



RESPONSIVENESS SUMMARY

**Former Irondale Iron and Steel Cleanup Site
July 20 – August 19, 2011 Public Comment Period**

Engineering Design Report

**Prepared by
Washington State Department of Ecology
Southwest Regional Office
Toxics Cleanup Program
Lacey, Washington**

September 2011

Contents

| | |
|---|----|
| Site Information | 2 |
| Site Background..... | 2 |
| Site Location..... | 3 |
| Acronyms and Abbreviations | 4 |
| Comment #1: Kevin Long, North Olympic Salmon Coalition (NOSC)..... | 5 |
| Comment #2: Alex Bradbury, Washington Department of Fish and Wildlife..... | 8 |
| Comment #3: Gregg Knowles..... | 14 |
| Comment #4: Mike Webb, Environmental Management Training | 17 |
| Comment #5: Doris Small, Washington Department of Fish and Wildlife – Habitat Division..... | 20 |

Site Information

Address: 526 Moore Street, Irondale

Site Manager: Steve Teel

Public Involvement Coordinator: Diana Smith

The Department of Ecology (Ecology) has been working on investigating and cleaning up contamination at the Former Irondale Iron and Steel site since around 2001. The Governor's Puget Sound Initiative, an effort to restore the Sound by 2020, is funding site cleanup.

Ecology developed a draft Engineering Design Report for the site. It describes in detail how cleanup actions will be implemented and maintained. During cleanup and restoration, Ecology will:

- Remove contaminated soil and sediments.
- Install a geotextile and soil cap (cover) to prevent exposure to contaminated soil remaining on site.
- Remove slag material—a byproduct of metal smelting—and restore the areas where soil was removed.
- Restore the beach between the former plant and Washington Department of Fish and Wildlife's Chimacum Creek restoration site.

The comment period for the Engineering Design Report ran from July 20 – August 19, 2011. Public comments and Ecology's responses for these comment periods are summarized in this document.

Site Background

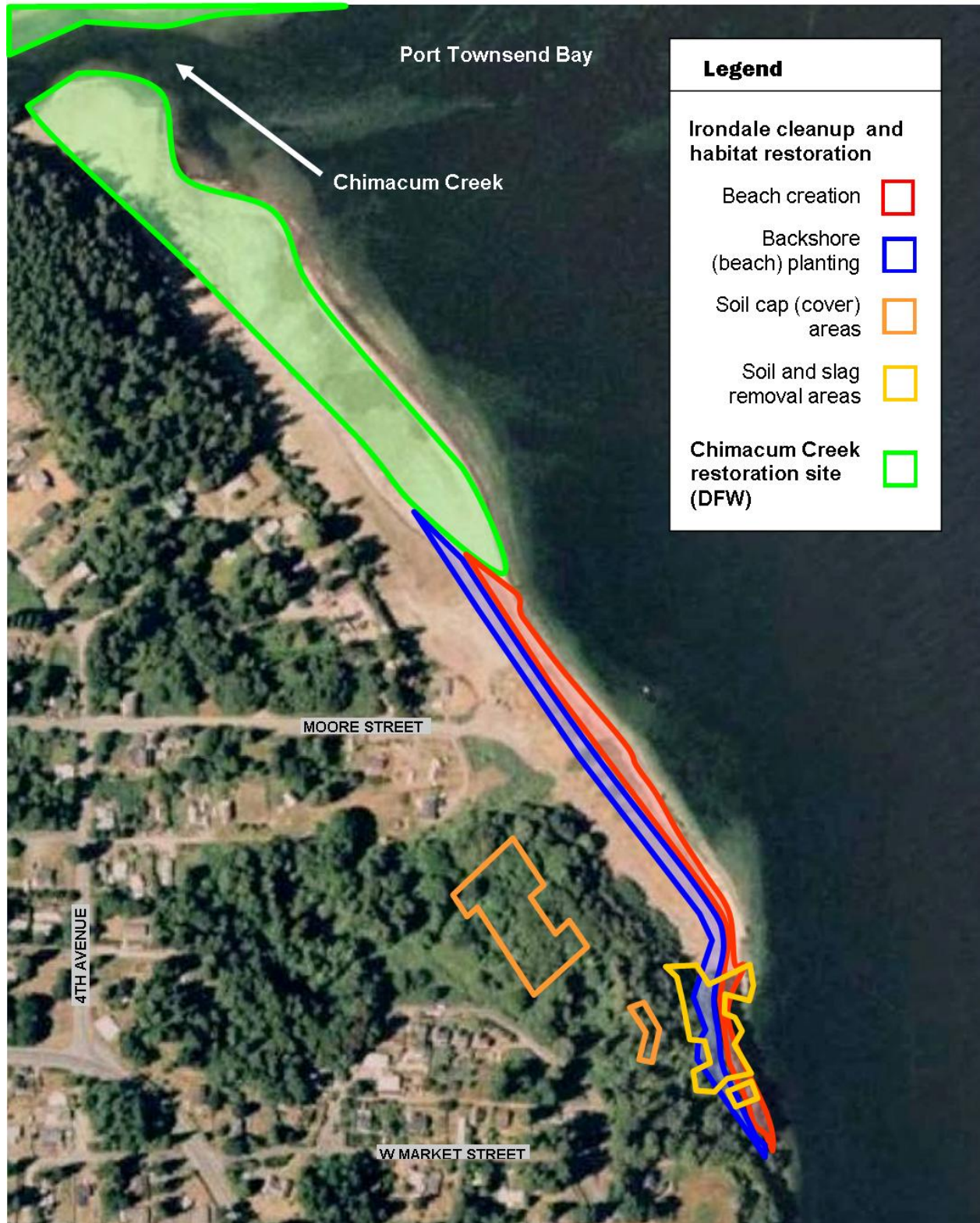
The Former Irondale Iron and Steel site is located at 526 Moore Street in Irondale. From 1881 to 1919, iron and steel were produced at the site by various owners. Steel plant operation during this time resulted in contaminated soil, sediment and groundwater.

