RESPONSIVENESS SUMMARY

Shelton Harbor Sediment Cleanup Unit

May 25 to June 26, 2017 Public Comment Period

New Agreed Order No. DE 14091

Prepared by

Washington State Department of Ecology

Southwest Regional Office

Toxics Cleanup Program

300 Desmond Drive

Olympia, Washington 98504-7775

November 2017

List of Commenters

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Brandon Palmer	Port of Shelton	5/25/2017	4
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Ecology Contacts

Site Manager: Joyce Mercuri

Public Involvement Coordinator: Megan MacClellan

Summary

The Washington Department of Ecology solicited public comment on a draft Agreed Order and Public Participation Plan describing proposed cleanup work in Shelton Harbor. We also held a public meeting to describe the cleanup documents.

We received three comments on the delisting after the cleanup of the Shelton Harbor Sediment Cleanup Unit site. The comments did not suggest substantive changes. The comment period ran from May 25 to June 26, 2017. The cleanup documents are available in the site file and online at https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=13007.

Comment A – Brandon Palmer

From: Brandon Palmer [mailto:brandonp@portofshelton.com]
Sent: Thursday, May 25, 2017 3:00 PM
To: Mercuri, Joyce (ECY) <jmer461@ECY.WA.GOV>
Subject: RE: Shelton Harbor cleanup

Hi Joyce,

One of my co-workers came across an article yesterday on the Mason WebTV website: http://masonwebtv.com/archives/25806

I'm not sure how it was released though.

I plan to provide comments after I get a chance to review the information that is available. However, I have a couple to share now as well.

1.) On the fact sheet under Partnership for Effective Work and on page 9 section F. of the draft Agreed Order, third sentence, the Port of Shelton should be listed as one of the collaborators. Mason Conservation District is another partner that I think should be listed as well.

I feel this is important because we have been working on this project for many years, including the Port's condemnation of the Evergreen Fuel Facility which expedited the MTCA cleanup. There have been several Port of Shelton comprehensive plan updates that allowed for the surplus, sale, and permanent conservation status for Eagle Point as well as the overall approach for creating a more natural shoreline from the head of the pier at the Oakland Bay Marina all the way to Goldsborough Creek.

The Port also kicked off this project back in August of 2012 by hosting a meeting at the yacht club building that brought all of the regulatory agencies and the collaborators together with the goal of testing the waters on this complex and ambitious project. Another reason I find this important is it shows strong community support for the project which is critical in grant acquisition and the project will essentially reverse or repair the effects of over a hundred years of heavy industrial use of the harbor. This project has been designated as a "Project of Regional Significance" and the partnership has succeeded in acquiring $3.46 million in funding so far.

In addition to the above efforts, I spent about two years on the City of Shelton Shoreline Master Plan Update Citizens Advisory Committee. That effort dramatically improved the City's SMP especially with regard to facilitating environmental cleanups and shoreline restoration projects both in the marine and aquatic environment. As you are probably aware, the Port's sale of Eagle Point to Capital Land Trust (which was funded with grant money) resulted in the only marine waterfront park located in and owned by the City of Shelton.

2.) The Shelton Harbor Exhibit B in the draft Agreed Order and the same figure in the fact sheet should be revised to have the Northern Habitat Restoration Area include the area in front of the former Evergreen Fuels site (to the pier) and the Pine St. ROW (boat ramp). It needs to be clear to the community, funding sources, and regulators that the project will result in a more natural shoreline from the marina all the way to Goldsborough Creek.

The Port is excited to see things coalesce around this complex and large scale project and we appreciate opportunities to comment and help inform the cleanup process and the ultimate shoreline restoration. I look forward to working with you and other Ecology staff on this endeavor.

Thank you.

Brandon Palmer
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Ecology Response

Mr. Palmer,

Thank you for your comments and thoughts. For the sake of organization and clarity, specific comments have been labeled and the following responses correspond.

Comment 1

Thank you for clarifying the Port of Shelton's and Mason Conservation District's significant role in the habitat improvement project in and around Shelton Harbor. Unfortunately, we had already finalized and mailed out the fact sheet before we received your comment so we could not edit it to address your request. We did include a corrected figure and included mention of the Port's and Conservation District's role at the public meeting on June 1. If we need to list collaborators on the habitat improvement project in the future, we will certainly include the Port and Conservation District.

To maintain the distinction between our work - the environmental cleanup of Shelton Harbor- and the habitat improvement work in the area, we did not describe the habitat restoration in any of our other outreach materials. Instead, we refer people to those directly involved. Scott Steltzner made a presentation during the June 1 public meeting in Shelton, and our website refers readers to SheltonHarbor.org.

