

Washington Recreational Razor Clam Management Update

Region 6 Coastal Shellfish
Montesano, WA



The following presentation is designed to provide you with general information on the management of the recreational razor clam fishery in Washington and specific information on what to expect for the 2024-25 season.

Thanks for taking the time to view this presentation. Any specific comments or questions can be directed to : razorclams@dfw.wa.gov

Contents of this presentation

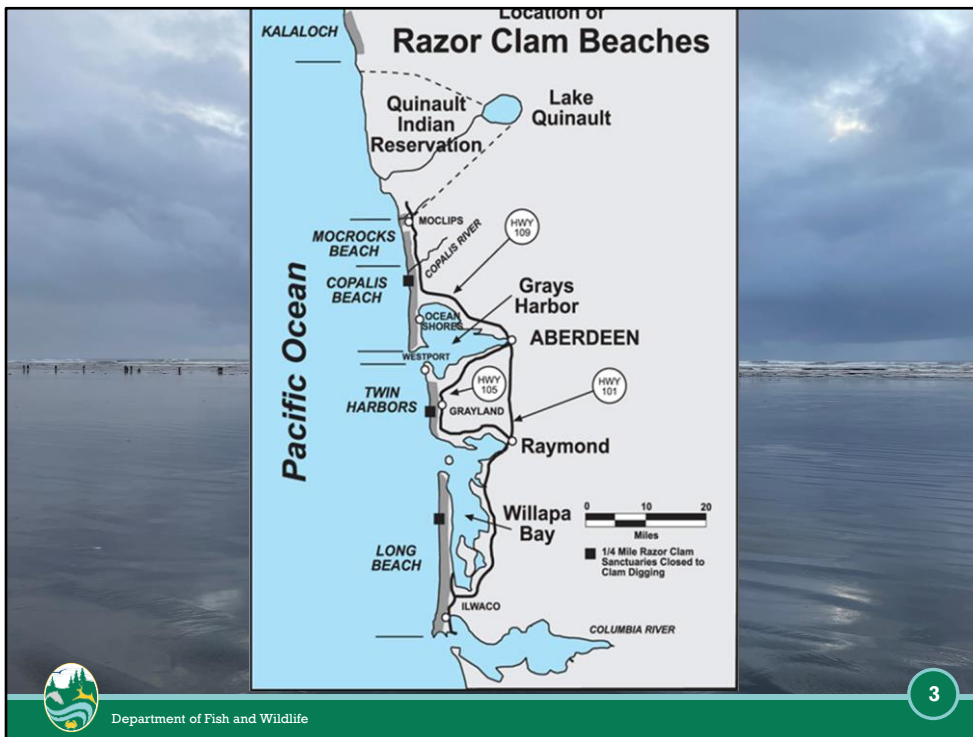
- Review of the 2023-24 Season (#6)
- Marine Toxin Update / ORHAB (#24)
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This presentation is designed to update you on the issues listed above and hopefully spur you to let us know what you think about our management of razor clams and how we can change or improve the work we do. Thanks for taking the time to read through the following information.



Washington’s razor clam habitat is divided into five coastal beaches that are managed by the Washington Department of Fish and Wildlife (WDFW). From the north, they are:

1. **Kalaloch**: from Olympic National Park South Beach Campground to Brown’s Point, just south of Olympic National Park Beach Trail # 3;
2. **Mocrocks**: Copalis River to the south boundary of the Quinault Indian Reservation – just south of the Moclips River);
3. **Copalis**: Grays Harbor North Jetty to the Copalis River;
4. **Twin Harbors**: northern shore of Willapa Bay to the Grays Harbor South Jetty; and
5. **Long Beach**: Columbia River North Jetty to end of Leadbetter Point.

The five management beaches contain 58 miles of sandy beach habitat that supports robust settlement and growth of the Pacific Razor Clam (*Siliqua patula*).

Razor Clam Digging in Washington



WDFW's goal is to provide a safe and enjoyable recreational experience, while still protecting the resource.



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The razor clam fishery in Washington is a significant source of revenue for tourism-dependent businesses such as restaurants and motels and an important source of community identity and basis for tribal subsistence. Razor clam harvesting, cleaning, cooking, eating, and canning have been an important focus of family relationships and local culture in Washington coastal communities for many generations.

FISH AND WILDLIFE COMMISSION
POLICY DECISION

POLICY TITLE: **Razor Clam Management** **POLICY NUMBER:** **POL-C3009**


Effective Date: January 4, 1997

Termination Date (if applicable):

Approved by: /s/ Lisa Pelly
Fish and Wildlife Commission Chair

The management objectives for the razor clam fishery are:

- Manage the razor clam resource on all coastal beaches for recreational use with a minor separate commercial fishery located only on detached spits of Willapa Bay.
- Protect public health and safety.
- Manage the resource to maintain stable and healthy populations.
- Maximize recreational opportunity.
- Provide a quality recreational experience.
- Independently manage the razor clam populations on Kalaloch (*in cooperation with Olympic National Park*), Mocrocks, Copalis, Twin Harbors and Long Beach while considering the pertinent interactions of seasons, effort, opportunity and tribal allocations.
- Provide for consistent commercial fishing opportunity that does not conflict with the recreational fishery.


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The fishery is managed by WDFW staff with specific guidance provided by the Washington Fish and Wildlife Commission; nine citizen members serving six-year terms who are appointed by the governor and confirmed by the Washington State Senate. For more information see: <https://wdfw.wa.gov/about/commission>

In it's Policy C3009 the Fish and Wildlife Commission has provided seven objectives WDFW uses in managing this fishery.

Note that the management of the recreational razor clam fishery at Kalaloch occurs in cooperation with the Olympic National Park.

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2023-24 Fishery Review

Newsroom / WDFW announces 36 days of tentative coastal razor clam digging opportunities beginning Sept. 29

WDFW announces 36 days of tentative coastal razor clam digging opportunities beginning Sept. 29

News release Sept. 15, 2023

Contact: Bryce Blumenthal, 360-249-4131
Media contact: Communications Division, 360-307-2233

351,062 digger trips

Harvest of 4.5 million clams

Average of 12.6 clams per digger trip

Photos
Click to display full size or right-click to save to your device.

OLYMPIA – Shellfish managers with the Washington Department of Fish and Wildlife (WDFW) today announced 36 days of tentative razor clam digging opportunities beginning Sept. 29 through Oct. 29.

"We enter the 2023-24 season with a smaller coastal razor clam population than the past few years, but it still remains strong and healthy enough to provide ample digging opportunities this fall and early winter," said Bryce Blumenthal, a WDFW coastal shellfish biologist.

Marine toxin levels have been tested according to Washington Department of Health (DOH) guidelines. WDFW is unsure if all beaches will open to start the season, but requires two test samples taken seven to ten days apart, and domoic acid levels must fall under the guideline level before a beach can reopen for digging. Domoic acid, a natural toxin produced by certain types of marine algae, can be harmful or fatal if consumed in sufficient quantities. More information about domoic acid, as well as current levels at ocean beaches, can be found on [WDFW's domoic acid webpage](#).

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2023-24 recreational razor clam season totals against the background of our first press release of the season announcing fall dates.

Washington Recreational Razor Clam

<i>2023-24 Season Totals</i>	HARVEST	EFFORT	Average Daily Catch (clams/digger)	Total Digs
Long Beach	1,490,909	114,614	12.6	83
Twin Harbors	1,145,618	90,082	12.4	69
Copalis	1,105,545	86,088	12.6	45
Mocrocks	788,923	60,278	12.7	53
Kalaloch	0	0	0	0
TOTAL	4,530,993	351,062	12.6	250



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Each of the five beaches is managed separately. The Total Allowable Catch (TAC) is determined for each beach using data collected in our annual summer razor clam stock assessment work (discussed more in the slides ahead). As a result, some beaches have more digging opportunities than others.

Note that the harvest listed here includes our estimates of wastage. The CPUE is calculated on the estimate of harvest, minus wastage.

Washington Recreational Razor Clam Fishery											
Digs by Season											
Beach	2023-24	2022-23	2021-22	2020-21	2019-20	2018-19	2017-18	2016-17	2015-16	2014-15	average
Long Beach	83	46	119	12	66	4	16	11	94	104	56
Twin Harbors	69	52	108	12	63	53	18	46	0	104	53
Copalis	45	38	60	6	31	20	12	33	18	21	28
Mocrocks	53	27	53	12	32	33	20	35	26	43	33
Kalaloch	0	0	0	0	0	6	0	2	0	0	1
TOTAL	250	163	340	42	192	116	66	127	138	272	171


This table and the following chart that follows, provide some additional perspective of how this fishery can vary by season. The number of digging days offered, number of diggers and total harvest are most influenced by the TAC (total allowable catch) that is developed each summer through coast-wide razor clam stock assessment work. Digging opportunity has varied over the past decade due to seasonal variability in clam abundance and the harvest rate that WDFW uses to set the TAC for each beach. In addition, marine toxin closures, poor weather and surf conditions can reduce digging opportunity each season. The 2023-24 season was unfortunately shortened due to a temporary fishery closure in October 2023 following the detection of high levels of domoic acid, a marine biotoxin produced by harmful algal blooms (HABs).



Washington Recreational Razor Clam Fishery Summarized by Season (October through May)

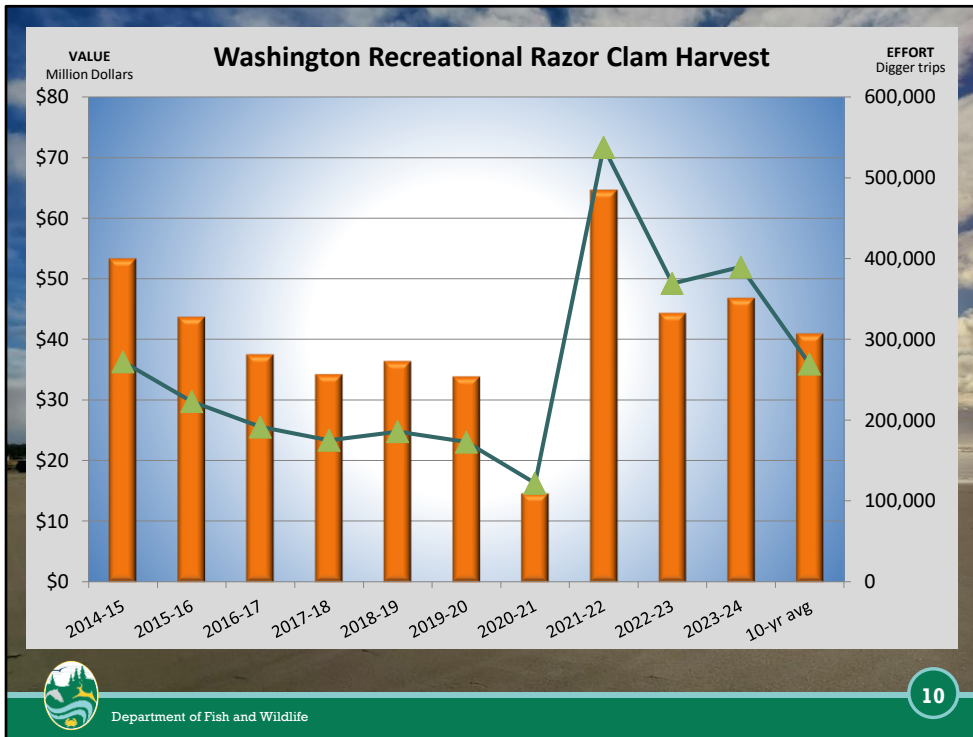
season	effort (digger trips)	harvest	total harvest days#	fishery value*
		+ wastage (clams)		
1999-20	192,359	2,531,910		\$17,464,305
2000-01	183,375	2,479,525	20	\$16,648,646
2001-02	307,314	4,321,274	39	\$27,901,088
2002-03		<i>season long closure due to high levels of marine toxins</i>		
2003-04	267,053	3,325,575	18	\$24,245,785
2004-05	288,516	4,126,870	25	\$26,194,415
2005-06	240,768	3,284,198	26	\$21,859,366
2006-07	259,847	3,601,239	30	\$23,591,552
2007-08	242,317	3,030,840	40	\$22,000,000
2008-09	248,728	3,216,167	27	\$22,582,056
2009-10	283,444	3,805,228	46	\$25,733,927
2010-11	244,428	3,204,311	46	\$22,191,658
2011-12	194,976	2,575,693	26	\$17,701,903
2012-13	418,999	6,078,109	78	\$38,040,988
2013-14	451,046	6,285,205	105	\$40,950,540
2014-15	399,698	5,756,496	104	\$36,288,647
2015-16	327,545	4,531,856	94	\$29,737,864
2016-17	281,374	4,271,280	46	\$25,545,991
2017-18	257,004	2,840,843	20	\$23,333,435
2018-19	272,962	3,742,861	52	\$24,782,265
2019-20	253,927	3,592,727	66	\$23,054,074
2020-21	109,781	1,738,246	23	\$16,247,581
2021-22	484,426	8,384,383	120	\$71,695,048
2022-23	332,629	5,226,788	73	\$49,229,046
2023-24	351,062	4,530,993	100	\$51,957,175
10-year average	307,041	4,461,647	70	\$35,905,221
20-year average	297,174	4,191,217	57	\$30,635,876

* - economic data derived from University of Washington study.
 † - variable occurs across five management beaches. This value represents the maximum number of days offered.



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This table provides some perspective of how this fishery can vary by season. The number of digging days offered, number of diggers and total harvest are most influenced by the TAC (total allowable catch) that is developed each summer through of coast-wide razor clam stock assessment work. These numbers are also influenced by management changes over these years in the harvest rate WDFW uses to set the TAC. In addition, marine toxin closures, poor weather and surf conditions can also play a significant role each season. You will find more details about all of these topics in the slides to follow. In recent history: the 2019-20 season closed early due to COVID-19, the 2020-21 season closed early due to domoic acid, the 2021-2022 season was an incident free ocean record year, the 2022-23 had a domoic acid closure in the middle during the late fall and winter, and 2023-24 was long and incident free with only a small Moccrocks closure to begin the season.



This chart and the previous table provide some additional perspective of how this fishery can vary by season. The number of digging days offered, number of diggers and total harvest are most influenced by the TAC (total allowable catch) that is developed each summer through of coast-wide razor clam stock assessment work. These numbers are also influenced by management changes over these years in the harvest rate WDFW uses to set the TAC. In addition, marine toxin closures, poor weather and surf conditions can also play a significant role each season. You will find more details about all of these topics in the slides to follow. **Note the 2019-20 season closed prematurely due to COVID-19, 2020-21 and 2023-23 seasons were partially closed due to elevated levels of domoic acid.**

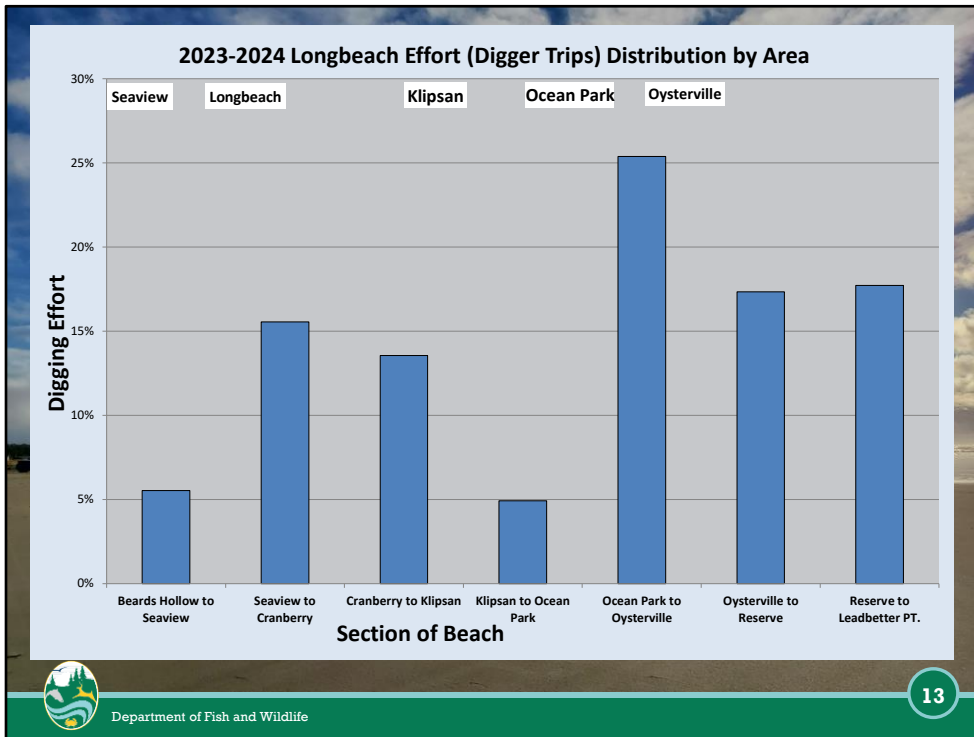
Month	Long Beach	
September 2023	2 Days	Fri - Sat
October 2023	10 Days	Sun - Mon, Sat - Tue, Fri - Mon
November 2023	9 Days	Mon - Thu, Fri - Tue
December 2023	9 Days	Wed - Sun, Tue - Fri
January 2024	11 Days	Tue - Sun, Tue - Sat
February 2024	11 Days	Wed - Mon, Wed - Sun
March 2024	13 Days	Thu - Thu, Wed - Sun
April 2024	12 Days	Tue - Sun, Wed - Mon
May 2024	6 Days	Tue - Sun
Totals:	83 Days	




Long Beach enjoyed a nice long season with more digs than any other beach. There were 83 days of digging concluding with the annual Long Beach Razor Clam Festival.


Long Beach
83 Days
Effort = 114,614 digger trips
Harvest = 1,490,909 clams
(Including wastage of 42,684 clams)
Portion of TAC Harvested = 69.2%

Long Beach was the beach with the most digger trips and clams harvested. Despite those coastwide highs, licensed fishery participants harvested only 69.2% of the Total Allowable Catch. The standout PM Tide was Saturday October 28 with an estimated effort of 4,306 diggers and 64,588 clams harvested. The AM Tide that saw the best turnout was Saturday April 13 with 5,577 diggers and 69,719 clams harvested.

