Summary Report of the 2013 Commercial Fishery for Razor Clams *(Siliqua patula)*

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WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW)
SUMMARY OF THE 2013 COMMERCIAL FISHERY
FOR RAZOR CLAMS *(Siliqua patula)*

Fishery Objectives and Preseason Planning

A public meeting was held in late March 2013 for commercial diggers and razor clam buyers at Raymond High School. Major discussion topics covered during the meeting were the season opening date and duration, and the implementation of a fee by the Washington Department of Natural Resources (DNR) for Right of Entry Agreements (ROE) for the 2013 season.

At the meeting WDFW announced it was continuing with the changes implemented last year designed to stabilize the opening date of the fishery and season length. In past years, three factors largely determined 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 opened only after the end of the recreational fishery. WDFW believed that by separating the two fisheries it would make it more difficult for sport diggers to illegally dig, possess or sell commercial quantities of clams, and it also simplifies recovering clams in the event of a Washington Department of Health (DOH) product recall. In addition, because the Willapa Spits were legally open to sport harvest when Long Beach is open, keeping the fisheries separate was a way to prevent a potential influx of sport harvesters on the spits while a commercial fishery is underway.

In the past few years the recreational razor clam seasons have been extended well into May due to lower than expected effort/catch levels. This lower catch is not due to a lack of clams but due to poor weather conditions during scheduled recreational digs which limit digger success. As a result the commercial season opener has varied from year to year to accommodate the later recreational digs and the fishery itself has been closed in-season to digging when recreational harvest occurs. The constantly shifting opening date and in-season closures has resulted in much uncertainty for processors and harvesters alike. WDFW was often able to give a general time frame on when the season could open and often the official notice to participants was often only a few days from the actual opener.

In order to create a stable and orderly commercial fishery WDFW decided that beginning in 2012 the commercial fishery will open for eight weeks on May 1 of each year regardless of the status of the recreational fishery. May 1 is a compromise date as some diggers want to begin in mid-April when clam condition is excellent and some diggers expressed interest in a later start in mid-May when the weather is generally better. The processors generally supported a May 1 start. To avoid any conflicts between the two fisheries WDFW has removed the detached spits from the definition of Razor Clam Area 1 (Long Beach) and given it its own separate area, Razor Clam Area 2. (See: http://apps.leg.wa.gov/wac/default.aspx?cite=220-56-360.) This prohibits any recreational harvest on the detached spits during commercial openers and allows both fisheries to run concurrently. At the March 2013 industry meeting it was announced the season would open on May 1, 2013 (pending biotoxin results) and would end on Friday June 28, 2013.

DNR continued to require each individual digger to obtain a Right of Entry Agreement (ROE), a process that was first proposed in 2011 and implemented in 2012. Prior to that, only WDFW

was required to obtain an Aquatic Lands ROE from DNR to conduct the commercial fishery at the Willapa spits, which are state-owned aquatic lands. As the proprietor of these state-owned tidelands, DNR manages the uses that take place on these lands. To fulfill this role, DNR is required to consider the potential long-term impacts of activities, authorize access, and seek compensation for use of the public's natural resources, especially when used for commercial purposes. In 2012 ROE's were issued at no cost to harvesters. The major change by DNR for the 2013 season was the establishment of a $100 fee for each ROE issued.

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 six 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 2013 to eliminate any uncertainty.

Biotoxin Sampling

Before the fishery opens the Washington Department of Health (DOH) protocols require two sets of razor clam samples be collected and results of the marine biotoxin tests must be below the federally established 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 (µg/100g) for paralytic shellfish poisoning (PSP). Razor clams for pre-season biotoxin testing collected from one site on the spits in mid-April tested under the action levels (Table 1). Monitoring of biotoxin levels continues once the fishery is underway with fishery samples collected from dealers every seven to ten days. In late May, DOH started regular testing of razor clams for the marine biotoxin that causes Diarrheic Shellfish Poisoning (DSP). The federal action level for DSP is 16 micrograms per 100 grams of meat tested. Levels for all three toxins were low throughout the season and were not an issue.

Table 1. 2013 Commercial Razor Clam Fishery Biotoxin Results.

