

Zone 4									
Shore	north								
Total Surveys	20								
Start Point	Eroding House								
Start Lat/Long									
End Point	Beluga Slough Outlet								
End Lat/Long									
Dates Walked	1987-92, 98-2006								
Spring Surveys	13								
Fall Surveys	17								
First Walked	1987								
Last Walked	2006								
Total Person-Hours	726.6								
Total Trash Bags Collected	86.5								
Total Estimated Weight of Trash Collected	1213								
<u>General Info</u>									
Date	25-Apr-87	25-Apr-87	30-Apr-88	29-Apr to 6	3-May-89	28-Apr-90	28-Apr-90	29-Apr-90	30-Apr-91
Start Time							1100	1230	915
End Time							1300	1430	1315
Lowest Tide					0.3	-4.2	-4.2	-2.6	
at time						1136	1136	1229	
Temperature (F)									
Sky									
Vertical Zones Walked:									
High	x	x							
Middle	x	x	x						
Low	x	x							
# of Observers	5	2	2	1	1	1	2	1	14
Hours Spent	3	4	2	2.5	2.5	4	2	2	4
Person-Hours	15	8	4	2.5	2.5	4	4	2	56
Shoreline Walked (miles)	2	5	3	4	2.5	4	2	3	2
Total Trip Mileage									
Did Observers . . .									
Hike?	x	x	x		x	x	x	x	x
Kayak?									

Date	25-Apr-87	25-Apr-87	30-Apr-88	29-Apr to 6	3-May-89	28-Apr-90	28-Apr-90	29-Apr-90	30-Apr-91
Steller's Sea Lions									
Harbor Porpoises									
Whales									
Beluga									
Orca									
Minke									
Humpback									
Gray									
Unknown									
Other/Unidentified									
<i>Please note any unusual wildlife sightings</i>	1 dead sea 11 dead sea otters, 11 sets of bird bones								
<u>Invertebrates</u>									
<i>(from the Intertidal Biodiversity Checklist)</i>									
<i>Please note any interesting observations or changes in abundance here</i>		1 large dead sea star			5 small dead crabs, old dead barnacles on rocks.				
<i>Sponges</i>								x	
Breadcrumb Sponge									
Purple Sponge									
<i>Cnidarians</i>									
<i>Anemones</i>				x		x	x	x	x
Burrowing Green Anemone									
Orange Colonial Anemone									
Frilled (Plumose) Anemone									
Christmas Anemone									
<i>Sea Jellies</i>									
Moon Jelly									
Many-ribbed Hydromedusa									
Compass Jelly									
Lion's Mane Jelly									
<i>Worms</i>									
Giant Flatworm						x			x

Date	25-Apr-87	25-Apr-87	30-Apr-88	29-Apr to 6	3-May-89	28-Apr-90	28-Apr-90	29-Apr-90	30-Apr-91
Frilled Dogwinkle									
File Dogwinkle									
Big-mouth Whelk									
Nudibranchs									
Maned Nudibranch							x		
False Sea Lemon (False Lemon Peel)									
Orange-tipped Nudibranch									
Opalescent Nudibranch									
Bushy-backed Nudibranch									
Clams									
Nuttal's Cockle				x		x	x		x
Northwest Ugly Clam									
Arctic Rock Borer									
Baltic Macoma									
Stained Macoma									
Pacific Surf Clam									
Truncated Mya									
Steamer Clam (Pacific Littleneck Clam)									
Butter Clam									
Razor Clam									
Mussels									
Horse Mussel				x		x	x	x	x
Pacific Blue Mussel									
Scallops									
Pink Scallop									
Jingles									
Rock Jingle									
Cephalopods									
Giant Pacific Octopus							x		x
Stubby Squid									
Arthropods									
Barnacles									
Acorn Barnacle				x		x	x	x	x
Pelagic Gooseneck Barnacle									
Thatched Acorn Barnacle									
Crabs									
		x				x	x	x	x