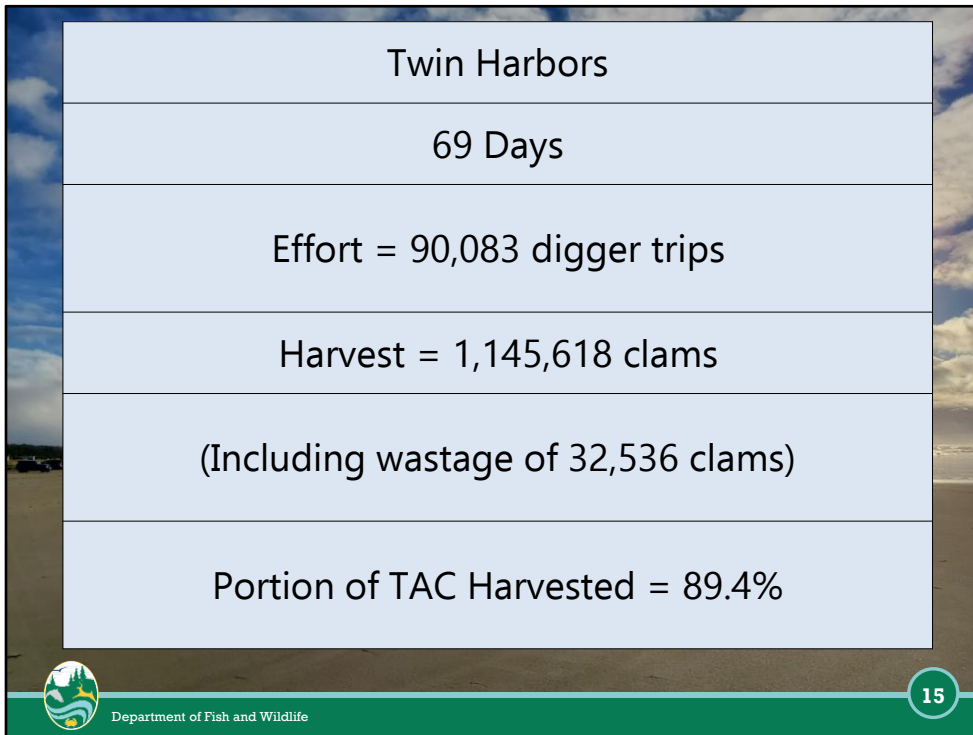


The Y-Axis is the percentage of digging effort (totaling 100). The X-Axis is the harvested beach area, moving from south to north (left to right) and broken up into 7 sections.

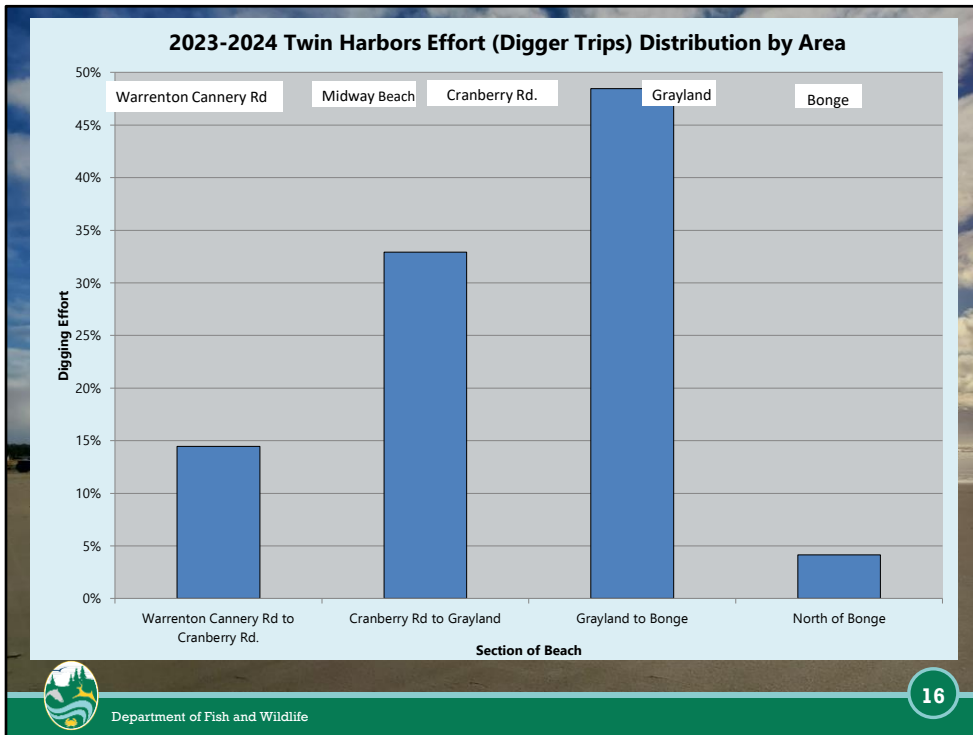
Month	Twin Harbors	
September 2023	2 Days	Wed – Fri
October 2023	10 Days	Sun - Mon, Sat - Tue, Fri - Mon
November 2023	9 Days	Mon - Thu, Fri - Tue
December 2023	9 Days	Wed - Sun, Tue - Fri
January 2024	9 Days	Wed - Sun, Tue - Fri
February 2024	9 Days	Wed - Sun, Wed - Sat
March 2024	9 Days	Thu - Mon, Thu - Sun
April 2024	8 Days	Wed - Sat, Thu - Sun
May 2024	4 Days	Thu - Sun
Totals:	69 Days	

On Twin Harbors, a strong population of harvestable sized recruit clams resulted in 69 days of digging this season, the most of any beach.





Twin Harbors was the beach with the second highest number of digger trips and clams harvested, and saw 89.4% of the TAC harvested. Standout PM Tides were Saturday October 28 with an estimated effort of 4,133 diggers and 61,989 clams harvested. The AM Tide with the highest harvest was Saturday May 11 with 6,102 diggers and 77,578 clams harvested.




The Y-Axis is the percentage of digging effort (totaling 100). The X-Axis is the harvested beach area, moving from south to north (left to right) and broken up into 4 sections. This year the most frequented digging area was the stretch of beach between Grayland Beach Rd. and Bonge Rd.

Month	Copalis	
September 2023	1 Day	Sat
October 2023	5 Days	Mon, Sun, Tue, Sat, Mon
November 2023	6 Days	Mon, Wed, Fri, Fri, Sun, Tue
December 2023	4 Days	Thu, Sat, Tue, Thu
January 2024	6 Days	Tue, Fri, Sat, Wed, Thu, Sun
February 2024	6 Days	Wed, Thu, Sun, Mon, Fri, Sat
March 2024	8 Days	Thu, Sun, Mon, Fri, Sat, Tue, Fri, Sat
April 2024	6 Days	Wed, Thu, Sun, Tue, Fri, Sat
May 2024	3 Days	Wed, Thu, Sun
Totals:	45 Days	





Copalis was the beach with the lowest toxicity levels and the first to reopen in the spring, resulting in 45 days of digging this season.

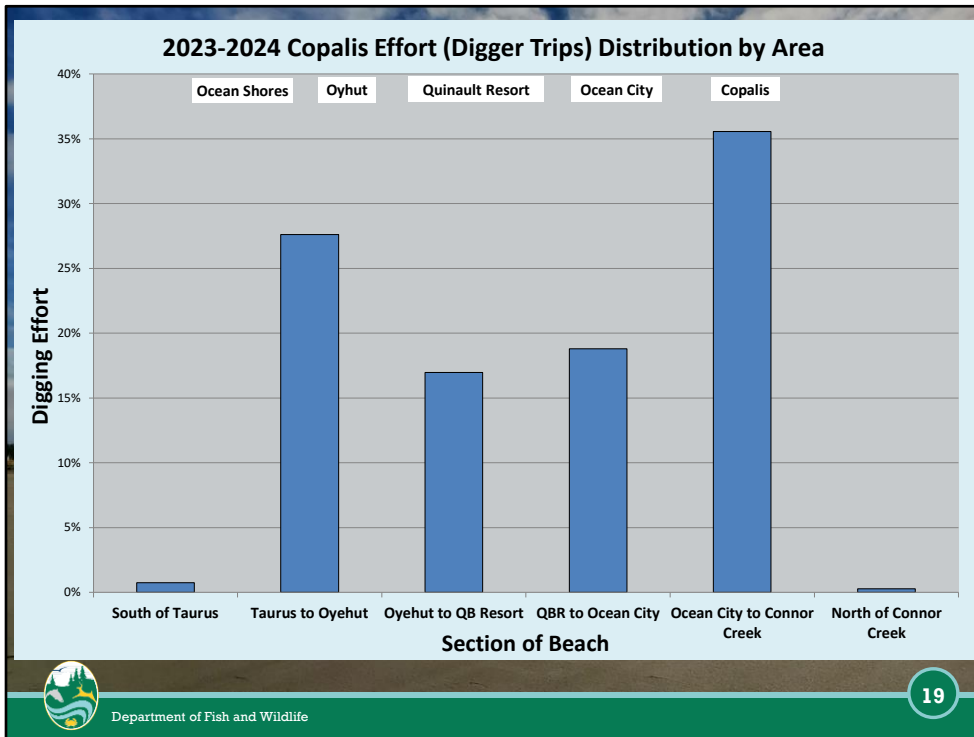
Copalis
45 Days
Effort = 86,088 digger trips
Harvest = 1,105,545 clams
(Including wastage of 19,951 clams)
Portion of TAC Harvested = 80.9%



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Copalis was the beach with the 3rd most digger trips and clams harvested, and saw 80.9% of the TAC harvested. Standout PM Tides were Saturday October 28 with an estimated effort of 5,903 diggers and 88,542 clams harvested and Saturday February 24 with 4,232 diggers and 42,835 clams. The AM Tide with the highest harvest was Saturday March 16 with 7,234 diggers and 61,380 clams harvested.

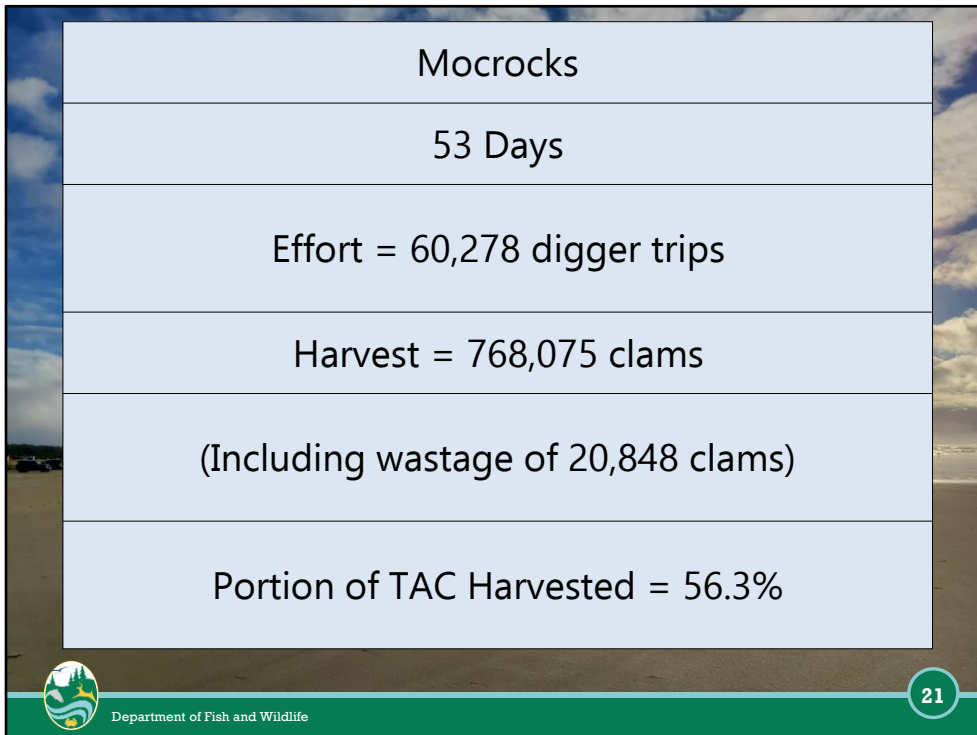


The Y-Axis is the percentage of digging effort (totaling 100). The X-Axis is the harvested beach area, moving from south to north (left to right) and broken up into 6 sections. Similar to years past, the most frequented section was between the Ocean City approach and Conner Creek.

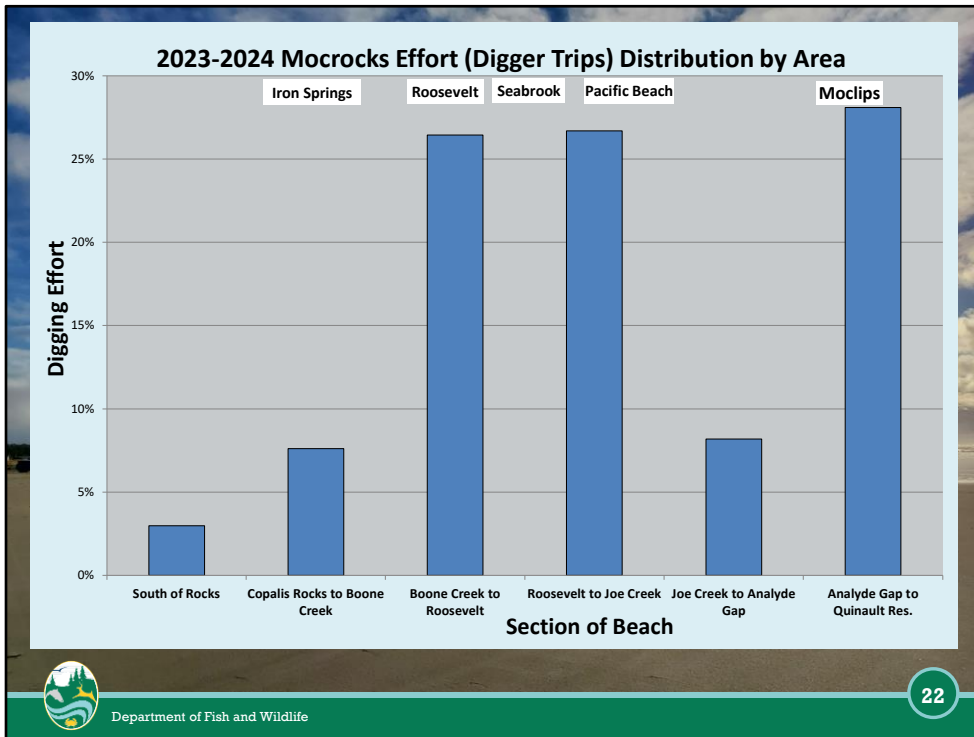
Month	Mocrocks	
September 2023	0 Days	
October 2023	6 Days	Sat, Mon, Wed, Fri, Sun, Tue
November 2023	7 Days	Sun, Tue, Thu, Sat, Sat, Mon, Wed
December 2023	5 Days	Wed, Fri, Sun, Wed, Fri
January 2024	8 Days	Wed, Thu, Sun, Mon, Mon, Tue, Fri, Sat
February 2024	6 Days	Tue, Fri, Sat, Wed, Thu, Sun
March 2024	9 Days	Fri, Sat, Tue, Wed, Thu, Sun, Wed, Thu, Sun
April 2024	8 Days	Mon, Tue, Fri, Sat, Wed, Thu, Sun, Mon
May 2024	4 Days	Mon, Tue, Fri, Sat
Totals:	53 Days	


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Mocrocks was the only beach affected by domoic acid this season. It started the year closed with toxicity levels too high for harvest, but was quickly opened after only missing out on two planned days of digging. Despite that, Mocrocks experienced a nice long season resulting in 53 days of digging.



Mocrocks was the beach with the least digger trips and clams harvested, but still saw a good portion of TAC harvested with 56.3%. Standout PM Tide was Saturday November 29 with an estimated effort of 4,031 diggers and 59,593 clams harvested. The AM Tide with the highest harvest was Saturday May 11 with 5,058 diggers and 75,409 clams harvested.



The Y-Axis is the percentage of digging effort (totaling 100). The X-Axis is the harvested beach area, moving from south to north (left to right) and broken up into 6 sections. The majority of digging effort occurred near the Roosevelt Beach approach.

No razor clam harvest occurred on Kalaloch beach during the 2023-24 season



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Kalaloch remains a puzzle. The population assessment continues to indicate a sparse population of mostly just small clams. Kalaloch razor clams continue to struggle to reach a mature age, or at least a size that are suitable for harvest.

Marine Biotoxins



Marine biotoxins are always a huge concern for us during the digging season, and they should be on the mind of every person who harvests and consumes shellfish. Seemingly an increasing issue year over year, marine toxins have had an impact on two of the last four seasons and may become an issue for us this upcoming fall.

Domoic Acid

Amnesic Shellfish Poisoning (ASP)

- Produced by a diatom (*Pseudo-nitzschia sp.*)
- Domoic acid - neurotoxin
- Nausea, dizziness, memory loss
- Stroke-like symptoms that can lead to death
- No antidote
- Not destroyed by cooking/freezing
- Not easily detected



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The marine biotoxin domoic acid has been the most prevalent toxin affecting razor clams harvest along the Washington coast. It is produced by a naturally occurring member of the marine plankton community – a diatom – named *Pseudo-nitzschia*. Recent research has led to better understanding of where these diatoms originate and what oceanographic and weather conditions must be present to allow them to move closer to shore and affect razor clam populations. Since 1992 when domoic acid was first found in razor clam meat tissue a total of 25% of planned razor clam digging opportunities have been lost due to high marine toxin levels, with the vast majority due to domoic acid.

This slide details the dangers domoic acid – in high levels – presents.

PSP Toxin

Paralytic Shellfish Poisoning (PSP)

- Produced by a dinoflagellate (*Alexandrium sp.*)
- Saxitoxin - neurotoxin
- Numbness, tingling fingers/toes/lips
- Can paralyze the diaphragm and lead to death
- No antidote
- Not destroyed by cooking/freezing
- Not easily detected



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The marine biotoxin that causes paralytic shellfish poisoning (PSP) is produced by another naturally occurring member of the marine plankton community. This species is the dinoflagellate named *Alexandrium*. PSP has historically been less of a problem for the razor clam fishery. However, in past seasons there have been razor clam closures due to PSP.

Razor Clam Health Samples

WDFW is required to collect samples per strict WDOH protocol:

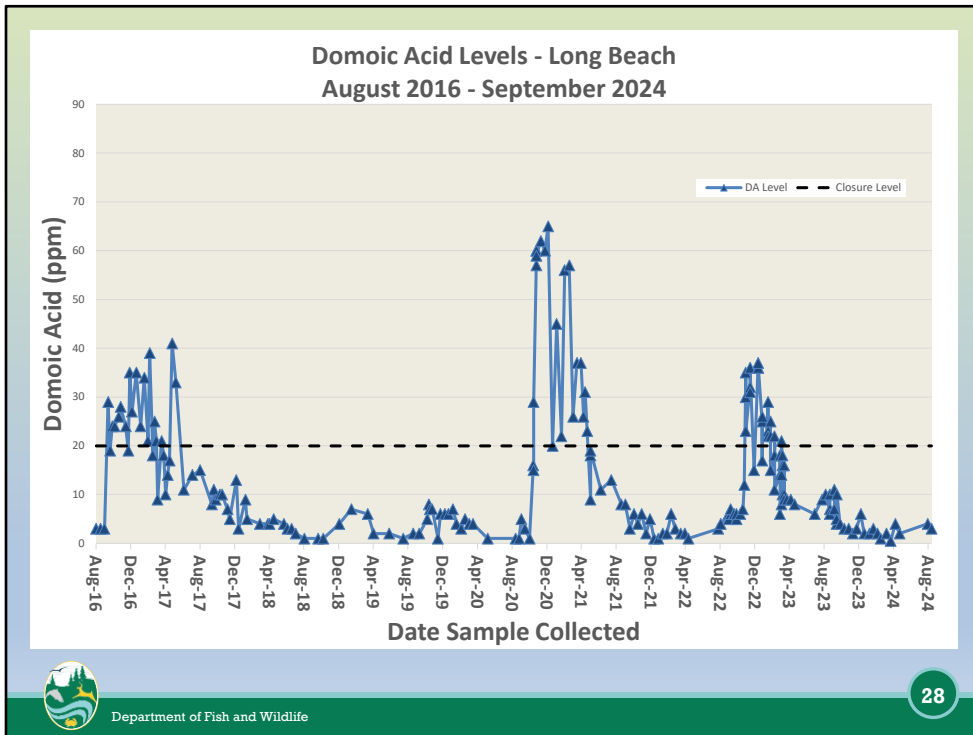
- ALL samples must test below the action level
- 12 adult clams per sample
- To open a beach, 2 collections 7-10 days apart (often means digging on poorer tides).
- Last collection as close to opening as possible
- To remain open in-season, collection as close to the start of digging as possible



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As a result of concern for the health of the many people who enjoy razor clams, WDFW works closely with staff at the Washington Department of Health (WDOH) to collect and transport clams to the WDOH lab (north of Seattle in Shoreline) for processing. These clams are collected on a strict schedule that allows for the final sample to be collected as close to the day of each period razor clamming is open. This is the reason our openers are always announced as tentative, until final marine toxin results are available.

