



Summary Report of the 2010 Commercial Fishery for Razor Clams (*Siliqua patula*)

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WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW)
SUMMARY OF THE 2010 COMMERCIAL FISHERY
FOR RAZOR CLAMS (*Siliqua patula*)

Fishery Objectives and Preseason Planning

A public meeting was held in late March 2010 for commercial diggers and razor clam buyers at Raymond High School. This meeting had two main objectives to discuss with the stakeholders. The first topic was when to schedule the 2010 fishery and the second was a presentation by the Washington Department of Natural Resources (WDNR) regarding future authorization of the fishery.

WDFW announced that the fishery would be allowed a full eight week season since in previous discussions WDNR and WDFW had agreed that an Aquatic Lands Right of Entry Agreement (REA) would not be required for the 2010 season. WDNR waved the REA for 2010 with the understanding that a new REA which allowed for a fair compensation to WDNR would be adopted for the 2011 season. In addition, WDFW had determined that clam abundance (based on the population levels and harvest of the coastal recreational fishery) was good. WDFW proposed opening the season for eight weeks immediately after the recreational razor clam fishery closed (which was expected to end on May 3rd). 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. The early fishery proponents felt that the early start would allow the fishery to harvest clams in prime condition which would demand top dollar. Razor clam buyers in attendance indicated that they would not be in favor of a split or a gap in the season since gaps in production makes marketing and maintaining those markets difficult. Also discussed was 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.

In past seasons, prior to conducting the commercial fishery on the Willapa spits, (which are state-owned aquatic lands – managed by WDNR), WDFW was required to obtain an REA from WDNR. For the past two years WDNR has been investigating how to obtain fair compensation from the fishery for exclusive use of state owned lands. In order to meet this objective WDNR used the opportunity to solicit the stakeholders and to establish a razor clam workgroup to advise WDNR on the management framework for the following season in 2011. At the meeting members representing the industry and fishers were selected (from those who volunteered) to join the WDNR razor clam workgroup. The makeup of the workgroup consists of one representative from WDNR and WDFW and two representatives each from harvesters and buyers.

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 whenever 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 2010 to eliminate any uncertainty.

Biotoxin Sampling

Before the fishery opens the Washington Department of Health (WDOH) protocols require that 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 were collected for biotoxin testing from one site on the spits beginning in mid April. Monitoring of biotoxin levels continues once the fishery is underway with fishery samples collected from dealers every seven to ten days (Table 1). Domoic acid levels remained low throughout the season and were not an issue while the fluctuating PSP levels did cause some concern to WDOH. The first in-season sample collected on May 4, 2010 showed an elevated PSP level of $74 \mu\text{g}/100\text{g}$, almost twice what pre-season samples measured and close to the action level of $80 \mu\text{g}/100\text{g}$. This rapid rise in PSP raised the possibility that the fishery could be closed so WDOH asked that another sample be obtained and analyzed as soon as possible. This subsequent sample on May 10, 2010 showed a level more consistent with the pre-season samples and the fishery remained open. PSP levels remained consistent throughout the remainder of the 2010 season until the last sample obtained five days before the season’s end date was measured at $78 \mu\text{g}/100\text{g}$, only $2 \mu\text{g}/100\text{g}$ below the action level.

Table 1. 2010 Commercial Razor Clam Fishery Biotoxin Results.

Collection Date	Sample Type	PSP Result ($\mu\text{g}/100\text{g}$)	Domoic Result (ppm)
14-Apr	Pre-Season	43	<1
27-Apr	Pre-Season	38	1
04-May	Fishery Sample	74	1
10-May	Fishery Sample	57	1
18-May	Fishery Sample	<38	1
25-May	Fishery Sample	65	2
01-Jun	Fishery Sample	41	2
08-Jun	Fishery Sample	50	1
14-Jun	Fishery Sample	55	2
22-Jun	Fishery Sample	68	1
30-Jun	Fishery Sample	60	1
06-Jul	Fishery Sample	57	1
12-Jul	Fishery Sample	78	1

Fishing Season

The 2010 season opened on May 3rd and was scheduled to last eight weeks, ending on July 3rd. Due to poor weather in March and April the coastal recreational razor clam season scheduled an additional two days of harvest on May 15 and 16. 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 3rd.

