Twin Harbors Fish & Wildlife Advocacy

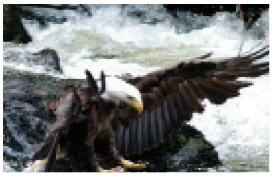
(Email Submission)

To: WDOE
Derek Rockett, Water Quality Program

Attached are 4 PDF files of the Advocacy's comments on the draft SEIS on spraying in Willapa Bay and Grays Harbor. I would appreciate a response confirming receipt and delivery. If there are any problems with viewing or downloading the files, please notify me.

Twin Harbors Fish & Wildlife Advocacy

PO Box 179
McCleary, WA 98557
thfwa@comcast.net



October 31, 2017

Derek Rockett
Water Quality Program
Washington State Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504

RE: Draft SEIS, Burrowing Shrimp Control (Willapa Bay & Grays Harbor)

Mr. Rockett:

The Twin Harbors Fish & Wildlife Advocacy (Advocacy) is a non-profit organization based in Washington State. The purpose of the Advocacy is "*Provide education, science, and other efforts that encourage the public, regulatory agencies and private businesses to manage or utilize fish, wildlife and other natural resources in a fashion that insures the sustainable of those resources on into the future for the benefit of future generations.*" (www. thfwa.org).

The Advocacy opposes adoption of the Draft Supplemental Environmental Statement as currently written. The document is plagued with numerous inadequacies and uncertainties. The draft is also excessively reliant upon the work product of an individual who openly admits to being biased on behalf of WGHOGA and its members.

As an example, the document does not adequately review the economic impacts on small businesses. WDOE is fully aware that media reports on spraying in Willapa Bay and Grays Harbor resulted in a "backlash" of negative reactions from the public at a level high enough the applicants withdrew their previous permit. Boycotts of shellfish from Twin Harbors immediately surfaced. The "Brand Value" of Willapa Bay was significantly impacted. Adoption of this flawed document will further damage those shellfish growers on the coast and elsewhere in the state and at the same time, diminish WDOE's public support by once again creating the only area of the nation wherein shellfish beds are allowed to be treated with insecticides.

During the recent hearing in Lacey, WDOE staff could not identify any independent analysis of the economic impacts or adequately explain how the analysis was conducted. Apparently, the economic analysis was limited and focused on input from the applicant and those members who desire to use the spraying permit. This limited view does not adequately consider the impacts on those shell fish growers that do not spray their beds. They will undoubtedly be impacted by the loss of brand value and face marketing difficulties due to fact they just happen to grow in Willapa Bay and Grays Harbor. Then, since the product is exported out of the state, consumers elsewhere will likely not be able to determine between coastal shellfish and Puget Sound shellfish creating a potential of economic harm to shell fish growers throughout the state.

The document also builds from the original EIS. Both the EIS and the Draft SEIS are a classic "house of card" resting on a foundation reliant upon commentary, data, and research conducted by one primary participant who has shown a history of bias.

A review by the Washington State Executive Ethics Board of a complaint filed against Mr. Kim Patten has resulted in an ethics citation for activities related to WGHOGA's pursuit of spraying permits in Willapa Bay[1] In his written response to questioning by the Board[2], Mr. Patten refers to WGHOGA and its members as his "clients". Individual members of WGHOGA are referenced as "friends". When reviewed in entirety, Mr. Patten's comments leaves a clear impression that he considered getting approval of spraying applications as his own personal goal.

In addition, the Ethics Board noted that Mr. Patten crossed the line into an area of financial conflict of interest when he entered into a contract with a member of WGHOGA (Brian Sheldon) to harvest the clams on Patten's own clam beds. Further, Mr. Patten submitted communications and comments wherein he identifies himself as a commercial shellfish grower using stationary and his title as an employee of Washington State University.

Mr. Patten's relationship with WGHOGA and its members has long been a matter of concern for members of the public involved in WDOE processes. Previous permits were plagued by WGHOGA members refusing to allow state staff access to plots for the required follow up testing. Then, Mr. Patten was allowed to access to conduct the testing unsupervised. This type of behavior does not pass the "smell test". Clearly, Mr. Patten is WGHOGA's "go to guy".

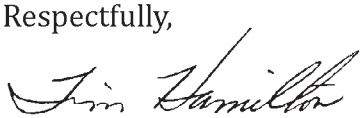
Another example is Mr. Patten securing an extension of permission from the EPA in April 2013 to test spraying imidacloprid against burrowing shrimp[3]. Local citizens allege that the conditions expressed in the permit were not followed. The Advocacy's review of the permit found the allegations had merit.

Simply put, even if he's an outstanding researcher worthy of praise, Mr. Patten has acted as an aggressive proponent of these permits rather than a fact finder and researcher. As a result, all of the work product produce by Mr. Patten is tainted due to his actions and expressions of bias. Further, all of the work product identified in the draft SEIS produced by others that either relied upon input from Mr. Patten or, data collection or testing conducted by Mr. Patten, is likewise tainted. As a result, the original EIS and the SEIS are both fatally flawed. Neither should be used to support granting of any spraying activity in Willapa Bay or Grays Harbor. The EIS and SEIS should be redrafted without reliance upon Mr. Patten's work product.

Finally, WDFW had not provided comments at the point of the meeting in Lacey. Proponents of the permit have apparently claimed fish runs, etc. are not a problem worth recognizing in Willapa Bay. Having studied the Bay fisheries and worked with WDFW for over 5 years, the Advocacy strongly disputes such commentary.

The decline in coastal fish runs is widely known and spawner escapement goals are routinely missed creating a risk of ESA intervention. Such is already the designation for Green Sturgeon who's diet is reliant upon burrowing shrimp. In 2015 the WDFW Commission adopted the Willapa Bay Salmon Management Plan to recover runs while avoiding ESA designation of a local salmon stock. (http://wdfw.wa.gov/commission/policies/c3622.html). Without a full assessment of the potential impact on fish and wildlife, the draft SEIS is once again fatally flawed.

Respectfully,



Tim Hamilton
President

---

1 Ethics Board Findings_Patten_Redacted.pdf (Attached)

2 Patten Response to complaint.pdf (Attached)

3 EPA Approval 2013.pdf (Attached)

Attachment 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Kim Patten
Washington State University
Long Beach Research and Unit
2907 Pioneer Rd.
Long Beach, WA 98631

APR 11 2013

Dear Dr. Patten:

Subject: Request for extension of experimental use permit to use imidacloprid against burrowing shrimp
Nuprid 2F, EPA Reg. No. 228-484
EPA Experimental Use Permit No. 86414-EUP-1
New Effective Dates: April 11, 2013 to April 10, 2014
Quantity Authorized: 30 pounds of active ingredient per year applied to a maximum of 60 acres

On the basis of the information furnished by the applicant and the annexed program, an Experimental Use Permit (EUP) under Section 5 of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended (86 Stat. 983), is hereby extended for the named pesticide. Shipment/use under this Permit is subject to the provisions of 40 CFR 172.