Date	25-Apr-87	25-Apr-87	30-Apr-88	29-Apr to 6	3-May-89	28-Apr-90	28-Apr-90	29-Apr-90	30-Apr-91
Dungeness Crab		x							
Black-clawed Cancer Crab									
Red Hermit Crab									
Striped Hermit Crab									
Decorator Crab									
Carapace Crab									
Red King Crab									
Northern Kelp Crab									
Helmet Crab									
Shrimp									
Broken-back Shrimp									
Coonstripe Shrimp									
Sand Shrimp									
Isopods									
Pillbug Isopod									
Rockweek Isopod									
Amphipods									
Skeleton Shrimp									
Small Beach Hopper									
Echinoderms									
Sea Stars						x	x	x	x
Little Six-rayed Star									
Red-banded Star (Rainbow Star)									
Ochre Star									
Sunflower Star									
Morning Sun Star									
Stimpson's Sun Star									
Rose Star									
Leather Star									
True Star (False Ochre Star, Mottled Star)									
Blood Star									
Brittle Stars									
Serpent Star									
Daisy Brittle Star									
Sea Urchins									
Green Sea Urchin		x				x	x	x	x

Date	25-Apr-87	25-Apr-87	30-Apr-88	29-Apr to 6	3-May-89	28-Apr-90	28-Apr-90	29-Apr-90	30-Apr-91
Red Sea Urchin									
Sea Cucumbers						x			
Silky Burrowing Cucumber									
Orange Cucumber (Red Cucumber)									
Tar-spot Cucumber (Black Cucumber)									
Sand Dollars									
Green-spined Sand Dollar (Northern Sand Dollar)									
<u>Chordates</u>									
<u>Tunicates</u>									
Colonial Tunicate (Sea Pork)									
Sea Peach									
<u>Seaweeds</u>									
Green Seaweed						x	x	x	x
Band									
Attached					x				
Washed Up									
Red Seaweed				x		x		x	x
Band									
Attached									
Washed Up					x				
Rockweed									
Band									
Attached									
Washed Up									
Kelps									
Band									
Attached									
Washed Up									
Eelgrass									
Band									
Attached									
Washed Up									
<u>Beach Substrate</u>									
Type		all		all	all	rocky, sand	rocky, sand	pebbles, sand	rocky, sand

Date	25-Apr-87	25-Apr-87	30-Apr-88	29-Apr to 6	3-May-89	28-Apr-90	28-Apr-90	29-Apr-90	30-Apr-91
Comments									
<i>Most Peculiar Item Collected?</i>									
<i>Comments</i>	15 car eng	Lots of wire	1 vehicle, p	Vehicle parts rare.	Glass, met	Styrofoam	Old vehicle	Glass, sty	
<u>Additional Observations and Comments</u>		Better map for areas 1-15. More			There are various rusty care bodi		Beach is cleaner than		

Date	30-Apr-91	30-Apr-91	3-May-91	??-??-92	20-Sep-98	25-Sep-98	??-Sep-99	21-Sep-00	27-Sep-00
Other (specify)?									
Trash Bags Collected	10	4	3						
Estimated Weight of Collected Trash									
<u>Wildlife</u>									
<i>Birds</i>									
Loons									
Sea Ducks									
Other Ducks and Geese			50						
Bald Eagles									
Adults	1		3				3		
Immatures	1								
Nests							1		
Shorebirds	10								
Seabirds			10		23	12	2	17	34
Crows and Ravens					2			30	45
Others (see separate Bird list)			3			1			
<i>Domestic Mammals</i>									
Cattle									
Horses									tracks
Dogs	3	3	4	1	7	4	2	6	5
Other									
<i>Land Mammals</i>									
Moose									
Adults									
Calves									
Black Bears									
Brown Bears									
Land/River Otters									
Red Squirrels						1			
Tracks Identified									
Other									
<i>Marine Mammals</i>									
Sea Otters					4		2		
Harbor Seals							2		

