



October 1, 2008

Candice Holcombe  
Department of Ecology  
PO Box 47600  
Olympia, WA 98504

Dear Ms. Holcombe:

As Ecology considers adopting new guidelines for geoduck aquaculture, I ask that they keep in mind the numerous federal, state, and local regulations with which all shellfish farms must already comply. Some opponents have submitted comments to SARC claiming that geoduck farming is an "unregulated industry." As discussed below, that claim is entirely false.

Ecology's guidelines, and the local governments that carry them out in their Shoreline Master Programs, should not duplicate the regulatory processes that are already established. The goal of SSHB 2220 was to streamline regulatory requirements, not to complicate them further or make them more duplicative than they already are.

I have attached a chart I took directly from the SARC website. The chart shows that all shellfish farmers, including geoduck farmers, are required to clear numerous regulatory hurdles to establish, maintain, operate their farms, and to harvest the shellfish they grow. Geoduck growers are already subject to local governments' shoreline and zoning requirements pursuant to the Shoreline Management Act and the Growth Management Act, as well as the requirements of the State Environmental Policy Act. In addition to these requirements, agencies regulating shellfish farming include:

- U.S. Army Corps of Engineers (Clean Water Act Section 404 Rivers and Harbors Act Section 10 permits)
- U.S. Fish and Wildlife Service & National Marine Fisheries Service (ESA Section 7 Consultation and consultation under the Essential Fish Habitat provisions of the Magnuson-Stevens Fisheries Protection Act)
- Washington State Department of Ecology (401 Water Quality Certification and Coastal Zone Management Consistency Determination)

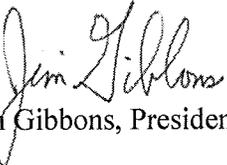
**Seattle Shellfish LLC**

2101 4<sup>th</sup> Ave E • Suite 201 • Olympia, WA 98506 • (360) 236-0462 • Fax (360) 236-0471

- Washington Department of Fish and Wildlife (Aquatic Farm Registration and Shellstock Transfer Program)
- Washington State Department of Health (Harvest Site Certification and Shellfish Operations License)
- Washington Department of Natural Resources (Shellfish Leases on State Lands)

I ask that Ecology consider all of this existing regulatory oversight when drafting guidelines and make sure that the end result not duplicate these other agency requirements while adding significant costs to growers in the process. The shellfish industry, including geoduck growers, is far from “unregulated.”

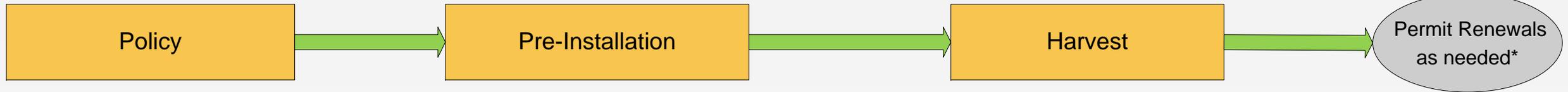
Sincerely,



Jim Gibbons, President

Cc: Perry Lund  
Gordon White

# Shellfish Aquaculture Permit Summary (Draft)



Shoreline Master Program provisions  
GMA Designated Resource Lands  
SEPA Threshold Determination  
(Environmental Checklist or  
Environmental Impact Statement)

Critical Area Ordinance review - Local  
Shoreline Master Program options:  
Use standards (no permit)  
Substantial Development Permit – Local  
Conditional Use Permit – Local & Ecology

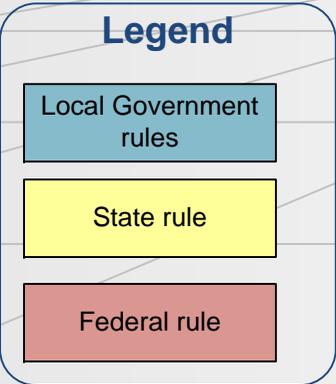
Shoreline Permit: Renewal may  
be required

**US Army Corps of Engineers:**  
Clean Water Action Section 404:  
“Dredge & Fill”  
Rivers & Harbors Act Section 10:  
“Structures & Work in Navigable  
Waters”

