

# SEPA ENVIRONMENTAL CHECKLIST

## ***Purpose of checklist:***

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

## ***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

## ***Instructions for Lead Agencies:***

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

## ***Use of checklist for nonproject proposals:*** [\[help\]](#)

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

## A. Background [\[help\]](#)

1. Name of proposed project, if applicable: [\[help\]](#)

Lower Satsop Floodplain Restoration Project

2. Name of applicant: [\[help\]](#)

Washington Department of Fish and Wildlife

3. Address and phone number of applicant and contact person: [\[help\]](#)

Doris Small  
WDFW  
600 Capitol Way North  
Olympia, WA. 98501  
360-902-2258

4. Date checklist prepared: [\[help\]](#)

January 22, 2019

5. Agency requesting checklist: [\[help\]](#)

WDFW

6. Proposed timing or schedule (including phasing, if applicable): [\[help\]](#)

Phase 1: 6/1/19-12/31/20  
Phase 2: 4/1/21-12/31/2022

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [\[help\]](#)

Nothing beyond what is scoped here, which includes a phased approach to completing the work.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [\[help\]](#)

A great deal of work has been completed in prior phases of work. Analysis, reports and drawings include:

United State Army Corps of Engineers. 2003. Hazardous, Toxic, and Radioactive Waste (HWTR) Preliminary Assessment. Satsop River Floodplain Restoration, Grays Harbor County Washington.

Washington Department of Fish and Wildlife. 2016. Satsop Soil Logs and Piezometer Logs.

Fulcrum Environmental Consulting, Inc. 2017. Soil Characterization, Lower Satsop Floodplain. Prepared for the Washington Department of Fish and Wildlife.

Hayes, M. 2017. Chehalis ASRP Lower Satsop River Habitat Restoration, Final Pre-Project Implementation Monitoring Report.

Ecolution. 2015. Satsop Floodplain Restoration Project Wetland Delineation Report. Prepared for Watershed Science and Engineering. March, 2015.

Tierra Right of Way. 2017. Cultural Resources Survey for the Lower Satsop Restoration Project, Grays Harbor County, Washington. Prepared for Washington Department of Fish and Wildlife. DAHP Project No. 2016-12-08828 WDFW. Tierra Archaeological Report No. 2018-152. July 3, 2018.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [\[help\]](#)

We are aware of no other proposals for other projects on this parcel or adjacent parcels.

10. List any government approvals or permits that will be needed for your proposal, if known.

[\[help\]](#)

In addition to this SEPA Checklist, the following permits and approvals will be required and permit applications are being submitted concurrently to this application:

**Local** – Grays Harbor County Shoreline Exemption

**State** —Hydraulic Project Approval (WDFW), Section 401 (WDOE); NPDES (WDOE)

**Federal**—Section 404/Nationwide Permit 27 (USACE), Endangered Species Act review (USFWS, NOAA Fisheries)

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [\[help\]](#)

The project sponsor has two objectives in completing this project: Restore degraded habitat on WDFW ownership in the Chehalis Wildlife Area; and conduct research on amphibian response to habitat changes. Prior to WDFW ownership, the site was a privately operated gravel quarry, leaving three deep ponds and gravel and earthen dikes. Two of the quarry ponds are in excess of 40' deep. The banks are nearly vertical, resulting in a narrow fringe of wetland that transitions almost immediately to deepwater habitat, limiting the habitat value for native fauna including amphibians. The dikes consist predominantly of native alluvium per soil analyses completed by WDFW (2016). These are “push-up” dikes constructed of native materials to keep the river out of quarry operations. Large spoil piles are located between the ponds that contain soil materials generated by construction of the Satsop Development Park. Both the dikes and the spoil piles have disrupted the connection between the river and the floodplain and wetlands on site. The dikes and spoils piles are overgrown at this time.

Habitat restoration will include wetland creation, wetland enhancement, and improved floodplain connectivity. Nearly five acres of emergent wetland will be created. More than one acre of forested, emergent, and scrub-shrub wetlands will be enhanced. Approximately 125,000 cubic yards of dike and spoils materials will be removed to re-connect wetlands and

aquatic habitat and promote floodplain connection and flood storage. Invasive species will be treated before the spoil piles are removed. Dike and spoil materials will be used to create wetlands by shallowing the deepwater aquatic habitat in the relic quarry ponds. After the work is completed, the site will continue to be managed for invasive species, following the Chehalis Wildlife Area Management Plan.

