

## Zone 14

**Shore** north  
**Total Surveys** 17  
**Start Point** Fritz Creek  
**Start Lat/Long**  
**End Point** Stone Step Creek  
**End Lat/Long**  
**Dates Walked** 1984, 87-91, 96, 98-2001, 2004, 2008  
**Spring Surveys** 9  
**Fall Surveys** 9  
**First Walked** 1984  
**Last Walked** 2012  
**Total Person-Hours** 193.75  
**Total Trash Bags Collected** 5  
**Total Estimated Weight of Trash Collected** 8

### General Info

<b>Date</b>	4-Nov-84	25-Apr-87	26-Apr-87	30-Apr-88	30-Apr-88
<b>Start Time</b>			900		
<b>End Time</b>			1200		
<b>Lowest Tide</b>					

at time

**Temperature (F)**

**Sky**

sunny

**Vertical Zones Walked:**

High	x			x	x
Middle		x	x	x	x
Low					

**# of Observers**

**Hours Spent**

**Person-Hours**

**Shoreline Walked (miles)**

**Total Trip Mileage**

**Did Observers . . .**

Hike?	x	x	x	x	x
Kayak?					
Other (specify)?					

**Trash Bags Collected**

**Estimated Weight of Collected Trash**

### Wildlife

#### Birds

Loons		11			
Sea Ducks		766	25	2	
Other Ducks and Geese		601		60	
Bald Eagles					
	Adults	4	8	1	2
	Immatures	2	3	1	10
	Nests		1		
Shorebirds			7		

Seabirds	6	200	3000	152	2
Crows and Ravens	1	1			
Others (see separate Bird list)	7	4	4	3	

***Domestic Mammals***

Cattle		1	1		
Horses					
Dogs		2			1
Other					

***Land Mammals***

Moose					
	Adults	1			2
	Calves				
Black Bears					
Brown Bears					
Land/River Otters					
Red Squirrels					
Tracks Identified	cattle				
Other					

***Marine Mammals***

Sea Otters					
Harbor Seals		2		5	
Steller's Sea Lions					
Harbor Porpoises					
Whales					
	Beluga			25	
	Orca				
	Minke				
	Humpback				
	Gray				
	Unknown				

Other/Unidentified

***Please note any unusual wildlife sightings*** 1 dead moose 1 dead cow 1 dead cow 1 cow skull 1 porpoise

**Invertebrates**

*(from the Intertidal Biodiversity Checklist)*

***Please note any interesting observations or changes in abundance here*** We were at the highest tideline so were rock scrambling--

***Sponges***

Breadcrumb Sponge  
Purple Sponge

***Cnidarians***

***Anemones***

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

***Sea Jellies***

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

**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**

Gumboot Chiton

Black Katy Chiton

Brick Chiton

Mossy Chiton

Tiger Chiton

Lined Chiton

**Limpets**

x

Dunce Cap Limpet

Plate Limpet

**Snails**

Hairy Triton

Sitka Periwinkle

Helicina Margarite

Puppet Margarite

Aleutian Moonsnail

Ridged Neptune

Channeled Dogwinkle

Emarginate Dogwinkle

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

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

Horse Mussel  
 Pacific Blue Mussel

**Scallops** x

Pink Scallop

**Jingles** x

Rock Jingle

**Cephalopods**

Giant Pacific Octopus  
 Stubby Squid

**Arthropods**

**Barnacles**

Acorn Barnacle  
 Pelagic Gooseneck Barnacle  
 Thatched Acorn Barnacle

**Crabs** 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**

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

**Beach Substrate**

Type silt, gravel rock, sand, mud

**Bluff and Cliff Erosion**

Comments moderate moderate to severe

x

**Human Activities**

Walking	Signs of Actual observation			
Camping	Signs of Actual observation			
Partying	Signs of Actual observation			
Fire Pits	Signs of Actual observation		2	
Trash Accumulations	Signs of Actual observation			1
Clamming	Signs of Actual observation			
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)	Signs of Actual observation			

**Vehicle Use**

Cars/Trucks	Sets of tracks Actual observation	1	3	1
ATVs/Motorcycles	Sets of tracks Actual observation	3	1	3
Bicycles	Sets of tracks Actual observation			
Aircraft	Sets of tracks Actual observation			
Other (specify)	Sets of tracks Actual observation		4	

**Structures on the Beach**

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

**Archaeological Sites**

Shell Middens			
Other (specify)			fossils

**Outfalls or Pipes**

Number  
Comments

**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)		1	3
Balloons			
Beverage Bottles, plastic, 2-liter or less			
Beverage Bottles, glass			
Beverage Cans	7		5
Caps, Lids			
Clothing, Cloth	2		3
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	1		3
Crab/Lobster/Fish Traps			
Crates			
Fishing Line			6
Fishing Lures			
Fishing Nets			5

Light Bulbs/Tubes				
Oil/Lube Bottles				
Pallets				2
Plastic Sheeting/Tarps			1	
Rope/cable	1	2	1	
Strapping Bands				

