



Summary Report of the 2016 Commercial Fishery for Razor Clams (*Siliqua patula*)

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**WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (WDFW)
SUMMARY OF THE 2016 COMMERCIAL FISHERY
FOR RAZOR CLAMS (*Siliqua patula*)**

Fishery Objectives and Preseason Planning

After an abrupt end to the 2015 season due to biotoxins, which resulted in loss of over half of the available digging days as well as the recall of product, harvesters and buyers advised using caution when considering a season in 2016. Due to the unlikelihood of the fishery opening in the spring of 2016 no public meeting was held, instead fishery managers solicited individual harvesters and buyers for their input on the 2016 season. Harvesters remained optimistic that there may be some opportunity in 2016 but at the same time expressed concern about the potential loss of investment in license fees, and boat and equipment maintenance if the season was to but cut short again. Buyers had reservations about opening up the fishery with biotoxins levels so close to the closure level especially given the variability in recent samples. Ultimately, an emergency closure which could result in product recall was a given priority over lost revenue from no season at all. When it became apparent that a spring fishery was not going to open combined with buyer concerns with the poor post-spawning condition of clams harvested in the summer, fishery managers explored for the first time the option of a fall fishery. However, concerns over the continued poor condition of the clams and the occurrence of a new HAB event in the fall meant a fishery was never realized in 2016.

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, 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 Diarrhetic Shellfish Poisoning (DSP). Domoic acid (DA) is caused by the diatom *Pseudo nitzschia* (P-n), PSP is caused by the dinoflagellate *Alexandrium catenella*, 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 was closed due to elevated levels of domoic acid (Table 5). In 2015 an in season closure due to DA on May 8th caused WDOH to order all clams harvested on May 7th to be recalled and destroyed.

Table 1. 2016 Commercial Razor Clam Fishery Biotoxin Results.

Collection Date	Sample Type	PSP Result (µg/100g)	Domoic Result (ppm)	DSP Result (µg/100g)
02/10/2016	Pre-Season	<38	33	-
02/24/2016	Pre-Season	NTD	16	-
03/11/2016	Pre-Season	-	17	-
03/20/2016	Pre-season	<38	30	-
04/10/2016	Monitoring	NTD	36	NTD
04/10/2016	Monitoring	<38	27	NTD
04/10/2016	Monitoring	<38	14	NTD
04/10/2016	Monitoring	<38	27	NTD
05/11/2016	Monitoring	NTD	22	NTD
05/11/2016	Monitoring	<38	14	NTD
05/11/2016	Monitoring	39	31	<1
05/11/2016	Monitoring	<38	14	NTD
06/08/2016	Monitoring	<38	19	NTD
06/08/2016	Monitoring	<38	7	NTD
06/08/2016	Monitoring	41	14	NTD
06/08/2016	Monitoring	38	7	NTD

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

The first razor clam biotoxin sample from the Willapa Spits was collected on February 10th with results above the action level. The next two samples collected at the end of February and beginning of March were both below the action level of 20ppm which was encouraging for an on time season opener, however the next sample collected on March 20th was above the action level at 30 ppm DA. Recall that it takes two consecutive samples below the action level to open a fishery. On April 10th after a season delay had been announced staff collected an expanded set of samples from three different areas of the spits with results all above the action level. Clams continued to test above the action level until the first week in June when all three areas tested at or below 19 ppm DA.

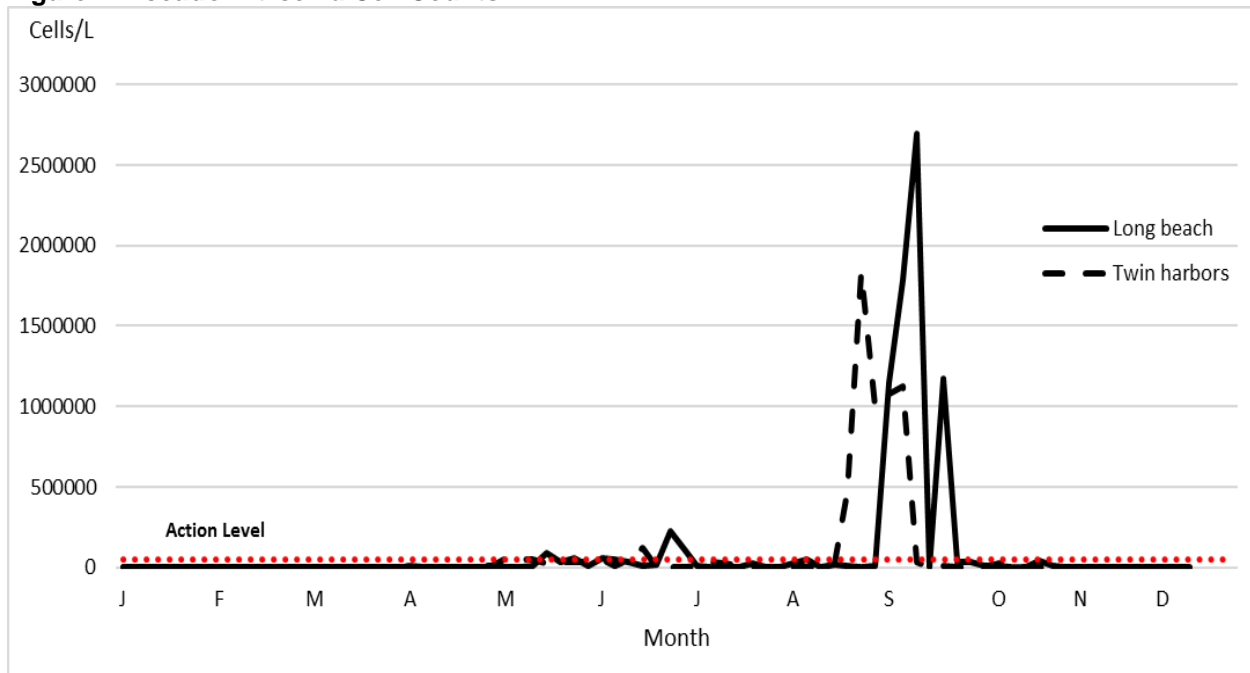
Phytoplankton Monitoring

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 2016 cell counts remained low, 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 in June. Near the end of June cell counts exceeded the action level (50,000 cells/L), however there was very little particulate DA measured in the cells. Cell counts remained relatively low, at or slightly below the action level, until the first week in September when counts quickly increased to over 2.5 million cells/L. By the end of September cell counts were back to nearly zero however a strong storm and south winds the first week of October pushed another bloom of P-n that had been

seen earlier as far north as Newport, OR into Washington waters resulting in yet another increase in DA in clams collected from the adjacent recreational beaches.

It is important to note that the HAB event that led to the closure of the Washington commercial razor clam fishery was very wide spread, also closed were the southern Washington and Oregon recreational beaches.

Figure 1. *Pseudo-nitzschia* Cell Counts



*Action level = 50,000 cells/L

Fishing Season

The 2016 season was never opened as planned on April 1st. Continued high levels of biotoxins above the action level persisted through the spring and summer. Clams were in poor condition due to spawning after biotoxins levels decreased below action level. In June WDFW announced that the commercial season would not be opening in 2016.

Licenses

There were no licenses sold in 2016.

Fishery Landings

There were no landings made in 2016. 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								

* 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. This trend was an important consideration in deciding the outcome of the 2016 season.

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 disruptions due to domoic acid have made it difficult to maintain and increase market development the previous two years. 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.