Comment 2

Exhibit B has been updated in the final Agreed Order to show restoration efforts on the shoreline from the marina to Goldsborough Creek. The final Agreed Order is attached for reference. We also used this updated figure on our Shelton Harbor cleanup website and at the June 1 public meeting.

Comment B – Patricia Vandehey

Thank you for your comments and questions. For organization and clarity, we have responded comment by comment by separating the letter you submitted. All text in the letter is reproduced verbatim, although we have made some formatting changes. The letter as it was originally submitted is included as Attachment A.

June 1, 2017 6:30pm-8:30pm OPEN HOUSE

CLEANUP COMMENTS FOR SHELTON HARBOR CLEANUP

Comment 1 When Sierra Pacific announced they would be buying the business from Simpson, but not the land, I enquired if there would be testing of the land, especially the ash piles, to determine the extent of contamination of this land. I was told by Steve Goins, that neither the City of Shelton or the Department of Ecology thought it necessary for any testings, as there were no perceived problems with the area.

Response 1 *Ecology understands the concern that the land where a large mill operated for many years might have some contamination. However, at the time of the new mill development, Ecology did not have specific evidence or information about contamination at the property of the main mill site, and did not have the authority to require sampling. However, all landowners are required to report discoveries of contamination. During construction of the new mill, Sierra Pacific Industries (SPI) discovered an area of fuel oil and reported it to Ecology.*

Based on that discovery, the southern portion of the mill site has been added to the Confirmed and Suspected Contaminated Sites List (Site name: Sierra Pacific Industries, Shelton). Sierra Pacific has already voluntarily removed some of the oily soil and intends to pursue the rest of the cleanup through Ecology's Voluntary Cleanup Program.

The Agreed Order that was the subject of this public comment period is specifically for cleaning up sediments within Shelton Harbor. One of the requirements of the Agreed Order is to evaluate whether the storm drainage systems at the mill might be discharging pollution into the harbor that could cause recontamination of sediments. Ecology does not otherwise have evidence or other reason to believe that the SPI mill is a current source of contaminants to sediments in Shelton Harbor.

Regarding the "ash piles," industrial waste was deposited in an area between Shelton Creek and the railroad track that goes along Highway 3. As far as we can tell based on aerial photographs, this occurred in the 1960s and 1970s. Although this deposit has come to be called the ash pile, it actually appears to consist of clinker, possibly mixed with demolition debris. Clinker is a hard, consolidated material that forms from minerals and incombustible materials at the bottom of wood and coal fired power plants. We have not observed light or dusty ash-like material during inspections of these deposits.

Ecology tested the material in these clinker deposits as a part of the May, 2013 study titled Dioxin in Surface Water Sources to Oakland Bay. The samples contained 21.3 and 41.1 parts per trillion (ppt) of dioxin, which is higher than the Model Toxics Control Act cleanup standard for dioxin in soils of 12.8 ppt. Because of the contamination in the clinker deposits, Ecology is concerned that it could be a source of contamination to Shelton Harbor. Therefore, we are requiring Simpson to evaluate whether there could be

leaching or erosion into Shelton Creek and to develop a plan to stabilize the landfill at the creek edge.

Comment 2

There have been many documents issued concerning the bay and the industrial areas, but no action taken.

Nov. 1984 NTIS National Technical information Service (Risk Analysis of TCDD Contaminated Soil.)

MAY 2008 "Oakland Bay Sediment Characterization Study, (Herrera Environmental Consultants

May 3, 2011 Oakland Bay Sediment Investigation

Dec. 2011 _"Quality Assurance Project Plan Dioxin in Surface waters Sources to Oakland Bay"

May 2013 -"Dioxin in Surface Water Sources to Oakland Bay."

US EPA :Public Health, Safety, and the Environment-Last updated on 7/24/14

Why has there been so many studies but no action?

Response 2

It has taken several years to begin cleanup actions in Shelton Harbor. In cleanup work, we always have to balance competing priorities, staff availability, and other factors in determining which projects will be worked on. Staff that are knowledgeable about sediments have been committed to other large sediment investigation and cleanup projects in the state.

We are now devoting those resources to Oakland Bay and taking action. This is also an opportunity to partner with other groups to restore the area.

Comment 3

There has been an Agreed Order in effect concerning Goose Lake and Raynaire (dating from April 1, 2001) that is no further ahead today than it was on the effective date. In reading the current Agreed Order between Simpson and Ecology, it appears that because of all the response time given to respond to the agreements, it will not go into effect for fourteen months. We can only hope that something will be finally done, the proper testing, together with complete and accurate analysis, and finally the corrected action will be taken.