**US Army Corps of Engineers:**  
US Clean Water Act: Section 404 Permit Dredge  
and Fill (includes consultations on Endangered  
Species Act and Archaeology)  
US Rivers & Harbors Act - Section 10 Permit  
Nationwide Permit 48: Existing commercial  
shellfish aquaculture activities (10 & 404)  
Individual Permit: New commercial shellfish  
aquaculture activities & other activities that do  
not qualify for NWP 48 (10 & 404)

**US Food & Drug Administration:**  
National Shellfish Sanitation Program:  
Harvester/Dealer Requirements  
Dealer Certification (SS/SP)  
**US Army Corps of Engineers:**  
NWP 48: Existing commercial shellfish  
aquaculture  
Individual Permit: New commercial shellfish  
aquaculture

**US Army Corps of Engineers:**  
NWP 48 (2007 NWPs): Expires  
in 2012, data collected from 2007  
NWPs will inform reissuance  
process  
Individual permits: varies on a  
case-by-case basis, but typically  
10 years.



**Ecology:**  
US Clean Water Act: Section 401 Water Quality  
Certification  
US Coastal Zone Management Consistency  
**Department of Fish & Wildlife:**  
Aquatic Farm Registration  
RCW 77.12.455 Disease & pests  
RCW 77-60 Permits for oyster seed  
**Department of Natural Resources:**  
Aquatic Land Use Authorization

**Department of Health:**  
Growing Area Classification  
Shellfish Operator License  
Harvest Site Certification  
**Department of Fish & Wildlife:**  
Permit for shellfish transfer to  
prevent spread of disease and  
predators  
Quarterly harvest reports

**Ecology:**  
Nationwide Permit 48 Certification-  
(after 5 years)

\*Timelines for renewing permits vary  
from one year to five years.  
November 29, 2007 Draft

# Glossary

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ACOE: US Army Corps of Engineers

DOH: Washington Department of Health

ECY: State Department of Ecology

GMA: Growth Management Act

SEPA: State Environmental Policy Act

WDFW: Washington Department of Fish and Wildlife

WDNR: Washington Department of Natural Resources

October 9, 2008

Candice Holcombe  
Department of Ecology  
PO Box 47600  
Olympia, WA 98504.



Dear Ms. Holcombe:

I am attaching for your review and records a technical memorandum that provides an extensive analysis of the environmental interactions of intertidal geoduck aquaculture. I am providing this document in response to concerns raised by a few members of the public in their written and oral comments to the Shellfish Aquaculture Regulatory Committee (SARC) regarding the environmental effects of geoduck aquaculture, particularly the potential effects on marine biota and sediment processes.

The attached memorandum, prepared by Environ International Corporation and completed earlier this year, analyzes the scientific research conducted to date on the potential impacts of various stages of geoduck aquaculture. Potential impacts analyzed include impacts of geoduck seeding and grow-out to fisheries resources and benthic biodiversity, effects of harvesting activities on sediments (compaction and chemistry), and potential impacts to birds. Some of these issues are also discussed in further detail below. This letter also addresses concerns raised regarding aquaculture debris.

Several opponents of geoduck aquaculture continually repeat the mantra that “no science exists on the effects of geoduck aquaculture.” This is simply not the case. As the attached technical memorandum makes clear, there is a great deal of scientific information regarding the environmental effects of shellfish farming in general, and geoduck farming in particular. Taylor Shellfish, and the shellfish industry generally, are strong advocates of continued scientific research on all aspects of geoduck farming. However, while there can always be more scientific research conducted and more information obtained, the opinion of respected experts is that adequate, relevant information exists to determine that significant adverse environmental effects from geoduck farming are simply not likely.

#### **Forage fish and salmon habitat effects**

The interaction between geoduck farming and fisheries are at worst benign and more likely are beneficial. Fish prefer the structured habitat provided by geoduck and other types of shellfish culture, which provides refuge from predation and enhances the availability of food. During the 1-2 year period during which tubes and netting are used, geoduck farms are rapidly colonized by marine plants and animals, resulting in an increase in the types and numbers of colonizing fish, invertebrates, and aquatic plants.

