



Summary Report of the 2011 Commercial Fishery for Razor Clams (*Siliqua patula*)

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**WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW)
SUMMARY OF THE 2011 COMMERCIAL FISHERY
FOR RAZOR CLAMS (*Siliqua patula*)**

Fishery Objectives and Preseason Planning

A public meeting was held in late March 2011 for commercial diggers and razor clam buyers at Raymond High School. The major discussion topic was when to schedule the 2011 fishery and the duration of the season.

At the meeting WDFW announced that the fishery would be allowed a full eight week season with the starting date to be determined later. WDFW proposed opening the season for eight weeks immediately after the recreational razor clam fishery closed (which was expected to end on May 3rd). As in years past, some fishers expressed the desire to begin fishing for a week in mid-April on tides not allocated to the coastal recreational razor clam fishery. Others supported a later start in mid-May which would allow for harvest when the weather is generally better. After polling the audience the majority supported opening the season in early May as soon as the recreational season was scheduled to end.

Three factors largely determine the start date of the commercial razor clam fishery: the end of the recreational razor clam season, biotoxin levels, and tides. By practice, the commercial fishery opens only after the end of the recreational fishery. Separating the two fisheries makes it more difficult for sport diggers to illegally dig, possess or sell commercial quantities of clams, and simplifies recovering clams in the event of a Washington Department of Health (WDOH) product recall. In addition, because the Willapa Spits are legally open to sport harvest when ever Long Beach is open, keeping the fisheries separate prevents a potential influx of sport harvesters on the spits while a commercial fishery is underway. Due to the absence of any significant biotoxin events, the last being in 2005, the commercial fishery has experienced predictable and stable season schedules.

Regulations for the commercial razor clam fishery allow digging only on “detached” (i.e. islands) spits. In recent years, shifting sand has filled in a channel of water that had separated the spits from the north end of Leadbetter Point. At low tide the southernmost spit and the northern end of Leadbetter Point essentially became continuous, and could be easily crossed. For the last five seasons boundary poles have been installed at the north end of Leadbetter Point to provide a clear delineation between it and the spits. Boundary posts were installed again in 2011 to eliminate any uncertainty.

Biotoxin Sampling

Before the fishery opens the Washington Department of Health (WDOH) protocols require two sets of razor clam samples be collected and test below the action levels. These sets of samples must be collected seven to ten days before the planned opener. Each sample collected must test below 20 parts per million (ppm) for domoic acid and below 80 micrograms per 100 grams of meat tested ($\mu\text{g}/100\text{g}$) for paralytic shellfish poisoning (PSP). Razor clams for pre-season biotoxin testing were collected from one site on the spits in mid April and early May and tested under the action level (Table 1). Monitoring of biotoxin levels continues once the fishery is underway with fishery samples collected from dealers every seven to ten days. Domoic acid levels were low throughout the season and were not an issue. PSP was also not an issue this

season. Although PSP levels were somewhat elevated during the season they remained consistent from week to week and were well below the action level.

Table 1. 2011 Commercial Razor Clam Fishery Biotoxin Results.

Collection Date	Sample Type	PSP Result ($\mu\text{g}/100\text{g}$)	Domoic Result (ppm)
11-Apr	Pre-Season	39	<1
02-May	Pre-Season	<38	<1
09-May	Fishery Sample	39	1
16-May	Fishery Sample	38	<1
23-May	Fishery Sample	43	<1
31-May	Fishery Sample	NTD	NTD
07-Jun	Fishery Sample	NTD	NTD
14-Jun	Fishery Sample	50	<1
20-Jun	Fishery Sample	48	<1
28-Jun	Fishery Sample	49	<1
05-Jul	Fishery Sample	55	<1
12-Jul	Fishery Sample	50	<1

Fishing Season

The 2011 season opened on May 9th and was scheduled to last eight weeks, ending on July 8th. Due to poor weather in March and April the coastal recreational razor clam season scheduled an additional two days of harvest on May 21 and 22. WDFW agency policy for razor clam management established by the Fish and Wildlife Commission (POL-C3009 effective 1/04/1997) directs the agency to “Provide for consistent commercial fishing opportunity that does not conflict with the recreational fishery.” In order to avoid any conflicts with the recreational fishery the commercial fishery was closed for those two days in mid-May. The fishery reopened after the two day closure and continued unabated until July 8th.

