THURSTON COUNTY
WASHINGTON
SINCE 1852

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HEARING EXAMINER

Creating Solutions for Our Future

BEFORE THE HEARING EXAMINER
FOR THURSTON COUNTY

In the Matter of the Application of	)	Project No. 2012-103227
	)	
Mark and Linda Schaffel of	)	
Northwest Shellfish Company	)	
	)	
	)	
For Approval of a	)	
Shoreline Substantial Development Permit	)	FINDINGS, CONCLUSIONS,
	)	AND DECISION

SUMMARY OF DECISION

The requested substantial shoreline development permit to allow phased development of a 0.48-acre intertidal geoduck bed along the eastern shore of the Steamboat Island peninsula on leased tidelands at 6114 Boardman Road NW in Olympia is **GRANTED** with conditions.

SUMMARY OF RECORD

Request:
Mark and Linda Schaffel of Northwest Shellfish (Applicant) requested approval of a substantial shoreline development permit to develop a phased 0.48-acre intertidal geoduck bed along the eastern shore of the Steamboat Island peninsula on leased tidelands at 6114 Boardman Road NW in Olympia, Washington. The proposed project area is designated as Conservancy Shoreline Environment by the Shoreline Master Program for the Thurston Region.

Hearing Date:
The Thurston County Hearing Examiner held an open record hearing on the request on August 19, 2013. At the conclusion of the hearing, the record was held open to allow the Applicant an opportunity to respond to the public comments submitted at hearing. The Applicant agreed to extend the time for issuance of the decisions until September 13, 2013.

Testimony:
At the hearing the following individuals presented testimony under oath:

Scott McCormick, Associate Planner, Resource Stewardship Department
Mark Schaffel, Applicant
Chris Cziesla, Applicant consultant
Steve Bloomfield
Bob Jacobs
Susan Macomson
Nancy Eggleston
Linda Lentz
Kyle Lentz
Diani Taylor
Steven Wilson
Tom Bloomfield
Vicki Wilson

The Applicant was represented by Jesse DeNike, Attorney.

Exhibits:
At the hearing the following exhibits were admitted in the record:

EXHIBIT 1 Resource Stewardship Department Report including the following exhibits:

Attachment a	Notice of Hearing
Attachment b	Master Application, July 24, 2012 (received)
Attachment c	JARPA Application dated July 24, 2012 (received)
Attachment d	Vicinity Map (Project Location)
Attachment e	Vicinity & Zoning Map
Attachment f	Notice of Application with site plans dated January 15, 2013
Attachment g	SEPA Mitigated Determination of Non-Significance dated May 16, 2013. Includes SEPA Checklist dated July 12, 2012 with attachments.
Attachment h	SEPA Mitigated Determination of Non-Significance; Withdrawal and Reissuance dated June 11, 2013.
Attachment i	Addendum to the SEPA Mitigated Determination of Non-Significance; Withdrawal and Reissuance issued June 11, 2013, dated July 2, 2013.

Attachment j Draft Biological Evaluation: Northwest Shellfish, Thurston County Geoduck Farm, by Confluence Environmental Co. dated July 18, 2012.

Attachment k Letter from Plauché and Carr dated June 25, 2013 with attachments.

Attachment l Letter from Plauché and Carr dated May 30, 2013

Attachment m Email from Alex Callender, WA Dept. of Ecology dated April 11, 2013

Attachment n Email from Hilde and Hugh Ward dated February 4, 2013

Attachment o Letter from WA Dept. of Ecology dated February 4, 2013

Attachment p Memo from Thurston County Environmental Health dated August 30, 2012

Attachment q Memo from Thurston County Public Works recommending approval dated August 17, 2012

Attachment r SEPA recommendation from Thurston County Public Works recommending approval dated August 17, 2012

Attachment s Letter from the WA Dept. of Ecology dated August 14, 2012

Attachment t Site photos by staff (Spring 2013 site visit)

Exhibit 2 Consistency Analysis prepared by the Applicant, dated August 19. 2013, with the following attachments:

A. US Army Corps of Engineers Approval of NWP 48, with conditions, dated March 19, 2013
B. Department of Ecology correspondence, dated April 30, 2013
C. Shoreline Hearings Board Findings, Conclusions, and Decision, Case No. 11-019, issued July 13, 2012
D. Washington Shellfish Initiative, December 9, 2011
E. National Oceanic and Atmospheric Administration (NOAA)'s National Shellfish Initiative, December 2011
F. Geoduck Aquaculture Research Program Interim Report, dated February 2012
G. US Department of Commerce Aquaculture Policy, June 2011
H. NOAA Marine Aquaculture Policy, June 2011

Exhibit 3 PowerPoint presentation prepared by Mark Schaffel

Exhibit 4 PowerPoint presentation prepared by Chris Cziezla, with the following bibliography information:

1. Expert Report of Jonathan P. Houghton, Ph.D., Feb. 15, 2011
2. Assessment of Coastal Sediments & Shoreline Morphology Impacts - Proposed Longbranch Shellfish Farm, Feb. 15, 2011
3. Geoduck Aquaculture Research Program, Feb. 2012
4. Jonathan P. Davis, Ph.D., Feb. 2011
5. Article titled "Ecosystem Influences of Natural & Cultivated Populations of Suspension-Feeding Bivalve Mollusks: A Review, 2004
6. Final Report titled "The Transport & Fate of Suspended Sediment Plumes Associated with Commercial Geoduck Harvesting, April 1992
7. Article titled "Surface, Planktonic, & Benthic Foraging by Juvenile Chinook Salmon in Turbid Laboratory Conditions, 1992
8. Canadian Science Advisory Secretariat Science Advisory Report 2011
9. PowerPoint titled "Effect of Predator Exclusion Structures as Agents of Ecological Disturbance to Infaunal Communities in Geoduck Clam Aquaculture Plots in Southern Puget Sound, WA, USA", dated Nov. 1, 2012
10. PowerPoint titled "Quantifying the Ecological Impact of Geoduck Aquaculture Harvest Practices on Benthic Infauna", dated Feb. 29 - Mar. 1, 2012
11. "Benthic Community Structure & Response to Harvest Events at Geoduck Aquaculture Sites in Southern Puget Sound, WA"
12. Jennifer Price Thesis titled "Quantifying the Ecological Impacts of Geoduck Aquaculture Harvest Practices on Benthic Infauna, 2011
13. Correspondence from Barry A Thom, W.S. Dept. of Commerce, April 28, 2009
14. Biological Opinion of the Nationwide Permit 48, Ken Berg, U.S. Dept. of the Interior, Mar. 24, 2009
15. Technical Memorandum titled "An Analysis of the Environmental Concerns Associated with Intertidal Geoduck Clam Aquaculture, April 14, 2008

Exhibit 5 Map of existing shellfish operations, prepared by Environ in 2008, submitted by Susan Macomson

Exhibit 6 "Not Your Grandfather's Oyster Farm", a publication of the Coalition to Protect Puget Sound, submitted by Susan Macomson

Exhibit 7 Video of aquaculture activities in progress in Eld and Henderson Inlets, submitted by Susan Macomson

Exhibit 8 a. Written Testimony of Steve Wilson, submitted August 19, 2013
b. Comment Letter from Steve & Vicki Wilson, Arcadia Point Seafood, submitted August 19, 2013

Exhibit 9[1] Post-Hearing submittal by the Applicant, dated August 22, 2013

Also included in the record is the August 20, 2013 Post-Hearing Order.

Based on the record developed at hearing, the following findings and conclusions are entered:

FINDINGS

Procedural Background and Site Information

1. The Applicant requested approval of a substantial shoreline development permit to develop a 0.48-acre geoduck bed on intertidal lands leased from the owners (William and Marie Staley) of the residential parcel at 6114 Boardman Road NW in Olympia.[2] The proposed farm would be developed between -3.8 and +7 Mean Lower Low Water (MLLW) maximum. *Exhibit 1, pages 1-3; Exhibit 1, Attachment C, Joint Aquatic Resources Permit Application (JARPA); Exhibit 1, Attachments D, E, and F (aerial photo).*

2. Northwest Shellfish Company is a family-owned and operated small business run by the Applicants. Linda Schaffel began shellfish farming in 2001, starting with oysters. Mark Schaffel has been shellfish farming since 1984. He started his own company in 1994, and prior to that he worked for the Squaxin Island Tribe. Both Schaffels have environmental backgrounds. This year, their company farmed 25,000 square feet of intertidal beds. All equipment and gear used by the business is all made in America, most of it local; each piece is labeled with contact information. They sustain their business and their livelihoods entirely on shellfish. They have been farming the same beaches for 20 years, each of which is still producing and still beautiful. *Schaffel Testimony; Exhibit 3.*

3. The 2.01-acre subject property is in Eld Inlet on the eastern shore of the Steam Boat Island peninsula in south Puget Sound between Hunter Point and Edgewater Beach. Surrounding land uses consist primarily of single family development on parcels zoned for residential use at a density of one dwelling per five acres and Frye Cove County Park, approximately 100 feet to the south. Parcels in the area are typically between one and two acres in size and were developed with residences over twenty years ago. There is a residence on-site. The property adjacent to the north is vacant. The structures nearest to the proposed

[1] At the conclusion of the hearing, the record was held open through August 26th to allow the Applicant an opportunity to respond to the information submitted during public comment. *Post-Hearing Order*. The response was timely submitted and is admitted at Exhibit 8.

