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**Comments on Control of Japonica and Burrowing Shrimp**

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These written comments are made necessary due to limits placed upon oral testimony controlling the 2/1/14 South Bend Scoping Session on these permits. The subjects are intertwined as was my planned testimony.

The multi-year WDF&W research leading to the E.I.S. allowing the use of Carbaryl for control of burrowing shrimp classified and assigned levels of contribution to differing uses found within Willapa Bay's intertidal lands. The classes were related to their overall contribution to the feeding, protection offered and other factors connected to their contribution to the diverse marine species depending upon the estuary for survival during differing stages of their life span. The classes included open sand, shrimp grounds, shellfish beds, shell beds, and marina meadows. Oyster beds rated highest in all categories; especially in diversity of prey species and protection for immature bottom dwellers i.e., crab, sole, etc., with Marina beds coming in second. Building shell beds alone are the primary compensation, when available, used by agencies and the Army Corps of Engineering for habitat loss mitigation in Washington Coastal Estuaries; the live oyster beds not being practical or affordable due to development costs. Further findings by W.D.F.W. were that re-colonization by Benthic Prey species was not only immediate, but expanded in both species diversity and volume of individuals within a few days at most after Carbaryl treatment of bedlands.

Sand Shrimp beds were devoid of protective habitat and lowest of all in prey species, however, after Carbaryl was applied the soil structure immediately changed; becoming firm, benthic species exploded and in most cases marina was well established within the following growing season.

This information is available from the WDFW files, much of which was compiled by Dr. Brett Dumbauld in the 70s and 80s. It is important to include these studies as it establishes cause and effect in removal of epidemic shrimp population and the positive contributions of the shell fish beds to all estuarine inhabitants. It is extremely important to establish a baseline exclusive of both infestation levels of shrimp and pre-Japonica infestation to evaluate either of these permit's ecological content. Both Sand Shrimp and Japonica decimate not only commercial shellfish beds but the historic use of private and state protected public inter-tidal lands equally. Infestations of both shrimp and Japonica steal the core values of these lands from the owners, both public and private. This condition is not isolated to commercial shellfish beds.

The shellfish growers have, and are spending millions of dollars, in research, testing, etc and uncounted thousands of hours taken from their farm operations in developing solutions to confront these environmental disasters. The State agencies, wholly responsible for administration and protection of the public lands, by far the huge majority of those lands both infected and potentially infected, have contributed nothing. In fact, D.N.R., W.D.F & W, and W.D.A. have on differing levels attempted to impede or kill the grower's efforts. Agency influence has driven costs far beyond any legitimate figure and they continue to climb.

Having a long experience with agency interactions on issues such as permitting, I feel confident in making the following observations:

- I, the aforementioned agencies influence is evident in the demands made by ecology in issuance of this permit.
- A. Only applicable in Willapa
  - B. Only on Clam grounds
  - C. Only available to Commercial Shellfish Growers

Neither D.N.R. or D.F.&W admit to the obvious threat of habitat destruction. Neither wanted Japonica listed as a C weed. As a result limiting this to Willapa Commercial Clam beds isolates the permit, and gives agencies cover for failing to respond to the destruction of function on the massive public tideland under their control. The W.D.O.E., as author of this permit bears a primary responsibility for this outcome.

The demand of border restrictions and setbacks from adjacent properties recently added to permit limitations defies both common sense and the reality of damage to the physical property the permit is constructed to serve.

By its nature intertidal land is sloped toward the low tide line. This allows an un-concentrated sheet flow of the incoming and receding tidal cycles to spread the velocity over the whole without cutting sloughs in the soft sediments. Where these flows are confined or come against resistance sloughs are formed. These sloughs in Willapa Bay soft sediment bottom once established become permanent. An examination of the irregular oyster bed lines shown on oyster bed maps of Willapa Bay show property lines as following sloughs, drawn over 100 years ago and still valid today as natural boundary markers.