The project will be conducted in two phases to facilitate the amphibian research (Hayes, 2017). In the first phase, Quarry Pond B will remain unrestored in order to serve as a control for the restoration work. In Phase 2, Quarry Pond B will be restored following up to two years of habitat monitoring of the control environment. This checklist addresses both phases of the project.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [\[help\]](#)

The action area is in Township 17N, Range 6W, Section 7 of the Willamette Meridian, Washington. The action area includes the Satsop River just above the confluence with the Chehalis River. The work occurs in Grays Harbor County parcels 170606310020, 170606310010, and 170606420030. Coordinates for the project are 46.986393, -123.485523.

## B. ENVIRONMENTAL ELEMENTS [\[help\]](#)

### 1. Earth [\[help\]](#)

a. General description of the site: [\[help\]](#)

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other \_\_\_\_\_

b. What is the steepest slope on the site (approximate percent slope)? [\[help\]](#)

Two of the spoil piles slated for removal have a slope of up to 20% in places. Ditches adjacent to Keys Road have nearly sheer banks for portions of the ditch.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [\[help\]](#)

The work area around the gravel quarry ponds is mapped entirely as Humptulips silt loam. (see attached farmland soil report and soil logs).

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [\[help\]](#)

No. The area is a highly active floodplain.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [\[help\]](#)

Existing spoil piles will be excavated and graded to restore the floodplain to natural topographic conditions. Spoil piles currently contain 98,000 cubic yards of material, originally placed during construction of the Satsop towers. Push-up dikes will be removed to restore floodplain connectivity. Dikes are comprised of 21,090 CY of native alluvium.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [\[help\]](#)

Yes, particularly if a flood event occurred before disturbed areas were replanted. Work will be completed during late summer low flows however and the work area is flat, except for spoil piles and dikes being removed. To ameliorate for potential erosion, sediment control measures will be in place as described below.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [\[help\]](#)

There will be no asphalt or building upon completion of the project. There are compacted gravel roads that are relics of the former gravel quarry operation. Some of these will be abandoned and ripped. The primary gravel access road will remain to facilitate ongoing treatment of invasive species and research and monitoring. Overall, there will be a reduction in impervious surface at the site due to restoration activities.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [\[help\]](#)

- A temporary erosion and sediment control plan is developed and attached within the drawings. Existing gravel roads provide access to the site. The construction entrance will be stabilized per specifications in the attached Erosion Control drawing
- Silt fences will be employed per the specifications identified in the attached, Erosion Control drawing.
- To minimize turbidity in the pond being shallowed and to limit potential sediment delivery to the Satsop River, the material will be placed in the pond being shallowed one excavator bucket at a time.
- This work will be completed during summer/fall months when flooding is not expected to occur.
- A water quality filter channel will be constructed, as described below.

## 2. Air [\[help\]](#)

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [\[help\]](#)

The only emissions that can be expected from the project will be during construction itself. The heavy equipment needed to construct the project will increase emissions in the area incrementally, between the hours of 7 a.m. and 7 p.m.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. [\[help\]](#)

No. The project occurs on WDFW land in the Chehalis Wildlife Area.

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [\[help\]](#)

None are proposed.

## 3. Water [\[help\]](#)

a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [\[help\]](#)

Yes. The work itself will affect several wetlands in a wetland complex as shown on the attached drawings. The project occurs in the floodplain of the Satsop River, just above the confluence to the Chehalis River.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [\[help\]](#)

Yes.

All project activities are within the 100-year floodplain of the Satsop River at a former quarry operation which is roughly one mile upstream from the confluence of the Satsop and Chehalis rivers. A goal of this habitat restoration activity will be to increase the frequency of connection between the river and the ponds in order to favor assemblages of native species in the ponds. The restoration will be conducted in two phases per the study design of a WDFW research study to evaluate the relative effects of habitat quantity and the degree of floodplain connection on native fauna population abundance and composition (Hayes, 2017). See JARPA Attachment D for sequencing details.

