



Summary Report of the 2017 Commercial Fishery for Razor Clams (*Siliqua patula*)

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September 2017

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WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW)
SUMMARY OF THE 2017 COMMERCIAL FISHERY
FOR RAZOR CLAMS (*Siliqua patula*)

Fishery Objectives and Preseason Planning

Similar to 2016, elevated levels of domoic acid on the adjacent recreational beaches prompted fishery managers to conduct biotoxin sampling on the Willapa spits earlier than in previous years. Due to the unlikelihood of the fishery opening in the spring of 2017 no public meeting was held. Fishery managers relied on the razor clam hotline, commercial razor clam web page and email distribution list to share biotoxin results and sampling plans. Pre-season test results indicated relatively high levels of domoic acid were present in clams. Given the slow depuration rate and the time need to collect additional biotoxin samples a season delay was announced in early March. When it became apparent that a spring fishery was not going to open fishery managers continued to explore the possibility of a fall fishery, unfortunately persistent domoic acid levels above the regulatory limit through the summer and fall meant a fishery was never realized in 2017. After receiving a number of requests from individuals over the course of the year a public meeting will be announced in 2018.

Biotoxin Sampling

Before the fishery opens, the Washington Department of Health (WDOH) 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 apart and before the planned opener. Each sample collected must test below 20 parts per million (ppm) for domoic acid (DA), below 80 micrograms per 100 grams of meat tested ($\mu\text{g}/100\text{g}$) for Paralytic Shellfish Poisoning (PSP) and below 16 micrograms per 100 grams of meat tested for Diarrheic Shellfish Poisoning (DSP). Domoic acid (DA) is produced by the diatom *Pseudo-nitzschia* (P-n), PSP is caused by the dinoflagellate *Alexandrium*, and DSP is caused by the dinoflagellate *Dinophysis*. Monitoring of biotoxin levels continues once the fishery is underway with fishery samples collected from dealers every seven to ten days.

Biotoxins have impacted the commercial razor clam fishery in the past. Commercial harvest in 1992, 1993, 1999, and 2015-2017 (Table 5). In 2017 the first razor clam biotoxin sample was collected from the Willapa Spits on February 7th with results well above the action level. Results from an expanded set of samples collected in March showed little improvement and a season delay was announced. Given the significant increase of DA in clams in April no sampling was conducted in May. Sampling efforts resumed in June however results showed little sign of improvement which was discouraging for the possibility of a fall opener. The last round of biotoxin sampling was conducted in August resulting in one of the three areas testing above the action level for domoic acid. At this time, managers announced that there would be no season in 2017.

Table 1. 2017 Commercial Razor Clam Fishery Biotoxin Results.

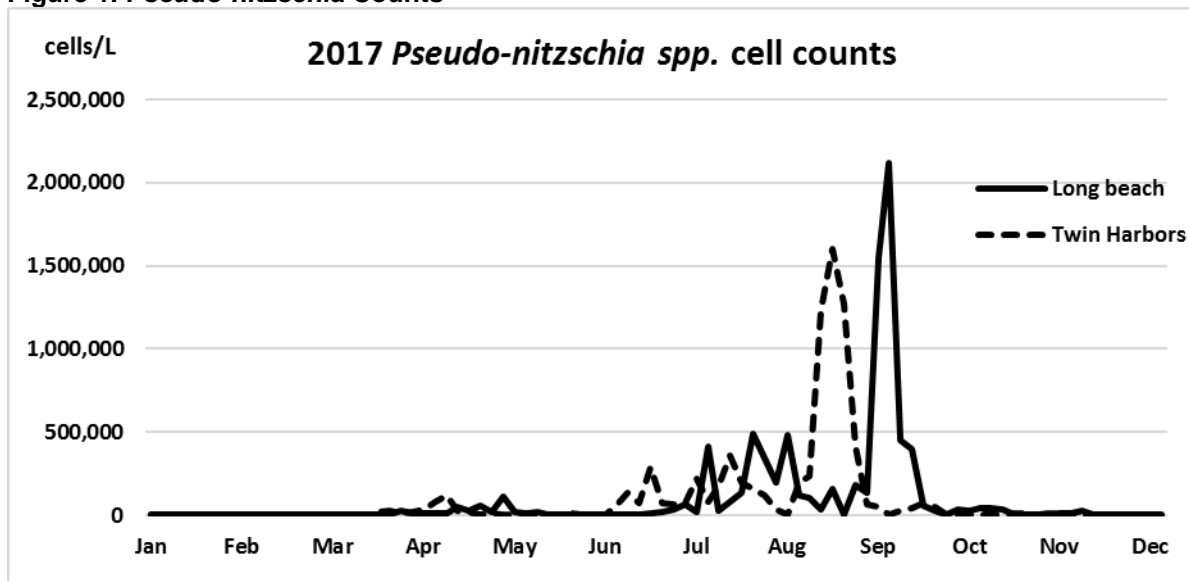
Collection Date	Sample Type	Area	PSP Result (µg/100g)	Domoic Result (ppm)	DSP Result (µg/100g)
2/7/17	Pre-Season	Leadbetter Spit	<38	52	-
3/8/17	Pre-Season	Schuttie Spit	<38	28	NTD
3/8/17	Pre-season	Leadbetter Spit	39	19	NTD
3/8/17	Pre-season	240 Spit	NTD	36	NTD
4/1/17	Pre-season	Schuttie Spit	<38	12	NTD
4/1/17	Pre-season	Leadbetter Spit	38	14	NTD
4/1/17	Pre-season	240 Spit	NTD	32	NTD
4/30/17	Pre-season	Schuttie Spit	38	37	NTD
4/30/17	Pre-season	Leadbetter Spit	40	41	NTD
4/30/17	Pre-season	240 Spit	<38	44	NTD
6/12/17	Pre-season	Schuttie Spit	46	17	NTD
6/12/17	Pre-season	Leadbetter Spit	47	25	NTD
6/12/17	Pre-season	240 Spit	47	34	NTD
8/7/17	Pre-season	Schuttie Spit	<38	6	-
8/7/17	Pre-season	Leadbetter Spit	<38	23	-
8/7/17	Pre-season	240 Spit	43	6	-

