

A total 541 crab pot pulls were conducted in eight fixed locations in Auke Bay during from April 30 to October 2, 2018. Protocol followed permit CF-18-052 issued by the Alaska Department of Fish and Game. Location map with coordinates is included on the last page. **No European green crab was identified in any of the pots.**

Location

Location	Pots pulled	Location	Pots pulled
Coghlan 1 (FAA beach N)	82	Portland 1 (north end of main island)	83
Coghlan 2 (FAA beach N)	69	Portland 2 (north end of SE beach)	80
Coghlan 3 (middle beach)	44	Portland 3 (middle of SE beach)	67
Coghlan 4 (south beach)	48	Portland 4 (south end of SE beach)	65
Missing location	4		

2018 Subtidal Life Survey Results

Count by % Frequency in Pulls			
Species	# of Pulls	%in pull	Total count
Green Sea Urchin	234	43%	5003
Widehand Hermit	159	29%	741
Double Ugly	154	28%	319
Mottled Sea Star	84	15%	167
Sunflower Sea Star	74	14%	216
Snail-Unidentified	30	6%	94
Lyre Crab	27	5%	50
Unidentified	27	5%	48
Crescent Gannel	14	3%	16
Dungeness Crab	15	3%	24
Helmet Crab	16	3%	21
Hermit-Unidentified	16	3%	27
Northern Sea Star	13	2%	31
Sole	9	2%	11
Kelp Crab	6	1%	6
Oregon Triton	7	1%	18
Pollock	5	1%	5
Red Irish Lord	3	1%	3
Shrimp - unidentified	3	1%	10
Northern Ronquil	1	0%	2
Octopus	1	0%	1
Prickleback	2	0%	2
Sinuus Whelk	1	0%	1
Sturgeon Preacher	1	0%	1

Photographs were taken of each pot and all the contents were returned to the ocean, alive, in the spot collected. The only exception to the live release were some unidentified crab and yellowfin sole remains that were obviously eaten by the sunflower stars. Data for each collection is included in a spreadsheet matched to the naturalist on board as well as the photographs taken.

This data is being provided to Gary Freitag, MAP Agent and Associate Professor at UAF as a part of the Alaska Sea Grant Marine Advisory Program for a subtidal life survey.

Year-to-Year Comparison

Comparison of bycatch 2014 to 2017: number of pulls with species

CONTENT	2014	2015		2016		2017		2018	
Total Pots	185	375	%pulled	418	%pulled	441	%pulled	541	%pulled
Empty pots	25	92	24.6%	91	21.8%	27	6.1%	29	5%
Barnacle, acorn	✓	0	0.0%	0	0.0%	0	0.0%	0	0%
Blenny (unidentified to species)	✓	0	0.0%	0	0.0%	0	0.0%	0	0%
Clam, butter	✓	0	0.0%	0	0.0%	0	0.0%	0	0%
Cod (unidentified to species)	0	2	0.5%	0	0.0%	1	0.2%	0	0%
Crab, decorator	✓	3	0.8%	*		6	1.4%	0	0%
Crab, Dungeness	✓	2	0.5%	7	1.7%	13	2.9%	24	3%
Crab, hairy	0	1	0.3%	5	1.2%	13	2.9%	0	0%
Crab, Pacific lyre	0	7	1.9%	54	12.9%	31	7.0%	27	5%
Cucumber, sea (unidentified to species)	0	2	0.5%	0	0.0%	0	0.0%	0	0%
Flounder (unidentified to species)	✓	0	0.0%	0	0.0%	0	0.0%	0	0%
Gunnel (unidentified to species)	0	2	0.5%	2	0.5%	1	0.2%	14	3%
Hermit crab, red	✓	1	0.3%	0	0.0%	0	0.0%	0	0%
Hermit crab, wide-hand	✓	35	9.4%	93	22.2%	152	34.5%	159	29%
Mussel, blue	0	0	0.0%	0	0.0%	6	1.4%	0	0%
Octopus, Pacific	0	1	0.3%	1	0.2%	1	0.2%	1	0%
Pollock	✓	12	3.2%	9	2.2%	24	5.4%	5	1%
Prickleback (unidentified to species)	✓	2	0.5%	4	1.0%	0	0.0%	2	0%
Sculpin, great	✓	36	9.6%	134	32.1%	168	38.1%	154	28%
Sea star, mottled	✓	14	3.7%	15	3.6%	56	12.7%	84	15%
Sea star, northern	✓	8	2.1%	12	2.9%	8	1.8%	13	2%
Sea star, sunflower	✓	64	17.1%	153	36.6%	26	5.9%	74	14%
Shrimp (unidentified to species)	✓	2	0.5%	20	4.8%	5	1.1%	3	1%
Snail (multiple species)	✓	15	4.0%	27	6.5%	51	11.6%	30	6%
Sole, yellowfin	0	4	1.1%	21	5.0%	15	3.4%	9	2%
Unidentified	✓	13	3.5%	45	10.8%	34	7.7%	27	5%
Unidentified fish	0	1	0.3%	**		7	1.6%	0	0%
Urchin, green sea	✓	35	9.4%	54	12.9%	313	71.0%	234	43%
Urchin, red sea	✓	0	0.0%	0	0.0%	0	0.0%	0	0%