[2] The legal description of the subject property is a portion of Section 20 Township 19 Range 2W Plat MAPLE SHORES LT 2 Document 021/022 TOGW THAT PTN OF TIDELANDS SUITABLE FOR CULTIVATION OF OYSTERS AS CONVEYED BY THE STATE OF WA LYING IN FRONT OF Parcel No. 60880000200. *Exhibit 1, page 1.*

aquaculture use would be the home on-site and a residence on the parcel immediately to the south. Both homes are located more than 300 feet from the ordinary high water line of Puget Sound and more than 100 feet in elevation above the shoreline. *Exhibit 1, pages 2, 7; Exhibit 1, Attachments C, D, and E; Exhibit 1, Attachment T.*

4. The subject beach is relatively flat and clear of debris. There are a number of downed trees high on the beach that would not be disturbed by the proposal. The subject tidelands are currently undeveloped; they are comprised of a silty, muddy beach with minimal structure. There is no eelgrass or other priority habitat on-site. *Exhibit 1, page 2; Exhibit 1, Attachment C; Exhibit 4, Slides 4 and 5; Exhibit 3, Slide 28; Exhibit 1, Attachment T.*

5. The subject property is zoned Rural Residential Resource One Dwelling Unit Per Five Acres (RRR 1/5). The parcel is legally non-conforming as to size because it was created before the current zoning went into effect; its nonconforming status has no bearing on the proposal. The Thurston County Code includes aquaculture in its definition of agriculture[3], and agriculture is a permitted use in the RRR 1/5 zone. The geoduck bed proposed is allowed as an agricultural use without a land use permit. *Thurston County Code (TCC) 20.09A.020*. However, as intertidal lands in Eld Inlet, the site is subject to the jurisdiction of the Shoreline Master Program for the Thurston Region (SMPTR). *SMPTR, Section 4, Definitions*. The SMPTR designates the site as Conservancy Shoreline Environment, which allows aquacultural uses. The proposed geoduck operation requires the installation of equipment on the tidelands that constitutes a "structure" and is considered "development" for the purposes of the SMPTR. Non-exempt development in the shoreline jurisdiction that exceeds $6,412.00 in fair market value requires a shoreline substantial development permit (SSDP). *SMPTR, Section 1.II.A.* The value of the proposed project is estimated to be greater than $65,000.00. *Exhibit 1, pages 2-5; Exhibit 1, Attachment C; Exhibit 2; McCormick Testimony.*

6. Puget Sound beaches with the appropriate shallow slope and soft sediment, including the subject beach, are highly productive for commercial shellfish growing. The Washington State Department of Ecology (DOE) indicates that Puget Sound harbors the highest concentration of geoducks in the contiguous United States, with the most abundant concentrations in southern Puget Sound. Eld Inlet is an historic shellfish growing area and hosts existing geoduck operations. *Exhibit 1, page 5; Exhibit 2, page 10; Exhibit 1, Attachment C.* The Applicant noted that the site has a high potential for geoduck aquaculture due to the species' specific habitat requirements. Water quality at the location is good and the upland beach has a high, densely vegetated bank without public access. *Exhibit 2, page 10.*

[3] Pursuant to TCC 20.03.040(3), "Agriculture" means the use of a tract of land for (a) the tilling of the soil; (b) the raising, harvesting and processing of crops or plant growth of any kind, including forest practices; (c) pasturage; (d) horticulture including wholesale greenhouses; (e) dairying; (f) raising of poultry and livestock; (g) shellfish or fish farming, including finfish in upland hatcheries; or (h) raising, harvesting and processing of clams, oysters and mussels. (emphasis added)

The Applicant's Proposal and Supporting Information

7. The proposed geoduck bed would be developed in the intertidal portion of the property between -3.8 and +5 to +7 Mean Lower Low Water (MLLW). The subject beach requires no site preparation; its native state is ready to plant. Four-inch diameter PVC tubes approximately 10.75 inches long would be manually inserted into the substrate at a density of one tube per square foot. Up to three juvenile geoduck "seed" would be placed in each tube and the individual tubes would be netted for protection. It would take one summer to plant the bed. In the following summer, the individual nets would be removed from the tubes. The next year, the Applicant would remove the tubes when the geoduck are large enough to survive predation. After that, nothing happens during grow out aside from periodic site maintenance visits. No equipment or materials would be stored on the beach between removal of nets/tubes and the time of harvest. *Exhibit 1, pages 2-3; Exhibit 1, Attachment C; Exhibit 2; Schaffel Testimony; Cziesla Testimony.*

8. Between five to seven years after planting, the geoducks reach market weight. Harvest is typically performed between October and February up to four days per week at low tide by hand using a high volume, low pressure hose and nozzle system designed to loosen the clams from the sand. Geoduck are taken off-site for processing. The saltwater pumps used during harvest are powered by a small 30 horsepower diesel motor in a double walled box usually located on a small boat or barge offshore. The insulated box contains the sound of the pump such that workers have a very low key presence on the beach. The only lighting is from individual LED headlamps. Property owners who lease the aquaculture beds generally don't know work is occurring on-site. Typically there is no unintended killing of non-target species during harvest. *Exhibit 1, pages 2-3; Exhibit 1, Attachment C; Exhibit 2; Schaffel Testimony; Cziesla Testimony.*

9. If there is a shortage of geoduck seed at the time of planting, the Applicant would plant the upper portion of the farm with manila clams and/or Pacific oysters. Neither species requires shoreline permit review. If used, oyster seed would be placed in 3/8-inch mesh bags that would be securely staked into the tidelands during the nursery phase, approximately one year. After this, oysters would be spread directly onto the tidelands. They would be handpicked once mature. Clam seed would be spread directly onto the tidelands and covered with a securely staked predator net. Once mature, they would be hand harvested using clam forks. *Exhibit 1, Attachments C and J (October 1, 2012 letter); Schaffel Testimony; McCormick Testimony.*

10. All project phases (bed preparation, planting, and harvest) are proposed to be conducted during low tide when the beach can be accessed by foot, in order to minimize turbidity impacts resulting from disturbance of the substrate. Sediment moved during installation and removal of tubes and during harvest would be temporarily disturbed but would remain on the beach and be redistributed naturally by the tides. *Exhibit 1, Attachment C; pages 5, 8.*

11. All access to the farm would be by water; no new site access would be developed. *Exhibit 2, page 8; See Exhibit 3, Slide 25 for illustrative example.*

12. The instant proposal would utilize aquacultural techniques, including PVC pipes and area netting, water access, and water pumps during harvest that have been proven effective for years. No experimental techniques would be used. No pesticides, fertilizers, antibiotics, or any other additive is used. The geoducks get what they need from the natural environment and clean the water for other species in the process. *Exhibit 2, pages 8, 10; Schaffel Testimony; Exhibit 3*.

13. The primary goal of the proposal is to cultivate geoduck clams for harvest, sale, and distribution in local, national, and international markets. According to the Applicant, studies show there is a high demand for this product. The Applicant's aquaculture operations contribute to the local, state, and regional economies by: providing wages and benefits for workers; through the purchase of necessary equipment, supplies, and seed; through maintenance of equipment, vehicles, and gear; and through generating property, sales, income, and payroll taxes. *Exhibit 2, page 6; Exhibit 3, Slide 8; Schaffel Testimony*.

14. With no structures taller than a few inches (tubes), the project would not obstruct shoreline views from upland properties. The tubes and netting would be in place for up to two years of each five- to seven-year crop cycle, well under 50% of the time the site is utilized as proposed. The operation would only be visible during the months that the tubes are in place, or when employees are on-site for maintenance and harvesting activities. Even while in place, the aquaculture gear would be underwater and thus not visible most of the time. After installation, the tubes would become populated by marine organisms, masking their appearance and further reducing visual impacts. The nearest inhabited residences are more than 300 feet west of the site. *Exhibit 1, pages 6-8; Exhibit 2, pages 7-8; Exhibit 4, Slides 14 through 17*.

