

Recreational Crab & Shrimp Advisory Committee Meeting

> November 8, 2022 1:00 pm – 3:00 pm

Meeting Outline

- 2022 Shrimp Season Updates (20 min)
- 2023 Shrimp Season Planning (20 min)
- Shrimp Test Fishing Summaries (10 min)
- 2022 Crab Season Update and Topics (40 min)
- Misc. Updates and Discussion (20 min)

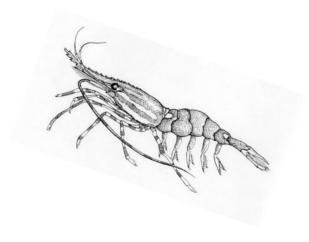


2022 Shrimp Season Update - Final

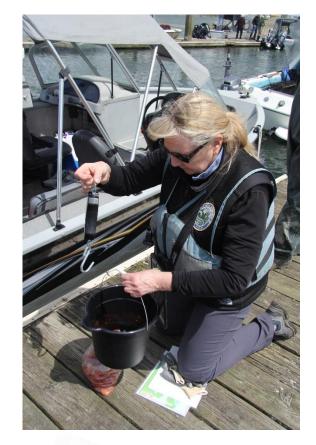
Statistics:

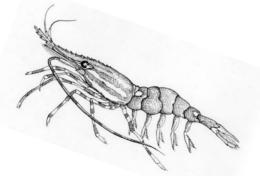
- 4,258 boats interviewed (second highest*)
- 27 different sites sampled
- 136 Site*Dates of coverage
 - **31** Site*Dates in Hood Canal
 - 88 Site*Dates in MA 6/7
 - 17 Site*Dates in MAs 8, 9, 10, 11, & Discovery Bay