Prior to continuance of this experimental program beyond the original expiration date in any State, you are to notify the State lead agency of the States in which your experimental program will continue to be conducted of the specific testing program (when, where, how much, etc.).

Prior to the shipment/use of this material, you must consult with the state pesticide regulatory official of the states in which your experimental program will be conducted and obtain a state permit or license if such is required. Issuance of this federal permit does not negate the need for permission from individual states. Failure to do so may result in revocation or modification of this experimental use permit.

Based upon the experimental program submitted, this product may be shipped for use under this permit to Washington for use in Willapa Bay and Grays Harbor.

The labeling submitted in connection with the application for an EUP is acceptable. This labeling must be used for all shipments under this experimental use permit.

Sincerely,

John Hebert (PM 07)
Insecticide-Rodenticide Branch
Registration Division (7505P)

Enclosure

NUPRID 2F FOR EXPERIMENTAL USE ONLY

Experimental Use Permit Number: 86414-EUP-1

NOT FOR SALE TO ANY PERSON OTHER THAN A PARTICIPANT IN THE EXPERIMENTAL USE PROGRAM

Permittee: Kim Patten, Extension Specialist, Professor Washington State University Long Beach Research and Unit 2907 Pioneer Road Long Beach WA 98631

ACTIVE INGREDIENT:
Imidacloprid: 1-[(6-Chloro-3-pyridinyl)methyl]-N-nitro-2-imidazolidinimine 21.4%
OTHER INGREDIENTS: 78.6%
TOTAL: 100.0%
Contains 2 pounds of imidacloprid per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION – CAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

EPA Permit No. 86414-EUP-1

ACCEPTED
For shipment and use of product for experimental purposes under the provision of the Federal Insecticide, Fungicide, and Rodenticide Act, subject to attached comments.
Permit No. 86414-EUP-1
Issued on APR 11 2013

FIRST AID	
If swallowed:	• Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
NOTE TO PHYSICIAN No specific antidote is available. Treat the patient symptomatically.	

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT (PPE) **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinylchloride (PVC) or viton
- Shoes plus socks
- Protective eyewear when working in a non-ventilated space Follow manufacturer's instructions for cleaning/maintaining PPE. If instructions for washables do not exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENTS When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Users must:

• Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. A copy of this label must be in the possession of the user at the time the product is applied.

READ THIS LABEL: Read the entire label and follow all use directions and precautions.

MIXING INSTRUCTIONS: To prepare the application mixture, add a portion of the required amount of water to the spray tank, begin agitation, and add the Nuprid. Complete filling tank with the balance of water needed. Be sure to maintain agitation during both mixing and application. **Do NOT formulate this product into other end-use products.**

APPLICATION INSTRUCTIONS

To test efficacy to burrowing shrimp, transport, dissipation, and non-target effects in Willapa Bay and Grays Harbor, apply at a maximum rate of 0.5 lb a.i./ac using the following properly calibrated application equipment:

- helicopters equipped with boom 3/4 as long as rotor diameter equipped with Accu-flo™ or similar large-orififced nozzles designed for precise application.
- backpack sprayer equipped with 5' 11025 a.i. noozle boom with a 11' pattern at 55 psi and 15 to 20 gpa depending on ground type.
- dual 10' or single 12' boom with 8002 nozzles mounted on a semi- amphibious vehicle (Argo™) at ~ 20 gpa.

RESTRICTIONS:

- Do not harvest clams or oysters within one year after treatment.
- All ground must be properly staked and flagged to protect adjacent shellfish and water areas. For aerial applications, the corners of each plot marked for treatment shall be marked so the plot is visible from an altitude of at least 500 ft.
- For aerial and ground-based topical

applications and ground-based subsurface injection, all applications must be on beds exposed at low tide.

- All applications must occur between May 1 and October 15.
- A 200-foot buffer zone must be maintained between the treatment area and the nearest shellfish to be harvested when treatment is by aerial spray; a 50 foot buffer zone is required if treatment is by hand spray.
- Do not apply aerially during the July 4 or other holiday weekends
- During aerial applications, all public access areas within one-quarter (¼) mile and all public boat launches within a one-and-a-half (1½) mile radius of any bed scheduled for treatment shall be posted. Public access areas shall be posted at 500 foot intervals at those access areas more than 500 feet white material. Lettering shall be in bold black type with the word "WARNING" or "CAUTION" at least one-inch high, and all other words at least one-fourth (¼) of an inch high. Signs will include a map of the inlet that wide. Signs shall be a minimum of 8½ x 11 inches in size, and be made of a durable weather-resistant, indicates the location of the treated area and an extended buffer that extends one-fourth (1/4) mile the area's perimeter and the statement "Do Not Fish, Crab, or Clam within 1/4 mile of area treated with experimental material, as indicated by the circle on the map". Signs shall be posted so they are secure from the normal effects of weather and water currents, but cause no damage to private or public property. Signs shall be posted at least 2 days prior to treatment and shall remain for at least 3 days after treatment.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather related factors determine the potential for spray drift. Wind speed at the time of application is not to exceed 10 mph to minimize drift to adjacent shellfish and water areas. Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and canopy and equipment specifications determine drift potential at any give wind speed. Do not apply when winds are greater than 10 mph or during temperature inversions.

Restrictions During Temperature Inversions

Because the potential for spray drift is high during temperature inversions, do not make ground applications during temperature inversions. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however if fog is not present, inversions can also be identified by the movement of smoke from a ground source. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical mixing. The applicator is responsible for considering all of these factors when making application decisions.

Importance of Droplet Size

An important factor influencing drift is droplet size. Small droplets (<150-200 microns) drift to a greater extent than large droplets. Within typical equipment specifications, applications are to be made to deliver the largest droplet spectrum that provides sufficient control and coverage. Formation of very small droplets may be minimized by appropriate nozzle selection.