Clam abundance was generally good throughout the season although poor weather in May and early June made digging conditions difficult and likely impacted landings and catch per unit of effort (CPUE). In poor weather some of the harvesters with larger boats can participate in the fishery but many that utilize small skiffs to access the spits cannot.

In late June an extension to the season was requested by the harvesters. In order to extend the season there must be indications of high clam abundance, interest by diggers, and a willing buyer. During the eight week regular season 168,872 lbs of razor clams were landed which was the fourth highest volume recorded. Even with this volume of clams already purchased, interest by buyers in obtaining additional clams during an extension was good. Four buyers indicated their willingness to purchase razor clams harvested during the extension.

WDFW considered the industry request for an extension. Based on three factors; 1) digging opportunity lost to poor weather and the two days lost to the recreational fishery, 2) the stable CPUE during the season, and 3) willing buyers, WDFW allowed for a two week extension, ending the fishery on July 19th.

Licenses

In 2011 174 licenses were sold and of these, 155 were actively fished. These numbers are below last year's record number of 207 licenses sold with 184 actively fished. As in past years, diggers were predominantly residents of Pacific (68%) and Grays Harbor (23%) counties (Figure 1). License sales were relatively stable from 2004 thru 2008 and increased in 2009 and 2010 before falling in 2011 (Table 2, Figure 2). It is suspected the increase in participation in this fishery is due to the ongoing poor economic conditions and high local unemployment - Pacific and Grays Harbor counties unemployment rate at the time of the fishery was 12%.

Figure 1. Residence of 2011 Commercial Razor Clam Diggers by County.

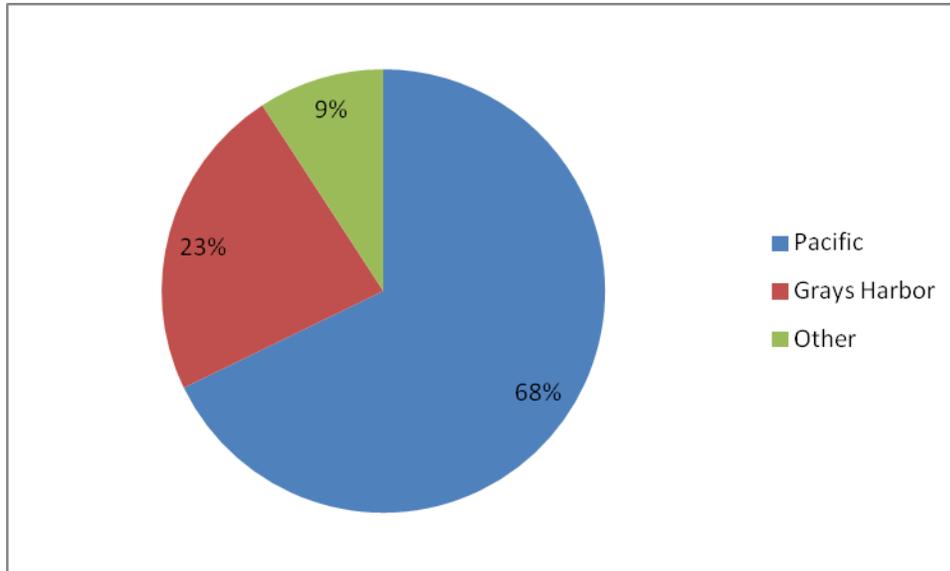
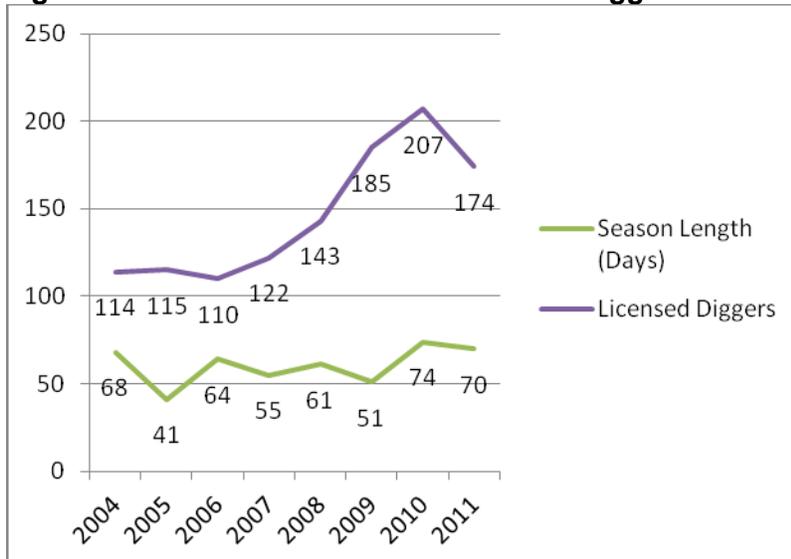


