

Page ____ of ____

Beach Segment: _____ Film Roll#: _____

Photographer: _____ Recorder: _____

[illegible]

Figure 4

Oil Descriptor Form

Table 1: Beach Watch Codes

Codes for Dead Vertebrates Categories

Condition: Physical Condition of the specimen

Fresh dead	2
Decomposing	3
Dried, mummified	4

Sex: Specimen gender

Male	M
Female	F
Unknown	U

Age: Specimen age class

Birds - Non-gulls

hatch year	HY
after hatch year	AHY

Gulls

first year	FY
second year	SY
third year	TY
adult	AD

Mammals

pup/calf	PC
immature	IM
adult	AD

Unknown, all categories

U

Photo: Was a photo taken?

Yes	Y
No	N

Oiled: Is there oil on the specimen?

Yes	Y
No	N
Substance present and sampled, not sure if it is oil	S

If Y or S, collect an oil sample and note it in comments field.

Oil Extent: Coverage of oil on the specimen expressed as a percent.

Small globules <2% of body	1
2-33% of body	2
34-66% of body	3
67-100% of body	4
No oil present	N

Oil Location: Include all that apply. More than three areas = entire body.

dorsal	1
ventral	2
entire body	3
head	4
feet	5
wings/flippers	6
other	7
No oil present	N

Scavenged:

Yes	Y
No	N
Unknown	U

Table 1 continued: Beach Watch Codes

Probable Cause of Death:

shot	S
fishing line/net entanglement	F
plastic entanglement	P
unknown	U
bite (shark)	B
oil	O
comments (other cause - enter an explanation in comments)	C
Make any notes in the disposition field.	

Comments: If a sample or specimen was collected, note where the sample/specimen was transferred e.g. GFNMS, TMMC, OSPR. Any unusual observances.

Tag #, Color & Location: Record any tags, bands or markings that are found on the dead specimen, collect the tag and send it to the Sanctuary office.

Abundance Codes (used for invertebrates and beach wrack)

1 - 10	code 1
10 - 100	code 2
100 -1,000	code 3
1,000 - 10,000	code 4
10,000 - 100,000	code 5
100,000 - 1,000,000	code 6
>1,000,000	code 7

Invertebrates: (record as abundance code)

Crab/Crab Molts	CM
Jellyfish	JE
Mole Crabs/Mole Crab Molts	MC
Sea Stars	SS
Vellela vellela	VV

Beach Wrack: (record as abundance code)

Algae	AL
Wood: Logs, Drift Wood, and Sticks	WO

Codes for Visitor Use Activity :

All Terrain Vehicle	AT
Bathing	BA
Biking	BI
Boating	BO
Boogie Boarding	BB
Camping	CA
Clam Digger	CD
Dog Unleashed	DU
Dog Leashed	DL
Fishing	FI
Hang Glider	HG
Horse back riding	HB
Jet Skier	JS
Kayaking	KA
Kite Surfer	KS
On Beach	OB
Other Person (describe in comments)	OP
Para-glider	PG
SCUBA diver	SD
Skim Boarder	SB
Surfing	SU
Wind Surfing	WS

