

Zone 5

Shore	north	
Total Surveys	14	
Start Point	Beluga Slough Outlet	
End Point	Mariner Park Lagoon Outlet, below the berm	59 37.!
Start Lat/Long		
End Lat/Long		59 37.
Dates Walked	1987-88, 90-92, 98-2006, 2007, 2008	
Spring Surveys	5	
Fall Surveys	19	
First Walked	1987	
Last Walked	2008	
Total Person-Hours	445.5	
Total Trash Bags Collected	49.75	
Total Estimated Weight of Trash Collected	755	

General Info

	25-Apr-87	30-Apr-88	4-May-90	29-Apr-91	??-???-92
Date					
Start Time			1815	915	
End Time			2115	1115	
Lowest Tide					
	at time				
Temperature (F)					
Sky					
Vertical Zones Walked:					
High		x			
Middle					
Low	x				
# of Observers	4	10	2	2	1
Hours Spent	1	1.5	3	2	1
Person-Hours	4	15	6	4	1
Shoreline Walked (miles)	1	2	0.5	2.5	
Total Trip Mileage			1		
Did Observers . . .					
Hike?	x	x	x	x	
Kayak?					
Other (specify)?					
Trash Bags Collected			2	10	
Estimated Weight of Collected Trash (in pounds)					

Wildlife Birds

Loons		
Sea Ducks	3	
Other Ducks and Geese		2
Bald Eagles		
Adults		4
Immatures		
Nests		
Shorebirds		300

Seabirds	50	76	230	6	
Crows and Ravens	50	3		6	
Others (see separate Bird list)					
Dead Birds					

Domestic Mammals

Cattle					
Horses					
Dogs	1	1	2	1	2
Other					

Land Mammals

Moose					
		Adults	1		
		Calves			
Black Bears					
Brown Bears					
Land/River Otters					
Red Squirrels					
Tracks Identified					dog
Other					

Marine Mammals

Sea Otters			5		
Harbor Seals			3		
Steller's Sea Lions					
Harbor Porpoises					
Whales					
		Beluga			
		Orca			
		Minke			
		Humpback			
		Gray			
		Unknown			
Other/Unidentified					
		Dead Sea Otters			
		Other Dead Marine Mammals			

Please note any unusual wildlife sightings

sand lance

Invertebrates

(from the Intertidal Biodiversity Checklist)

Please note any interesting observations or changes in abundance here

Sponges

Breadcrumb Sponge		x	x		
Purple Sponge					

Cnidarians

<i>Anemones</i>		x		x	
Burrowing Green Anemone					
Orange Colonial Anemone					
Frilled (Plumose) Anemone					

Christmas Anemone

Sea Jellies

x

Moon Jelly

Many-ribbed Hydromedusa

Compass Jelly

Lion's Mane Jelly

Worms

x

Giant Flatworm

Nemertean

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

x

Dunce Cap Limpet

Plate Limpet

Snails

x

x

x

Hairy Triton

Sitka Periwinkle

Helicina Margarite

Puppet Margarite

Aleutian Moonshell

Ridged Neptune

Channeled Dogwinkle

Emarginate Dogwinkle

Friiled Dogwinkle

File Dogwinkle

Big-mouth Whelk

Nudibranchs

Maned Nudibranch

False Sea Lemon (False Lemon Peel)

Orange-tipped Nudibranch

Opalescent Nudibranch

Bushy-backed Nudibranch				
Clams				
Nuttall's Cockle		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	X	X	X	X
Horse Mussel				
Pacific Blue Mussel				
Scallops				
Pink Scallop				
Jingles				
Rock Jingle				
Cephalopods				
Giant Pacific Octopus				
Stubby Squid				
	Arthropods			
Barnacles			X	X
Acorn Barnacle				
Pelagic Gooseneck Barnacle				
Thatched Acorn Barnacle				
Crabs		X		X
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				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

x x

Green Sea Urchin
 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)
 Sea Peach

Sea Squirts

Seaweeds

Green Seaweed		x	x	x
	Band			
	Attached			
	Washed Up			
Red Seaweed		x	x	
	Band			
	Attached			
	Washed Up			
Rockweed				
	Band			
	Attached			
	Washed Up			
Kelps				
	Band			
	Attached			
	Washed Up			
Eelgrass				
	Band			
	Attached			
	Washed Up			

