*Revised August 11, 2008*

**APPENDIX G**

**Programmatic Biological Assessment Consistency Form**

**for USFWS Restoration Activities**

To use this form: For implementation guidelines and requirements, see Chapter 1, Section C of the USFWS Programmatic Biological Assessment (PBA) for Habitat Restoration Activities, dated May, 2006.

**The purpose of the PBA and this form is to:**

1. **guide you through the section 7 consultation process;**
2. **encourage critical thinking and project design and implementation that minimize effects to listed species; and**
3. **document the rational and decision making process used to make the effect determinations.**

**Each project should have the appropriate effect determination. The PBA allows for NE or NLTAA determinations for terrestrial species, and NE, NLTAA or LTAA for aquatic species. Each determination must be adequately documented in this form. If you need assistance in determining the appropriate effect determination, consult with Division of Consultation and Technical Assistance and NOAA Fisheries staff.**

**Provide information for every item by circling, filling in, or attaching information - as appropriate.**

**1. General Information**

Restoration Program:  National Fish Passage Program

Restoration Biologist: Robes Parrish

Date:   07/1/2012

Project Name:     Chumstick Creek Barrier Removals (Part IV)—Ott, Baumann, Cann, Saliby Properties

Cooperative Agreement #:  F12AC00632

FWS Consultation Log # (for project consultation, assigned by CTA):

FWS X-REF:    1-3-05-FWF-0167  (Programmatic Consultation Log #)

NOAA Fisheries X-REF: WSB -99-084-PBO

**2. Project Specific Information**

Watershed/WRIA:    Wenatchee (45.0402)               County:     Chelan

HUC# and River/Stream Name:   17020011     Chumstick Creek

TRS:     25N 18E Sec. 6 (Saliby), 26N 18E Sec. 31(Ott, Baumann, Cann)\_\_\_\_\_\_\_\_\_\_\_\_\_\_

River Mile:    7.3 (Saliby), 8.5 (Ott), 8.8 (Baumann), 8.9 Cann)\_\_\_\_\_

Tributary to:   Wenatchee River\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Washington State Class for Surface Water:

Anticipated cfs of stream at time of construction:    0.5-3 cfs\_\_\_

Water Quality Standard that must be met (according to above surface water class and anticipated cfs):

**3. Attach a Vicinity Map:** **Include an 8.5 X 11 inch copy of a U.S. Geological Survey (USGS) 7.5 minute quad, including the quad name, indicate north direction, and clearly mark the project location on the map. If the project will occur over a distance on a stream or a road, mark the upper and lower limits of the project area.**

**4. Document Basis of Feasibility Determination** e.g., information used - What watershed analysis, limiting factor analysis, restoration strategy or plan was used to select your project. Include information about how your proposed activities address needs identified in these analyses or plan:

The Upper Columbia Spring Chinook Salmon and Steelhead Recovery Plan recommends the removal of all artificial barriers to fish passage as a top priority action. These man-made barriers in Chumstick Creek represent some of the last remaining barriers to anadromous fish passage in all of the Wenatchee Watershed. Removal of these four barriers will provide steelhead and native resident trout with access to approximately 4.1 miles of habitat.

**5. Restoration Activities**: (check off all that apply)

  🗙1. Install instream structures

      2. Improve secondary channel habitats

      3. Reduce upland sediment production/delivery

      4. Restore wetland hydrology

      5. Install/develop upland wildlife structures

      6. Reduce livestock impacts

      7. Improve road/trail conditions

  🗙8. Plant native vegetation

  🗙9. Promote native vegetation growth

      10. Remove/setback hydraulic constrictions

  🗙11. Remove/replace structural barriers

      12. Collect information/monitor

  🗙13. Install/modify fish passage structures

      14. Install signs

      15. Deploy salmon carcasses

**6. Project Information**

**a. Project Goals and Objectives:** Include or attach a description of the overall goals and objectives of the project.

The project goal is to restore fish passage by removing four fish passage barriers within Chumstick Creek. Removal of the barriers will involve the construction of bridges at each existing culvert to improve fish passage at each site and provide channel stability.

**b. Project Description:** Include or attach a description of the current project area, all phases of the proposed project, including access (existing or new), staging areas, construction, maintenance and operation of the project. Include any additional conservation measures which will be implemented.

Four bridges will be installed to replace existing culverts over private driveways. All existing culverts are barriers to juvenile salmonids, particularly at high (>bankfull) and low (baseflow) flows. The bridges installed will be a minimum span sufficient to meet WDFW width criteria (1.2x bankfull + 2ft.). Channel design will follow stream simulation methods to replicate the stable, natural dimensions derived from reference reach data in Chumstick Creek (R. Parrish, USFWS 2010). All sites are currently very low gradient (<0.5%) and none exhibit a significant perched profile, thus simplifying the extent of grade control necessary. All sites will be revegetated personally by USFWS and CCNRD personnel. Livestock at the Baumann and Cann sites is currently allowed unrestricted access to the channel for watering, however the riparian corridor will be fenced and replanted following construction. Fish salvage will be done initially by USFWS personnel at each site using the following methodology:

1. Fish will be seined, beginning at the culvert inlet/outlet moving in an upstream/downstream (respectively) fashion. Fish will be immediately transported out of the project area.
2. Block nets will be installed at the upstream/downstream ends of each project area.
3. Electrofish the reach between the block nets and the culvert to remove additional fish, immediately transporting them out of the project area.
4. Excavate a sump near the outlet of each culvert and divert/pump water into bypass system.
5. Remove any remaining fish in each sump by netting and electrofishing, if necessary.

Daily maintenance of fish exclusion at each site will be the shared responsibility of CCNRD and USFWS (and possibly a private fisheries contractor).

Final designs for Ott, Baumann and Cann bridges are included with this document and are planned for construction in September – October, 2012, whereas the Saliby bridge will be replaced in summer of 2013. Designs for the Saliby site are not yet available, although the general principles are described in this document and the bridge and channel design is expected to be very similar to all other Chumstick bridges completed since 2009.

**c. Footprint of Project Area:** If you have multiple sites within a project, you will need to delineate out the sites and supply information for each site. If you will not be affecting a habitat type, delete it or put NA. Add supporting text in the Notes section as needed to describe any activity or impact.