*Restore degraded habitat in the Chehalis Wildlife Area, Phase 1*

Five restoration actions are planned to restore floodplain connectivity and enhance aquatic habitat for multiple native species:

- a) Remove Spoil Piles- Remove approximately 38,000 cubic yards of upland spoils from the floodplain between Quarry Pond B/PEM 5 and Quarry Pond C/PEM4 in parcel number 170606310020 owned by WDFW. If invasive plant species are present, they will be treated prior to clearing vegetation and removing spoils. Live trees and snags found on spoil piles will be cleared and stockpiled for later project use as large wood habitat features. Small shrubs will be cleared and chipped and used as mulch in upland areas. Herbaceous material will be collected with spoils and will be placed in the ponds at depths greater than 10 feet and buried completely with spoil material. Knotweed has not been observed on the dikes or spoil piles, however any soil found that was supporting knotweed will not be incorporated in the project. It will be spread adjacent to Keys Road on an existing spoil pile that will not be removed during either phase of work. This location will facilitate ongoing treatment of the soil that could be needed to prevent further spread of knotweed. Spoil piles are predominantly fine materials (WDFW, 2016) that were spoiled at the site during construction of the Satsop Development Park. The material was tested by a licensed geologist for petroleum hydrocarbons and the eight Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) and was deemed not contaminated (Fulcrum Environmental Consulting, 2017). At the conclusion of Phase 1, approximately 60,000 cubic yards will still remain on site, which will be removed in Phase 2.
- b) Create Wetland- Shallow the western 1.52 acres of Pond C with the spoil pile materials. Long silt curtains will be used to minimize drift of fines as the shallowing occurs; shallowing activities will follow the direction of the WDFW project manager on site during construction. Final pond depth in the shallowed portion will be approximately 3 feet with some depth diversity in benches and terraces. The eastern 1 acre of Pond C will remain 41 feet deep. Large wood harvested from the spoil piles will be placed along the margins of the created wetland as a habitat feature; the wood

will not be anchored. The design is intended to benefit a suite of native fish and amphibians. The target depth of 3 feet in spring will support amphibians laying eggs, with pond depths decreasing to puddles during summer. The eastern one-third of the pond will remain unfilled to provide some cooler deeper waters to prevent fish stranding and provide cool water rearing habitat for fish that may enter the pond during high flows. Pond C is hydraulically connected to groundwater and provides a constant source of cool water to the pond.

- c) Enhance Wetland PEM4- PEM4 is a fringe of scrub-shrub and emergent wetland that rings Pond C. The banks of Pond C are nearly vertical and thus the wetland transitions abruptly to deepwater habitat, which limits the value of PEM4 as amphibian habitat. PEM4 will be enhanced by grading this bank per the attached plans (Appendix B) to create a gradual entry and depth diversity. The wetland soil excavated to regrade the banks of PEM4 will then be placed within PEM4 to achieve the desired elevation for amphibian habitat (see item b above and drawings). Thus this action will involve 0.38 acres of excavation in PEM4 and 0.38 acres of fill in PEM4. Native emergent wetland species will be planted to support amphibians laying eggs.
- d) Water Quality Treatment and Backwater Channel Connection-To meet NPDES requirements, a water quality treatment channel will be created at the southern end of Pond C/PEM4. All runoff coming from the site will be temporarily detained in the pond. Overflow water as a result of filling the ponds will be detained within the pond, allowing the water surface to increase, and will be controlled by an overflow pipe outfitted with a valve as shown on the drawings. The valve will be opened to allow drainage only when suspended sediments have settled. The outlet of the drainage structure will spill into the water quality channel where sand filter check dams will be placed in the channel to provide filtering of any water leaving Pond C during construction activities to further reduce the likelihood of transporting sediments from the ponds/site into the adjacent wetlands. Following construction, the channel will be restored into a backwater channel that ties into an existing backwater channel. This channel will provide ingress and egress for fish into and out of the pond during moderate to high flow events.
- e) Wetland and Riparian Restoration-All restoration actions will include planting in disturbed areas with native riparian and wetland species, control of invasive species, and erosion control.