Date	30-Apr-91	30-Apr-91	3-May-91	??-??-92	20-Sep-98	25-Sep-98	??-Sep-99	21-Sep-00	27-Sep-00
Frilled Dogwinkle									
File Dogwinkle									
Big-mouth Whelk									
Nudibranchs									
Maned Nudibranch									
False Sea Lemon (False Lemon Peel)									
Orange-tipped Nudibranch									
Opalescent Nudibranch									
Bushy-backed Nudibranch									
Clams	x		x			x	x		x
Nuttal's Cockle									
Northwest Ugly Clam									
Arctic Rock Borer									
Baltic Macoma									
Stained Macoma									
Pacific Surf Clam									
Truncated Mya									x
Steamer Clam (Pacific Littleneck Clam)									
Butter Clam									
Razor Clam									x
Mussels	x		x	x		x	x		x
Horse Mussel									
Pacific Blue Mussel									
Scallops									
Pink Scallop									
Jingles									
Rock Jingle									
Cephalopods									
Giant Pacific Octopus						x	x		
Stubby Squid									
Arthropods									
Barnacles	x		x			x		x	x
Acorn Barnacle									
Pelagic Gooseneck Barnacle									
Thatched Acorn Barnacle									
Crabs	x					x	x		

Date	30-Apr-91	30-Apr-91	3-May-91	??-??-92	20-Sep-98	25-Sep-98	??-Sep-99	21-Sep-00	27-Sep-00
Red Sea Urchin									
Sea Cucumbers									
Silky Burrowing Cucumber									
Orange Cucumber (Red Cucumber)									
Tar-spot Cucumber (Black Cucumber)									
Sand Dollars									
Green-spined Sand Dollar (Northern Sand Dollar)									
Chordates									
Tunicates									
Colonial Tunicate (Sea Pork)									x
Sea Peach									
Seaweeds									
Green Seaweed	x	x	x	x			x	x	x
Band									
Attached									
Washed Up									
Red Seaweed	x		x	x				x	x
Band									
Attached									
Washed Up									
Rockweed									
Band									
Attached									
Washed Up									
Kelps									
Band									
Attached									
Washed Up									
Eelgrass									
Band									
Attached									
Washed Up									
Beach Substrate									
Type	sand		rocky, pebbles, sand		rocky, pebl	all	rocky, sand		rocky, pebt

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Other (specify)?									
Trash Bags Collected	9	14	7	6	5	1	4	5	5.5
Estimated Weight of Collected Trash			120	600	100	3	100	30	85
<u>Wildlife</u>									
<i>Birds</i>									
Loons	11	2	5	2	0		1	0	
Sea Ducks	112		241	218	0		58	21	
Other Ducks and Geese	6		0		0		0		
Bald Eagles									
Adults	4	1	3	2	0		0		
Immatures			1		0		0		
Nests			0		0		0		
Shorebirds	5		9	6	0		0		
Seabirds	52	40	23	137	160	61	43	30	120
Crows and Ravens	90	1	0	205	250		56	29	
Others (see separate Bird list)	2								
<i>Domestic Mammals</i>									
Cattle					0	0	0	0	
Horses				2	0	0	0	0	
Dogs	7	18	11	10	7	7	7	3	
Other				cat 1	0	0	0	0	
<i>Land Mammals</i>									
Moose									
Adults					0	0	0	0	
Calves					0	0	0	0	
Black Bears					0	0	0	0	
Brown Bears					0	0	0	0	
Land/River Otters					0	0	0	0	
Red Squirrels					0	0	0	0	
Tracks Identified					0	0	0	0	
Other						0	0	0	
<i>Marine Mammals</i>									
Sea Otters	7		2		0	0	2	25	
Harbor Seals		1	0		0	0	0	0	

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Steller's Sea Lions			0		0	0	0	0	
Harbor Porpoises			0		0	0	0	0	
Whales			0						
Beluga			0		0	0	0	0	
Orca			0		0	0	0	0	
Minke			0		0	0	0	0	
Humpback			0		0	0	0	0	
Gray			0		0	0	0	0	
Unknown			0		0	0	0	0	
Other/Unidentified									
<i>Please note any unusual wildlife sightings</i>	1 dead gull	sculpin							
<u>Invertebrates</u>									
<i>(from the Intertidal Biodiversity Checklist)</i>						nothing entered onto	cot a real low		
<i>Please note any interesting observations or changes in abundance here</i>	Also under	sand fleas							
<u>Sponges</u>									
Breadcrumb Sponge	x				x				
Purple Sponge									
<u>Cnidarians</u>									
<u>Anemones</u>					x				
Burrowing Green Anemone	x		x	x				x	x
Orange Colonial Anemone									
Frilled (Plumose) Anemone									
Christmas Anemone	x		x					x	
<u>Sea Jellies</u>					x				
Moon Jelly	x			x					x
Many-ribbed Hydromedusa				x					
Compass Jelly	x								
Lion's Mane Jelly	x						x		
<u>Worms</u>		x			x				
Giant Flatworm				x					