In 1919, the plant closed and the equipment was removed from the site. The site was not cleaned up after closing, and slag and other debris are still present. Some building foundations and the concrete walls of an above-ground fuel tank remain on site.

From 1919 until 2001, the site changed ownership several times but no additional waste was produced. Most recently, the site was used as a log storage yard by a nearby chipping facility (1977-1999). Jefferson County purchased the site in 2001 to use as a recreation area.

In 2005, a park visitor notified Ecology about an oily residue on the beach at this site. Investigations revealed evidence of soil, sediment and groundwater contamination. Contamination was found at locations of former buildings and industrial activities. Ecology held a public comment period for a Cleanup Action Plan December 2009 – January 2010.

Site Location



Acronyms and Abbreviations

| | |
|-------|--|
| HPA | Hydraulic Project Approval |
| LWD | Large Woody Debris |
| MTCA | Model Toxics Control Act |
| MLLW | Mean Lower Low Water |
| mm | Millimeter |
| NOSC | North Olympic Salmon Coalition |
| USACE | United States Army Corps of Engineers |
| WDFW | Washington State Department of Fish and Wildlife |

Comment #1: Kevin Long, North Olympic Salmon Coalition (NOSC)

Comments were received in an e-mail dated July 21, 2011.

It is very exciting to see the clean-up at Irondale slated for this fall. The inclusion of the shoreline restoration work makes it even more exciting for those of us considering this action for a very long time. We appreciate your consideration and participation with the Chumsortium group and hope you found it useful in your design process. Thank you for the chance to comment, here are comments from NOSC.

- 1) Construction oversight: It would be useful to have someone onsite familiar with restoration/biology/habitat as part of your oversight team in addition to your remediation specialists. More expertise on the ground guiding construction and restoration actions will lead to a better project.
- 2) Topsoil. Sheet C2.2 calls out a 6" topsoil lift. C 2.0 calls out a 1' lift. A 1' lift of topsoil over sand fill in the remediation area seems like a difficult place to establish native vegetation. Consider increasing topsoil depth to 18". Consider a mixture of organic soil and sand for fill.
- 3) Rock revetment. There is a buried rock revetment on WDFW property installed during project construction to alleviate concerns of the adjacent homeowner, Jim Stark. This should be indicated on the plans. Modification of this structure needs to be discussed with WDFW and the homeowner.
- 4) LWD. There is no indication of the LWD installment plan. The words armoring have us picturing a lot of wood densely packed. We'd suggest wood placement should be conservative as this is not a highly erosive shoreline and an overabundance of wood is unsightly to the general public. The project should strive for natural anchoring of wood by burying boles to pin wood and avoiding cable or other unnatural materials that may become exposed and a nuisance overtime.
- 5) Park Road. Consider pulling the end of the road further back from the shoreline. Leaving a partial turnaround in the proposed location is not a useful feature and shoreline adjustment over time may encroach near the road end. Abandon/remove additional road, replace with topsoil and plant.
- 6) Shoreline overexcavation/fill. While I suspect overexcavation along the shoreline is unlikely to be needed, your specifications need to state what substrate is considered appropriate in order to determine when overexcavation is required. Construction specifications should explain suitable substrates for the beach, backshore and uplands.

I hope these comments prove useful as you move design forward to 100%.

Thank you,

Kevin Long
Project Manager
North Olympic Salmon Coalition

Ecology Response

Thank you for your suggestions! Individual comments and responses are provided below.

Comment 1.1

Construction oversight: It would be useful to have someone onsite familiar with restoration/biology/habitat as part of your oversight team in addition to your remediation specialists. More expertise on the ground guiding construction and restoration actions will lead to a better project.

Ecology Response

Ecology's contractor GeoEngineers will have a biologist with expertise in habitat restoration as part of the construction oversight team, which will also include a remediation engineer and an archaeologist.

Comment 1.2

Topsoil. Sheet C2.2 calls out a 6" topsoil lift. C 2.0 calls out a 1' lift. A 1' lift of topsoil over sand fill in the remediation area seems like a difficult place to establish native vegetation. Consider increasing topsoil depth to 18". Consider a mixture of organic soil and sand for fill.

Ecology Response

In the 100% Engineering Design Report Remedial Design Drawings (100% Drawings), dated 8/31/11, Sheet C2.2 has been revised to call out a 1-foot layer of topsoil, which should be sufficient to establish native vegetation.

Comment 1.3

Rock revetment. There is a buried rock revetment on WDFW property installed during project construction to alleviate concerns of the adjacent homeowner, Jim Stark. This should be indicated on the plans. Modification of this structure needs to be discussed with WDFW and the homeowner.

Ecology Response

On August 16, 2011, staff from Ecology and GeoEngineers met with Mr. Stark and viewed the approximate location of the rock revetment (as recalled by Mr. Stark). Ecology also viewed photographs taken during the installation of the revetment supplied by WDFW via e-mail on August 4, 2011. In the 100% Drawings dated 8/31/11, the rock revetment is called out on Sheet C3.2. Based on our understanding of the revetment location and depth, we do not expect to encounter the revetment during construction. However, if the revetment is encountered, the grading plans in this area may need to be revised to allow the revetment to remain at its current location.

Comment 1.4

LWD. There is no indication of the LWD installment plan. The words armoring have us picturing a lot of wood densely packed. We'd suggest wood placement should be conservative as this is not a highly erosive shoreline and an overabundance of wood is unsightly to the general public. The project should strive for natural anchoring of wood by burying boles to pin wood and avoiding cable or other unnatural materials that may become exposed and a nuisance overtime.

Ecology Response

The 100% Drawings dated 8/31/11, includes an LWD installment plan (*see* Sheets L1.2 and 1.3). Cable or other unnatural materials will not to be used to anchor the LWD. Also, Ecology's intention is to place the LWD in a distribution and density that is consistent with drift wood on nearby beaches.

Comment 1.5

Park Road. Consider pulling the end of the road further back from the shoreline. Leaving a partial turnaround in the proposed location is not a useful feature and shoreline adjustment over time may encroach near the road end. Abandon/remove additional road, replace with topsoil and plant.