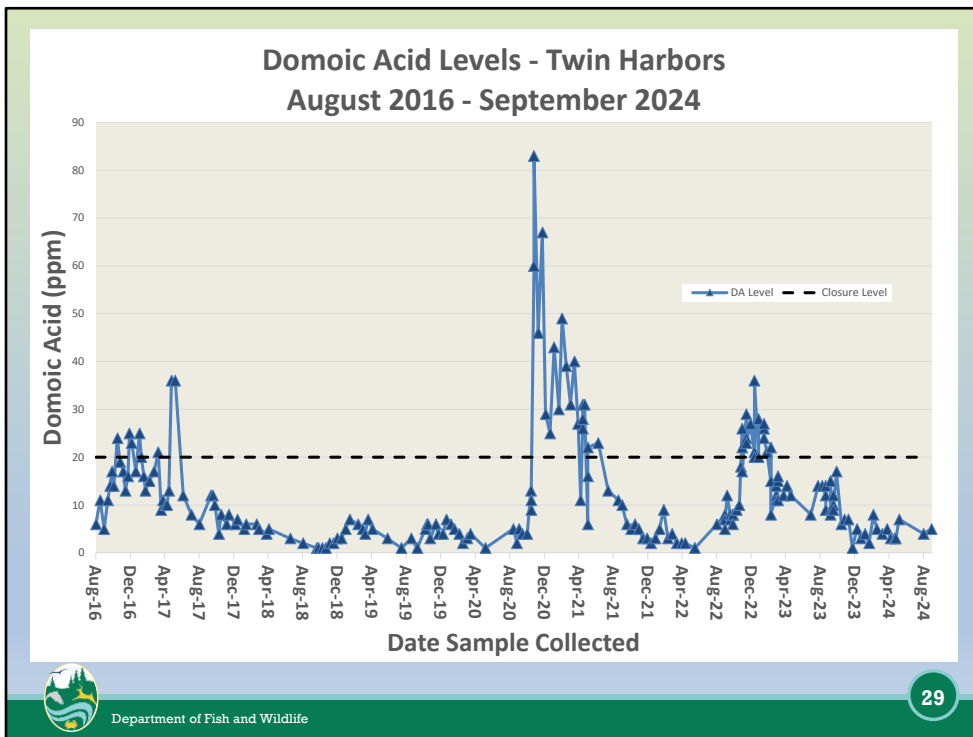


Presented here are Washington Department of Health (WDOH) test results of domoic acid levels found in razor clam meat tissue. The razor clams are collected regularly from each razor clam management beach, by WDFW staff and delivered to the WDOH Public Health Lab in Shoreline, WA. To ensure quick turn-around of the results, WDFW staff often drive the clams directly to the lab as soon as possible after collection. This can be a 4 to 6 hour round-trip depending on Puget Sound traffic conditions but is necessary to ensure the clams you are taking home are safe to eat.

Recall, before a beach can be opened for the harvest of razor clams, WDOH protocol requires that all razor clam samples collected from that beach must test under the action level (20 ppm for domoic acid; 80 µg/100g for PSP; and 16 µg/100g for DSP) on both of the two required sample collections.

The most recent levels can be found at:
<https://wdfw.wa.gov/fishing/basics/domoic-acid/levels>

For more information about domoic acid, see:
<https://www.doh.wa.gov/CommunityandEnvironment/Shellfish/RecreationalShellfish/Illnesses/Biotoxins/AmnesicShellfishPoisoning>

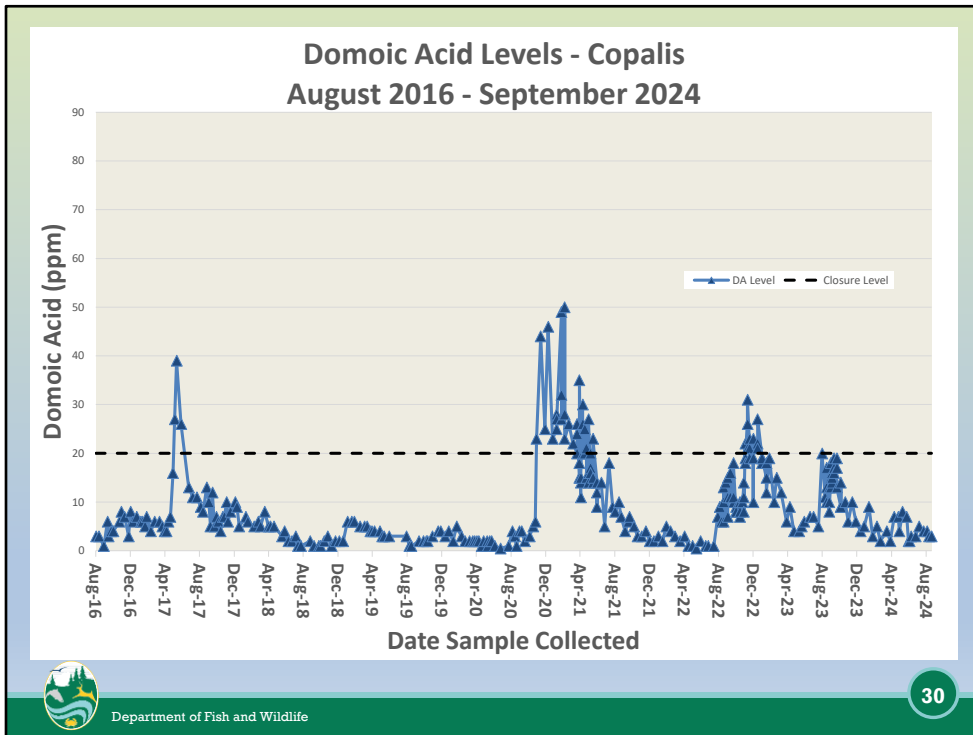


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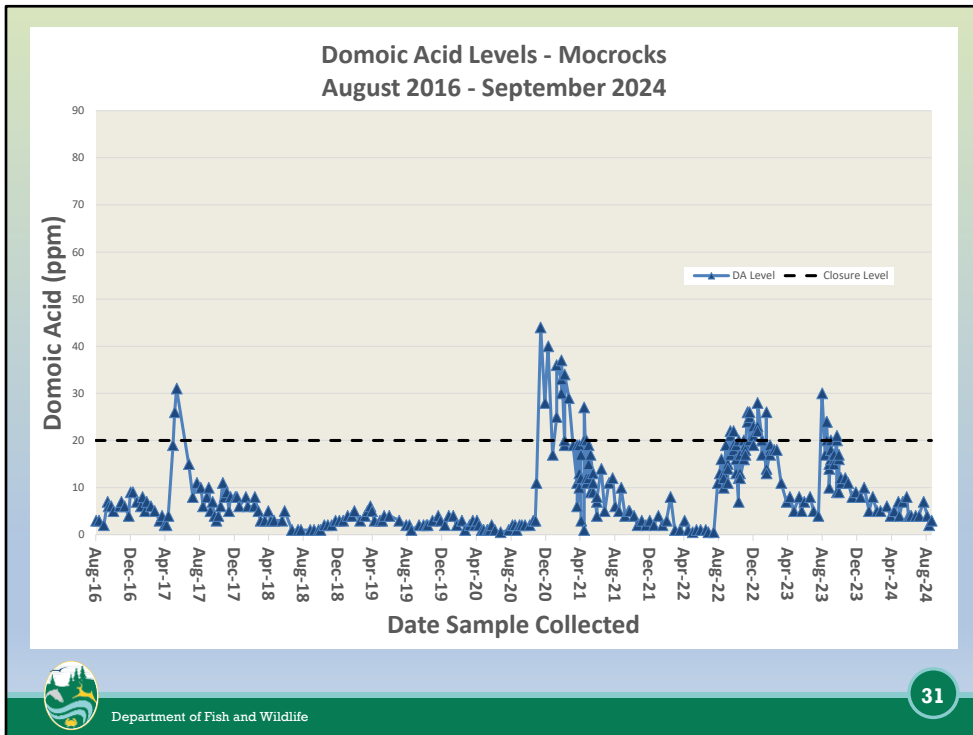
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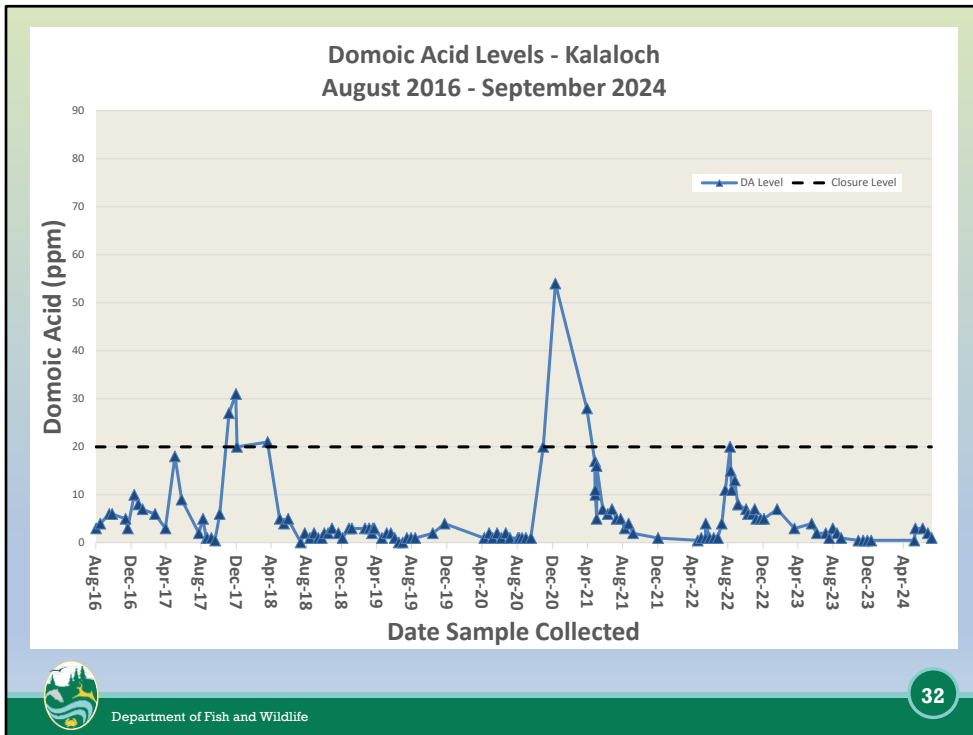
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Presented here are Washington Department of Health (WDOH) test results of domoic acid levels found in razor clam meat tissue. The razor clams are collected regularly from each razor clam management beach, by WDFW staff and delivered to the WDOH Public Health Lab in Shoreline, WA. To ensure quick turn-around of the results, WDFW staff often drive the clams directly to the lab as soon as possible after collection. This can be a 4 to 6 hour round-trip depending on Puget Sound traffic conditions but is necessary to ensure the clams you are taking home are safe to eat.

Recall, before a beach can be opened for the harvest of razor clams, WDOH protocol requires that all razor clam samples collected from that beach must test under the action level (20 ppm for domoic acid; 80 µg/100g for PSP; and 16 µg/100g for DSP) on both of the two required sample collections.

The most recent levels can be found at:

<https://wdfw.wa.gov/fishing/basics/domoic-acid/levels>

For more information about domoic acid, see:

<https://www.doh.wa.gov/CommunityandEnvironment/Shellfish/RecreationalShellfish/Illnesses/Biotoxins/AmnesicShellfishPoisoning>



Olympic Region Harmful Algal Blooms

ORHAB PARTNERSHIP

Harmful algal blooms (HABs) pose a significant threat to human health and fish and wildlife including threatened and endangered marine mammals and birds. Washington state's coastal economies also depend on revenue generated by recreational and commercial fisheries which can be disrupted by HAB events.

To better understand and mitigate for the impact of HABs managers and researchers from local state, federal, academic and tribal nations partnered to form Olympic Region Harmful Algal Bloom Monitoring (ORHAB) collaboration in 1999. Initially funded through a NOAA-MERHAB grant ORHAB was successfully transitioned to state funding in 2004. The collaboration is focused on building early warning capabilities for HABs in Washington state and providing sound scientific data to contribute to the understanding of HAB events coast wide.

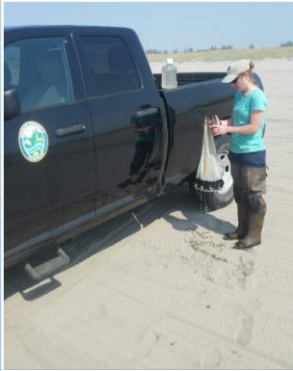



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The impacts of harmful algal blooms (HAB) on razor clam fisheries along the coast of Washington State was the impetus that brought together Seattle based NOAA HAB researchers, University of Washington oceanographers and marine algae experts, state and tribal fishery managers and human health experts to form a successful partnership - the Olympic Region Harmful Algal Bloom (ORHAB) project. Beginning in 2000 with five-years of funding from NOAA's Monitoring and Event Response for Harmful Algal Blooms (MERHAB) Program the ORHAB partnership provided for a host of activities that included the necessary scientific equipment and for the unique training of local technicians as HAB specialists. With the end of federal funding and primary reliance on state dollars generated by a surcharge on recreational shellfish licenses, the focus of the partnership is primarily on HAB event prediction and monitoring. These state funds provide for two HAB specialists, one working for WDFW and the other for the University of Washington. In addition, funding from the Quinault Indian Nation (QIN) provides a third HAB specialist who works for QIN. While employed by separate agencies these local experts work closely together to monitor for HAB events along the entire Washington coast. The ORHAB specialists regularly present and discuss their findings with staff biologists and public health experts from WDFW, QIN and the Washington Department of Health (WDOH). In addition, scientists from NOAA and the UW provide oversight and advice on a regular basis. Insight gained from the ORHAB partnership and the recently completed ECOHAB-PNW project has led to a better understanding of where HAB events originate and what environmental factors promote their growth. While much is yet to be learned, we can better manage our important shellfish fisheries because of these insights, good science, and hard work produced by well trained - and locally based - HAB specialists.

WDFW regularly monitors surf zone plankton, toxins, and water quality...



...to determine the environmental conditions associated with blooms of harmful species.



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WDFW uses standardized processing and analysis of samples to generate data on HABs and the presence of biotoxins. The data received from this monitoring program can provide managers advance notice of pending problems for potential openers as well as give razor clammers a heads up of what may be coming. In the photo is Charlotte Berry-Powell, Coastal HAB/Shellfish Technician.

Transferring sample dilutions to a microplate

Adding domoic acid control to dilution series

WDFW is now able to conduct a rapid field test using the ELISA method for the presence of domoic acid in seawater

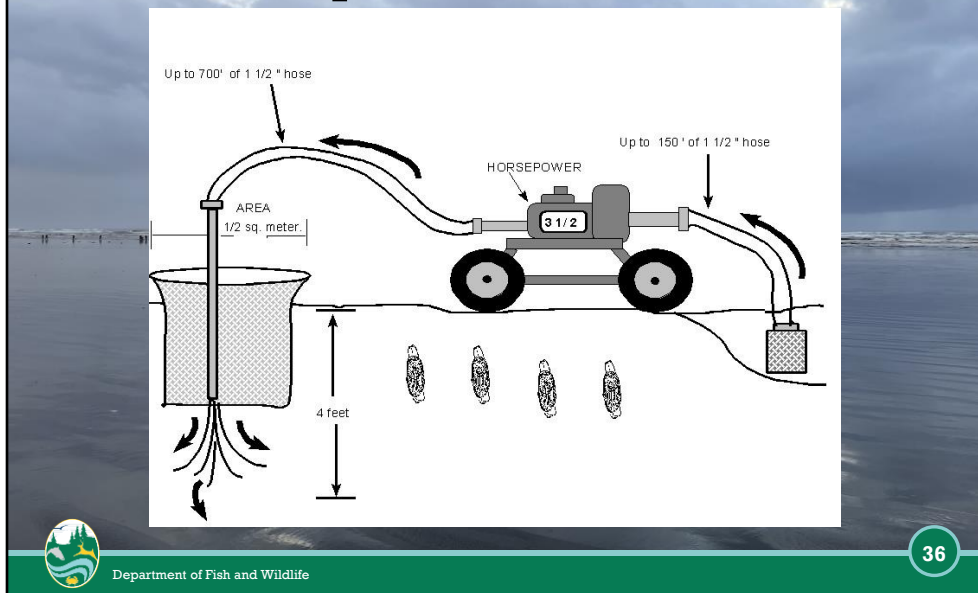
Loading microplate reader

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One major goal of the ORHAB project has been to develop and implement rapid detection technologies. This technology offers the promise of allowing field staff to determine the presence of toxins in seawater samples and shellfish tissue without having to wait for the current time-consuming transport of samples to a distant laboratory. This process does not replace the regulatory testing conducted by the Washington Department of Health, but it does provide managers with an early warning of potential pending HAB issues.

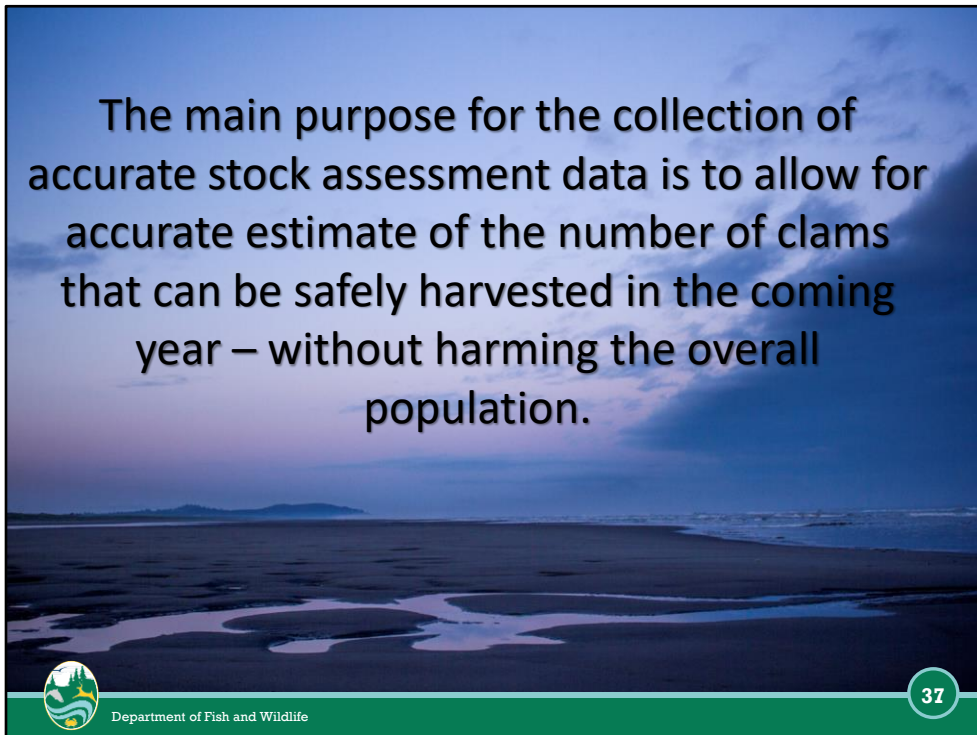
Estimating Razor Clam Stocks – Pumped Area Method



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We now turn our attention to the work WDFW does to annually determine the number of razor clams available on each beach. This cartoon is a simplified version of how our razor clam stock assessment process works. You'll find more details in the following pages.