Saliby:

Riparian area planted:      50         L      40            W          0.05        acres

Riparian area removed:    25            L      10            W          0.006     acres

Instream length impacted by actual project work:     100              ft.

Instream length impacted by sediment inputs (see “effects to bull trout section and Appendix M:     n/a              ft.

Upland area directly impacted: (this category does not include riparian area)      100              L        10            W            0.02               acres

Ott:

Riparian area planted:        65        L        30            W             0.04       acres

Riparian area removed:       40         L        10            W             0.01       acres

Instream length impacted by actual project work:      140             ft.

Instream length impacted by sediment inputs (see “effects to bull trout section and Appendix M:        n/a           ft.

Upland area directly impacted: (this category does not include riparian area)         125          L         40          W               0.11           acres

Baumann:

Riparian area planted:        500        L        15            W             0.17       acres

Riparian area removed:       75         L        10            W             0.02       acres

Instream length impacted by actual project work:      160             ft.

Instream length impacted by sediment inputs (see “effects to bull trout section and Appendix M:        n/a           ft.

Upland area directly impacted: (this category does not include riparian area)         0          L         0          W               0.0           acres

Cann:

Riparian area planted:        100        L        15            W             0.03       acres

Riparian area removed:       90         L        15            W             0.03       acres

Instream length impacted by actual project work:      175             ft.

Instream length impacted by sediment inputs (see “effects to bull trout section and Appendix M:        n/a           ft.

Upland area directly impacted: (this category does not include riparian area)         0          L         0          W               0.0           acres

**7. Habitat Description:**

**a.** Percentage ofvegetation type or land cover in the project area: Forested    15

Road Prism   10         Riparian    50        Riverine

Wetland    25        Estuarine            Agricultural            Grasslands/prairies

**b.** Provide a text description of vegetation type in the project area.

The Saliby property is rural residential and is currently a dairy distribution company adjacent to the stream and riparian area. The Ott property is rural residential with homes and lawn on the east side of the stream and riparian area. The Baumann and Cann properties are rural residential and agricultural. These sites were once used for dairy production but now beef livestock is allowed unrestricted access down to the edge of the channel. The predominant vegetation types include perennial sedges, annual (non-native) grasses, red alder, dogwood, and willow.

**c.** If trees are present, estimate the current canopy closure:          <40 at each site

Will trees be felled/removed/modified? Yes    🗙     No

If yes, provide the number, size, species and area affected (acres):         several small alder and willows must be removed at each site\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Explain why trees will be felled/removed/modified:

Trees are within the work zone and must be removed to accommodate the new bridge structure.

**d.** Will other vegetation be modified ? Yes     🗙       No

If yes, estimate amount of modification in acres and describe the plant community and age class:

Some sedges and grasses will be impacted at each site. These areas will be replanted using native sod mats grown by North Fork Native Plants, similar to what has been installed on previous Chumstick Creek efforts.

**e.** Slope distance from project to nearest water body (stream, wetland, lake):

within active channel

**f.** Will an active water body be entered, diverted or altered? Yes    🗙     No

If yes, Name:   Chumstick Creek

**g.** Have you obtained the HPA for inwater work? Yes         No    🗙

Submitted to WDFW June, 2012.

**h.** If you are entering, diverting or altering an active water body, are you following the Fish Capture and Dewatering Protocol in Appendix H? Yes    🗙     No            NA

If no, provide justification why the protocol does not need to be used.                                            \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**i.** If you are widening a road to either accommodate a new culvert or bridge or are widening the road for safety concerns in conjunction with a new culvert or bridge, quantify and explain the increased impervious surface created as a result of this activity.

Footprint will remain the same in each case.

**8. Project Schedule**

Project construction start date: > 09/01/2012 (Ott, Baumann, Cann); > 08/15/13 (Saliby)  \_

Project construction end date:             < 10/30/2012 (O, B, C), < 10/30/2013 (Saliby)

Expected duration of project construction (# of days/month): appx. 2 weeks/site\_\_\_\_\_\_\_\_\_\_\_\_

Total # days of project implementation: < 30 days\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**9. Noise Generation:**

Total # days of activity with above ambient noise:       14      days

Start date for above ambient noise generation:             > 09/01/2012 (Ott, Baumann, Cann); > 08/15/13 (Saliby)

End date for above ambient noise generation:              09/14/2012, 9/14/2013\_\_\_\_\_\_\_

Explain what equipment will generate noise above ambient levels, for what time period during the day and for how many days.

For the duration of activities at each site, construction noise levels are anticipated to be at ambient noise levels at a distance of 500 feet (0.09 mile) from the project site, based on the rural setting in which the project is located and the noise levels generated by typical construction activities. Typical noise levels generated by this type of heavy equipment are around 88 A‐weighted decibels (dBA) at 50 feet, decreasing to approximately 62 dBA at 500 feet (Thalheimer 2000).

**10.** All 19 General BMPs apply (See Enclosure B - Appendix B. General and Restoration Activity Specific Best Management Practices).

Select the restoration activity specific BMPs which apply to your project: (See Enclosure B Appendix B. General and Restoration Activity Specific Best Management Practices).

None        20        21        22  🗙   23  🗙   24        25  🗙   26  🗙   27  🗙 28  🗙   29        30        31  🗙   32  🗙   33        34  🗙   35  🗙   36        37        38        39        40        41        42

**EFFECT DETERMINATIONS, FISH SPECIES**

**Each project should have the appropriate effect determination. The PBA allows for NE or NLTAA determinations for terrestrial species, and NE, NLTAA or LTAA for aquatic species. Each determination must be adequately documented in this form. If you need assistance in determining the appropriate effect determination, consult with Division of Consultation and Technical Assistance and NOAA Fisheries staff.**

**Currently listed evolutionarily significant units (ESUs) or distinct population segments (DPSs).**

**Endangered**

 🗙   Steelhead trout, Upper Columbia River ESU (*Oncorhynchus mykiss*)

**Threatened**

 🗙   Bull trout, Columbia River DPS (*Salvelinus confluentus*)

**Effect Determination by Species (NOAA Fisheries) ESU and Critical Habitat:**

**ESU and critical habitat:**   Steelhead trout, Upper Columbia River ESU\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1) Does the restoration activity require an HPA?