Response 3

The Agreed Order for the Shelton Harbor cleanup became effective on July 1, 2017, after we reviewed the comments we received. According to the schedule presented in section VII.O. of the agreed order, the first product due from Simpson (a work plan for the remedial investigation) is due within 45 days of that effective date. We received this work plan ahead of schedule, and remedial investigation field work is mostly complete.

Moving forward, it is important to remember that the type of work required under this order can often be detailed and time consuming. Cleanup work is intended to be a long-

term solution, and it is important to take necessary time to ensure sound decisions are being made.

Ecology needs to make sure that Simpson and Simpson's consultants have enough time to produce high quality plans and reports that are accurate, meet state standards, and provide the detailed information needed to make site decisions. The documents then need to be revised by Simpson according to our comments. Other factors that take time include arranging subcontractors for field work, lab analysis, data validation, securing necessary permits, and holding meetings to review data. Negotiations and thoughtful decision-making about cleanup approaches take time as well.

Ecology is committed to keeping this project on track and moving forward as quickly as the timing of producing and reviewing the various required documents allows. In order for the habitat restoration project to maintain funding, we are under additional time constraints, which motivates all involved to keep the cleanup project on track.

Comment 4 NOTE: There is no effective Date shown on the Order. The AGREED ORDER NUMBER IS DE 14091. BUT ON THE EXHBIT A: Oakland Bay and Shelton Harbor Sediment Site Sheets, it shows Agreed Order No. DE 14901. These should be the same.

Response 4 *The Agreed Order we made available during the public comment period did not contain an effective date because the documents we make available for public review are typically drafts. That makes it possible for us to edit them if needed, based on the comments we receive. Thank you for pointing out the inconsistency of the docket number. We have corrected the error in the Agreed Order we have on file.*

Comment 5 In the above studies, there is much information saying that there is no cause for alarm or concern to humans if coming in contact with contaminated soil, water, food obtained from the area or the air, but here is not much in actual numbers relating to the degree of contamination.

Response 5 *The best places to review actual numbers relating to the degree of contamination in Oakland Bay are in the 2010 Sediment Investigation Report and in the Washington State Department of Health (DOH) consultation documents. Below is an overview of the information presented in those documents, and descriptions of some of the important concepts that information is based on.*

2010 Sediment Investigation Report

Section 5.4.2 of the Sediment Investigation Report discusses the amount of dioxin found in surface sediments in Oakland Bay and Shelton Harbor. The second paragraph of that section compares the amount of dioxin found in sediments to the criteria regulators like Ecology can use to make cleanup decisions that protect human health.

In general, the amount of dioxin that is considered safe for fish and shellfish that people could eat is very low, often below the natural background level found in uncontaminated areas. MTCA considers a 'safe' level to be an amount which wouldn't cause any more

than a one in one million cancer risk. The natural background level of dioxin in Puget Sound is 4 parts per trillion (ppt). Ecology does not try to clean up sediments below background levels, so 4 ppt would be the lowest criteria that would be used for cleanup standards under MTCA. Note that the Sediment investigation report uses the units of "ng/kg" (nanograms per kilogram), which is another way to describe ppt.

The amount of dioxin that is considered safe for people to accidently eat, touch, or breathe is higher than for consuming fish. Those amounts range from 15 to 100 ppt, depending on different circumstances for being exposed (such as for a child playing on a beach vs. a shellfish harvester working on the beach consistently). [1]

To get an idea of the degree of contamination, you can compare the actual levels found to the protective levels described above.

The highest concentration of dioxin found in surface sediments in Shelton Harbor was 175 ppt.The average concentration in surface sediments was 42.8 ppt in Shelton Harbor, 32.1 ppt in Oakland Bay, and 5.42 in Hammersley Inlet.

DOH Health Consultation Documents

Using levels of dioxin in sediments and in clam meat, DOH looked at the potential for the sediments to have a toxic effect or to cause cancer – either through directly contacting them or from eating shellfish. This evaluation was specific to Oakland Bay, as opposed to the general criteria described above) and gave us important information to develop cleanup criteria.

Effects from contact with sediment

The DOH health consultation for effects from touching, breathing, accidentally eating contaminated sediments contains some information about the degree of contamination in Oakland Bay compared to safe levels, for non-cancer as well as for cancer effects.