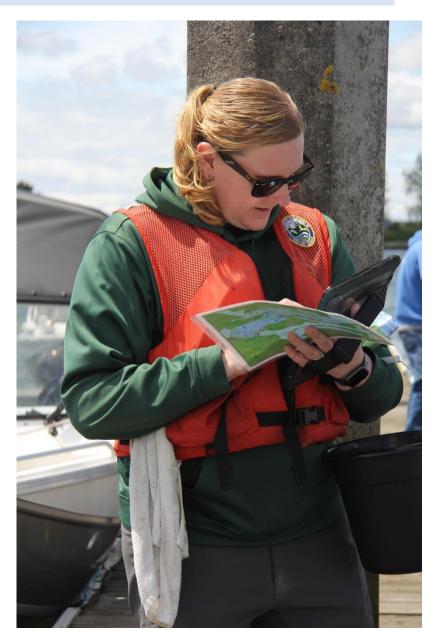




2022 Shrimp Season Update - Final

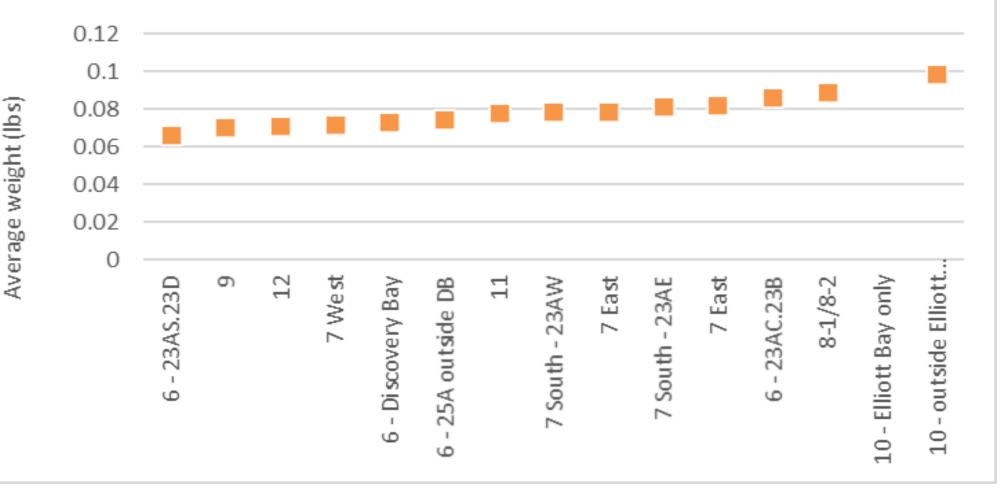






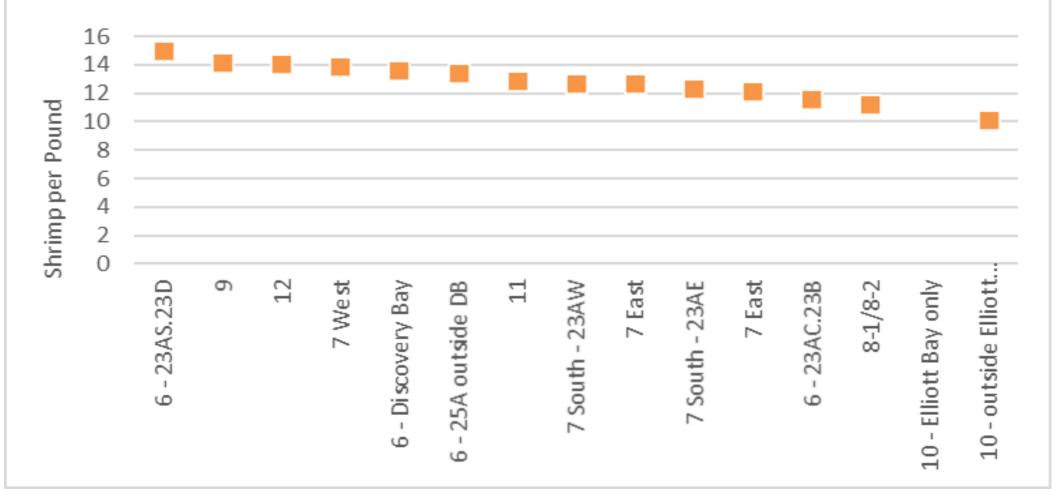
Creel Site	Boats Interviewed
bellingham_ramp	155
camano_island_state_park_ramp	66
cape_george_marina	12
cornet_bay_state_park_ramp	1,132
cushman	217
don_armeni_ramp	54
ediz_hook_ramp	7
edmonds_marina	45
everett_ramp	364
fort_casey_ramp	4
gardiner_ramp	20
john_wayne_marina_ramp	627
kingston_ramp	11
misery_point	314
pleasant_harbor_marina	134
pleasant_harbor_ramp	56
point_defiance_ramp	105
point_whitney_ramp	50
port_angeles_boat_haven_ramp	16
port_of_friday_harbor_marina	118
port_townsend_boat_haven_ramp	5
redondo_ramp	68
salsbury_point_county_park_ramp	179
shilshole_ramp	55
triton_cove_sp_boat_ramp	202
twanoh_state_park_ramp	45
washington_park_ramp	197
Grand Total	4,258

WDFW Recreational Shrimp Sampling Mean spot shrimp weight from 2022 creel data



2022 Shrimp Season Update – Shrimp Size

WDFW Recreational Shrimp Sampling Shrimp count per pound from 2022 creel data



2022 Shrimp Season Update

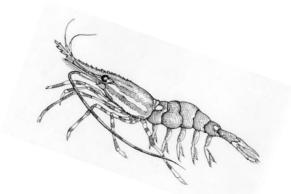
Boat and Buoy Counts



MA	Quota Area	25-May	27-May	28-May	9-Jun	11-Jun	23-Jun	25-Jun	6-Jul	7-Jul	9-Jul	20-Jul	21-Jul	22-Jul	23-Jul	17-Aug	18-Aug
6																	
	6 - 23AC.23B	50		34		66	62	25		12	0					41	27
	6 - 25A outside DB	102	75	70		97	47	105		94	41		98		71	58	72
	6 - Discovery Bay	78											9				
	Total MA 6	152	75	104		163	109	130		106	41		98		71	99	99
7																	
	7 - 23B	3				0	20										4
	7 East	185		138		106	2	8		51	12		0		1	19	2
	7 South - 23AE	191		124		48	0	0		62	26		12		16	43	25
	7 South - 23AW	20		4		0				0	3			4		3	0
	7 West	397		414		134	152	193		259	122		83		75	0	29
	Total MA 7	796		680		288	174	201		372	163		95	4	92	65	60
8																	
	8-1, 8-2	596					296										
	Total MA 8	596					296										
9																	
	9	305															
	Total MA 9	305															
10																	
	10 - Elliot Bay	0															
	10 - outside Elliot Bay	387															
	Total MA 10	387															
11																	
	11	268			179												
	Total MA 11	268			179												
12																	
	12	1,183		1,200	841		933		618			210					
	Total MA 12	1,183		1,200	841		933		618			210					

2022 Shrimp Season Update

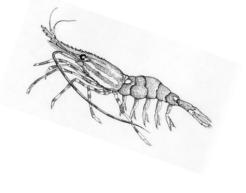
Boat Counts 2022 vs 2021



Marine Area	5/19/2021 Shrimping Boat Count	5/25/2022 Shrimping Boat Count	Effort 2022 vs 2021 First Day	
6 inside Discovery Bay	112	78	Lower	
8-1 & 8-2	673	596	Lower	
9	316	305	Lower	
10 outside Elliott	371	387	Higher	
11	256	268	Higher	
12	1,256	1,183	Lower	