YES  🗙   If yes, attach the HPA. Apply conservation measure F1. Document any ambiguity between the PBO and HPA and how the issue was resolved. Go to question 2.

NO         If no, go to question 2.

Notes:                                                                                                                                     \_\_

2) Is the project in a fifth - field watershed that contains or has the potential to contain steelhead?

YES  🗙   If yes, list fifth field watershed, and go to question 3.

Fifth-field watershed:     Wenatchee River\_\_\_\_\_\_

NO         If no, the project will have “No Effect” on   (insert species). Go to question 6. Notes:

3)a. Do the stream(s) in which impacts may occur contain suitable habitat for steelhead?

YES  🗙   If yes, what type of habitat is present? Spawning  🗙   Rearing  🗙   Migratory Corridor         Not known         Go to Question 3b.

NO         If no, the project will have “No Effect” on   (insert species). Go to question 6.

Notes:   Steelhead have been present since 2009 when a barrier at North Road was removed. Only anecdotal evidence of steelhead presence existed before this time.\_\_\_\_\_\_\_

3)b. Is there exposure of listed salmonid species to project activities? Please explain your answer. (Project timing or location could impact this). If there is not exposure to listed salmonid species over the short or long -term, then your need to evaluate any sedimentation impacts may be precluded). Go to question 4.  Yes. Steelhead juveniles may be present at each site during construction.

4) Approximately how far is the project from the nearest suitable habitat (in river miles, upstream or downstream) for    steelhead        ?

    May be present at each barrier site                                                                                   \_\_\_\_\_

Go to question 5.

5). Does the proposed activity have the potential to impact individual salmon from dewatering, electrofishing, capturing, handling or stranding?

NO  \_\_

YES  🗙   If yes, describe expected impacts: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If yes, the final effect determination is “may affect, likely to adversely affect.” **If salmon are impacted by dewatering, electrofishing, capturing, handling or stranding in a way different then described in the above expected impacts, write a memo to the project file documenting the actual impacts and record the information in the annual report for this programmatic consultation.** Go to Question 6.

Notes: Fish exclusion will occur at both the upstream and downstream locations for each barrier. A block net downstream of the water bypass (pump return) at each site will prevent fish movement back into the work site (similar technique at upstream end for exclusion of juvenile fishes). All fish will be removed according to the protocol described in section 6b and handled according to established NOAA handling protocols, returning native species to the stream immediately. Block nets will be maintained throughout the day be USFWS/CCNRD/contracted personnel to ensure their continued adequacy. These techniques have worked well to protect individuals on all previously completed Chumstick projects.

6) Does the proposed activity have the potential to alter or affect the following indicators: sub-population size, growth and survival, life history diversity and isolation, persistence and genetic integrity, temperature, sediment, chemical contamination/nutrients, physical barriers, substrate embeddedness, large woody debris, pool frequency, pool quality, off-channel habitat, refugia, wetted width/depth ratio, streambank condition, floodplain connectivity, peak/base flows, drainage network, road density and location, disturbance history, function of riparian reserves, disturbance regime, or integration of species and habitat conditions?

YES  🗙   Use Enclosure A to answer this question. If the project results in a “degrade” to the sediment indicator, and there is exposure of listed salmonids to project activities, you must adequately describe in the Notes Section below:

1. the substrate composition present in the project area,
2. the best management practices undertaken to reduce disturbance to the substrate and any potential sediment inputs to the aquatic system,
3. the suspected magnitude, duration, and distance of any turbidity above background, and
4. any monitoring being undertaken to evaluate impacts. Go to question 7.

NO         If no, the project will have “No Effect” on   (insert species). Go to question 7.

Notes:  This project will remove four impediments to fish passage and improve overall geomorphic and riparian habitat conditions at each site.

7) Conservation Measures to be applied: F1  🗙   None         Go to question 8.

8) Provide rationale for effect determination.

A determination of **Likely to Adversely Affect** is warranted based on the following rationale:

* The project will require in‐water work, including placement of fill material within the active

channel, excavation and removal of substrate material from the active channel, and operation of

heavy equipment adjacent to - and within- the active channel. Construction will follow all applicable BMPs as dictated in HPA permit.

* Steelhead will be removed from the work site by using low-field electrofishing.
* The construction area will be dewatered and fish will not be able to access each work site with the use of block nets. Steelhead currently occur throughout Chumstick Creek since the North Road barrier was removed in 2009. Thus, the potential impacts to steelhead are associated with fish exclusion and removal activities for the duration of the in-stream work, as well as precluding movement for the duration of project construction.
* Increases in turbidity will be short in duration and are not anticipated to reach levels that could adversely impact steelhead.
* The project will improve overall habitat conditions and access within the project action areas.

Effect Determination: ***Likely to Adversely Affect* *steelhead***

DESIGNATED CRITICAL HABITAT FOR SALMON AND STEELHEAD

**NOTE: Only address critical habitat for listed species with designated critical habitat. For Puget Sound steelhead, which is currently proposed for listing, there is no designated critical habitat, therefore when addressing Puget Sound steelhead, delete this section and go to question 12.**

**If your project is not in designated critical habitat for salmon or steelhead or not in an area of influence for designated critical habitat, you do not need to address the PCE’s.**

9) Will project work occur in an area of influence or in designated critical habitat for salmon or steelhead?

YES

NO     🗙    This project exists outside of Designated Critical Habitat.

10) Does the proposed activity have the potential to beneficially or negatively alter or impact any of the salmon or steelhead critical habitat primary constituent elements (PCEs)?

See **PBA Chapter 4,** **Designated Critical Habitat for Bull Trout and Salmon ESUs** for full description of PCE’s and analysis of impacts from implementation of restoration activities.

To understand how the PCEs crosswalk with the Matrix Indicators, refer to Appendix R. *Crosswalk between Matrix of Pathways and Indicators and Salmon and Steelhead Critical Habitat Primary Constituent Elements.*

YES         If yes, indicate on the list below which PCEs may be altered. **Describe the cause, size, and expected length of duration of the alteration in the Notes section following each PCE**.

NO  🗙   Go to Question 11.

        PCE 1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development.

