WRITTEN TESTIMONY
ROSS P. BARKHURST

LACY Hearing - correction

Last LAST eelgrass map 2006 (not 2016)

Please correct my verbal statement - could not see chart - last eelgrass map was 2006. You have no baseline, now propose to remove more eelgrass, and invertebrates from thousands of acres of what is left

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Comments on imidacloprid SEIS

South Bend Workshop -

R.P. BARKHURST - TESTIMONY - 10/17/17

This is a summary of some key deficiencies of subject SEIS. These comments should be considered to be a supplement to my earlier comments on the FEIS for the previously recalled NPDES permit. I hope to be able to discuss and present them at tomorrow's workshop and hearing in South Bend. Because of the limited time there, these would not constitute all comments.

1. The significant uncertainties are certainly that. After all this time, figuring things out as you go, with the same cast of characters, should be out of the question.
2. Self monitoring by permit holders is not designed, and monitoring by an independent agency is not committed to. It would need to be by a group other than Ag who supported it, and DOE, who issued it. Ecology does not have key baselines to monitor for net loss of ecological function against. No references are presented as to how to measure, against what? This makes even the pretense of avoiding cumulative effects less than credible.
3. No IPM, no problem? IPM a failure with imazamox on eelgrass, now we could have no confidence here. At least criteria for acceptable findings and stop work for unacceptable findings would be essential in the only bays in our country with neurotoxin applied by the gallon.
4. The use of a blatant violator of Public Employee Ethics rules as the main input to this (and other) EIS is

unacceptable. The use of "personal communications" in lieu of documented peer reviewed science is not up to standards expected by the public. We have documented the inaccuracy of such communications like this with respect to the Buffer Validation Test (BVT) for imazamox on eelgrass recently. Active ingredient per acre was totally misrepresented and lowered on paper when it was found to have violated the pesticide label.

5. The use of granules voids much of claims of safety and is improperly analyzed. For example, the specious claim that they dissolve on contact, along with the specious claim that zooplankton are somehow not present on shellfish beds when treatment would be made, is obviated by the fact that the granules could be applied from a boat in water full of these animals anyway. Of course many flats contain hundreds of tide pools full of eelgrass and invertebrates also. In Fall, during the proposed spray window, pools and sinks are full of waterfowl filtering invertebrates, and birds such as Blue Herons, eating the small fish. Not being a drainage or channel, it seems these could be empty of life also. They did not get the email we might get saying they could not harvest food for thirty days.
6. We can find no basis for removing previous high TOC zones where this systemic poison would invade such compounds, from the off limits of the last ill-fated permit. The bay south of the Dispersion Gap Ecology identified previously contains to this day tons of dead spartina root wads and other such matter. Much of this is on land

purchased for waterfowl habitat for the public with state duck stamp funds. The removal of eelgrass and now invertebrates would be part of the trifecta of removing waterfowlers for thirty days. Old unresolved comment; can the waterfowler who cannot eat the clams or oysters on this land he purchased also not eat the ducks? Even if his blind was not sprayed what treated bed did this Mallard full of inverts come from? We will not attempt to complete the long list of unresolved issues from before, this is one obvious one. It also applies to public land under the protection of DNR, which opposed the BVT with good reason. If my next neighbors North and South treat their beds in sequence under your proposal, I cannot harvest or eat anything on my own bed for sixty days. Yet another unresolved old comment. You have no right to do this in water any more than on the land. Please advise.

7. Your WAC quotes seem to say you can not noticeably reduce habitat in Puget Sound but you can reduce it 50% in Grays Harbor and Pacific County. Really? Would not the Shoreline Management Act override this? Zeroed out forage fish spawning mass, bottomed out waterfowl numbers, and all time low Chinook natural recruitment seem to say over 50% loss already. We do not believe cumulative effects limitations mean if 90% are gone and you claim not to have caused it, you can issue an NPDES permit to take 50% of the 10% that is left. Please answer this in your workshops. Also advise if this is acceptable to your fellow agencies WDFW and DNR.

8. Your uncertainties list belies earlier claims in the same document that the same concerns are under control. For example impacts on eelgrass. We already know if shrimp go, eelgrass can move in. Under your imazamox NPDES, this means more eelgrass spraying. Cumulative effects not looked at. At first you claim estuarine invertebrates are more resistant to imidacloprid than fresh water cousins, then list estuarine vulnerability as an uncertainty. There are several other contradictions here.
9. Cumulative effects have not been addressed in any fashion that would incorporate legal precedent such as De Tienne. For example you have narrowed them to eelgrass impacts of the two different chemicals you may permit to go on eelgrass. One kills the eelgrass. The other next door kills the invertebrates in eelgrass that was not killed by imazamox yet. These are cumulative impacts where the chemicals never came together, along with the fact that imidacloprid is to open up more ground than otherwise claimed possible. If growers have the right to do this, you would need to establish that to the public, not claim it will not happen or ignore it. For a satisfactory EIS, you would need to ferret out all comparable excluded situations.
10. The average 10 mph wind allowed by you during application, will have pesticide in the flowering bushes on the bank in less than thirty seconds from spraying. Clam beds are close to shore in many locations. These calculations are for beds I am personally familiar with. The exclusion of helicopter application does not prevent airborne chemical when you allow airboats, which are not

excluded here. Elsewhere you claim it would be hard to spray much acreage, not true with airboats. In the flowering bushes on our banks we find hummingbirds, bumblebees, and pollinator flies by the thousands. Many different native plants feed these native pollinators. Our plum tree, apple trees, blueberry bushes, and huckleberries are pollinated by 99.5% native pollinators, not honeybees. Still, you have ignored my previous comments about your error in claiming no honeybee hives near the bay, I know of two within 300ft of the bay nearby. This is not the only case where a Supplemental EIS is tacked on to a defective FEIS. You should not go forward with a permit. I you did, there is a lot of cleanup left. We hope not to have to delineate all of it, this here is just for discussion and the three minute drill.