Mixing and Loading Requirements

The use of a properly designed and maintained containment pad for mixing and loading of any pesticide into application equipment is recommended. If containment pad is not used, maintain a minimum distance of 25 feet between mixing and loading areas and potential surface to groundwater conduits such as field sumps, uncased well heads, sinkholes, or field drains.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal. Pesticide Storage: Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. For containers smaller than 5 gallons: Non-refillable container: Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or

reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Washington State Executive Ethics Board

2425 Bristol Court SW • PO Box 40149 • OLYMPIA WA 98504-0149
(360) 664-0871 • Fax (360) 586-3955 • http://www.ethics.wa.gov

INVESTIGATIVE REPORT AND BOARD DETERMINATION OF REASONABLE CAUSE

CASE NUMBER:	2017-012
DATE:	July 20, 2017
RESPONDENT:	Kim Patten, Director WSU Pacific County Extension
EMPLOYING AGENCY:	Washington State University

I. INVESTIGATION

A. Background and Summary of Complaint

On January 12, 2017, the Executive Ethics Board (Board) received a complaint alleging that Kim Patten (Mr. Patten), Director of the Washington State University (WSU) Pacific County Extension Office, may have violated the Ethics in Public Service Act. The complaint alleges that Mr. Patten used state resources to conduct research for his personal benefit and that his personal involvement with the commercial shellfish industry is in conflict with his official duties.

B. Scope of Investigation and Relevant Facts

Board staff reviewed the complaint and all supporting documents, interviewed Mr. Patten, reviewed email records from Mr. Patten's WSU.edu and WSU Gmail accounts, and reviewed Mr. Patten's state owned computer hard drive.

Based upon the investigation, staff determined the following:

1. Mr. Patten has been employed with the WSU Research and Extension Unit located in Long Beach since 1990. In 2004, Mr. Patten became the Extension Professor, and in 2012, he became the Director of the Long Beach Extension Unit.

2. As Director of the Long Beach Extension Unit, Mr. Patten's primary duties are to conduct research and provide education in all aspects of the cranberry, shellfish and other local agriculture in the Pacific County community. Mr. Patten's stakeholders are cranberry and oyster growers, both private and commercial, along with state and federal agriculture and natural resources managers and their related agencies.

3. Mr. Patten uses two different email accounts in his position as the WSU Extension Unit Director. Pattenk@wsu.edu is the official email account used by employees of WSU and is maintained by WSU. Pattenk.wsu@gmail.com is an authorized email account used by WSU employees who work in remote areas where access to the official email account is not readily accessible, but is not maintained by WSU. Mr. Patten uses the pattenk.wsu@gmail.com account to conduct both WSU official and personal business.

4. Mr. Patten indicated in his response to Board staff that he considers the shellfish industry a very important "client" in that they are the major employer and economic engine for the region. Mr. Patten further indicated that he was officially assigned to work on the shellfish pest issue by deans and directors at WSU.

5. Mr. Patten indicated in his response to Board staff that he has the exact same relationship with the shellfish industry as he has with other agriculture industries within the Long Beach area. The cranberry industry provides the WSU Extension Unit office, lab, and utilities with no cost to WSU. The shellfish industry rents office space at the WSU Extension Office from the cranberry industry but the office space is not currently being used.

6. WSU Extension Unit Strategic Goals:

Enhance Natural Resources and Environmental Stewardship:

- Improved economy and quality of life.
- Resolve natural resource conflicts.
- Improve ecosystem management.
- Solve complex issues of water and fisheries management.
- Control spread of non-native invasive species.

Enhance Economic Opportunities for Agricultural Enterprises while Protecting Washington's Resources:

- Increase profitability and competiveness of agriculture and food enterprises.
- Reduce market risk to agricultural producers.
- Increase application of alternative agricultural systems.
- Increase application of integrated pest management and conservation strategies.

7. Mr. Patten indicted in his response to Board staff that he would attend some local, state, and regional shellfish grower meetings. At these meetings, he would speak on different topics and obtain feedback on issues affecting the industry. Mr. Patten further indicated that he would do the same thing for the cranberry industry.

8. Brian Sheldon (Mr. Sheldon) is an owner of the Northern Oyster Company and a Board member of the Willapa-Grays Harbor Oyster Growers Association (WGHOGA), a non-profit organization made up of privately owned oyster growers from the Willapa Bay and Grays Harbor area.

9. On October 20, 2010, the Washington State Noxious Weed Control Board (Weed Control Board) received a letter from the Northern Oyster Company regarding a request by Pacific County to list *Zostera japonica* (Zj), a non-native eelgrass, as a Class C noxious weed. The letter indicated that Zj was invading shellfish beds, altering the ground so that it was becoming "un-farmable" and having an impact on the Northern Oyster Company's ability to

continue farming oysters. The Weed Control Board did not list Zj as a Class C noxious weed in 2010.

10. On April 25, 2011, the Weed Control Board received another letter from the Northern Oyster Company requesting Zj be added to the Class C noxious weed list.

11. In August 2011, the Washington Department of Ecology (Ecology) received a letter from the WGHOGA requesting it begin the process of developing a new National Pollutant Discharge Elimination System (NPDES) permit allowing shellfish growers to control Zj with Imazamox, an aquatic herbicide. In response to the WGHOGA's request, Ecology's Water Quality Program (WQ) made a tentative decision to issue a new NPDES permit for controlling Zj with Imazamox.

12. On September 6, 2011, the Weed Control Board approved adding Zj to the 2012 Class C noxious weed list. On December 15, 2011, the Weed Control Board voted to add Zj as a Class C noxious weed for commercially managed shellfish beds only.

13. As part of the NPDES permit development process, WQ issued a public notice on February 1, 2012. After the initial public comment period, Ecology decided to reduce the scope of the permit and require an Environmental Impact Statement (EIS). The public comment period ended on March 9, 2012 at 5:00 pm

14. On March 7, 2012, Mr. Patten submitted a comment on the proposal as a private tideland owner from his pattenk@wsu.edu email account.

From:	Kim Patten
To:	Hamel, Kathy (ECY)
Subject:	Public comment - NPDES eelgrass.
Date:	Wednesday, March 07, 2012 3:43:56 PM

I am submitting a public comment on the NPDES for Japanese Eelgrass Management on Commercial Shellfish Beds General Permit.

I strongly encourage Ecology to issue this permit. As a private tideland owner in Willapa Bay for the past 22 years I've seen Japanese eelgrass change my recreational calm bed from a sandy easy- to -access productive bed to an unproductive muddy mess. I've been at a loss on how to recondition the bed into something useful. I've worn out rakes trying to clean the Japanese eelgrass out of my bed, all to no avail. Since private tideland owners are not covered by this permit, I would consider converting my bed to a commercial bed just to be covered by this permit and be able to remove the japonica.

Thank You

--
Kim and Andrea Patten
Tideland owner
Withheld
[redacted]

15. In 2012, the Washington Department of Fish and Wildlife (WDFW) and the Wildlife and Willapa Oyster Committee funded a grant for the research on estuary use of Imazamox.

16. On March 8, 2012, Mr. Patten submitted an application for an Experimental Use Permit (EUP) to apply the herbicide Imazamox on aquatic sites with the Washington State Department of Agriculture (WSDA) in connection with this grant and research.