Ecology Response

Based on feedback received from the Jefferson County Parks and Recreation Department the road will be retained. The turnaround area will be removed; the end of the road, which will be large enough to park a few cars or to allow a pick-up to turn around, will be placed approximately 25 feet away from the proposed shoreline. The park road details are shown on Sheet L1.2 of the 100% Drawings dated 8/31/11.

Comment 1.6

Shoreline overexcavation/fill. While I suspect overexcavation along the shoreline is unlikely to be needed, your specifications need to state what substrate is considered appropriate in order to determine when overexcavation is required. Construction specifications should explain suitable substrates for the beach, backshore and uplands.

Ecology Response

The specifications indicate that suitable substrate for the shoreline area is fine to medium grain sand. In general, the presence of wood debris or other debris would trigger overexcavation.

Comment #2: Alex Bradbury, Washington Department of Fish and Wildlife, Fish Management Program – Marine Resources Division

STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE
FISH MANAGEMENT PROGRAM - MARINE RESOURCES DIVISION

Point Whitney Shellfish Laboratory

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(360) 586-1498 FAX (360) 796-4997

August 16, 2011

FROM: Alex Bradbury
Brady Blake
Camille Speck

SUBJECT: Bivalve Shellfish-Related Comments to Irondale Iron and Steel Cleanup Project

WDFW's Puget Sound Bivalve Management staff has reviewed the Former Irondale Iron and Steel cleanup site project proposal with respect to bivalve shellfish, and we offer the following comments and suggestions:

1. The project's intertidal footprint between OHW and ELLW will remove contaminated sediments, replace those sediments with local sand fill materials, re-grade the beach slope including extending the upper tidelands bounds landward, and provide beach nourishment composed of primarily sand from adjacent upland sources. The proposed action will remove existing intertidal sediments containing several toxic contaminants that pose a danger to human, fish, shellfish and wildlife health.
2. The immediate project effect upon intertidal bivalves within the project site (and possibly those areas immediately adjacent) would be elimination of the existing bivalve biomass from the project footprint. The current gravel and rock substrates that provide habitat for native littleneck clams (*Leukoma staminea*) would be removed and/or converted to sand substrates.
3. Based upon a WDFW intertidal bivalve population survey of Irondale Beach Park tidelands and Chimacum Creek WDFW tidelands performed on June 12-13, 2003, the

intertidal bivalve biomass at the site is composed of native littleneck clams (*Leukoma staminea*), butter clams (*Saxidomus giganteus*), horse clams (*Tresus spp.*), and eastern softshell clams (*Mya arenaria*). Manila clams (*Venerupis philippinarum*), varnish clams (*Nuttallia obscurata*), cockles (*Clinocardium nuttallii*) and *Macoma spp.* were also present in the survey, but were not found within the samples inside the project footprint. The 2003 survey estimated the following biomass of legal-sized clams (>38 mm shell length) within the project footprint: 3,964 pounds of native littlenecks, 4,691 pounds of butter clams, and 491 pounds of eastern softshell clams. Biomass could not be estimated for horse clams, but we estimated a total of 8,592 individual horse clams within the project footprint. The bivalve biomass within the project footprint occurs primarily on 2.63 acres of tidelands between +6.0 and 0.0 feet MLLW. The highest concentrations of clams within the project footprint occur in substrates which are coarser than sand (i.e., gravel and rock), and mostly between Site Grading Sections “A” through “I” as shown in “Draft (90 Percent) Remedial Design Drawings: provided by GeoEngineers (June 2011).

4. The project area is open year-round to recreational shellfish harvest, but the amount of recreational shellfish effort is very low. The estimated average annual effort on Irondale Beach Park is 178 harvester-trips per year (based on expanded aerial counts from 2008-2010). The average effort at Chimacum Tidelands is 642 harvester-trips per year, but almost all of this effort occurs well north of the project footprint, on the sand spit adjacent to Chimacum Creek. There is presently no tribal commercial clam harvest at the site. Due to the absence of commercial harvest, and the extremely low level of recreational effort, the two public beaches are “passively managed” by state and tribal co-managers, per the annual Bivalve Region 5 Plan.
5. Based upon the proposed post-project conditions and observations of similar habitats in the vicinity, naturally-occurring bivalve recruitment to the affected tidelands will be primarily composed of species that typically occupy sand-dominated habitats. We would expect low numbers of *Macoma sp.*, horse clams, and cockles to recruit to the mid- and lower-intertidal zone; the invasive varnish clam (*Nuttallia obscurata*) is likely to recruit in greater abundance to the upper intertidal zone, including the landward expanded tidelands. Recruitment of native littleneck clams, Manila clams, and butter clams would be dependent upon the existence of appropriate gravel substrates for those species. The current project proposal does not include plans to restore gravel substrates that would be appropriate for recruitment of native littleneck clams, Manila clams and butter clams.
6. Overall, the expected post-project conditions for bivalves will be decreased biomass and abundance, and decreased species diversity due to a single substrate – sand -- dominating the affected tidelands. The post-project bivalve community is likely to consist of varnish clams in the upper intertidal zone, and *Macoma spp.* in the middle and lower intertidal zone, with low numbers of other species.

WDFW Puget Sound Bivalve Management staff fully supports the proposed Irondale project, because it removes a persistent hazard to human and fish health. We do request that DOE give consideration to adding one component to the project that would mitigate the loss of intertidal bivalve resources and would likely contribute to a net gain of desirable bivalves on these tidelands. The proposed conversion to sand substrates will alter the existing gravel substrates on the tidelands that currently support native littleneck and butter clams. Sand substrates will not provide long term conditions that would support the presence of those species, let alone their occurrence in abundance. We propose that beach nourishment occur up to 0.75 acres between Site Grading Sections "A" through "I" as shown in "Draft (90 Percent) Remedial Design Drawings: provided by GeoEngineers (June 2011). We suggest using 100 cubic yards of washed gravel mixture composed of ¼" to 1" minus gravel within the primary 2.63 acres of tidelands that currently supports these clam species. We suggest that the gravel mixture be placed in patches between +5.0 ft to +1.0 ft MLLW. Recognizing that storm and wave action will reform initial gravel placements, the dimensions of the patches and depths aren't necessarily critical, but initial depths should be kept to ≤ 4 inches. This gravel nourishment would replace a portion of that lost to the restoration action, and would provide conditions for hard shell clams that are actually an improvement on current conditions, leading to a net gain in desirable shellfish resources. Our staff would be happy to assist on-site with substrate placement.

c: Documents/IrondaleProject.doc

Ecology Response

Thank you for your suggestions! Individual comments and responses are provided below.