Figure 2. 2004-2011 Number of Licensed Diggers and Season Length



Fishery Landings

In total, the fishery landed a record 186,856 pounds of razor clams during the 70-day season (Tables 2, 3). The total direct value to diggers (ex-vessel value) was \$327,022. Clams were landed on 69 days of the 70 day season; on average 34 diggers each day landed about 79 pounds of clams per day (Figure 3). There were 316 personal use take home limits, which comprised 13.4% of the 2,360 landings. In the 2010 season take home limits were 8.5% of the landings. Discounting other factors such as weather or surf conditions, generally any tide less than +1.0 foot offers comparably good digging opportunity (Figure 4). Catch per unit of effort (CPUE: in this case the total pounds of clams dug in one day divided by the number of diggers) was generally highest on tides that were between -1.2 feet and +0.5 feet. CPUE has been relatively stable over the past eight years as indicated by the zero slope regression line fitted to the CPUE data (Figure 3).

Figure 3. 2004 – 2011 Catch Per Unit Effort

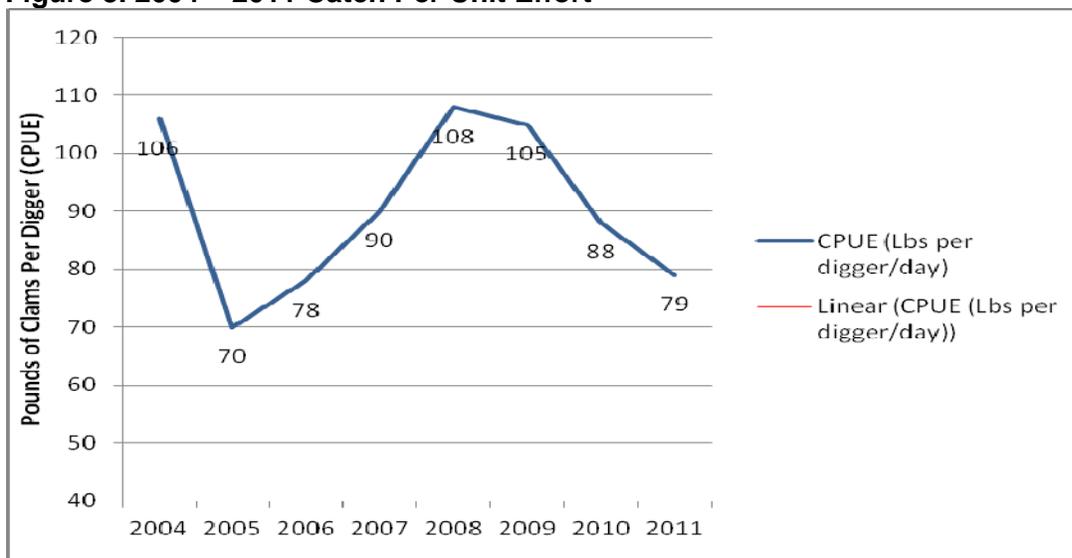


Figure 4. Daily Pounds of Clams Dug per Person (CPUE) and Tide Elevation

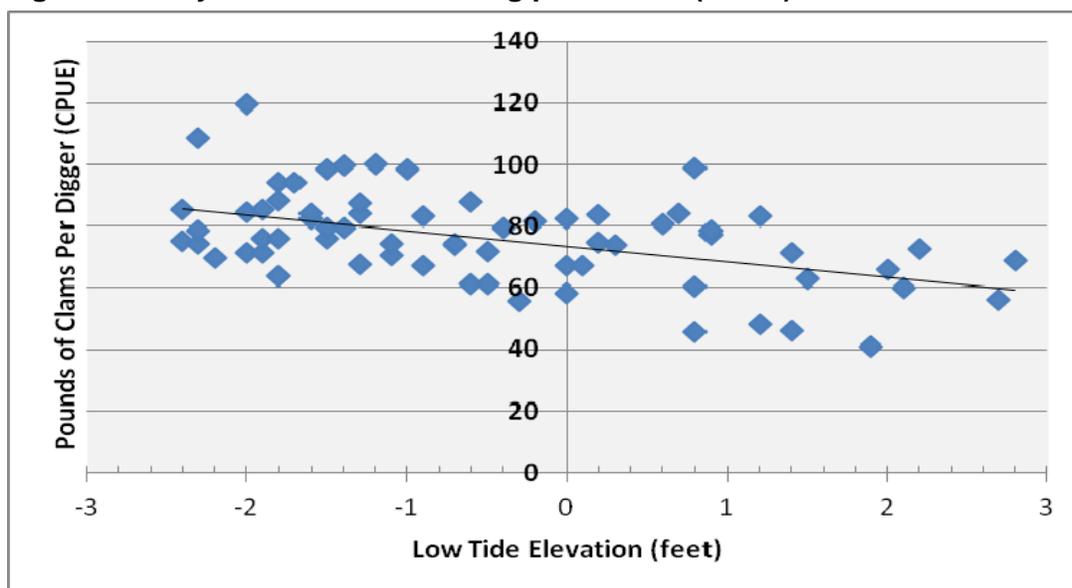


Table 2. Commercial Razor Clam: Harvest Totals, Value, Season Length and Licenses.

Washington Non-Treaty Commercial Razor Clam Fishery									
Year	Pounds Landed	Ex-Vessel Value	Number			Non-Resident Licenses	License Revenue	License Fees	
			Days	Diggers	Licenses			Resident	Non-Resident