With regard to impacts to forage fish, geoduck clams are grown at a significantly lower tidal elevation than the elevation at which surf smelt and sand lance spawn. Although

there is spatial overlap with the tidal elevations where Pacific herring spawn and geoduck are cultured, the interactions between Pacific herring and geoduck farming are generally considered to be benign or positive. Herring may use geoduck aquaculture gear to spawn upon, particularly in areas where no other structured habitat such as eelgrass is available. (Best Management Practices restrict harvest activities when herring spawn is present.) In addition, growers typically install and remove tubes in late April through September while herring typically spawn in the Pacific Northwest in February/March. Finally, the impetus for herring to spawn on geoduck beds is removed along with the tubes and netting after 1-2 years; the sandy beaches used for growing geoduck lack the structured habitat herring prefer for spawning.

### **Sediment concerns**

With regard to sediment transport, sediment can be suspended during harvest to a minor degree, the effect of which is to balance the minor accretion that may result from tubes and predator netting during the first 1-2 years of a crop cycle. These effects are consistent with the natural disturbance factors that continually shape and reshape intertidal sand flats.

Sediment transport in intertidal systems is a dynamic, short-term cyclical and morphological process that is largely attributed to tidal and wave energy. Research conducted by Environ found that sediment generated by geoduck harvest is generally localized and transient, with turbidity most prevalent near the waters edge to approximately 8m offshore. Suspended sediments at an intertidal geoduck clam harvest site dissipate rapidly, disappearing within a single tidal cycle. While some increase in total suspended solids during harvest has been observed at some farms, the level of sediment suspension is below the thresholds that would cause a significant adverse effect on fish.

### **Effects on Birds**

The collective evidence from a variety of marine shore and seabird species evaluated suggests that shellfish farming does not have any significant negative impact to birds. Where impacts have been observed, they have either been positive—increasing avian species richness and abundance due to increased forage opportunities, or benign—eliciting no significant difference in use from natural shellfish beds. Shellfish are an important food source for a wide variety of marine shorebirds. At shellfish farms, some species of marine shorebirds feed directly on the shellfish products themselves, while others feed on the macrofauna and flora that colonize shellfish aquaculture structures.

In areas with eagle nets, Best Management Practices include the use of individual tube nets as opposed to canopy nets to decrease the chance of entrapment.

## **Aquaculture Debris**

Aquaculture debris is an issue the shellfish farming industry is working diligently and continuously to address. Any amount of aquaculture debris leaving farms is unacceptable. The Pacific Coast Shellfish Growers Association has established a toll-free number for reporting aquaculture debris to allow the industry to respond by cleaning it up. That number is (800) 964-6532.

In addition, growers frequently patrol areas adjacent to their farms, particularly after storms. For the past few years, the industry has organized and conducted two major South Sound clean-ups per year covering miles of beaches. During those clean-ups, groups of volunteer shellfish growers canvas beaches and collect all debris, not just debris linked to aquaculture. Aquaculture debris is a small percentage of what is collected. Debris that is potentially related to aquaculture is catalogued and itemized to record the type and probable or known source location of the debris. An attempt is made to stop any debris at the source by tracking and reporting this information to growers.

Shellfish growers are constantly looking for ways to improve farming techniques to reduce the need for artificial materials. One example of a change made in this regard is the use of net tarps in certain circumstances to cover tube fields rather than using individual plastic predator exclusion nets on each tube and securing them with rubber bands. On exposed beaches, these individual nets and tubes can come loose and leave the farm. In these areas Taylor has transitioned to net tarps to cover the entire tube field, eliminating the need for small nets and rubber bands. Net tarps have the added benefit of camouflaging tubes and minimizing aesthetic impacts.

