



November 19, 2010

Washington State Department of Ecology
Shorelands and Environmental Assistance Program
ATTN: Cedar Buota
PO Box 47600
Olympia, WA 98504-7600

Sent by email to: ShorelineRule@ecy.wa.gov

Re: Ecology SMP Rulemaking for Geoduck Aquaculture – Aug. 2010 Draft

Dear Ms. Buota:

Thank you for the opportunity to comment on the draft shoreline master program rule changes for geoduck aquaculture and other changes. Our mission at Futurewise is to promote healthy communities and cities while protecting working farms, working forests, and shorelines for this and future generations. Futurewise has members across Washington State, including in many jurisdictions with aquaculture facilities.

We have reviewed the current draft of the proposed rules and find that many of the issues we raised in our previous letter were addressed. We thank Ecology for their hard work in dealing with these issues on this often controversial subject. We appreciate and support Ecology's efforts to research this important issue and to adopt rules to guide its appropriate management under the Shoreline Management Act. After reviewing the draft rule, we only have a few recommendations, which we provide in this letter.

Ecologically Intact Water Areas Need to be Identified and Given Protective Environment Designations

Background – Over the last two years, we have seen several proposed shoreline master programs (SMPs) that treat aquaculture as a monolithic use, and allow it in all aquatic areas at all intensities. Yet the Shoreline Management Act (SMA) and Shoreline Master Program (SMP) Guidelines intend that highly ecologically intact areas be protected from most development. Using a single Aquatic environment fails to adequately distinguish aquatic areas with important natural resources that need a high level of protection. RCW 90.58.020, provides that the policy of the Shoreline Management Act “contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the State and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto.” One of the primary means of doing this for upland areas under the SMP guidelines is to establish Natural environments for the shoreline areas that are most intact, with the best ecological functions, and are the most fragile. Protective environments, and the associated use limits provide the first step in mitigation sequencing to protect remaining ecological functions of intact areas. If aquaculture (and other in-water uses) is to be properly governed to avoid ecological impacts and use conflicts, the first step is to protect those highly functioning aquatic areas. This means that the aquatic equivalent of a Natural environment is needed.

While an SMP might use several environments for upland areas, the SMP Guidelines recommend applying the Aquatic environment to all water areas in shoreline jurisdiction. An unintended consequence of this is that while the upland shoreland areas have multiple possible environments to distinguish between different conditions, the actual shoreline water areas that are the focus of protection in the SMA are characterized by only one environment. This is the case even though water areas can range from being heavily altered, to being ecologically intact, to being very valuable for native vegetation and protected species, just like upland areas. Furthermore, using only one environment means that all water areas are treated the same, with the same use limits and development standards. This runs counter to the principle of protecting ecological functions described in the SMA Policy. It is also contrary to the approach used for upland areas which identifies the most naturally intact and valuable areas, and protects them. This deficiency is most obvious in the case of aquaculture uses, since they are one of the few uses that make widespread use of in-water areas, with the potential to make fundamental changes to local conditions, and over the long term can make cumulative changes to regional conditions.

Recommendations – We are pleased to see two types of changes that partially address the above issue: requiring better inventory information for aquatic areas, and more reference to reserving ecologically intact aquatic areas. We had previously recommended establishing an equivalent to the Natural environment for in-water areas. The SMP Guidelines provide that Natural environments (and their equivalent) are supposed to be limited to very low intensity uses, and are supposed to limit structural changes in the environment.¹ This should also apply to the aquatic equivalent of the Natural environment. We continue to recommend that an aquatic version of Natural be included in the guidelines, for example “Natural Aquatic.”

We had also proposed alternatives to using separate environments. One alternative would be that the adjacent upland environment could be used to serve as a proxy for a more detailed assessment and designation for water areas. Then the upland environments use limits and development standards would be used in the adjacent Aquatic environment. Another alternative “proxy” approach would be to extend upland environments, such as the natural and conservancy environments into the shallow water areas, and have a separate environment for deep water areas.

Any of these approaches would improve on the strategy of using a single Aquatic environment that has no distinctions in the character of water areas. If aquaculture (and geoduck aquaculture, and also other in-water uses) is to be properly governed to avoid ecological impacts and use conflicts, the first step is to protect those highly functioning aquatic areas.

While the draft rules don’t include a new environment, they do emphasize protecting intact areas. We generally support the proposed changes to the guidelines, and have the following additional specific recommended changes to the inventory list and Aquatic environment management policies to more clearly state the need for better protection of intact areas.