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Nemerteans									
Amphiporus (Two-spotted) Ribbon Worm									
Red Ribbon Worm									
Echiurans									
Fat Innkeeper (Alaskan Spoonworm)				x					
Sipunculids									
Peanut Worm									
Annelids									
Mussel Worm (Clam Worm)				x					x
Northern Feather Duster Worm (Carpet Worm)									
Cone Worm	x							x	
Calcareous Tube Worm								x	
Spiral Tube Worm									x
Scaleworm	x								
Brachiopods									
Transverse Lampshell									
Mollusks									
Chitons									
Gumboot Chiton									
Black Katy Chiton				x					x
Brick Chiton									
Mossy Chiton									
Tiger Chiton									
Lined Chiton									x
Limpets									
Dunce Cap Limpet	x		x	x				x	x
Plate Limpet	x			x				x	x
Snails									
Hairy Triton	x		x	x				x	x
Sitka Periwinkle	x		x	x			x		x
Helicina Margarite									
Puppet Margarite									
Aleutian Moonsnail			evidence of (holes bored into macoma)						
Ridged Neptune	x		x	x				x	
Channeled Dogwinkle	x			x					
Emarginate Dogwinkle	x			x					

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Frilled Dogwinkle	x								
File Dogwinkle									
Big-mouth Whelk									
Nudibranchs									
Maned Nudibranch									
False Sea Lemon (False Lemon Peel)									
Orange-tipped Nudibranch									
Opalescent Nudibranch									
Bushy-backed Nudibranch			spotted nudibranch						
Clams		x			x				
Nuttal's Cockle	x							x	
Northwest Ugly Clam	x			x					
Arctic Rock Borer				x					
Baltic Macoma	x			x					x
Stained Macoma									
Pacific Surf Clam	x			x					
Truncated Mya									
Steamer Clam (Pacific Littleneck Clam)	x		x	x				x	x
Butter Clam	x		x	x				x	x
Razor Clam	x			x					
Mussels		x							
Horse Mussel			x						
Pacific Blue Mussel	x		x	x			x	x	x
Scallops									
Pink Scallop	x								
Jingles									
Rock Jingle			x						
Cephalopods									
Giant Pacific Octopus	x			dead octopus, 3 lbs.					
Stubby Squid									
Arthropods									
Barnacles		x							
Acorn Barnacle	x		x	x	x		x	x	x
Pelagic Gooseneck Barnacle				x			x		x
Thatched Acorn Barnacle	x		x	x				x	x
Crabs		x			x				

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Dungeness Crab	x		x	ots of molts				x	x
Black-clawed Cancer Crab				x					x
Red Hermit Crab	x								
Striped Hermit Crab	x								
Decorator Crab				x					
Carapace Crab									
Red King Crab	x								
Northern Kelp Crab									
Helmet Crab	x		x	x				x	x
Shrimp									
Broken-back Shrimp	x								
Coonstripe Shrimp									
Sand Shrimp	x								
Isopods									
Pillbug Isopod				x			x		
Rockweek Isopod				x			x		
Amphipods									
Skeleton Shrimp									
Small Beach Hopper	x		x	x			x		x
Echinoderms									
Sea Stars									
Little Six-rayed Star	x								x
Red-banded Star (Rainbow Star)									
Ochre Star									
Sunflower Star									
Morning Sun Star									
Stimpson's Sun Star									
Rose Star									
Leather Star									
True Star (False Ochre Star, Mottled Star)	x								
Blood Star									
Brittle Stars									
Serpent Star									
Daisy Brittle Star									
Sea Urchins									
Green Sea Urchin	x		x		x			x	x