#### *Restore degraded habitat in the Chehalis Wildlife Area, Phase 2*

Several restoration actions are planned to restore floodplain connectivity and enhance aquatic habitat for multiple species in Phase 2. These actions fall under five general categories: 1) remove the remaining spoil piles, 2) remove and breach dikes; 3) create wetlands; 4) provide ingress and egress to Ponds B and C; and 5) enhance wetlands and floodplain by planting native plants and controlling invasive plant species. Specific actions by area are described below:

- a) Enhance Floodplain Connectivity- Breach the north dike that forms the northern border of Quarry Pond B/PEM5 on WDFW parcel 170606310010. This will be accomplished by punching 4 notches along the dike, for a total quantity of 5,703 cubic yards of upland soils removed. These breaches will connect the pond to existing high flow channels.
- b) Enhance Forested and Emergent Wetland Habitat- Enhance the connection between PFO6 and PEM5 by removing a portion of a raised, compacted dirt road located on the west edge of PFO6, along the shared border with PEM5. This will be achieved by taking the soil elevation in this area down to that of the adjacent PFO6 elevation and ripping the compacted soil. Also, breach south dike that forms the southern border of PFO6 on WDFW parcel 170606310010. This will be accomplished by punching three notches in low spots along the dike. These breaches will connect PFO6 (and thereby PEM5/Pond B) to existing backwater channels and increase floodplain connectivity; this will enhance habitat conditions in PFO6 and PEM5 for native fauna. A total

quantity of 884 cubic yards of upland and wetland soils will be removed from the south dike and the compacted dirt road on the west edge of PFO6. Finally a portion of the bank will be re-graded as shown on attached drawings. In total, 0.05 acres of PFO6 will be enhanced.

- c) Enhance Wetland Connectivity at Pond B- Create connection between Pond B/PEM5 and PF09 to the northwest by excavating upland soils. This will provide an upstream high flow connection to Pond B which will benefit native fish and amphibian species.
- d) Enhance Wetland Connectivity at Pond C- Excavate connection between Pond C/PEM4 and wetland PFO8 to the north. This will provide an upstream high flow connection to Pond C which will be beneficial to native fish and amphibian species. This action will involve excavation of 0.09 acres in PEM4 and 0.003 acres PFO8. The wetland soil excavated from PEM4 will be placed within Pond B and Pond C (i.e., in waters greater than 6.6' deep).
- e) Remove West Dike- Remove the west dike (14,641 cubic yards of upland soils) that forms along the western border of Pond B/PEM5 on WDFW parcel 170606310010. This removal will naturally connect Pond B to existing backwater channels.
- f) Remove Spoils- Remove remaining 60,000 cubic yards of upland spoils on WDFW parcel 170606310010. If invasive plant species are present, they will be treated prior to clearing vegetation and removing spoils. Live trees and snags found on spoil piles will be cleared and stockpiled for later project use as large wood habitat features. Small shrubs will be cleared and chipped and used as mulch in upland areas. Herbaceous material will be collected with spoils and will be placed in the ponds at depths greater than 10 feet and buried completely with dike and spoil material. Knotweed has not been observed on the dikes or spoil piles, however any soil found that was supporting knotweed will not be incorporated in the project. This soil will be spread adjacent to Keys Road on an existing spoil pile that will not be removed during either phase of work. This location will facilitate ongoing treatment of the soil that could be needed to prevent further spread of knotweed.
- g) Create 3.35 acres of Wetland- Shallow Pond B beginning in the southern lobe and extending adjacent to the west dike with spoils and dike removal material. Pond B is 46 feet deep, steeply sided and lacks shallow, vegetated habitat along the pond edges conducive to fish and wildlife habitat. Dike and spoil material will be used to shallow the pond and create depth diversity in benches and terraces. Large wood will be placed along the margins of the created wetland as a habitat feature. This wood will be sourced on site from any trees that are cleared from the spoil piles; wood will not be anchored. The design is intended to benefit a suite of native amphibians with target depths of 3 feet in spring when amphibians are laying eggs, with pond depths decreasing to puddles during summer.
- h) Water Quality Treatment and Backwater Channel Connection-To meet NPDES requirements, create a water quality treatment channel at the southern end of Pond B/PEM5. All runoff coming from the site will be temporarily detained in the pond. Overflow water as a result of filling the ponds will be detained within the pond, allowing the water surface to increase, and will be controlled by an overflow pipe outfitted with a valve as shown on the drawings. The valve will be opened to allow drainage only when suspended sediments have settled. The outlet of the drainage structure will spill into the water quality channel where sand filter check dams will be placed in the channel to provide filtering of any water leaving Pond B during construction activities to further reduce the likelihood of transporting sediments from the ponds/site into the adjacent wetlands. Following construction, the channel will be restored into a backwater channel that ties into an existing backwater channel. This channel will provide ingress and egress for fish into and out of the pond during moderate to high flow events.
- i) Notch Existing Revetments-- This will be done on the left bank of the Satsop River upstream of the quarry ponds at existing overflow channels. These channels are currently activated at high flows.

