

<b><u>Zone 17</u></b>								
<b>Shore</b>	south							
<b>Total Surveys</b>	9							
<b>Start Point</b>	Bradley River							
<b>Start Lat/Long</b>								
<b>End Point</b>	Aurora Lagoon Outlet							
<b>End Lat/Long</b>								
<b>Dates Walked</b>	1989, 96, 98-2001,2003-04							
<b>Spring Surveys</b>	1							
<b>Fall Surveys</b>	9							
<b>First Walked</b>	1989							
<b>Last Walked</b>	2004							
<b>Total Person-Hours</b>	49							
<b>Total Trash Bags Collected</b>	0							
<b>Total Estimated Weight of Trash Collected</b>	0							
<b><u>General Info</u></b>								
<b>Date</b>	29-Apr to 6-May-89	??-Sep-96	28-Sep-96	3-Oct-98	28-Sep-99	3-Sep-00	15-Sep-01	22-Sep-01
<b>Start Time</b>			1200			1400		
<b>End Time</b>			1400					
<b>Lowest Tide</b>							-1.7	-0.8
	<b>at time</b>						736	:20
<b>Temperature (F)</b>			40	40s	40s	>50	52	cool
<b>Sky</b>		cloudy	partly cloudy		cloudy	sunny	partly cloud	cloudy
<b>Vertical Zones Walked:</b>								
	High							x
	Middle			x		x	x	x
	Low	x	x		x		x	x
<b># of Observers</b>	1	2	2	1	1	1	1	3
<b>Hours Spent</b>	8	1	2	5	1	1	3.5	3.5
<b>Person-Hours</b>	8	2	4	5	1	1	3.5	10.5
<b>Shoreline Walked (miles)</b>	2		40 feet	10	2	2	3	
<b>Total Trip Mileage</b>							32	
<b>Did Observers . . .</b>								
	Hike?	x	x				x	
	Kayak?			x		x	x	

Date	29-Apr to 6-May-89	??-Sep-96	28-Sep-96	3-Oct-98	28-Sep-99	3-Sep-00	15-Sep-01	22-Sep-01
Other (specify)?		motor boat	Cleared access to beach		skiff			
<b>Trash Bags Collected</b>								no
<b>Estimated Weight of Collected Trash</b>								
<b><u>Wildlife</u></b>								
<b><i>Birds</i></b>								
Loons				1				1
Sea Ducks	24	6		20	2			
Other Ducks and Geese	147	1						
Bald Eagles								
Adults	16	8	3	2	2	2	2	1
Immatures	4					2		1
Nests	3	2						
Shorebirds	5056							
Seabirds	220	30		8		19	6	3
Crows and Ravens	40							
Others (see separate Bird list)	304	2		5	1	7		
<b><i>Domestic Mammals</i></b>								
Cattle								
Horses								
Dogs				2		1	1	3
Other								
<b><i>Land Mammals</i></b>								
Moose								
Adults	6							
Calves								
Black Bears								
Brown Bears								
Land/River Otters								
Red Squirrels		2					3	
Tracks Identified								
Other	coyote							
<b><i>Marine Mammals</i></b>								
Sea Otters		3			2	1	3	1
Harbor Seals	100			2			1	1





<b>Date</b>	29-Apr to 6-May-89	??-Sep-96	28-Sep-96	3-Oct-98	28-Sep-99	3-Sep-00	15-Sep-01	22-Sep-01
Frilled Dogwinkle								
File Dogwinkle							x	
Big-mouth Whelk								
<b>Nudibranchs</b>								
Maned Nudibranch								
False Sea Lemon (False Lemon Peel)								
Orange-tipped Nudibranch								
Opalescent Nudibranch								
Bushy-backed Nudibranch								
<b>Clams</b>		x		x	x			
Nuttal's Cockle							x	
Northwest Ugly Clam								
Arctic Rock Borer							x	
Baltic Macoma							x	x
Stained Macoma								
Pacific Surf Clam								
Truncated Mya								
Steamer Clam (Pacific Littleneck Clam)							x	
Butter Clam							x	
Razor Clam								
<b>Mussels</b>		x		x	x			
Horse Mussel								
Pacific Blue Mussel							x	x
<b>Scallops</b>								
Pink Scallop								
<b>Jingles</b>								
Rock Jingle								
<b>Cephalopods</b>								
Giant Pacific Octopus								
Stubby Squid								
<b>Arthropods</b>								
<b>Barnacles</b>		x		x	x	x		
Acorn Barnacle							x	x
Pelagic Gooseneck Barnacle								
Thatched Acorn Barnacle								
<b>Crabs</b>				x	x			