76	14,047	\$10,512		-	187		\$935	\$5	\$5
77	5,797	\$6,150		-	365		\$1,825	\$5	\$5
78	25,386	\$20,355		-	191		\$4,595	\$5	\$5
79	10,750	\$10,976		-	1,695		\$8,475	\$5	\$5
80	18,390	\$18,781	80	-	1,518		\$7,590	\$5	\$5
81	2,891	\$3,842	39	-	1,411		\$7,055	\$5	\$5
82	6,672	\$9,432	91	-	1,322		\$6,610	\$5	\$5
83	6,732	\$8,678	69	-	1,366		\$6,830	\$5	\$5
84	Nix Closure								
85	Nix Closure								
86	58,814	\$73,114	64	-	378	13	\$19,500	\$50	\$100
87	103	\$194	4	-	115	7	\$6,100	\$50	\$100
88	Closed due to low population levels								
89	20,140	\$35,161	28	-	205	2	\$10,350	\$50	\$100
90	26,553	\$48,073	36	-	290	6	\$14,800	\$50	\$100
91	26,630	\$44,106	42	-	267	8	\$13,750	\$50	\$100
92	Domoic Acid Closure								
93	Domoic Acid Closure								
94	46,854	\$59,487	40	-	95	3	\$12,500	\$130	\$180
95	88,290	\$109,364	38	-	127	0	\$16,510	"	"
96	25,188	\$29,295	37	-	110	1	\$14,350	"	"
97	2,849	\$3,579	21	-	28	3	\$3,790	"	"
98	4,485	\$6,558	24	-	40	0	\$5,200	"	"
99	Domoic Acid Closure								
00	69,595	\$84,106	51	-	79	0	\$10,270	"	"
01	75,744	\$77,439	47	62	97	0	\$12,610	"	"
02	119,777	\$118,349	46	97	105	0	\$13,650	"	"
03	17,474	\$21,169	18	40	44	0	\$5,720	"	"
04	183,327	\$269,139	68	112	114	0	\$14,820	"	"
05	102,939	\$154,746	41	112	115	3	\$15,490	"	"
06	134,661	\$199,469	64	103	110	0	\$14,300	"	"
07	140,616	\$211,118	55	119	122	1	\$16,040	"	"
08	205,634	\$355,705	61	108	143	0	\$18,590	"	"
09	249,910	\$407,130	51	164	185	4	\$24,250	"	"
10	266,834	\$431,519	74	184	207	2	\$27,010	"	"
11	186,856	\$327,022	70	155	174	3	\$22,770	"	"