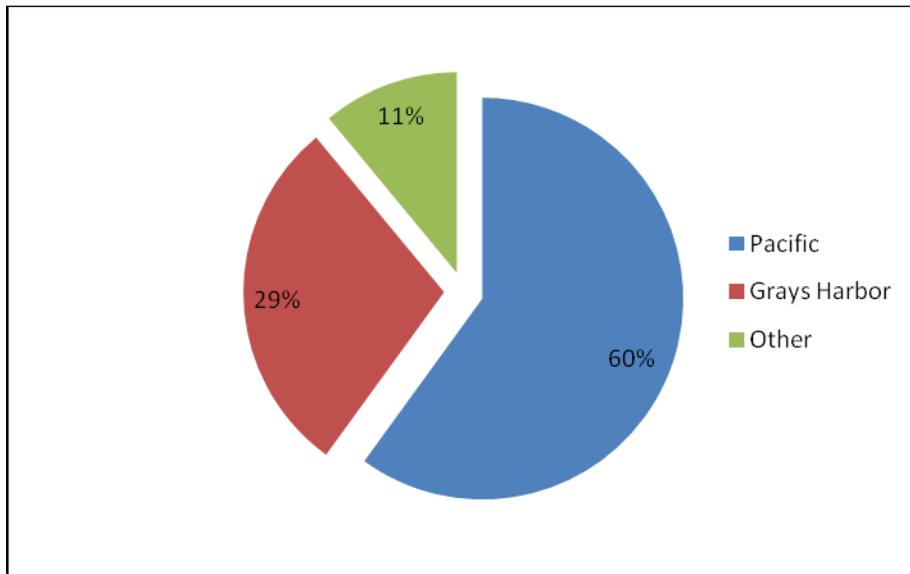
Clam abundance was generally good throughout the season although poor weather in May and early June made digging conditions difficult and likely impacted landings and catch per unit of effort (CPUE). In poor weather some of the harvesters with larger boats can participate in the fishery but many that 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 227,595 lbs of razor clams were landed which was the second highest volume recorded. Due to this volume of clams already purchased, interest by buyers in obtaining additional clams during an extension was poor. Fortunately for the harvesters, the one buyer which purchased the majority of all clams sold indicated their willingness to purchase all 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) a willing buyer, WDFW allowed for a two week extension, ending the fishery on July 17th.

Licenses

A record number of 207 licenses were issued in 2010, of these 184 were actively fished. As in past years, diggers were predominantly residents of Pacific (60%) and Grays Harbor (29%) counties (Figure 1). License sales were relatively stable from 2004 thru 2007 and have been increasing since then (Table 2, Figure 2). The past two years have seen license sales almost double. It is suspected the increase in participation in this fishery is due to current poor economic conditions and high local unemployment - Pacific County's unemployment rate at the time of the fishery was 13% - the 7th highest in the state, with neighboring Grays Harbor County the 5th highest.

Figure 1. Residence of 2010 Commercial Razor Clam Diggers by County.



Fishery Landings

In total, the fishery landed a record 266,834 pounds of razor clams during the 74-day season (Tables 2, 3). The total direct value to diggers (ex-vessel value) was \$431,519. Clams were landed on 72 days of the 74 day season; on average 42 diggers each landed about 88 pounds of clams per day (Figure 2). There were 257 personal use take home limits, which comprised 8.5% of the 3,019 landings. In the 2009 season take home limits were 14.8% 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 3). 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 stable over the past seven years as indicated by the nearly flat regression line fitted to the CPUE data (Figure 2).