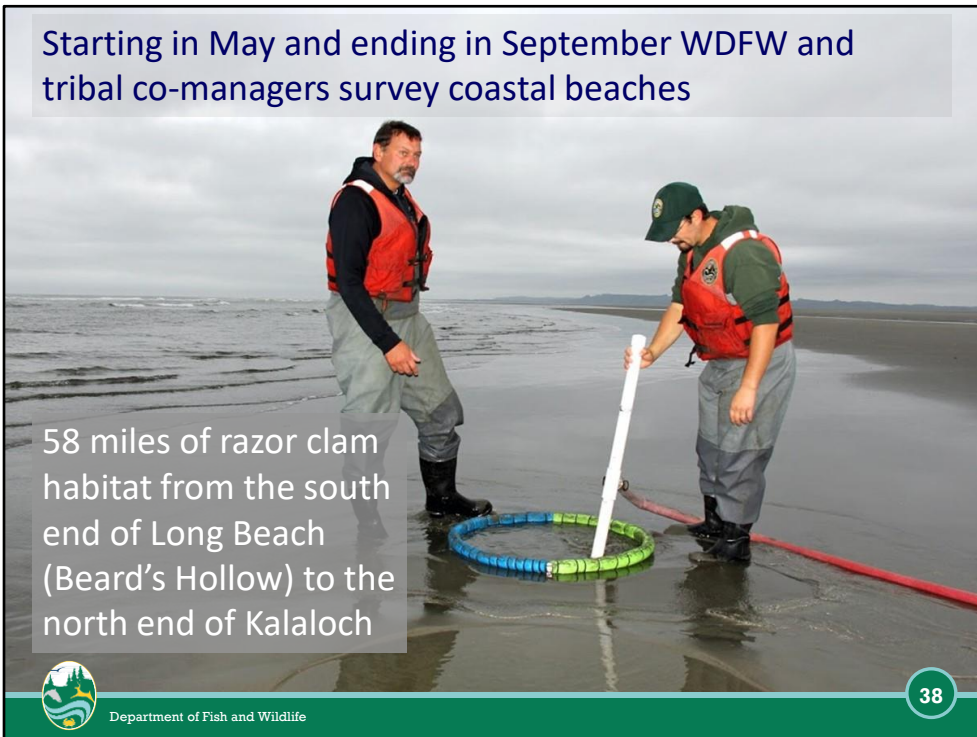
The main purpose for the collection of accurate stock assessment data is to allow for an accurate estimate of the number of clams that can be safely harvested in the coming year – without harming the overall population.

The stock assessment data provides us with estimates of the total number of clams and their average size. We are then able to determine the total number of clams that are at or over 3 inches, this size at which razor clams generally begin to make a clear “show” and are harvestable. The total allowable catch (TAC) for each beach is then calculated “variable” harvest rate applied to the total number of clams at or over 3 inches.

Razor clams that are 3 inches during our summer stock assessment will quickly grow and become a more suitable size as the season progresses.

Starting in May and ending in September WDFW and tribal co-managers survey coastal beaches

58 miles of razor clam habitat from the south end of Long Beach (Beard's Hollow) to the north end of Kalaloch

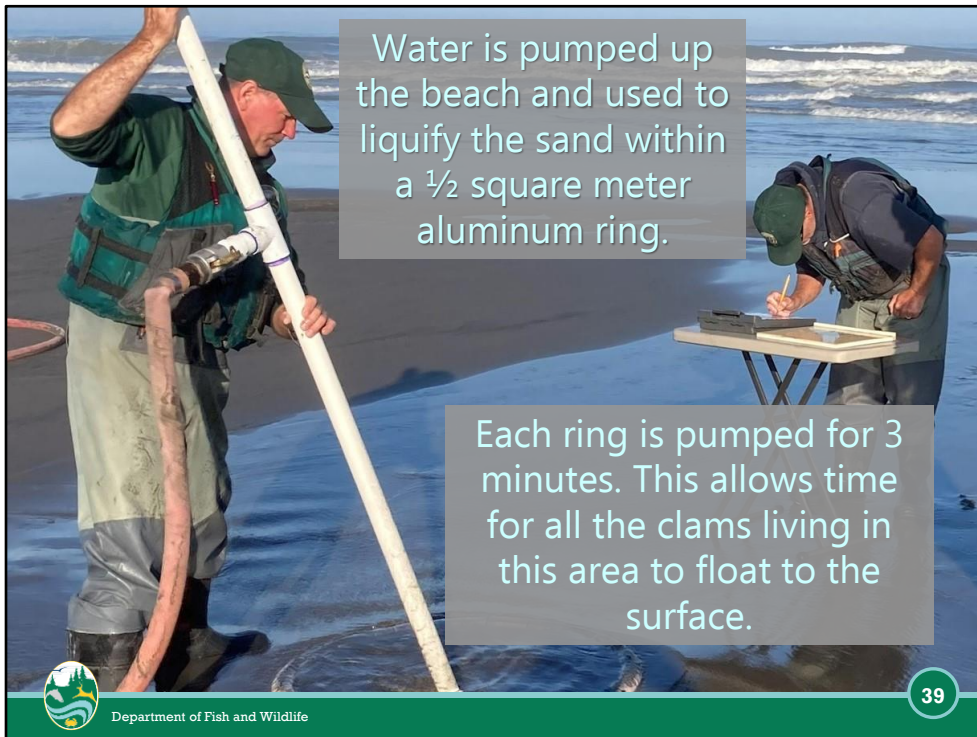


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This year's work started on May 22 and was completed on August 8.

Surveying razor clams is not as easy as just digging all the clams in a known area. Razor clam digging requires the clam to “show” and not all clams “show” at the same time. As a result, it is not possible to dig every clam in a known area. The sampling method we use takes this into account and removes all the clams from a known area. WDFW uses the Pumped Area Method of sampling to provide accurate estimates of razor clam density. Read on for more information. In the photo, L to R, Travis Haring Coastal Shellfish Technician and Robert Morgan, Coastal Shellfish Biologist.



Water is pumped up the beach and used to liquify the sand within a ½ square meter aluminum ring.

Each ring is pumped for 3 minutes. This allows time for all the clams living in this area to float to the surface.

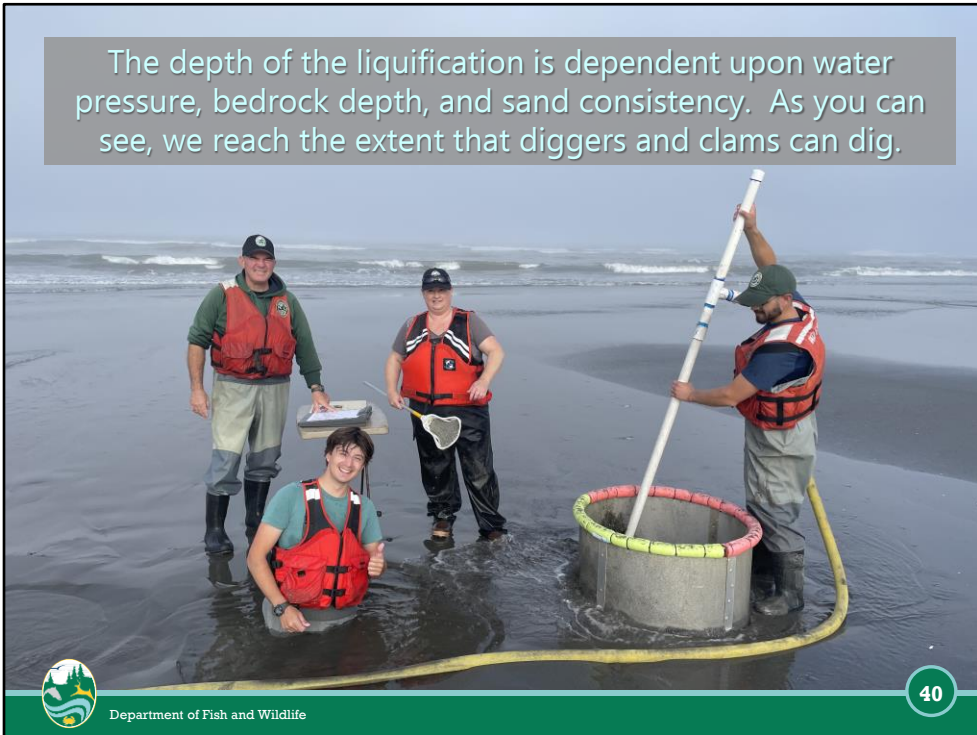


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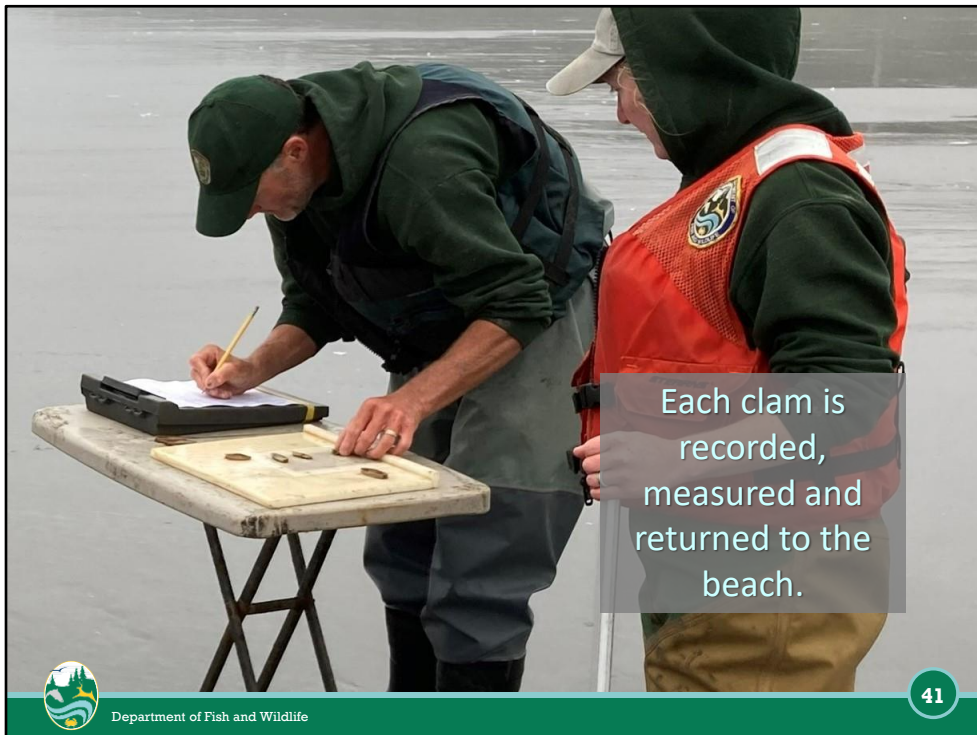
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Each ring is pumped for 3 minutes allowing time for all the clams in the area of the ring to float to the surface and be counted. In the photo, L to R, Clayton Parson and Craig Lofton, Coastal Shellfish Technicians.

The depth of the liquification is dependent upon water pressure, bedrock depth, and sand consistency. As you can see, we reach the extent that diggers and clams can dig.

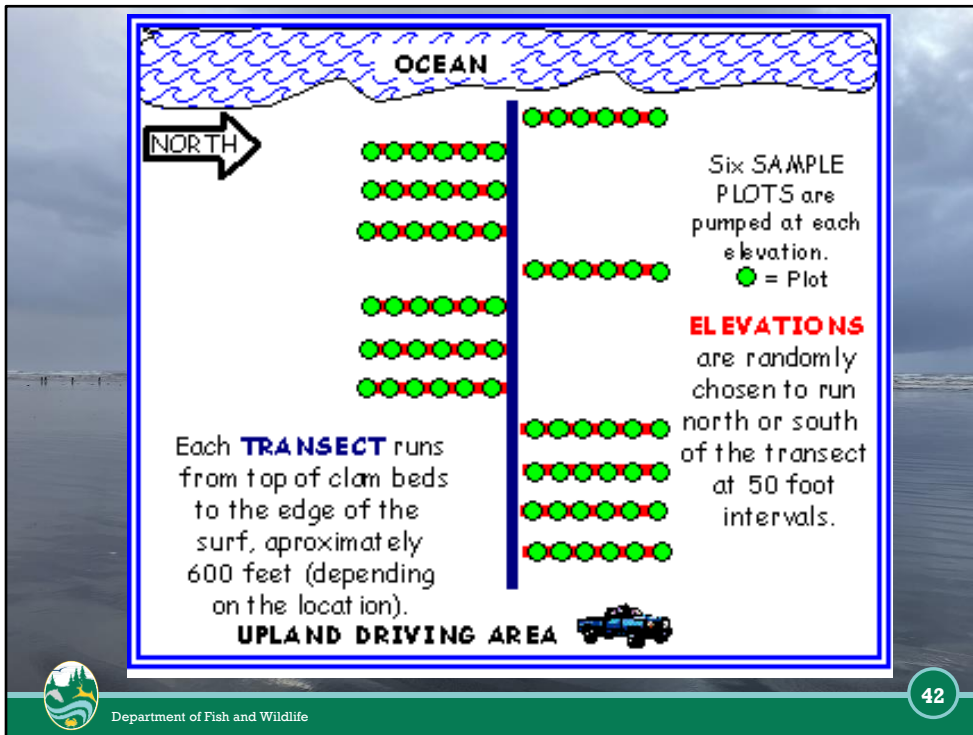


The depth of the liquification is dependent upon water pressure, bedrock depth, and sand consistency. As you can see we reach the extent that diggers and clams can dig. In the photo, L to R, Clayton Parson, Chase Falash, Jamie Fuller and Rob Morgan.



Each clam is measured and recorded and returned to the beach.

The Pumped Area Method allows biologists to obtain the full data set needed to estimate both recruit clams and pre-recruit clams. This is in contrast with previous razor clam population sampling methods that were unable to estimate pre-recruits. In the photo, L to R, Craig Loften and Charlotte Berry-Powell, Coastal Shellfish Technicians.



Each of the five management beaches is sampled with randomly selected transects chosen approximately one-mile apart. The sampling occurs during a good low tide, and begins at the top of the razor clam beds and moves out to the edge of the surf. Six plots (sample rings) are pumped at each 50 foot interval.

WDFW offers this video that discusses our razor clam stock assessment methods. Check it out at:

http://youtu.be/aC4fu6_8G8I



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A video that demonstrates the WDFW stock assessment methods is available online. This will give you a better picture of the work we do each summer all along the Washington coast to make the best possible razor clam population estimates to be used in the management of the fishery. The video can be found at;

http://youtu.be/aC4fu6_8G8I

In the photo L to R; Bryce Blumenthal, Robert Morgan, Craig Loften and Charlotte Berry-Powell all members of the WDFW Coastal Shellfish Unit.

How many days can we dig?

Stock assessment data :

1. Estimate of the number clams
2. Estimate of the size distribution

TAC (total allowable catch) =

Total clams 3 inches or greater x
variable harvest rate.



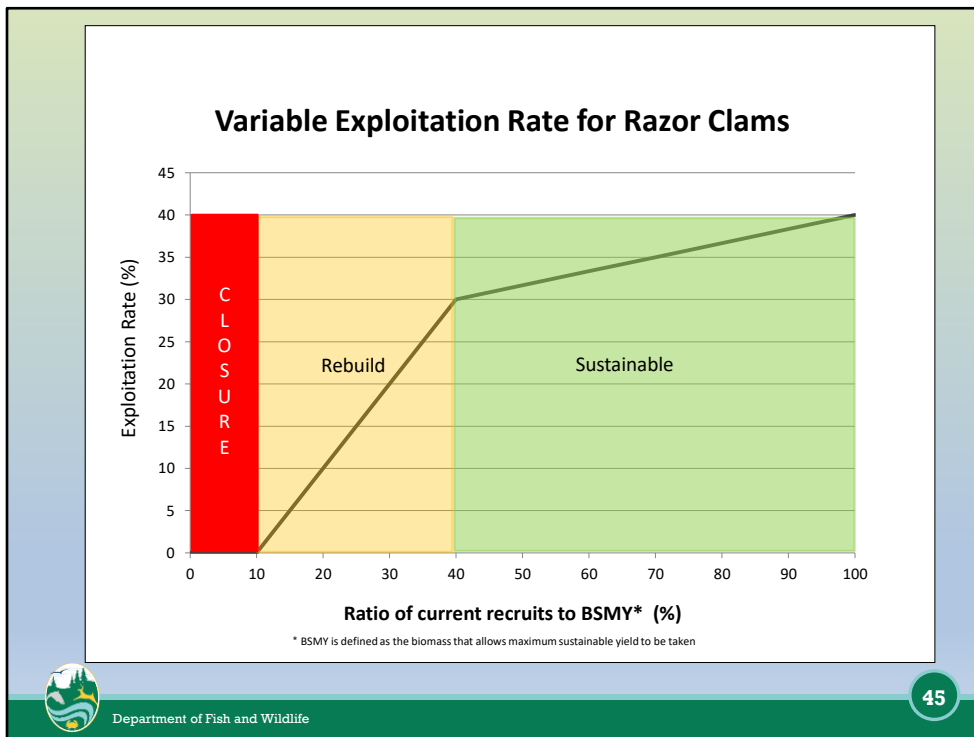
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During the 2012-13 season, WDFW began using a new “variable” harvest rate on two beaches (rather than using a fixed harvest rate of 30%.)

On these beaches we determine the harvest rate based on the ratio of the **current population** of razor clams (as measured by our most recent stock assessment on each beach) and the **highest population** level measured (again on each beach). The maximum harvest rate possible (using the variable harvest rate method) is 40%.