Action level: PSP 80µg/100g, Domoic 20ppm, DSP 16 µg/100g

Phytoplankton Monitoring

WDFW conducts routine monitoring of the surf zone phytoplankton assemblage as part of the Olympic Region Harmful Algal Bloom (ORHAB) project. This monitoring program provides resource managers an early warning on harmful algal bloom events. The *Pseudo-nitzschia* cell counts taken on the ocean beaches at Long Beach (6 miles south of the detached spits) and at Twin Harbors (8 miles north of the detached spits) are shown in Figure 1. In the spring of 2017 cell counts began to increase slightly, it must be noted that DA levels in clam tissue were elevated prior to the first increase of *Pseudo-nitzschia* (P-n) cells on adjacent beaches. Despite relatively low cell counts, at or slightly below the action level (50,000 cell/L), the P-n cells contained a significant amount of particulate domoic acid resulting in an increase of DA razor clam tissue in April. Cell counts remained elevated through much of summer with a number of samples at or above the action level. In September cell counts increased significantly (> 2 million cells/L) however particulate domoic acid values remained low during this time.

Figure 1. *Pseudo-nitzschia* Counts



*Alert level = 50,000 cells/L

Fishing Season

The 2017 season was never opened as planned on April 1st. Domoic acid levels above the regulatory limit persisted through the summer and fall. In August WDFW announced that the commercial season would not be opening in 2017.

Licenses

There were no licenses sold in 2017.

Fishery Landings

There were no landings made in 2017. In 2015 the fishery landed 67,915 pounds of razor clams during the 37-day season (Tables 5 & 6). This is the lowest harvest seen since 2003 which was also a season cut short by biotoxin closures. The total direct value to diggers (ex-vessel value) was \$112,799 which again was the lowest amount since 2003.

Table 1. 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
14	281,031	\$559,552	63	135	145	0	\$34,075	\$235	\$290
15*	67,915	\$112,799	37	118	132	0	\$30,550	\$235	\$290
16	Domoic Acid Closure								
17	Domoic Acid Closure								

* Season closed early due to domoic acid

Commercial Sales and Trends

Commercial buyers must be certified by the Washington Department of Health to purchase razor clams and the certification is renewed annually. Buyers must also have a WDFW wholesale dealer license and all razor clams purchased must be documented on shellfish receiving tickets. 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 and they purchase the majority of clams. In addition, some wholesale buyers 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. Generally, there are two to three buyers that fit these criteria each season.

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 as more and more clams are destined to the fresh market.

The percentage of razor clams sold on the fresh market has been slowly increasing over the past few years. Part of this stems from the development of new markets in Asia that use overnight air shipping. In order to take advantage of these new markets and maximize the value of the fishery the clams need to be in good condition (unspawned). Generally, as the season moves into June and early July most of the clams have spawned and are not suitable for the fresh market. In 2012 the percentage sold fresh was around 9%, in 2013 the percentage sold fresh was around 13% and in 2014 this increased to around 25%. It is estimated that the percentage of fresh sales in 2015 were at or below the 2014 levels.

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 to take advantage of stable seasons and strong production to develop retail markets locally and overseas however closures due to domoic acid have caused major disruptions in maintaining and increasing market development. In addition, 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.