15. The only anticipated proposed uses nearby are additional aquaculture beds along the beach. Existing residences and future aquaculture uses would not be incompatible with the proposal. *Exhibit 1, pages 7-8*.

16. The subject beach is privately owned, although the water surface is publicly owned; there is no established historic pubic use of the subject beach. The proposed geoduck operation would be installed a significant distance waterward of the shoreline, meaning the upper beach would not be obstructed for walking or other recreational activities by the property owners and their guests. No equipment, buoys, concrete markers, or other potentially dangerous objects would be installed or stored on the beach on-site. No new public shoreline access is proposed, and no existing public access would experience interference as a result of the project. *Exhibit 1, pages 6-7; Exhibit 2, pages 4, 10*.

17. Frye Cove Park, approximately one quarter of a mile way, does not have a public boat launch. The state has previously planted the tidelands of the park with manila clams and oysters for recreational purposes. The proposal would not interfere with existing or foreseeable uses of the public park or any other recreational opportunities in the vicinity. *Exhibit 2, page 8; Schaffel Testimony.*

18. The subject property is not particularly notable for aesthetic, scenic, historic, or ecological uniqueness. Its appearance is consistent with that of surrounding intertidal lands, both those developed with aquaculture and those that are not. *Exhibit 2, page 6; Exhibit 1, Attachment T.*

19. There are no public boat docks in the vicinity that would attract boaters to the site. There are no established commercial navigation channels over or in the vicinity of the site. The Army Corps of Engineers has issued authorization for the project, certifying, in part, lack of conflict with navigation. *Exhibit 1, page 6; Exhibit 2A; Schaffel Testimony.*

20. No aquaculture processing plant, hatchery, or nursery operation is proposed. No residential development, industrial use, beach fill, dredging, excavation, or non-aquaculture use is proposed. No clearing or grading that could result in extensive erosion or accretion along adjacent shoreline is proposed. *Exhibit 1, pages 2, 8-9; Exhibit 1, Attachment J, page 6; Exhibit 2.*

21. In support of the application, both the Applicant and his environmental consultant asserted that geoducks, like other bivalves, can improve background water quality by removing anthropogenic sources of excess nutrients (primarily nitrogen and phosphorous) from the water as they feed. These nutrients become trapped in the clams' bodies in the process known as biodeposition and are actually removed from the water at harvest. Shellfish harvesting is the only known method of removing excess nutrients from upland human uses once they enter waterbodies. Various federal agencies and local governments throughout the United States have implemented shellfish planting programs and policies, in part, for the purpose of restoring and maintaining healthy and productive marine ecosystems. *Exhibit 4, Slide 9; Cziesla Testimony; Exhibits 2D, 2E. 2G, and 2H.*

22. According to the Applicant's environmental consultant, PVC tubes have minimal effects on waves or currents and accumulate only small amounts of sediment. Both sediment deposition patterns and scouring effects return to baseline conditions when the tubes are removed. While in place, the tubes create a temporary artificial hard substrate that act as habitat for benthic epifauna. This can increase species diversity over the natural condition. Specific typical species may be attracted (bay pipefish) or repelled (starry flounder), but there is no documented impact of difference in site use by juvenile salmonids. *Exhibit 4, Slide 8; Cziesla Testimony; Exhibit 3, Slides 20 through 23.*

23. The most obvious, significant impact of geoduck farming is increased turbidity at the time of harvest. The Applicant's environmental consultant submitted the position that turbidity at time of harvest is similar to that generated by a natural disturbance such as a storm event. Effects are localized and limited in duration to approximately two or three tide cycles. The resulting turbidity complies with water quality standards. In some cases, the turbidity can provide cover for foraging activities by juvenile salmonids. According to the Applicant, if conditions are windy, it is only a day or two before the post-harvest beach is flat. Typically, within one month after harvest, the substrate returns to its pre-planted elevation. Sediment size structure returns to baseline conditions within

approximately 120 days of harvest. *Exhibit 4, Slide 10; Cziesla Testimony; Schaffel Testimony*.

24. Two species of fish that salmonids feed on (forage fish) are the sandlance and the surfsmelt. Impacts to habitat of these two species can negatively affect salmonids. There are known forage fish spawning habitats located north and south of the project area in Eld Inlet. The nearest documented forage fish spawning location is more than three-quarters of a mile away from the subject beach. *Cziesla Testimony; Exhibit 4, Slide 6.*

25. The upper reaches of the subject beach do not contain typical forage fish spawning habitat because the silt-heavy soil substrate is missing the sand and gravel forage fish need. In addition, the proposed geoduck bed does not significantly overlap with the range in which forage fish typically spawn. Sand Lance spawn between +5 and about + 11Mean High Water. Surf Smelt spawn between +7 and extreme high water at approximately +16. Because the proposal would plant geoducks to +7, there is a stripe of potential overlap between +5 and +7. In order to ensure planting and harvesting do not interfere with forage fish spawning, the Applicant would conduct a forage fish survey to determine the presence or absence of forage fish eggs; if eggs are discovered in the course of the survey, the aquaculture activity (planting or harvesting) would wait two weeks and re-survey prior to commencing. Additionally, geoducks do not pose a significant predator threat to forage fish larvae. First, the eggs and larvae of fish species are many times larger than the phytoplankton geoducks consume; eggs and larvae would be excluded during the filter feeding process. Second, geoducks are relatively dormant during the winter months when fish typically spawn and feed. Thus, farmed geoducks are not a significant source of competition for salmonid food sources. *Cziesla Testimony; Exhibit 4, Slide 12*.

26. In addition to the instant County shoreline permit, the proposal is subject to approval of various state and federal authorizations, including: Clean Water Act Section 404 permit pursuant to the Nationwide Permit (NWP) 48, approved by the US Army Corps of Engineers March 19, 2013, and Clean Water Act Section 401 certification of compliance with water quality standards, issued by the Washington State Department of Ecology on April 30, 2013. The NWP 48 approval contains 17 special conditions in addition to the 31 general terms and conditions of the permit process. This certification is only issued if impacts to ESA-listed species, navigation, and water quality are mitigated or found to be not significant by the Army Corps. *Exhibit 1, page 11; Exhibit 2; Exhibit 2A; Exhibit 2B.*

27. When projects require federal approvals, the involved federal agencies are required to confirm that actions they authorize comply with the Endangered Species Act (ESA), which prohibits actions that jeopardize the continued existence of endangered or threatened species or that destroy/adversely modify critical habitat of listed species. The Applicant commissioned a professionally prepared biological evaluation (BE, July 18, 2012) to support its request for ACOE authorization. The BE identified the following listed species as potentially impacted by the proposal: Puget Sound Chinook salmon (threatened), Puget Sound steelhead (threatened), coastal Puget Sound bull trout (threatened), Marbled Murrelet (threatened), and Southern resident orca (endangered). Other listed species in the region are not present in the project area and were excluded

from detailed review due to a finding of No Effect; these included: gray wolf, sea turtles, and rock fish, among others. Follow up correspondence was issued on multiple dates to address specific questions from the federal agencies for whose review the BE was prepared; that correspondence is included at the end of the BE (October 1, 2012 letter; September 11, 2012 letter. *Exhibit 1, Attachment J.*

28. The BE evaluated anticipated project effects, noting that placement of tubes and netting are not expected to impact benthic epifauna adversely and in fact can result in increased densities of benthic epifauna by providing structure. Harvesting would impact this epifauna; however, the BE concluded that recolonization after geoduck harvest is relatively rapid and the communities can recover as quickly as two months. The project would not adversely impact aquatic vegetation, because there is none on-site. The harvest-related turbidity plume is not anticipated to extend to areas of aquatic vegetation in the action area. On the whole, the proposal is anticipated to result in net positive impacts due to water quality improvements. *Exhibit 1, Attachment J; Exhibit 4, Slide 14.*

29. With regard to the listed protected species, the BE concluded as follows:

> Chinook salmon, Bull trout, and Steelhead: Overall there may be minimal temporary effects on salmonids but no lasting effects. Harvest related turbidity may cause juvenile salmonids to avoid the area temporarily; however, this avoidance would not result in a significant disruption of normal behavior patterns (foraging, migration) given the duration and extent of turbidity in any single harvest event. The project "may affect but is not likely to adversely affect" Chinook salmon, Steelhead, or Bull trout and their critical habitats.
>
> Marbled Murrelet: Geoduck farming occurs during low tides, when murrelets are unlikely to be present in the project site. Any impacts to birds would be limited to short-term avoidance of the site during aquaculture activities. The project "may affect but is not likely to adversely affect" the Marbled Murrelet and would result in "no effect" to murrelet critical habitat.
>
> Southern Resident Orca: Geoduck farming occurs during low tides, when orcas are unlikely to be present. The proposed disturbance is within the range of natural disturbances. For mammals, the aquacultural activities on-site would not significantly alter site structure. Turbidity impacts would be infrequent, localized, and temporary. The project "may affect but is not likely to adversely affect" southern resident orcas or their critical habitat.