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Red Sea Urchin									
Sea Cucumbers									
Silky Burrowing Cucumber									
Orange Cucumber (Red Cucumber)									
Tar-spot Cucumber (Black Cucumber)									
Sand Dollars									
Green-spined Sand Dollar (Northern Sand Dollar)									
Chordates									
Tunicates									
Colonial Tunicate (Sea Pork)	x		x	x					
Sea Peach	x								
								comb jellies	lp crab, skate egg sac
Seaweeds									
Green Seaweed									
Band							x		
Attached	x	x		x				x	
Washed Up	x	x	x	x	x		x		x
Red Seaweed									
Band							x		x
Attached	x	x							
Washed Up	x	x	x	x	x	x	x	x	
Rockweed									
Band	x			x			x		
Attached	x			x				x	x
Washed Up	x		x	x	x		x		
Kelps									
Band							x		
Attached	x			x					
Washed Up	x	x	x	x	x		x	x	x
Eelgrass									
Band	x								
Attached									
Washed Up				x	x				x
Beach Substrate									
Type	all	rocky, pebbly	pebbles, id to high is	bles and sid	and pebb	d with occa		sand	all

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
<u>Bluff and Cliff Erosion</u>									
Comments	numerous slides, high cliff eroding down cliff bishop's bluff erosion on houses, e trails down 4 particularly noticeable								
Erosion Present									
<u>Human Activities</u>									
Walking									
Signs of		9	28					2	8
Actual observation	19	16	24	50	6	12	16	2	19
Camping									
Signs of						1	7		
Actual observation					1	1			
Partying									
Signs of			19				4	2	
Actual observation					0				
Fire Pits									
Signs of			30					10	25
Actual observation		10			several			10	25
Trash Accumulations									
Signs of									
Actual observation					0				
Clamming									
Signs of					0				
Actual observation		1			0				
Fishing									
Signs of					0				
Actual observation					0				
Coaling									
Signs of					0				
Actual observation		1			0				
Picnicking									
Signs of					0				
Actual observation					0				
Horseback Riding									
Signs of					0				

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Actual observation				2	0				
Harvesting (specify)									
Signs of					0				
Actual observation	1 (rocks)				0				
Other (specify)									
<u>Vehicle Use</u>									
Cars/Trucks									
Sets of tracks	2	5	10	multiple	many	many	many	2	10
Actual observation	1	4		1	3	3	3		1
ATVs/Motorcycles			1						
Sets of tracks		1			many				
Actual observation				1			3		
Bicycles									
Sets of tracks									
Actual observation			1						
Aircraft									
Sets of tracks		1							
Actual observation	1 C-130	2				in air	ne, 2 helis in air		4
Other (specify)									
<u>Structures on the Beach</u>									
Buildings		1			0				
Docks					0				
Driftwood Structures		1	5 one occupied w		1	1		3	6
Riprapped Areas	1				0		5	1	
Erosion Control Structures	1			1	some			2	
Abandoned Vehicles					0				
Abandoned Boats					0		\		
Boat Parts					0				
<u>Archaeological Sites</u>									
Shell Middens					0				
Other (specify)					0				

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
<u>Outfalls or Pipes</u>									
Number	11		4	ipes, 1 culv	some	3	2	3	1
Comments	Gully foam (small amount), surface of water, from city sewage outfall, displaced material, water drainage								
<u>Toxic Pollution</u>									
Fuel (oil, gas, etc.)		1	side in freshwater runoff						
Lubricating Oil		1	empty rusted barrel						
Paint	1								
Batteries									
<u>Trash & Debris</u>									
(from International Coastal Cleanup Data Card)									
<u>Shoreline and Recreational Activities</u>									
Bags/Food Wrappers	37		14	13	15	0	12	10	8
Balloons			1	2	0	0	1	0	
Beverage Bottles, plastic, 2-liter or less	11		25	45	4	0	1	50	9
Beverage Bottles, glass	108		75	76	13	5	34	30	25
Beverage Cans	121		88	127	22	0	15	50	39
Caps, Lids	29		47	56	20	3	7	75	19
Clothing, Cloth	11		4	28	1	1	2	3	6
Cups, Plates, Forks, Knives, Spoons	35		16	22	8	0	6	10	7
Diapers			1	1	0	0	0		1
Fast-food Containers			117	168	50	0	30	75	31
6-pack Holders	2		1	0	1	0	0		
Pull Tabs	1		3	1	2	0	0		1
Shotgun Shells/Wadding	10		5	9	8	0	2		1
Straws, Stirrers	11		6	1	0	0	1		1
Toys	2		2	2	0	0	2		1
<u>Ocean/Waterway Activities</u>									
Bait Containers/Packaging	12		0	0	2	0	0		1
Bleach/Cleaner Bottles	3		0	1	0	0	0		
Buoys/Floats	1		0	6	0	0	0		1
Crab/Lobster/Fish Traps			0	0	0	0	0		3
Crates			0	2	0	0	0		1