This will occur in two places; 50 cubic yards of rock will be removed by an excavator along 20 linear feet of river at each location.

- j) Wetland and Riparian Restoration-All restoration actions will include planting in disturbed areas with native riparian and wetland species, control of invasive species, and erosion control.
- k) Remove Vehicular Access where not needed for maintenance and management of the site.
- l) Education-Install interpretive education outreach sign for visitors.

- 2) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [\[help\]](#)

Activity	Waterbody/ Wetland name	Cubic Yards	Area or length of waterbody directly affected
Fill	Quarry Pond C	41,886 CY	1.52 acre
Fill	Quarry Pond B	82,163 CY	3.44 acre
Fill-Ph1	PEM4	3,874 CY	0.38 acre
Excavate-Ph 1	PEM4	3,874 CY	0.38 acre
Excavate -Ph2	PEM4	643 CY	0.09 acre
Excavate	PEM5	430 CY	0.50 acre
Excavate	PFO6	40 CY	0.05 acre
Excavate	PFO8	5 CY	0.003 acre
Excavate	Satsop River	100 CY	40 LF

**Shallowing Waterbodies (Quarry Ponds B and C):** The fill placement in the deep water habitats of Quarry Ponds B and C will be done to create emergent wetlands to provide habitat for native fish and amphibians. The plans call for filling these deep water aquatic habitats to a depth of three feet; this will be creating wetland habitat and increasing habitat diversity of the waterbody, enhancing suitability for native fauna. This will result in a functional lift to the waterbody and thus is self-mitigating.

Fill material will originate on-site from the spoil piles and dikes being removed. The spoils material originated from the construction of the Satsop Development Park. The material was tested by a licensed geologist for Petroleum Hydrocarbons and eight RCRA metals and were deemed not contaminated (Fulcrum Environmental Consulting, 2017). The dike material originated on site and is composed of alluvium that was pushed-up to form a ring dike to protect the gravel quarry operations. The fill material will be placed into the ponds by a long reach excavator.

**FILL**

The quantities included for wetland fill in PEM4 includes fill placed in water less than 6.6’ in depth. Any fill placed in areas greater than 6.6’ in depth is included in the fill placed in Quarry Pond C. Wetland PEM4 is the only wetland that will receive any fill, which will happen during the activities to shallow Quarry Pond C. This fill material will consist of wetland soils and plant material

excavated from PEM4 during bank re-grading activities. A long-reach excavator will be used to place the fill.

### **EXCAVATION**

While wetland habitat on the perimeter of the deep water aquatic habitats will be affected by grading activities to reduce bank slope (see attached drawings), this is a restoration activity to enhance the wetland function. The existing steeply sloped banks reduce the habitat value of the fringe of wetlands ringing the quarry ponds. In discussions with WDOE about whether to characterize the bank grading as an impact, WDOE indicated that WDOE considers this activity wetland enhancement that is self-mitigating.

Excavation in PFO6 involves removing a raised, compacted road comprised of fill within the portion of the wetland which has emergent vegetation. The compacted area will also be ripped to facilitate rooting and will be planted with native wetland vegetation. This is wetland rehabilitation and thus mitigation is not applicable.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [\[help\]](#)  
No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [\[help\]](#)  
Yes. The entire work area is within the immediate floodplain and all is within the 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [\[help\]](#)  
No.

#### **b. Ground Water:**

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [\[help\]](#)  
No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. [\[help\]](#)  
None.

#### **c. Water runoff (including stormwater):**

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [\[help\]](#)

In constructing the project more than one acre of land will be disturbed, so a construction stormwater general permit will be secured. If storm events occur during construction, it is possible that water could run off of the site and enter surface waters. The project is immediately adjacent to the Satsop River, about one mile upstream from the Chehalis River confluence. The contractor will be required to follow a sediment and erosion control plan to minimize this risk, which is described in greater detail below. Once construction is complete, the site will be replanted with native species and will receive ongoing treatment for invasive species per the management plan of the wildlife area. The project site will not generate additional runoff following project completion.

