

## Zone 11

Shore	north	
Total Surveys	8	
Start Point	Honey's B&B	
End Point	Mud Bay Access on Kachemak Way	
Dates Walked	1987-88, 91, 98, 2000-09	
Spring Surveys	4	
Fall Surveys	11	
First Walked	1987	
Last Walked	2015	
Total Person-Hours	408.9	
Total Trash Bags Collected	122	
Total Estimated Weight of Trash Collected	1104.5	

### General Info

	25-Apr-87	30-Apr-88	30-Apr-91	5-May-91	21-Sep-98
Date					
Start Time	800		830	1145	1000
End Time	1130		930	1345	1430
Lowest Tide			-2.3	2.7	
at time	827		1010	1327	
Temperature (F)					low to mid 50s
Sky	cloudy				cloudy
Vertical Zones Walked:					
High	x	x			
Middle	x	x			x
Low	x	x			x
# of Observers	2	2	16	2	1
Hours Spent	3.5	3.5	1	2	4.5
Person-Hours	7	7	16	4	4.5
Shoreline Walked (miles)	1.3		1.5	0.5	2
Total Trip Mileage					4
Did Observers . . .					
Hike?	x	x	x	x	x
Kayak?					
Other (specify)?					
Trash Bags Collected	2		4	11	2
Estimated Weight of Collected Trash					

### Wildlife Birds

Loons					
Sea Ducks		8	2		
Other Ducks and Geese					
Bald Eagles					
Adults	1		10	1	
Immatures	2		2		1
Nests					
Shorebirds			2	75	

Seabirds	50	1	6	300
Crows and Ravens	6	1		
Others (see separate Bird list)			1	

***Domestic Mammals***

Cattle				
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				
Harbor Seals				
Steller's Sea Lions				
Harbor Porpoises				
Whales				
		Beluga		
		Orca		
		Minke		
		Humpback		
		Gray		
		Unknown		
Other/Unidentified				

***Please note any unusual wildlife sightings***

**Invertebrates**

*(from the Intertidal Biodiversity Checklist)*

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

Egg masses. Neptune Lots of wori

***Sponges***

Breadcrumb Sponge				
Purple Sponge				

***Cnidarians***

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

***Sea Jellies***

Moon Jelly									X
Many-ribbed Hydromedusa									
Compass Jelly									
Lion's Mane Jelly									X
<b>Worms</b>									
Giant Flatworm									
<b>Nemerteans</b>									
Amphiporus (Two-spotted) Ribbon Worm									
Red Ribbon Worm									
<b>Echiurans</b>									
Fat Innkeeper (Alaskan Spoonworm)									
<b>Sipunculids</b>									
Peanut Worm									
<b>Annelids</b>									
Mussel Worm (Clam Worm)									
Northern Feather Duster Worm (Carpet Worm)									
Cone Worm									
Calcareous Tube Worm									
Spiral Tube Worm									
Scaleworm									
<b>Brachiopods</b>									
Transverse Lampshell									
<b>Mollusks</b>									
<b>Chitons</b>									
Gumboot Chiton					X			X	
Black Katy Chiton									
Brick Chiton									
Mossy Chiton									
Tiger Chiton									
Lined Chiton									
<b>Limpets</b>									
Dunce Cap Limpet					X			X	
Plate Limpet									
<b>Snails</b>									
Hairy Triton					X			X	
Sitka Periwinkle									
Helicina Margarite									
Puppet Margarite									
Aleutian Moon snail									
Ridged Neptune									
Channeled Dogwinkle									
Emarginate Dogwinkle									
Friiled Dogwinkle									
File Dogwinkle									
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	X	X

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

**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 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 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  
 Flat bottomed sea 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		x	x
	Band		
	Attached		
	Washed Up		x
Red Seaweed		x	
	Band		
	Attached		
	Washed Up		
Rockweed			
	Band		
	Attached		
	Washed Up		
Kelps			
	Band		
	Attached		
	Washed Up		
Eelgrass			
	Band		
	Attached		
	Washed Up		x

**Beach Substrate**

Type	mud	pebbles, sɜ pebble, sar pebbles, sa
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**Bluff and Cliff Erosion**

Comments	slight	slight to zer
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**Human Activities**