Non-cancer effects

DOH evaluated potential non-cancer health effects that could occur from contact with dioxins found in the surface sediments of Shelton Harbor and Oakland Bay. To gauge the potential for health effects, they made calculations based on the concentration of dioxin, how often a person might be exposed, how much sediment might get into a person's body through touching, breathing or accidentally eating sediment, and other factors. That amount is called a dose.

They compared the dose from contacting sediments to a conservative safe daily dose of dioxin. That level is the "minimal risk level" (MRL) that you referred to from Agency for Toxic Substances and Disease Registry (a branch of the Centers for Disease Control).

The table below is from the DOH's health assessment report. It shows that the estimates of the dose of dioxin that could get into a person's body for different levels of exposure were all below the MRL of .000000001 milligrams of dioxin per kilogram of body weight per day (mg/kg/day). The MRL is shown in scientific notation on the table as 1.0E-9 in the second-to-last column. Described as parts per trillion, the MRL would be expressed as

[1] Source of protective concentrations: Sediment Cleanup Users Manual II, Ecology Publication No. 12-09-057, Table 9-2.

0.001 nanograms of dioxin per kilogram of body weight (ng/kg/day). The last column in the table compares the actual Shelton Harbor/Oakland Bay dose to the safe dose based on the MRL. If any of the numbers in the last column were greater than 1, it would mean the dose is higher than what is considered safe. For example, in the first row, the child's actual dose is 0.36, or 36% of the MRL safe dose.

Contaminant	TEQ Concentration (ppm) (mg/kg)	Scenarios	Estimated Dose (mg/kg/day)			Total Dose	RfD/ MRL/ LOAEL (mg/kg/day)	Total Dose/ (RfD/ MRL/ LOAEL)
			Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Particulates			
Total Dioxin TEQ Shelton Harbor	0.000175	Child	3.3E-10	2.9E-11	1.2E-14	3.6E-10	1.0E-9	0.36
		Older Child	6.1E-11	1.1E-11	7.1E-15	7.2E-11		0.072
		Adult	1.7E-10	2.0E-11	4.2E-14	1.9E-10		0.19
Total cPAH TEQ Shelton Harbor	0.3	Child	5.7E-07	2.1E-07	1.9E-11	7.8E-07	1.0E+1	<0.00000001
		Older Child	1.0E-07	7.9E-08	1.2E-11	1.8E-07		<0.00000001
		Adult	2.9E-07	1.5E-07	7.2E-11	4.4E-07		<0.00000001
Total Dioxin TEQ Oakland Bay	0.000054	Child	1.0E-10	8.9E-12	3.6E-15	1.1E-10	1.0E-9	0.109
		Older Child	1.9E-11	3.3E-12	2.2E-15	2.2E-11		0.02
		Adult	5.1E-11	6.2E-12	1.3E-14	5.7E-11		0.06

Children exposure frequency assumes that they are exposed by digging and/or playing in the sediment for 52 days/year at the Oakland Bay site's public access areas
Adult – refers to the30 year life time exposure

Table 1: Non-cancer hazard calculations resulting from exposure to dioxins in surface sediments from Oakland Bay. Health Consultation. Evaluation of Contaminants in Sediments from the Oakland Bay Site. DOH, June 24, 2010.

Cancer effects

DOH also evaluated cancer effects from touching, breathing, or accidentally ingesting sediments in a similar way. They determined that if someone touched, breathed in, or accidentally ate the most contaminated sediment in Oakland Bay every weekday a year, for 30 years, they could have a 1 in 110,000 chance of getting cancer from the dioxin in those sediments. This is shown in scientific notation as 1.1E-05 in the total cancer risk column on the first row of the table below (Total Dioxin TEQ Shelton Harbor), under the "adult" scenario. This risk is below the upper risk level of 1 in 10,000 that EPA considers to be acceptable, but more than the risk allowed under MTCA of 1 in 1 million excess cancer risk.[2]

Contaminant	Concentration (ppm)	EPA Cancer Class	Cancer Potency Factor ($mg/kg\text{-}day^{-1}$)	Scenarios	Increased Cancer Risk			Total Cancer Risk
					Incidental Ingestion of Soil	Dermal Contact with Soil	Inhalation of Particulates	
Total Dioxin TEQ Shelton Harbor	0.000175	B2	1.5E+5	Child	3.3E-6	2.9E-7	1.2E-10	3.6E-06
				Older Child	1.2E-6	2.1E-7	1.4E-10	1.4E-06
				Adult	9.9E-6	1.2E-6	1.3E-09	1.1E-05
Total cPAH TEQ Shelton Harbor	0.3	B2	7.3	Child	2.8E-7	1.0E-7	9.6E-12	3.8E-07
				Older Child	1.0E-7	7.7E-8	1.2E-11	1.8E-07
				Adult	8.3E-7	4.3E-7	1.1E-10	1.3E-06
Total Dioxin TEQ Oakland Bay	0.000054	B2	1.5E+5	Child	1.0E-6	8.9E-8	3.6E-11	1.1E-06
				Older Child	3.8E-7	6.5E-8	4.4E-11	4.5E-07
				Adult	3.1E-6	3.7E-7	3.9E-10	3.5E-06