2) Could waste materials enter ground or surface waters? If so, generally describe. [\[help\]](#)

Fine sediments could be released during construction activities. The soils on-site have been tested and determined to be free of contaminants.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. [\[help\]](#)

Yes. The objective of the project is to enhance fish and wildlife habitat and to increase floodplain connectivity. Removing spoil piles and ring dikes will affect water movement through the site and flood storage capacity may be enhanced.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: [\[help\]](#)

This project will remove and rip compacted soil in a dirt access road, resulting in a decrease in impervious surface. Filter channels will be excavated and sand filter check dams placed to capture fine sediments during pond shallowing that might otherwise enter the Satsop River. All runoff coming from the site will be temporarily detained in the pond. Overflow water as a result of filling the ponds will be detained within the pond, allowing the water surface to increase, and will be controlled by an overflow pipe outfitted with a valve as shown on the drawings. The valve will be opened to allow drainage only when suspended sediments have settled. The outlet of the drainage structure will spill into the water quality channel where sand filter check dams will be placed in the channel to provide filtering of any water leaving Pond B during construction activities to further reduce the likelihood of transporting sediments from the ponds/site into the adjacent wetlands. Following dike excavation and pond shallowing, the channel will be restored into a backwater channel that ties into an existing backwater channel. Drawings for the filter channel is included on Sheet 12 of the drawings.

Contractors will be required to use BMPs that conform to the Stormwater Management Manual for western Washington, Department of Ecology Publication #04-10-076, Chapter 7 – “Construction Stormwater Pollution Prevention. The work will comply with the State of Washington water quality standards for turbidity.

#### 4. Plants [\[help\]](#)

a. Check the types of vegetation found on the site: [\[help\]](#)

deciduous tree: alder, maple, aspen, other

evergreen tree: fir, cedar, pine, other

shrubs

- grass
- pasture
- crop or grain
- Orchards, vineyards or other permanent crops.
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered? [\[help\]](#)

Primarily shrubs and grasses will be cleared, but some trees have also grown on the spoil piles and dikes scheduled for removal. These trees are largely deciduous (black cottonwood, red alder, and bigleaf maple) but some conifers are also present—particularly along the dikes (Douglas-fir, western hemlock, and western red cedar). Most of the trees are fairly young, as the site has been worked and it is an active floodplain.

c. List threatened and endangered species known to be on or near the site. [\[help\]](#)

None listed in the USFWS IPaC report (attached).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [\[help\]](#)

Following construction, the area will be planted with native species appropriate for the hydrologic regime of the specific area. A species list to be included in the restoration planting plan is included on Sheets 10-11 of the drawings. Native shrubs and trees that can be salvaged will be replanted.

e. List all noxious weeds and invasive species known to be on or near the site. [\[help\]](#)

Reed canarygrass, blackberry, and knotweed are extensive in some parts of the project area. Knotweed will be treated before any disturbance occurs.

5. **Animals** [\[help\]](#)

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. [\[help\]](#)

Examples include:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other \_\_\_\_\_

Hawks, eagles, herons and swans have been observed on-site and signs of beaver and deer are evident. Fish observed during snorkel surveys are predominantly threespine stickleback, speckled dace, redbreast shiner, and largescale sucker, but other species are also present. WDFW has performed fish and wildlife surveys at the project site and detailed reports are attached.

b. List any threatened and endangered species known to be on or near the site. [\[help\]](#)

The USFWS online Information for Planning and Consultation tool (IPaC) system identifies the following listed species as possibly present in the project vicinity.

Marbled murrelet (*Brachyramphus marmoratus*)

Streaked horned lark (*Eremophila alpestris strigata*)

Yellow billed cuckoo (*Coccyzus americanus*)  
Bull trout (*Salvelinus confluentus*)

A biological evaluation has been completed for the project and is attached. It has not yet reviewed by USFWS and NOAA Fisheries. The BE considered potential impacts to the list of species above and determined that three could potentially be impacted, but all three were **Not Likely to be Adversely Affected** (see table below). Bull Trout were excluded from further analysis because all work is in the floodplain above ordinary high water of the river and precautions will be taken to control erosion. The project will therefore have “**No Effect**” on bull trout.