Date	19-Sep-01	25-Sep-01	26.09.02	10.09.03	14.09.03	16.09.03	17.09.03	9.27.04	9.16.04
Comments									
<i>Most Peculiar Item Collected?</i>							plastic tail to toy	bicycle	
			television		outboard motor				
<i>Comments</i>	I saw was 1	9 out of 10	items came from beach parties.	A	beach much cleaner th			Lots of garbage in high	
<u>Additional Observations and Comments</u>	This is our	Amount of trash has decreased.							
					+				

<u>Zone 4</u>				
Shore				
Total Surveys				
Start Point				
Start Lat/Long				
End Point				
End Lat/Long				
Dates Walked				
Spring Surveys				
Fall Surveys				
First Walked				
Last Walked				
Total Person-Hours				
Total Trash Bags Collected				
Total Estimated Weight of Trash Collected				
<u>General Info</u>				
Date	9.19.05	09.20.06	09.20.06	
Start Time	935	900	900	
End Time	1050	1400	1400	
Lowest Tide			-0.15	
at time			1013	
Temperature (F)		60	60	
Sky	p. cloudy	clear	clear	
Vertical Zones Walked:				
High	x	x	x	
Middle		x	x	
Low	x			
# of Observers	6	40	40	
Hours Spent	1.5	1.5	1	
Person-Hours	9	60	40	
Shoreline Walked (miles)	1	1	1	
Total Trip Mileage	2	2.5	2.5	
Did Observers . . .				
Hike?	x	x	x	
Kayak?				

Date		9.19.05	09.20.06	09.20.06		
	Other (specify)?					
Trash Bags Collected		5	4	4		
Estimated Weight of Collected Trash		100	75	60		
<u>Wildlife</u>						
<i>Birds</i>						
Loons			1			
Sea Ducks			75+			
Other Ducks and Geese						
Bald Eagles						
	Adults	1	1			
	Immatures					
	Nests					
Shorebirds			3			
Seabirds		150	75+			
Crows and Ravens		50	20+			
Others (see separate Bird list)						
<i>Domestic Mammals</i>						
Cattle						
Horses						
Dogs		20	5			
Other						
<i>Land Mammals</i>						
Moose						
	Adults					
	Calves					
Black Bears						
Brown Bears						
Land/River Otters						
Red Squirrels						
Tracks Identified						
Other						
<i>Marine Mammals</i>						
Sea Otters						
Harbor Seals						

Date	9.19.05	09.20.06	09.20.06		
Steller's Sea Lions					
Harbor Porpoises					
Whales					
Beluga					
Orca					
Minke					
Humpback					
Gray					
Unknown					
Other/Unidentified					
<i>Please note any unusual wildlife sightings</i>					
<u>Invertebrates</u>					
<i>(from the Intertidal Biodiversity Checklist)</i>					
<i>Please note any interesting observations or changes in abundance here</i>					
<i>Sponges</i>					
Breadcrumb Sponge					
Purple Sponge					
<i>Cnidarians</i>					
<i>Anemones</i>					
Burrowing Green Anemone		x			
Orange Colonial Anemone					
Frilled (Plumose) Anemone					
Christmas Anemone					
<i>Sea Jellies</i>					
Moon Jelly					
Many-ribbed Hydromedusa					
Compass Jelly					
Lion's Mane Jelly					
<i>Worms</i>					
Giant Flatworm					