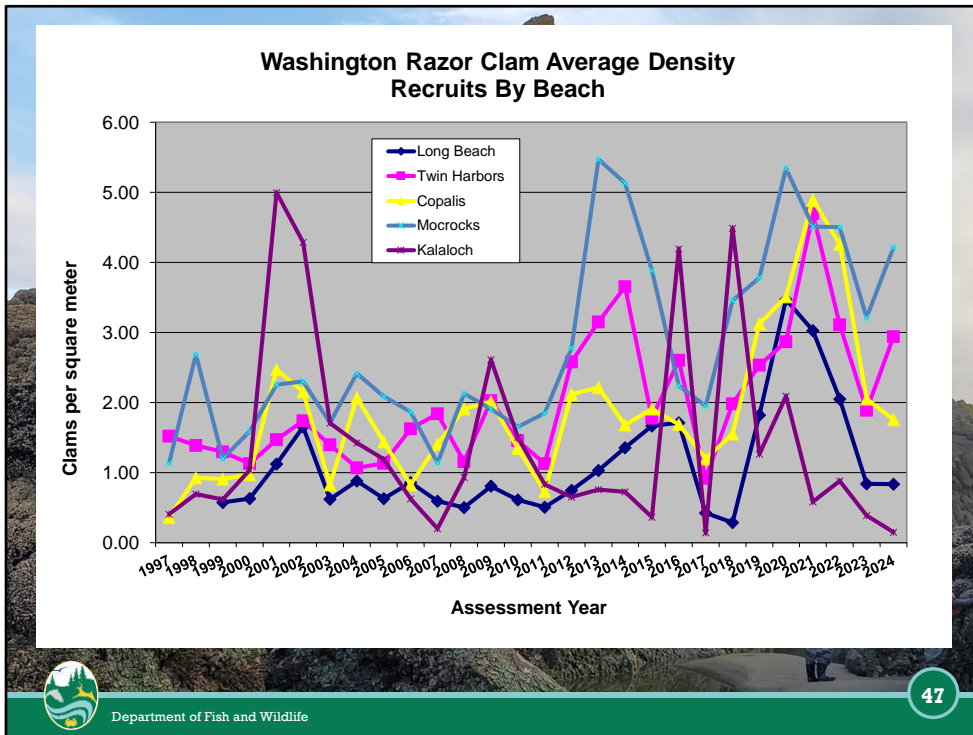
This methods allows for more harvest during times of abundant populations while still preserving the spawning capacity of the population. It also includes an automatic rebuilding strategy (with a reduced harvest rate) during times when stocks are weak. The variable harvest rate is being used to determine the TAC (total allowable catch) for Long Beach, Twin Harbors, Copalis and Mocrocks.



Starting with the 2012-13 recreational razor clam season, WDFW has used a modified management strategy. Rather than using a Static Exploitation Rate (ER) of 30%, we have adopted a Variable Exploitation Rate. As a result, the *harvest rate* used to develop the TAC will be *re-calculated* for each beach, each season. That rate will be based on the ratio of the current population of recruit sized clams (clams 3 inches or larger) compared to the entire biomass that allows the maximum sustained yield, or BSMY. The BSMY is practically defined as the highest historical density of clams for each beach. This method has two advantages. It allows the harvest of more clams (to a maximum of a 40% ER) when clam density is high (populations considered to be abundant) and it allows for a reduced harvest levels when densities are lower (smaller populations). When populations drop below 40% of BSMY an automatic rebuilding strategy is employed. Anytime a population drops below 10% of BSMY the fishery will be closed.



The 2024 assessment of razor clam populations showed a similar result to last year, which is a departure from the prolific results of 2020-2022. Overall, still a strong and healthy population more resembling an average year. Read on for the details. In this photo stock assessment crew takes a closer look at Copalis Rocks on the southern end of Mocrocks Beach after completing a nearby transect.



The best way to compare razor clam populations between beaches is to look at the average density (on the razor clam beds over the entire length of each beach) as measured in our annual stock assessment work. This graph displays average density on each beach back over the last 25 years. It is clear from this data that razor clam populations naturally change in abundance a fair amount. This is not an unexpected pattern in a shellfish population that is so heavily dependent on favorable oceanographic and weather conditions to allow for successful spawning and setting. As with any natural population, there are also disease processes that contribute to the variability in population levels.

The 2024 average density (clams per square meter) by beach was : Long Beach = 0.84; Twin Harbors = 2.94; Copalis = 1.76; Mocrocks = 4.22; Kalaloch = 0.15

For comparison: The 2023 average densities were; Long Beach = 0.84; Twin Harbors = 1.89; Copalis = 2.05; Mocrocks = 3.21; Kalaloch = 0.39.

The 2022 average densities were; Long Beach = 2.05; Twin Harbors = 3.11; Copalis = 4.26; Mocrocks = 4.50; Kalaloch = 0.88

The 2021 average densities were; Long Beach = 3.03; Twin Harbors = 4.7; Copalis = 4.9; Mocrocks = 4.51; Kalaloch = 0.59.

The 2020 average densities were; Long Beach = 3.47; Twin Harbors = 2.87; Copalis = 3.51; Mocrocks = 5.34; Kalaloch = 2.09.

The 2019 average densities were; Long Beach = 1.82; Twin Harbors = 2.54; Copalis = 3.12; Mocrocks = 3.78; Kalaloch = 1.27.

The 2018 average densities were; Long Beach = 0.29; Twin Harbors = 1.98; Copalis = 1.55; Mocrocks = 3.46; Kalaloch = 4.49.

The 2017 average density (clams per square meter) by beach was : Long Beach = 0.43; Twin Harbors = 0.92; Copalis = 1.20; Mocrocks = 1.95; Kalaloch = 0.14.

The 2016 average density (clams per square meter) by beach was: Long Beach = 1.71; Twin Harbors = 2.60; Copalis = 1.69; Mocrocks = 2.24; Kalaloch = 4.19.

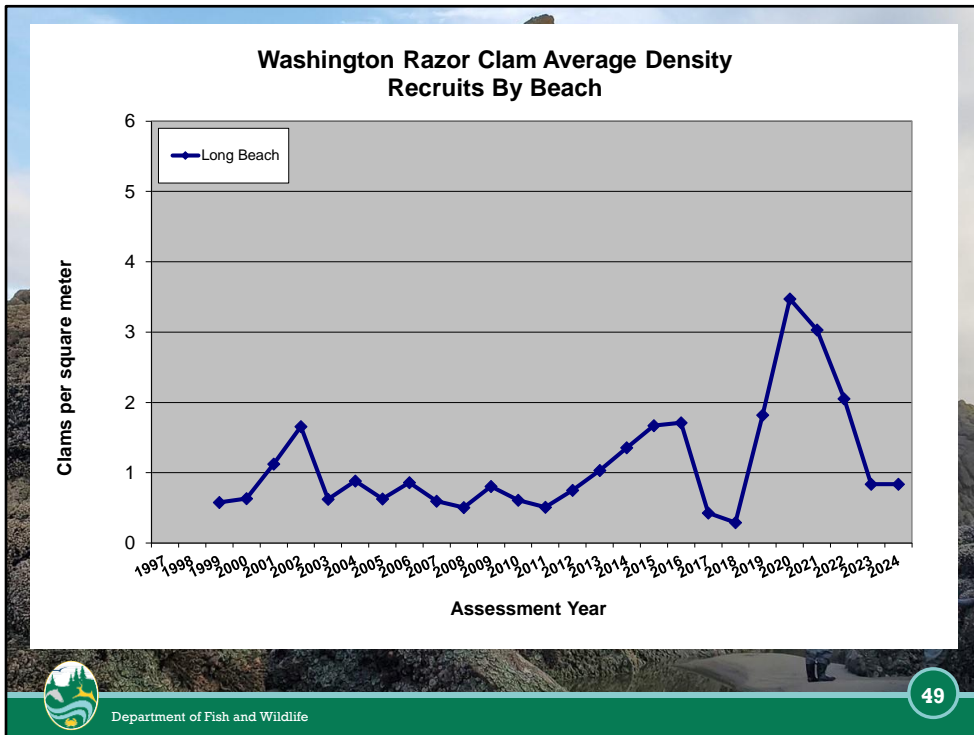


LONG BEACH RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA					
YEAR	POPULATION (clams)		TAC (clams)	HARVEST	% of TAC
	RECRUITS	PRE-RECRUITS	of recruits	TOTAL (clams)	harvested
2020-21	24,791,968	34,470,221	9,916,787	520,200	5.20%
2021-22	21,648,063	21,923,271	8,659,225	3,337,846	38.50%
2022-23	14,663,725	796,817	5,865,490	1,656,655	28.24%
2023-24	6,000,513	20,727,248	2,154,184	1,490,909	69.21%
2024-25	5,973,718	10,145,083	2,138,591		
AVERAGE	14,615,597	17,612,528	5,717,197	1,751,402	

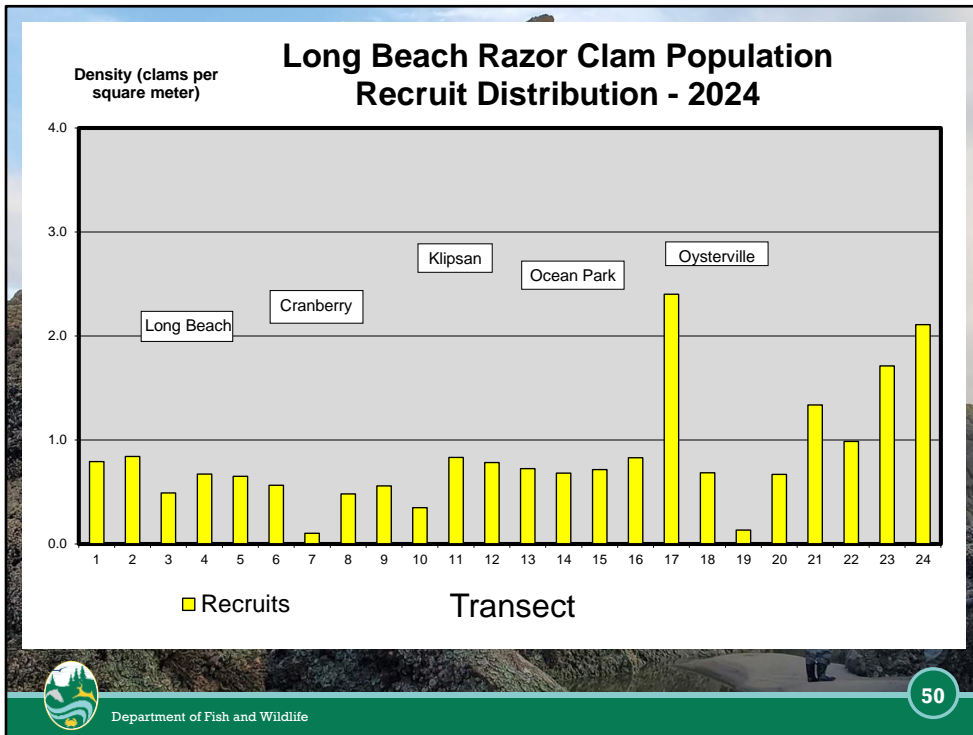
You will recall that the 2019 stock assessment results for Long Beach indicated that the number of harvestable (recruit) size clams was at a 25-year high with a strong stock of pre-recruits. The 2020 assessment on Long Beach showed a number of recruits that was nearly double 2019’s high, with even stronger numbers of the smaller pre-recruit clams. The 2021 stock assessment showed decreases in both recruits and a pre-recruits compared to the previous year, but the resulting TAC was only slightly less. After a full season of digging, the 2022 stock assessment showed a decrease in recruit clams but is still larger than the impressive 2019 numbers. Alarmingly we saw much fewer pre-recruits that summer than any of the last 5 years, which explains the drop in recruit clam numbers in the 2023 stock assessment. The summer 2024 stock assessment showed a near identical recruit estimate to last year with about half the pre-recruits.

Recruits are defined as clams greater than or equal to 76 mm (3 inches) in shell length; pre-recruits are are less than 76 mm (3 inches).

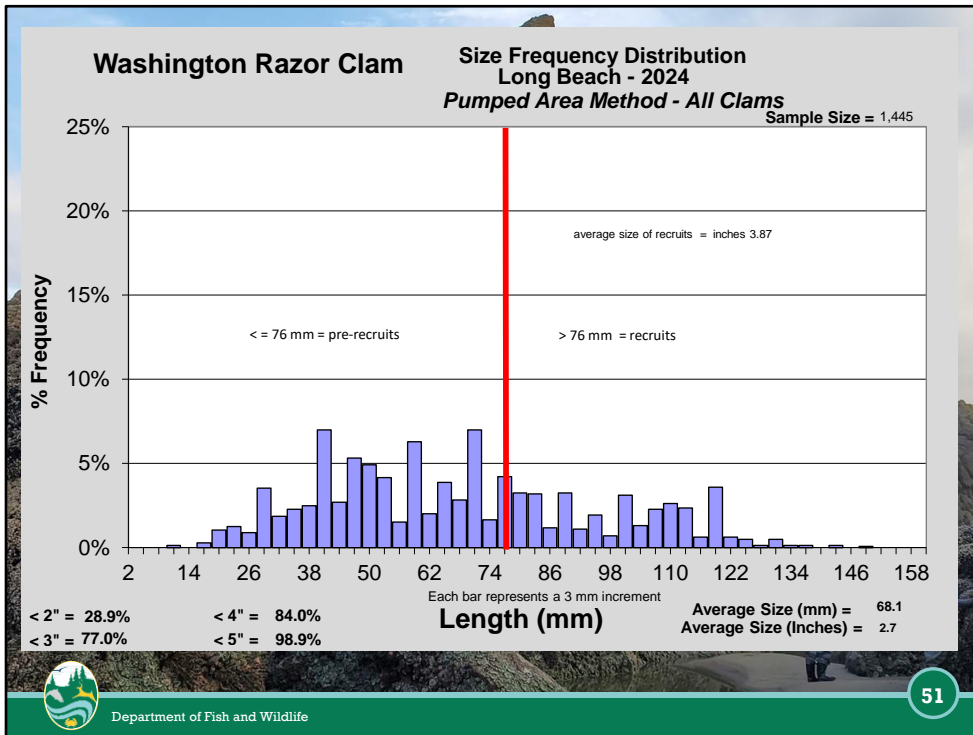




This is the same data that we presented in slide 47, although only the Long Beach historical population densities are included.



The 2024 stock assessment showed a decrease in clam densities from years past. This results in a less uniform recruit concentration, with northern areas showing densities above 1 clam per square meter and southern areas showing less. The highest density (y-axis) is near Oysterville and the top of the peninsula with ~2.0-2.5 clams per square meter.



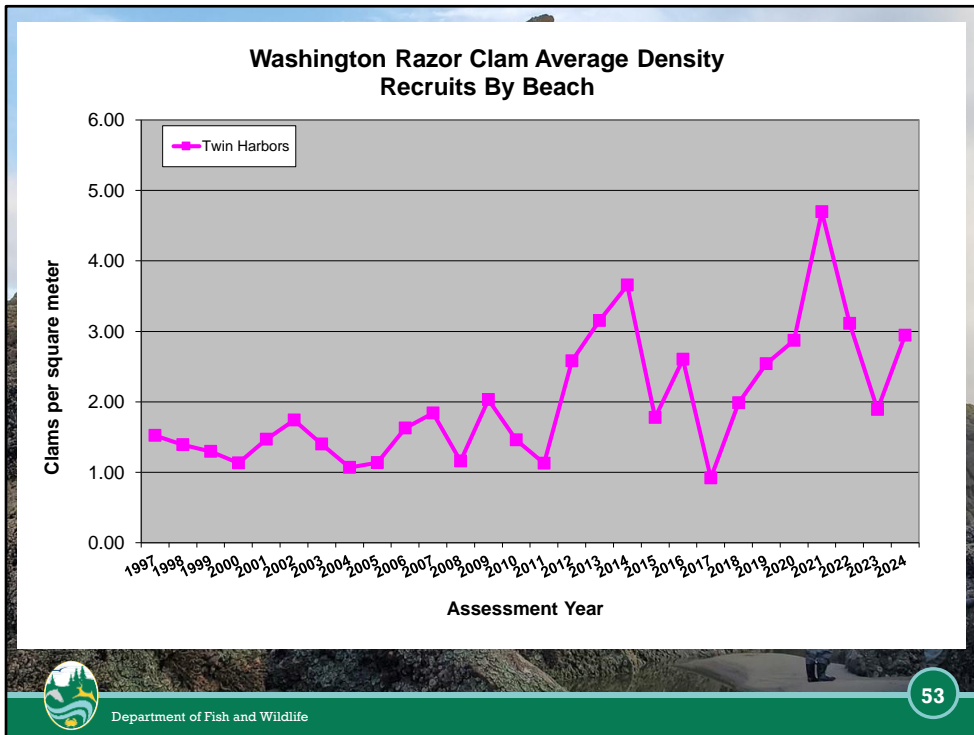
The average size of the Long Beach recruit clams found in our 2024 surveys was 3.87 inches. This compares to the average size in our 2023 survey of 4.04 inches; 2022 survey of 4.51 inches; 2021 average was 4.35 inches; 2020 average of 4.3 inches; 2019 average of 3.68 inches; 2018 average of 4.2 inches ; 2017 average of 4.5; 2016 average of 4.3; 2015 average of 4.0 inches; and the 2014 average of 3.8 inches.

TWIN HARBORS RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA					
YEAR	POPULATION (clams)		TAC (clams)	HARVEST	% of TAC
	RECRUITS	PRE-RECRUITS	of recruits	TOTAL (clams)	harvested
2020-21	5,210,727	2,878,451	2,084,291	307,172	14.7%
2021-22	8,529,445	4,559,006	3,411,778	2,120,314	62.10%
2022-23	5,646,634	2,323,486	2,258,653	1,465,517	64.88%
2023-24	3,434,858	3,285,569	1,281,202	1,145,618	89.42%
2024-25	5,858,109	4,328,537	2,343,243		
AVERAGE	5,735,955	3,475,010	2,275,834	1,259,655	

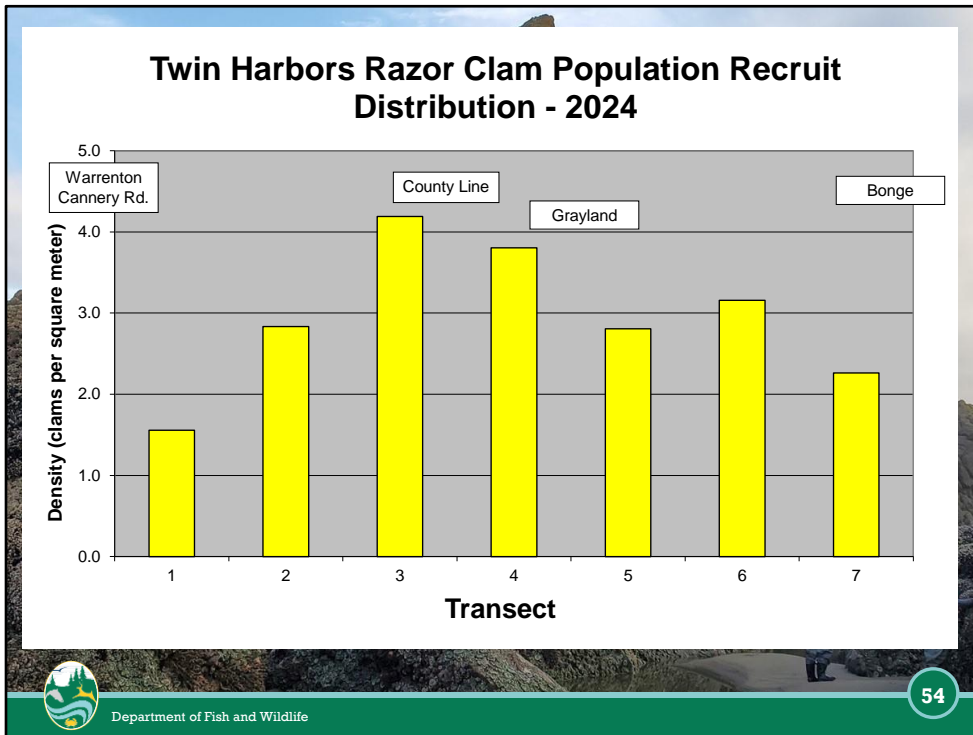
This summer 2024 stock assessment showed an increase in recruits on Twin Harbors, beating all long-term averages which should provide lots of successful digging this season.