Species	Latin name	Determination of Effect	Federal Response Requested
Marbled murrelet	<i>Brachyramphus marmoratus</i>	NLAA	Concurrence
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	NLAA	Concurrence
Streaked horned lark	<i>Eremophila alpestris strigata</i>	NLAA	Concurrence

c. Is the site part of a migration route? If so, explain. [\[help\]](#)

As noted in the IPaC report (attached), the project site is part of a migratory bird route. The IPaC report (page 4-5) lists several birds which potentially could migrate through the project vicinity. WDFW bird surveys conducted at the site over the last 3 years are also attached.

d. Proposed measures to preserve or enhance wildlife, if any: [\[help\]](#)

The entire premise of the project is to enhance native fish and wildlife habitat, including wetland establishment, enhanced floodplain connectivity, increased frequency of hydrologic connection between the ponds and the Satsop River to favor natural assemblages of native fish species, and treatment of invasive plant species.

e. List any invasive animal species known to be on or near the site. [\[help\]](#)

American bullfrog (*Lithobates catesbeianus*) is known to be in off-channel habitats of the Chehalis River mainstem.

## 6. Energy and Natural Resources [\[help\]](#)

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [\[help\]](#)

The completed project will not have any energy needs; the site is a wildlife area.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. [\[help\]](#)

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [\[help\]](#)

None are warranted.

## 7. Environmental Health [\[help\]](#)

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe. [\[help\]](#)

No.

- 1) Describe any known or possible contamination at the site from present or past uses.

[\[help\]](#)

None. The dikes consist predominantly of native alluvium per soil analyses completed by WDFW (2016). These are “push-up” dikes constructed of native materials to keep the river out of quarry operations. Spoil piles are predominantly fine materials (WDFW, 2016) that were spoiled at the site during construction of the Satsop Business Park. The material was tested by a licensed geologist for petroleum hydrocarbons and the eight Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) and was deemed not contaminated (Fulcrum Environmental Consulting, 2017).

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. [\[help\]](#)

None.

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. [\[help\]](#)

None.

- 4) Describe special emergency services that might be required. [\[help\]](#)

None.

- 5) **Proposed measures to reduce or control environmental health hazards, if any:**

[\[help\]](#)

Not applicable.

- b. Noise [\[help\]](#)

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [\[help\]](#)

Existing traffic noise will not affect implementation of the project.

- 3) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. [\[help\]](#)

The project will result in an increase in noise during construction due to the operation of heavy equipment (excavators, bull dozers, graders) and increased traffic volumes given construction vehicles entering and leaving the site. There will be no noise associated with the project long-term.

- 3) Proposed measures to reduce or control noise impacts, if any: [\[help\]](#)

Work hours will be restricted to the hours of 7 a.m. and 7 p.m.

**8. Land and Shoreline Use** [\[help\]](#)

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [\[help\]](#)

The project site is owned by WDFW and is part of the Chehalis Wildlife Area. Adjacent ownership includes The Port of Grays Harbor who have had a well-head on their parcel, and owners of working farms. The proposal will not affect land uses on adjacent properties.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [\[help\]](#)

The project site has not been used as working farm or forest land.

- 1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: [\[help\]](#)

The proposal will not affect nor be affected by working farm or forest land.

- c. Describe any structures on the site. [\[help\]](#)

There are no structures on the site.

- d. Will any structures be demolished? If so, what? [\[help\]](#)

No.

- e. What is the current zoning classification of the site? [\[help\]](#)

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- f. What is the current comprehensive plan designation of the site? [\[help\]](#)

The Primary Use code of the project site is Undeveloped/Vacant (Code 91).

- g. If applicable, what is the current shoreline master program designation of the site? [\[help\]](#)

Conservancy.

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [\[help\]](#)

The entire project area falls within the shoreline buffers of the Satsop River and has many wetlands; the project site is a fish and wildlife conservation area.

- i. Approximately how many people would reside or work in the completed project? [\[help\]](#)

None.

- j. Approximately how many people would the completed project displace? [\[help\]](#)

None.