17. The WSDA application identified property owners of four sites to be used in the experimental application of Imazamox:

- Brian Sheldon
- Taylor Shellfish
- Eric Hall
- Kim Patten

18. Each test site consisted of approximately ¼ of an acre of clam beds for each location for a total area of .98 acres.

19. The application identified the following individuals would be applying the herbicide to the site:

- Kim Patten
- Chade Metzger
- Nick Halderman
- All WSU employees.

20. The EUP application indicated that the ending date for the research was October 31, 2012.

21. In July of 2012, Mr. Patten submitted the final report on the impact of Zj and Imazamox to WDFW and the Wildlife and Willapa Oyster Committee.

22. On March 8, 2013, Mr. Patten again submitted an application to the WSDA for the EUP of Imazamox at the same four sites and the same three individuals as listed in in the 2012 EUP application. The ending date for the research was October 31, 2013.

23. Mr. Patten indicated in a response to Board staff that a EUP is only good for one year. In 2013, the main objective of his research was to conduct additional efficacy studies on Zj seedling control. Mr. Patten further indicated that he was trying to refine all gaps in efficacy he had in order to be sure everything was in order for the 2014 NPDES permit.

24. Mr. Patten indicated in a response to Board staff that when he applies for a EUP he adds all sites available for him to use at the time of the EUP application knowing he might not use some of those sites because if sites are not listed, he cannot use them. He further

indicated that he has dozens of projects going each year and he would rarely accomplish all of them but if he didn't include them on the EUP he would not be able to undertake those projects.

25. Mr. Patten also indicated in a response to Board staff that finding test sites for his research is one of his biggest challenges. The work tends to be destructive and growers need to be comfortable with that. They would crush shellfish accessing the site, they would harvest most of the crop on the test plots for destructive sampling purposes, and growers would have to agree to not harvest until the tests are completed.

26. Mr. Patten indicated in response to Board staff that for this particular research project the studies would be sited near the Nahcotta shellfish growing region on the Long Beach Peninsula, where Zj has formed large "meadows." Those sites were identified using the following criteria:

- They needed to be easily accessible (less than one hour boating or walking);
- needed to have gravel, clams and Zj;
- needed to have property owner's permission to treat and harvest from their site;
- sites could not be harvested until after the research had concluded; and
- the sites must be different enough locations across the bay to reflect the variation of effects that might occur.

27. Mr. Patten indicated that he chose the sites used in the research based on the above criteria. Mr. Patten further indicated that his site was actually a poor site and his last choice but he could not find anything further south down the bay.

28. Mr. Patten also indicated in a response to Board staff that he used about ½-acre of his clam farm. He put out 12 replicated plots within that ½-acre area. Each plot was 8 feet by 10 feet. There were six treated and six untreated control plots. The total area sprayed was about 480 square feet. These plots were destructively harvested to obtain number of clams, size and meat weight.

29. On September 26, 2013, the Weed Control Board announced a public hearing to consider changes to the 2014 noxious weed list. The hearing was scheduled for November 5, 2013 in Wenatchee, Washington. The announcement indicated that the Weed Control Board had several proposed changes for 2014. One of the proposed changes was reinstating the original 2012 listing of Zj as a noxious weed on commercially managed shellfish beds only. In 2013, the Weed Control Board had removed the modification of Zj and listed it as a noxious weed on all shellfish beds, commercial and private.

30. On September 27, 2013, Mr. Patten responded in opposition to the proposed changes from his pattenk@wsu.edu email account. In Mr. Patten's response to the Weed Control Board, he indicates that he is responding as a private landowner and as a scientist.

- **Private Landowner**: "As an owner of 2 acres of noncommercial clam ground in Willapa Bay, I find it unacceptable to learn that I will be unable to control

Japanese eelgrass on my own property.... going back to the 2012 listing I no longer have any options."

- **Scientist**: "By restricting this listing to the 2012 wording, you are essentially preventing the management of this invasive weed for the purpose of maintaining or restoring critical habitat for an ESA (Endangered Species Act) - listed species. You will no doubt hear testimony that *Z. japonica* provides valuable forage habitat for waterfowl along the Pacific Flyway. This is not a reason to justify going back to the 2012 weed listing..."

Mr. Patten's response consisted of three pages of text including two graphs and two attachments. The document was created on September 27, 2013 at 10:45 am and was last saved on September 27, 2013 at 12:03 pm. Total edit time was 53 minutes.

31. Mr. Patten told Board staff that he used his personal farm as an example of the effect of going back to the 2012 Weed Control Board modification of Zj as a noxious weed for all of the small private non-commercial shellfish farms in Willapa Bay.

32. After deliberation on the oral and written testimony received from the public comment period, on November 7, 2013, the Weed Control Board decided to leave Zj as classified rather than reverting back to a Class C noxious weed on commercially managed shellfish beds only.

33. On November 28, 2013, Mr. Patten received an email on his WSU Gmail account from Mr. Sheldon regarding Mr. Patten leasing his clam farm to Mr. Sheldon to harvest clams. By entering in to the agreement, Mr. Patten was converting his clam farm to a commercial clam farm.

Brian Sheldon <oysters@willapabay.org> Thu, Nov 28, 2013 at 10:35 AM
To: Kim Patten <pattenk.wsu@gmail.com>

Hi Kim,

Happy Thanksgiving.

I drafted up a simple lease agreement for your tideland, see attached. Take a look and modify as you want. If it looks ok we can sign and I can get the harvest site application sent in to DOH. I'll get you a copy of the Harvest site application so you'll have it for your records.

If you can get me a property description I'll shoot the north and south lines in from the survey corners so we can get some more permanent lines set.

Thanks,
Brian

11-28-13 Lease Agreement.docx
18K

34. On Saturday, November 30, 2013, Mr. Patten responded from his pattenk.wsu@gmail.com account

Kim Patten <pattenk.wsu@gmail.com> Sat, Nov 30, 2013 at 9:37 PM
To: Brian Sheldon <oysters@willapabay.org>

Looks fine.
I need to get the property information from my safe deposit box on Monday. I'll get it to you then.

WSU Extension programs are available to all with out discrimination.

[Quoted text hidden]

35. On December 1, 2013, Mr. Sheldon responded:

Brian Sheldon <oysters@willapabay.org> Sun, Dec 1, 2013 at 9:54 AM
To: Kim Patten <pattenk.wsu@gmail.com>

I'll be out of town at the Conservation District meetings in Cle Elum until late Wednesday. We can meet when I get back to sign and move ahead. I'd like to get the lines set before I put the crew there so we're harvesting up to the north and south lines. If you get the prop description and can e-mail it to me I'll convert it so we can shoot the lines in and set some more permanent markers on your north and south lines.