Walking	Signs of		6	1	1
	Actual observation	1			
Camping	Signs of		7		2
	Actual observation	1			
Partying	Signs of				
	Actual observation				
Fire Pits	Signs of				
	Actual observation	1			
Trash Accumulations	Signs of				
	Actual observation		1		
Clamming	Signs of		4		
	Actual observation		1		
Fishing	Signs of		8		
	Actual observation				
Coaling	Signs of		1		
	Actual observation				
Picnicking	Signs of		3		
	Actual observation				
Horseback Riding	Signs of				
	Actual observation				
Harvesting (specify)	Signs of				
	Actual observation				
Other (specify)					

**Vehicle Use**

Cars/Trucks	Sets of tracks	2	8	1	3
	Actual observation	2			
ATVs/Motorcycles	Sets of tracks		3		1
	Actual observation	3		3	
Bicycles	Sets of tracks				
	Actual observation				
Aircraft	Sets of tracks				
	Actual observation				
Other (specify)					

**Structures on the Beach**

Buildings	2	1	3	1	6
Docks					
Driftwood Structures					
Riprapped Areas					
Erosion Control Structures					
Abandoned Vehicles	2				
Abandoned Boats	1	1	2		1
Boat Parts	1				

**Archaeological Sites**

Shell Middens  
Other (specify)

**Outfalls or Pipes**

Number  
Comments

1  
city sewer

**Toxic Pollution**

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

**Trash & Debris**

(from International Coastal Cleanup Data Card)

***Shoreline and Recreational Activities***

Bags (Paper & Plastic)					9
Balloons					
Beverage Bottles, plastic, 2-liter or less					6
Beverage Bottles, glass	11				1
Beverage Cans					10
Caps, Lids					3
Clothing, Cloth	2				2
Cups, Plates, Forks, Knives, Spoons					4
Food Wrappers/Containers					2
6-pack Holders					
Pull Tabs					
Shotgun Shells/Wadding					2
Straws, Stirrers					1
Toys					2

***Ocean/Waterway Activities***

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

Fishing Nets					
Light Bulbs/Tubes					
Oil/Lube Bottles					
Pallets					
Plastic Sheeting/Tarps					6
Rope/Cable	1	9			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	9	3	15	2	18
55-gallon Drums					1
Tires		5			1

***Medical/Personal Hygiene***

Condoms					
Diapers					1
Syringes					
Tampons/Tampon Applicators					

***Debris Items of Local Concern***

Styrofoam pieces					
Plastic Pieces	71				
Paper products					
Metal Pieces					
Other					

***Entangled Animals***

- Type of Animal
- Form of Entangling Debris
- Comments

***Most Peculiar Item Collected?***

***Comments***

Glass, met Glass, alun Glass, alun Overall con

**Additional Observations and Comments**

Tide was w Large clam digger mac The area we covered w



	18-Sep-00	18-Sep-01	23.09.02	09.09.03	9.17.04	9.20.05	09.12.06	09.10.06	9.24.07
			1005	945		1100	1423	1000	1030
			1230	1400		1300	1623	1300	1330
		-3.6		-1.8	-1	-3	-2	-1.7	
	943			834	910	835	1204	1047	
50s			50	55	45	53	58	50s	
			partly cloudy	cloudy	clear	p. cloudy	clear	clear	
	x	x	x	x	x	x	x	x	
	x	x	x	x	x	x		x	
	x	x	x	x	x	x		x	
	1	1	1	1	1	1	3	2	47
	9	8	2.5	5.5	9	4	2	10	2.5
	9	8	2.5	5.5	9	4	6	20	117.5
	5	1.9	1.5	2	3	1.5	2	2	2
		4	2	3.3	6	3	2	4.5	2
	x	x	x	x	x	x	x	x	x
		7	6	4	4	3	1	6	13
		50	70	45	60	40	15	50	199
			0	0					
			0	0			3		
		110	0	0					
			0	0					
	1		0	1					
			0	0				1	
			0	0					
	2		0	0	30				

160	61	0	17	70	30	70	60
		0	0				
	2	0	1		5		
		0	0				
		0	0				
	1	0	0	2	1	3	
		0	0				
		0	0	1			
		0	0	1			
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				
		0	0				

backbone and ribs of 2 medium sized mammals

Two years : Lugworm present. Flat-bottomed star present.