Children exposure frequency assumes that they are exposed by digging and/or playing in the sediment for 52 days/year at the Oakland Bay site's public access areas
Adult – refers to the30 year life time exposure

Table 2: Cancer hazard calculation resulting from exposure to dioxins in surface sediments from Oakland Bay. Health Consultation. Evaluation of Contaminants in Sediments from the Oakland Bay Site. DOH, June 24, 2010.

Effects from eating shellfish

The DOH health consultation for eating shellfish grown in Oakland Bay also contains information about the degree of contamination compared to safe levels for consuming food.

After testing manila clams, oysters and mussels, the DOH found between 0.11 and 0.45 ppt dioxins in the shellfish meat (see Table B2 below). DOH calculated potential for non-cancer and cancer health effects based on these concentrations. The main considerations in their calculations were: the amount of shellfish that could be eaten, the number of years people would eat the shellfish, and the toxicity of dioxin.

Non-Cancer Effects (Shellfish)

To determine non-cancer health effects, DOH calculates the dose of dioxin that could get into a person's body from eating shellfish and compares that to the MRL described above. All of the doses for eating any kind of shellfish, for even the highest consumers, were below the MRL. The last three columns labeled "Hazard Quotient," in Table 3 below, show the relationship between the estimated dose from eating the different types of shellfish, and the MRL. For example, the last column shows that for a subsistence fish/shellfish consumer (someone who eats up to 200 grams per day of fish, with half of

that that consisting of manila clams from Oakland Bay, for 70 years), the average daily dose they would get is two-tenths (0.2) of the MRL.

Species	Average dioxin concentration (ppt)	N	Estimated dose (mg/kg/day) (Adult)				MRL (mg/kg/day)	Hazard quotient (Adult)			
			General population (fish)	Subsistence fish/shellfish consumer (low) (all seafood)	Subsistence fish/shellfish consumer (medium) (all seafood)	Subsistence fish/shellfish consumer (high-end) (all seafood)		General population (fish)	Subsistence fish/shellfish consumer (low) (all seafood)	Subsistence fish/shellfish consumer (medium) (all seafood)	Subsistence fish/shellfish consumer (high-end) (all seafood)
Manila clams	0.11	14	1.2E-11	4.2E-11	1.2E-10	1.8E-10	1.0E-9	<0.1	<0.1	0.1	0.2
Pacific oysters	0.26	5	5.6E-13	2.0E-12	5.6E-12	8.3E-12		<0.1	<0.1	<0.1	<0.1
Kumo oysters	0.45	2	9.6E-13	3.3E-12	9.6E-12	1.4E-11		<0.1	<0.1	<0.1	<0.1
Mussels	0.17	1	3.6E-13	1.2E-12	3.6E-12	5.4E-12		<0.1	<0.1	<0.1	<0.1

MRL – ATSDR chronic Oral Minimal risk level
N = number of samples. Each composite sample contained 30 individual organisms representing a specific area within each sampling location (i.e., 10 shellfish each in the lower, middle, and upper of each segment).
ppt – parts per trillion
mg/kg/day – milligrams per kilograms per day

Table 3: Lifetime non-cancer risks associated with each consumption scenario. Health Consultation. Evaluation of Dioxins in Shellfish from the Oakland Bay Site. DOH, July 27, 2010.

Cancer Effects (Shellfish)

In a similar manner, DOH also evaluated the potential for cancer effects from eating shellfish. They look at the dose of dioxin from eating the shellfish and the potential cancer potency of the chemical developed by EPA, and from that they can calculate chances of increased cancer risk from eating the food.

They determined that if someone ate 200 grams of Manilla clams per day, with half of those coming from Oakland Bay, each day for 70 years, their chance of getting cancer from the dioxin in those clams would be 2.6 in 110,000. That number is shown in scientific notation as 2.6E-5 on Table 4 below. This risk is below the upper risk level of 1 in 10,000 that EPA considers to be acceptable, but more than the risk allowed under MTCA of 1 in 1 million excess cancer risk.