The section that describes how to establish preferred uses (on p. 30) discusses reserving ecologically intact areas, though the sentence structure makes the statement ambiguous. We recommend the following edits for clarification (using red double underline format – single underline is rulemaker edits) and to provide examples of how such a reservation might actually be done.

(d)(i): Reserve appropriate aquatic and upland areas for protecting and restoring ecological functions to control pollution and prevent damage to the natural environment and public health. In reserving areas, local governments should consider protecting areas that are ecologically intact (including areas ranging from the uplands through the aquatic zone of the

¹ WAC 173-26-211(5)(a).

area), aquatic areas that adjoin permanently protected or intact uplands, tidelands in public ownership, and tidelands not reserved for water-dependent use or development. Reserving areas for protection can take the form of using Natural environments (or their equivalent), protecting other designated areas (such as an aquatic reserve or underwater park) using the SMP use limits and regulations, or similar methods. Local governments should ensure that these areas are reserved consistent with constitutional limits.

The Aquatic environment management policies section (on p. 48) added policy issues for reserving aquatic areas for ecological functions, which we strongly support. We recommend emphasizing highly functioning areas, and again recommend describing how you might actually protect such areas.

(G) Local governments should reserve highly functioning aquatic areas for protecting and restoring ecological functions. Local governments should consider using a separate environment with associated use limits and standards; or establishing use limits and standards to protect existing identified areas such as aquatic reserves, underwater parks, etc.; and similar methods.

An important element in protecting aquatic areas is the adjacent upland vegetation, which also provides its own ecological functions. The SMP Guidelines are focused on protecting ecological functions, which are highly dependent on low levels of disturbance, and intact vegetation. The proposed rules make changes to the list of inventory items (on pp. 34-35), including making a commendable attempt to identify remaining ecologically intact areas. These instances are found in several places, but they do so in an indirect manner. We recommend that it be made clearer, because it is not possible to protect ecological functions without clearly identifying where your greatest blocks of intact areas are found. We have found this problem in some city inventories – particularly those that designate all or most developed areas with the same environment despite differences in their remaining ecological functions. If those areas with remaining ecological functions are not identified at the beginning of the update process, the use limits and regulations will fall short in protecting them. As a common, yet more extreme failure, we have seen proposed SMPs that designate areas as Shoreline Residential when they have dense intact vegetation completely filling shoreline jurisdiction, because they have heavy residential development just outside shoreline jurisdiction. These Shoreline Residential areas typically also have a buffer system allowing substantial clearing of that intact vegetation. We recommend the following edits to the land use inventory item, because the absence of development is also part of the land use pattern:

(i) Shoreline and adjacent land use patterns and transportation and utility facilities, including the extent of existing structures, impervious surfaces, vegetation and shoreline modifications in shoreline jurisdiction. Special attention should be paid to identification of ecologically intact blocks of upland vegetation, developed areas with largely intact riparian vegetation, water-oriented uses and related navigation, transportation and utility facilities.

Inventory item (ii) discusses habitat areas. It adequately covers upland habitat, but only references aquatic vegetation. An important fact is that aquatic habitat is not only based on vegetation. For example, forage fish spawning areas. We recommend that “native aquatic vegetation” be changed to “native aquatic habitat.”

Inventory item (xi) describes information for siting in-water uses (on p. 35). The latest draft rules dropped the bathymetry item that was in the previous draft, but the inventory should include some information about marine bottom morphology. We recommend adding back in “general tidal, sub-tidal, and deepwater locations,” which would be a more easily obtained information item than bathymetry. Basic bottom morphology information is essential in establishing appropriate boating facility, aquaculture, and marine industry/commercial facility locations.

Lastly, two issues related to definitions have been largely fixed, and we support the changes. First, the draft rules clarify a very problematic issue in that commercial shellfish beds, which are a distinct human use that converts natural systems into artificial systems, is currently included in the definition of Critical Saltwater Habitat. The changes (on p. 57) clarify that it is naturally occurring native shellfish beds that are considered habitat. We strongly support this change. Second, a definition for Aquaculture has been added. We do recommend a clarification related to the difference between aquaculture and general fishing, which has come up in multiple SMPs we have reviewed (in ~~strikeout~~ and double underline format):

(6) "Aquaculture" means the culture or farming of fish, shellfish, or other aquatic plants and animals. Aquaculture does not include the harvest of wild geoduck or other wild shellfish associated with the state managed wildstock ~~geoduck-shellfish~~ fishery nor other fishing or harvesting activity of wild fishery stocks.