- k. Proposed measures to avoid or reduce displacement impacts, if any: [\[help\]](#)

Not applicable. No displacement will occur.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [\[help\]](#)

Not applicable. The completed project will not affect current or projected land uses.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any: [\[help\]](#)

Not applicable. The site is currently used as a wildlife conservation area. The proposed habitat restoration actions are expected to increase flood storage capacity and may contribute to reduced flooding locally and to reduced river velocities, which would benefit working farmlands.

9. **Housing** [\[help\]](#)

- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [\[help\]](#)

None.

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [\[help\]](#)

None.

- c. Proposed measures to reduce or control housing impacts, if any: [\[help\]](#)

Not applicable; there will be no impacts to housing.

10. **Aesthetics** [\[help\]](#)

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [\[help\]](#)

There are no proposed structures.

- b. What views in the immediate vicinity would be altered or obstructed? [\[help\]](#)

None. Views of the river from Keys Road may be enhanced by removal of spoil piles.

- b. Proposed measures to reduce or control aesthetic impacts, if any: [\[help\]](#)

Disturbed areas would be seeded and mulched and replanted.

11. **Light and Glare** [\[help\]](#)

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [\[help\]](#)

The project will not generate additional light.

- b. Could light or glare from the finished project be a safety hazard or interfere with views? [\[help\]](#)

No. The project will not result in glare upon completion.

- c. What existing off-site sources of light or glare may affect your proposal? [\[help\]](#)

None.

- d. Proposed measures to reduce or control light and glare impacts, if any: [\[help\]](#)

Not applicable.

12. **Recreation** [\[help\]](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity? [\[help\]](#)

The project area is open to the public for passive recreation and is most used by fishermen and bird watchers. A WDFW boat ramp is less than one mile south on Keys Road.

- b. Would the proposed project displace any existing recreational uses? If so, describe. [\[help\]](#)

Existing recreational use will be disrupted for bird and wildlife viewing only in the immediate work area where access will be restricted for safety. Fishermen accessing the site via the bank or the Satsop River on boat will be unaffected.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [\[help\]](#)

None.

**13. Historic and cultural preservation** [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe. [\[help\]](#)

No.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [\[help\]](#)

The cultural resources report (Tierra Right of Way, 2018) indicates that the research and field testing did not identify any archaeological deposits or features within the project area.

However, given site constraints (e.g. the height of the spoil piles) an archaeological monitor will be on-site during ground disturbance; a monitoring plan and inadvertent discovery plan will be developed.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [\[help\]](#)

An archaeologist conducted a literature review, a field inspection, walking survey of the site. The field inspection included visual reconnaissance, pedestrian survey, and limited subsurface testing.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required. [\[help\]](#)

The area is severely disturbed as a result of former actions on-site, including gravel mining and stockpiling of excavation spoils from the Satsop Business Park. Nonetheless, to minimize disturbance from any artifacts that may be buried on-site, or deposited from upstream during flood events, an archaeological monitor will be present during ground disturbance.

**14. Transportation** [\[help\]](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [\[help\]](#)

The project is accessed from Keys Road, which connects to Washington State Highway 8 near the town of Satsop.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [\[help\]](#)

No.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [\[help\]](#)

None.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [\[help\]](#)

No.

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No, water, air, and rail facilities are not located nearby.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [\[help\]](#)

The completed project will not result in an increase in vehicular traffic.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. [\[help\]](#)

No. While there will be a slight increase in vehicular activity on Keys Road due to construction vehicles entering and leaving the site, this will not impede movement of agricultural or forest products on the road.

- h. Proposed measures to reduce or control transportation impacts, if any: [\[help\]](#)

None, because impacts will be insignificant.

#### 15. **Public Services** [\[help\]](#)

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [\[help\]](#)

No.

- b. Proposed measures to reduce or control direct impacts on public services, if any. [\[help\]](#)

Not applicable.

#### 16. **Utilities** [\[help\]](#)

- a. Circle utilities currently available at the site: [\[help\]](#)  
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system,  
other \_\_\_\_\_

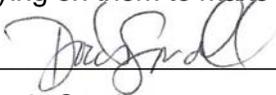
**None.**

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [\[help\]](#)

**None.**

**C. Signature** [\[help\]](#)

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: 

Name of signee Doris Small

Position and Agency/Organization Habitat Restoration Coordinator, Washington Department of Fish and Wildlife

Date Submitted: 1/22/19