x x x shells x x

x x x shells x x

x x shells x

x

x x x x x x

x

x x x x x x

carapaces

x

x

flat bottomed

x

x

flat bottomed sea star

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

x

sand, mud sand, mud pebbles oles, sand, oles, sand, mud pebbles, sand mud mud, boulde cobble s

slight

see photos

none

1 1 3 x x 2 9 1  
1 2

1

x

1 4 x

1

1 1

1

2 8 5

1 7 x x 1 1

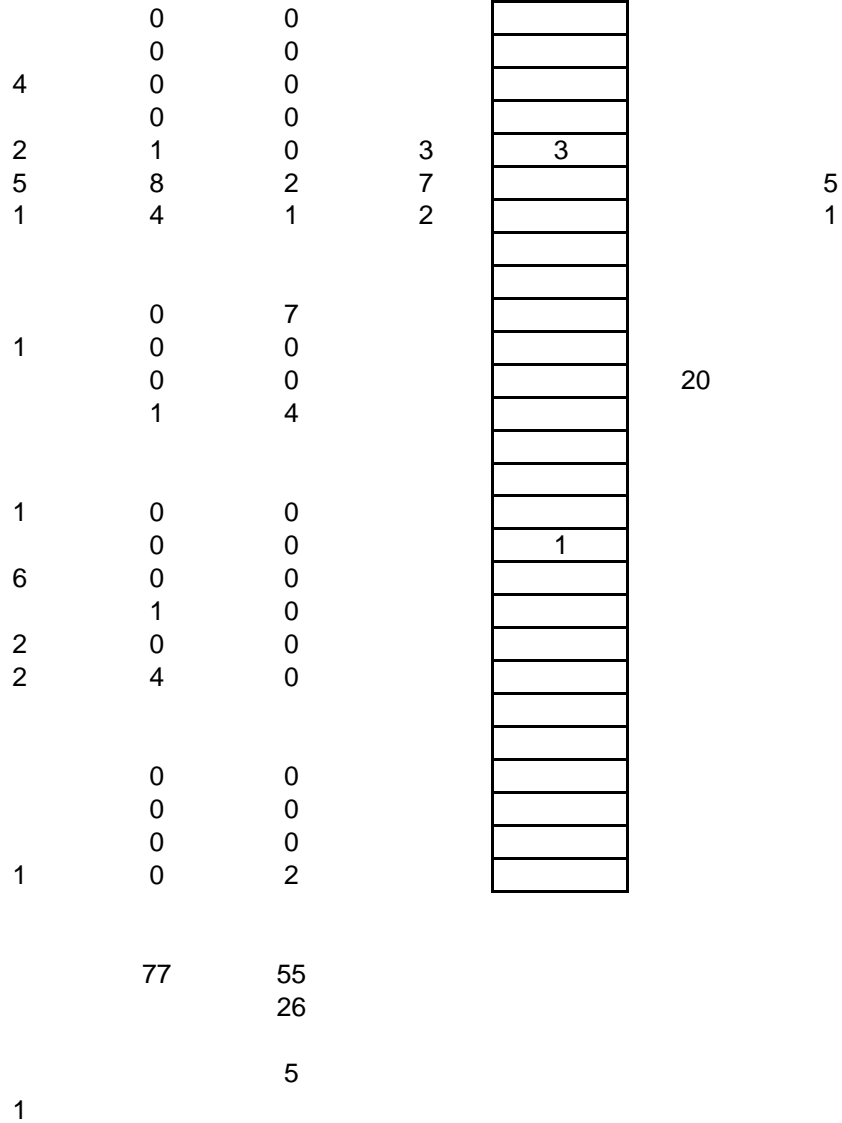
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8

4

3	4	es with outhouses	2	2	7	
		1			1	1
	1	boulder rip rap gneous rusting parts			1	

	59	22	12	16	15	2	27
		0	0	1	2		
	26	2	16	11	3		29
9	8	3	8	3	2	2	1
44	32	29	36	16	5	5	16
	9	11	18		7		15
	9	4	1	8	2		5
	16	7	9	2			1
	1	1	28	7	3	2	3
		0	1				1
	1	0	0			1	
	11	0	0				3
		1	6			1	1
	2	1	0				
	2	0	0				
	1	0	0	2	1		
1	2	2	0				3
		0	0				
		0	0				
		0	0				
	2	1	0		1		
	9	0	1				