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	"	"

Table 3. 2010 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
03-May	Monday	-0.2	11:24 AM	16	828	52	0
04-May	Tuesday	+0.4	12:13 PM	57	4,754	83	6
05-May	Wednesday	+0.9	1:06 PM	58	4,603	79	1
06-May	Thursday	+1.3	2:02 PM	59	4,824	82	2
07-May	Friday	+1.6	2:57 PM	41	3,412	83	4
08-May	Saturday	+1.9	3:50 PM	43	2,679	62	4
09-May	Sunday	+2.1	4:38 PM	0	0	-	0
10-May	Monday	+1.0	5:34 AM	6	270	45	0
11-May	Tuesday	+0.2	6:16 AM	25	2,422	97	1
12-May	Wednesday	-0.5	6:56 AM	79	7,265	92	0
13-May	Thursday	-1.1	7:35 AM	98	8,990	92	2
14-May	Friday	-1.5	8:15 AM	89	8,367	94	1
15-May	Saturday	-1.8	8:56 AM	CLOSED	CLOSED	CLOSED	CLOSED
16-May	Sunday	-1.8	9:39 AM	CLOSED	CLOSED	CLOSED	CLOSED
17-May	Monday	-1.7	10:24 AM	91	8,936	98	9
18-May	Tuesday	-1.4	11:12 AM	66	6,059	92	3
19-May	Wednesday	-0.9	12:04 PM	21	1,415	67	1
20-May	Thursday	-0.3	12:59 PM	24	1,432	60	1
21-May	Friday	+0.3	1:57 PM	54	3,296	61	6
22-May	Saturday	+0.9	2:56 PM	36	2,312	64	4
23-May	Sunday	+1.5	3:55 PM	15	956	64	1
24-May	Monday	+1.9	4:51 PM	25	1,502	60	0
25-May	Tuesday	-1.0	5:58 AM	46	2,382	52	1
26-May	Wednesday	-1.6	6:46 AM	75	6,002	80	4
27-May	Thursday	-1.9	7:31 AM	73	7,034	96	3
28-May	Friday	-1.9	8:13 AM	50	4,080	82	6
29-May	Saturday	-1.8	8:54 AM	65	5,615	86	2
30-May	Sunday	-1.5	9:34 AM	59	4,489	76	7
31-May	Monday	-1.1	10:14 AM	57	4,608	81	1
01-Jun	Tuesday	-0.6	10:54 AM	61	4,743	78	3
02-Jun	Wednesday	-0.1	11:34 AM	1	50	50	0
03-Jun	Thursday	+0.5	12:15 PM	56	4,277	76	5
04-Jun	Friday	+1.1	1:00 PM	30	2,091	70	0
05-Jun	Saturday	+1.7	1:48 PM	9	710	79	2
06-Jun	Sunday	+2.2	2:40 PM	4	286	72	1
07-Jun	Monday	+2.6	3:35 PM	5	366	73	0
08-Jun	Tuesday	+2.9	4:29 PM	26	1,922	74	1
09-Jun	Wednesday	-0.3	5:45 AM	48	3,444	72	1
10-Jun	Thursday	-1.0	6:30 AM	15	1,262	84	0