<b>Date</b>	29-Apr to 6-May-89	??-Sep-96	28-Sep-96	3-Oct-98	28-Sep-99	3-Sep-00	15-Sep-01	22-Sep-01
Red Sea Urchin								
<b>Sea Cucumbers</b>								
Silky Burrowing Cucumber							x	
Orange Cucumber (Red Cucumber)								
Tar-spot Cucumber (Black Cucumber)								
<b>Sand Dollars</b>								
Green-spined Sand Dollar (Northern Sand Dollar)								
<b>Chordates</b>								
<b>Tunicates</b>								
Colonial Tunicate (Sea Pork)								
Sea Peach								
<b>Seaweeds</b>								
Green Seaweed		x				x		
Band							x	
Attached								
Washed Up								
Red Seaweed		x						
Band								
Attached								
Washed Up								
Rockweed				x	x	x		
Band								x
Attached								
Washed Up								
Kelps								
Band								
Attached								
Washed Up							x	x
Eelgrass								
Band								
Attached								
Washed Up								
<b>Beach Substrate</b>								
Type	mud	rocky, pebl	rocky	rocky, mud	pebbles	rocky, mud	rocky, pebl	rocky, pebl









<b>Date</b>	29-Apr to 6-May-89	??-Sep-96	28-Sep-96	3-Oct-98	28-Sep-99	3-Sep-00	15-Sep-01	22-Sep-01
Comments								
<b><i>Most Peculiar Item Collected?</i></b>								
<b><i>Comments</i></b>	Glass and metal car	Styrofoam	Numerous	Visqueen,	High tides	No trash--in past there	No sign of	
<b><u>Additional Observations and Comments</u></b>	Beaches pretty clean	All spruce	Beach area	The NE side	Excellent--	Lots of washed-up det	Covered in	

<b><u>Zone 17</u></b>									
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									
<b><u>General Info</u></b>									
Date	09.09.03	10.10.04							
Start Time	1000								
End Time	1200								
Lowest Tide	-1.7								
	at time	834							
Temperature (F)	502								
Sky	sunny	overcast							
Vertical Zones Walked:									
	High		x						
	Middle		x						
	Low	x	x						
# of Observers	1	3							
Hours Spent	2	4							
Person-Hours	2	12	0	0	0	0	0	0	0
Shoreline Walked (miles)	2	1							
Total Trip Mileage	2	1							
Did Observers . . .									
	Hike?		x						
	Kayak?	x							

Date	09.09.03	10.10.04							
Other (specify)?									
Trash Bags Collected	trash collec	0							
Estimated Weight of Collected Trash									
<b><u>Wildlife</u></b>									
<b><i>Birds</i></b>									
Loons	0								
Sea Ducks	0								
Other Ducks and Geese	0								
Bald Eagles									
	Adults		2						
	Immatures		2						
	Nests	1	1						
Shorebirds	0								
Seabirds	0								
Crows and Ravens	0								
Others (see separate Bird list)	songbirds								
<b><i>Domestic Mammals</i></b>									
Cattle	0								
Horses	0								
Dogs	1								
Other									
<b><i>Land Mammals</i></b>									
Moose									
	Adults	0							
	Calves	0							
Black Bears	0								
Brown Bears	0								
Land/River Otters	0								
Red Squirrels	0								
Tracks Identified	0								
Other	0								
<b><i>Marine Mammals</i></b>									
Sea Otters	0	3							
Harbor Seals	0	3							

<b>Date</b>	09.09.03	10.10.04							
Steller's Sea Lions	1								
Harbor Porpoises	0								
Whales									
Beluga	0								
Orca	0								
Minke	0								
Humpback	0								
Gray	0								
Unknown									
Other/Unidentified									
<b><i>Please note any unusual wildlife sightings</i></b>	, sculpin, gunnel.								
<b><u>Invertebrates</u></b>									
<i>(from the Intertidal Biodiversity Checklist)</i>									
<b><i>Please note any interesting observations or changes in abundance here</i></b>	oyster farmer is cleaning nets here, so there is a large increase of True Stars in area								
<b><i>Sponges</i></b>									
Breadcrumb Sponge									
Purple Sponge									
<b><i>Cnidarians</i></b>									
<b><i>Anemones</i></b>									
Burrowing Green Anemone									
Orange Colonial Anemone									
Frilled (Plumose) Anemone									
Christmas Anemone									
<b><i>Sea Jellies</i></b>									
Moon Jelly		x							
Many-ribbed Hydromedusa	x								
Compass Jelly									
Lion's Mane Jelly	x	x							
<b><i>Worms</i></b>									
Giant Flatworm		x							