Comment 2.1

The project's intertidal footprint between OHW and ELLW will remove contaminated sediments, replace those sediments with local sand fill materials, re-grade the beach slope including extending the upper tidelands bounds landward, and provide beach nourishment composed of primarily sand from adjacent upland sources. The proposed action will remove existing intertidal sediments containing several toxic contaminants that pose a danger to human, fish, shellfish and wildlife health.

Ecology Response

Comment noted.

Comment 2.2

The immediate project effect upon intertidal bivalves within the project site (and possibly those areas immediately adjacent) would be elimination of the existing bivalve biomass from the project footprint. The current gravel and rock substrates that provide habitat for native littleneck clams (*Leukoma staminea*) would be removed and/or converted to sand substrates.

Ecology Response

The existing substrate within the project footprint generally consists of fine to medium sand to a depth of approximately 14 feet. There are some cobble size slag pieces at the surface of the beach near the remediation area, but gravel and rock are not the dominate substrate as observed in our soil pit and boring logs. We are proposing to place the same size material as the existing substrate.

Comment 2.3

Based upon a WDFW intertidal bivalve population survey of Irondale Beach Park tidelands and Chimacum Creek WDFW tidelands performed on June 12-13, 2003, the intertidal bivalve biomass at the site is composed of native littleneck clams (*Leukoma staminea*), butter clams (*Saxidomus giganteus*), horse clams (*Tresus spp.*), and eastern softshell clams (*Mya arenaria*). Manila clams (*Venerupis philippinarum*), varnish clams (*Nuttalia obscurata*), cockles (*Clinocardium nuttallii*) and *Macoma spp.* were also present in the survey, but were not found within the samples inside the project footprint. The 2003 survey estimated the following biomass of legal-sized clams (>38 mm shell length) within the project footprint: 3,964 pounds of native littlenecks, 4,691 pounds of butter clams, and 491 pounds of eastern softshell clams. Biomass could not be estimated for horse clams, but we estimated a total of 8,592 individual horse clams within the project footprint. The bivalve biomass within the project footprint occurs primarily on 2.63 acres of tidelands between +6.0 and 0.0 feet MLLW. The highest concentrations of clams within the project footprint occur in substrates which are coarser than sand (i.e., gravel and rock), and mostly between Site Grading Sections "A" through "I" as shown in "Draft (90 Percent) Remedial Design Drawings: provided by GeoEngineers (June 2011).

Ecology Response

Most of the excavation will occur above +5.0 MLLW. There is one small area within the remediation area where excavation will extend to +3.0 MLLW. Our boring logs in that location show fine to medium grain sand as the dominate substrate with slag cobbles at the surface. We are proposing to replace the fine to medium grain sand with fine to medium grain sand from the restoration excavation area to the north. We are not proposing to change the substrate composition.

Comment 2.4

The project area is open year-round to recreational shellfish harvest, but the amount of recreational shellfish effort is very low. The estimated average annual effort on Irondale Beach Park is 178 harvester-trips per year (based on expanded aerial counts from 2008-2010). The average effort at Chimacum Tidelands is 642 harvester-trips per year, but almost all of this effort occurs well north of the project footprint, on the sand spit adjacent to Chimacum Creek. There is presently no tribal commercial clam harvest at the site. Due to the absence of commercial harvest, and the extremely low level of recreational effort, the two public beaches are “passively managed” by state and tribal co-managers, per the annual Bivalve Region 5 Plan.

Ecology Response

Comment noted.

Comment 2.5

Based upon the proposed post-project conditions and observations of similar habitats in the vicinity, naturally-occurring bivalve recruitment to the affected tidelands will be primarily composed of species that typically occupy sand-dominated habitats. We would expect low numbers of *Macoma sp.*, horse clams, and cockles to recruit to the mid- and lower-intertidal zone; the invasive varnish clam (*Nuttallia obscurata*) is likely to recruit in greater abundance to the upper intertidal zone, including the landward expanded tidelands. Recruitment of native littleneck clams, Manila clams, and butter clams would be dependent upon the existence of appropriate gravel substrates for those species. The current project proposal does not include plans to restore gravel substrates that would be appropriate for recruitment of native littleneck clams, Manila clams and butter clams.

Ecology Response

The area near the contaminated sediment remediation area is dominated by fine to medium grain sand, which is the preferred spawning substrate for sand lance. Our restoration will focus on replacing substrate that will be excavated with the same size materials to avoid a shift in the existing habitat. We assume that the bivalve species that currently occupy the project area are using sand substrate habitat and our restoration plan will replace the same habitat type, therefore reducing impacts to bivalves and other species utilizing that habitat.

Comment 2.6

Overall, the expected post-project conditions for bivalves will be decreased biomass and abundance, and decreased species diversity due to a single substrate – sand – dominating the affected tidelands. The post-project bivalve community is likely to consist of varnish clams in the upper intertidal zone, and *Macoma spp.* in the middle and lower intertidal zone, with low numbers of other species.