Recruits are defined as clams greater than or equal to 76 mm (3 inches) in shell length; pre-recruits are are less than 76 mm (3 inches).

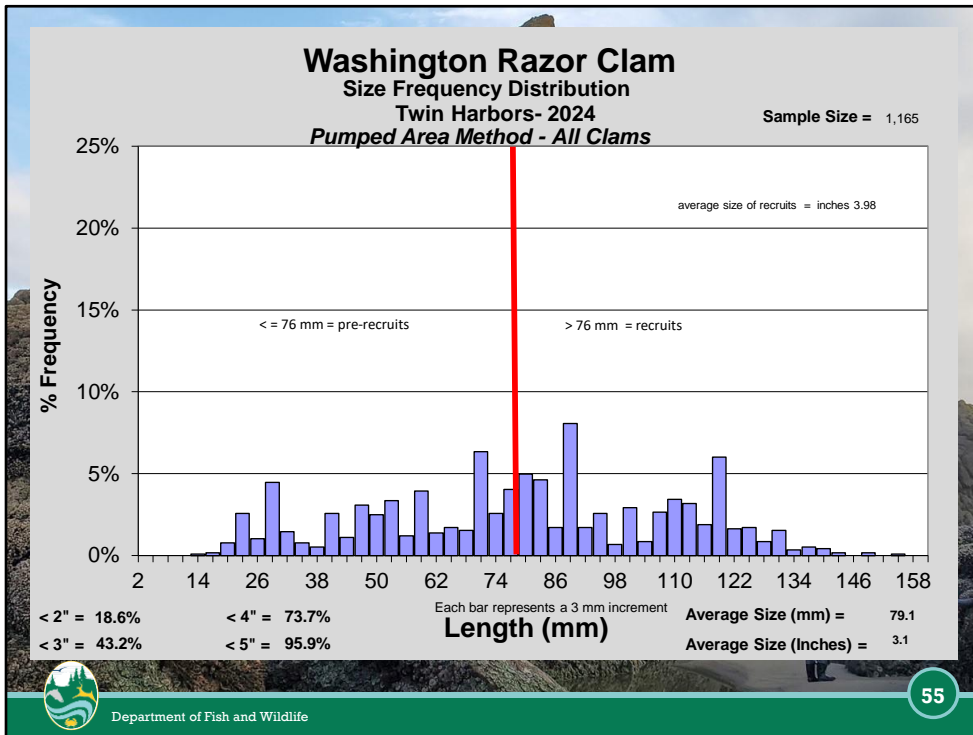




This is the same data that we presented in slide 47, although only the Twin Harbors historical population densities are included.



Diggers will find good razor clam populations on most of the Twin Harbors beach, with mid beach digging looking to be the most concentrated.



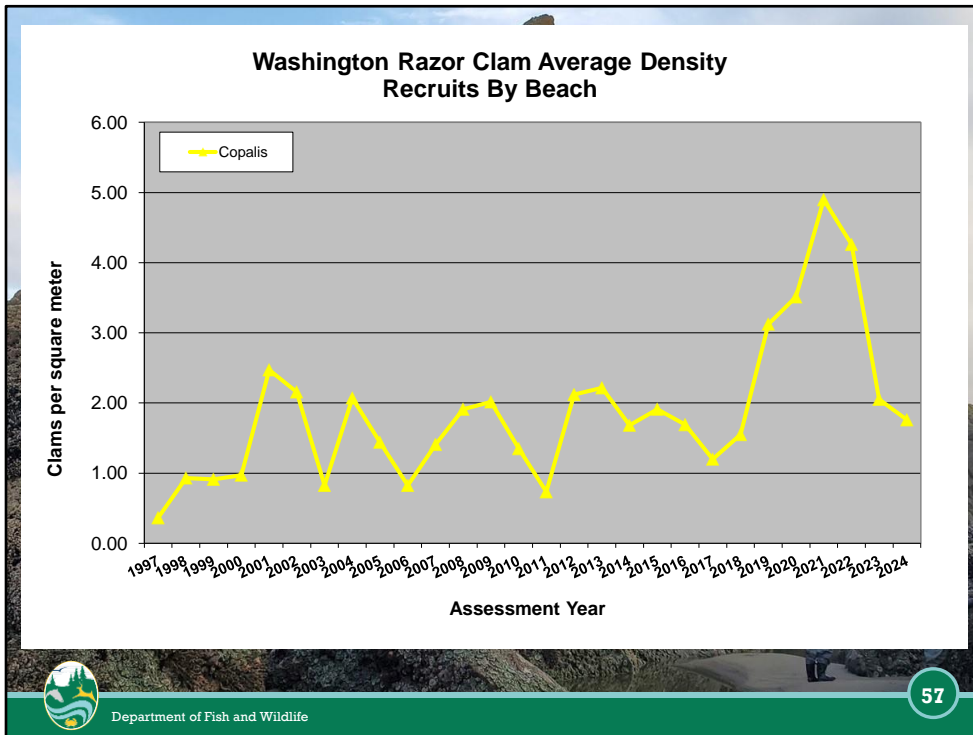
The average size of the Twin Harbors recruit clams found in our summer 2023 surveys was 3.98 inches. This compares to 4.2 inches in 2023; 4.6 inches in 2022; 4.2 in 2021; 4.2 in 2020; 4.3 in 2019; 3.9 in 2018; 3.9 inches in 2017; and 4.4 inches in 2016.

COPALIS RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA						
YEAR	POPULATION		Total	State's Share	State's	% of share
	RECRUITS	PRE-RECRUITS	TAC (clams of recruits	(50% w/ adjustments)	HARVEST (clams) TOTAL	
2020-21	11,848,503	12,560,196	4,739,401	2,369,701	245,870	10.40%
2021-22	16,519,110	15,426,336	6,607,644	3,303,822	1,657,587	50.20%
2022-23	14,369,717	8,845,252	5,747,887	2,873,943	1,185,177	41.24%
2023-24	6,922,690	9,383,846	2,734,463	1,367,231	1,105,545	80.86%
2024-25	5,931,333	4,209,107	2,212,387	1,106,194		
AVERAGE	11,118,271	10,084,947	4,408,356	2,204,178	1,048,545	

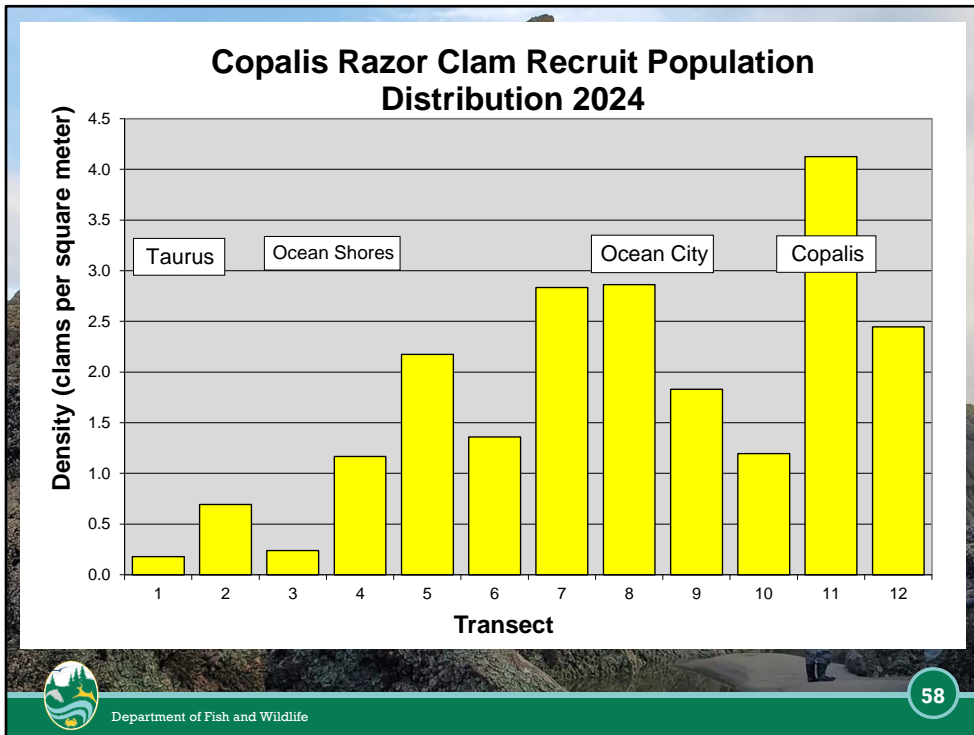
A six year low of recruit sized clams was observed on Copalis for the 2024-25 season. This results in less digging potential than the year prior, but still a decent number of clams for harvest.

Recruits are defined as clams greater than or equal to 76 mm (3 inches) in shell length; pre-recruits are are less than 76 mm (3 inches).

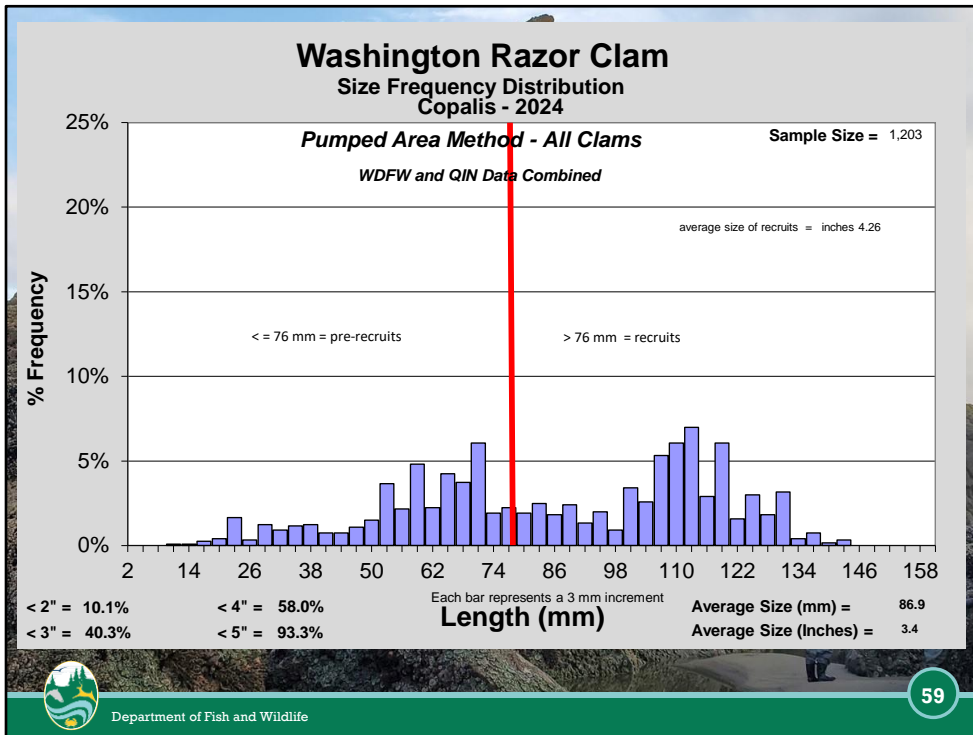




This is the same data that we presented in slide 47, although only the Copalis historical population densities are included.



Recruit distribution on Copalis beach is more concentrated in the northern area for the 2024-25 season. All areas except the bottom quarter of the beach show clam densities above 1 clam per square meter. The area with the highest clam density is the north end of the beach with a high above 4.0 clams per m².

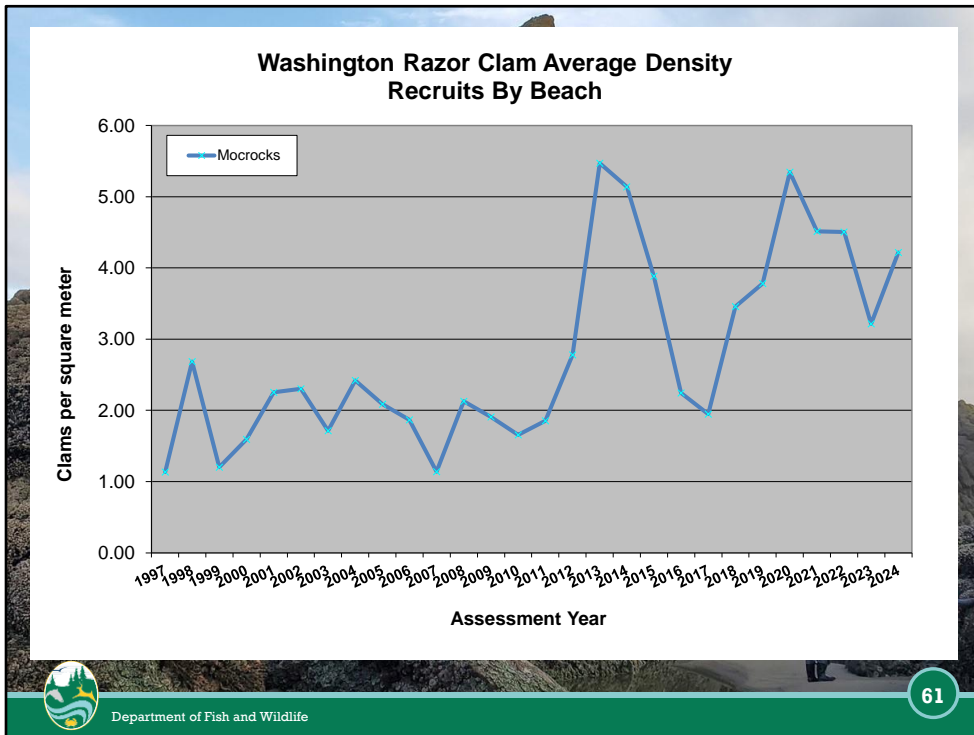


The average size of the Copalis recruit clams found in our 2024 summer surveys was 4.26 inches; compared to 4.5 in 2023; 4.3 in 2022; 4.5 in 2021; 4.1 in 2020; 4.2 in 2019; 3.9 inches in 2018; 4.3 inches in 2017; 4.4 inches 2016.

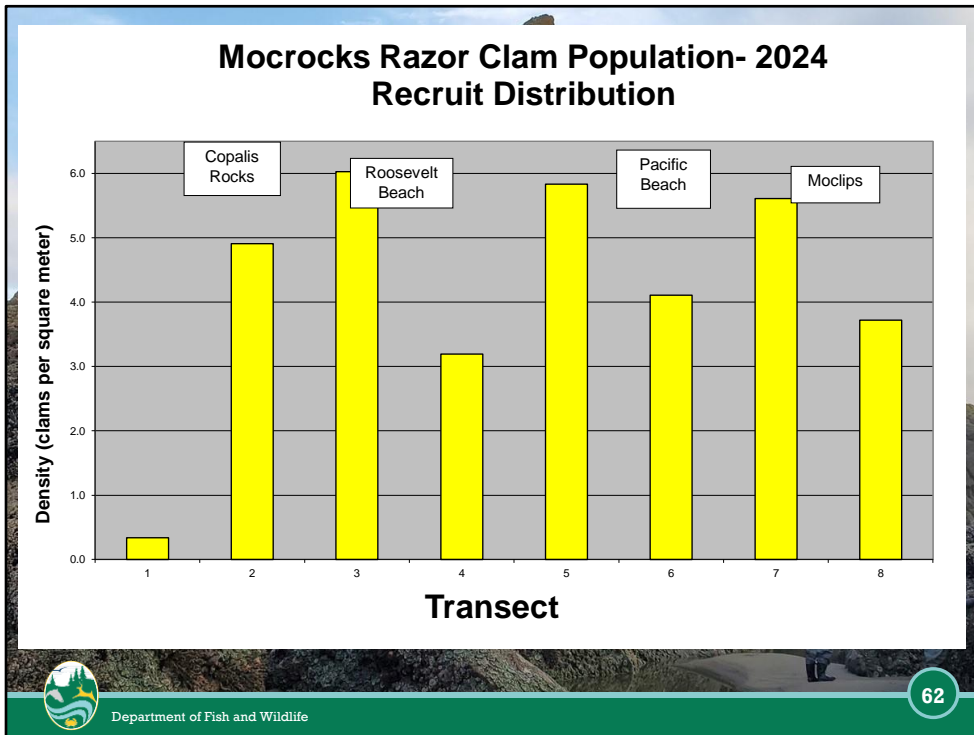
MOCROCKS RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA						
	POPULATION		Total	State's Share	State's	
			TAC (clams)	(50% w/	HARVEST	% of share
YEAR	RECRUITS	PRE-RECRUITS	of recruits	adjustments)	TOTAL	harvested
2020-21	11,653,105	7,140,413	4,661,242	2,330,621	665,004	28.50%
2021-22	9,844,546	48,183,071	3,937,819	1,968,909	1,255,299	63.80%
2022-23	9,823,659	7,704,916	3,929,463	1,964,732	919,439	46.80%
2023-24	7,009,915	9,618,587	2,803,966	1,401,983	788,923	56.27%
2024-25	9,200,766	4,622,344	3,680,306	1,840,153		
AVERAGE	9,506,398	15,453,866	3,802,559	1,901,280	907,166	

The 2024 stock assessment on Mocrocks showed a slight increase in recruits from the previous year, beating all averages except the most recent 5 years.

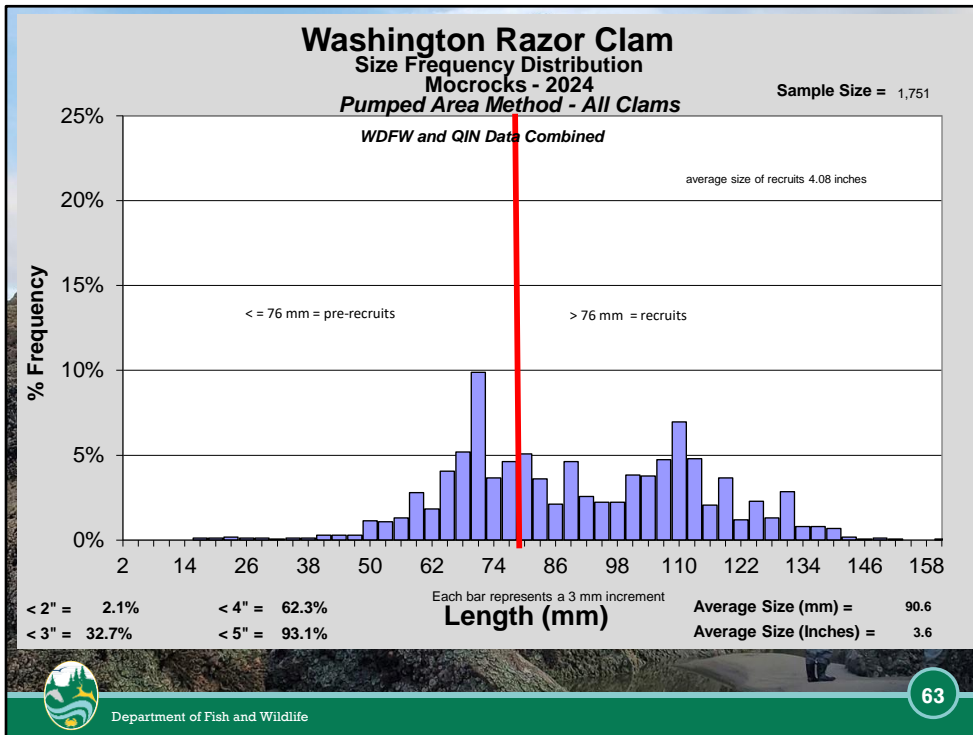




This is the same data that we presented in slide 47, although only the Mocrocks historical population densities are included.