Ecologically Intact Water Areas Need Protective Use Limits and Development Standards

Background - Once ecologically intact water areas are identified, use limits and regulations are needed to protect their ecological functions as the Shoreline Management Act and the Shoreline Master Program Guidelines require.² Intense levels of development need to be limited in the Aquatic equivalent of Natural because of the low-intensity focus of the SMP Guidelines for ecologically intact areas. Most forms of aquaculture that modify the natural environment are almost entirely in-water uses that can cover broad areas. Often these uses are not regulated to effectively manage their impacts and they need to be properly managed to protect the functions and values of shoreline areas.

Many of the current forms of aquaculture are very intensive, and the trend is to become more intensive by practices such as developing multi-species operations using different tidal depths, or layering for different elevations in the water column, or the development of more intensive mechanization for harvest and planting. Aquaculture (including geoduck aquaculture) includes many methods and practices that significantly alter the ecological functions and natural character of the shoreline, such as:

- Significant sediment disturbance that disrupts the natural ecological processes - such as grading or alteration of the tidal bed, dredging, pressure blasting of the substrate, deep liquefaction of the tidal bed (with 'stingers' for geoduck harvest, etc.).
- Activities that alter the natural character of the site - such as clearing of animals and natural materials from the site, gravel enhancement of the tidal bed, and the introduction of feed or chemicals.
- The use of machinery that greatly intensifies the use of the site - such as using heavy equipment, or harvesting using motor driven vehicles or machines.
- The use of equipment or gear that significantly obstructs or eliminates native sea life from the tidal bed; and equipment that alters the natural character of the shoreline - such as gear that makes a solid covering on the tidal bed (films, plywood, etc.), nets and bags full of organisms blanketing the tidal bed, equipment elevated well above the tidal bed, floating equipment with above-water structural elements, walkways, or platforms.

Such practices should not be allowed in the Aquatic equivalent of the Natural environment, and adjacent to the Natural environment which are the most intact and ecologically functioning areas. Intense aquaculture operations *replace rather than protect* the natural **"land and its vegetation and wildlife, and the waters of the State and their aquatic life"** (as stated in the SMA policy) with

² WAC 173-26-186(8).

artificial, human-driven production systems. The use regulations need to be protective of the most sensitive water environments. This is why the SMP Guidelines state that “[a]quaculture should not be permitted in areas where it would result in a net loss of ecological functions, adversely impact eelgrass and macroalgae, or significantly conflict with navigation and other water-dependent uses.”³ Such a loss of ecological functions will be inherent in converting natural functioning areas into intense aquaculture development.

Recommendations – The draft rules include items for jurisdictions to consider in their permit review of geoduck aquaculture that include many of the bulleted items we listed above. We support considering these issues in the permitting stage; however, we continue to recommend that aquaculture operations that modify the natural in-water environment (including geoduck aquaculture) not be allowed in the most ecologically sensitive areas. This is consistent with the Shoreline Master Program Guidelines which indicate that: “These systems require that only very low intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes”,⁴ and that the preferred location for aquaculture and other resource industries is the Conservancy environment.⁵ To most succinctly address this concern, we recommend the following change to the third paragraph on page 72, although please note that the extensive rulemaker edits are accepted so our edits can be easily displayed. This change would also link aquaculture to the inventory requirement to identify and reserve ecologically intact aquatic areas.

Continuing to allow intensive aquaculture uses to convert these highly functioning areas to intensive human food production systems will inherently result in a loss of ecological function. How a project can replace these lost habitat areas would seem to be much more difficult than the replacement of upland habitat. Even addressing the smaller losses of converting lower functioning areas may be very difficult. To ensure that these losses are specifically considered, we recommend that the third paragraph also address this problem. Unless the regulations address such losses at the project level, they must somehow be accounted for in the Cumulative Impact Analysis (CIA).

Aquaculture should not be permitted in areas where it would [convert highly functioning aquatic areas \(such as reserved aquatic areas, aquatic areas adjacent to Natural environments, and similar protected areas or highly functioning areas\) to aquaculture use](#), adversely impact critical areas or critical resource areas, suspend contaminated sediments that exceed state sediment standards, or conflict with navigation and other water-dependent uses. Aquaculture should be designed and located so as not to spread disease to native aquatic life, establish new nonnative species, or significantly impact the aesthetic qualities of the shoreline. Impacts to ecological functions shall be mitigated according to the mitigation sequence described in WAC 173-26-201 (2)(e), [including the replacement of lost habitat areas](#).