Today is Basketball so I'll be in Kelso. Go Ilwaco!!!

Thanks,
Brian

From: Kim Patten

36. On Wednesday December 4, 2013, Mr. Patten responded using the pattenk.wsu@gmail.com account with the property description. On December 5, 2013, Mr. Sheldon responded to Mr. Patten.

Brian Sheldon <oysters@willapabay.org> Thu, Dec 5, 2013 at 9:03 AM
To: Kim Patten <pattenk.wsu@gmail.com>

Hi Kim,

Just got back into town. I've got meetings today, but will try to get back on this tomorrow. I'll try to get with you and get the lease signed. After that I can submit the harvest site app to DOH.

Also, Nate at DOE has asked for a meet on December 13th down here. He said they want to discuss some changes they want to make to the draft NPDES permit. If you're available I may be asking you to attend. I asked Nate to send me something on what they are looking at changing. I'll let you know what I find out.

Thanks,
Brian

37. On January 2, 2014, Ecology posted a draft EIS to tribes, agencies, organization, and individuals with an interest in the Ecology proposal to issue a NPDES general permit for the use of the Imazamox on commercial clam beds (excluding geoducks) in Willapa Bay. The public comment period ended on February 15, 2014.

38. At 1:16 pm, on January 17, 2014, Mr. Patten commented on the draft permit from his pattenk@wsu.edu email account. Mr. Patten's comments were specific to Section 4(B) of the draft permit, requiring a 10 mm buffer zone. In his comments, he used his farm as an example of an economic hardship that would be caused by the proposed 10 mm buffer.

> *"**My farm**: As a commercial clam grower with a small parcel of ground thickly covered by Z japonica, this buffer will prevent most of my ground from being farmed. I have a 160' by 200' parcel that is farmable (32,000 ft^2). This buffer removes 16,800 ft^2. My ground produces ~ 0.5 lbs/ft^2 every 4-5 years. I get paid $0.75/ lb. On ground with japonica my yields have been about half. This totals approximately $5,000 to $6,000 in crop loss. I think this is an unreasonable economic impact. The ground does not have drainage swales and there is little chance of "chemical trespassing."*
>
> *"**All farms**: Not being able to treat up to the buffer zone constitutes a taking of private revenue and right to farm. For every 1 foot of property line on a clam farm, a grower can lose ~ $10 of net revenue (assumes an average yield of 1 lbs/ft^2 of clams every 3 years, with the grower netting $1/ lbs and a 30% reduction in yield with Z. japonica). Using an example of a small 3.5 acre clam farm (1000' by 160') a grower would lose $23,000 (2320 ft of property line x $10/ft) every three years having to accommodate this buffer. This buffer would cost a small grower over $7,000 a year in lost revenue. This constitutes a very significant economic impact."*

39. On April 2, 2014, the NPDES general permit was issued by Ecology for the use of the Imazamox on commercial clam beds (excluding geoducks) in Willapa Bay. After consideration of the public comments made by Mr. Patten and others, Ecology did not remove the 10 mm buffer zone in the application process.

40. The effective date of the permit was May 2, 2014, with an expiration date of May 2, 2019.

41. On March 27, 2014, Mr. Patten again applied to the WSDA for a EUP to spray Imazamox in the Willapa Bay. Mr. Patten indicated in a response to Board staff that this application was to conduct some early timing studies to look at when Zj seedlings would emerge in an effort to determine the best time to use Imazamox to affect the germinating Zj seedlings. For this experiment, he needed to conduct several small timing studies.

42. The 2014 EUP only identified one site location owned by Taylor Shellfish Company, removing his site and the two sites owned by Brian Sheldon.

43. Mr. Patten indicated in his response to Board staff that the NPDES was issued in May 2014 and he no longer needed the EUP. The 2014 EUP was only used on .1 acres owned by Taylor Shellfish Company to conduct seedling-timing studies as indicated above.

44. Mr. Patten further indicated that after the NPDES was issued in April 2014 he treated his entire ½-acre clam farm.

45. Mr. Sheldon's company, the Northern Oyster Company, commercially harvested clams from Mr. Patten's 1/2 acre clam farm in 2014. According to the lease agreement, Mr. Patten was paid $0.70 per pound of clams. Pounds of clams were based on washed clams as prepared for shipping.

46. Mr. Patten indicated in a response to Board staff that at that time the average price was about $0.60 to $0.70 per pound depending on the size and quality. He recalled that he was paid $0.60 per pound.

David Killeen, Senior Investigator

II. APPLICABLE LAW

The complaint alleges violations of the following sections of the Ethics in Public Service Act:

RCW 42.52.020 – Activities incompatible with public duties states:

> No state officer or state employee may have an interest, financial or otherwise, direct or indirect, or engage in a business or transaction or professional activity, or incur an obligation of any nature, that is in conflict with the proper discharge of the state officer's or state employee's official duties.

RCW 42.52.160(1) – Use of persons, money, or property for private gain, states:

> No state officer or state employee may employ or use any person, money, or property under the officer's or employee's official control or direction, or in his or her official custody, for the private benefit or gain of the officer, employee, or another.

WAC 292-110-010 Use of state resources, prior to April 2016, states, in part:

.....

(2) **The following are permitted uses:**

(a) Use of state resources that is reasonably related to the conduct of official state duties, or which is otherwise allowed by statute.

(b) An agency head or designee may authorize a use of state resources that is related to an official state purpose, but not directly related to an individual employee's official duty.

(c) An agency may authorize a specific use that promotes organizational effectiveness or enhances the job-related skills of a state officer or state employee.
(d) A state officer or employee may make an occasional but limited personal use of state resources only if each of the following conditions are met:

(i) There is little or no cost to the state;
(ii) Any use is brief;
(iii) Any use occurs infrequently;
(iv) The use does not interfere with the performance of any officer's or employee's official duties; and
(v) The use does not compromise the security or integrity of state property, information, or software.

K. Reynolds

Kate Reynolds, Executive Director
Executive Ethics Board

III. BOARD REASONABLE CAUSE DETERMINATION AND ORDER

Based upon the investigative report, we, the Washington State Executive Ethics Board determine the following:

Dismissal
Pursuant to RCW 42.52.425, IT IS HEREBY ORDERED that the complaint is DISMISSED for the following reason:

____ Any violation that may have occurred is not within the jurisdiction of the board

____ The complaint is obviously unfounded or frivolous

____ Any violation that may have occurred does not constitute a material violation because it was inadvertent and minor, or has been cured, and, after consideration of all of the circumstances, further proceedings would not serve the purposes of this chapter.