Concern has been raised regarding nets and tubes from geoduck farms littering the bottom of Puget Sound. Information produced by Wayne Palsson at WDFW is being cited by Protect Our Shorelines (POS) to substantiate this concern. POS has used these numbers to claim that WDFW actually found 83,200 pieces of aquaculture debris. A review of Mr. Palsson's data demonstrates that in 42 trawls conducted, WDFW actually found a total of only 12 tubes on two trawls. All of the tubes were found within a mile of large geoduck culture sites. Eleven tubes were found just east of Cooper Point and 1 tube was found just north of the Taylor Foss geoduck farm in Case Inlet. Mr. Palsson incorrectly assumed tubes were uniformly distributed in the whole survey area and then inappropriately extrapolated that distribution to arrive at a figure of 21,600 tubes. This is clearly not the case. The tubes are significantly negatively buoyant and in a low energy subtidal environment would not drift about and become uniformly distributed throughout the Sound. They would stay in the vicinity of the farms.

WDFW also found a total of 22 net pieces in 15 of 42 trawls. Again, Mr. Palsson incorrectly assumed a uniform distribution to arrive at a 61,600 net piece estimation.

WDFW has not notified any individual companies or the PCSGA of any concerns regarding subtidal debris despite the cited survey being conducted in 2005. When growers learned of Mr. Palsson's information we were obviously startled. If he was

right, growers had a huge problem they were not even aware of. Investigating the concern, Taylor Shellfish spent nine days with divers searching the subtidal areas adjacent to our farms. They found 2 tubes at one farm, 1 at another and 4 at another and no nets. Seattle Shellfish, another large geoduck farming operation, mounted a similar effort with similar results. The single exception was near Seattle Shellfish's Whitman Cove farm, where they found (and retrieved) about 200 tubes in a place a cargo bag of tubes had apparently blow off a scow.

## **Conclusion**

Many environmental concerns raised by opponents of geoduck aquaculture appear to stem from visual observations by laypeople who have drawn conclusions about impacts even though they lack the scientific expertise to analyze ecological effects. Taylor Shellfish strongly supports further scientific research on all aspects of shellfish farming activities, including geoduck farming, and the continued evolution of Best Management Practices in response to the results of sound scientific research. That said, no geoduck farming opponent has presented evidence that demonstrates a significant adverse environmental effect of geoduck farming as it is currently practiced.

Sincerely,



Bill Dewey

Cc: Perry Lund  
Gordon White

**From:** Holcombe, Candice (ECY)  
**Sent:** Wednesday, October 08, 2008 9:54 AM  
**To:** JJNM@aol.com  
**Cc:** Lund, Perry (ECY)  
**Subject:** RE: Comments

Hi Jules,

We began compiling public comments into monthly digests earlier this year and posting them on the committee website. We wanted to make sure they were not only on file for consideration by Ecology, but also accessible to committee members and interested parties.

Unfortunately, I fell behind this summer on posting the comments to the website (I think the last digest I posted was for May). Ecology staff has seen them all, they just haven't been publicly posted yet. I hope to catch up and get them all posted to the website in the next couple of weeks. When I do, your comments will be included among them. Any comments you submitted earlier in the year (i.e., May or before) should already appear in the digests at this link:

<http://www.ecy.wa.gov/programs/sea/shellfishcommittee/comments.html>

If you have any other questions, just let me know.

Thanks,  
Candice

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**From:** JJNM@aol.com [mailto:JJNM@aol.com]  
**Sent:** Wed 10/8/2008 7:51 AM  
**To:** Holcombe, Candice (ECY)  
**Subject:** Comments

Hi Candice - I know you told me that my comments on the guidelines would be put into the "public digest" but I'm not sure what that meant. When you have time can you let me know what that means?  
Thanks - Jules

right, growers had a huge problem they were not even aware of. Investigating the concern, Taylor Shellfish spent nine days with divers searching the subtidal areas adjacent to our farms. They found 2 tubes at one farm, 1 at another and 4 at another and no nets. Seattle Shellfish, another large geoduck farming operation, mounted a similar effort with similar results. The single exception was near Seattle Shellfish's Whitman Cove farm, where they found (and retrieved) about 200 tubes in a place a cargo bag of tubes had apparently blow off a scow.