Table 3. 2011 Commercial Razor Clam: Daily Landings, Effort and Take Home Limits

Date	Day	Tide (ft)	Time	Number Landings	Daily Total Landings (lbs)	CPUE (lbs per digger/day)	Take Home Limits
09-May	Monday	-0.2	12:20	50	4,078	82	2
10-May	Tuesday	+0.2	1:16 PM	45	3,764	84	4
11-May	Wednesday	+0.6	2:15 PM	5	404	81	1
12-May	Thursday	+0.9	3:15 PM	23	1,784	78	0
13-May	Friday	+1.2	4:14 PM	16	1,333	83	0
14-May	Saturday	+0.0	5:18 AM	25	1,681	67	0
15-May	Sunday	-1.1	6:11 AM	39	2,760	71	1
16-May	Monday	-1.9	7:01 AM	23	1,967	86	3
17-May	Tuesday	-2.3	7:49 AM	49	3,850	79	10
18-May	Wednesday	-2.4	8:36 AM	52	4,435	85	10
19-May	Thursday	-2.3	9:22 AM	59	4,393	74	7
20-May	Friday	-1.8	10:07	64	4,877	76	9
21-May	Saturday	-1.3	10:53	CLOSED	CLOSED	CLOSED	CLOSED
22-May	Sunday	-0.6	11:40	CLOSED	CLOSED	CLOSED	CLOSED
23-May	Monday	+0.1	12:28	57	3,834	67	3
24-May	Tuesday	+0.8	1:17 PM	57	3,440	60	4
25-May	Wednesday	+1.4	2:09 PM	18	831	46	7
26-May	Thursday	+1.9	3:02 PM	5	204	41	1
27-May	Friday	+1.6	4:19 AM	No Effort	No Effort	No Effort	No Effort
28-May	Saturday	+0.9	5:10 AM	4	315	79	0
29-May	Sunday	+0.2	5:54 AM	43	3,226	75	5
30-May	Monday	-0.4	6:35 AM	61	4,856	80	13
31-May	Tuesday	-0.9	7:13 AM	63	5,240	83	10
01-Jun	Wednesday	-1.2	7:51 AM	76	7,626	100	7
02-Jun	Thursday	-1.5	8:28 AM	55	5,413	98	5
03-Jun	Friday	-1.6	9:07 AM	53	4,455	84	10
04-Jun	Saturday	-1.6	9:46 AM	50	4,128	83	10
05-Jun	Sunday	-1.5	10:26	35	2,657	76	3
06-Jun	Monday	-1.1	11:09	51	3,789	74	4
07-Jun	Tuesday	-0.6	11:54	26	1,588	61	0
08-Jun	Wednesday	+0.0	12:43	36	2,097	58	2
09-Jun	Thursday	+0.7	1:37 PM	28	2,350	84	8
10-Jun	Friday	+1.4	2:35 PM	20	1,431	72	1
11-Jun	Saturday	+2.0	3:37 PM	8	528	66	1
12-Jun	Sunday	-0.6	5:02 AM	21	1,848	88	1
13-Jun	Monday	-1.4	5:58 AM	31	3,092	100	1
14-Jun	Tuesday	-2.0	6:49 AM	61	7,309	120	9
15-Jun	Wednesday	-2.3	7:37 AM	67	7,279	109	12
16-Jun	Thursday	-2.4	8:22 AM	74	5,556	75	12

Table 3. 2010 Commercial Razor Clam: Daily Landings, Effort and Take Home Limits (cont.)