Some have argued that aquaculture must be allowed everywhere because it is a “preferred use.” We agree that aquaculture, as a water-dependent use, is a preferred use. But even water dependent uses, taking the policy of the Shoreline Management Act in RCW 90.58.020 as whole, must be sited, constructed and operated so as to protect shoreline resources.

Marine Critical Areas Need to be Avoided and Adequate Buffers Established for Them.

SMPs typically require that upland development protect adjacent critical areas – usually using buffers. However, sometimes jurisdictions do not require adequate setbacks or buffers from in-water critical saltwater habitat such as eel grass, and fish spawning areas. The draft rules include specific

³ WAC 173-26-241(2).

⁴ WAC 173-26-211(5)(a)(i).

⁵ WAC 173-26-211(5)(b)(i); (ii).

requirements that jurisdictions consider the use of buffers (on p. 75) for critical saltwater habitat and other sensitive features. We support this standard, though we do believe additional guidance is needed to fully understand why it is needed. Our recommendations are shown below in ~~strikeout~~ and double underline:

- Requiring ~~buffers between~~ geoduck operations ~~and to avoid~~ sensitive habitat features like critical saltwater habitats, and providing buffers for such features. Buffers should protect habitat features even though the species may be seasonally absent from the habitat, should account for sediment mobilization during geoduck harvest, should consider proximity of human activity, and should account for factors such as the length of kelp fronds drifting into the aquaculture area.

Conversion to Geoduck Aquaculture From Other Aquaculture

The section describing when a Conditional Use Permit (CUP; on p. 73) is required allows the conversion from some other form of aquaculture without CUP. We recommend that this provision be deleted. Geoduck aquaculture has dramatically different impacts from other aquaculture, due to factors ranging from nursery facilities, to in-ground gear installation, to harvest methods. Just because other aquaculture was there previously should not be the basis for avoiding a CUP.

Miscellaneous Issues

In WAC 173-26-130 the draft rules change the appeal procedures for GMA jurisdictions to reference the GMA procedures, which we support. But they also added language about Ecology's statement of final action. Such a statement is more appropriately placed in the review section of WAC 173-26-120 rather than the appeal section.

In WAC 173-26-150 the draft rules added the allowance for predesignation of shorelines outside city limits for non-GMA cities, which is we support. However, the Guidelines should require both GMA and non-GMA cities to coordinate with counties on pre-designation, as required under the GMA. Shorelines need consistent planning, including cases where they may change jurisdictions. In our review of SMPs, we have found that there is almost no coordination going on - even for UGAs.

WAC 173-26-221(2)(a)(ii), on page 53, WAC 173-26-221(2)(b)(ii) on page 54, and WAC 173-26-221(2)(c) on pages 54 and 55 should not delete the requirement that shoreline master program protections for critical areas have to be at least equal to those provided by critical areas regulations. The Shoreline Management Act, in RCW 90.58.090(4), still contains this requirement and the Shoreline Master Program Guidelines should contain it as well to be consistent with the Act.

The Shoreline Management Act, in RCW [90.58.065](#), exempts certain agricultural activities for management under the new shoreline master programs. RCW 36.70A.480(3)(d) retains critical areas jurisdiction over these activities. We recommend that this retention of authority be recognized by WAC 173-26-221(2)(a)(ii), on page 53. We recommend the following revisions to the second paragraph of WAC 173-26-221(2)(a)(ii) (with our additions double underlined; single underline is rule maker edits).

Pursuant to RCW 36.70A.480(3), upon department approval of a shoreline master program, critical areas within shorelines of the state are protected under chapter 90.58 RCW and are not subject to the procedural and substantive requirements of RCW 36.70A, except as provided in RCW 36.70A.480(6), and except for agricultural activities as defined in RCW 90.58.065 which continue to be managed by critical areas regulations adopted under RCW 36.7A.

Summary

The proposed rule changes go far toward providing guidance on both geoduck and standard aquaculture. However, our recommended changes will provide additional specificity to cover the remaining gaps in the rules and address other important aspects of the rules update. We thank Ecology for their work on this important subject, and for considering our comments. We strongly support the proposed changes, with our recommendations included. If you require additional information please contact me at dean@futurewise.org or 509-823-5481.

Sincerely,

A handwritten signature in black ink that reads "Dean G. Patterson". The signature is written in a cursive, flowing style.

Dean Patterson
Shoreline Planner
Futurewise