WDFW Puget Sound Bivalve Management staff fully supports the proposed Irondale project, because it removes a persistent hazard to human and fish health. We do request that DOE give consideration to adding one component to the project that would mitigate the loss of intertidal bivalve resources and would likely contribute to a net gain of desirable bivalves on these tidelands. The proposed conversion to sand substrates will alter the existing gravel substrates on the tidelands that currently support native littleneck and butter clams. Sand substrates will not provide long term conditions that would support the presence of those species, let alone their occurrence in abundance. We propose that beach nourishment occur up to 0.75 acres between Site Grading Sections “A” through “I” as shown in “Draft (90 Percent) Remedial Design Drawings: provided by GeoEngineers (June 2011). We suggest using 100 cubic yards of washed gravel mixture composed of ¼” to 1” minus gravel within the primary 2.63 acres of tidelands that currently supports these clam species. We suggest that the gravel mixture be placed in patches between +5.0 ft to +1.0 ft MLLW. Recognizing that storm and wave action will reform initial gravel placements, the dimensions of the patches and depths aren’t necessarily critical, but initial depths should be kept to ≤ 4 inches. This gravel nourishment would replace a portion of that lost to the restoration action, and would provide conditions for hard shell clams that are actually an improvement on current conditions, leading to a net gain in desirable shellfish resources. Our staff would be happy to assist on-site with substrate placement.

Ecology Response

Placement of 100 cubic yards of washed gravel mixture between +5.0 to +1.0 MLLW in the remediation area was not included in the bid specifications or in the 100% plans. Placement of gravel was also not required by the HPA. As noted in the above response to Comment 2.3, our subsurface explorations identified fine to medium sand as the dominate substrate. There were some slag cobbles at the surface but no gravel substrate was observed. However, Ecology is not opposed to including a gravel substrate mix provided that the applicable permitting agencies (for example USACE and WDFW) agree to this and that there is sufficient funding. We appreciate and welcome your offer of assistance during substrate placement.

Comment #3: Gregg Knowles

Comments were received in an e-mail dated August 15, 2011.

Dear Steve Teel:

I've struggled through some of the Irondale Cleanup report and have the following comments:

- This appears to qualify for the legal requirements of cleanup but they really had to dig for soil samples to find levels high enough to require action.
- Further removing the material could more than likely cause greater exposure than leaving it there.
- The existence of this site since 1919 and it's contribution to environmental degradation certainly must have been higher in the beginning but is minimal now.
- There are 30000 in Jefferson County. How much is it going to cost each person to clean this low risk up?
- I've fished down there for cutthroat and haven't witnessed any petroleum sheens. The boat haven has more sheen than this area and both are being handled by the environment.
- This report by GeoEngineers is very thorough but very poorly presented.

I intend to write my congressional representatives and ask them to review the prolifera of overlapping regulations that allows this project to proceed. Save our money for an area more in need of clean up or just to balance our budget.

I think Jefferson County ought to pay for this clean up then let the citizens go after the commissioners. No grants or state funds should be used then we'll see how necessary it is.

Thanks for doing your job!

Sincerely
Gregg Knowles

Ecology Response

Thank you for your interest in the site and the cleanup process. Individual comments and responses are provided below.

Comment 3.1

This appears to qualify for the legal requirements of cleanup but they really had to dig for soil samples to find levels high enough to require action. The existence of this site since 1919 and it's contribution to environmental degradation certainly must have been higher in the beginning but is minimal now.

Ecology Response

Initial investigations at the site did not show contamination above cleanup levels. However, in 2005, a park visitor notified Ecology about an oily residue on the beach in 2005. Ecology and Jefferson County found evidence of contamination and conducted additional sampling along the beach and near the above-ground fuel tank. Samples showed contamination above cleanup levels. Based on a site hazard assessment, Ecology placed the Irondale site on the Hazardous Sites List. Sites on the Hazardous Sites List are ranked 1 – 5, based on the degree of risk they potentially pose to human health and the environment, with 1 being the highest.

The Irondale site has a rank of 1. This denotes the highest level of concern – and a first priority for cleanup relative to other ranked sites.

Further investigations from 2007 – 2009 showed that soil, sediment, and groundwater on portions of the site exceeded state cleanup levels for selected chemicals. Chemicals of concern at the site include arsenic, copper, iron, lead, nickel, zinc, carcinogenic polycyclic aromatic hydrocarbons and petroleum hydrocarbons.

Comment 3.2

Further removing the material could more than likely cause greater exposure than leaving it there.

Ecology Response

We disagree. The cleanup plan has been designed to protect human health and the environment both during and after the cleanup action.

Comment 3.3

There are 30000 in Jefferson County. How much is it going to cost each person to clean this low risk up? No grants or state funds should be used then we'll see how necessary it is.

Ecology Response

Ecology is using funding from the State Toxics Control Account to clean up Puget Sound Initiative sites¹, including the Irondale site. The account is funded through a tax on hazardous materials including petroleum products, pesticides and some chemicals. The tax is authorized by the Model Toxics Control Act, which passed by voter initiative in 1988. You can visit Ecology's Toxics Cleanup Program's website for more information about the hazardous substances tax: <http://www.ecy.wa.gov/programs/tcp/tax/2011/hazsubstancetax.html>.

¹ The Puget Sound Initiative, an effort to restore the Sound by 2020, has focused efforts on contaminated sites within half a mile of Puget Sound. For more information, visit: http://www.ecy.wa.gov/programs/tcp/sites_brochure/psi/overview/psi_baywide.html and http://www.ecy.wa.gov/puget_sound/index.html.

You can also read more about paying for cleanup and the sources of funding for cleanup in the Toxics Cleanup Program's annual reports:

http://www.ecy.wa.gov/programs/tcp/MTCA_AnnualReport/annualRpt.html.

Comment 3.4

I've fished down there for cutthroat and haven't witnessed any petroleum sheens. The boat haven has more sheen than this area and both are being handled by the environment.

Ecology Response

Comment noted. Please see the above response to comment 3.1.

Comment 3.5

This report by GeoEngineers is very thorough but very poorly presented.

Ecology Response

Comment noted.

Comment 3.6

I intend to write my congressional representatives and ask them to review the prolifera of overlapping regulations that allows this project to proceed. Save our money for an area more in need of clean up or just to balance our budget. I think Jefferson County ought to pay for this clean up then let the citizens go after the commissioners.

Ecology Response

Comment noted.

Comment #4: Mike Webb, Environmental Management Training

Comments were received in an e-mail dated August 19, 2011.

I am submitting comment on the Draft Engineering Design Report (DEDR) for the Former Irondale Steel Plant. As this is a multifaceted and highly detailed report, I would not be surprised if you receive concerns about the effects of the construction on one species or the other. My particular area of concern is a need for demonstration that dust does not move off the work site to the marine habitat areas to the east, the terrestrial and aquatic habitat to the north and to the housing to the west during construction.