2022 Shrimp Season Update

Year	MA 6 (non Disco Bay)	MA 6 Disco Bay	MA 7 East & MA 7 West	MA 7 South	MA 8	MA 9	MA 10 (non-Elliott Bay)	MA 10 Elliott Bay	MA 11	MA 12	MA 13
2002		8.1	11.1	11.1	8.3	6.7	7.2	13.2	0.0	16.1	NA
2003		13.3	10.4	10.4	9.3	12.1	12.0	12.0	11.7	16.1	NA
2004		10.9	6.9	6.9	9.2	9.2	12.4	13.7	11.5	14.0	NA
2005		10.5	9.1	14.4	10.8	16.9	12.3	14.9	14.2	15.1	NA
2006		closed	11.4	15.4	14.2	14.3	14.7	14.7	10.7	15.8	NA
2007		closed	10.6	16.2	16.3	14.3	10.4	13.6	10.0	12.6	NA
2008		closed	10.4	15.3	14.5	13.4	10.7	15.8	11.2	13.3	NA
2009		closed	11.2	15.8	16.0	16.6	16.2	14.5	13.9	15.1	NA
2010	4.6	10.5	9.9	10.2	16.2	12.8	14.2	13.6	4.5	15.8	NA
2011	10.1	10.2	12.7	15.0	17.9	13.7	16.3	14.8	9.4	15.0	NA
2012	11.0	7.3	8.5	14.4	17.9	18.2	17.8	18.8	8.2	16.6	NA
2013	15.9	11.1	12.1	17.4	17.9	16.8	16.5	19.6	10.2	17.0	NA
2014	12.6	7.6	11.2	18.6	14.1	17.3	18.1	18.2	12.2	16.7	NA
2015	12.1	10.7	11.0	14.5	16.3	16.9	20.3	16.7	16.8	17.2	5.9
2016	17.9	9.6	15.3	16.3	17.6	19.8	18.7	24.1	17.4	14.5	10.0
2017	18.8	10.1	13.7	15.6	18.4	15.9	19.0	18.1	15.1	13.1	7.5
2018	16.8	10.3	12.7	15.5	15.8	16.2	19.9	21.5	13.0	12.4	1.8
2019	13.6	10.5	12.2	15.2	16.7	13.6	15.4	23.0	11.8	12.4	Closed
2020	14.0	11.1	13.3	16.6	18.9	14.9	16.0	23.7	14.0	16.7	Closed
2021	14.4	11.5	14.7	16.2	14.2	15.3	13.6	21.7	10.0	16.3	Closed
2022	15.4	13.2	14.5	15.4	15.8	15.6	15.4	Closed	11.5	16.1	Closed



Recreational CPUE by season (lbs per boat trip)

2022 Shrimp Season – Harvest Summary



2022 PUGET SOUN	2022 PUGET SOUND SHRIMP QUOTAS AND CATCH FOR THE STATE										
11/4/2022				Preliminar	у						
SPOT SHRIMP MANAGEMENT REGIONS		2022 STAT	E HARVEST F	OR THE PO	T FISHERY	SPOT SHRI	MP				
Spot Shrimp Management Regions	Total Harvest Quota	State Total Share	State Adjusted Quota	Rec. Harvest	Comm. Harvest	Total	Remaining				
1A/20B, 22A (west)	80,000	40,000	32,879	23,873	7,793	31,666	1,213				
1B/20B, 22A (east), 21A	14,000	7,000	4,578	7,758	0	7,758	-3,180				
1C/20A, 21A, 21B, 22B	6,000	3,000	3,000	1,000	2,139	3,139	-139				
REGION 1 TOTALS	100,000	50,000	40,457	32,631	9,932	42,563	-2,106				
2E/24A-D, 26A-E (Skagit - Mukilteo)	46,000	23,000	23,000	21,105	1,921	23,026	-26				
2W/25B-D, 26AW (Edmonds - Admiralty Inlet)	15,000	7,500	6,457	8,579	0	8,579	-2,122				
REGION 2 TOTALS	61,000	30,500	29,457	29,684	1,921	31,605	-2,148				
3/23A-E (S Lopez I-Iceberg Pt, etc)	42,000	21,000	20,389	11,645	7,534	19,179	1,210				
3/23A-W (S San Juan I-Salmon Bank, etc)	40,000	20,000	18,728	2,500	16,521	19,021	-293				
3/23A-C, 23B (Straits-Hein, Eastern Bank, Smith I)	127,000	63,500	63,500	7,899	55,729	63,628	-128				
3/23A-S, 23D (Straits-NE of P.A.)	17,000	8,500	8,500	2,000	7,074	9,074	-574				
3/23C (Straits-Sekiu to P.A.)	4,000	2,000	2,000	800	722	1,522	478				
3/25A Outside District 1 (North of Protection Is.)	42,000	21,000	21,000	12,488	8,007	20,495	505				
3/25A,25E (Inside Disco. Bay SD)	4,000	2,000	939	1,048	0	1,048	-109				
3/29 (Straits - Neah Bay)	2,000	1,000	1,000	500	0	500	500				
REGION 3 TOTALS	278,000	139,000	136,056	38,880	95,587	134,467	1,589				
4/26B-1, 26C (Seattle - Bainbridge Is.)	11,000	5,500	5,204	6,096	0	6,096	-892				
4/26B-2 (Elliott Bay)	13,000	6,500	2,137	0	2,140	2,140	-3				
REGION 4 TOTALS	24,000	12,000	7,341	6,096	2,140	8,236	-895				
5/27A-C (Hood Canal)	190,000	95,000	87,507	80,414	4,747	85,161	2,346				
REGION 5 TOTALS	190,000	95,000	87,507	80,414	4,747	85,161	2,346				
6/26D (Vashon Island)	10,000	5,000	5,000	4,605	400	5,005	-5				
6/28A-D (South Puget Sound)	300	150	150	0	0	0	150				
REGION 6 TOTALS	10,300	5,150	5,150	4,605	400	5,005	145				
ALL REGIONS GRAND TOTAL	663,300	331,650	305,968	192,310	114,727	307,037	-1,069				