Date	Day	Tide (ft)	Time	Number Landings	Daily Total Landings (lbs)	CPUE (lbs per digger/day)	Take Home Limits
11-Jun	Friday	-1.7	7:13 AM	64	7,023	110	3
12-Jun	Saturday	-2.2	7:56 AM	71	6,862	97	4
13-Jun	Sunday	-2.5	8:39 AM	61	6,185	101	9
14-Jun	Monday	-2.5	9:23 AM	61	5,762	94	9
15-Jun	Tuesday	-2.3	10:07 AM	58	4,368	75	8
16-Jun	Wednesday	-1.8	10:53 AM	51	4,069	80	10
17-Jun	Thursday	-1.1	11:39 AM	47	4,341	92	3
18-Jun	Friday	-0.2	12:29 PM	42	3,845	92	7
19-Jun	Saturday	+0.7	1:21 PM	39	2,963	76	3
20-Jun	Sunday	+1.6	2:19 PM	2	142	71	1
21-Jun	Monday	+2.3	3:20 PM	6	398	66	0
22-Jun	Tuesday	+2.7	4:23 PM	30	2,653	88	0
23-Jun	Wednesday	-1.1	5:43 AM	38	3,376	89	4
24-Jun	Thursday	-1.5	6:32 AM	53	5,590	105	6
25-Jun	Friday	-1.7	7:17 AM	64	7,432	116	6
26-Jun	Saturday	-1.7	7:58 AM	51	5,609	110	8
27-Jun	Sunday	-1.6	8:36 AM	50	5,721	114	4
28-Jun	Monday	-1.4	9:13 AM	51	5,612	110	7
29-Jun	Tuesday	-1.1	9:47 AM	60	6,236	104	9
30-Jun	Wednesday	-0.7	10:21 AM	53	5,661	107	8
01-Jul	Thursday	-0.2	10:58 AM	34	3,281	97	3
02-Jul	Friday	+0.5	11:32 AM	20	1,405	70	2
03-Jul	Saturday	+1.1	12:07 PM	13	1,378	106	2
04-Jul	Sunday	+1.8	12:47 PM	0	0	-	0
05-Jul	Monday	+2.5	1:34 PM	2	130	65	0
06-Jul	Tuesday	+3.0	2:32 PM	2	109	55	0
07-Jul	Wednesday	+0.4	4:21 AM	12	1,002	84	0
08-Jul	Thursday	-0.4	5:17 AM	28	2,387	85	5
09-Jul	Friday	-1.1	6:08 AM	39	3,755	96	7
10-Jul	Saturday	-1.8	6:55 AM	53	6,300	119	7
11-Jul	Sunday	-2.3	7:40 AM	50	5,829	117	6
12-Jul	Monday	-2.6	8:24 AM	38	4,197	110	4
13-Jul	Tuesday	-2.6	9:07 AM	51	4,856	95	8
14-Jul	Wednesday	-2.2	9:49 AM	50	4,402	88	8
15-Jul	Thursday	-1.6	10:32 AM	33	2,219	67	3
16-Jul	Friday	-0.7	11:15 AM	35	2,398	69	7
17-Jul	Saturday	+0.3	12:00 PM	24	1,655	69	3
Totals				3,019	266,834	88	257
Ex-Vessel Value					\$ 431,519		