11. Attempts to convince the public imidacloprid will be kept out of drainages are not successful. In the imazamox Buffer Validation Test, most damage outside the buffer was "in drainages carrying water off site". When questioned about the NPDES prohibition against spraying into drainages, the Ecology response was that Patten did not, he just sprayed where water flowed into these drainages. This is a distinction without a difference. You have demonstrated that you cannot keep water out of these drainages, or the tidal pools where invertebrates, waterfowl, small fish, and herons dine. Of course plenty chemical will leave site when granules would be scattered from a boat, also proposed to be allowed. Water that

floats a boat, which cannot even see drainages of pools, will go lots of places.

12. Throughout this SEIS behavior and events on the ground are treated with a broad brush, for example the false concept that that only 1.1% of bay would be treated so it will not effect the public. Clams, people, and spray would end up in the same places, as would waterfowlers and fishers near oyster beds. There are two public clamming areas within two miles of our house. Both abut directly with commercial shellfish beds. Folks here can breathe imidacloprid, or have it for dinner later. If there are signs, they can read them and leave. One of these two beds is never posted by our government when the area is closed for Pathogens now. It happens to be the one my family frequents, in addition to our own shellfish bed for oysters. I have caught county crews readying to spray eelgrass on our bed. These were good people making a mistake. They did not have permission to spray spartina here, and non is present. This is the real world, which is not reflected in the SEIS.

13. Travel of imidicloprid off site is reported to be erratic. This can easily be explained by detailed study I have seen about how films can transport pollution and chemicals far off site. A more credible literature review would have found this. I did. Much else has been overlooked or not explained.

14. When the Buffer Validation Test (BVT) was done for imazamox the public was told it could not comment on that permit on anything other than the test itself. Now

how should we believe that through the life of this permit we have not seen, DOE which has the power and need to make up IPMs, monitoring programs, apparently not independent, and other changes, the public could have productive input? We see little chance under current practices.

15. The SEIS says mammals are safe because they do not frequent the flats during daylight. They do. Raccoons are there on lower tides more often than not. Dogs are there, for exercise, training, and waterfowling. At least in the case of gunnels, they pursue a same thing raccoons do. Raccoons eat lugworms and whatever they can get, all would be made easier by tetanus. Same as birds with injured life which would abound under the influence of imidacloprid.

16. Personal communication with Patten says birds not a problem because they will be scared away by applicators. Not true. If you are stirring up food they will follow you, just like they follow a tractor on land. When I am clearing a path on the beach of debris, they follow behind eating invertebrates exposed. They come much closer than normal. If the prey were paralyzed, even more attractive we expect. When the applicator leaves, paralyzed shrimp and lugworms for example would be devoured. I have a personal report this happened after carbaryl use.

17. Tidal flushing is claimed to remove chemicals twice per day. This is not so simple south of the Banas and Hickey Dispersion Gap of which you are well aware. It will slosh around for over forty five to over sixty days there.

Likely long before then it will find eelgrass to be systemic with, killing invertebrate life associated with that, as it is designed to do. On one hand you are uncertain about this, on the other you would allow spike wheel experiments to continue in eelgrass because the questionable efficacy is a known problem chemical grabs the eelgrass before it can get to the shrimp.

18. There are numerous uncertainties you list that contradict other statements of no problem. Low impact on estuarine invertebrates is a big one. A.I. concentrations do not kill shrimp in the lab, but you think it will in the field where it actually be further diluted by grass, mud, and current? There would be a long list of these should you further pursue.

19. The lack of a cumulative effects analysis on green sturgeon, forage fish, waterfowl, shorebirds, salmonids, the overlooked mud shrimp which are need of recovery more than control, is sufficient to shut this project down alone. All but shorebirds are at all time or modern lows. All effects are cumulative, are they not?

20. The lack of Marine Spatial Planning maps showing public and wildlife use together with statements like 1.1% surface area will not impact the public, will not effect much, is a bad combination. Ecology also had the lead in producing these sub par maps. For example, the 1.1% of area sprayed will by design contain far more than 1.1% of sturgeon food. These errors lead to an analysis far short of preventing public or cumulative impacts.

21. In south bay and elsewhere there are numerous areas purchased with state Duck Stamp monies for waterfowl habitat and waterfowling. They clearly were picked out with this as primary purpose, yet benefit many estuarine birds. Your map allows these areas to have eelgrass and invertebrates removed, the latter during duck season. How can one department purchase this, and another spray it to remove the habitat? The inclusion of clams aggravates this situation considerably in shallower waters. No mention in the uncertain clam discussion. A waterfowler, if he finds out he cannot eat the shellfish, and cannot fish, but can hunt, or could he? He will now wonder about the mallard full of invertebrates it got on another bed that was sprayed in the last thirty days, can he eat it? How does he know where it was? Coming in for a rest from elsewhere after filling up on tetanized shrimp? Another comment never addressed before, ignored now, this is why these comments are supplemental, more so than your SEIS. Many of these public habitat intensive areas are near river and creek mouths where salmon smolts are present during the spray window. Chinook are at the lowest escapement of natural recruits in measured history in Willapa, too scarce to harvest in Grays Harbor. You did not address this. When hatchery smolts are released from the North Nemah, they slosh in and out of the North and South Nemah channels and over the flats for weeks. They are up on the warm flats in shallow water feeding on the vast array of invertebrates and using any surviving eelgrass for cover from the avian predators that indicate their

presence. Similar scenes likely exist near other river mouths. None are addressed. Did WDFW clear all this?

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