2022 Shrimp Season – Policy Allocations

	20	22	Po	licy]
	Rec	Com	Rec	Com	Cleanup
Region 1	77%	23%	80%	20%	
Region 2	94%	6%	100%	0%	1,921
Region 3	29%	71%	22%	88%	
Region 4	74%	26%	100%	0%	2,140
Region 5	94%	6%	100%	0%	4,747
Region 6	92%	8%	100%	0%	400
Total	63%	37%	70%	30%	9,208
Total of 8% C	Commercia	al Harvest	was in cl	eanup op	portunities

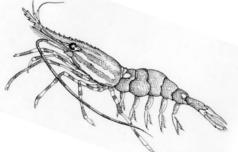


- Significant recreational overages in 2021 reduced quotas in 2022 in several areas.
 - 23,400 over in 2021 PS Wide
 - 1,069 over in 2022 PS Wide
- Unexpectedly weak effort for extension days in 7W and Hood Canal.
- Quota Increase in 23A-C/23B which is a primarily commercial harvest area.

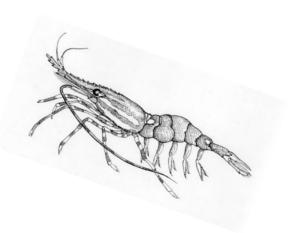
In most areas will be starting with a full share for the 2023 shrimp season

2022 Shrimp Season – Season lengths in days

Area	2020 # of Days	2021 # of Days	2022 # of Days
MA 4	88	119	114
MA 5	111	119	114
MA 6 Discovery Bay only	2	2	1
MA 6 outside Disco Bay	26	27	21
MA 7 South	7	16	17
MA 7 East	16	16	7
MA 7 West	39	20	19
MA 8-1, 8-2	1	4	3
MA 9	2	2	2
MA 10 Elliot Bay only	1	1	0
MA 10 outside Elliot Bay	1	1	1
MA 11	1	1	2
MA 12	5	5	6



2022 Shrimp Season – Effort Mapped



Show Shrimp Effort Map

2023 Shrimp Season – best dates for openings

Primary Considerations

- Tides and currents
- Weekend and weekday opportunities when possible
- Availability of creel samplers
- Keeping effort distributed between areas
- Opportunities throughout summer
- Tribal harvest dates
- Navy range activity (Hood Canal)

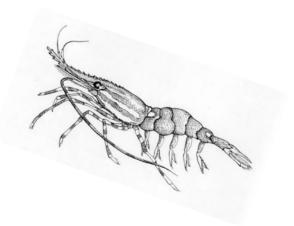
Attractive dates for 2023

5/11-5/15 (Thursday – Monday) 5/25-6/1 (Thurs – Thursday) 6/8-6/15 (Thursday – Thursday) 6/22-6/29 (Thursday – Thursday)



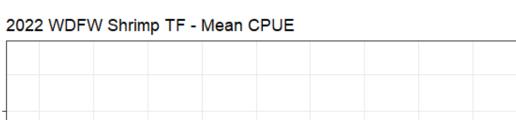
Tidal Heights at Seattle, Puget Sound, 🕨 Washington										
🤇 Sunday, May	14 2023 🛛	47°36.2'N122°20.4'W								
May 14 1:42 PDT 16 ft	Seattle, Puget Sound, Washington May 14 May 14 8:19 PDT 13:25 PDT	May 14 May 19:25 PDT 2:21								
14 ft										
12 tt										
6 tt										
4 tt										
0 ft										
-2 ft Moonrise 3:40 PDT 2 23 0 1 2 3 4 5	Moonset 14:59 PDT 6 7 8 9 10 11 12 13 14 15 16 17									
Other Tide Stations	V Other C	urrent Stations 🗸 🗸								