Collection Date	Sample Type	PSP Result (µg/100g)	Domoic Result (ppm)	DSP Result (µg/100g)
4/15/13	Pre-Season	NTD	1	-
4/24/13	Pre-Season	NTD	<1	-
5/01/13	Fishery Sample	<38	<1	-
5/08/13	Fishery Sample	NTD	<1	-
5/15/13	Fishery Sample	NTD	1	-
5/22/13	Fishery Sample	NTD	<1	-
5/29/13	Fishery Sample	NTD	<1	<1
6/05/13	Fishery Sample	NTD	<1	<1
6/12/13	Fishery Sample	NTD	<1	<1
6/20/13	Fishery Sample	NTD	<1	NTD
6/27/13	Fishery Sample	NTD	1	NTD
7/07/13	Fishery Sample	NTD	1	NTD

Fishing Season

The 2013 season opened on May 1st and was scheduled to last eight weeks, ending on June 28th. Clam abundance was good throughout the season although as in the past few years, 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 stable clam abundance, interest by diggers, and a willing buyer(s). During the eight week regular season 204,628 lbs of razor clams were landed which by itself would rank as the 4th highest catch. Given the lower catch in 2012 (133,444 lbs total) the demand for clams in 2013 was very high. Therefore, interest by buyers in obtaining additional clams during an extension was very good with six buyers indicating 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, 2) the stable CPUE during the season, and 3) willing buyers, WDFW allowed for a thirteen day extension, ending the fishery on July 12th.

Licenses

In 2013 124 licenses were sold and of these, 121 were actively fished. This is an increase from the 105 licenses sold in 2012. License sales were relatively stable from 2004 thru 2008 and increased in 2009 and 2010 before falling in 2011 and 2012 (Table 2, Figure 2). The big drop in license sales were likely from a combination of factors including: 1) an improved economy which has allowed past participants to pursue other job opportunities 2) an increase in the WDFW license fee from $130 to $235 which may of priced some diggers out of the fishery and 3) implementation of the DNR individual harvester right of entry permit which may of discouraged some diggers from participating. Given the status of the fishery at this time we expect the effort level to remain close to the 2013 levels for the next few years. As in past years, diggers were predominantly residents of Pacific (55%) and Grays Harbor (32%) counties (Figure 1).

Figure 1. Residence of Commercial Razor Clam Diggers by County (2011-2013).