Reasonable Cause
Pursuant to RCW 42.52.420, IT IS HEREBY ORDERED

__✓__ There IS reasonable cause to believe that violation(s) of RCW 42.52 have been or are being committed and the penalty may be:

☐ GREATER THAN $500

☑ $500 OR LESS

☐ NONMONETARY

_____ There IS NOT reasonable cause to believe that violation(s) of RCW 42.52 have been or are being committed and the complaint is CLOSED.

DATED this 8th day of September, 2017

Anna Dudek Ross, Chair

Samantha Simmons, Vice-Chair

John Ladenburg, Member

Lisa Marsh, Member

Shirley Battan, Member

Response to question re: Conflict of Interest Case with Kim Patten

Wednesday, October 04, 2017

1. What is your official relationship with the commercial shellfish industry?

   My official relationship is the same as any of my other clientele. This would include the commercial cranberry industry, the timber industry, the cattle industry, Willapa National Wildlife Refuge, The Nature Conservancy, Washington State Dept. Fish and Wildlife, the County Commissioners, Pacific County Economic Development Council, and the citizens of SW Washington. I work with them to help solve problems and issues that they face, provide outreach services, and conduct applied research. This is all part of my job description. I consider the shellfish industry a very important clientele, in that are the major employer and economic engine for our region. In addition, I have been officially assigned to work on these shellfish pest issues by deans and directors at WSU. I also represent WSU as their representative on the USDA's Western Regional Aquaculture Committee. Basically, I work with the industry at part of my official role with WSU.

2. Do you have that same relationship with other agriculture industries in the Long Beach area, i.e., the cranberry industry?

   Yes, exactly the same. However, the cranberry industry has and continues to provide the office, lab, water, septic, power and the research farm to WSU without cost. This has been ongoing since 1993 when the university sold them the farm, contingent on them providing those services. The shellfish industry rents an office space at WSU Long Beach from the cranberry industry. Currently that space is unoccupied, but they have housed their employees there on/off for the past several years.

3. Is it a part of your official duties to assist the commercial shellfish industry to increase production and/or are your official duties to ensure that the environment is protected? How do you balance the two?

   Basically my job is to enhance environmental and economical sustainability of the natural resource industries in SW Washington. These two objectives are not at odds.

See attached official position description (below is the section that is germane).

- **Programmatic Responsibilities (80%)**

  Location of work – The office location for this position is the Cranberry Research Station at Long Beach, Washington. The primary geographic region served by the position is coastal Pacific and Grays Harbor Counties with attention to other areas of the district and state as synergistically beneficial to the Extension cause and in line with applicable subject matter expertise of this position. The primary scope of work for the position includes research and education relevant to all aspects of cranberry production including related issues of water quality and invasive species. In addition, this position

works in collaboration with other local agricultural and shellfish producers and natural resources managers to address issues of local relevance.

Target audiences for the position include cranberry and oyster growers along with related state and federal agricultural and natural resources managers and their related agencies.

Also see WSU Extension Goals below and the percentage of my FTE allotted to each (from job description).

WSU Extension Strategic Goals addressed by this position.

- **Enhance Natural Resources and Environmental Stewardship - 30% FTE**

3.1 Improved economy and quality of life.
3.2 Resolve natural resource conflicts.
3.3 Improve ecosystem management.
3.4 Solve complex issues of water and fisheries management.
3.5 Control spread of non-native invasive species.

- **Enhance Economic Opportunities for Agricultural Enterprises while Protecting Washington's Resources - 70% FTE**

4.1 Increase profitability and competiveness of agriculture and food enterprises.
4.2 Reduce market risk to agricultural producers.
4.3 Increase application of alternative agricultural systems.
4.4 Increase application of integrated pest management and conservation strategies.

Below are two example of some recent publications to demonstrate that my work is not at odds with the environment. Both of these projects were related to the work I was doing with shellfish.

Moser M, Patten K, Feist B, Lindle S. In press. The importance of estuarine habitat to threatened green sturgeon (Acipenser medirostris). Journal of Experimental Marine Biology and Ecology.

Patten K, O'Casey C. 2007. Shorebird and waterfowl usage of Willapa Bay, Washington in response to invasive *Spartina* control efforts. Journal of Field Ornithology. 78. 395-400.

4. Explain your personal relationship with the shellfish industry?

I've worked with them for 27 years on pest management-related issues. Initially it was with *Spartina* control. Starting in the late 1990s I started to conduct research on other issues affecting their livelihood. This included invasive eelgrass and burrowing shrimp.

I attend some of their local, state and regional grower meetings. This is normally to give a talk or obtain stakeholder feedback (as required by my job description). This is similar to what I do in the cranberry industry. I have good friends in the industry, but no different than what I have in

the cranberry industry or any of my other clientele groups. It is a small community and we all know each other.

5. Do you believe your personal relationship with the shellfish industry is in conflict with your job duties to protect the environment? Explain.

No. In fact the opposite is true. My work with the shellfish industry resulted in the elimination of the most serious threat that the ecology of Willapa Bay ever faced – invasive *Spartina*. This was work done with the shellfish industry, The Nature Conservancy (TNC), the National Wildlife Refuge, EPA, NOAA, The Army Corps of Engineers, WDFW and WDNR. My work was key to its success. Without my effort, the shellfish industry and all the shorebird habitat in Willapa Bay would have ceased to exist. It has been the largest, most successful restoration of shorebird habitat in the United States. I have been recognized and honored for this environmental contribution at the state, region and national level. This win-win approach is the model on which I base the rest of my work.

Everything I do with the shellfish industry is also highly regulated by EPA and Department of Ecology. I obtain all the permits required and work closely with these agencies to make sure that any of the programs that I develop have minimal impact to the environment. I work to collect information to help the agencies obtain the permits. I have often been funded by these agencies for that work. Because some of the methods I have worked with and developed involve pesticides, it is often perceived that they are incompatible with environmental protection. For that reason, most of the very work I am involved in is to assess and report the impact of those pesticides, irrespective of results, good, bad or neutral. These results have been used to develop the permits and SEIS for many situations.

My work is no different than thousands of other Extension professionals in the US who work on crop protection. We conduct applied research to develop tools to be used by the agriculture and aquaculture industries. The only exception is that I do much of my work in an estuary, which gets extra scrutiny by environmental groups.

6. In 2012 you conducted research into the use of Imazamox to control Japanese Eelgrass, (Research plan for estuary use of imazamox in 2012*).

   *Correction to this statement – I've had ongoing research on this from 2007 to 2017, not just 2012.

a. Who funded this research?

   Wash Dept. of Fish and Wildlife funded that research.

b. Were you paid by WSU (time/resources) to participate in the research?