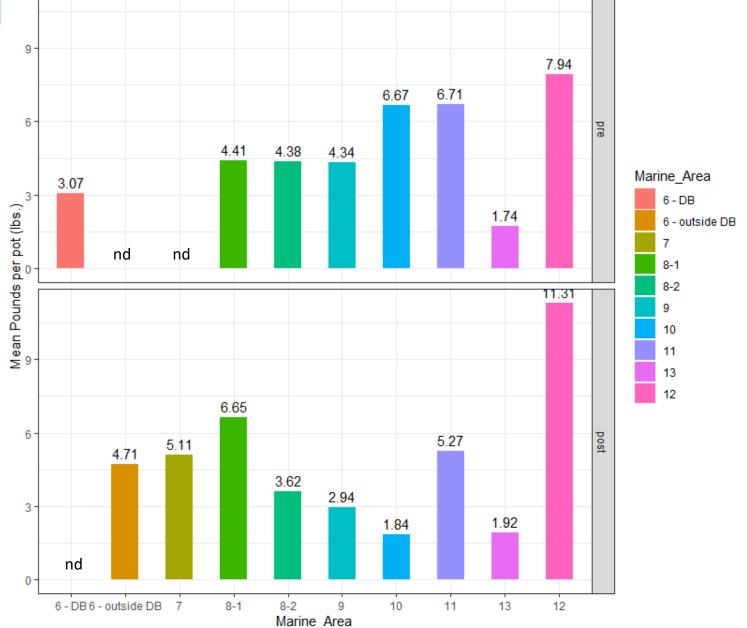
Show 2022 Shrimp Test Fishery Map



- A total of 49 stations tested in 2022
- Now conducting weights & counts from *all* pots
- Missing preseason wt from MA 6 and 7
- Did not complete HC and DB in post-

season

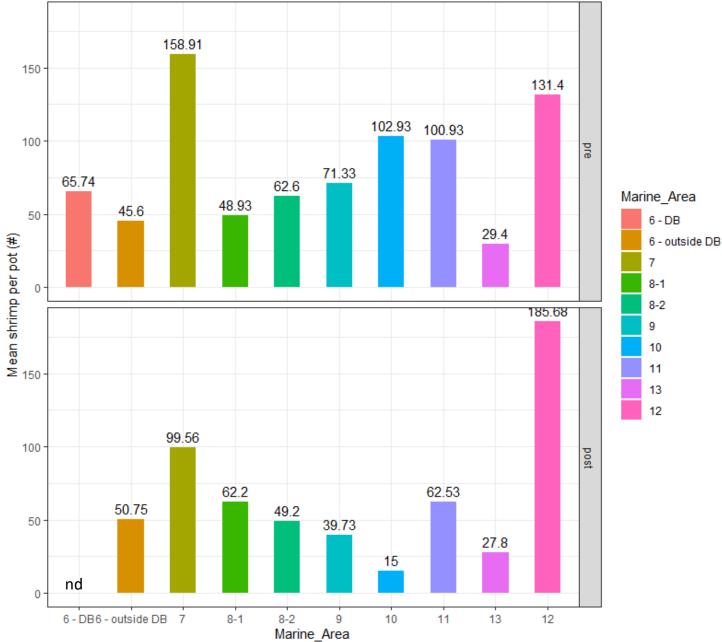




- A total of 49 stations tested in 2022
- Now conducting weights & counts from *all* pots
- Missing preseason wt from MA 6 and 7
- Did not complete HC and DB in post-

season

2022 WDFW Shrimp TF - Mean



- A total of 49 stations tested in 2022
- Now conducting weights & counts from *all* pots
- Missing preseason wt from MA 6 and 7
- Did not complete HC and DB in postseason

16.9 16.55 16.44 15.43 15.04 14.29 15 -11.1 10 -Mean shrimp per pound (#/lb) nd nd 19.48 16.42 14.48 15 -13.59 13.51 11.87 10.77 9.35 10 -8.15 5

8-2

Marine Area

9

10

11

8-1

рге

post

13

12

Marine_Area

7

8-1

8-2 9

10

11

13

12

6 - DB

6 - outside DB

2022 WDFW Shrimp TF - Mean count per pound

21.41

nd

6 - DB 6 - outside DB

7

0

20 -

2022 Crab Topics

- 2022 Catch Totals
- Recreational Reporting Rates
- Remaining winter season decisions (MA 10/11)
- Bias Correction Revisited
- Crab Test Fishing Post-season Hood Canal and MA 10
- Derelict Gear Sweeps Update
- Online Crabber Quiz (Amy Pumputis)



2022 State Crab Harvest Totals - Preliminary



Management Region	Marine Area	Regional State Share	State Summer Recreational Catch	State Summer EUC	State Winter Recreational Catch	State Winter EUC	State Commercial Harvest	State Commercial EUC	Total State Harvest To- Date	State Balance To-Date
1	7	2,300,000	420,279	41,902	51,190	5,104	924,072	9,241	1,451,787	848,213
2E	8-1,8-2	1,000,000	473,425	47,201	31,104	3,101	285,982	2,860	843,673	156,327
2W	9	225,000	67,423	6,722	10,322	1,029	11,155	112	96,763	128,237
3-1	6, N	44,415	1,945	194	379	38	1,519	15	4,090	40,325
3-2	6, SE	348,990	117,213	11,686	24,781	2,471	136,008	1,360	293,518	55,472
3-3	6, W	15,500	2,432	242	404	40	0	0	3,118	12,382
3-4	4, 5	9,500	4,283	427	274	27	0	0	5,011	4,489
4	10	40,000	25,811	2,573	0	0	0	0	28,384	11,616
5	12	240,200	65,685	6,549	15,351	1,530	0	0	89,115	151,085
6	11	38,000	18,694	1,864	0	0	0	0	20,557	17,443
7	13	0	229	23	0	0	0	0	251	-251
STATE HAR TOTAL	-	4,261,605	1,197,418	119,383	133,804	13,340	1,358,736	13,587	2,836,268	

*RED indicates areas without a signed plan and agreed-to quota

*Commercial data through 11/7/2022.