Exhibit 1, Attachment J; Exhibit 4, Slide 13. According to the environmental consultant, the determination "may affect but is not likely to adversely affect" means there would be a minimal, discountable, insignificant effect. *Cziesla Testimony.*

County Review

30. Pursuant to RCW 15.85.010,

> The legislature finds that many areas of the state of Washington are scientifically and biologically suitable for aquaculture development, and therefore the legislature encourages promotion of aquacultural activities, programs, and development with the same status as other agricultural activities, programs, and development within the state.

Resource Stewardship Staff contended that this declaration by the state legislature is a clear directive to local governments that aquaculture has a preferred status similar to agriculture and is a desirable land use. *Exhibit 1, page 6*.

31. Pursuant to the State Environmental Policy Act (SEPA), Thurston County Resource Stewardship Department acted as lead agency for review of the project's impacts on the environment. Review included 25 documents (detailed at Exhibit 1, Attachment H) and site visits. Documents reviewed included the three Washington Sea Grant Interim Reports (detailed in findings 44, 45, and 46 below), the Applicant's consultant's draft biological evaluation (BE) and other correspondence, the Pacific Shellfish Growers Association Environmental Codes of Practice, Washington Department of Natural Resources Geoduck Aquaculture best management practices (June 2006), comments from County reviewing departments, several studies and articles on shellfish farming submitted by the Applicant and from the Sierra Club by members of the public, and agency comments from County, State, and Federal agencies. The SEPA Responsible Official determined that while the project may result in some impacts, compliance with required mitigation would reduce such impacts such that they would be of short duration and limited intensity and not rise to the level of probable, significant, adverse impacts to any element of the environment. The Responsible Official issued a mitigated determination of non-significance (MDNS) on May 16, 2013. However, based on comments from Applicant representatives, the SEPA determination was withdrawn and reissued on June 11, 2013, making changes to mitigation measures #3 and #8. Subsequent additional comments from the Applicant representatives resulted in the issuance of a SEPA Addendum on July 2, 2013, which made changes to mitigation measures #4, #9 and #16. No appeal of the final MDNS was filed. *Exhibit 1, page 3; Exhibit 1, Attachments G, H, and I.*

32. The MDNS imposed 16 mitigation measures requiring:

1) Compliance with the most current version of the Pacific Coast Shellfish Growers Association Environmental Codes of Practice (ECOP) for Pacific Coast Shellfish Aquaculture;
2) Installation of a sign listing the name and contact information for a person designated to immediately address problems associated with the operation detected by government agents or citizens;
3) Applicant consideration of granting access to the operation for researchers affiliated with state or federal government agencies gathering information

related to geoduck aquaculture;
4) Surfsmelt/sandlance survey prior to planting and/or harvest;
5) Twice monthly patrol of the planting gear while in place, maintenance of a record of animals observed in the nets, , an d release of living entangled animals;
6) Restriction to the use of washed gravel for bed preparation and prohibition of any "unsuitable" material;
7) Restriction of grounding the shellfish barge (raft) within ten horizontal feet of eelgrass or kelp beds;
8) Removal of tubes and netting as soon as they are no longer needed or within 2.5 years of installation;
9) Prohibition of planting geoducks above the tidal elevation of +5 feet MLLW if area is experiencing forage fish spawning;
10) No washing, fueling, storing, or maintenance of vehicles and equipment within 150 feet of any waterbody;
11) Restriction of harvest activities to low tide periods;
12) Prohibition of permanent lighting and control of temporary lighting to prevent off-site glare;
13) The use of UV-resistant fasteners to attach individual tube screens, if used;
14) The cessation of work and contacting DAHP and appropriate authorities in the event that artifacts of archeological or historic significance are discovered during operations;
15) Approval of all required State and Federal permits prior to commencement of operations; and
16) Labeling of all gear placed below the ordinary high water mark with identifying information.

Exhibit 1, Attachments H and I.

33. In concluding there would be no probable, significant, adverse environmental impacts if the required mitigation measures are implemented, the County Responsible Official concluded:

> Based on analysis of the Biological [Evaluation] for the site and on the Sea Grant Interim Progress Reports to the Washington State Legislature, as well as analysis of the multitude of other documents listed above, the Resource Stewardship Department finds that the project may cause some impacts, but with implementation of the below-listed mitigating conditions, in conjunction with conditions related to the various other permits required, such impacts will be of short duration and of limited intensity in a manner that does not rise to the "significant" level as defined in WAC 197-11-794.
>
> A primary concern with geoduck beds is the potential impact on native eelgrass. Eelgrass provides valuable nearshore habitat for forage fish including surf smelt, sand lance and herring. These fish in turn provide the base prey for many salmonids including listed species such as Steelhead and Chinook salmon. The

proposed geoduck beds do not contain eelgrass, and therefore should not disturb feeding grounds for listed species.

Further, the various conditions and permitting requirements will adequately address all elements of the environment as listed in WAC 197-11-444. The Resource Stewardship Department finds that there will be no significant impact to any specific element of the environment as a result of the proposed project. The directly applicable environmental elements are erosion, water quality, habitat for plants and animals, unique species, fish migration routes, noise, toxic releases, light and glare, aesthetics, recreation, and cultural preservation. Each has been satisfactorily addressed based on current science and in the conditions and notes listed below.

Exhibit 1, Attachment H, page 5.

34. Resource Stewardship Staff noted that geoduck growers are dependent on clean water to raise economically viable crops, meaning the growers have a substantial stake and economic investment in maintaining a clean environment. The Pacific Coast Shellfish Growers Association Environmental Codes of Practice referenced in MDNS condition #1 were designed to protect harvest areas through sound environmental practices. *Exhibit 1, page 7*.

35. As stated above, the site is not known for its historic qualities. County environmental review included consideration of potential archeological or cultural interest in the site. Mitigation measure 14 of the MDNS would require implementation of consultation with the Department of Archeology and Historic Preservation (DAHP) in the event of inadvertent discovery during site preparation or project installation. *Exhibit 1, Attachment H*.

36. Thurston County Environmental Health Division (EHD) submitted comments indicating that the proposed project does not appear to result in any adverse public health impacts. EHD recommended approval. *Exhibit 1, Attachment P*.

37. Upon review of the application and supporting materials, consistent with Thurston County Code 17.15.630.B.2 and C.3, Thurston County Public Works Staff waived the requirement for a drainage design and erosion control plan/grading plan. Public Works Staff recommended approval. *Exhibit 1, Attachment Q*.

38. The Washington State Department of Ecology (DOE) submitted comments dated August 14, 2012 and February 4, 2013 indicating disagreement with the proposal to plant to the +7 mean lower low water line. Both comments stated, "This is a tidal region that is often utilized for forage fish spawning. I would recommend limiting the planting area to the +5 MLLW tidal range. ..." *Exhibit 1, Attachments O and S*. Subsequently, in April 2013, DOE submitted updated comments indicating that the proposed area of planting may be appropriate if the permit is conditioned to require the Applicant to survey for sand land

and surf smelt before planting and/or harvesting geoducks, and if eggs are detected, to delay the activity until the hatch has occurred. *Exhibit 1, Attachment M.*

39. Upon completing review of the application, Resource Stewardship Staff concluded that with conditions, the proposal would comply with SSDP criteria. Among other conditions of approval, Staff recommended condition number 20 (Exhibit 1, page 14) requiring the project to be reviewed for impacts and potential additional mitigation through an open record public hearing for a new SSDP before the County Hearing Examiner after five years and/or before replanting, stating:

> Even though existing biological analyses generally have found that no long-term significant impacts are associated with geoduck aquaculture, there are some areas of ongoing research related to water quality and the effect on ESA-listed species in particular. The Washington Sea Grant program is conducting that research at the direction of the Washington State Legislature. A more detailed discussion of that program follows below. Combined with the relative modernity of geoduck aquaculture in the form proposed, it is prudent to reassess the biological research and aquacultural practices at a specified time in the future as it relates to the subject bed. The Department will recommend that a re-review of the entire operation of the subject project be conducted by the Hearing Examiner in the future. This recommendation for subsequent review is supported by WAC 173-27-090(3). This section states that "Authorization to conduct development activities shall terminate five years after the effective date of a substantial development permit." The Department interprets this to mean development activity to place tubes and netting on the beach terminates after five years. A one-year extension may be granted. Such termination would require renewal of the shoreline substantial development permit prior to replanting for the next geoduck cycle at the subject site.