Notes:

        PCE 2. Freshwater rearing sites with water quantity and quality conditions, and natural cover from vegetation, LWD, beaver dams, rocks, boulders, undercut banks and side channels to support juvenile growth and mobility.

Notes:

        PCE 3. Freshwater migration corridors free of obstruction with water quantity and quality conditions, floodplain connectivity to form and maintain physical habitat conditions, and natural cover from vegetation, LWD, beaver dams, rocks, boulders, undercut banks and side channels to support juvenile and adult mobility and survival.

Notes:

        PCE 4. Estuarine areas free of obstruction with water quantity, quality and salinity conditions, and natural cover from vegetation, LWD, beaver dams, rocks, boulders, undercut banks and side channels to support juvenile and adult physiological transitions between fresh- and saltwater, and juvenile and adult forage including aquatic invertebrates and fishes, to support growth and maturation.

Notes:

        PCE 5. Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels. The critical habitat designation for nearshore marine areas is focused on nearshore areas in Puget Sound.

Notes:

        PCE 6. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.

Notes:

NOTE: if a PCE is altered, the effect determination for salmon or steelhead critical habitat is a “may affect” determination. If the alteration is negative, the effect determination is a “may affect, likely to adversely affect” determination. If the alteration is positive, the effect determination is a “may affect, not likely to adversely affect” determination. Go to question 11.

11) Effect Determination: No effect on designated critical habitat for the Wenatchee ESU.

Provide rationale for effect determination.

This project exists outside Designated Critical Habitat.

Go to question 12.

12) Does the project address any of the identified recovery actions in the *Upper Columbia River Spring Chinook Salmon and Steelhead Recovery Plan*?

YES  🗙   If so, identify the plan and the action and location here:

\_ *http://www.nwr.noaa.gov/Salmon-Recovery-Planning/Recovery-Domains/Interior-Columbia/Upper-Columbia/Upper-ColPlan.cfm*                          \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NO

Notes:   Removing barriers to fish passage is a primary recovery action.

Go to Question 13.

**13) If the above effect determination for salmon or steelhead is a “likely to adversely affect” determination for salmon or steelhead and their critical habitat, a pre-project incidental take estimate will need to be thoroughly described here. Link incidental take estimates to a restoration activity occurring at the project site, do not double count incidental take.** For example, the project involves riparian planting and instream structure work. All work will occur at the same time. Both the riparian planting and instream structure work will contribute sediment to the stream channel. In this case, you would only count the immediate instream project area and downstream sediment dispersal area once and associate it with the most egregious activity, RA 1 Install instream structures.

Salmon or Steelhead ESU Incidental Take

 🗙   There is incidental take associated with these restoration activities.

Incidental take associated with this restoration activity is the following:

Incidental take is occurring in the following:

Salmon or Steelhead ESU:  Upper Columbia ESU

Riparian area planted \_\_\_L \_\_\_W \_0.3\_\_ acres

Riparian area removed \_\_\_L \_\_\_W \_0.066\_\_ acres

Instream length directly impacted: \_\_\_575\_\_\_\_ ft.

Intertidal acreage directly impacted: \_\_\_L \_\_\_W \_\_\_\_\_ acres

Ground disturbed: L W 1.5 acres

Downstream suspended sediment impacts \_est. 500 ft\_L (refer to Appendix M).

Length of stream dewatered: \_\_75 – 175 ft (depending on site)\_\_\_

Number of salmon or steelhead captured/handled during implementation of Capture and Dewatering Protocol:       est. 50-75/site (based on previous experience in this part of the watershed in 2010 and 2011)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Description of incidental take/Notes:

Fish will be initially removed from the project site according to the protocol described in section 6b (above) and handled using standard NOAA protocols, immediately bucket-transporting native fish downstream of each site. Capture time in a bucket is generally <10 minutes for any individual fish.

Impacts to Salmon or Steelhead Critical Habitat

 \_\_   There are no impacts to salmon or steelhead critical habitat associated with this project.

🗙 There are positive impacts to salmon or steelhead critical habitat associated with this project.

There are negative impacts to salmon or steelhead critical habitat associated with this project.

Impacts to salmon or steelhead critical habitat associated with restoration activity          is the following:

Impacts to salmon or steelhead critical habitat is occurring in the following:

Salmon or steelhead ESU:

Riparian area planted \_\_\_L \_\_\_W \_\_\_ acres

Riparian area removed \_\_\_L \_\_\_W \_\_\_ acres

Instream length directly impacted: \_\_\_\_\_\_\_ Ft.

Intertidal acreage directly impacted: \_\_\_L \_\_\_W \_\_\_\_\_ acres

Ground disturbed: L W acres

Downstream suspended sediment impacts \_\_\_\_\_L Restoration activity\_\_\_\_ (refer to Appendix M).

Length of stream dewatered: \_\_\_\_\_\_\_\_Ft.

Description of impacts to critical habitat (positive or negative):

 Improved passage and access to habitat.

**Fill out this section for bull trout.**

**Effect Determination by Species (USFWS)**

**DPS and designated critical habitat:**    Columbia River DPS\_\_\_

**1)** Does the restoration activity require an HPA?

YES  🗙   If yes, attach the HPA. Apply conservation measure F1. In the Notes section below, document any ambiguity between the PBO and HPA and how the issue was resolved. Go to question 2.

NO         If no, go to question 2.

Notes:   Application was submitted to WDFW in June 2012 with HPA expected in July.

**2)** Is the project in a watershed/water body where bull trout have been documented to occur or that supports or has habitat with the potential to support bull trout?

YES  🗙   If yes, go to question 2a.

Identify the fifth field watershed or water body. \_\_\_\_Wenatchee River\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NO  \_\_   Identify the fifth field watershed or water body. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The effect determination for bull trout is “no effect”. Go to question 6.

1. Is the project in Whatcom Creek, Squalicum Creek, Willapa Bay or the mainstem Willapa

River?

YES \_\_\_\_ Identify the fifth field watershed or water body. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If yes, go to question 2.f.

NO  🗙   If no, go to question 2b.

1. Is the project within the area covered by the PBA for bull trout? See Enclosure D.

Table 4.4. Coastal Puget Sound and Columbia River Bull Trout DPS's Core Areas, Local Populations and FMO Areas Covered by the PBA, and “Key Habitat for Bull Trout Recovery” maps.

