

## Zone 12

**Shore** north  
**Total Surveys** 21  
**Start Point** Mud Bay Access on Kachemak Way  
**Start Lat/Long**  
**End Point** Miller's Landing  
**End Lat/Long**  
**Dates Walked** 1987-92, 96, 98-2009  
**Spring Surveys** 13  
**Fall Surveys** 16  
**First Walked** 1987  
**Last Walked** 2016  
**Total Person-Hours** 434.75  
**Total Trash Bags Collected** 65  
**Total Estimated Weight of Trash Collected** 1163

### General Info

<b>Date</b>	25-Apr-87	10.6.12	10.04.15	10.1.16	9/16/2017
<b>Start Time</b>			11	10:00	
<b>End Time</b>			17:30	14:00	
<b>Lowest Tide</b>			1.1		0.8
	<b>at time</b>		1:34		6:12 AM
<b>Temperature (F)</b>			40	45	
<b>Sky</b>	cloudy		sun/clouds	clouds	
<b>Vertical Zones Walked:</b>					
	High	x	x	x	
	Middle				
	Low				
<b># of Observers</b>	4	7	2	2	1
<b>Hours Spent</b>	1	1	6.5	4	1
<b>Person-Hours</b>	4	7	13	8	1
<b>Shoreline Walked (miles)</b>		1	4	4	4.5
<b>Total Trip Mileage</b>		2	8		9
<b>Did Observers . . .</b>					
	Hike?	x	x		1
	Kayak?				
	Other (specify)?			drive	
<b>Trash Bags Collected</b>		1	4+	4	1
<b>Estimated Weight of Collected Trash</b>		10		150	5

### Wildlife Birds

Loons					
Sea Ducks		328		2	
Other Ducks and Geese					
Bald Eagles					
	Adults	2	2	4	
	Immatures	2			
	Nests				
Shorebirds					40

Seabirds	4			15
Crows and Ravens	7			
Others (see separate Bird list)		3	8	

***Domestic Mammals***

Cattle	2		
Horses			
Dogs	1		
Other			

***Land Mammals***

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

***Marine Mammals***

Sea Otters			1
Harbor Seals	3		1
Steller's Sea Lions			
Harbor Porpoises			
Whales			
		Beluga	
		Orca	
		Minke	
		Humpback	
		Gray	
		Unknown	

Other/Unidentified

***Please note any unusual wildlife sightings*** 1 dead gull, 2 dead cows

**Invertebrates**

*(from the Intertidal Biodiversity Checklist)*

***Please note any interesting observations or changes in abundance here***

***Sponges***

Breadcrumb Sponge			1
Purple Sponge			

***Cnidarians***

***Anemones***

- Burrowing Green Anemone
- Orange Colonial Anemone
- Frilled (Plumose) Anemone
- Christmas Anemone

***Sea Jellies***

Moon Jelly  
Many-ribbed Hydromedusa  
Compass Jelly 1  
Lion's Mane Jelly 1

**Worms**

Giant Flatworm  
**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** pacific  
Gumboot Chiton  
Black Katy Chiton  
Brick Chiton  
Mossy Chiton  
Tiger Chiton  
Lined Chiton

**Limpets**  
Dunce Cap Limpet  
Plate Limpet 1

**Snails**  
Hairy Triton  
Sitka Periwinkle  
Helicina Margarite  
Puppet Margarite  
Aleutian Moonsnail  
Ridged Neptune  
Channeled Dogwinkle  
Emarginate Dogwinkle  
Frisled Dogwinkle  
File Dogwinkle  
Big-mouth Whelk

**Nudibranchs**  
Maned Nudibranch  
False Sea Lemon (False Lemon Peel)  
Orange-tipped Nudibranch  
Opalescent Nudibranch  
Bushy-backed Nudibranch

**Clams**

Nuttal's Cockle	
Northwest Ugly Clam	
Arctic Rock Borer	
Baltic Macoma	50
Stained Macoma	
Pacific Surf Clam	
Truncated Mya	
Steamer Clam (Pacific Littleneck Clam)	2
Butter Clam	
Razor Clam	
<b>Mussels</b>	
Horse Mussel	
Pacific Blue Mussel	
<b>Scallops</b>	
Pink Scallop	
<b>Jingles</b>	
Rock Jingle	
<b>Cephalopods</b>	
Giant Pacific Octopus	
Stubby Squid	
	<b>Arthropods</b>
<b>Barnacles</b>	
Acorn Barnacle	1
Pelagic Gooseneck Barnacle	
Thatched Acorn Barnacle	1
<b>Crabs</b>	
Dungeness Crab	
Black-clawed Cancer Crab	
Red Hermit Crab	
Striped Hermit Crab	
Decorator Crab	
Carapace Crab	
Red King Crab	
Northern Kelp Crab	
Helmet Crab	1
<b>Shrimp</b>	
Broken-back Shrimp	
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	
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  
 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

**Seaweeds**

Green Seaweed	Band Attached Washed Up	1-75%
Red Seaweed	Band Attached Washed Up	1-75%
Rockweed	Band Attached Washed Up	1-75%
Kelps	Band Attached Washed Up	1-75%
Eelgrass	Band Attached Washed Up	1-75%

**Beach Substrate**

Type cobble, muc cobble

**Bluff and Cliff Erosion**

Erosion present? yes yes  
 Comments areas of alders slid down slope to beach, washed o

**Human Activities**

Walking	Signs of	x	2
	Actual observation	x	x
Camping	Signs of		
	Actual observation		
Partying	Signs of		
	Actual observation		
Fire Pits	Signs of		2
	Actual observation		x
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		
	Actual observation		
Harvesting (specify)	Signs of		
	Actual observation		
Other (specify)			