Table 2

Master Abbreviation Code List for ALL Species

If You Do Not Find a Code Listed for an Organism, Write Out Entire Name

** Indicates a New Code*

Common Name	Code	Common Name	Code
Unidentified Species		Pelicans/Cormorants/Egrets con't	
Animal (unidentified vertebrate)	ANIM	Green Heron	GRHE
Bird (unidentified marine/non-marine)	BIRD	Pelagic Cormorant	PECO
Fish (unidentified)	FISH	Snowy Egret	SNEG
Mammal (unidentified marine/non-marine)	MAMM		
Marine Mammal (unidentified)	MAMA	Waterfowl	
Landbird (unidentified non-marine)	LAND	American Green-winged Teal	AGWT
Land Mammal (unidentified non-marine)	LAMA	American Wigeon	AMWI
Seabird (unidentified marine bird)	SEAB	Barrow's Goldeneye	BAGO
		Black Scoter	BLSC
		Brant	BRAN*
		Bufflehead	BUFF
		Canada Goose	CAGO
		Canvasback	CANV
		Cinnamon Teal	CITE
		Common Goldeneye	COGO
		Common Merganser	COME
		Eurasian Wigeon	EUWI
		Gadwall	GADW
		Greater Scaup	GRSC
		Greater White-fronted Goose	GWFG
		Harlequin Duck	HADU*
		Hooded Merganser	HOME
		King Eider	KIEI
		Lesser Scaup	LESC
		Long-tailed Duck	LTDU*
		Mallard	MALL
		Northern Pintail	NOPI
		Northern Shoveler	NSHO
		Red-breasted Merganser	RBME
		Ring-necked Duck	RNDU
		Ross's Goose	ROGO
		Ruddy Duck	RUDU
		Scoter (unidentified)	SCOT
		Surf Scoter	SUSC
		Tundra Swan	TUSW
		White-winged Scoter	WWSC
		Rails, Coots, Shorebirds	
		American Avocet	AMAV
		American Coot	AMCO
		Baird's Sandpiper	BASA
		Black Oystercatcher	BLOY
		Black Turnstone	BLTU
		Black-bellied Plover	BBPL
		California Quail	CAQU
		Common Snipe	COSN
		Dunlin	DUNL
		Greater Yellowlegs	GRYE
		Killdeer	KILL
MARINE BIRDS			
Loons/Grebes			
Clark's Grebe	CLGR		
Common Loon	COLO		
Eared Grebe	EAGR		
Eared/Horned Grebe	EHGR		
Horned Grebe	HOGR		
Loon (unidentified)	LOON		
Pacific Loon	PALO		
Pied-billed Grebe	PBGR		
Red-necked Grebe	RNGR		
Red-throated Loon	RTLO		
Western Grebe	WEGR		
Western/Clark's Grebe	WCGR		
Yellow-billed Loon	YBLO		
Tubenoses			
Ashy Storm-Petrel	ASSP		
Black-footed Albatross	BFAL		
Black-vented Shearwater	BVSH		
Buller's Shearwater	BULS*		
Flesh-footed Shearwater	FFSH		
Fork-tailed Storm-Petrel	FTSP		
Leach's Storm-Petrel	LESP		
Manx Shearwater	MASH		
Northern Fulmar	NOFU		
Pink-footed Shearwater	PFSH		
Short-tailed Shearwater	SRTS*		
Sooty Shearwater	SOSH		
Sooty/Short-tailed Shearwater	SSTS*		
Pelicans/Cormorants/Egrets			
American White Pelican	AWPE		
Black-crowned Night-Heron	BCNH		
Brandt's Cormorant	BRAC*		
Brown Pelican	BRPE		
Cormorant (unidentified)	CORM		
Double-crested Cormorant	DCCO		
Great Blue Heron	GBHE		
Great Egret	GREG		