Recreational Crab - CRC Reporting Rates <u>Summer</u>

Summer	CRCs Issued	CRCs Reported Mail	CRCs Reported Online	CRCs Reported	CRCs Unreported	Endorsements Entire Year
2007	210,327	34,400 (16%)	32,373 (15%)	66,773 (32%)	143,554 (58%)	226,063
2008	210,893	26,037 (12%)	43,919 (21%)	69,956 (33%)	140,937 (67%)	215,643
2009	236,665	37,128 (16%)	72,172 (30%)	107,300 (45%)	129,365 (55%)	241,226
2010	208,462	29,406 (14%)	77,472 (37%)	107,418 (52%)	101,044 (48%)	213,013
2011	230,355	31,222 (14%)	89,095 (39%)	120,317 (52%)	110,038 (48%)	237,129
2012	200,711	26,504 (13%)	79,895 (40%)	106,399 (53%)	94,312 (47%)	209,957
2013	214,692	26,236 (12%)	90,379 (42%)	116,615 (54%)	98,077 (46%)	222,050
2014	213,741	25,296 (12%)	91,270 (43%)	116,566 (55%)	97,175 (45%)	223,184
2015	232,621	25,685 (11%)	94,336 (41%)	120,021 (52%)	112,600 (48%)	243,934
2016	216,977	23,734 (11%)	90,262 (42%)	113,996 (53%)	102,981 (47%)	223,443
2017	215,929	33,252 (15%)	72,601 (34%)	105,853 (49%)	110,076 (51%)	222,222
2018	200,962	31,316 (16%)	72,790 (36%)	104,106 (52%)	96,856 (48%)	207,557
2019	192,798	29,006 (15%)	69,087 (36%)	97,571 (51%)	95,227 (49%)	200,113
2020	213,831	23,716 (11%)	53,029 (25%)	76,745 (36%)	137,086 (64%)	222,181
2021	225,282	27,534 (12%)	75,254 (33%)	102,788 (46%)	122,494 (54%)	233,108
<mark>2022</mark>	<mark>210,725</mark>	<mark>20,440 (10%)</mark>	<mark>68,275 (32%)</mark>	<mark>88,715 (42%)</mark>	<mark>122,010 (58%)</mark>	Pending



Recreational Crab - CRC Reporting Rates <u>Winter</u>

Winter	CRCs Issued	CRCs Reported Mail	CRCs Reported Online	CRCs Reported	CRCs Unreported	Endorsements Entire Year
2007	157,905	10,281 (7%)	6,388 (4%)	16,669 (11%)	141,236 (89%)	226,063
2008	207,143	10,993 (5%)	10,871 (5%)	21,864 (11%)	185,279 (89%)	215,643
2009	89,259	11,909 (13%)	27,382 (31%)	39,291 (44%)	49,968 (56%)	241,226
2010	70,763	9,633 (14%)	27,346 (39%)	36,979 (52%)	33,784 (48%)	213,013
2011	28,514	4,675 (16%)	13,899 (49%)	18,574 (65%)	9,940 (35%)	237,129
2012	27,711	4,508 (16%)	13,357 (48%)	17,865 (65%)	9,846 (35%)	209,957
2013	29,638	4,419 (15%)	15,223 (51%)	19,642 (66%)	9,996 (34%)	222,050
2014	35,371	5,040 (14%)	17,401 (49%)	22,441 (63%)	12,930 (37%)	223,184
2015	36,398	5,039 (14%)	18,284 (50%)	23,323 (64%)	13,075 (36%)	243,934
2016	26,591	5,777 (22%)	10,577 (40%)	16,534 (62%)	10,057 (38%)	223,443
2017	23,277	4,431 (19%)	9,746 (42%)	14,177 (61%)	9,100 (39%)	222,222
2018	24,620	3,906 (16%)	9,896 (40%)	13,802 (56%)	10,818 (44%)	207,557
2019	23,578	4,178 (18%)	8,520(36%)	12,698 (54%)	10,880 (46%)	200,113
2020	36,459	5,015 (14%)	13,178 (36%)	18,193 (50%)	18,266 (50%)	222,181
2021	26,843	3,894 (15%)	9,591 (36%)	13,485 (51%)	13,358 (49%)	233,108



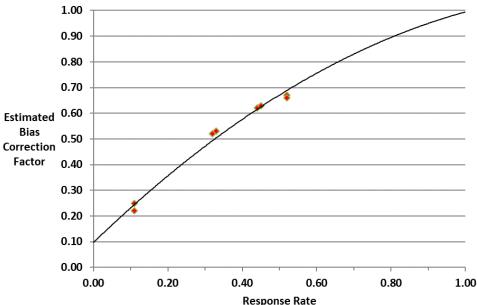
2022 Crab Season – Remaining winter season decisions