Species	N	Average (TEQ) dioxin concentration (ppt)	Cancer slope factor (per mg/kg/day) [17]	Increased cancer risk (adult)			
				General population (fish)	Subsistence fish/shellfish consumer (low) (all seafood)	Subsistence fish/shellfish consumer (medium) (all seafood)	Subsistence fish/shellfish consumer (high-end) (all seafood)
Manila clams [a]	14	0.11	1.5E+5	1.8E-6	6.1E-6	1.8E-5	2.6E-5
Pacific oysters [b]	5	0.26		8.3E-8	2.9E-7	8.3E-7	1.2E-6
Kumo oysters [b]	2	0.45		1.4E-7	5.0E-7	1.4E-6	2.2E-6
Mussels [b]	1	0.17		5.5E-8	1.9E-7	5.5E-7	8.1E-7

[a] – Used 50% of the consumption rates for Manila clams
[b] – Used 1% of the consumption rates for oysters and mussels
N = number of samples. Each composite sample contained 30 individual organisms representing a specific area within each sampling location (i.e., 10 shellfish each in the lower, middle, and upper of each segment).
ppt – parts per trillion
TEQ – Toxic equivalent

Table 4: Theoretical lifetime cancer risks associated with each consumption scenario. Health Consultation. Evaluation of Dioxins in Shellfish from the Oakland Bay Site. DOH, July 27, 2010.

Comment 6 After checking a great deal of the information available, I was surprised to find readings given in ppb, parts per billion instead of ppt, parts per trillion.

Response 6 *It can be difficult to compare values from different reports that use different units. We attempt to have our consultants show the information in consistent units. However, for a variety of reasons, people can report chemical concentrations using different units of measure (i.e., parts per million vs. parts per billion* vs. *parts per trillion), so it's great that you noticed the difference in the case you mentioned. As a quick example, here are three ways to describe the same amount of something: 175 parts per trillion = 0.175 parts per billion = 0.000175 parts per million. Concentrations can also be expressed using other equivalent units like milligrams per liter (mg/l) or grams per cubic meter (g/m^3).*

Comment 7 The information I found states that the MCL, Maximum Contaminant Level of 2,3,7,8 TCDD the most toxic form of DIOXIN and the one form that all the other types of DIOXIN are rated, is .30 ppt in drinking water, (how is it even possible to measure that) and in soil it is 3-11 ppt. In the May 2008 Oakland Bay Sediment Characterization Study, done by Herrera Environmental Consultants, Readings were taken from samples of Simpson Bag House Ashes, and had readings of 4,200 ppt. I find this extremely frightening, as

there were tons of this ash dumped all over in and around Shelton, and not covered. It just didn't disappear, so why don't the readings given out (to make us feel safe) ever reflect this information.

Response 7

Regarding your question about the ability to measure dioxin at the low level MCL for water of 0.30 ppt, the EPA has an approved lab method for measuring dioxins in drinking water, called Method 1613, Revision B. That method uses computerized lab analysis equipment that can measure very low concentrations. These machines are extremely sensitive and can measure extremely small amounts of dioxin. According to the EPA, the method can get down to 0.01 ppt for water, under perfect circumstances. We did not test water for dioxin in the Sediment Investigation for Oakland Bay.

It sounds like you are concerned that you haven't seen Ecology report the concentration of dioxin found in pure baghouse ash during the 1986 EPA study (which was described by Herrera in the 2008 document you referenced). While it is important background information to know what was originally in the boiler ash, the concentrations we are primarily concerned with are those at cleanup sites.

We design sampling plans to get the best reflection of conditions as they currently are, given limited resources. The samples are processed by laboratories with high standards and quality control protections. In Oakland Bay, we collected an above-average number of samples. The numbers you see in the Sediment Investigation Report reflect actual conditions at the time of testing, to the best of our ability.

Some of the baghouse ash was routed to the sewage treatment plant and some of that likely passed through the plant into Oakland Bay/Shelton Harbor. The other main source of dioxin into Oakland Bay/Shelton Harbor was the discharge from the pulp mill that closed in the late 1950's.

Natural processes such as fresh sediments coming into the bay from the creeks, mixing by currents and tides and by marine creatures act to cover up and dilute the amount found in the surface sediments. Higher levels of dioxins in deeper samples indicate that the amount of dioxin in the sediment was indeed higher in the past when the higher levels were being discharged, with the highest value we tested of 902 ppt at 3 feet deep in Shelton Harbor.

Comment 8

Another point often made is that this dioxin bonds firmly with the first couple of inches of soil, so not to worry. But if it gets hot and dry, what prevents this highly contaminated soil from being blow all around, picked up by someone's shoes or breathed in.