Table 2 con't

Common Name	Code	Common Name	Code
Rails, Coots, Shorebirds con't		Alcids	
Least Sandpiper	LESA	Alcid (unidentified)	ALCI
Lesser Yellowlegs	LEYE	Ancient Murrelet	ANMU
Long-billed Curlew	LBCU	Cassin's Auklet	CAAU
Long-billed Dowitcher	LBDO	Common Murre	COMU
Marbled Godwit	MAGO	Craveri's Murrelet	CRMU
Pacific Golden-Plover	PAGP	Horned Puffin	HOPU
Pectoral Sandpiper	PESA	Marbled Murrelet	MAMU
Peep (unidentified small shorebird)	PEEP	Parakeet Auklet	PAAU
Phalarope (unidentified)	PHAL	Pigeon Guillemot	PIGU
Red Knot	REKN	Rhinoceros Auklet	RHAU
Red Phalarope	REPH	Tufted Puffin	TUPU
Red-necked Phalarope	RNPH	Xantus's Murrelet	XAMU
Ruddy Turnstone	RUTU		
Sanderling	SAND	NON-MARINE BIRDS	
Semipalmated Plover	SEPL	Raptors	
Shorebird (unidentified large shorebird)	SHOR	American Kestrel	AMKE
Short-billed Dowitcher	SBDO	Cooper's Hawk	COHA
Snowy Plover	SNPL	Golden Eagle	GOEA
Spotted Sandpiper	SPSA	Merlin	MERL
Surfbird	SURF	Northern Harrier	NOHA
Virginia Rail	VIRA	Osprey	OSPR
Wandering Tattler	WATA	Peregrine Falcon	PEFA
Western Sandpiper	WESA	Raptor (unidentified)	RAPT*
Whimbrel	WHIM	Red-shouldered Hawk	RSHA
Willet	WILL	Red-tailed Hawk	RTHA
Wilson's Phalarope	WIPH	Rough-legged Hawk	RLHA
		Sharp-shinned Hawk	SSHA
		White-tailed Kite	WTKI
Gulls/Terns/Jaegers		Landbirds	
Arctic Tern	ARTE	Allen's Hummingbird	ALHU
Black-legged Kittiwake	BLKI	American Crow	AMCR
Bonaparte's Gull	BOGU	American Crow/Common Raven (corvid)	ACCR*
California Gull	CAGU	American Goldfinch	AMGO
Caspian Tern	CATE	American Pipit	AMPI
Common Tern	COTE	American Robin	AMRO
Elegant Tern	ELTE	Anna's Hummingbird	ANHU
Forster's Tern	FOTE	Band-tailed Pigeon	BTPI
Franklin's Gull	FRGU	Bank Swallow	BANS
Glaucous Gull	GLGU	Barn Owl	BANO*
Glaucous-winged Gull	GWGU	Barn Swallow	BARS
Gull (unidentified)	GULL	Belted Kingfisher	BEKI
Heermann's Gull	HEEG	Bewick's Wren	BEWR
Herring Gull	HERG	Black Phoebe	BLPH
Laughing Gull	LAGU	Brewer's Blackbird	BRBL
Least Tern	LETE	Brown-headed Cowbird	BHCO
Mew Gull	MEGU	Bullock's Oriole	BUOR
Parasitic Jaeger	PAJA	Bushtit	BUSH*
Pomarine Jaeger	POJA	California Towhee	CALT
Ring-billed Gull	RBGU	Chestnut-backed Chickadee	CBCH
Sabine's Gull	SAGU	Clark's Nutcracker	CLNU
Tern (unidentified)	TERN	Clay-colored Sparrow	CCSP
Thayer's Gull	THGU	Cliff Swallow	CLSW
Western Gull	WEGU		
Western X Glaucous-winged Gull Hybrid	WGWH*		