- Quota remaining in MA 10 and MA 11
- Review of the 2021 winter season in MA 10
 - Summer was 18 days and took 32,709 pounds (1,817 lbs/day). By comparison, Summer 2022 was 25,811 lbs / 20 days (1,291 lb/day)
 - Winter was 40 days and took 6,272 Pounds (157 lbs/day)
 - Share remaining 11,616 lbs after summer final estimate
- Review of last winter data (2015-16) in MA 11
 - Summer was 50 days and took 85,131 pounds (1,702 lbs/day). By comparison, Summer 2022 was 18,694 lbs / 18 days (1,039 lb/day)
 - Winter was 92 days and took 10,746 Pounds (117 lbs/day)
 - Share remaining 17,443 lbs after summer final estimate
- What would crab effort be like in these areas with salmon being open?
- Next steps

Bias Correction Factor Update

- **Bias correction** is a fundamental component of our recreational catch estimation methods
- The bias correction factor is applied to the expanded recreational catch estimate to account for lower catch rates by crabbers that do not submit catch record cards.
- This calculation has been highlighted in comanager conversations since 2020 with poor CRC return rates
- WDFW is planning to move forward with a bias correction factor survey to update the function
 - Data that informs this relationship is from 2007-2010

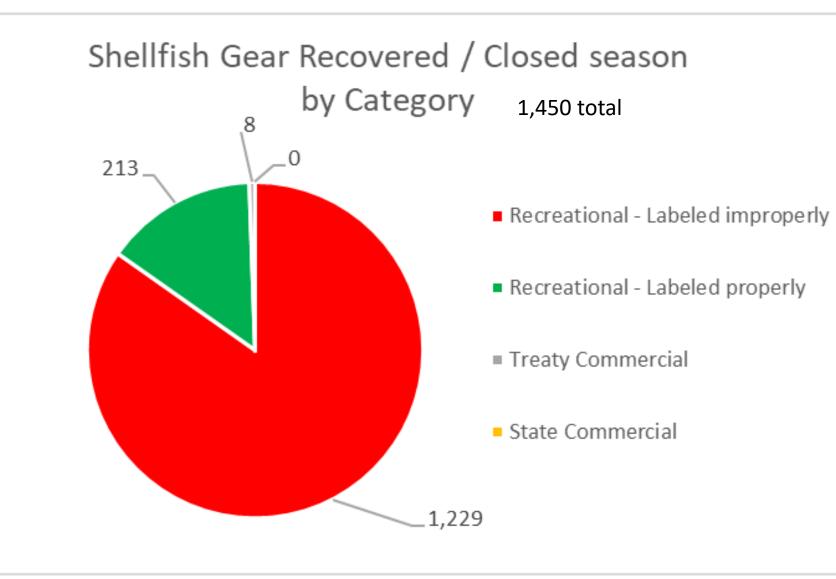


Test Fishing Summaries / Crab

Dungeness crab, Legal Size Males (LSM) per pot from test fisheries

Sampling Lead	Marine Area	Pre - 2021	Post - 2021	Pre - 2022	Post - 2022
Swinomish Test	8-1	11.4		10.4	
Upper Skagit Test	8-1	8.6		7.1	
Tulalip Port Susan Test	8-2	11.3		8.6	
Tulalip Everett Test	8-2	13.1		14.6	
WDFW Test	9	9.5	4.3	10.7	3.0
Suquamish/WDFW Test	10	7.8	NA	7.1	5.2
Puyallup Test	11	NA		5.6	
WDFW Test	12	5.4	1.9	6.9	2.8
WDFW Test	13	0.6		1.0	



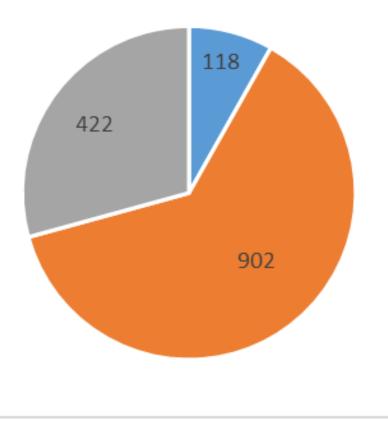




- First Name
- Last Name
- Mailing Address
- Phone Number Opt.
- All Legible!

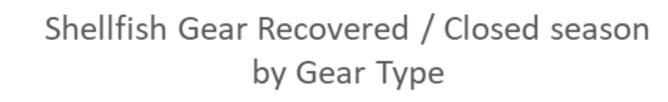


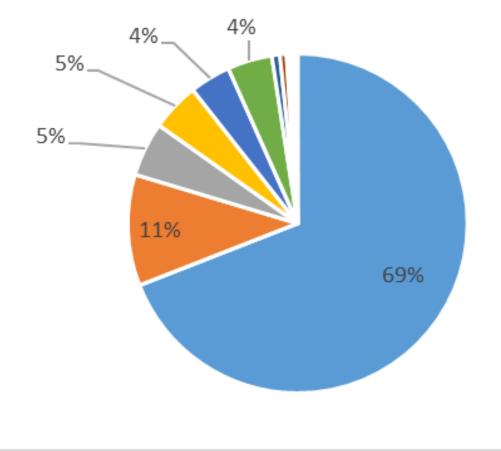
Shellfish Gear Recovered / Closed season Where it goes