Response 8

The concentrations of dioxins we have detected in Shelton Harbor and Oakland Bay sediment are not high enough to pose a threat to human health from touching, breathing, or accidentally eating bits of soils/sediment, according to the DOH sediment health consultation discussed above under Comment 5. Also, we wouldn't expect sediments in Shelton Harbor to become dry enough to be picked up by winds. Lastly, the dioxins in the waste 'clinker' deposit near Shelton Creek are heavier and consolidated, not likely to become airborne.

Comment 9 2,3,7,8 TCDD also binds very tightly with fatty tissue. A few studies, with not much information have been released but are not very reassuring about safety issues, of eating anything living in sediment. The fish in the Bay and or Harbor, have never been tested. There could be dioxin bonding to their fatty tissue as they swim through water that has Dioxin being carried into the water. We don't know because the fish have never been tested for it.

Response 9 *The highest consumption of seafood from Oakland Bay is of clams, oysters, and mussels. These food sources were tested and the potential health impacts are described in the response to Comment 5. You are correct that fish have not been tested. We did not believe that was a critical step because there is not a significant recreational, commercial, or tribal fishery in Oakland Bay. However, the cleanup levels that will ultimately be selected for Shelton Harbor will have to take into account the potential for dioxin to accumulate in fish.*

Comment 10 This DIOXIN 2,3,7,8 TCDD is extremely toxic. It was one of the chemicals that was used in AGENT ORANGE IN VIETNAM. Pictures of the infants born of mothers who were caught in the spraying of it are heartbreaking. Some have no arms or legs, some no eyes or mouth. An then we have our own troops who were unwittingly caught in this spray, who now have cancer.

This chemical is not to be dismissed or ignored. It must be handled, and disposed of it the most safe and expedited manner possible to protect all of us and all who follow us.

Response 10 *While dioxin levels found in agent orange are likely to be hundreds, if not thousands, of times higher than what we have found in Shelton Harbor sediments, we are paying attention and taking action to clean up the contamination. The remedial investigation and feasibility study will define what is there and describe what we find to be the best way to clean it up.*

Comment C – Martin Zazueta

June 17, 2017

I used to work AT Simpson
until 2008. One time I questioned
my boss about chemicals sprayed on
the wood - I was concerned for
my health since the table says it
will kill. I was told I did not
need any Protetion and that was
That. I called the manufacter
They did not give me any facts
They were in canada if my
memory serves me right. The
MANUfacter called my Boss and
he called me to his offiee.
He asked if I did it and I told him
yes. I was tranfered to mill
3 right away. Mill 3 was were
you were sent to be fired.
Like the Russian front.
I was able to hold on to my job
for ~~awhile~~ a while being threatned
with my Job every day. a real nightmare.
~~away~~ To get to my point the was
alot of Spills on to the
~~Asfalt~~ ASFAULT inside of The
Plaser buildings which is built on

Comment C – Martin Zazueta, continued

June 17, 2017

fill. you could see it disapear
I told this to D.O.E. before
but no one even contacted me.
I also told the new company
in a public meeting in Shelton, WA
but they didnt want to hear
about it.

now there is a new buldings there
and I am sure the toxic waste
is still there.

I also know of other toxic
waste is being dumped/and
was dumped at my old employers
I told doe & mason county about
this and no one would listen.
The was goes into the bay.

MARTIN ZAZUETA
360 432-3151

I will also send an EMAIL
thanks

Ecology Response

Ecology understands why you would be concerned about historic spills and waste practices at the sawmill. Unfortunately, because the spills and discharges were from several years ago, and took place inside a building, it is very difficult to track down and confirm whether there is a continuing effect.

When we investigate complaints about contamination, the inspector typically needs to have visual evidence of contamination in order to know where to take samples. If they find contamination in the samples, they can add the site to the list of confirmed and suspected contaminated sites in Washington State. We do not have specific evidence of releases (such as visible stains, odors, specific locations of exposed soils where spills occurred, broken drums) of pollution to soils or groundwater at the main mill site, so we did not have a basis to require sampling due to the change in ownership and land use.

However, all landowners are required to report discoveries of contamination. During construction of the new mill, SPI discovered an area of fuel oil in soil and reported it to Ecology. Based on that discovery, the southern portion of the mill site has been added to the Confirmed and Suspected Contaminated Sites List (Site name: Sierra Pacific Industries, Shelton). Sierra Pacific has already voluntarily removed some of the oily soil and intends to pursue the rest of the cleanup through Ecology's Voluntary Cleanup Program.