No, my position is not grant funded. I am a salaried professor at WSU. I am state-funded and that funding is administrated by WSU. No direct or indirect funds went to my salary from this project. I am required to provide an 'effort certification' form to WSU on all funded projects.

They state what percentage of my efforts goes with each project. Those records are maintained at WSU, but most projects are only list as 1 to 2% of my time.

c. How were the four test sites selected?

I am not entirely sure which four sites you are referring to. Over the ten+ years of my work on imazamox there have been many dozens of sites. Below are titles of papers I've published that detail those sites and why they were chosen. I've attached those few papers.

Patten K. 2015. Imazamox control of invasive Japanese eelgrass: efficacy and nontarget impacts. Journal of Aquatic Plant Management 53:185-189.

Patten K. 2014. The impacts of nonnative Japanese eelgrass (*Zostera japonica*) on commercial shellfish production in Willapa Bay, WA. Agricultural Sciences. Published Online. SciRes.http://www.scirp.org/journal/as. http://dx.doi.org/10.4236/as.2014.

Ruesink J, Freshley N, Herrold S, Trimble A, Patten K. 2014. Influence of substrate type on non-native clam recruitment in Willapa Bay, Washington, USA. Journal of Experimental Marine Biology and Ecology. 459 (2014): 23–30.

Basically, the criteria for site selection depended on the objective.

If I wanted to assess control then I used easy to access sites that had good densities of *japonica* all along the LB peninsula. These were small plots with no shellfish on them.

If I wanted to assess environmental/ecological impacts then I needed large sites that could be treated and monitored without other activities going on in those sites. For these I used small portions (0.5 to 5 ac) of a 1000 acre tract owned by Taylor Shellfish between Oysterville and Nahcotta. These were also used to assess off-site movement of imazamox and treatment effects on megafauna (birds and fish) and infauna (benthic invertebrates). Those plots had no shellfish on them at the time of the experiments. These ecological impact assessments have been done over the past ten- year time frame (2007 to 2017), and are just now finishing.

If I needed to assess the impact on clam production then I used commercial clam farms that were infested with *japonica*. Mine was one of those. Bear in mind that during this part of the research I was limited to 1 acre per year. So if I had four sites to assess impacts to clams, and four or five sites to assess efficacy, then any given site might have only had 500 to 1000 ft^2 treated with imazamox. This would have been done in small replicated plots, (8 treated and 8 untreated plots, each plot~ 100 to 120 ft^2). The size, shape, and number of replications depended on the year.

To qualify for sites to assess impact on clam production, I needed the site to have the following features: 1) easy access by walk from shore, 2) a decent density of young and mature clams, 3) the site was not going to be commercially dug within 2 years, 4) agreeable grower, 5) the site would not have other things done to it (gravelling, harrowing, any other eelgrass control), and 6) the site would not get fouled by macroalgae that could kill the clams. I had very limited choice in

sites that met all these criteria. I think I had about 7 total sites when I started this work, but only ended with 5 valid sites, as their clams died off due to macro-algae fouling on two of them.

One critical aspect of field research is to have as many replicated sites as possible. This is the gold standard. You can not make any inference on production from one site. You need to have multiple sites that represent different habitats. With that in mind, sites need to be spread out over the bay. I normal expect one or two sites to be lost with this type of work. My site was the most southern site in this particular study.

d. Did the four sites benefit from this research, did they become more productive?

You can read my research for the details. Some were more productive, others less so. But again, this is only within the small treated areas, not the entire site. As mentioned I could only treat 1 total acre in the bay. I used less than half of this amount on this particular study. So due to this limited area per site, the actual benefit to any shellfish grower was almost non-existent. Futhermore, any gain that was on the site as a result of the treatment was lost to them during our harvesting of the plots. We dug and processed the clams from the treated site and untreated sites. We measured and weighed (fresh and dry weight) the samples of the plots. This process is destructive. There was nothing left but dried clam meat. In fact, growers could actually lose productivity from my research plots. It is actually difficult to convince growers to let me use their sites as part of research plots for that very reason. In cranberries I get Ocean Spray to compensate growers for the research I do on their beds that results in crop loss. Compensation for crop loss is not an option for shellfish growers.

e. What would you estimate the cost of this research per site?

Again, it depends on which research project and which year and which sites. To put out one experiment at one site and only look at clam production would cost between $500 and $5,000. The cost depends on how many years you collect data. The treatment part is cheap, $250/site. But it costs ~ $250 to $5000/site to harvest and process the data. These are never done in isolation, so it is impossible to be exact on the cost per site. Also the cost is dependent on the clam density and number of replications per site. If there are a lot of clams to harvest per plot and a lot of replications, it costs more. Each clam has to be weighed and measured; this is the costly part. If I have only eight replications and the yield is very low, it could be done for under $500 to $1000.

If we are doing any experiments that involve chemical analysis of imazamox in water or sediment then the cost goes up very fast. It runs about $300/sample to collect and analyze imazamox. If I am doing any detailed assessment of ecological impacts then the cost also go a lot. For example we just finish looking at how imazamox treatments affect shorebird foraging. It required over 35 visits to the site. Finally, the cost are contingent on the granting agencies and if they pay indirect cost. That cost is 28% added on to the cost of the project.

If you have a specific project you want a cost for then I can provide an estimated, but I need more details.

7. Were there other years in which research was done regarding the use of Imazamox to control Japanese Eelgrass in which you used your personal property to participate in the research? If so please provide that information.

   Over the past 27 years, I have used my property to conduct many different research projects. This was done mainly for convenience. Here is a list of projects that have been done on my property.

   a) I conducted research on *Spartina* control in the salt marsh from 1991 to 2008.

   b) I conducted research on eelgrass control from 1993 to 2007. This work was on efficacy before it was a clam farm (just bare sand, and new *japonica* starting to spread on to it). I had a few small plots scattered on the site.

   c) The site was used to study the interaction between *japonica* and *Spartina*. This was an ecology study by a graduate student from UC Davis.

   d) The site was used in cooperation with a Western Washington University project to look at erosion rate post-*Spartina* control (mid 2000's).

   e) I used the site as part of a project to assess shorebird/waterfowl use of treated and untreated sites (mine was within a large network of treated sites). This was a monitoring experiment where I just included my site as part of the larger site. I treated my ground using my own time and money (not part of WSU) to remove all the *japonica* from the clam farm (as allowed per permit). We just used the site to monitor shorebirds.

   f) I used the site between 2010 to 2012 on a project to assess the impact of *japonica* on clams. The site was one of 5 sites we used to study the effect of japonica on yield that year. At this site I had 8 replications of 3 by 4 m plots, ~ 960 ft^2 treated.

   h) The site was used by a marine ecologist at UW to study the interaction between *japonica* and *marina* eelgrass.

   i) I've also used my garden to conduct field research for the USDA. In this site I evaluated crosses for a new type of berry for their suitability to a coastal climate.

