

Jules Michel

Thank you for considering the wealth of information provided on the importance of native burrowing shrimp, the important ecosystems which Willapa Bay and Grays Harbor make up, and the desire for shellfish growers to maximize their profits.

This issue is no different than Seattle Shellfish and Taylor Shellfish believing the "only way" to grow-out geoduck seed was to use hundreds of "kiddie wading pools" in the tidelands. When that method's impact was shown to detrimental to the benthic and marine ecosystem, they easily came up with alternative growing methods. Taylor Shellfish modified mussel farm rafts and Seattle Shellfish built a floating dock to which grow-out rafts were attached. It was more expensive, but they adapted and accepted it as a cost of doing business. This current situation is no different. Accepting Alternative 1 (do nothing) will show that to be the case here, as it was there.

Willapa Bay and Grays Harbor shellfish growers claim alternative growing methods are more expensive or not feasible, pointing to long lines "sinking" in the sediments and it being hard to walk in those sediments. While above sediment methods are more expensive, and in a few areas the sediments are soft, the current system pointed to is simply a poorly engineered system to grow oysters, and a poorly engineered system will always fail. But it does not mean alternatives are not available.

Look at Drakes Bay Oyster Company's use of racks in Drakes Estero where above sediment structures were used for years, accessed by boat, as they have been in Japan for decades (and where the nonnative Pacific oyster originated from). Pilings are driven into firm sediments which, in the case of Willapa Bay (and likely Grays Harbor) are 3 feet below what the current growers are complaining about. In turn, those pilings had stringers attached to them, over which "hangars" were draped, holding oyster spat. When mature, workers traveled to the structures by boat/barge, lifted the hangers off of the stringers and onto the barge, and returned them to the processing plant. It is only one of the alternatives available to growers. While Drakes Bay Oyster Company is no longer operating in Drakes Estero, it was not because the method used was more expensive.

In addition to providing the alternative growers testified at hearings they so dearly want, this also provides a permanent structure onto which marine organisms grow, and remain. The pilings and stringers become ecosystems in and of themselves. (While oysters suspended also provide "structure", they are removed at each harvest so cannot be truly called adding to the ecosystem.) Of course there is a risk of a boater running into them. But navigational hazards are easily marked and, if significant enough, lit. And unlike other areas, these have no eelgrass to shade.

Growers state the wave energy is too strong for a robust structure such as what is described. If that is true, then there is no way on- bottom oyster growing will be able to take place, burrowing shrimp or not. As Taylor Shellfish noted in a deposition submitted when an encroachment onto state tidelands was being investigated, waves on that parcel caused oysters to be pushed to the upper tidelands, having to be retrieved by hand, and then placed back in the lower tidelands. If on bottom oyster growing may be done on these parcels after killing burrowing shrimp, then most certainly a well engineered structure may be used, avoiding the use of this pesticide, providing "ecosystem services" as well.

Other growers claim above ground structures create such an impediment to tidal and sediment flow that they result in sediment deposition, putting other beds at risk. However, they cite no studies to

substantiate such a claim and merely provide conjecture on whether it is significant, let alone even happens. Further, Taylor Shellfish has been using above ground methods (flip bags in this case) for years and nobody complained to DOE about sediment transport issues.

Dick Sheldon's comment expresses concerns that above ground methods result in micro-plastics in oysters. Yet testimony by "expert witnesses" for Taylor Shellfish in numerous hearings claim grow-bags are not the source of micro plastics. More importantly, the method described easily avoids the use of any plastics at all, instead, using hangers. While Mr. Sheldon should be concerned about plastic, he should be more concerned about the public's perception of his oysters, those of Willapa Bay, and those in Washington, being grown on beds and in waters where pesticide and herbicides are being applied.

Another supporter of pesticide use is from Daniel Cheney who states the use of Carbayl (Sevin) by the shellfish industry (used since 1963, unknown to most consumers of Willapa Bay oysters) to kill burrowing shrimp resulted in an increase of eelgrass due to firmer sediments. Not noted is the species most common to grow in these areas where shrimp are killed in order to grow oysters is Japanese eelgrass, an eelgrass considered a "noxious weed" by shellfish growers who have been spraying the herbicide Imazamox on to eliminate. While there were areas where the native eelgrass increased, those were predominantly in tidal pools, where water never drained and lower in tidal elevation. In short, while applying a pesticide did result in an increase in eelgrass, it was predominantly Japanese eelgrass which shellfish growers would simply spray with Imazamox, adding more chemicals to Willapa Bay.

As noted by many, Willapa Bay and Grays Harbor provide ecosystems which support a large number of native species. That support starts at the bottom of the food chain where burrowing shrimp exist. Imidacloprid is not "shrimp specific" - it will kill any marine invertebrate it comes in contact with. Derreck Rockett noted many "uncertainties" in this proposal at public hearings. There are, and those uncertainties - coupled with the very real certainty that this is a pesticide which kills marine invertebrates - should prevent this proposal from considering anything other than Alternative 1, the "do nothing" alternative.

Like the timber industry who adapted to environmental constraints, like Taylor Shellfish and Seattle shellfish adapted to alternative growing methods for geoduck, so too can Willapa Bay and Grays Harbor shellfish growers adapt profitable alternative growing methods, avoiding the taint all shellfish grown in Washington would take on if pesticides are applied to shellfish beds.