<b>Date</b>	09.09.03	10.10.04							
Dungeness Crab									
Black-clawed Cancer Crab		x							
Red Hermit Crab									
Striped Hermit Crab									
Decorator Crab									
Carapace Crab									
Red King Crab									
Northern Kelp Crab									
Helmet Crab		x							
<b>Shrimp</b>									
Broken-back Shrimp		x							
Coonstripe Shrimp									
Sand Shrimp									
<b>Isopods</b>									
Pillbug Isopod									
Rockweek Isopod									
<b>Amphipods</b>									
Skeleton Shrimp									
Small Beach Hopper									
<b>Echinoderms</b>									
<b>Sea Stars</b>									
Little Six-rayed Star									
Red-banded Star (Rainbow Star)									
Ochre Star									
Sunflower Star		x							
Morning Sun Star									
Stimpson's Sun Star									
Rose Star									
Leather Star									
True Star (False Ochre Star, Mottled Star)	x	x							
Blood Star			bottomed star						
<b>Brittle Stars</b>									
Serpent Star									
Daisy Brittle Star									
<b>Sea Urchins</b>									
Green Sea Urchin	x	x							

<b>Date</b>	09.09.03	10.10.04							
Red Sea Urchin									
<b>Sea Cucumbers</b>									
Silky Burrowing Cucumber									
Orange Cucumber (Red Cucumber)									
Tar-spot Cucumber (Black Cucumber)									
<b>Sand Dollars</b>									
Green-spined Sand Dollar (Northern Sand Dollar)									
<b><u>Chordates</u></b>									
<b><i>Tunicates</i></b>									
Colonial Tunicate (Sea Pork)									
Sea Peach									
<b><u>Seaweeds</u></b>									
Green Seaweed									
Band									
Attached	x	x							
Washed Up									
Red Seaweed									
Band									
Attached		x							
Washed Up									
Rockweed									
Band									
Attached		x							
Washed Up									
Kelps									
Band									
Attached	x	x							
Washed Up									
Eelgrass									
Band									
Attached									
Washed Up									
<b><u>Beach Substrate</u></b>									
Type	rocky, muddy, pebbles, mud								





Date	09.09.03	10.10.04							
<b><u>Outfalls or Pipes</u></b>									
Number									
Comments									
<b><u>Toxic Pollution</u></b>									
Fuel (oil, gas, etc.)									
Lubricating Oil									
Paint									
Batteries									
<b><u>Trash &amp; Debris</u></b>									
(from International Coastal Cleanup Data Card)									
<b><i>Shoreline and Recreational Activities</i></b>									
Bags/Food Wrappers						0			
Balloons						0			
Beverage Bottles, plastic, 2-liter or less						0			
Beverage Bottles, glass						0			
Beverage Cans						0			
Caps, Lids						0			
Clothing, Cloth						0			
Cups, Plates, Forks, Knives, Spoons						3			
Diapers						0			
Fast-food Containers						0			
6-pack Holders						0			
Pull Tabs						0			
Shotgun Shells/Wadding						0			
Straws, Stirrers						0			
Toys						0			
						0			
<b><i>Ocean/Waterway Activities</i></b>									
Bait Containers/Packaging						0			
Bleach/Cleaner Bottles						0			
Buoys/Floats						2			
Crab/Lobster/Fish Traps						0			
Crates						0			



<b>Date</b>	09.09.03	10.10.04								
Comments										
<b><i>Most Peculiar Item Collected?</i></b>										
<b><i>Comments</i></b>	garbage or	very clean - no garbage								
<b><u>Additional Observations and Comments</u></b>	her south side Bear Cove. (further notes attached to datasheet)									

<b><u>Zone 17</u></b>									
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									
<b><u>General Info</u></b>									
Date									
Start Time									
End Time									
Lowest Tide									
at time									
Temperature (F)									
Sky									
Vertical Zones Walked:									
High									
Middle									
Low									
# of Observers									
Hours Spent									
Person-Hours									
	0	0	0	0	0	0	0	0	0
Shoreline Walked (miles)									
Total Trip Mileage									
Did Observers . . .									
Hike?									
Kayak?									













<b>Date</b>									
	<b><u>Bluff and Cliff Erosion</u></b>								
Comments									
	<b><u>Human Activities</u></b>								
Walking									
		Signs of							
		Actual observation							
Camping									
		Signs of							
		Actual observation							
Partying									
		Signs of							
		Actual observation							
Fire Pits									
		Signs of							
		Actual observation							
Trash Accumulations									
		Signs of							
		Actual observation							
Clamming									
		Signs of							
		Actual observation							
Fishing									
		Signs of							
		Actual observation							
Coaling									
		Signs of							
		Actual observation							
Picnicking									
		Signs of							
		Actual observation							
Horseback Riding									
		Signs of							