**Vehicle Use**

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

**Structures on the Beach**

Buildings				
Docks				
Driftwood Structures				x
Riprapped Areas		1		x
Erosion Control Structures		1		x
Abandoned Vehicles			bicycle	
Abandoned Boats	1			
Boat Parts				

**Archaeological Sites**

Shell Middens  
Other (specify)

**Outfalls or Pipes**

Number	11	6	7	
Comments			no odor	

**Toxic Pollution**

Fuel (oil, gas, etc.)	
Lubricating Oil	
Paint	
Batteries	2

**Trash & Debris**

(from International Coastal Cleanup Data Card)

***Shoreline and Recreational Activities***

Bags (Paper & Plastic)	7	7	5	1
Balloons				1
Beverage Bottles, plastic, 2-liter or less	10	3	1	4
Beverage Bottles, glass	3			2
Beverage Cans	12		10	16
Caps, Lids		2	5	1
Clothing, Cloth		2		3
Cups, Plates, Forks, Knives, Spoons				2
Food Wrappers/Containers			16	7
6-pack Holders				
Pull Tabs				
Shotgun Shells/Wadding		6		
Straws, Stirrers				
Toys		1		1

***Ocean/Waterway Activities***

Bait Containers/Packaging	0	1		5
Bleach/Cleaner Bottles	0			
Buoys/Floats	4		1	5
Crab/Lobster/Fish Traps	0			
Crates	0			
Fishing Line	3			1
Fishing Lures	0			

Fishing Nets	1		5	1
Light Bulbs/Tubes	0			
Oil/Lube Bottles	0	1	1	
Pallets	0			
Plastic Sheeting/Tarps	0			
Rope/cable	13		13	4
Strapping Bands	0			1

***Smoking-Related Activities***

Cigarettes/Cigarette Filters	0	5		5
Cigarette Lighters	0			
Cigar Tips	0			
Tobacco Packaging/Wrappers	0			

***Dumping Activities***

Appliances (refrigerators, washers, etc.)	1			
Batteries	2			
Building Materials	0	8	2	9
Cars/Car Parts	13			
55-gallon Drums	0			1
Tires	19			5

***Medical/Personal Hygiene***

Condoms	0
Diapers	0
Syringes	0
Tampons/Tampon Applicators	0

***Debris Items of Local Concern***

Styrofoam Pieces	0	19	165	11
Plastic Pieces	0	5	26	7
Paper products	0	1		1
Metal Pieces	0	1		1
Other	0		18	9

***Entangled Animals***

Type of Animal	sea otter, harbor seal
Form of Entangling Debris	no
Comments	dead

***Most Peculiar Item Collected?***

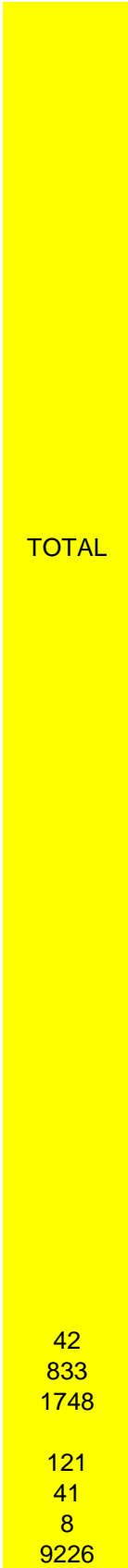
metal roof, light stick, oil rag, drain

***Comments***

much cleaner than last

**Additional Observations and Comments**





TOTAL

10/1/2017  
#####  
#####

clouds  
all

1  
1  
1  
1  
2  
2  
2.5  
2.5

1

1

5

5

5

1

42  
833  
1748

121  
41  
8  
9226

89

5453  
358  
376

2  
0  
30  
0

1  
2  
1  
0  
0  
5  
0  
0

1

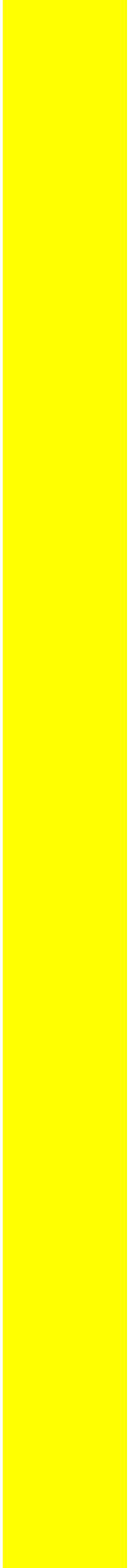
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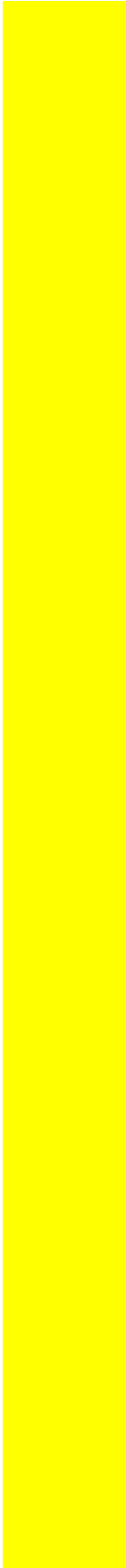
0  
0  
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1

1





1-75%

1-75%

cobble

ut trees on beach



	247
3	53
	116
2	312
1	376
1	59
	35
	129
	201
	3
	3
	12
	12
	9
	30
1	3
	35
	5
	0
	13
	3

	23
	0
	5
	3
1	66
	118
	3
	160
	8
	5
	17
	15
2	38
	187
	100
	13
	171
	4
	0
	0
	1
2	345
5	142
	112
	12
<b>18</b>	46

beijing olympics bottle  
 pipe, rusty bike

: year :)