I in general conclude that the remedial investigation gathered adequate data to move to the engineering design phase. In reviewing the DEDR and the Biological Effects Evaluation (referenced on the Ecology Irondale webpage) I also believe care was taken to address risks to various species of concern (human species included, of course). Such risk assessments involve professional judgments, and I generally feel most comfortable with performance monitoring during work to keep check on assumptions that may have been made. The DEDR specifically describes a performance monitoring plan that addresses multiple facets of this remedial action. However, I found a gap in the performance monitoring when it came to offsite transport. Presumptions are made that visual observation and standard construction dust control and track-out procedures would be adequate. I would prefer to see perimeter air monitoring for particulates and maintenance of meteorological information at a minimum. These are common practices for environmental contamination remedial construction projects.

I had a chance to review the Specifications for the cleanup action put out for bid this month and it has the standard contractual language regarding the contractor's responsibility for compliance with all rules and regulations regarding worker safety, offsite transport of contamination, and air pollution. What is missing are performance monitoring standards for dust beyond visual and olfactory information. These sources of data, albeit written into regulations in some cases, are subjective and not the type of data that instill confidence in concerned communities of residents and environmental advocates. My suggestion is to add a minimum of quantitative air monitoring standards into the design to address dust and associated metals contamination, particularly in regard to documenting offsite transport.

Regarding worker safety, I can understand the contractual situation that would lead the State not to provide prescriptive standards for monitoring of worker exposure. Such requirements are prescriptive in the referenced regulations regarding worker exposure monitoring. In this matter, I suggest requiring submittal of an exposure monitoring plan at the time of bid submittal. I believe that puts all contractors on the same basis regarding this important data gathering.

Thank you for taking the time to accept community comment and I look forward to the progress of this project.

Mike Webb
Senior Environmental Scientist
Environmental Management Training
Tacoma, WA 98402

Ecology Response

Thank you for your interest in the site and the cleanup process. Individual comments and responses are provided below.

Comment 4.1

I am submitting comment on the Draft Engineering Design Report (DEDR) for the Former Irondale Steel Plant. As this is a multifaceted and highly detailed report, I would not be surprised if you receive concerns about the effects of the construction on one species or the other. My particular area of concern is a need for demonstration that dust does not move off the work site to the marine habitat areas to the east, the terrestrial and aquatic habitat to the north and to the housing to the west during construction.

I in general conclude that the remedial investigation gathered adequate data to move to the engineering design phase. In reviewing the DEDR and the Biological Effects Evaluation (referenced on the Ecology Irondale webpage) I also believe care was taken to address risks to various species of concern (human species included, of course). Such risk assessments involve professional judgments, and I generally feel most comfortable with performance monitoring during work to keep check on assumptions that may have been made. The DEDR specifically describes a performance monitoring plan that addresses multiple facets of this remedial action. However, I found a gap in the performance monitoring when it came to offsite transport. Presumptions are made that visual observation and standard construction dust control and track-out procedures would be adequate. I would prefer to see perimeter air monitoring for particulates and maintenance of meteorological information at a minimum. These are common practices for environmental contamination remedial construction projects.

Ecology Response

Dust control will be the responsibility of the construction contractor. The contractor will be responsible for following Washington State Labor and Industries requirements.

Comment 4.2

I had a chance to review the Specifications for the cleanup action put out for bid this month and it has the standard contractual language regarding the contractor's responsibility for compliance with all rules and regulations regarding worker safety, offsite transport of contamination, and air pollution. What is missing are performance monitoring standards for dust beyond visual and olfactory information. These sources of data, albeit written into regulations in some cases, are subjective and not the type of data that instill confidence in concerned communities of residents and environmental advocates. My suggestion is to add a minimum of quantitative air monitoring standards into the design to address dust and associated metals contamination, particularly in regard to documenting offsite transport.

Ecology Response

As noted in the comment, the contractor will be responsible for compliance with the rules and regulations associated with worker safety, off-site transportation of contaminated soil/sediment, and dust control.

Comment 4.3

Regarding worker safety, I can understand the contractual situation that would lead the State not to provide prescriptive standards for monitoring of worker exposure. Such requirements are prescriptive in the referenced regulations regarding worker exposure monitoring. In this matter, I suggest requiring submittal of an exposure monitoring plan at the time of bid submittal. I believe that puts all contractors on the same basis regarding this important data gathering.

Ecology Response

The selected contractor will be required to prepare a Health and Safety Plan to be approved by Ecology prior to initiating work at the site.

Comment #5: Doris Small, Washington Department of Fish and Wildlife – Habitat Division



State of Washington DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: 450 Port Orchard Blvd, Suite 290 · Port Orchard, WA 98366 · (360) 895-4756, FAX (360) 876-1894

August 24, 2011

Steve Teel, Site Manager
WA Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504

SUBJECT: Former Irondale Iron and Steel site, DOE Facility Site ID #: 95275518

Washington Department of Fish and Wildlife (WDFW) has reviewed the design for the remediation and restoration at the former Irondale Iron and Steel Plant and offers our support to move this project forward. Early consultation between Department of Ecology, Jefferson County Parks and WDFW, as well as discussions with the member groups of the Chumsortium, led to improvements in final plans to include extension of the beach habitat restoration work at the adjacent WDFW Chimacum Creek estuary on to this site. We appreciate the collaborative work that has led to this project proposal.

Removal of contaminants and reshaping the beach profile will be beneficial for fish and wildlife resources. Our comments follow:

1. The habitat restoration project at the WDFW property removed fill and armoring and restored a more natural beach profile. The project provides better shoreline habitat for migrating juvenile salmonids and shorebirds, as well as other fish and wildlife species. The project design at the Irondale site will restore similar conditions to the remediation site and will have similar benefits to fish and wildlife.

Pacific sand lance, an important forage fish, is documented to spawn along the upper beach on the WDFW property, depositing eggs in the sandy substrate from November through February. As the Irondale site will have a similar beach profile and substrate in the northern portion of the site, sand lance may also spawn at this site in the future.