Date	9.19.05	09.20.06	09.20.06		
Nemerteans					
Amphiporus (Two-spotted) Ribbon Worm					
Red Ribbon Worm					
Echiurans					
Fat Innkeeper (Alaskan Spoonworm)					
Sipunculids					
Peanut Worm					
Annelids					
Mussel Worm (Clam Worm)					
Northern Feather Duster Worm (Carpet Worm)					
Cone Worm					
Calcareous Tube Worm					
Spiral Tube Worm					
Scaleworm					
Brachiopods					
Transverse Lampshell					
Mollusks					
Chitons					
Gumboot Chiton					
Black Katy Chiton					
Brick Chiton					
Mossy Chiton					
Tiger Chiton					
Lined Chiton					
Limpets					
Dunce Cap Limpet					
Plate Limpet					
Snails					
Hairy Triton					
Sitka Periwinkle					
Helicina Margarite					
Puppet Margarite					
Aleutian Moonsnail					
Ridged Neptune					
Channeled Dogwinkle					
Emarginate Dogwinkle					

Date	9.19.05	09.20.06	09.20.06		
Frilled Dogwinkle					
File Dogwinkle					
Big-mouth Whelk					
<i>Nudibranchs</i>					
Maned Nudibranch					
False Sea Lemon (False Lemon Peel)					
Orange-tipped Nudibranch					
Opalescent Nudibranch					
Bushy-backed Nudibranch					
<i>Clams</i>					
Nuttal's Cockle					
Northwest Ugly Clam					
Arctic Rock Borer					
Baltic Macoma					
Stained Macoma					
Pacific Surf Clam					
Truncated Mya					
Steamer Clam (Pacific Littleneck Clam)					
Butter Clam					
Razor Clam					
<i>Mussels</i>		x			
Horse Mussel					
Pacific Blue Mussel					
<i>Scallops</i>					
Pink Scallop					
<i>Jingles</i>					
Rock Jingle					
<i>Cephalopods</i>					
Giant Pacific Octopus					
Stubby Squid					
<i>Arthropods</i>					
<i>Barnacles</i>		x			
Acorn Barnacle					
Pelagic Gooseneck Barnacle					
Thatched Acorn Barnacle					
<i>Crabs</i>					

Date	9.19.05	09.20.06	09.20.06		
Dungeness Crab					
Black-clawed Cancer Crab					
Red Hermit Crab					
Striped Hermit Crab					
Decorator Crab					
Carapace Crab					
Red King Crab					
Northern Kelp Crab					
Helmet Crab					
Shrimp					
Broken-back Shrimp					
Coonstripe Shrimp					
Sand Shrimp					
Isopods					
Pillbug Isopod					
Rockweek Isopod					
Amphipods					
Skeleton Shrimp					
Small Beach Hopper					
Echinoderms					
Sea Stars					
Little Six-rayed Star					
Red-banded Star (Rainbow Star)					
Ochre Star					
Sunflower Star					
Morning Sun Star					
Stimpson's Sun Star					
Rose Star					
Leather Star					
True Star (False Ochre Star, Mottled Star)					
Blood Star					
Brittle Stars					
Serpent Star					
Daisy Brittle Star					
Sea Urchins					
Green Sea Urchin					

Date	9.19.05	09.20.06	09.20.06		
Red Sea Urchin					
Sea Cucumbers					
Silky Burrowing Cucumber					
Orange Cucumber (Red Cucumber)					
Tar-spot Cucumber (Black Cucumber)					
Sand Dollars					
Green-spined Sand Dollar (Northern Sand Dollar)					
<u>Chordates</u>					
Tunicates					
Colonial Tunicate (Sea Pork)					
Sea Peach					
<u>Seaweeds</u>					
Green Seaweed					
Band					
Attached					
Washed Up	x				
Red Seaweed					
Band					
Attached					
Washed Up	x	x			
Rockweed					
Band					
Attached					
Washed Up	x	x			
Kelps					
Band					
Attached					
Washed Up	x	x			
Eelgrass					
Band					
Attached					
Washed Up					
<u>Beach Substrate</u>					
Type	all	sand, cobble			