YES  \_\_   Identify the bull trout management or recovery unit:      Upper Columbia\_\_\_\_\_\_

If yes, go to question 2.c.

NO  🗙   If no, the project is not covered by the PBA for bull trout and an individual consultation should be completed.

**c.** Does the project occur in a bull trout core area?

YES \_\_\_\_ Identify the bull trout core area: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

If yes, go to question 2.d.

NO  🗙   If no, go to question 2.e.

1. Does the project occur within a local population area (spawning and early rearing) within

the above identified core area?

YES \_\_\_\_ Identify the local population area: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Apply BT1. Go to question 2f.

NO  🗙   By default, the project occurs in feeding, migration, and overwintering (FMO) habitat within the above identified core area. Check with bull trout staff for appropriateness of in-water work windows identified in the HPA and apply or make changes as appropriate. Document the discussion and agreement in the Notes section below. Go to question 2f.

Notes:   Informal Intra-Service consultation requested

**e.** Does the project occur in bull trout FMO habitat outside of a core area? See Enclosure

D. Table 4.4. Coastal Puget Sound and Columbia River Bull Trout DPS's Core Areas, Local

Populations and FMO Areas Covered by the PBA, and “Key Habitat for Bull Trout Recovery” maps.

YES \_\_\_\_ Identify the bull trout FMO area: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Apply BT3. Go to question 2f.

NO  🗙   Go to question 3.

**f.** Is there exposure of bull trout to project activities? Please explain your answer. (Project timing or location could impact this). If there is not exposure to bull trout over the short or long -term, then your need to evaluate any sedimentation impacts may be precluded). Go to question 3.

Only one bull trout has been recently documented within Chumstick Creek.  This occurred >8miles downstream below the North Road bridge during fish removal activities in summer, 2009. It was a sub-adult that was believed to be foraging in the lower Creek when conditions in the Wenatchee River at the time were less favorable.  No individuals have been documented in this watershed since.

**3)** Does the project activity involve removing structural barriers to fish passage or creating fish passage structures (restoration activities 11 & 13)?

YES  🗙   If yes, apply conservation measure BT2. Document compliance with BT2 in the Notes section below. Go to question 4.

NO         Go to question 4.

Notes:  Bull trout BMPs will be applied through use of general conditions in HPA that will additionally protect steelhead.

**4)** Does the proposed activity have the potential to impact individual bull trout from dewatering, electrofishing, capturing, handling or stranding?

YES  🗙   If yes, describe expected impacts:

Possibility of bull trout present during fish removal activities.

If yes, the final effect determination is “may affect, likely to adversely affect.” **If bull trout are impacted by dewatering, electrofishing, capturing, handling or stranding in a way different then described in the above expected impacts, write a memo to the project file documenting the actual impacts and record the information in the annual report for this programmatic consultation.** Go to Question 5.

NO  \_\_   Go to question 5.

**5)** Does the proposed activity have the potential to alter or affect the following Matrix Indicators: sub-population size, growth and survival, life history diversity and isolation, persistence and genetic integrity, temperature, sediment, chemical contamination/nutrients, physical barriers, substrate embeddedness, large woody debris, pool frequency, pool quality, off-channel habitat, refugia, wetted width/depth ratio, streambank condition, floodplain connectivity, peak/base flows, drainage network, road density and location, disturbance history, function of riparian reserves, disturbance regime, or integration of species and habitat conditions?

YES         Use Enclosure A to answer this question. If the project results in a “degrade” to the sediment indicator, and there is exposure of bull trout to project activities, you must adequately describe in the Notes Section below:

1. the substrate composition present in the project area,
2. the best management practices undertaken to reduce disturbance to the substrate and any potential sediment inputs to the aquatic system,
3. the suspected magnitude, duration, and distance of any turbidity above background, and
4. any monitoring being undertaken to evaluate impacts. Go to question 6.

NO  🗙   Go to question 6.

**6)** Conservation Measures to be applied: F1  🗙   BT1         BT2         BT3

None

Effect Determination:   ***May Affect, Not Likely to Adversely Affect*** Columbia River bull trout DPS

Provide rationale for effect determination:

* A self‐sustaining population of bull trout does not occur in the Chumstick Creek subbasin.
* The only documented occurrence of bull trout in Chumstick Creek was at North Bridge (RM 0.3), approximately 7 river miles downstream of the Saliby barrier. It is thought that this individual bull trout was seeking refuge in Chumstick Creek from warmer water temperatures in the Wenatchee River during summer thermal maxima. No other occurrences of bull trout have been documented in Chumstick Creek and no sustainable population exists in the Chumstick subbasin.
* Thus, the likelihood of harassing a bull trout during fish exclusion activities is extremely low.

DESIGNATED CRITICAL HABITAT FOR BULL TROUT

**NOTE: Only address critical habitat for listed species with designated critical habitat.**

**If your project is not in designated critical habitat for bull trout or not in an area of influence for designated critical habitat, you do not need to address the PCE’s.**

**When working in marine waters address PCE’s 1, 6, 7, and 8. For freshwater, all PCE’s are applicable.**

**7)** Will project work occur in an area of influence or in designated critical habitat for bull trout?

 \_\_   YES         If yes, go to question 8.

 🗙   NO         Bull trout critical habitat was not designated in the Wenatchee watershed under the 2005 ruling. The mainstem Wenatchee River is designated critical habitat under the final 2010 ruling.

**8)** Does the proposed activity have the potential to beneficially or negatively alter or impact any of the bull trout critical habitat primary constituent elements (PCEs)?

See **PBA Chapter 4,** **Designated Critical Habitat for Bull Trout and Salmon ESUs** for full description of PCE’s and analysis of impacts from implementation of restoration activities. To understand how the PCEs crosswalk with the Matrix Indicators, refer to Appendix Q. *Crosswalk between Matrix of Pathways and Indicators and Bull Trout Critical Habitat Primary Constituent Elements.*

YES         If yes, indicate on the list below which PCEs may be altered. **Describe the cause, size, and expected length of duration of the alteration in the Notes section following each PCE**. **Remember alterations can be beneficial or negative.**

NO  🗙   Go to Question 9.