Beach Substrate

Type rocky, sand, coal rocky, sanc all

Bluff and Cliff Erosion

Erosion present

Comments moderate to severe severe moderate to severe

Human Activities

Walking	Signs of Actual observation	2	2	1
Camping	Signs of Actual observation		2	
Partying	Signs of Actual observation			
Fire Pits	Signs of Actual observation			
Trash Accumulations	Signs of Actual observation	2	1	1
Clamming	Signs of Actual observation			1
Fishing	Signs of Actual observation		1	
Coaling	Signs of Actual observation			
Picnicking	Signs of Actual observation			
Horseback Riding	Signs of Actual observation			
Harvesting (specify)	Signs of Actual observation			
Other (specify)				

Vehicle Use

Cars/Trucks	Sets of tracks Actual observation		4	6
ATVs/Motorcycles	Sets of tracks Actual observation			2
Bicycles	Sets of tracks Actual observation			
Aircraft	Sets of tracks Actual observation			
Other (specify)				

Structures on the Beach

Buildings	6	1		
Docks				
Driftwood Structures				
Riprapped Areas				
Erosion Control Structures				lots
Abandoned Vehicles	2			2
Abandoned Boats				
			Boat Parts	2

Archaeological Sites

Shell Middens
Other (specify)

Outfalls or Pipes

Number	3	9	7	1
Comments				

Toxic Pollution

Fuel (oil, gas, etc.)				
Lubricating Oil	1			
Paint				
Batteries				

Trash & Debris

(from International Coastal Cleanup Data Card)

Shoreline and Recreational Activities

Bags (Paper & Plastic)				
Balloons				
Beverage Bottles, plastic, 2-liter or less				
Beverage Bottles, glass			3	
Beverage Cans			5	
Caps, Lids				
Clothing, Cloth				
Cups, Plates, Forks, Knives, Spoons				
Food Wrappers/Containers				
6-pack Holders				
Pull Tabs				
Shotgun Shells/Wadding				
Straws, Stirrers				
Toys				

Ocean/Waterway Activities

Bait Containers/Packaging				
Bleach/Cleaner Bottles				
Buoys/Floats				
Crab/Lobster/Fish Traps				1
Crates				
Fishing Line				
Fishing Lures				

Fishing Nets
 Light Bulbs/Tubes
 Oil/Lube Bottles
 Pallets
 Plastic Sheeting/Tarps
 Rope/cable 6
 Strapping Bands

Smoking-Related Activities

Cigarettes/Cigarette Filters
 Cigarette Lighters
 Cigar Tips
 Tobacco Packaging/Wrappers

Dumping Activities

Appliances (refrigerators, washers, etc.)			
Batteries			
Building Materials			
Cars/Car Parts	2	10	2
55-gallon Drums		7	
Tires	1	3	

Medical/Personal Hygiene

Condoms
 Diapers
 Syringes
 Tampons/Tampon Applicators

Debris Items of Local Concern

Styrofoam Pieces
 Plastic Pieces
 Paper products
 Metal Pieces
 Other

Entangled Animals

Type of Animal
 Form of Entangling Debris
 Comments

Most Peculiar Item Collected?

Comments

Glass uncc Glass rare, aluminum

Additional Observations and Comments

the beach offshore from the eroding bluff had beer

98°N 151 32.23' W

82°N 151 30.09W

23-Sep-98	24-Sep-99	24-Sep-00	29-Sep-01	7-Oct-01	7.10.02	4.10.03	10.3.04	10.6.05
1030	1900	1540	1515	1300	930	745	1140	1000
1215	2000	1840	1730	1430	1230	1050	1315	1300
			1.8	4.5	-2.3	2.4	4.6	0.5
			742	1149	935	430	1147	1039
50	45	41	38	52	40	49	40	46
cloudy	partly sunny	cloudy	cloudy	sunny	cloudy	cloudy	rain	clear
x		x	x	x	x	x	x	x
x	x		x	x		x		
x				x	x	x	x	
2	8	3	2	2	2	2	2	7
1.75	1	3	2.25	1.5	3	3	1.5	3
3.5	8	9	4.5	3	6	6	3	21
0.75		0.75	2	0.75	1	0.5	0.5	3.13
			4	1.5	2	1.2	1	3.13
x	x	x	x	x	x	x	x	x
				3	2	2	1	3
					60	55	5	100
					0	1	1	0
67		5	9	30	105	160	16	0
		9			0			0
	1	3	1		2	2	56	
		1	2				4	1
1		3		1	0	3		

155	50	32	36	59	68	191		x
153		200			0			
1		2			1			2
						0		
3		2				0		
5	6	3			1	0	7	
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
36	1				2	2		
		1				0	1	
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		
						0		

2 dead murre. 1 dead | 1 dead glau 1 dead gull, 1 dead kittiwake.