   In summary, it has been commonplace for me to do work on my property. None of these provide any economic gain. It is just a matter of convenience, saving time and money to do the work off-site. Most of the work on the tideflats has to be done in the very early morning during low tide. To work off-site requires a 30+ minute drive and a 30 to 60 minute walk. This can be a pain when low tides are at 5 to 6 am. Whenever possible, I find it much more practical to walk out my door to do the work. However, if I include all the experiments I have done in the bay over the past 27 years, I would say that <u>much less than</u> 1/10 of 1% were done on my own property.

8. Have you used other state resources, emails, time to support the use of Imazamox to control Japanese Eelgrass on your personal property, i.e., sending emails to the Department of Ecology from your WSU email account to support the use of Imazamox to control Japanese Eelgrass?

I use my work computer/ email to send emails to EPA/DOE/WSDA/WDFW and other state and federal agencies for all sorts of permits and efforts. This has included permits that would support many different types of large state-regulated efforts that affect industries and the areas that I work in. For example, I have done so regarding *Spartina* control, aquatic weed control, aquatic herbicide permits, control of burrowing shrimp with imidacloprid, control of cranberry insects and diseases with numerous pesticides, coastal erosion issues, many EIS's, NPDES's, Shoreline Master Plans, wetland regulations, endangered species, noxious weed listings and control, Special Local Needs for Pesticide uses (SLN) and Section 18s, and hearings by state agencies. If I have expertise in an area, and there is a public hearing on a subject that affects the industries that I work with, then I think it is a good investment of my time to provide comments. This week, for example, I provided public comment on surfactants in 'The Washington State Department of Ecology (Ecology) Draft Supplemental Environmental Impact Statement (EIS) for Aquatic Plant Management'. Why did I provide comment? Because I have 20 years of experience in this field, and am considered an expert, and I think their EIS missed an important aspect of surfactants that could impact the environment. I consider it part of my job to work with agencies. I am often called to testify in front of agencies' hearings or expert panels. For *japonica* I was asked to be part of several expert panels and white papers for Ecology, and to testify in defense of the NPDES for Ecology in front of the Shoreline Hearing Board. So yes, I do use my WSU email for the purpose of providing my expert opinion, especially when I am one of the foremost authorities in the world on a subject. In this case, it happened to be the use of the herbicide imazamox to control Japanese eelgrass.

9. What is your official relationship with Brian Sheldon?

Brian and I have served on many different county and local committees over the years. Brian and I have worked on projects together related to burrowing shrimp control. Brian and I are often co-hosts of many different tour groups on the bay (college classes, state and federal agencies, etc.).

Brian and I have a contract for the harvesting of clams on my property. He sends in his crew every four to seven years to dig clams on my ground and I get paid $0.65 or 0.70/lb for them. He has this same contract with many other land owners that have small commercial clam grounds. He has only harvested once on my ground. The next harvest will be in three or four years.

10. How do you know him?

Brian and his family are all my friends. I've worked with his wife on the school board for 8 years. I've worked with his dad on *Spartina* for 27years. He is active in the local community and so am I. As I mentioned we are on many of the same community boards together. He has kids in same school that I did, and he often talks about school-related issues with me.

11. In November 2012 did you enter into a personal business transaction with Mr. Sheldon? Explain.

See above. I am not sure the exact time period we signed the contract, but it was around that time. He harvested clams in 2014. This was my first commercial harvest. The site is high ground and not very productive. Normally a good site can be harvested every 4 years. I received a little over $4,000 for the clams he harvested.

12. Does Mr. Sheldon have a private interest in your research on the use of Imazamox to control Japanese Eelgrass?

1. I am not sure what you mean by this question. Does he gain financially from my research? Yes, but he is no different than any other clam grower in Willapa Bay. He also has a private interest in my work on *Spartina* and burrowing shrimp control, just as does every other shellfish grower in Willapa Bay. Did he support my research with money? No. Did he elicit this research effort? No. Did he even know I was doing this research work? No, not until the later years when it was well underway. Did he gain anything from me putting out plots on his property? No. We did have one set of plots at one of his sites, but that site was a failure and had no clams. Did he treat his property with imazamox, once there was a NPDES and thereby have improved clam yield? Yes he did, as did other growers. The whole purpose of this research on the use of imazamox to control Japanese Eelgrass was to find methods to improve manila clam production in Willapa Bay. This is basically the third leg of WSU's land grant university mission statement "To apply knowledge through local and global engagement that will improve quality of life and enhance the economy of the state, nation, and world". I've been told by growers that overall this project has increased their production significantly and add several millions of dollars to the local economy.

I view this in a similar way to how my friends who are cranberry farms benefit from my work on insecticides to control a major cranberry insect pest. Eventually my work results in a registration of a product that my friends use to control insects on their farm. My friends benefit, but so does the entire industry. I don't work on this project because they are a problem on my friends' farms, Brian Sheldon's farm or anyone else's farm. I work on these problems because they are major priorities to the respective industries. You can assess for yourself the industry's needs and priorities - see 'Pest Management Strategic Plan Bivalves Oregon and Washington' https://ipmdata.ipmcenters.org/documents/pmsps/OR-WAbivalvePMSP.pdf.

13. Have you ever testified in court of law regarding the use of Imazamox to control Japanese Eelgrass? If so, was that as an employee of WSU or some other interest? Please explain.

Yes, the State Attorney General requested that I testify at the State Pollution Control Hearings Board in defense of Dept. of Ecology for their NPDES permit. The Attorney General representing Ecology worked with the Attorney General representing WSU to assure that my testimony/ expert witness was appropriate. I believe I was subpoenaed to provide this testimony,

but can't recall the details. I think that AG has moved on, but the contact was Gordon Karg, AAG, Washington State Attorney General's Office, Ecology Division. Why was I called to testify in this regard? It was my data that was used to develop the permit for Ecology, and I was the foremost expert in the area.

14. Did you receive compensation, in any form, for your testimony from anyone in the commercial shell fish industry?

No compensation was received. However, we did have working dinners and lunches with the AG during the hearing, and I don't recall paying for those meals. Someone paid for those them. It could have been the AG office, Ecology, or the shellfish industry; I am not sure.

In fact the testimony actually cost me time and money. I lost three days of office work, plus the cost of travel, lodging and other meals. I paid for those costs out of my extension travel budget that I get from WSU. The time was just lost work time. I had to compensate for this by working longer on other days to get my projects done.