        PCE 1. Water temperatures that support bull trout use.

Notes:

        PCE 2. Complex stream channels.

Notes:

        PCE 3. Substrates of sufficient amount, size, and composition to ensure success of egg and embryo overwinter survival, fry emergence, and young-of-the-year and juvenile survival.

Notes:

        PCE 4. A natural hydrograph, including peak, high, low, and base flows within historic ranges or, if regulated, currently operating under a biological opinion that addresses bull trout, or a hydrograph that demonstrates the ability to support bull trout populations by minimizing daily and day-to-day fluctuations and minimizing departures from the natural cycle of flow levels corresponding with seasonal variation.

Notes:

        PCE 5. Springs, seeps, groundwater sources, and subsurface water to contribute to water quality and quantity as a cold water source.

Notes:

        PCE 6. Migratory corridors with minimal physical, biological, or water quality impediments between spawning, rearing, overwintering, and foraging habitats, including intermittent or seasonal barriers induced by high water temperatures or low flows.

Notes:

        PCE 7. An abundant food base including terrestrial organisms of riparian origin, aquatic macroinvertebrates, and forage fish.

Notes:

        PCE 8.Permanent water of sufficient quantity and quality such that normal reproduction, growth, and survival are not inhibited.

Notes:

NOTE: if a PCE is altered, the effect determination for bull trout critical habitat is a “may affect” determination. If the alteration is negative, the effect determination is a “may affect, likely to adversely affect” determination. If the alteration is positive, the effect determination is a “may affect, not likely to adversely affect” determination. Go to question 9.

**9)** Effect Determination: No Effect on designated critical habitat for the Columbia River bull trout DPS

Provide rationale for effect determination.  Critical habitat has not been designated here, though the mainstem Wenatchee River is included in the final 2010 rule.\_\_

Go to question 10.

**10)** Does the project address any of the identified recovery actions in the *Draft Recovery Plan for the Coastal-Puget Sound Distinct Population Segment of Bull Trout*?

YES         If so, identify the action and location here. :

NO  🗙

Go to Question 11.

**11) If the above effect determination for bull trout is a “likely to adversely affect” determination for bull trout and bull trout critical habitat, a pre-project incidental take estimate will need to be thoroughly described here. Link incidental take estimates to a restoration activity occurring at the project site, do not double count incidental take.** For example, the project involves riparian planting and instream structure work. All work will occur at the same time. Both the riparian planting and instream structure work will contribute sediment to the stream channel. In this case, you would only count the immediate instream project area and downstream sediment dispersal area once and associate it with the most egregious activity, RA 1 Install instream structures.

Bull Trout Incidental Take

 🗙  There is no incidental take associated with these restoration activities.

Incidental take associated with this restoration activity is the following:

Incidental take is occurring in the following:

bull trout management unit:          Wenatchee

bull trout core area:                         n/a\_\_\_\_\_\_

bull trout local population:              n/a\_\_\_\_\_\_

bull trout FMO habitat:                   n/a\_\_\_\_\_\_

bull trout FMO habitat outside of core area:            n/a

Riparian area planted \_\_\_L \_\_\_W \_0.3\_\_ acres

Riparian area removed \_\_\_L \_\_\_W \_0.066\_\_ acres

Instream length directly impacted: \_\_\_575\_\_\_\_ ft.

Intertidal acreage directly impacted: \_\_\_L \_\_\_W \_\_\_\_\_ acres

Ground disturbed: L W 1.5 acres

Downstream suspended sediment impacts \_est. 500 ft\_L (refer to Appendix M).

Length of stream dewatered: \_\_75 – 175 ft (depending on site)\_\_\_

Number of salmon or steelhead captured/handled during implementation of Capture and Dewatering Protocol:       0 expected

Description of incidental take/Notes:  Fish will be handled using standard NOAA protocols and immediately bucket-transported downstream of each site. Capture time in a bucket is generally <10 minutes for any individual fish. Any occurrences of bull trout will be reported immediately to the USFWS Central Washington Field Office.

Impacts to Bull Trout Critical Habitat

 🗙   There are no impacts to bull trout critical habitat associated with this project.

There are positive impacts to bull trout critical habitat associated with this project.

There are negative impacts to bull trout critical habitat associated with this project.

Impacts to bull trout critical habitat associated with restoration activity          is the following:

Impacts to bull trout critical habitat is occurring in the following:

bull trout management unit:

bull trout core area:

bull trout local population:

bull trout FMO habitat:

bull trout FMO habitat outside of core area:

Riparian area planted \_\_\_L \_\_\_W \_\_\_ acres

Riparian area removed \_\_\_L \_\_\_W \_\_\_ acres

Instream length directly impacted: \_\_\_\_\_\_\_ Ft.

Intertidal acreage directly impacted: \_\_\_L \_\_\_W \_\_\_\_\_ acres

Ground disturbed: L W acres

Downstream suspended sediment impacts \_\_\_\_\_L Restoration activity\_\_\_\_ (refer to Appendix M).

Length of stream dewatered: \_\_\_\_\_\_\_\_Ft.

Description of impacts to critical habitat (positive or negative):

 If bull trout were to utilize this area, affects from this project are expected to be positive because of improved fish passage.



CONCURRENCES:







**ENCLOSURE A - Project Evaluation for Determination of Alteration or Effects on Fish Habitat Indicators**

In the appropriate column(s), mark **S** for short-term impacts (within first year), **L** for long-term impacts (>1 year). **If the project activities result in an impact which degrades an indicator, you must explain the impact in the Comments/Explanation column.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Indicator | Restore | Maintain | Degrade | Unk. Or N/A | Comments/Explanation |
| Temperature |  | **🗶** |  |  |  |
| Sediment |  | **🗶** |  |  |  |
| Chemical Contaminants/ Nutrients |  | **🗶** |  |  |  |
| Physical Passage Barriers | **🗶** |  |  |  |  |
| Substrate Embeddedness |  | **🗶** |  |  |  |
| Large Woody Debris |  | **🗶** |  |  |  |
| Pool Frequency and Quality | **🗶** |  |  |  |  |
| Large Pools | **🗶** |  |  |  |  |
| Off-channel Habitat |  | **🗶** |  |  |  |
| Refugia |  | **🗶** |  |  |  |
| Wetted Width/Maximum Depth Ratio |  | **🗶** |  |  |  |
| Streambank Condition | **🗶** |  |  |  |  |
| Floodplain Connectivity |  | **🗶** |  |  |  |
| Change in Peak/Base Flows |  | **🗶** |  |  |  |
| Drainage Network Increase |  | **🗶** |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Road Density & Location |  | **🗶** |  |  |  |
| Disturbance History |  | **🗶** |  |  |  |
| Function of Riparian  Reserves |  | **🗶** |  |  |  |
| Disturbance Regime (BT) |  | **🗶** |  |  |  |
| Subpopulation Size (BT) |  | **🗶** |  |  |  |
| Growth and Survival (BT) |  | **🗶** |  |  |  |
| Life History Diversity and Isolation (BT) |  | **🗶** |  |  |  |
| Persistence and Genetic Integrity (BT) |  | **🗶** |  |  |  |
| Integration of Species and Habitat Conditions (BT) |  | **🗶** |  |  |  |

(BT) = indicator only to be evaluated for bull trout

Restore = project is likely to have a beneficial impact on habitat indicator

Maintain = project may affect indicator, but impact in neutral

Degrade = project is likely to have a negative impact on the habitat indicator.

Unk. = Unknown; project may affect indicator, but impact is uncertain

N/A = project does not have the potential to impact the habitat indicator

**APPENDIX B. GENERAL AND RESTORATION ACTIVITY SPECIFIC BEST MANGEMENT PRACTICES**

**A. GENERAL BEST MANAGEMENT PRACTICES (BMP)**

All restoration activities implemented under the programmatic consultation will incorporate the following 19 general BMPs to reduce impacts on ecosystems, listed species and their habitats:

1. All regulatory permits and official project authorizations (e.g., National Environmental Policy, National Historic Preservation Act, Level I Contaminants Survey, WDFW’s Hydraulic Project Approvals and permits from the Army Corps of Engineers, etc.) must be secured before project implementation. All terms and conditions in these regulatory permits and other official project authorizations must be followed to eliminate or reduce adverse impacts to any endangered, threatened, or sensitive species or their critical habitats.

2. Modifications to an approved work plan must be reviewed and approved by the project biologist and the cooperators and/or landowner(s) before the work can be carried out or continued. This includes changes requiring modifications of permits, or alterations to the scope, design, or intent of the project.

3. Use existing roadways or travel paths for access to project sites. No new roads or other temporary access roads will be built for access to project sites. If a new road needs to be built for access to a project site, that activity is not covered under this PBA and a separate section 7 consultation will need to be completed. See restoration activity 7 – Improve Road/Trail Conditions and BMPs 36 and 37 for guidance on relocated or replacement roads.

4. Avoid the use of heavy equipment and techniques that will result in excessive soil disturbances or compaction of soils, especially on steep or unstable slopes.

5. Use of heavy equipment in or adjacent to streambeds and streambanks, and ingress/egress points must be minimized to reduce sedimentation rates, channel instability, and aquatic habitat impacts. Vehicles and machinery must cross streams at right angles to the main channel whenever possible. Heavy equipment will be cleaned (e.g., power washed, steamed, etc.) prior to use below the ordinary high water mark. Machinery will be inspected for leaks of hydraulic fluid or fuel after cleaning and prior to entering sensitive areas.

6. Excavation or transport equipment/machinery will be limited in capacity, but sufficiently sized to complete required restoration activities.

7. Streams, riparian zones, and wetlands must not be used as equipment staging or refueling areas. Equipment must be stored, serviced, and fueled in a contained area that is at least 150 feet away from aquatic habitats or other sensitive areas. Prior to project construction, critical riparian vegetation areas, wetlands, and other sensitive sites will be flagged to prevent ground disturbance.

8. In the riparian area, entry and disturbance by equipment will be minimized. If the activity will remove vegetation from an area greater than 50 linear feet, within an area that may impact channel shade or temperature, the project biologist will contact NMFS and USFWS CTA staff to jointly determine how the project would avoid likely significant impacts to channel shade or temperature in areas critical to steelhead salmonid, and bull trout migration, spawning or rearing and provide documentation of the agreement in the Appendix G. PBACF. Cable systems will be used, where appropriate, to eliminate or reduce the need for ground-based equipment.

9. Native vegetation will be planted on disturbed sites (including project site, disposal and staging areas, and access roads) within three days of the end of construction, given appropriate planting seasons, or will be covered or otherwise stabilized with appropriate erosion and sediment control measures. Planting shall be completed no later than April 15 of the year following construction. Vegetative planting techniques must not cause major disturbances to soils and slopes.

10. Boulder, rock, and large woody debris materials used for restoration projects must not be removed from any streams.

11. All construction activities shall comply with water quality standards (RCW 940.48 and WAC 173-201A) set forth by the Washington Department of Ecology. If the USFWS or our project partners anticipate that water quality standards will be exceeded, then we, or our project partners shall seek a Temporary Water Quality Modification Permit from the Washington Department of Ecology. A Pollution and Erosion Control Plan (PECP) will be developed for each authorized project to prevent point-source pollution related to construction operations. Sedimentation and erosion controls (e.g., straw bales, silt fences) will be implemented on all project sites where restoration activities are implemented, materials or equipment is staged or stockpiled, or fill is placed, to minimize the release of fines into the aquatic environment (See Appendix J for proper installation techniques for hay bales, silt fences etc). Effective erosion control measures will be in place at all times during the project, and will remain and be monitored and maintained until such time that permanent erosion control measures are effective.

12. Excavated materials removed during the completion of a restoration activity must be salvaged and/or disposed of properly and/or stabilized to eliminate future environmental problems.

13. All garbage from work crews must be removed from the project site daily and disposed of properly. All waste from project activities must be removed from the project site before project completion and disposed of properly.

14. Structures containing concrete must be cured or dried before they are placed in streams, riparian zones, or wetlands. Creosote-treated wood, or other treated wood will not be used. Wet concrete or runoff from cleaning tools that have wet concrete slurry or lye dust must never enter aquatic habitats. Runoff control measures must be employed, such as hay bales and silt fences, until the risk of aquatic contamination has ended.