Hydroids pr coral Seems the Coralline al Also present: lugworm castings, rough piddock, salmon t

x

x x x x x

x

x

x

x

x

x

shell

x

shell
shell

x

x

x

shell

shell

x

x

shells
shells

shell

shell

x

shell

shell

x

x

shell

x

x

x

shell

x

x

x

x

x

x

shell

x

x

x

x

x

x
shell
x

x

shell
x

x

x
x

x

x

x

x

x

molts

carapace

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

washed up

washed up

x x

x x

x
x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

pebbles, sa sand sand pebbles, sand sand with cobble py, pebbles, obbles, sanebbles, san

severe moderate severe o occuring between tillion residencsion behinich as past all, undercu

6		6	2	3		x	x	2
	6	5	2		1	3	6	

3

2 8

2 2 1

1

1		2	1		1	1	1
3		2	1				

1 (shoveling gravel)

10		4	9	1		8	4
							2

10 many

3

1 bulldozer

1 pony cart types of heavy machinery associated with seawall installation

				1			
				1		1	2
5				4	along seaw	1	
			7	2	4 seawalls	3	3
				1			2

13		11		13	14	8	6
----	--	----	--	----	----	---	---

also 3 small tide zone south of seawall been visible to us due to

among rocks in mid/high tide zone south of seawall

1		1					
1				1	only on wood		

5				10	2		2	3
1					0		1	0
				8	9	4	5	24
1		2	2	2	12	11		1
21	1	15		5	10	5	5	2
				12	18	29	12	27
1		1	14	5	1	6		4
				2	5	2	3	6
				1	9	12	6	25
					0			1
					0	1		
2					3		4	1
					2			1
1							2	4
2		1		4	0	4	1	1
				3	2	1	2	4
		2	2	3	1			2
					0			3
					0			
					1	1		2
		1		2	2	1		

	1			0	1	2	1
				0			3
1			1	0		1	3
				0			4
3			1	0	9	3	
12	1	6	18	10	12	9	22
2			1	0	2	4	7
			1	4	3	3	1
1				0		2	
				0			
			1	0		1	2
		1		1	1		1
			1	0			
		3	21		4	1	53
	3		3	1	2	2	6
				0	1		
			3	0			1
				0			
				42	113	65	50
				50	91	30	30
				2			
				2	8		
				5		3	

small pink plastic baby hunting st
children's book, jumper cable clips

Most of tras Very little tr More garba As we got closer to the bluff, clothing litter increased.

Heavy vehi Tidal pool ii Erosion along bluff were greater More trash (both with and without parking) n altered by installtion of a seawall. Numerous pieces of seawall construction related typar were collected

10.06.05	10.06.05	09.26.06	09.26.06	9.12.07	9.15.07	9.20.07	9.24.08	9.29.08
1000	1000	10:00	10:00	1630	1000	940	938	930
1300	1300	1:30	1:30	1830	1230	1215	1028	1030
0.5	0.5	0.9	0.9			5.4	-0.4	-0.4
0:00	1039	11:30pm	11:30pm		11:00	256	900	901
46	46	45	45	50		53	38	38
clear	clear	cloudy	cloudy	sun	sun	clouds	clouds	clouds, sun
		x				x		x
x			x	x		x		
	x		x	x	x		x	
7	7	4	3	3	6	9	2	3
3	3	3.5	3.5	2	2.5	2	1	1
21	21	14	10.5	6	15	18	2	3
3.13	3.13	0.5	0.5	0.25	0.5	1	1.5	1
3.13	3.13	1.5	1.5	0.5	1	1.5	2	2
								3
x	x	x	x	x	x	x	x	x
								7
0	0	2	0	2.5	3	2		1
		30		65	40	25		5
	1		1			3	2	
	119		408			144		
					30	2		
1	2	3	1					
			x					

x	17		151		102	354	gulls
			300		63		crows
		2	x	4	1	25	
		1			1		1
			2	10			1

dog, moose

ermine

9

4
1

1

dead black-legged kittiwake

ellin, solitary tunicate sp., and kep-encrusting bryozoan.