Date		9.19.05	09.20.06	09.20.06		
<u>Bluff and Cliff Erosion</u>						
Comments	gressively as walked westerly					
Erosion Present			yes			
<u>Human Activities</u>						
Walking						
	Signs of	20	6			
	Actual observation		5			
Camping						
	Signs of					
	Actual observation		1			
Partying						
	Signs of	5	4			
	Actual observation					
Fire Pits						
	Signs of	5	3			
	Actual observation					
Trash Accumulations						
	Signs of					
	Actual observation					
Clamming						
	Signs of	1				
	Actual observation					
Fishing						
	Signs of					
	Actual observation					
Coaling						
	Signs of					
	Actual observation					
Picnicking						
	Signs of	5	1			
	Actual observation					
Horseback Riding						
	Signs of					

Date		9.19.05	09.20.06	09.20.06		
	Actual observation					
Harvesting (specify)						
	Signs of 1 driftwood					
	Actual observation					
Other (specify)						
	<u>Vehicle Use</u>					
Cars/Trucks						
	Sets of tracks	10	7			
	Actual observation	5	3			
ATVs/Motorcycles						
	Sets of tracks					
	Actual observation					
Bicycles						
	Sets of tracks					
	Actual observation					
Aircraft						
	Sets of tracks					
	Actual observation		1			
Other (specify)						
	<u>Structures on the Beach</u>					
Buildings						
Docks						
Driftwood Structures		1	2			
Riprapped Areas						
Erosion Control Structures			3			
Abandoned Vehicles						
Abandoned Boats						
	Boat Parts					
	<u>Archaeological Sites</u>					
Shell Middens						
Other (specify)						

Date	9.19.05	09.20.06	09.20.06		
<u>Outfalls or Pipes</u>					
Number	6				
Comments					
<u>Toxic Pollution</u>					
Fuel (oil, gas, etc.)					
Lubricating Oil					
Paint					
Batteries					
<u>Trash & Debris</u>					
(from International Coastal Cleanup Data Card)					
<i>Shoreline and Recreational Activities</i>					
Bags/Food Wrappers	2	44	8		209
Balloons	1		1		6
Beverage Bottles, plastic, 2-liter or less	3	22	3		183
Beverage Bottles, glass	20	100	22		577
Beverage Cans	40	30	29		644
Caps, Lids	20	15	14		305
Clothing, Cloth	2	2	14		83
Cups, Plates, Forks, Knives, Spoons	10	7	1		127
Diapers					3
Fast-food Containers	90	70	40		671
6-pack Holders		2			6
Pull Tabs		1	3		12
Shotgun Shells/Wadding	1	3			39
Straws, Stirrers	1	2	1		24
Toys	1	2	1		13
					0
<i>Ocean/Waterway Activities</i>					
Bait Containers/Packaging	2	1	4		22
Bleach/Cleaner Bottles	1				5
Buoys/Floats	1	17	11		38
Crab/Lobster/Fish Traps					3
Crates					3

Date	9.19.05	09.20.06	09.20.06		
Fishing Line					15
Fishing Lures					1
Fishing Nets		1			11
Light Bulbs/Tubes					2
Oil/Lube Bottles	2	5	5		15
Pallets					15
Plastic Sheeting/Tarps		17			37
Rope	3	4	7		78
Strapping Bands	1	3	2		18
					0
Smoking-Related Activities					0
Cigarettes/Cigarette Filters	16	48	8		210
Cigarette Lighters	1	4	5		23
Cigar Tips					5
Tobacco Packaging/Wrappers	1	4			30
					0
Dumping Activities					0
Appliances (refrigerators, washers, etc.)					14
Batteries		1	1		5
Cars/Car Parts	3		3		74
Construction Materials	2	3	21		203
55-gallon Drums					3
Tires					4
					0
Medical/Personal Hygiene					0
Syringes					1
Condoms	1				3
Tampons/Tampon Applicators	1				1
Debris Items of Local Concern		, 1 bed frame, 1 flare			
Styrofoam pieces		45	24		
Entangled Animals					
Type of Animal					
Form of Entangling Debris					

Date	9.19.05	09.20.06	09.20.06		
Comments					
<i>Most Peculiar Item Collected?</i>	bottle of advil with pink sharpie pen				
<i>Comments</i>	in tide zone, 1 50 gallon H2O heater left on beach				
<u>Additional Observations and Comments</u>					