***Smoking-Related Activities***

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

***Dumping Activities***

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

***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

Metal comr

***Most Peculiar Item Collected?***

***Comments***

Fairly clear Gooley but These san Cattle and I'm not sure

**Additional Observations and Comments**



29-Apr-89	28-Apr-90	29-Apr-90	1-May-91	4-May-91	28-Sep-96	29-Sep-96	26-Sep-98	20-Sep-99
	1200	1430	945	1100	1315	1130	1345	1600
	1445	1800	1215	1500	1515	1230	1545	1715
	-4.2	-2.6						
	1136	1229						
					43 partly cloud	55 sunny	55-60 sunny	50 cloudy
					x	x		x
					x		x	
1	10	4	2	2	4	2	2	1
1	2.75	3.5	2.5	4	2	1	2	1.25
1	27.5	14	5	8	8	2	4	1.25
	3	2	1	2	2	1	2	1.75
				4				
	x	x	x	x	x	x	x	x
			1					
					2			
10		50					4	
1	9	2	3	10		2	6	3
1	5	1	1	10				
	2			2		1		
100	6		4					1

103	150	50	200	38	39	12	50	154
			2				2	
4		2	1	3	1		2	4
	2			3				
	1			2	2			

					1	
	moose	cattle	2			
					70	4
		4				

vertebrae 1 dead sea otter 1 dead moose 1 dead moose, 1 dead cow. Cattle area drains into 5

-thus little marine invertebrate life. Worm cast 1 moon snail: Lots of dead crabs.

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non. Glass, alun Glass, plas Wood, metal present. Same as in past, hardly

ə we did a great job. We got fascir Lots of coal on beach. 1 easel on l Beach seer Beautiful. l IT seemed

The only str



23-Sep-00	16-Sep-01	9.24.04	9.27.08	9.13.12		TOTAL	
1100	1145	900	1600				
1500	1245	1400	2000				
	-3	0.4	-0.6				
	820	1047	751				
~50	50s	46	52				
mostly clou	cloudy	clear	sun				
x	x	x	x				
	x	x	x				
		x	x				
1	3	5	2	1			
4	1	9	4	2			
4	3	45	8	2	0	0	0
4	1.5	2.5		2			
8	6	9.8		4			
x	x	x	x	x			
		1	2	1			
		3		5			
3						16	
70	20					937	
						671	
4		3	5			63	
1						36	
		2	2			10	
		4				122	

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28                      3

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Stone Step ( 1 piece of moose antler.

Tide was medium range this week--not low enough to see any of these creatures on this beach of shallo

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x

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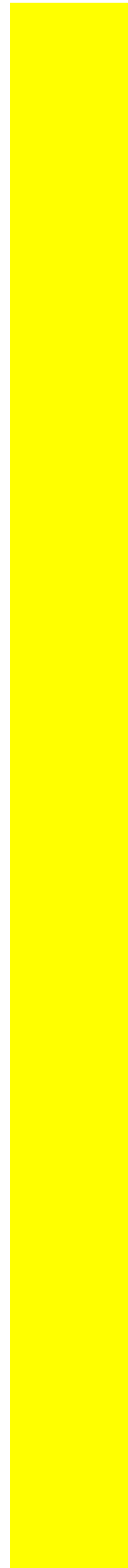
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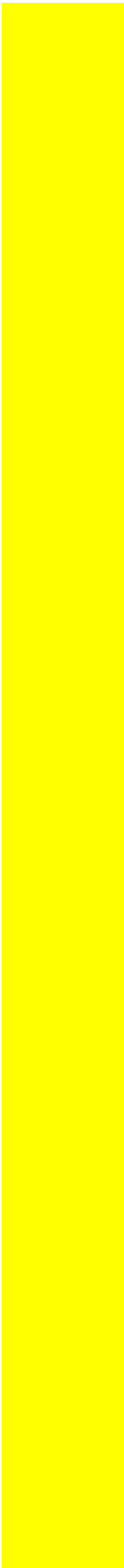
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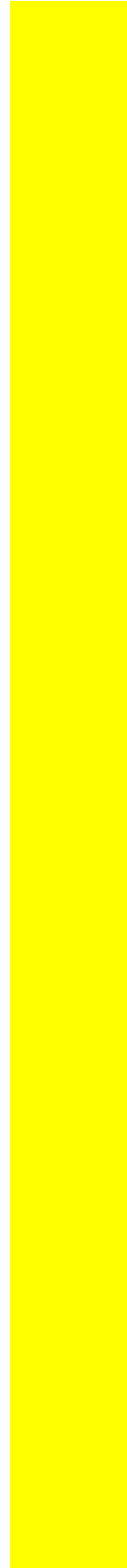
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mud

severe, a r moderate cliff all alon

yes

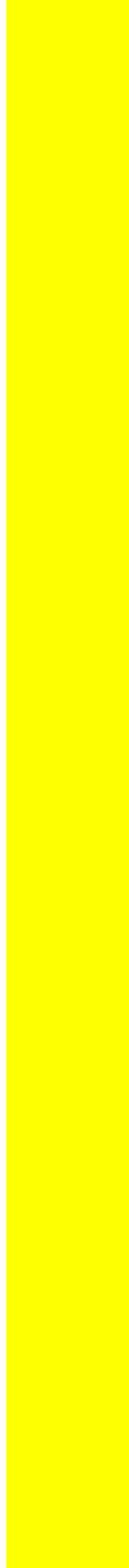


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part of a boat stern washed up on rocks

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		1	1
		1	
	1		
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1			
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caulking gun and/or circular saw

There is less Very little pollution or trash.

Lots of grey Lots of coal and fossilized wood in sandstone.

Structure was just E of Fritz Cr, about 1/2 way up the bluff. A white wooden tripod, ~6' tall, with a blue can

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w mud flats.











was covered panel on front. A navigational aid?