The Mocrocks densities of recruit clams are more consistently strong historically than any other razor clam management beach. The 2024 densities again show all areas except one with abundances at or above 3 clams per square meter, and only one area below a density of 1 clam per square meter.



The average size of the Mocrocks recruit clams found in our 2024 summer survey was 4.08 inches. This compares to 4.4 inches in 2023; 4.2 in 2022; 4.4 in 2021; 4.07 in 2020; 4.3 in 2019; 3.7 inches in 2018; 4.2 inches in 2017; and 4.7 inches in 2016.

Recruits are defined as clams greater than or equal to 76 mm (3 inches) in shell length; pre-recruits are are less than 76 mm (3 inches).

KALALOCH RAZOR CLAM POPULATION, TOTAL ALLOWABLE CATCH (TAC) AND HARVEST DATA					
YEAR	POPULATION		Total	State's Share	State's
	RECRUITS	PRE-RECRUITS	TAC (clams)	(50% w/	HARVEST (clams)
			of recruits	adjustments)	TOTAL
2020-21	2,854,354	7,215,994	725,006	362,503	0
2021-22	800,434	97,441,944	203,310	101,655	0
2022-23	1,202,228	1,168,712	305,366	152,683	0
2023-24	528,741	4,717,808	134,300	67,150	0
2024-25	205,037	540,588	52,079	26,040	0
AVERAGE	1,346,439	27,636,115	341,996	170,998	0

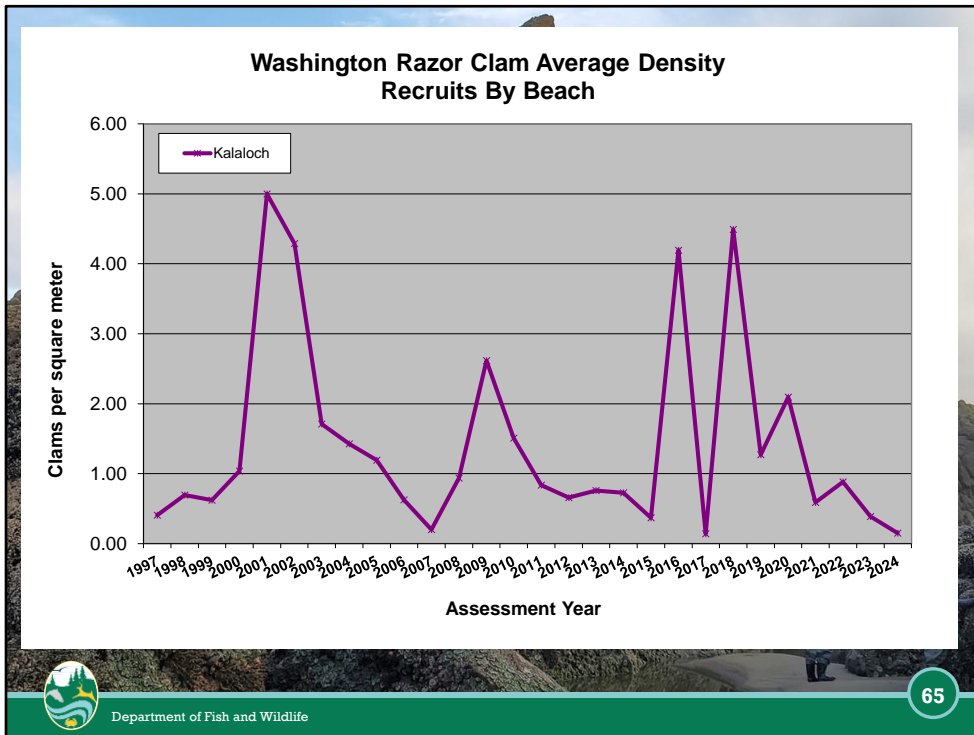


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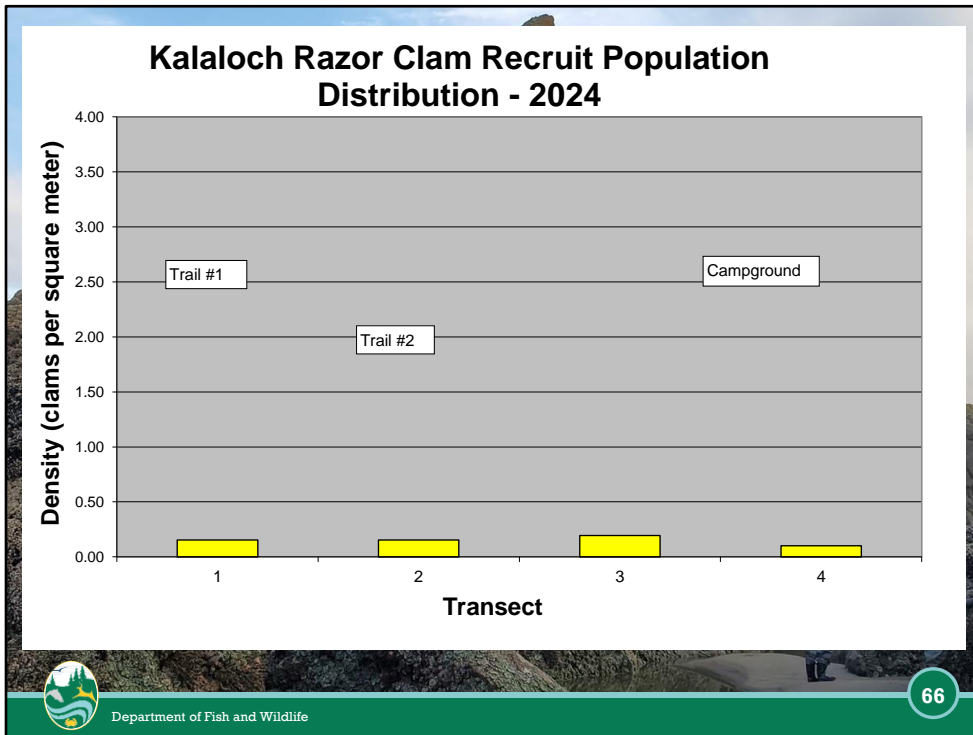
This summer showed the second lowest number of recruit clams ever observed on Kalaloch. No digging will be scheduled for this beach this year.

Recruits are defined as clams greater than or equal to 76 mm (3 inches) in shell length; pre-recruits are less than 76 mm (3 inches).

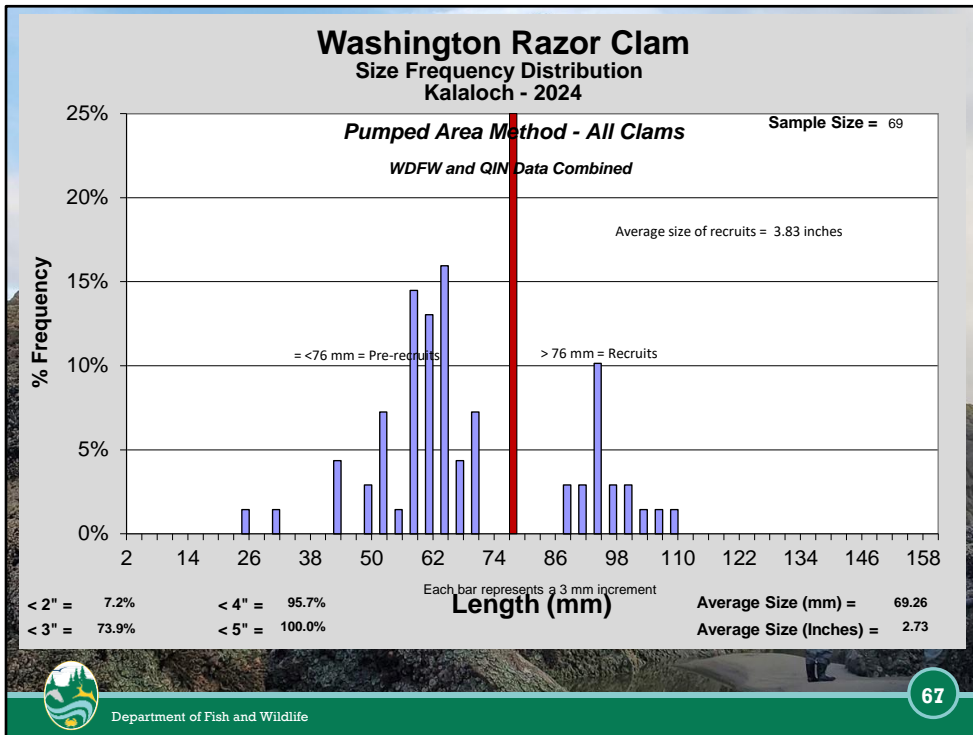
Because Kalaloch lies within the boundaries of the Olympic National Park, their staff works closely with WDFW staff in the management of the recreational fishery here. WDFW has the lead in the population assessment work. ONP has the lead in harvest monitoring and enforcing the recreational fishery. Both groups work together to set specific dates when harvest will occur on this beach.



This is the same data that we presented in slide 47, although only the Kalaloch historical population densities are included.




As you can see there are no areas of Kalaloch beach with abundant densities of clams.



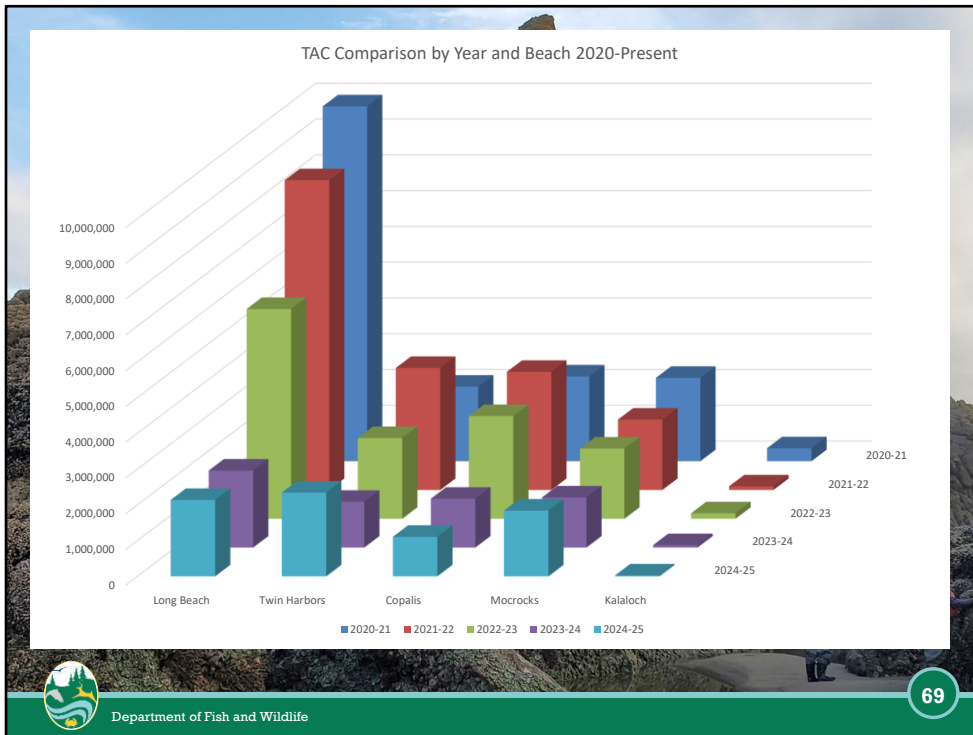
The number of recruit clams found at Kalaloch in 2023 were once again very small, smaller even than last year. Those we found in our survey transects had an average size of just 3.83 inches.

Recruits are defined as clams greater than or equal to 76 mm (3 inches) in shell length; pre-recruits are are less than 76 mm (3 inches).

	2024-25 TAC Share (clams)	Previous year average daily harvest (clams)
Long Beach	2,138,591	20,000
Twin Harbors	2,343,2432	15,000
Copalis	1,106,194	25,000
Mocrocks	1,840,153	15,000
Kalaloch	26,040	

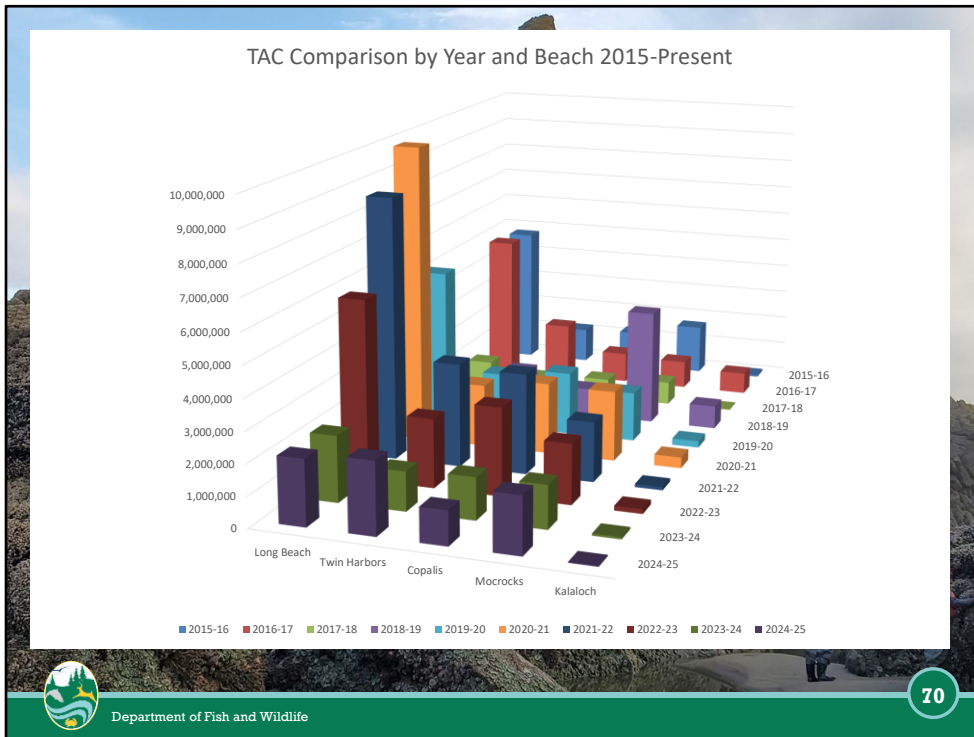

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This is a recap of the Total Allowable Catch that will guide WDFW during the 2024-25 season. We also list here our average daily catch from the prior year, by beach. Note that the average daily catch includes days with large crowds, excellent weather and good digging success as well as days with fewer people or poorer success (usually due to bad weather). It can be tricky to project this number, and we find daily harvest goes down when we have more days to offer.



The 2024-25 TAC by beach compared to those from the past five years shows a decrease from the prolific numbers from a few years ago. Still a strong and healthy population though.





The 2023-24 TAC by beach compared to those from the past ten years shows average or above average numbers depending on the beach.



Key Takeaways for 2024-25 Season

- Lower recruitment when compared to the past five years. Still a strong and healthy population that is similar in size to last year, resulting in about the same digging opportunity to the prior season.
- A return to TACs more resembling average years and less like the outlier years of 2020-2022
- Depending on fall digging success, the remaining 2025 digging schedule could have less harvest days per tide series, only some beaches per day, and less digging days overall.
- Potential for some beaches to reach their TAC and be unable for harvest before the end of the spring season.
- Fewer large clams and more small clams, resulting in a lower average size on all beaches.



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Lower recruitment when compared to the past five years. Still a strong and healthy population that is similar in size to last year, resulting in about the same digging opportunity to the prior season.

A return to TACs more resembling average years and less like the outlier years of 2020-2022.

Depending on fall digging success, the remaining 2025 digging schedule could have less harvest days per tide series, only some beaches per day, and less digging days overall. Potential for some beaches to reach their TAC and be unable for harvest before the end of the spring season.

Fewer large clams and more small clams, resulting in a lower average size on all beaches.

Co-Management with Coastal Tribes

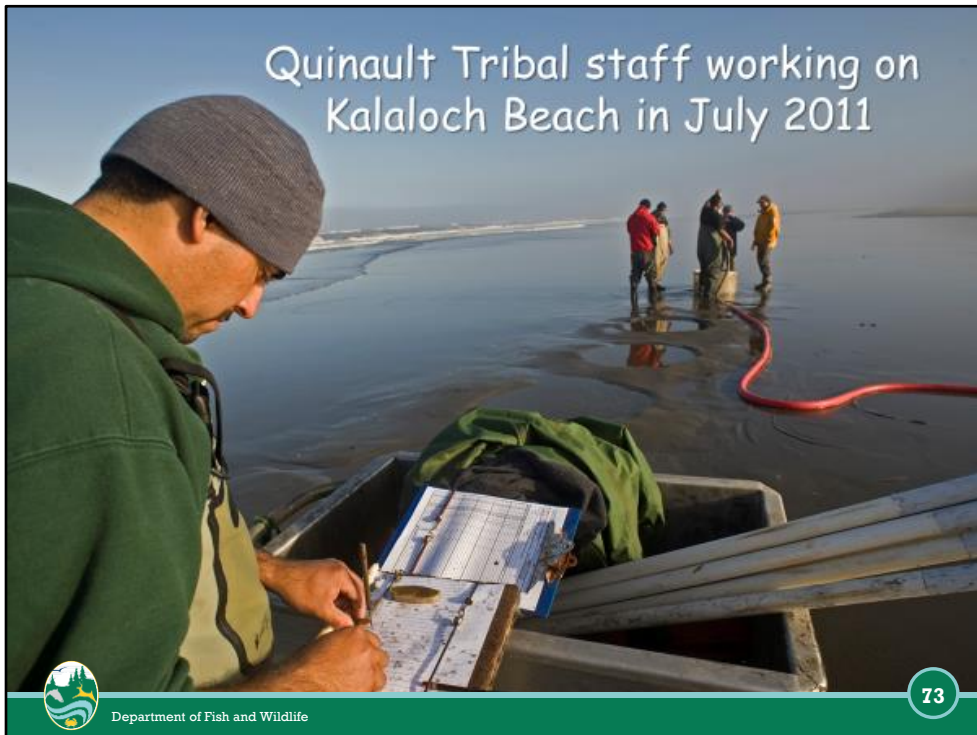
- Share the resource and share the work
 - ...complete joint stock assessments
 - ...determine TACs jointly
- Sign Fishery Management Plans annually
- Different seasons for different reasons
 - ...tribal ceremonial & subsistence / commercial
 - ...State recreational
- Each group monitors their own fishery
 - ...make individual harvest estimates / share data
 - ...provide enforcement



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As was mentioned earlier, WDFW works closely with two coastal tribes in the management razor clam populations.