The Agreed Order that was the subject of this public comment period is specifically for cleaning up sediments within Shelton Harbor. Ecology does not have evidence or other reason to believe that the SPI mill is a current source of contaminants to sediments in Shelton Harbor. One of the requirements of the Agreed Order is to evaluate whether the storm drainage systems at the mill be discharging pollution that could cause recontamination of sediments.

Your comment has been included in the site files for the Shelton Harbor cleanup. If we learn of documented contamination in any part of the north part of the mill area in the future, we would take your historic information into consideration when determining the scope of investigations required. For example, we would require groundwater testing for wood treatment chemicals in the vicinity of the former planer building.

Attachment A

Comment letter from Patricia Vandehey

June 1, 2017 6:30pm-8:30pm OPEN HOUSE
CLEANUP COMMENTS FOR SHELTON HARBOR CLEANUP

When Sierra Pacific announced they would be buying the business from Simpson, but not the land, I enquired if there would be testing of the land ,especially the ash piles, to determine the extent of contamination of this land. I was told by Steve Goins, that neither the City of Shelton or the Department of Ecology thought it necessary for any testings, as there were no perceived problems. with the area.
There have been many documents issued concerning the bay and the industrial areas, but no action taken.

Nov. 1984 NTIS National Technical Information Service (Risk Analysis of TCDD Contaminated Soil.)
MAY 2008 "Oakland Bay Sediment Characterization Study, (Herrera Environmental Consultants
May 3, 2011 Oakland Bay Sediment Investigation
Dec. 2011_ "Quality Assurance Project Plan Dioxin in Surface waters Sources to Oakland Bay"
May 2013 -"Dioxin in Surface Water Sources to Oakland Bay."
US EPA :Public Health, Safety, and the Environment -Last updated on 7/24/14

Why has there been so many studies but no action?
There has been an Agreed Order in effect concerning Goose Lake and Raynaire (dating from April 1, 2001) that is no further ahead today than it was on the effective date. In reading the current Agreed Order between Simpson and Ecology, it appears that because of all the response time given to respond to the agreements, it will not go into effect for fourteen months. We can only hope that something will be finally done, the proper testing, together with complete and accurate analysis, and finally the corrected action will be taken.
NOTE:There is no effective Date shown on the Order. The AGREED ORDER NUMBER IS DE 14091. BUT ON THE EXHBIT A: Oakland Bay and Shelton Harbor
Sediment Site Sheets, it shows Agreed Order No. DE 14901. These should be the same.

In the above studies, there is much information saying that there is no cause for alarm or concern to humans if coming in contact with contaminated soil, water, food obtained from the area or the air, but here is not much in actual numbers relating to the degree of contamination. After checking a great deal of the information available, I was surprised to find readings given in ppb, parts per billion instead of ppt, parts per trillion. The information I found states that the MCL, Maximum Contaminant Level of 2,3,7,8 TCDD the most toxic form of DIOXIN and the one form that all the other types of DIOXIN are rated, is **.30 ppt in drinking water,(how is it even possible to measure that) and in soil it is 3-11 ppt. In the May 2008 Oakland Bay Sediment Characterization Study, done by Herrera Environmental Consultants, Readings were taken from samples of Simpson Bag House Ashes, and had readings of 4,200 ppt. I find this extremely frightening , as there were tons of this ash dumped all over in and around Shelton, and not covered. It just didn't disappear, so why don't the readings given out (to make us feel safe) ever reflect this information.**

Another point often made it that this dioxin bonds firmly with the first couple o inches of soil, so not to worry. But if it gets hot and dry, what prevents this highly contaminated soil from being blow all around, picked up by someone's shoes or breathed in. 2,3,7,8TCDD also binds very tightly with fatty tissue. A few studies, with not much information have been released but are not very reassuring about safety issues, of eating anything living in sediment. The fish in the Bay and or Harbor, have never been tested.

There could be dioxin bonding to their fatty tissue as they swim through water that has Dioxin being carried into the water. We don't know because the fish have never been tested for it.

This DIOXIN 2,3,7,8 TCDD is extremely toxic. It was one of the chemicals that was used in AGENT ORANGE IN VIETNAM. Pictures of the infants born of mothers who were caught in the spraying of it are heartbreaking. Some have no arms or legs, some no eyes or mouth. An then we have our own troops who were unwittingly caught in this spray, who now have cancer.
This chemical is not to be dismissed or ignored. It must be handled, and disposed of it the most safe and expedited manner possible to protect all of us and all who follow us.

Patricia Vandehey, Shelton