20

a tire boot

"It's A Boy" balloon

plastic soap powder bc

Glass pieces, plastics, : Atrocious amounts of Less garbage overall especially styrofoam, more of an as

as from 'Green Timber: evidence of trucks on beach

Not as much



10.21.07	9.13.07	9.17.08	9.21-23.09	9.15.10	10.23/24.10	9.21/22.10
1215	1000	900			1 pm/ 10 am	
1445	1200	1350			2pm/11am	
3.7	0.2	0.7	-2.2		9:38 AM	
1704	1009	909	2303		3.1	
39	52	48	65		35	
sunny	clouds	rain	sun		sun	sun/clouds
	x	x	x		x	
x	x	x	x		x	
	x	x	x			
3	1	1	1	40	1	1
2.5	7.4	7.5	8.5	2	2	10.5
7.5	7.4	7.5	8.5	80	2	10.5
2	3.2	2.4	2	2	1	1
4	6.4	4.3	6	2	1	1
x	x	x	x			
1	4	4	4	20	1	5
20	35	45	40	260		
0	0					
0	0		1		1	1
458	0	1				
1	1					
	1	1				
	0					
	0		2			

1

120

10

100

1

2

1

1

2

2

2

60

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				
shells				
	x	x	x, not as many as past years	x
		x		
				x
x				
	x	x	x	xx
shells				
		x		
		x		x

x

x

x

x

x  
x  
1%

x

x  
1%

x

x  
1%

x

x  
x  
75%

x

sand, cobble

sand, cobble, mud

sand, silt, clay

sand, silt, clay

mud

sand, cobble, n

no

no

no

1

2

yes  
0

x

x

x

x

1

x

x

1  
0

x

2  
0

x

11	3	2	2		x
1	1	1	1		x
1		yes	yes		x

	24	30	8	30	14
	1	0	0		1
	15	25	16	10	11
	3	1	6	21	1
x	31	16	12	30	22
	8	24	8	17	25
	2	8	5	4	3
	0	5	2	20	1
	8	5	3	15	16
	0	0	0	1	
	0	0	0	5	
	2	7	6	2	5
	1	0	0	8	1
	0	2	0	4	1
			1	3	
				1	1
		1	1	1	
				1	
	2	1	1		

			1	1	
					2
	2			2	
	22	16	6	3	
		5	4	4	8
	1	1		150	1
	1	1		1	2
	1	1	1		1
x	1			2	x
				2	
					x
			1		
		1			1
	43	36		15	127
	25	85	53	30	23
				9	31
				7	9
				1	1

ox with Japanese writing

an onion in a plastic bag

sortment of 1 of a kind things. More little jellies washed up then I've ever seen along this beach, about 3" in c

garbage as last year but probably as many misc. sized pieces of plastic. Much less styrofoam as in past year



10.24.10	10.22-29.201	10.6.12	10.9.14 11:00 12:00	11.26.15	Mcneil 9/22/2017	
			40 rain	37 clouds		
			x	x		
1	1	7	24	4	19	
2	9.5	2	1	4		
2	9.5	14	24	16		
	0.5	1	1	4		
		2	1	5		
	x	x	x		1	
1	5	5	3	6		
25	55.5	70	25			

TOTAL
0
18
569
17
8
0
111

1056  
7  
10

0  
0  
16  
0

1  
1  
0  
0  
0  
0  
0  
2

60  
0  
0  
0

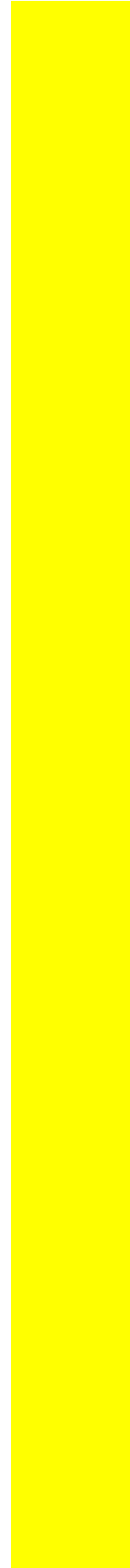
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nud

no





1	2	5	36	45	312
				33	38
	15	1	10	21	217
1	1	3		23	108
3	11	1	17	23	359
	38	1	4	2	190
	5	5			65
	5		10	68	150
5	12		31		142
					3
	22			1	8
	1			1	60
					22
					12
					6
		2	2		6
					19
					2
					0
1					7
					14

					2
					0
					6
					2
					20
1	25		6		131
					18
				264	
	2		2		164
			1		6
	1		2		21
					12
		1			
				16	2
			1		17
1					9
					52
					3
	1		1		14
					0
					2
					0
					5
1	481	27	63		925
3	104	5	32		457
	40		2		82
	7				28
2	2		6	497	510

American widgeon  
none  
dead

Sea star/jellyfish  
none  
dead

car headlight clothing items

tape

diameter with old machine parts that have been

ars.