The Quinault Indian Nation (QIN) shares the labor of the stock assessment work - with their own crews of biologists and technicians who also use the Pumped Area Method. Working side by side QIN and WDFW staff assess razor clam populations at Copalis, Mocrocks and Kalaloch. On each of these beaches half of the sample transects are completed by QIN staff and half by WDFW staff. The data is pooled and a joint population estimate is made.

At Kalaloch, the Hoh Tribe provides additional staff to assist in the assessment on that beach. Because there is no vehicle access on the Kalaloch beach – having extra people available to move the gear up and down trails to the beach is critical to the success of the work.

Fishery Management Agreements for Co-Managed Beaches Copalis, Mocrocks, and Kalaloch

2007-08 INTERIM RAZOR CLAM MANAGEMENT AGREEMENT FOR COPALIS AND MOCROCKS BEACHES

ENTERED INTO BY THE STATE OF WASHINGTON
AND QUINNAULT INDIAN NATION

August 28, 2007

This agreement establishes principles, concepts, and procedures, which will govern the non-Indian and treaty tribal fisheries for razor clams at Copalis and Mocrocks Beaches.

1. EFFECTIVE DATE

This agreement is effective on August 28, 2007.

2. TERM

The term of this agreement is until August 27, 2008, unless superseded by another agreement.



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Each year in August WDFW and the coastal tribes sit down and discuss the population estimates and proposed total allowable catch (TAC) for the co-managed beaches; Copalis, Mocrocks and Kalaloch. The result of those discussion is a an agreed to Fishery Management Plan signed by policy representatives of each group that guides the management of the fisheries in the coming season.



For helpful instruction on how to dig, watch our video “Digging Razor Clams in Washington”

Check it out at:
<https://youtu.be/RBM9b5r6rMQ>

Or visit our website:
<https://wdfw.wa.gov/fishing/basics/digging-razor-clams>

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We are pleased to offer you a video that should help new diggers learn how to dig razor clams. See it at: <https://youtu.be/RBM9b5r6rMQ> Or search You Tube for “Digging Razor Clams in Washington”

If you are one of our first time diggers we want to welcome you to this fun recreational activity that anyone can easily learn to do. After you’ve watch this video, and have additional questions, feel free to contact us at the email or phone numbers listed later in this document. Another good piece of advice, if you are on the beach and struggling to successfully dig clams, look around for an experienced digger and ask for advice. Most diggers are friendly and will be more than willing to give you some on-the-spot pointers. To you “old salts” who can dig a clam without blinking – consider offering some advice to those who might be new to razor clamming and look like they could use a few pointers.


<https://wdfw.wa.gov/fishing/basics/digging-razor-clams>

Dig with your kids, not for them . . .

Razor clamming is a fun and easy-to-learn activity that draws generations of families and friends to the Washington coast each year.

We understand that children have varying abilities when it comes to handling digging equipment. Adults may assist kids, but kids need to actively participate in the entire process of digging and gathering razor clams.

Watch our YouTube video online to see an example of how to dig razor clams with kids:
<http://www.youtube.com/thedfw>




Also, please remember:


- Adults and youth age 15 and older need a license to dig razor clams; licenses are available at many local sporting goods retailers and online at wdfw.wa.gov;
- Everyone needs to dig his or her own limit, bring a separate container for his or her clams, and not dig more than the 15 clam limit;
- It is unlawful to dig for someone else or dig part of someone's limit, unless digging for a disabled harvester with a designated harvester card.
- You are required to keep the first 15 clams dug, regardless of size and condition. Wasting razor clams is against the law.

The Washington Department of Fish and Wildlife is asking for your help to ensure current and future generations continue to enjoy bountiful razor clam harvests.


For more on razor clam seasons, regulations, digging, and cooking your clams, visit WDFW's recreational razor clam website: <http://wdfw.wa.gov/fishing/shellfish/razorclams/>



We hope you and your family
have a great time at the beach.




Still have questions
about razor clam digging?
Call 360-249-4628



WDFW also has a video titled: "Digging Razor Clams with Kids in Washington"

Check it out at:
http://youtu.be/gI9p_PparVk


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Razor clamming is a fun and easy-to-learn activity that draws generations of families and friends to the Washington coast each year. We understand that children have varying abilities when it comes to handling digging equipment. Adults may assist kids, but kids need to actively participate in the entire process of digging and gathering razor clams. Check out the video at: http://youtu.be/gI9p_PparVk Also, please remember:

- Adults and youth age 15 and older need a license to dig razor clams; licenses are available at many local sporting goods retailers and online at wdfw.wa.gov;
- Everyone needs to dig his or her own limit, bring a separate container, and not dig more than the current clam limit;
- It is unlawful to dig for someone else or dig part of someone's limit, unless digging for a disabled harvester with a designated harvester card.
- You are required to keep the first 15 clams dug, regardless of size and condition. Wasting razor clams is against the law. The Washington Department of Fish and Wildlife is asking for your help to ensure current and future generations continue to enjoy bountiful razor clam harvests. For more information on razor clam seasons, regulations, digging, and cooking your clams, visit WDFW's recreational razor clam website: <http://wdfw.wa.gov/fishing/shellfish/razorclams/>

When you get home and need information on what to do with your catch, WDFW recently made: “How to Clean and Cook Razor Clams”

Check it out at:

<https://youtu.be/sTaRaHkFFEw>

Recipe inspiration can be found here:

<https://wdfw.medium.com/our-favorite-razor-clam-recipes-a4d3019548c9>



We are pleased to offer you a video that should help new diggers learn how to clean and cook razor clams. See it at: <https://youtu.be/sTaRaHkFFEw> Or search YouTube for “Digging Razor Clams in Washington”

For recipe inspiration visit our blog post:

<https://wdfw.medium.com/our-favorite-razor-clam-recipes-a4d3019548c9>

Common razor clam parasites

We are often contacted by razor clam diggers who have encountered a couple of relatively common razor clam parasites. The next two pages provide more details. However, anytime you find something unusual while digging or while on the beach, don't hesitate to contact us at TeamMontesano@dfw.wa.gov or RazorClams@dfw.wa.gov



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We are often contacted by razor clam diggers who have encountered a couple of relatively common razor clam parasites. The next two pages provides more details. However, anytime you find something unusual while digging or while on the beach, don't hesitate to contact us at TeamMontesano@dfw.wa.gov or RazorClams@dfw.wa.gov

Pinnixa sp. (Pea Crab)

There are many species of “pea crabs” in the family *Pinnixa*. They are found in the siphon, mantle, or gill cavity of razor clams and in many other regional invertebrates (clams, mussels, oysters, sea cucumbers, etc.) It has a commensal relationship with the host, taking food from the clam’s digestive system but otherwise causing no damage. Feel free to eat the clam since it is unharmed by the crab.



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They are an uncommon, but not unusual razor clam parasite usually discovered while cleaning clams. These organisms have a commensal relationship with the host razor clam, taking food from the clam’s digestive system but otherwise not harming the clam. There are many different species of *Pinnixa* crab, and they can be found in the siphon, mantle, and gill cavity of many species of other bivalves and invertebrates.

The geographic distribution among razor clams appears to be patchy and their abundance is unpredictable. It is not unusual to find multiple clams with a pea crab inhabitant in a catch limit of razor clams. Since the crabs leave their hosts unscathed, please feel free to eat and enjoy those inhabited razor clams.

Malacobdella silquae

A nemertean worm parasite found in the siphon, mantle, or gill cavity of pacific razor clams. It has a commensal relationship with the host, taking food from the clam's digestive system but otherwise causing no damage. Feel free to eat the clam since it is unharmed by the worm.



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Malacobdella silquae. It is an uncommon, but not unusual razor clam parasite. It is a genus of nemertean worm and is found in the mantle and/or gill cavity of many species of clams and other bivalves. *Malacobdella* have a large posterior sucker, like that of a leech. It has a commensal relationship with the host razor clam, taking food from the clam's digestive system, but otherwise not harming the clam.

The geographic distribution among razor clams appears to be very patchy. However, it is not unusual to find more than one clam, each with a *Malacobdella* from a catch of razor clams taken from the same general area

Comments and Suggestions???

Feel free to email us and tell us what you think:

razorclams@dfw.wa.gov



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Thank you for taking the time to review this presentation. We are interested in your opinions regarding our management of the razor clam resource and specifically any suggestions or comments you have on the way we might structure the remaining dates for 2024-25 season.

Email your comments to : razorclams@dfw.wa.gov

To be added to our e-mail update list, please send an email request to: razorclams@dfw.wa.gov

Below is an excerpt of a message sent out to this list;

On Apr 4, 2017, at 3:44 PM, Ayres, Daniel L (DFW) <Daniel.Ayres@dfw.wa.gov> wrote:

You are receiving this message because you have expressed interest in Washington State's recreational razor clam fishery. If you do not wish to receive future messages, please reply by return e-mail.

SEASON UPDATE: We are happy to be able to finally include Long Beach in a razor clam opener. Not wanting to delay any longer than needed, Long Beach joins Twin Harbors in opening tomorrow (4/12). Copalis and Mocrocks will also open as previously scheduled. See the details below.

- April 12, Wednesday, 8:08 a.m., 0.0 feet; Twin Harbors, Long Beach
- April 13, Thursday, 8:43 a.m., 0.0 feet; Twin Harbors, Copalis, Long Beach
- April 14, Friday, 9:18 a.m., 0.1 feet; Twin Harbors, Mocrocks, Long Beach
- April 15, Saturday, 9:55 a.m., 0.3 feet; Twin Harbors, Copalis, Long Beach
- April 16, Sunday, 10:36 a.m., 0.5 feet; Twin Harbors, Mocrocks, Long Beach

beach must test under the action level (20 ppm for domoic acid; 80 µg/100g for PSP; and 16 µg/100g for DSP) on both of the two required sample collections.

Note that in all of these samples; only razor clam meat tissue is tested.

The following samples collected on April 9, 2017

Long Beach Area E (north):

- domoic acid = 10 ppm
- PSP = < 38 µg/100g
- DSP = none detected

Long Beach Area OY (middle):

- domoic acid = 9 ppm
- PSP = < 38 µg/100g
- DSP = none detected



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You may be interested to know that we maintain an email distribution list for anyone specifically interested in razor clam related issues. The periodic updates sent out using this list include information on season openers, marine toxin levels and other pertinent topics. If you are interested in having your email address added to this list, please let us know by sending an email request to: razorclams@dfw.wa.gov



Washington 2024-25 Recreational Razor Clam
Tentative* Fall Harvest dates
**Pending final marine toxin test results*

NOTE: open beaches vary by day. Please pay close attention to this list of dates and beaches open.

PM TIDES ONLY

Oct. 3, Thursday; 7:38 p.m.; 0.3 feet; Long Beach, Twin Harbors, Mocrocks
Oct. 4, Friday; 8:10 p.m.; 0.1 feet; Long Beach, Twin Harbors, Copalis
Oct. 5, Saturday, 8:44 p.m.; 0.1 feet; Long Beach, Twin Harbors, Copalis
Oct. 6, Sunday, 9:20 p.m.; 0.1 feet; Long Beach, Twin Harbors, Mocrocks
Oct. 7, Monday, 10:02 p.m.; 0.3 feet; Long Beach, Twin Harbors, Mocrocks

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Page 1 of 4. These dates remain tentative until final marine toxin tests have been completed, generally a few days before the opening is scheduled to occur. This is to ensure the clams you harvest are safe to eat.

Feed back WDFW has received over the last several years is that most clam diggers like the season structure we've been using that allows for a few days of digging – each month – on as many beaches as possible.

Many coastal businesses have also said that such a season structure helps them by drawing people to coastal communities during periods of the year when fewer people would normally visit.

We are always open to suggestions and would be happy to hear any ideas about what might work better for you.



Oct. 15, Tuesday, 5:31 p.m.; 0.5 feet; Long Beach, Twin Harbors, Mocrocks
Oct. 16, Wednesday, 6:18 p.m.; -0.5 feet; Long Beach, Twin Harbors, Copalis
Oct. 17, Thursday, 7:03 p.m.; -1.3 feet; Long Beach, Twin Harbors, Copalis
Oct. 18, Friday, 7:49 p.m.; -1.7 feet; Long Beach, Twin Harbors, Mocrocks
Oct. 19, Saturday, 8:35 p.m.; -1.7 feet; Long Beach, Twin Harbors, Mocrocks
Oct. 20, Sunday, 9:24 p.m.; -1.4 feet; Long Beach, Twin Harbors, Copalis
Oct. 21, Monday, 10:16 p.m.; -0.8 feet; Long Beach, Twin Harbors, Copalis

Nov. 1, Friday, 7:15 p.m.; -0.2 feet; Long Beach, Twin Harbors, Mocrocks
Nov. 2, Saturday, 7:47 p.m.; -0.4 feet; Long Beach, Twin Harbors, Mocrocks
(switch to standard time)
Nov. 3, Sunday, 7:22 p.m.; -0.4 feet; Long Beach, Twin Harbors, Copalis
Nov. 4, Monday, 8:00 p.m.; -0.3 feet; Long Beach, Twin Harbors, Copalis
Nov. 5, Tuesday, 8:42 p.m.; -0.1 feet; Long Beach, Twin Harbors, Mocrocks



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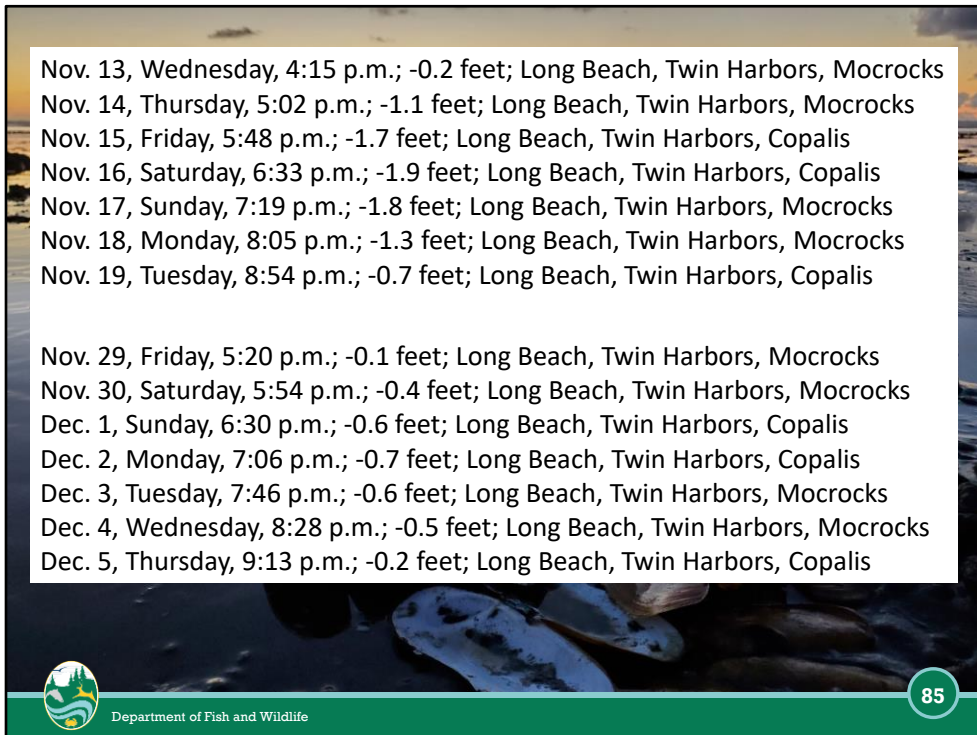


Page 2 of 4. These dates remain tentative until final marine toxin tests have been completed, generally a few days before the opening is scheduled to occur. This is to ensure the clams you harvest are safe to eat.

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Nov. 13, Wednesday, 4:15 p.m.; -0.2 feet; Long Beach, Twin Harbors, Mocrocks
Nov. 14, Thursday, 5:02 p.m.; -1.1 feet; Long Beach, Twin Harbors, Mocrocks
Nov. 15, Friday, 5:48 p.m.; -1.7 feet; Long Beach, Twin Harbors, Copalis
Nov. 16, Saturday, 6:33 p.m.; -1.9 feet; Long Beach, Twin Harbors, Copalis
Nov. 17, Sunday, 7:19 p.m.; -1.8 feet; Long Beach, Twin Harbors, Mocrocks
Nov. 18, Monday, 8:05 p.m.; -1.3 feet; Long Beach, Twin Harbors, Mocrocks
Nov. 19, Tuesday, 8:54 p.m.; -0.7 feet; Long Beach, Twin Harbors, Copalis

Nov. 29, Friday, 5:20 p.m.; -0.1 feet; Long Beach, Twin Harbors, Mocrocks
Nov. 30, Saturday, 5:54 p.m.; -0.4 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 1, Sunday, 6:30 p.m.; -0.6 feet; Long Beach, Twin Harbors, Copalis
Dec. 2, Monday, 7:06 p.m.; -0.7 feet; Long Beach, Twin Harbors, Copalis
Dec. 3, Tuesday, 7:46 p.m.; -0.6 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 4, Wednesday, 8:28 p.m.; -0.5 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 5, Thursday, 9:13 p.m.; -0.2 feet; Long Beach, Twin Harbors, Copalis



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Page 3 of 4. These dates remain tentative until final marine toxin tests have been completed, generally a few days before the opening is scheduled to occur. This is to ensure the clams you harvest are safe to eat.

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Dec. 12, Thursday, 4:00 p.m.; -0.5 feet; Long Beach, Twin Harbors, Copalis
Dec. 13, Friday, 4:50 p.m.; -1.2 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 14, Saturday, 5:36 p.m.; -1.6 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 15, Sunday, 6:21 p.m.; -1.6 feet; Long Beach, Twin Harbors, Copalis
Dec. 16, Monday, 7:05 p.m.; -1.5 feet; Long Beach, Twin Harbors, Copalis
Dec. 17, Tuesday, 7:48 p.m.; -1.1 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 18, Wednesday, 8:31 p.m.; -0.5 feet; Long Beach, Twin Harbors, Mocrocks

Dec. 28, Saturday, 4:58 p.m.; 0.0 feet; Long Beach, Twin Harbors, Copalis
Dec. 29, Sunday, 5:36 p.m.; -0.4 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 30, Monday, 6:14 p.m.; -0.7 feet; Long Beach, Twin Harbors, Mocrocks
Dec. 31, Tuesday, 6:51 p.m.; -1.0 feet; Long Beach, Twin Harbors, Copalis



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Page 4 of 4. These dates remain tentative until final marine toxin tests have been completed, generally a few days before the opening is scheduled to occur. This is to ensure the clams you harvest are safe to eat.

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We are always open to suggestions and would be happy to hear any ideas about what might work better for you.



Thank you for taking the time to review this management presentation. Hope to see you on the beach soon.

Bryce Blumenthal
Recreational Razor Clam Manager
Washington State Department of Fish and Wildlife
Region Six
48 Devonshire Road
Montesano, WA 98563 USA
Telephone: 360-249-4628 (ext. 232)
RazorClams@dfw.wa.gov