Table 2 con't

Common Name	Code	Common Name	Code
Landbirds con't		Landbirds con't	
Common Raven	CORA	Yellow-rumped Warbler	YRWA
Common Yellowthroat	COYE		
Dark-eyed Junco	DEJU	MAMMALS	
European Starling	EUST	Marine Mammals	
Fox Sparrow	FOSP	Bottlenose Dolphin	BODO
Golden-crowned Kinglet	GCKI	California Sea Lion	CSLI*
Golden-crowned Sparrow	GCSP	Cetacean (unidentified)	CETA
Great Horned Owl	GHOW	Common Dolphin	CODO
Hermit Thrush	HETH	Dall's Porpoise	DAPO
Horned Lark	HOLA	Gray Whale	GRWH
House Finch	HOFI	Guadalupe Fur Seal	GFSE*
House Sparrow	HOSP	Harbor Porpoise	HAPO
Hutton's Vireo	HUVI	Harbor Seal	HASE
Lesser Goldfinch	LEGO	Humpback Whale	HUWH
Loggerhead Shrike	LOSH	Minke Whale	MIWH
Marsh Wren	MAWR	Northern Elephant Seal	NESE*
Mourning Dove	MODO	Northern Fur Seal	NFSE
Northern Flicker	NOFL	Otariid (unidentified)	OTAR
Northern Mockingbird	NOMO	Pacific White-sided Dolphin	PWSD
Northern Rough-winged Swallow	NRWS	Pantropical Spotted Dolphin	PSDO*
Nuttall's Woodpecker	NUWO	Phocid (unidentified)	PHOC
Pacific-slope Flycatcher	PSFL	Pinniped (unidentified)	PINN
Pine Siskin	PISI	Sea Otter	SEOT
Purple Finch	PUFI	Steller Sea Lion	SSLI*
Purple Martin	PUMA	Striped Dolphin	STDO
Red Junglefowl (Chicken)	REJU*		
Red-winged Blackbird	RWBL	Terrestrial Mammals	
Rock Dove (Pigeon)	RODO	American Beaver	AMBE*
Rock Wren	ROWR	Black-tailed Jack Rabbit	BTJR*
Ruby-crowned Kinglet	RCKI	Bobcat	BOBC
Savannah Sparrow	SAVS	Broad-footed Mole	BFMO*
Say's Phoebe	SAPH	Brush Rabbit	BRRA*
Short-eared Owl	SEOW	California Ground Squirrel	CGSQ
Song Sparrow	SOSP	California Vole	CAVO*
Spotted Towhee	SPTO*	Cat ssp. (domesticated)	CATS*
Steller's Jay	STJA	Cow ssp.	COWS*
Swainson's Thrush	SWTH	Coyote	COYO
Townsend's Warbler	TOWA	Deer (unidentified)	DEER
Tree Swallow	TRES	Deer Mouse	DEMO
Tricolored Blackbird	TRBL	Dog ssp. (domesticated)	DOGS*
Turkey Vulture	TUVU	Tule Elk	TUEL
Vaux's Swift	VASW	Gray Fox	GRFO
Violet-green Swallow	VGSW	Horse ssp. (domesticated)	HORS
Warbling Vireo	WAVI	Mouse ssp.	MOUS
Western Meadowlark	WEME	Mule Deer	MUDE*
Western Scrub-Jay	WESJ	Muskrat	MUSK
White-crowned Sparrow	WCSP	Northern River Otter	NROT*
White-throated Sparrow	WTSP	Pig ssp. (domesticated)	PIGS*
White-throated Swift	WTSW	Raccoon	RACC
Wilson's Warbler	WIWA	Rat ssp.	RATS*
Wrentit	WREN*	Ringtail	RING*
Yellow Warbler	YWAR*	Sheep ssp. (domesticated)	SHEE
Yellow-breasted Chat	YBCH	Sonoma Chipmunk	SOCH*

Table 2 con't

Terrestrial Mammals con't		Human Activity con't	
Striped Skunk	STSK*	Skim Boarder	SB*
Virginia Opossum	VIOP*	Surfer	SU
Western Gray Squirrel	WGSQ*	Windsurfer	WS*
Western Pocket Gopher	WPGO*		
Amphibians/Reptiles/Fish			
Bat Ray	BARA		
Cabazon	CABE		
Frog ssp.	FROG		
Leatherback Turtle	LETU		
Leopard Shark	LESH		
Lingcod	LING		
Lizard ssp.	LIZA		
Mola Mola	MOLA		
Other Shark	SHAR		
Other Skate/Ray	SKRA*		
Rockfish ssp.	ROFI		
Salmon Shark	SASH		
Salmon ssp.	SALM		
Snake ssp.	SNAK		
Striped Bass	STBA		
Invertebrates (abundance code)			
Crab/Crab Molts	CM*		
Jellyfish	JE*		
Mole Crabs/Mole Crab Molts	MC*		
Sea Stars	SS*		
Vellela vellela (by-the-wind sailors)	VV*		
Beach Wrack (abundance code)			
Algae	AL*		
Logs, Drift Wood, and Sticks	WO*		
Human Activity			
ATV Rider	AT*		
Bather	BA		
Biker	BI		
Boater	BO		
Boogie Boarder	BB		
Camper	CA*		
Clam Digger	CD		
Dog unleashed	DU*		
Dog on leash	DL*		
Fisherman	FI		
Hang-glider	HG		
Horseback rider	HB		
Jet Skier	JS		
Kayacker	KA		
Kite Surfer	KS		
Other Person, enter activity into comment field	OP		
Para-glider	PG		
Person on Beach	OB		
Scuba Diver	SD*		