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Sincerely,

Bill Dewey

Cc: Perry Lund  
Gordon White

**From:** Manning, Jay (ECY)

**Sent:** Friday, October 17, 2008 2:19 PM

**To:** Lund, Perry (ECY); Clingman, Tom (ECY); White, Gordon (ECY); Toteff, Sally (ECY); Baldi, Josh (ECY)

**Subject:** FW: APHETI Follow-up on 10-13-08 letter concerning Taylor Shellfish

fyi

Jay J. Manning

Director, Department of Ecology

(360)407-7001

**From:** apheti@comcast.net [mailto:apheti@comcast.net]

**Sent:** Friday, October 17, 2008 2:17 PM

**To:** ryanc@co.mason.us; vdiamon@co.pierce.us; fraser.karen@leg.wa.gov; Manning, Jay (ECY)

**Subject:** APHETI Follow-up on 10-13-08 letter concerning Taylor Shellfish

To: Kathleen Drew

Policy Advisor for Governor Gregoire

Dear Governor Gregoire,

APHETI delivered documents to your office on Monday regarding the Taylor mussel rafts in Gallagher Cove/Totten Inlet. We would request that all of the information be reviewed as shown on the following link:

APHETI Letter and DNR Documents

[http://www.coalitiontoprotectpugetsoundhabitat.com/APHETI\\_Attachments.html](http://www.coalitiontoprotectpugetsoundhabitat.com/APHETI_Attachments.html)

Attachments:

1. Letter describing lack of response from DNR and false information from DNR concerning Beggiatoa bacteria mats at Taylor Gallagher Cove mussel raft site
2. Documents from DNR public disclosure request:
  - a. Email from DNR-Schreck to Sowles stating " I am now dealing with an issue arising out of the presence of Beggiatoa mats under a mussel raft lease in Totten Inlet..."
  - b. Email response to DNR from Sowles (Maine contact) stating " We do not consider what we are seeing as warranting any sort of enforcement action since **the leases were chosen because they do not contain any special habitats or species.**"
  - c. Internal email from DNR-Doenges " We should leave the impression that we have taken the allegations seriously and investigated them but have concluded there is NO evidence of a "dead zone" and reference the quotes below from Mumfords 12/14 memo prepared after viewing the video."
  - d. Email from Mumford (DNR Head Scientist) stating " Given how qualified this assessment is, we would urge a more cautionary approach."
  - e. Letter from DNR-Fran McNair to our attorney stating "...and there was little or no Beggiatoa mats."
  - f. WDFW Map showing Gallagher Cove was a designated herring habitat
  - g. Bill Dewey email to DNR-Doenges stating " On behalf of Taylors and industry, let me say how much we appreciate your on- going efforts to facilitate farming geoducks on state lands."
3. Our DNR lease application to lease Gallagher Cove for community production of

oysters and restoration of the degraded herring spawning habitat

We are very concerned about the preferential treatment Taylor receives from DNR, their influence on DNR to farm geoducks on state lands which has enabled the unregulated expansion in Totten Inlet. There is no evidence that DNR required a baseline study of this extremely low flushing area prior to Taylor leasing this critical herring spawning habitat and no record that DNR has done any environmental monitoring--DNR has just taken Taylor's word for conditions and impacts. Since there is not a current Taylor lease in the files, we are requesting to lease this area.

As stated in the Ecosystem Coordination Board action agenda, " We need to offer incentives and education about opportunities to do the right thing so that smaller cities and landowners are real engines of progress." The many landowners involved in our proposed Totten Inlet/Gallagher Cove community projects are trying to do the right thing and look forward to being "real engines of progress."

Sincerely,

APHETI Board

Association for the Protection of Hammersley, Eld and Totten Inlets

[www.apheti.com](http://www.apheti.com)

[apheti@comcast.net](mailto:apheti@comcast.net)

- Att. 1 APHETI letter, 10-13-08 (1)
- Att. 2 Schreck DNR email to Sowles (Maine) (2a)
- Att. 3 Sowles email response to Schreck (2b)
- Att. 4 DNR Doenges email (2c)
- Att. 5 Mumford DNR email (2d)
- Att. 6 DNR McNair letter (2e)
- Att. 7 DNR Mc Naira letter p. 2 (2e)
- Att. 8 WDFD Herring Stock Map, Gallagher Cove (2f)
- Att. 9 Taylor's Dewey email to DNR staff (2g)
- Att. 10 APHETI Lease Application for Gallagher Cove, Totten Inlet