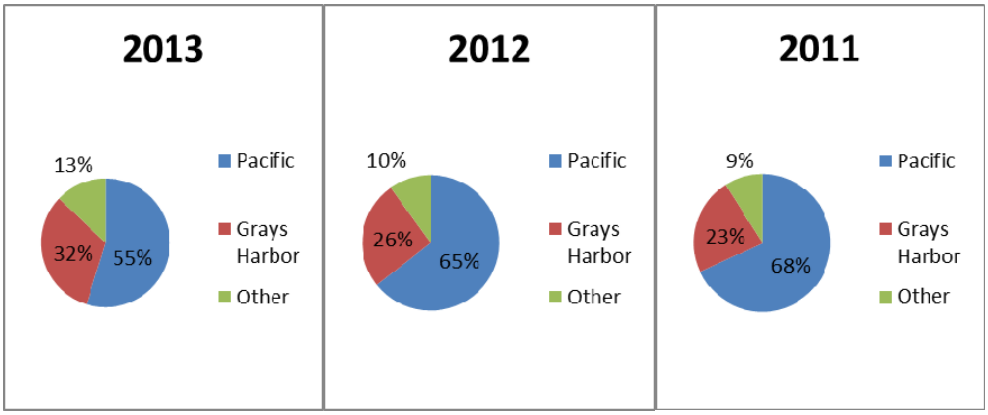
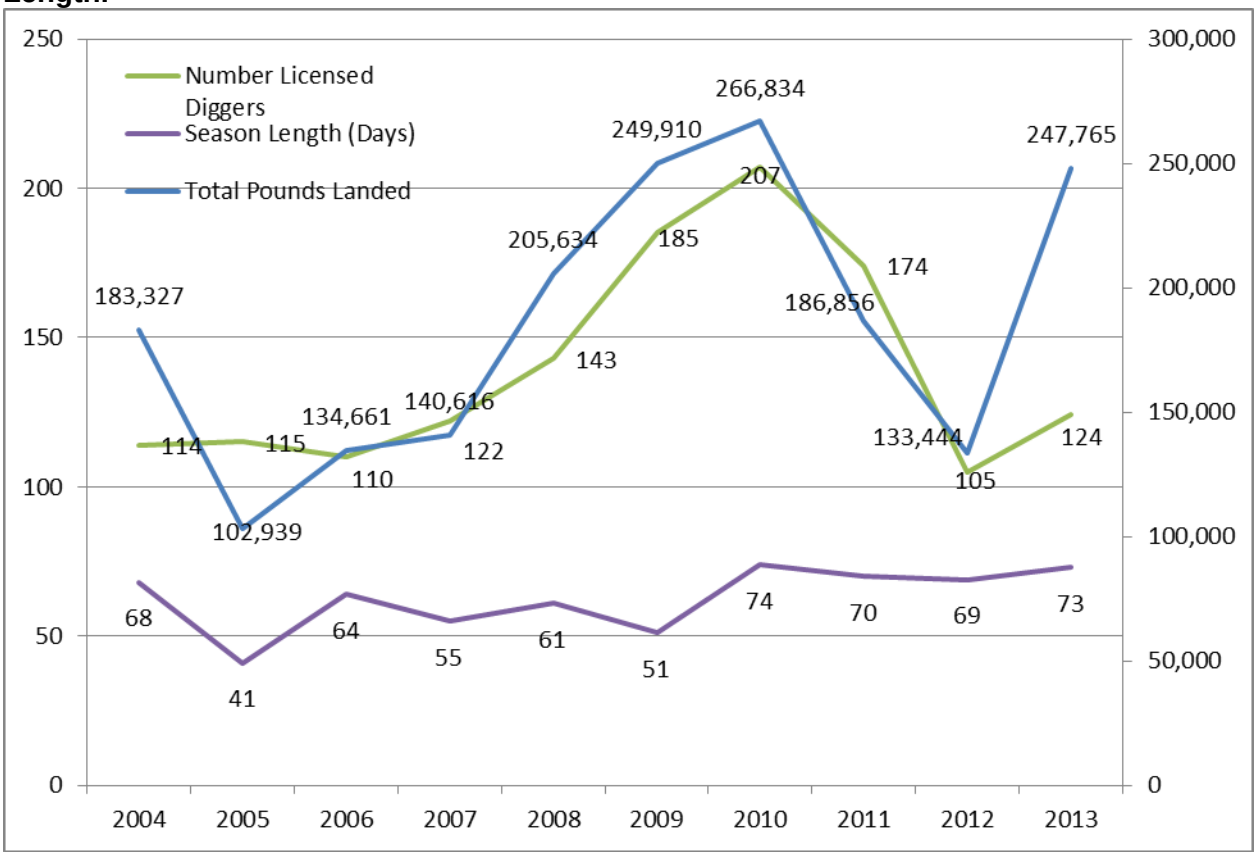


Figure 2. 2004-2013 Total Pounds Landed vs. Number of Licensed Diggers and Season Length.



Fishery Landings

In total, the fishery landed 247,765 pounds of razor clams during the 73-day season which places it as the third highest season on record (Tables 2, 3). The total direct value to diggers (ex-vessel value) was $579,159 which is an all-time record for this fishery. This amount is over twice the value of the 2012 fishery. Depending upon the buyer the price paid for most razor clams started out at $1.75 to $2.00 per pound which soon went to $2.25 – $2.50 for the majority of the season. Prices paid during the 2013 season ranged from $1.60 to $2.75 per pound with an average price of $2.34 per pound. Clams were landed on 72 days of the 73 day season; on average 36 diggers each day landed about 93 pounds of clams per day (Figure 3). There were 309 personal use take home limits, which comprised 14.6% of the 2,665 landings. In the 2011 and 2012 seasons take home limits were 13.4% and 18.4% of the landings respectively.

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 but trending downward over the past eight years as indicated by the negative slope regression line fitted to the CPUE data (Figure 3).