Exhibit 1, pages 7-8, 14.

40. The remaining conditions of approval recommended by Staff require: compliance with all County Code and SMPTR requirements; compliance with the Washington State Geoduck Growers Environmental Codes of Practice; posting of a sign with contact information on the beach; routine inspecting for and reporting of entrapped wildlife, with release of live trapped animals; restriction to the use of washed gravel for shellfish bed preparation in the event non-geoduck species are planted; setback of not less than ten feet of all aquaculture activities from eelgrass; removal of tubes and netting as soon as no longer needed and in all cases within 2.5 years from installation; sand lance and surf smelt surveys prior to planting and harvesting, with an appropriate delay if eggs are detected; a setback of not less than 150 feet from the water for all fueling, storage, maintenance, and washing of vehicles used in the project; restricting harvest activities to low tides in order to minimize turbidity; prohibiting permanent lighting; UV-resistant fasteners to attach nets to tubes; cease work and appropriate notifications to state and County agencies in the event of discovery of historical or cultural artifacts; obtaining all required state and federal permits; indelible marking of all equipment used under water with applicant name

and contact information; appropriate delays in commencement to allow for expiration of appeal periods; and timely commencement within two years of final approval. *Exhibit 1, pages 12-14.*

41. In addition to local government approval, geoduck aquaculture operations must obtain, at a minimum, the following State and Federal permits or exemptions therefrom: USACOE NWP 48 Certification or Individual Permit under Section 10; DOE Section 401 Water Quality Certification, DOE Coastal Zone Management Certification, State Department of Health Harvest Site Certification, State Department of Health Shellfish Operation License, and Washington State Department of Fish and Wildlife Aquatic Farm Permit. The proposal may be required, by the ACOE, to obtain a Section 404 Clean Water Act Permit. Each of these permits contains specific required mitigation to protect public health, safety, and general welfare. *Exhibit 1, Attachment H.*

Pertinent Information from Other Governmental Agencies

42. On March 19, 2013, the USACOE issued authorization for the proposed geoduck operation under Nationwide Permit (NWP) 48[4], subject to the terms and conditions of NWP 48 and to the following project-specific conditions (among others):

- A Pacific herring spawn survey prior to harvesting, net removal, and/or tube placement and removal, and if spawn are observed, delay of all activities until the herring have hatched and spawn are no longer present;
- All tubes, mesh bags, and nets used below the line of mean higher high water shall be clearly, indelibly, and permanently marked to identify permitee name and contact information; and
- Patrol of the beaches at least every three months to pick up aquaculture debris.

Provided the Applicant complies with all the general and specific permit conditions, ACOE determined that the project would comply with all requirements of the ESA, the Magnuson-Stevens Fishery Conservation and Management Act, and National Historic Preservation Act. *Exhibit 2A.*

[4] The Examiner takes judicial notice of the following: In 2007, the U.S. Army Corps of Engineers (ACOE) issued Nationwide Permit 48 (NWP 48), which authorized existing aquaculture activities under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. In 2012, the ACOE reviewed and revised NWP 48, establishing conditions governing all commercial shellfish aquaculture activities in waters under their control. In the reissued permit, the ACOE stated: "Properly sited, operated, and maintained commercial shellfish aquaculture activities support populations of shellfish that provide important ecological functions and services for coastal waters and should be authorized by a single NWP. ... The shellfish populations… authorized by this NWP help support the objective of the Clean Water Act because they improve water quality through conversion of nutrients into biomass (i.e., shellfish growth) and the removal of suspended materials through filter feeding. Commercially grown shellfish also provide some habitat functions for the aquatic environment. ... Commercial shellfish aquaculture activities have minimal adverse effects to aesthetics and are likely to result in little change in local baseline levels of noise, odor, or views when compared to other waterfront uses in coastal residential areas... ." *See the ACOE website at http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx.*

43. Nationwide Permit 48 certification requires review and approval by DOE of a Section 401 Water Quality Certification. The Washington State Department of Ecology submitted comments indicating that water quality concerns for the proposed aquaculture operation have been sufficiently addressed in the federal agency reviews and that no Individual 401 Water Quality Certification would be required for this project. *Exhibit 2B.*

44. In 2007, the Washington state legislature passed a law directing Washington Sea Grant to study key uncertainties as to the impacts of geoduck cultivation on the Puget Sound ecosystem and on wild geoduck populations. One of the research efforts granted access to the site by MDNS measure #3 is the Washington Sea Grant program. Sea Grant established six priority objectives to assess:

1) The effects of structures commonly used in the aquaculture industry to protect juvenile geoducks from predation;
2) The effects of commercial harvesting of geoducks from intertidal geoduck beds, focusing on current prevalent harvesting techniques, including a review of the recovery rates for benthic communities after harvest;
3) The extent to which geoducks in standard aquaculture tracts alter the ecological characteristics of overlying waters while the tracts are submerged, including impacts on species diversity and the abundance of other organisms;
4) Baseline information regarding naturally existing parasites and diseases in wild and cultured geoducks, including whether and to what extent commercial intertidal geoduck aquaculture practices impact the baseline;
5) Genetic interactions between cultured and wild geoducks, including measurement of differences between cultured and wild geoduck in term of genetics and reproductive status; and
6) The impact of the use of sterile triploid geoducks and whether triploid animals diminish the genetic interactions between wild and cultured geoducks.

Exhibit 2F.

45. Through a competitive bidding process, Sea Grant selected from among proposed studies to address the objectives, choosing three:

- Geochemical and Ecological Consequences of Disturbances Association with Geoduck Aquaculture Operations in Washington (G. VanBlaricom, UW, J. Cornwell, UM): assessing all phases of geoduck aquaculture in terms of effects on plant and animal communities (fish, shellfish, and plant) and physical/chemical effects to beaches
- Cultured-Wild Interactions: Disease Prevalence in Wild Geoduck Populations (C. Friedman, UW): Developing baseline information on pathogens to improve understanding of geoduck heath and management of both wild and cultured stocks.
- Resilience of Soft Sediment Communities after Geoduck Harvest in Samish Bay (J. Ruesink, UW): examining the effect of geoduck aquaculture on soft-sediment tide flat and eelgrass meadow habitats.

Interim reports summarizing research to date have been submitted to the Legislature in 2009, 2011, and 2012. The final results of the three funded studies will be reported to the Legislature in December 2013. *Exhibit 2F*.

46. The 2012 interim report contains the following summary of preliminary research observations from study inception to date:

- Benthic infaunal communities are not significantly altered;
- Current practices have minimal impacts on benthic communities of infaunal invertebrates, with no spillover into adjacent habitats, suggesting that the disturbance occurring on the scale of current harvest practices is within the range of natural variation;
- Significant differences in the structure of mobile macrofauna communities between planted and nonplanted areas do not persist once tubes and nets are removed during the grow out phase;
- Nutrients released from geoduck operations are low with localized effects likely to be negligible, and the overall rate of nutrient release is not changed from the natural rate;
- No distinct patterns have been observed in the distribution of disease organisms as a function of geographic location or water depth; and
- In Fisk Bar, where eelgrass recruited after geoducks were planted, harvest activities significantly impacted the eelgrass, with limited spillover effects to adjacent, non-farmed sites; however, within one year, eelgrass recovery had begun on the harvested site, suggesting that current practices do not render sites unsuitable for later eelgrass colonization.

Again, final results would be reported to the Legislature in December 2013. *Exhibit 2F*.

Public Comment and Response

47. Notice of the public hearing was sent to all property owners within 500 feet of the site and published in The Olympian on August 9, 2013, and the site was posted with hearing notice the same day. *Exhibit 1, page 3; Exhibit 1, Attachment A.*

48. The County received written public comment prior to the hearing from the neighboring property owners to the north, Hilde and Hugh Ward. The Wards' requests included: to be made a party of record; to be notified of when a future survey of their shared property line would be done so that they may be present for the survey; to be provided a copy of the survey prior to recording; and that a buffer/setback be maintained along the shared property line. Resource Stewardship Staff encouraged the Applicant to provide the survey information to their neighbor. With regard to the requested setback, Staff indicated they would support a setback of not more than two feet from shared property line if the Hearing Examiner determined it was appropriate. *Exhibit 1, Attachment N; Exhibit 1, pages 11-12*.