Japonica by its nature builds a thick barrier stopping water flow. Control demands removal of all Japonicas in a given area. Water flows downhill to the lower slope of the bed treated. Where water meets Japonica resistance a slough will be formed. The result, as now demanded, will not only result in 40-feet of the beds parameters to be lost to production, but since farming near sloughs and depressions are avoided as insecure unstable land, there is a high probability that a good portion of these beds, once this buffer is lifted, will remain eroded, leaving a strip of land separated from the rest of the bed and too narrow to use. In any case, the new slough or depression will devalue the property.

It is hoped that the instigator of this restriction did not consider the physical impact associated with this demand. The theory of reducing chemical trespass, a term I have not seen applied before to this extreme on any previous permit I've been involved with, makes little sense either. Everyone I have contacted connected with research on application of this chemical including your own D.O.E. people in the field, and my own onsite experience, verifies that almost zero offsite migration occurs. In fact, straight lines on borders of test plots have been surprisingly uniform. With this information readily available to D.O.E. it is puzzling what this recent demand was based upon. It most certainly was not field experience. If, instead, this demand of borders is an evolving thing with D.O.E. permitting then it should be clearly stated as such. The resulting damage to beds under this protocol is real and D.O.E. has obviously not taken the physical impact into its deliberations. I strongly object to the inclusion of buffers as part of this permit process.

The three-year sunset with a two-year reauthorization in the length of this permit gives growers little insurance that this permit will not be modified by political expediency or other outside influence. This industry needs assurance that Japonica control will become integrated into its B.M.P. as a priority. This section should be rewritten to, or eliminated.

I served as our industry representative from start to finish of the Spartina battle. I was present when D.N.R.s Jennifer Belcher declared to our industry that she had chosen to live with the infestation as D.N.R. policy. I was present when DF&Ws director informed Senator Snyder's committee that he had a trout pond problem in Spokane that he considered "equal to the Spartina issue". We helplessly fumed while helicopter spraying, half of the eventual Spartina solution, was banned for years because of agency political considerations. The list goes on and on. Finally on the eve of agency declaration that nothing more could be done, which was true the way they were going, our industry took political action, both State and National. The result is what you don't see today; no Spartina.

Refusal of agency acceptance of the magnitude and priorities needed, brought about years of delay while Spartina exploded from a few to tens of thousands of acres. Consequently millions were unnecessarily wasted. With Japonica, the same players are calling the shots in this permit process. The buffers, helicopters, senseless limits on control, blindness to the full scope of damage in Japonica's ultimate cross-estuary destruction of Washington's marine environment; a total replay of the Spartina fiasco.

The shellfish industry is willing to pay for and freely share the solutions found to stop this invasive weed. Instead of increasing costs while devaluing the permit's use, D.O.E. should accept the fact that this is in public interest and a huge benefit to our state's citizens.

While this permit is limited to Willapa Bay, this weed is already in Puget Sound. There is no possibility of eradication in Willapa because of the massive seed supply on State and private non-farmed beds. Washington, blindly, is the soul west coast State refusing to aggressively destroy this exotic noxious weed.

By the Willapa experience, and the aggressiveness of Japonica once a seed source is established, there is no question that the entirety of Puget Sound's intertidal is now threatened. This does not have to happen but what does have to happen is the controlling agencies must join this effort not obstruct the process. Japonica pales Spartina in its threat to our marine environment. We need willing partners if we are to act in time; not a replay of the recent past.

Elimination of all restraints and opening the permit beyond Willapa after three years, provided no major problem is found, is in the public's highest interest and definitely must be considered.

I apologize for the length of this submittal. However 75 year-old boots in the mud of Willapa and serving for over 30 years as chair of our industry's environmental and water-quality committee, and a veteran of multitudes of environmental battles over Willapa's future has left me with a lot to talk about.

Most Respectfully Submitted,



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