2. Construction sequencing and timing is important to minimize impacts to existing fish and wildlife resources. To complete this project in summer/fall 2011 is ambitious, but can be accomplished with good planning and protective measures. A Hydraulic Project Approval (HPA) is required and has been issued for this project. To work into the fall, the contractor will need to be prepared for rainy weather and take precautions to avoid water quality impacts. Minimizing work on the beach will avoid disturbance of small invertebrates important as forage for fish and wildlife.

3. Please refer to the attachment to this letter for comments regarding shellfish impacts. WDFW requests that the beach nourishment work in the south end include gravel in appropriate areas for littleneck clam restoration. Careful avoidance of work waterward of the project limits will minimize the damage to existing shellfish resources.
4. A rock rip rap trench was installed at the south end of the WDFW property and buried with the fill material to allow vegetation to establish. We have previously provided the original plan set to help to locate this trench so that it is not uncovered during the beach habitat restoration. While the plan design does not appear to extend to the rock trench, it is desirable to field locate this trench prior to excavation. The plans may need to be revised slightly to allow the trench to remain in place. Planting of vegetation over the trench is acceptable and encouraged.
5. The WDFW property was covered with hydroseed after construction. The hydroseed apparently included sweet white clover, an invasive clover that covered the entire site within a year after construction. Establishing native plants in the sand substrate was challenging, as the substrate was nutrient poor and watering was necessary. Establishing native plants on the Irondale site may also be challenging. However, the local community has been extremely helpful in volunteer work, along with the North Olympic Salmon Coalition, and plants are growing on the WDFW site.

WDFW received a lot of positive feedback on the beach restoration work. The restored beach is a community asset and many volunteers are assisting in making the site a success for fish and wildlife and the local community. We expect that the Irondale project will receive similar positive feedback. Please contact me as necessary at 360-895-4756 to assist in implementation of this important project.

Sincerely,



Doris J. Small
Fish Habitat Biologist / Watershed Steward
Washington Department of Fish and Wildlife

DJS:djs

cc: Steve Kalinowski, WDFW Habitat
Alex Bradbury, WDFW Shellfish
Kyle Guzlas, WDFW Wildlife
Penny Warren, WDFW Lands
Matt Tyler, Jefferson County Parks
Luke Cherney, Hood Canal Coordinating Council
Byron Rot, Jamestown/S'Klallam Tribe
Rebecca Benjamin, North Olympic Salmon Coalition
Al Latham, Jefferson Conservation District

STATE OF WASHINGTON
DEPARTMENT OF FISH AND WILDLIFE
FISH MANAGEMENT PROGRAM - MARINE RESOURCES DIVISION

Point Whitney Shellfish Laboratory

1000 Point Whitney Road, Brinnon, WA 98320

(360) 586-1498 FAX (360) 796-4997

August 16, 2011

FROM: Alex Bradbury
Brady Blake
Camille Speck

SUBJECT: Bivalve Shellfish-Related Comments to Irondale Iron and Steel Cleanup Project

WDFW's Puget Sound Bivalve Management staff has reviewed the Former Irondale Iron and Steel cleanup site project proposal with respect to bivalve shellfish, and we offer the following comments and suggestions:

1. The project's intertidal footprint between OHW and ELLW will remove contaminated sediments, replace those sediments with local sand fill materials, re-grade the beach slope including extending the upper tidelands bounds landward, and provide beach nourishment composed of primarily sand from adjacent upland sources. The proposed action will remove existing intertidal sediments containing several toxic contaminants that pose a danger to human, fish, shellfish and wildlife health.
2. The immediate project effect upon intertidal bivalves within the project site (and possibly those areas immediately adjacent) would be elimination of the existing bivalve biomass from the project footprint. The current gravel and rock substrates that provide habitat for native littleneck clams (*Leukoma staminea*) would be removed and/or converted to sand substrates.
3. Based upon a WDFW intertidal bivalve population survey of Irondale Beach Park tidelands and Chimacum Creek WDFW tidelands performed on June 12-13, 2003, the

intertidal bivalve biomass at the site is composed of native littleneck clams (*Leukoma staminea*), butter clams (*Saxidomus giganteus*), horse clams (*Tresus spp.*), and eastern softshell clams (*Mya arenaria*). Manila clams (*Venerupis philippinarum*), varnish clams (*Nuttallia obscurata*), cockles (*Clinocardium nuttallii*) and *Macoma spp.* were also present in the survey, but were not found within the samples inside the project footprint. The 2003 survey estimated the following biomass of legal-sized clams (>38 mm shell length) within the project footprint: 3,964 pounds of native littlenecks, 4,691 pounds of butter clams, and 491 pounds of eastern softshell clams. Biomass could not be estimated for horse clams, but we estimated a total of 8,592 individual horse clams within the project footprint. The bivalve biomass within the project footprint occurs primarily on 2.63 acres of tidelands between +6.0 and 0.0 feet MLLW. The highest concentrations of clams within the project footprint occur in substrates which are coarser than sand (i.e., gravel and rock), and mostly between Site Grading Sections “A” through “I” as shown in “Draft (90 Percent) Remedial Design Drawings: provided by GeoEngineers (June 2011).

4. The project area is open year-round to recreational shellfish harvest, but the amount of recreational shellfish effort is very low. The estimated average annual effort on Irondale Beach Park is 178 harvester-trips per year (based on expanded aerial counts from 2008-2010). The average effort at Chimacum Tidelands is 642 harvester-trips per year, but almost all of this effort occurs well north of the project footprint, on the sand spit adjacent to Chimacum Creek. There is presently no tribal commercial clam harvest at the site. Due to the absence of commercial harvest, and the extremely low level of recreational effort, the two public beaches are “passively managed” by state and tribal co-managers, per the annual Bivalve Region 5 Plan.
5. Based upon the proposed post-project conditions and observations of similar habitats in the vicinity, naturally-occurring bivalve recruitment to the affected tidelands will be primarily composed of species that typically occupy sand-dominated habitats. We would expect low numbers of *Macoma sp.*, horse clams, and cockles to recruit to the mid- and lower-intertidal zone; the invasive varnish clam (*Nuttallia obscurata*) is likely to recruit in greater abundance to the upper intertidal zone, including the landward expanded tidelands. Recruitment of native littleneck clams, Manila clams, and butter clams would be dependent upon the existence of appropriate gravel substrates for those species. The current project proposal does not include plans to restore gravel substrates that would be appropriate for recruitment of native littleneck clams, Manila clams and butter clams.
6. Overall, the expected post-project conditions for bivalves will be decreased biomass and abundance, and decreased species diversity due to a single substrate – sand -- dominating the affected tidelands. The post-project bivalve community is likely to consist of varnish clams in the upper intertidal zone, and *Macoma spp.* in the middle and lower intertidal zone, with low numbers of other species.