Counts of individuals began in 2015

Identifications should be considered tentative for all.

While most of the sculpin captured are great (or spiny), *Myoxocephalus polyacanthocephalus*, there is at least one other species in the photographs, probably the Pacific staghorn sculpin, *Leptocottus armatus*. The exact species of the northern sea star is not determined but is likely *Solaster endeca*. There may be some starry flounder included in the yellowfin sole photographs and this species is very likely common in our sampled waters.

Notable Observations (yellow highlights)

Sunflower Sea Star

The precipitous drop in both the catch rate and raw number of individuals of the sunflower sea star of 2017 has at least been partially reversed as the number of pulls increased from 5.9% to 14% but still well below 2016. What is notable, is that the vast majority of individuals are under 10 inches diameter. The few “normal” show the characteristic “white slime” of sea star wasting syndrome. This is not present on any of the smaller individuals.

Green Sea Urchin

The dramatic increase in the catch rate (12.9% to 71.0%) and number of individuals (205 to 6,425) in 2017 was startling. The catch rate for 2016 dropped significantly to 43% and even with 100 more crab pot pulls, the number of individuals was *only* 5003. It appears the predator-prey relationship between the Sunflower sea star and urchin is playing itself out with more predation with larger numbers of sea stars.

Mottled Sea Star

This species did not seem to suffer from sea star wasting syndrome in 2017 and the numbers look very similar for 2018 with a slight increase. As this is considered by many to be the most common sea star in the Juneau area, these numbers support a healthy population.

Wide-hand Hermit Crab

The catch rate of this species showed a steady increase from 9.4% in 2015 to 22.2% in 2016 and 34.5% in 2017 but a slight drop in 2018 to 29%.

Sculpin

The catch rate of this species shows a steady increase from 9.6% in 2015 to 32.1% in 2016 and 38.1% in 2017 but dipped to 28% for 2018.

Snails

We are working on our ability to identify snails (and other species) and this data is difficult to make year-to-year comparisons.

Aside from the scientific value this sampling of shallow waters might have, the educational value to the guests of Gastineau Guiding is immense. This activity ranked with most as high as whale identification.



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Coghlan 1	Portland 1
58°21.514' N	58° 20.455' N
134° 41.715' W	134° 44.673' W
Coghlan 2	Portland 2
58° 21.429' N	58° 20.148' N
134° 41.720' W	134° 44.233' W
Coghlan 3	Portland 3
58° 21.180' N	58° 20.073' N
134° 41.545' W	134° 44.150' W
Coghlan 4	Portland 4
58° 21.014' N	58°19.938' N
134° 41.498' W	134° 44.025' W