Figure 2. 2004-2010 Season Length, CPUE, and Licensed Diggers

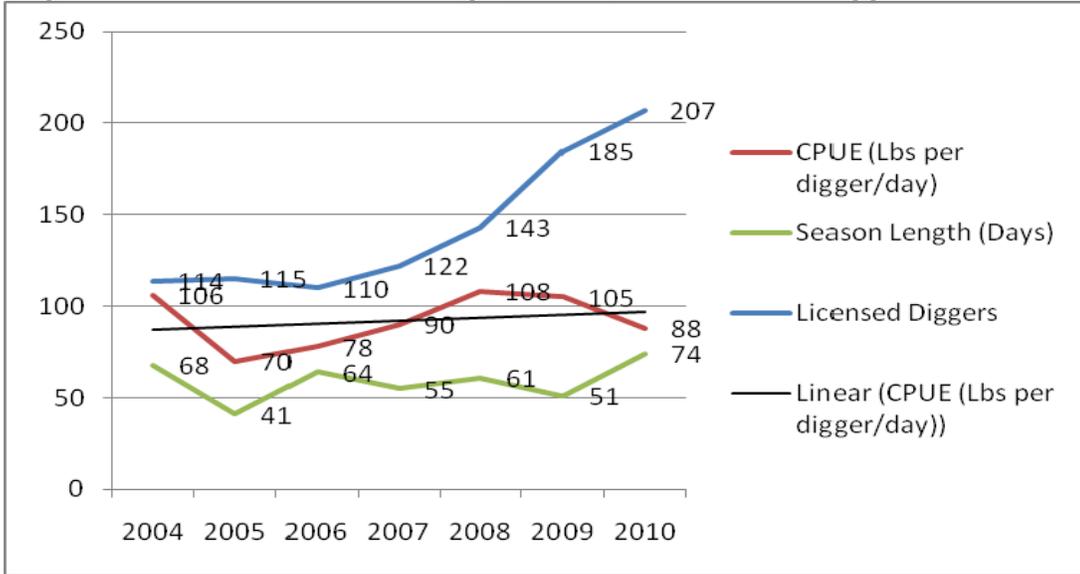
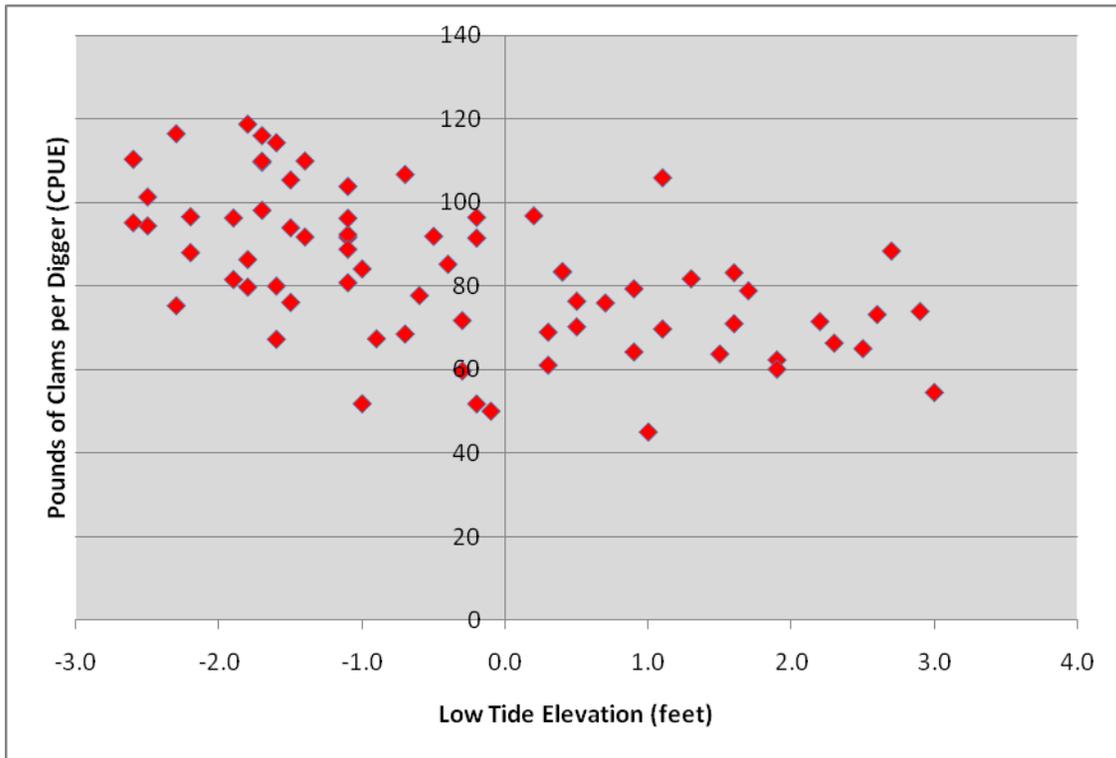


Figure 3. Daily Pounds of Clams Dug per Person (CPUE) and Tide Elevation



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.

Figure 4. Commercial Razor Clam Harvesters.



Figure 5. Commercial Razor Clam Harvesters.