Date	Day	Tide (ft)	Time	Number Landings	Daily Total Landings (lbs)	CPUE (lbs per digger/day)	Take Home Limits
17-Jun	Friday	-2.2	9:05 AM	58	4,048	70	9
18-Jun	Saturday	-1.8	9:46 AM	32	2,048	64	4
19-Jun	Sunday	-1.3	10:26	32	2,168	68	6
20-Jun	Monday	-0.7	11:06	45	3,352	74	11
21-Jun	Tuesday	+0.0	11:45	32	2,633	82	6
22-Jun	Wednesday	+0.8	12:25	28	1,282	46	5
23-Jun	Thursday	+1.5	1:08 PM	17	1,069	63	6
24-Jun	Friday	+2.2	1:55 PM	5	364	73	0
25-Jun	Saturday	+2.8	2:49 PM	2	138	69	0
26-Jun	Sunday	+0.8	4:29 AM	3	297	99	0
27-Jun	Monday	+0.2	5:20 AM	31	2,313	75	0
28-Jun	Tuesday	-0.5	6:06 AM	38	2,735	72	5
29-Jun	Wednesday	-1.0	6:48 AM	43	4,242	99	2
30-Jun	Thursday	-1.5	7:29 AM	41	3,254	79	5
01-Jul	Friday	-1.8	8:08 AM	42	3,965	94	2
02-Jul	Saturday	-2.0	8:47 AM	47	3,970	84	8
03-Jul	Sunday	-2.0	9:26 AM	35	2,500	71	6
04-Jul	Monday	-1.8	10:05	32	2,822	88	5
05-Jul	Tuesday	-1.3	10:45	33	2,779	84	8
06-Jul	Wednesday	-0.5	11:27	37	2,263	61	3
07-Jul	Thursday	+0.3	12:13	16	1,182	74	6
08-Jul	Friday	+1.2	1:04 PM	22	1,062	48	3
Regular Season Totals				2,121	168,904	80	276
09-Jul	Saturday	+2.1	2:03 PM	4	240	60	0
10-Jul	Sunday	+2.7	3:09 PM	6	337	56	0
11-Jul	Monday	-0.7	4:47 AM	18	1,335	74	1
12-Jul	Tuesday	-1.3	5:45 AM	34	2,976	88	3
13-Jul	Wednesday	-1.7	6:37 AM	31	2,929	94	1
14-Jul	Thursday	-1.9	7:23 AM	32	2,429	76	4
15-Jul	Friday	-1.9	8:06 AM	28	2,002	72	6
16-Jul	Saturday	-1.8	8:45 AM	16	1,018	64	1
17-Jul	Sunday	-1.4	9:21 AM	22	1,746	79	4
18-Jul	Monday	-0.9	9:56 AM	23	1,545	67	11
19-Jul	Tuesday	-0.3	10:29	25	1,395	56	9
Extended Season Totals				239	17,952	71	40
Grand Totals				2,360	186,856	79	316

Commercial Sales and Trends

Commercial buyers must be certified by the Washington Department of Health to purchase razor clams; the certification is specific to razor clams and renewed annually. Buyers must also have a WDFW wholesale dealer license. Typically, five to six companies register to buy razor clams each year. Most dealers are established wholesale seafood businesses in Pacific and Grays Harbor counties that operate year-round in various fisheries. These companies purchase the majority of clams. However, some dealers are simply individuals that have obtained the required licenses and certification to purchase razor clams only. Typically, these dealers are commercial Dungeness crab fishers buying razor clams for bait.

Dungeness crab fishers favor razor clams as bait because they are a natural food source of crabs and keep well in crab pot bait cans. While the majority of the harvested clams are still sold as crab bait, this percentage has varied over the past few years. In 2008 two wholesale dealers estimated that 60% percent of the clams purchased were sold for human consumption in local markets, in British Columbia and overseas. In 2010 about 14% of the total harvest went to the fresh market. Wholesalers point out the market for fresh razor clams are limited by their narrow 2-3 day shelf life and because profitability to the wholesaler is held in check by other razor clams entering the market. These other sources include the Quinault Indian Nation and clams coming from both Canada and Alaska sources. For some buyers the main benefit in purchasing razor clams comes from keeping their work crews employed during a typically slow time of year and providing superior quality bait to the commercial crabbers who fish in the winter months.

Management Conclusions

In recent years, dealers have tried take advantage of stable seasons and strong production to develop retail markets locally and overseas. Success has been mixed due to competition of razor clams from other sources and a limited shelf life. Key factors to maintaining and increasing market development are a spring/summer season and a generally consistent season start. These factors have directed season development and are balanced with tides, weather and the needs of the recreational fishery. In addition to the direct benefits related to the harvest of clams, the timing of the fishery provides an important economic bridge between crab and salmon seasons for both dealers and diggers. Within the constraints posed by population abundance and biotoxin levels, management of the fishery will continue to promote season predictability to support marketing opportunities for human consumption and to provide a reliable source of bait for the Dungeness crab fishery.