49. Several members of the public offered testimony opposing the proposal on the following topics:
    - Liquefaction of the beach during harvest resulting in human safety hazard. *Testimony of Bob Jacbos, Susan Macomson, Nancy Eggleston.*
    - Assertions that the Applicant has overstated benefits regarding water quality and temporary habitat creation. Some have witnessed a "complete lack of life" in geoduck beds and have witnessed dead animals washed up on the beaches. Geoducks occur naturally at much lower densities and some consider the proposal to be high density confined animal agriculture, like a feed lot, with attendant pollution and impacts resulting from geoduck wastes. *Testimony of Bob Jacbos, Susan Macomson, Nancy Eggleston.*
    - Concerns that the science offered in support is not peer reviewed. *Testimony of Susan Macomson, Nancy Eggleston.*
    - Concerns about equipment breakage and loss, with pieces of netting and tubes washing up on beaches causing safety hazards to people and marine animals. *Testimony of Susan Macomson, Nancy Eggleston.*
    - Concerns that there will be a lack of enforcement of the mitigation measures required by the various state and local permits, because of what they have seen as unmonitored, uncontrolled shellfish farming elsewhere. *Testimony of Susan Macomson, Nancy Eggleston.*
    - Impacts to recreation, tourism, and wildlife from the noisy, unsightly, badly managed aquaculture practices that are occupying too much of the shoreline that make a few people a lot of money while using up a natural resource that should belong to all. *Testimony of Susan Macomson, Nancy Eggleston; Exhibit 5; Exhibit 6; Exhibit 7.*

50. Several members of the public testified in favor of the proposal at the public hearing and their testimony covered the following topics:
    - Support for the Schaffels personally and professionally as educated, responsible, experienced stewards of the land. Comments noted that the Applicants participate in the biannual beach clean ups. *Testimony of Steve Bloomfield, Linda Lentz, Kyle Lentz, Steve Wilson, Tom Bloomfield, Vicki Wilson.*
    - Some shared the opinion that this permitting process is unduly onerous, causing smaller operators to stay out of the business and resulting in undue costs to small and large businesses. People particularly objected to the recommended re-review at five years /prior to second planting. They noted that the proposed two-foot setback applied to both sides would reduce the area available for farming by 4%, which would translate into a substantial loss of profit. With aquaculture on one side, and no evidence of negative impacts resulting from farming up to the boundary, this would be undue restriction on the business. One operator noted that the forage fish surveys are expensive, difficult, and onerous. *Testimony of Steve Bloomfield, Linda Lentz, Steve Wilson.*
    - Some spoke in support of aquaculture as a rightful use of natural resource lands and as a preferred use pursuant to the Shoreline Management Act. One person asserted that of the waste collected during the biannual beach clean ups, less than 15% is from aquaculture. Another asserted that it's well documented that shellfish improve water

quality across the nation from Budd Inlet to Chesapeake Bay. Shellfish farmers reuse their equipment as much as possible to keep costs down and are highly motivated not to lose gear. The proposed method of harvest has been used for 30 years and is approved by WDFW and DNR. *Testimony of Linda Lentz, Kyle Lentz, Diani Taylor, Steve Wilson, Vicki Wilson.*

- Some disputed the testimony that characterized geoduck aquaculture as similar to feed lots. Nothing is added in shellfish farming; the individual animals are cultivated but no inputs are introduced to the environment. Despite the density of planting, growers are lucky to get 40% survival rates due to natural processes. *Testimony of Steve Wilson.*
- Regarding aquaculture practices leaving dead wildlife, dead beaches, and unsafe sand pits in their wake, one grower testified that the beaches he farms have the same life as the beaches next to unfarmed lots and that post-harvest, the substrate returns to its pre-planted condition within weeks. Growers work hard to keep control of their equipment for business reasons and in order to have their businesses act as upstanding members of the community. *Testimony of Steve Wilson, Vicki Wilson.*
- Some public comment contended that this producer in particular and aquaculture generally benefit the local and state economies, providing jobs, export goods, taxes, and income for operators and lessors. Some of the public comment sought to refute the testimony about adverse impacts to recreation and tourism, noting that Frye Cove Park has had shellfishing for years and that if the subject beach would be visible from the park, it would be more of an attraction than a deterrent to park use. *Testimony of Tom Bloomfield, Vicki Wilson; Exhibits 8a and 8b.*

51. The Applicant offered testimony in response to public comment. Regarding impacts to recreation, the Applicant reiterated that the farm would occupy the intertidal portion of the beach and would be set back approximately 100 feet from the headland, leaving plenty of room on the private beach for walking. While as a grower he has asked individuals not to walk on the tubes, he has never excluded anyone from his farms who was there seeking to recreate. The Applicant asserted that the beach is not liquefied after harvest; he and his workers stand on the beach during harvest. His business reuses tubes as long as possible; they still have tubes in use from 2003. Because materials are expensive, they have high motivation not to lose gear; his crews patrol the beaches regularly to maintain control of tubes and nets. He has never used chemicals, finding no need to kill ghost shrimp. The Applicant asserted that a feed lot places a high concentration of animals in a confined space and imports food, resulting in effluent that is a pollutant. Geoduck farming is the opposite; the clams graze on the natural environment. He asserted that geoducks used to be found in high densities in intertidal zones until they were fished out. The Applicant contended that his PVC tubes do not float and that if broken, the chips don't float. When they become dislodged unintentionally, his tubes stay on his beach and he picks them up and reuses them. Currently, the Applicant has ten farms and he has never had a complaint from a lessor. The majority of his farms are neighbors to previous farms who liked what they saw and asked to participate. Regarding prevention of encroachment onto or impacts on adjacent property, the Applicant testified that he runs a rope line along the surveyed boundary while planting. Based on his track record of neighbors becoming lessors, he feels confident he's never

encroached or interfered with neighbors. He disputed the need for the requested setback, noting that every square foot of farm bed is one percent of the farm. The two-foot setback even along only one side would occupy two percent of the possible bed, which could be worth $10,000. The project would be required to comply with all requirements of the ACOE and the State Department of Health. The Applicant is confident the neighbors would not experience trespass or interference. He would record the survey at the County so anyone can see it. *Schaffel Testimony*.

52. After the close of the record, the Applicant was given the opportunity to review the written and video evidence offered during public comment and submit a written response. Having reviewed Exhibits 5, 6, and 7, Applicant representatives contended that the exhibits do not contain evidence demonstrating that geoduck aquaculture generally or the proposed project is inconsistent with criteria for SSDP approval. *Exhibit 8.*

53. Considering all evidence in the record including public comments offered before and at the hearing, Resource Stewardship Staff recommended approval of the requested permit with the conditions in the staff report. *McCormick Testimony; Exhibit 1, pages 12-14.*

CONCLUSIONS

Jurisdiction

The Hearing Examiner has jurisdiction to decide substantial shoreline development applications pursuant to TCC 2.06.010(C), RCW Chapter 36.70, WAC 173-27, and Section One, Part V of the Thurston County Shoreline Master Program.

Criteria for Review

Shoreline Substantial Development Permit

Pursuant to WAC 173-27-150, in order to be approved by the Hearing Examiner, an SSDP application must demonstrate compliance with the following:

a) The policies and procedures of the Shoreline Management Act;
b) The provisions of applicable regulations; and
c) The Shoreline Master Program for the Thurston Region.

(a) Shoreline Management Act

Chapter 90.58 RCW, the Washington State Shoreline Management Act (SMA) of 1971, establishes a cooperative program of shoreline management between the local and state governments with local government having the primary responsibility for initiating the planning required by the chapter and administering the regulatory program consistent with the Act. The Thurston County Shoreline Master Program (SMPTR) provides goals, policies and regulatory standards for ensuring that development within the shorelines of the state is consistent the policies and provisions of Chapter 90.58 RCW.

The intent of the policies of RCW 90.58.020 is to foster "all reasonable and appropriate uses" and to protect against adverse effects to the public health, the land, and its vegetation and wildlife. The SMA mandates that local governments adopt shoreline management programs that

give preference to uses that (in the following order of preference): recognize and protect the statewide interest over local interest; preserve the natural character of the shoreline; result in long term over short term benefit; protect the resources and ecology of the shoreline; increase public access to publicly owned areas of the shorelines; and increase recreational opportunities for the public in the shoreline. The public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state is to be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally. To this end uses that are consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the state's shoreline, are to be given preference.