Figure 3. 2004 – 2013 Average Number of Diggers Per day and Catch Per Unit Effort

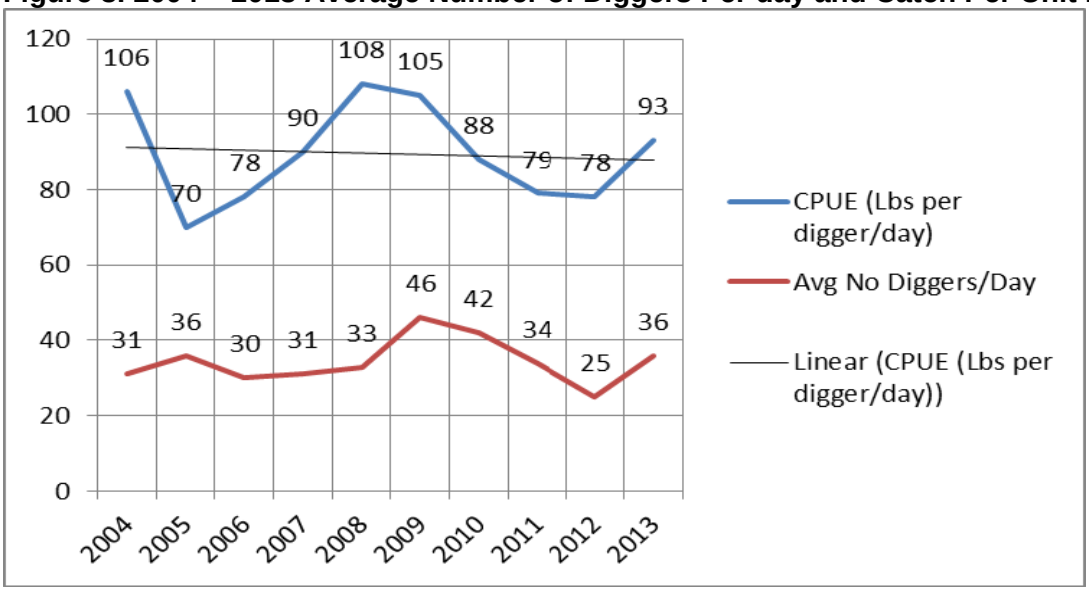


Figure 4. 2013 Daily Pounds of Clams Dug per Person (CPUE) and Tide Elevation

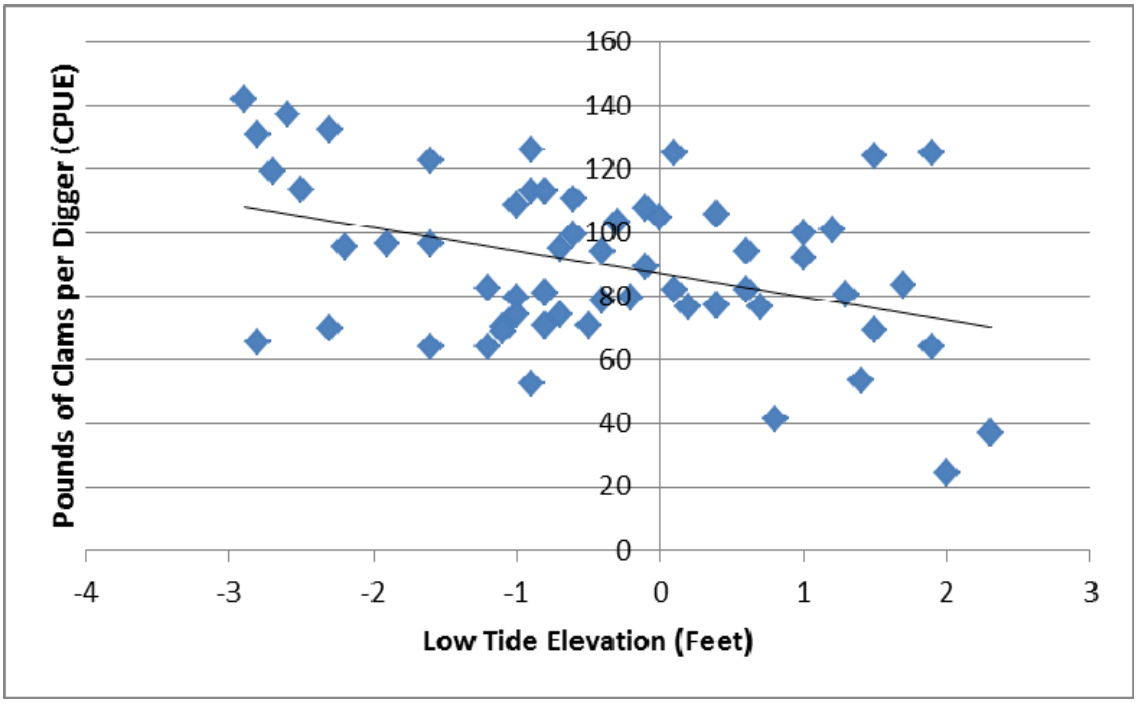


Table 2. Commercial Razor Clam: Harvest Totals, Value, Season Length and Licenses.