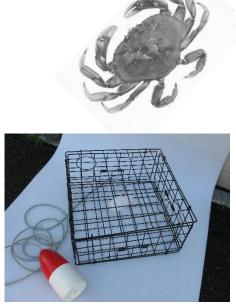
- Returned
- Scrapped
- Saved for Donation







- Square Folding
- Rec Round
- Octagonal
- Rec Round Small
- Lg Square
- Commercial Round
- Dog House
- Ring
- Mesh

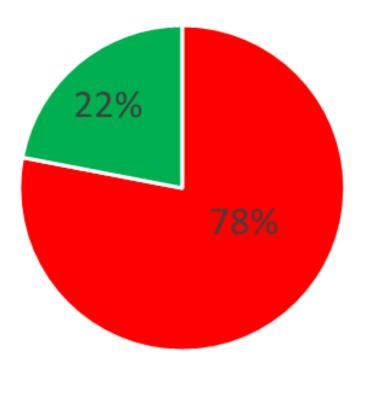








Shellfish Gear Recovered / Closed Season Buoy Attachment

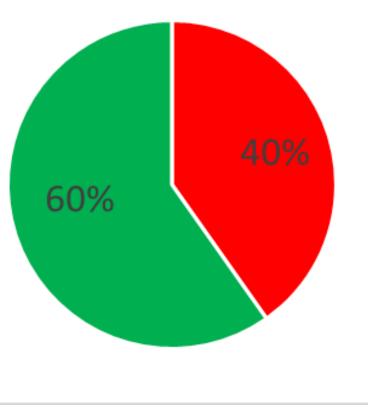


- Buoys Incorrectly attached
- Buoys correctly attached





Shellfish Gear Recovered / Closed Season Standard Buoys vs Illegal Buoys



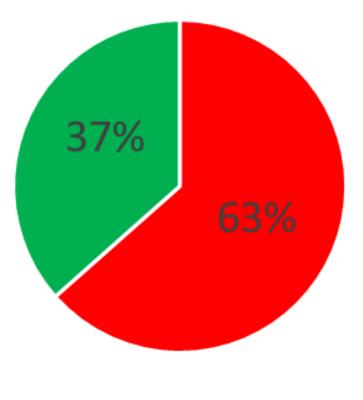
- Illegal Type/Color Buoys
- Legal Buoys







Shellfish Gear Recovered / Closed Season Weight added to lighter traps



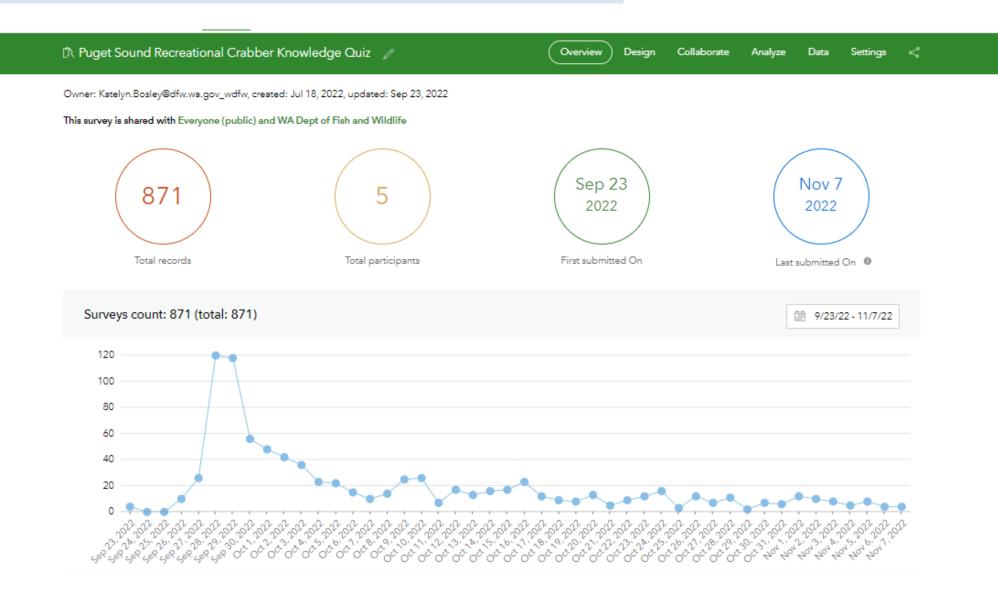
No Weight Added (but needed)

Weight Added (or not needed)





Online Crabber Quiz (Amy Pumputis)

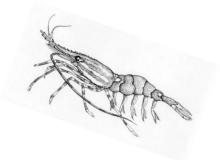




Misc. Crustacean Fishery Updates

- Advisory Board terms ending 2/14
- Budget and Staffing update
 - E-CRCs
 - New Staff
 - Recreational focused Biologist 2 Hired
 - Scientific Technician 3 manage creel team
 - 7 Scientific Technician 2s focused on summer crab creeling
- Green Crab
 - 2022 trapping effort review
 - Seabeck response
- Other advisor comments, feedback & ideas







Adjourn Thank you!

