(b) Applicable regulations from the Washington Administrative Code

WAC 173-27-140 Review criteria for all development.

(1) No authorization to undertake use or development on shorelines of the state shall be granted by the local government unless upon review the use or development is determined to be consistent with the policy and provisions of the Shoreline Management Act and the master program.

(2) No permit shall be issued for any new or expanded building or structure of more than thirty-five feet above average grade level on shorelines of the state that will obstruct the view of a substantial number of residences on areas adjoining such shorelines except where a master program does not prohibit the same and then only when overriding considerations of the public interest will be served.

WAC 173-27-150

(2) Local government may attach conditions to the approval of permits as necessary to assure consistency of the project with the act and the local master program.

WAC 173-27-190 Permits for substantial development, conditional use, or variance.

(1) Each permit for a substantial development, conditional use or variance, issued by local government shall contain a provision that construction pursuant to the permit shall not begin and is not authorized until twenty-one days from the date of filing as defined in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within twenty-one days from the date of such filing have been terminated; except as provided in RCW 90.58.140 (5)(a) and (b).

(c) Shoreline Master Program for the Thurston Region

SMPTR Section Two, V, Regional Criteria

A. Public access to the shorelines shall be permitted only in a manner which preserves or enhances the characteristics of the shoreline which existing prior to establishment of public access.
B. Protection of water quality and aquatic habitat is recognized as a primary goal. All applications for development of shorelines and use of public waters shall be closely analyzed for their effect on the aquatic environment. Of particular concern will be the preservation of the larger ecological system when a change is proposed to a lesser part of the system, like a marshland or tideland.
C. Future water-dependent or water-related industrial uses shall be ....

D. Residential development shall be undertaken in a manner that will maintain existing public access....
E. Governmental units shall be bound by the same requirements as private interests.
F. Applicants for permits shall have the burden of proving a proposed substantial development is consistent with the criteria which must be met before a permit is granted. In any review of the granting or denial of an application for a permit as provided in RCW 90.58.18.180(1), the person requesting the review shall have the burden of proof.
G. Shorelines of this Region which are notable for their aesthetic, scenic, historic, or ecological qualities shall be preserved. Any private or public development which would degrade such shoreline qualities shall be discouraged. Inappropriate shoreline uses and poor quality shoreline conditions shall be eliminated when a new shoreline development or activity is authorized.
H. Protection of public health is recognized as a primary goal. All applications for development of use of shorelines shall be closely analyzed for their effect on the public health.

SMPTR Section Three, II, Aquacultural Activities

A. Scope and Definition

Aquaculture involves the culture and farming of food fish, shellfish, and other aquatic plants and animals in lakes, streams, inlets, bays and estuaries. Aquacultural practices include the hatching, cultivating, planting, feeding, raising, harvesting and processing of aquatic plants and animals, and the maintenance and construction of necessary equipment, buildings and growing areas. Methods of aquaculture include but are not limited to fish hatcheries, fish pens, shellfish rafts, racks and longlines, seaweed floats and the culture of clams and oysters on tidelands and subtidal areas.

B. Policies

1. The Region should strengthen and diversify the local economy by encouraging aquacultural uses.
2. Aquacultural use of areas with high aquacultural potential should be encouraged.
3. Flexibility to experiment with new aquaculture techniques should be allowed.
4. Aquacultural enterprises should be operated in a manner that allows navigational access of shoreline owners and commercial traffic.
5. Aquacultural development should consider and minimize the detrimental impact it might have on views from upland property.
6. Proposed surface installations should be reviewed for conflicts with other uses in areas that are utilized for moorage, recreational boating, sport fishing, commercial fishing or commercial navigation. Such surface installations should incorporate features to reduce use conflicts. Unlimited recreational boating should not be construed as normal public use.
7. Areas with high potential for aquacultural activities should be protected from degradation by other types of uses which may locate on the adjacent upland.

8. Proposed aquacultural activities should be reviewed for impacts on the existing plants, animals and physical characteristics of the shorelines.

9. Proposed uses located adjacent to existing aquaculture areas which are found to be incompatible should not be allowed.

C. General Regulations

1. Aquaculture development shall not cause extensive erosion or accretion along adjacent shorelines.

2. Aquacultural structures and activities that are not shoreline dependent (e.g., warehouses for storage of products, parking lots) shall be located to minimize the detrimental impact to the shoreline.

3. Proposed aquaculture processing plants shall provide adequate buffers to screen operations from adjacent residential uses.

4. Proposed residential and other developments in the vicinity of aquaculture operations shall install drainage and waste water treatment facilities to prevent any adverse water quality impacts to aquaculture operations.

5. Land clearing in the vicinity of aquaculture operations shall not result in offsite erosion, siltation or other reductions in water quality.

Conclusions Based on Findings

1. The proposal was reviewed for compliance with the State Environmental Policy Act and a final MDNS was issued on July 2, 2013. That threshold determination was not appealed. Any comments in the record that call for environmental or cumulative impact analysis pursuant to SEPA are not timely. *Findings 31, 32, 33, 34, and 50.*

2. In managing the use of the shorelines of the state, the Shoreline Management Act and its implementing regulations assign preference to those uses which are dependent on shoreline locations. *RCW 90.58.020; WAC 176-26-176(3)(a).* As acknowledged by the Shoreline Hearings Board, the Washington State Legislature has identified aquaculture as an activity of statewide interest that is a preferred, water-dependent use of the shoreline, which when properly managed can result in long-term over short-term benefits and protect the ecology of the shoreline. Aquaculture is allowed outright in the underlying RRR 1/5 zoning district and in the Conservancy Shoreline Environment upon review for compliance with applicable provisions in the Shoreline Master Program for the Thurston Region. (Review of SMPTR criteria is addressed in conclusion 4 below.) As conditioned, the project would be required to comply with the Nationwide Permit 48 terms and conditions, conditions imposed by the MDNS, and conditions of the instant permit approval. With these conditions, the proposal would be consistent with the policies of the SMA and would be a reasonable and appropriate use of the shoreline. *Findings; Cruver v. San Juan County and Webb, SHB No. 202 (1976); Penn Cover Seafarms v. Island County, SHB No. 84-4(1984); Marnin and Cook v. Mason County and Ecology, SHB No. 07-021 (Modified Findings, Conclusions, and Order, February 6, 2008).*

3. No residence would have its view obstructed by the proposal and no structure taller than 35 feet would be built. As conditioned, the proposal complies with applicable regulations in the Washington Administrative Code. *Findings 1, 4, 7, 8, 9, 10, 11, and 14*.

4. As conditioned, the proposed aquaculture activities would comply with all applicable policies and regulations of the SMPTR.

   A. With regard to regional criteria, the project would not hinder existing nor create new public access to shorelines, as the site is comprised of privately owned tidelands and all aquaculture access would be by water. A professionally prepared site-specific study reviewed the project in light of the specific location and characteristics of the subject property and the proposed farming methods, concluding that the proposal would have beneficial impacts on water quality and aquatic habitat and would result in infrequent, minor, localized impacts that would not alter local conditions. The Biological Evaluation found that the project may affect but is not likely to adversely affect impact ESA-listed species or critical habitat for ESA-listed species. As conditioned to require forage fish surveys prior to substrate disturbing activities, the project would not result in negative impacts to forage fish critical habitat. The BE's conclusions are consistent with the findings of the Washington Sea Grant Geoduck research Program to date. No industrial or residential development is proposed. As determined during SEPA review, the subject beach is not notable for aesthetic, scenic, historic, or ecological qualities; however conditions would ensure protection of cultural resources in the event of unanticipated discovery. State Department of Health certification is required. The record contains no evidence suggesting the project would result in adverse effects to public health. *Findings 4, 6, 12, 20, 16, 17, 18, 21, 22, 23, 24, 25, 27, 28, 29, 35, 36, 37, 38, 39, 40, 44, 45, and 46*.