WDFW Puget Sound Bivalve Management staff fully supports the proposed Irondale project, because it removes a persistent hazard to human and fish health. We do request that DOE give consideration to adding one component to the project that would mitigate the loss of intertidal bivalve resources and would likely contribute to a net gain of desirable bivalves on these tidelands. The proposed conversion to sand substrates will alter the existing gravel substrates on the tidelands that currently support native littleneck and butter clams. Sand substrates will not provide long term conditions that would support the presence of those species, let alone their occurrence in abundance. We propose that beach nourishment occur up to 0.75 acres between Site Grading Sections "A" through "I" as shown in "Draft (90 Percent) Remedial Design Drawings: provided by GeoEngineers (June 2011). We suggest using 100 cubic yards of washed gravel mixture composed of ¼" to 1" minus gravel within the primary 2.63 acres of tidelands that currently supports these clam species. We suggest that the gravel mixture be placed in patches between +5.0 ft to +1.0 ft MLLW. Recognizing that storm and wave action will reform initial gravel placements, the dimensions of the patches and depths aren't necessarily critical, but initial depths should be kept to ≤ 4 inches. This gravel nourishment would replace a portion of that lost to the restoration action, and would provide conditions for hard shell clams that are actually an improvement on current conditions, leading to a net gain in desirable shellfish resources. Our staff would be happy to assist on-site with substrate placement.

c: Documents/IrondaleProject.doc

Ecology Response

Thank you for your interest in the site and the cleanup process. Individual comments and responses are provided below.

Comment 5.1

Washington Department of Fish and Wildlife (WDFW) has reviewed the design for the remediation and restoration at the former Irondale Iron and Steel Plant and offers our support to move this project forward. Early consultation between Department of Ecology, Jefferson County Parks and WDFW, as well as discussions with the member groups of the Chumsortium, led to improvements in final plans to include extension of the beach habitat restoration work at the adjacent WDFW Chimacum Creek estuary on to this site. We appreciate the collaborative work that has led to this project proposal.

Removal of contaminants and reshaping the beach profile will be beneficial for fish and wildlife resources. Our comments follow:

The habitat restoration project at the WDFW property removed fill and armoring and restored a more natural beach profile. The project provides better shoreline habitat for migrating juvenile salmonids and shorebirds, as well as other fish and wildlife species. The project design at the Irondale site will restore similar conditions to the remediation site and will have similar benefits to fish and wildlife.

Pacific sand lance, an important forage fish, is documented to spawn along the upper beach on the WDFW property, depositing eggs in the sandy substrate from November through February. As the Irondale site will have a similar beach profile and substrate in the northern portion of the site, sand lance may also spawn at this site in the future.

Ecology Response

Comment noted. Thank you for your support.

Comment 5.2

Construction sequencing and timing is important to minimize impacts to existing fish and wildlife resources. To complete this project in summer/fall 2011 is ambitious, but can be accomplished with good planning and protective measures. A Hydraulic Project Approval (HPA) is required and has been issued for this project. To work into the fall, the contractor will need to be prepared for rainy weather and take precautions to avoid water quality impacts. Minimizing work on the beach will avoid disturbance of small invertebrates important as forage for fish and wildlife.

Ecology Response

Comment noted. It is Ecology's intent that the project avoids water quality impacts and disturbances of small invertebrates important as forage for fish and wildlife.

Comment 5.3

Please refer to the attachment to this letter for comments regarding shellfish impacts. WDFW requests that the beach nourishment work in the south end include gravel in appropriate areas for littleneck clam restoration. Careful avoidance of work waterward of the project limits will minimize the damage to existing shellfish resources.

Ecology Response

Please see the responses to comment 2 on pages 11-13.

Comment 5.4

A rock rip rap trench was installed at the south end of the WDFW property and buried with the fill material to allow vegetation to establish. We have previously provided the original plan set to help to locate this trench so that it is not uncovered during the beach habitat restoration. While the plan design does not appear to extend to the rock trench, it is desirable to field locate this trench prior to excavation. The plans may need to be revised slightly to allow the trench to remain in place. Planting of vegetation over the trench is acceptable and encouraged.

Ecology Response

Comment noted. Please see the response to comment 1.3 on page 6. The revetment will not be field located prior to excavation. However, precautions will be taken when grading in this area to avoid damaging the revetment.

Comment 5.5

The WDFW property was covered with hydroseed after construction. The hydroseed apparently included sweet white clover, an invasive clover that covered the entire site within a year after construction. Establishing native plants in the sand substrate was challenging, as the substrate was nutrient poor and watering was necessary. Establishing native plants on the Irondale site may also be challenging. However, the local community has been extremely helpful in volunteer work, along with the North Olympic Salmon Coalition, and plants are growing on the WDFW site.

Ecology Response

Comment noted. The local community, especially the North Olympic Salmon Coalition, will be consulted when preparing for planting in both the remediation and restoration areas.

Comment 5.6

WDFW received a lot of positive feedback on the beach restoration work. The restored beach is a community asset and many volunteers are assisting in making the site a success for fish and wildlife and the local community. We expect that the Irondale project will receive similar positive feedback. Please contact me as necessary at 360-895-4756 to assist in implementation of this important project.

Ecology Response

Comment noted. We appreciate and welcome your offer of assistance!