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	$130	$180
96	25,188	$29,295	37	-	110	1	$14,350	$130	$180
97	2,849	$3,579	21	-	28	3	$3,790	$130	$180
98	4,485	$6,558	24	-	40	0	$5,200	$130	$180
99	**Domoic Acid Closure**								
00	69,595	$84,106	51	-	79	0	$10,270	$130	$180
01	75,744	$77,439	47	62	97	0	$12,610	$130	$180
02	119,777	$118,349	46	97	105	0	$13,650	$130	$180
03	17,474	$21,169	18	40	44	0	$5,720	$130	$180
04	183,327	$269,139	68	112	114	0	$14,820	$130	$180
05	102,939	$154,746	41	112	115	3	$15,490	$130	$180
06	134,661	$199,469	64	103	110	0	$14,300	$130	$180
07	140,616	$211,118	55	119	122	1	$16,040	$130	$180
08	205,634	$355,705	61	108	143	0	$18,590	$130	$180
09	249,910	$407,130	51	164	185	4	$24,250	$130	$180
10	266,834	$431,519	74	184	207	2	$27,010	$130	$180
11	186,856	$327,022	70	155	174	3	$22,770	$130	$180
12	133,444	$262,611	69	104	105	2	$24,785	$235	$290
13	247,765	$579,159	73	121	124	2	$29,250	$235	$290

Table 3. 2013 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
1-May	Wednesday	-0.5	12:36	38	2,683	71	6
2-May	Thursday	+0.1	13:38	37	3,038	82	4
3-May	Friday	+0.6	14:42	28	2,632	94	9
4-May	Saturday	+1.0	15:44	20	1,844	92	5
5-May	Sunday	+1.3	16:40	9	726	81	1
6-May	Monday	+0.6	5:36	10	818	82	2
7-May	Tuesday	-0.1	6:23	46	4,107	89	4
8-May	Wednesday	-0.6	7:06	48	5,308	111	4
9-May	Thursday	-0.9	7:44	46	5,783	126	6
10-May	Friday	-1.0	8:21	49	5,315	108	5
11-May	Saturday	-0.9	8:56	42	4,740	113	8
12-May	Sunday	-0.8	9:32	37	4,167	113	1
13-May	Monday	-0.6	10:07	27	2,686	99	0
14-May	Tuesday	-0.3	10:45	54	5,578	103	5
15-May	Wednesday	+0.1	11:25	42	5,256	125	6
16-May	Thursday	+0.4	12:08	38	4,006	105	6
17-May	Friday	+0.8	12:57	7	290	41	1
18-May	Saturday	+1.2	13:49	20	2,018	101	7
19-May	Sunday	+1.5	14:46	19	2,356	124	2
20-May	Monday	+1.7	15:43	8	668	84	1
21-May	Tuesday	+1.9	16:38	10	640	64	0
22-May	Wednesday	-0.2	5:42	38	3,026	80	2
23-May	Thursday	-1.2	6:31	56	4,607	82	8
24-May	Friday	-1.9	7:18	58	5,598	97	7
25-May	Saturday	-2.5	8:05	67	7,604	113	8
26-May	Sunday	-2.7	8:53	54	6,426	119	8
27-May	Monday	-2.6	9:40	7	961	137	0
28-May	Tuesday	-2.2	10:29	45	4,300	96	1
29-May	Wednesday	-1.6	11:19	54	5,213	97	7
30-May	Thursday	-0.9	12:11	46	2,412	52	7
31-May	Friday	-0.1	13:06	41	4,407	107	8
1-Jun	Saturday	+0.7	14:03	40	3,064	77	10
2-Jun	Sunday	+1.4	15:01	26	1,382	53	4
3-Jun	Monday	+1.9	15:59	1	125	125	0
4-Jun	Tuesday	+0.2	5:15	20	1,527	76	6
5-Jun	Wednesday	-0.4	6:03	60	4,703	78	11
6-Jun	Thursday	-0.8	6:46	59	4,777	81	4