   B. With regard to criteria specific to the Conservancy Shoreline Environment, approval of the requested permit would support the SMPTR's goal of encouraging economic development. The record demonstrates that the subject beach has high aquaculture potential. The project would use tested and proven aquaculture methods, adding no chemical or other inputs to the aquatic environment after planting. The proposed tubes and netting would be in place for up to two years out of a five to seven year crop cycle. This equipment would be underwater for the majority of the time it is installed. Once installed, it would become encrusted with sea life, further reducing its visibility as a result of its use as habitat by flora and fauna. Regular site monitoring would reduce gear escape. The proposal would not interfere with public shoreline access, navigation, or commercial traffic. The use would not conflict with adjacent residential uses, aquaculture uses, or the nearest public park. As noted above, the proposal was reviewed in a site-specific study that considered impacts to endangered and threatened species and critical habitats; the study concluded that negative impacts to the existing natural environment would be localized and temporary and would be balanced by the positive impacts resulting from water quality improvements and the creation of structured habitat while the gear is in place. Again, these conclusions are consistent with the findings to date of the Washington Sea Grant Study Interim reports. *Findings 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24,*

25, 26, 27, 28, 29, 30, 34, 44, 45, and 46.

C. The proposal is consistent with SMPTR policies regulating aquaculture. The commercial rearing of geoducks for sale and export qualifies as aquaculture and is a preferred water-dependent use of the shorelines of the Thurston region. The site demonstrates high potential for successful aquaculture. No experimental, unproven techniques are proposed. There would be no negative impacts to navigation or commercial use of the waterway. Views from upland properties would be minimally impacted. The proposed geoduck bed contains no eelgrass and its substrate is silt-based, lacking the sand and gravel that would be required to attract significant numbers of forage fish for spawning. A condition would ensure that the Applicant conducts surveys for the presence of surf smelt and sand lance above the +5 MLLW line prior to substrate disturbing activities for the purpose of reducing potential impacts to forage fish populations. SEPA review resulted in a determination that the project would not create probable, significant, adverse environmental impacts. The US Army Corps of Engineers issued authorization pursuant to Nationwide Permit 48. Compliance with the mitigation required by the County MDNS, as well as by the NWP 48 permit, would ensure that all necessary steps are taken to avoid harm to the environment. No evidence in the record suggests extensive erosion or accretion along the shoreline would occur. The site specific evaluation in the record finds that water quality impacts would be short-term and minimal. No processing plant, residential development, land clearing, or non-aquacultural development is proposed. *Findings 2, 3, 4, 5, 6, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 254, 25, 26, 27, 28, 29, 31, 32, 33, 34, 38, 39, 40, 41, 42, and 43*.

5. The findings of the site-specific study offered by the Applicant (localized and temporary impacts, with some positive effects for water quality and habitat diversity) are consistent with the interim findings of the Washington Sea Grant Study and the Nationwide Permit 48 issued by the ACOE. However, because the Sea Grant study is not completed and because many citizens of Thurston County and members of Resource Stewardship Staff are concerned about potential long term adverse effects to Puget Sound, it would be appropriate to require review prior to replanting. The Examiner notes that the decision to impose this condition is not guided by Recourse Stewardship's argument that the five-year limit established in WAC 173-27-090(3) should be applied; geoduck operations, with their cyclic nature, are distinguishable from the type of proposed use the cited WAC provision would seek to regulate. Because geoducks take an average of seven years to reach marketable harvest weight, a condition requiring review prior to the first harvest would lead to an absurd result. Review prior to replanting would protect the interests noted above. Review at that future time will have the benefit of the final report of the Sea Grant study and will be able to consider impacts shown to be occurring on-site. *Findings 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 40, 44, 45, 46, and 48*.

6. The record does not support the imposition of any setback from the intertidal property boundary. This issue would be reviewed at the time of re-review prior to replanting and neighboring property owners would have the opportunity to provide evidence of encroachment and/or interference with their property rights based on actual experience at that time. *Findings 48 and 51*.

DECISION

Based upon the preceding findings and conclusions, the requested shoreline substantial development permit to allow phased development of a 0.48-acre intertidal geoduck bed on leased tidelands at 6114 Boardman Road NW in Olympia is **GRANTED** subject to the following conditions:

1. The proposed shall be developed and operated in a manner that is consistent with all applicable policies and other provisions of the Shoreline Management Act, its implementing rules, the Shoreline Master Program for the Thurston Region, and the mitigation measures imposed in the MDNS issued for this project.

2. The preparation, planting, maintenance and harvesting at the subject site shall remain in compliance with the most current version of the Washington State Geoduck Growers Environmental Codes of Practice for Pacific Coast Shellfish Aquaculture as said codes are updated. To date, the most current Code is dated June 14, 2011.

3. An unobtrusive but visible sign shall be placed at each aquaculture bed listing the name and contact information for a person designated to immediately address problems associated with the aquaculture bed when discovered by citizens or agency representatives.

4. The property owner and Applicant shall consider requests by researchers affiliated with federal, state, and County governments to conduct research related to geoduck aquaculture at the site. Access shall be granted by the owner and Applicant if the research will not disrupt farming activities.

5. The Applicant /operator shall routinely inspect, document, and report any fish or wildlife found entangled in anti-predator nets or other culturing equipment. At least twice a month during the time the nets are installed, nets shall be inspected and a record of observations shall be maintained. Live entangled fish and wildlife shall be released upon observation. During the required bi-monthly site visits the Applicant /operator shall remove from the beach or secure any loose nets, tubes, or aquaculture related debris.

6. Only washed gravel shall be used for shellfish bed preparation. Unsuitable material (e.g., trash, debris, concrete, asphalt, tires) shall not be discharged or used as fill (e.g., to secure nets, create berms or provide nurseries).

7. Shellfish culturing (e.g. culturing by rack and bag, raft, long-line or ground methods) shall not occur within 10 horizontal feet of eelgrass (Zostera marina) or kelp.

8. All protective tubes and netting related to the proposed geoduck aquaculture shall be removed from the shoreline as soon as they are no longer needed to perform protective functions, and in no case later than two and one-half (2.5) years from installation.

9. Prior to conducting aquaculture activities (planting and harvest) or site preparation above the tidal elevation of +5 MLLW, a surfsmelt / sandlance survey shall be completed for the portion of the site to be cultivated above +5 MLLW and submitted to the following agencies for review at least 30 days prior to any such planting or harvest activities: Thurston County Resource Stewardship, WA Dept. of Fish and Wildlife (WDFW), WA State Dept. of Ecology, Shorelands Division, US Army Corps and National Marine Fisheries Service. Culture activities shall be suspended when spawn is present.

10. Land and water vehicles and equipment shall not be washed, stored, fueled, or maintained within 150 feet of any waterbody.

11. Harvest activities shall occur during low tides when the least amount of turbidity will occur.

12. Permanent lighting of the aquaculture beds is not permitted. Any temporary lighting shall be directed such that off-site glare is minimized to the extent possible.

13. All individual screens placed on tubes shall be secured with UV-resistant fasteners.

14. If archaeological artifacts are observed during any phase of the aquaculture operation, all work shall be immediately halted. The State Department of Archaeology and Historic Preservation, the Thurston County Resource Stewardship Department and affected Tribes shall be contacted to assess the situation prior to resumption of work.

15. No physical work on the beds shall be initiated until the Applicant obtains all required State and Federal permits and approvals.

16. Bed preparation must commence within two years and all tubes and netting must be installed within five years of the effective date of this permit. The effective date is the date of the last action required on the shoreline permit and all other government permits and approvals (including appeal periods) that authorize the development to proceed.

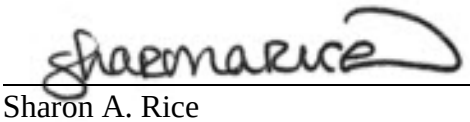
17. All tubes, mesh bags, and nets used on the tidelands below the ordinary high water mark (OHWM) shall be clearly, indelibly, and permanently marked to identify the permittee name and contact information (e.g., telephone number, email address and/or mailing address). On area nets, if used, identification markers will be placed with a minimum of on identification marker for each 100 square feet of net.

18. The aquaculture operation shall be reviewed by the Resource Stewardship Department through an open record review hearing in front of the Thurston County Hearing Examiner prior to subsequent replanting. Review shall assess emerging environmental research and environmental issues arising from the approved operation, if any. If facts at the time of

the review warrant cumulative impact analysis under then-applicable law, it shall be conducted during the review. The hearing shall be held within 90 days following an application for review filed by the applicant with the Thurston County Resource Stewardship Department.

19. Physical activities on the beach pursuant to this permit shall not begin and are not authorized until 21 days from the date of filing of the Hearing Examiner decision with the Department of Ecology as required in RCW 90.58.140(6) and WAC 173-27-130, or until all review proceedings initiated within 21 days from the date of filings have been terminated, except as provided in RCW 90.58.140(5)(a) and (b).

Decided September 13, 2013.



Sharon A. Rice
Thurston County Hearing Examiner