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x
shell
x

x

egg case

x

x

x

x

x

x

shells

x

x

shells

x

x

x

x

x

x

x

x
2 logs

x

carapace

molt

molt

x

x

x

x

x

					x		
							x x
x			x				x x x
	x						x x
x			x				x x
	x						x x
x			x				
						x	
	x						x
						x	
	x					1%	
ind & cobbles	cobble	sand, cobble	cobble	mud	sand, mud, cobble, boulder, man-r		
extending seawall	yes	no	yes		yes, behind manmade		
existing wall	no	yes	no		n/a at low tide line		
anchoring cubes at munson Pt. seawall							

1

1

1

$\frac{x}{7}$

x

x
x
x

3

5

1

1
1

1

1

2

x

x
x
x
x

1

	3	2	3	2	tied to seawall with b
large engines	3				seawall vehicle engine blocks
					2

o seawall					1 end of seawall
-----------	--	--	--	--	---------------------

10	1	7	8	
	1	1		
15	8	7	10	3
2	18	10	2	
14	23	6	5	
13	7	13	7	
6	7	3	2	
1	14	5		1
19	34	45	4	1
		1		1
4	1	2	1	
2		9		
	5			
	3	1	1	
2				
4		3		1
2				
	3	3	1	
1	2	1		

4	1	1		
3	2	4		
17	3	5	5	
2	4	3		
	27	27	1	
1	1			
	1	1		
2	3	1		
2	1			
100	12	2	6	2
1	6	2		
3		2		
2				
1	1			
		1		
1		2		
27	3	3	8	2
38			5	1
	4	5	2	
10		3		2
		1		

Japanese bottle brush got infested sea otter, toilet brush

golf ball

along the high tide line. We also counted 151 gulls (mostly Glaucous-winged) and the low tide zone accumulated . That last panels of the wall were being added while we walked this zone.

59.63*N 15

59.63*N 15

9.29.10

1
0.25
35

9.24,10.9.

9.12.08	9.29.10	2011	9.26.12	10.10.12	9/24/2014	10.9.14	9.24,10.9. 14	4/21/2017
	11:30				11:00	11:00		12:04
	12:30				12:00	12:00		2:33
	1.6							2.9
	12:19 AM							2:33
	rain				Sun	60	45	46* clouds mid
	x				x	x		1
4	1		26	32	28	30	58	2
1	1		2	2	1	1	2	2
4	1		52	64	28	30	58	4
0.5	0.5		2	2	1	1	2	1.45
0.5	1.5		2	4	1	1	2	2.9
x		x	x	x	x	x		1
4	0.25		8	1	1		1	1
50	35		175	10	50		50 4.17 lb	

1
4
1
1

nade seawall

seawall

x 1
10

x 1

x

1

1

1

uoys

1

1

s, old

5	3	31			11	42	53	8
				1		1	1	1
10		38	20		14	5	19	
30	9	23	170		10	12	22	3
36	8			1	8	9	17	3
15		36		4	17	13	30	
6	3	10						
7	5	10		3	16	7	23	1
30	3	43		1	57	65	122	
1				1				
12				2	2	5	7	
12	2	14		1	7	8	15	
		3		1				
				1				
		5				1	1	1
		5	20		1	1	2	1
			1					

				1			2	2	
						1	1	2	
5		1	36		3	9	11	20	2
	1	2	10		1	2	6	8	
16			65	232	4	56	33	89	6
	1	1			1				1
	4	2	2			1	1	2	
		2			1	7	21	28	8
1									
		2							
							1	1	
1									
		5	49	201		32	48	80	3
			110	202	2	22	42	64	8
				159					
			40	229					13
						37	2	28	60

elementary school trip

miniature plastic skeleton leg with moving foot

sock, tin foil

11 fireworks, socks

id in thick wrack lines at several locations

.1.49*W

.1.53*W

TOTALS

9
1066
43
25
3
0
308

1577
775
38
3

0
5
42
0

1
0
0
0
0
0
0
0
0

50
15
0
0

0
0
0
0
0
0
0
0

193
7
199
342
196
253
69
110
477
1
5
46
73
16

19
14
25
6
0
40
11

10
3
16
4
61
185
45

562
8
9
22

6
2
263
41
13
10

4
1
2
4

728
687
172
294
76