Table 3. 2013 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
7-Jun	Friday	-1.0	7:25	56	4,461	80	8
8-Jun	Saturday	-1.1	8:01	53	3,726	70	6
9-Jun	Sunday	-1.2	8:36	55	3,505	64	9
10-Jun	Monday	-1.1	9:10	45	3,088	69	6
11-Jun	Tuesday	-1.0	9:44	46	3,420	74	4
12-Jun	Wednesday	-0.7	10:19	33	2,452	74	5
13-Jun	Thursday	-0.4	10:55	42	3,951	94	5
14-Jun	Friday	+0.0	11:32	37	3,872	105	8
15-Jun	Saturday	+0.4	12:13	44	3,392	77	8
16-Jun	Sunday	+1.0	12:59	26	2,593	100	4
17-Jun	Monday	+1.5	13:52	17	1,182	70	3
18-Jun	Tuesday	+2.0	14:51	3	73	24	1
19-Jun	Wednesday	+2.3	15:54	7	257	37	0
20-Jun	Thursday	-0.7	5:17	44	4,177	95	2
21-Jun	Friday	-1.6	6:10	51	6,241	122	3
22-Jun	Saturday	-2.3	7:01	63	8,317	132	7
23-Jun	Sunday	-2.8	7:49	61	7,984	131	8
24-Jun	Monday	-2.9	8:37	45	6,388	142	3
25-Jun	Tuesday	-2.8	9:23	27	1,770	66	2
26-Jun	Wednesday	-2.3	10:10	47	3,285	70	0
27-Jun	Thursday	-1.6	10:56	36	2,308	64	2
28-Jun	Friday	-0.8	11:42	48	3,395	71	5
Regular Season Totals				**2,193**	**204,628**	**93**	**273**
29-Jun	Saturday	+0.2	12:31	37	2,594	70	3
30-Jun	Sunday	+1.1	13:22	19	807	42	4
1-Jul	Monday	+1.9	14:17	-	-	-	-
2-Jul	Tuesday	+2.5	15:17	2	160	80	0
3-Jul	Wednesday	+0.2	4:47	25	1,773	71	3
4-Jul	Thursday	-0.2	5:39	37	3,178	86	0
5-Jul	Friday	-0.6	6:23	29	3,069	106	3
6-Jul	Saturday	-0.8	7:03	46	5,017	109	2
7-Jul	Sunday	-1.0	7:40	47	5,029	107	3
8-Jul	Monday	-1.2	8:14	51	5,565	109	3
9-Jul	Tuesday	-1.1	8:47	52	5,510	106	3
10-Jul	Wednesday	-0.8	9:20	47	3,761	80	3
11-Jul	Thursday	-0.5	9:52	41	3,275	80	4
12-Jul	Friday	-.05	10:25	39	3,339	87	4

	Number Landings	Pounds Landed	CPUE	Take Home Limits
Extended Season Totals	**472**	**43,137**	**91**	**36**

Grand Totals	**2,665**	**247,765**	**93**	**309**

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.

The high demand for razor clams in 2013 resulted in an influx of new buyers. Some of these buyers were unaware of the DOH certification and licensing requirements for purchasing razor clams. In one instance clams purchased by a buyer not certified by DOH were seized by WDFW enforcement officers. An additional problem that arose from the new buyers was that harvesters (wanting the best price for their clams) would sell to these buyers before they had completed the proper registration protocol. The established protocol for the fishery is that diggers contact a company and get on their "digger" list. Each harvester can be registered with up to two companies at one time. This act of being registered with a buyer fulfills the requirement for DOH certification as the digger leaves the beach with their catch untagged with certification tags. If a digger is harvesting clams for a company they are not registered with, then those clams can be seized by WDFW enforcement officers for not being DOH certified. Given the number of diggers who ignored the protocols and to maintain order in the fishery, WDFW and DOH decided to allow harvesters to sell clams to buyers not listed on their commercial razor clam license only if the new buyer provided them with DOH certification tags prior to going digging. For those diggers the certification tags had to be fixed to their buckets, from harvest to delivery. DOH and WDFW will be looking at this certification process more closely to determine if changes are needed to ensure that clams can be tracked for the public's safety.

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 2013 the percentage sold fresh was around 13% while in 2012 it was about 9%. While the overall market for fresh clams was strong in 2012 (due to lower landings in Alaska and Canada) the lower percentage that year was attributed to clam size and condition which resulted in lower recoveries in meat opening making it economically unfeasible for some processors. 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. 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.