15. Inspection will be performed within 1 year following project completion to ensure that restoration activities implemented at individual project sites do not create unintended consequences to fish, wildlife, plant species, and their critical habitats. Corrective actions, as appropriate, must be taken for potential or actual problems.

16. Soil and/or slope disturbances along stream channels should be eliminated or reduced wherever possible. Undisturbed vegetated buffer zones will be retained along stream channels to the greatest extent possible to reduce sedimentation rates, channel instability, and impacts to aquatic habitat.

17. Till unvegetated compacted road surfaces to promote vegetation establishment and growth. Drainage improvements should be constructed and stabilized before the rainy season. Do not sidecast excavated road materials; avoid accumulating or spreading these materials in upland draws, depressions, intermittent streams, and springs. Efforts will be made to restore the original hydrology of the site.

18. Fill material used on project sites must be from non-streambed and non-wetland sources that are free of a large amount of fines.

19. Entry into the stream channel will be minimized to the greatest extent possible during project design, collection of information, implementation, or pre-or post-project monitoring. Project implementers, contractors, stream surveyors and others will stay out of the stream channel as much as possible. If a stream crossing for vehicle or livestock access is included in the project design, WPR project biologists or other local agency biologists will conduct a survey and create a map of potential spawning habitat at the stream crossing. If and when entry into the channel is necessary, spawning areas will not be disturbed.

**B. RESTORATION ACTIVITY SPECIFIC BEST MANAGEMENT PRACTICES**

In addition to the 19 general BMPs, many restoration activities will also include BMPs specific to that activity. Where applicable, these are listed under the Restoration Activities section, and summarized in Table 3.1.

20. Prior to implementing an activity developed specifically for species of concern, CTA or Species Lead staff will be consulted, and documentation of consultation will be noted on the Appendix G PBACF.

21. Livestock crossings will be located to minimize compaction and/or damage to sensitive soils, slopes, vegetation, or fish spawning habitat due to congregating livestock. Livestock fords across streams will be appropriately rocked to stabilize soils/slopes and prevent erosion. Fords should be placed on bedrock or stable substrates whenever possible. Prior to developing crossings, a survey for redds will be completed to avoid impacts to known spawning reaches.

22. Do not backfill culverts or bridge abutments with vegetation, debris, or mud. Abutments should be properly protected (e.g., rock armored) to prevent future scouring actions and erosion hazards.

23. Develop, submit to the USFWS, and implement maintenance schedules for culvert installations to ensure they remain in proper functioning condition. Information on maintenance checks, maintenance conducted and culvert performance will be included in the required project reporting.

24. Remove all fill-associated wood during sidecast removal.

25. Tree thinning will be designed so that there will be no reduction of shade along any nearby watercourse.

26. Thinning, or single tree removal will be restricted to areas above the slope break on steep slopes and highly erodible soils to prevent accelerated soil erosion and increased sedimentation rates.

27. Prescribed burning will be planned and managed to maximize the benefits and reduce the detrimental effects of burns. Fire suppression equipment must always be located at the project site during prescribed burnings. If the need to use chemical suppression arises, an emergency consultation will be conducted.

28. Projects will be designed to meet WDFW’s *Design of Road Culverts for Fish Passage,* 2003, for salmon and trout at a minimum and will be maintained for optimal operation. Fishways will be designed to minimize the potential for structural failure or the potential for creation of unstable substrate.

29. WDFWs *Protocols and Guidelines for Distributing Salmonid Carcasses to Enhance Stream Productivity in Washington State*, 2004 (see Appendix I, The WDFW protocol and guidelines document describes the application of fertilizer however, that activity is not covered by this PBA) will be followed.

30. Salmon carcass deployment will not be conducted in areas where documented grizzly bear sightings have occurred within the last 4 weeks.

31. For USFWS consultation on RA1 – install instream structures or RA2 – improve secondary channel habitat, if the length of the project site is greater than or equal to ½ mile, the project biologist will contact USFWS CTA staff to jointly determine if the project complies and is consistent with the intent of the programmatic consultation, and provide documentation of the agreement in the Appendix G- PBACF.

For USFWS consultation on RA7 – improve road/trail conditions, if the length of the project site is greater than or equal to ½ mile, the project biologist will contact USFWS CTA staff to determine if the project complies and is consistent with the intent of the programmatic consultation, and provide documentation of the agreement in the Appendix G-PBACF.

For NMFS consultation on RA1 – install instream structures, if the length of the project site is greater than or equal to ½ mile, the project biologist will contact NMFS and USFWS CTA staff to jointly determine if the project complies and is consistent with the intent of the programmatic consultation, and provide documentation of the agreement in the Appendix G- PBACF.

For NMFS consultation on RA2 –(improve secondary channel habitat) If the length of the work with contact to water accessible to salmonids is greater than ½ mile, the project biologist will contact NMFS staff to jointly determine if the project impacts are within the scope of the BPO. The applicant would provide documentation of the agreement in the Appendix G-PBACF.

For NMFS consultation on RA7 –improve road/trail conditions, if the project involves more than 5 culverts on the same stream, and work is done in wet conditions (the channel is not dry or dewatered) the project biologist will contact NMFS staff to determine if the likely sedimentation impact is within the range considered in the PBO. Methods to avoid and minimize likely adverse impacts would include dewatering and replacing culverts in successive years. The applicant would provide documentation of the agreement in the Appendix G-PBACF.

32. Dependent upon the project site and implementation conditions, this activity may require fish capture and removal from the project area and channel dewatering. If fish capture, removal and channel dewatering is required, protocols in Appendix H. *Dewatering and Fish Capture Protocol* will be followed. If electrofishing is used as a tool to remove fish, Appendix N. *Backpack Electrofishing Guidelines* will be followed.

33. For projects that occur in streams with gradients of greater than four percent, and will replace a culvert that blocks fish passage with a structure that provides fish passage, project biologists will provide a justification regarding the choice of structure and a description of the structure selected in the Appendix G - PBACF.

34. If there is any question as to the applicability or restoration activity 13 purpose and description to a project site, the project biologist will consult with NMFS and FWS CTA biologists to jointly determine if the project complies and is consistent with the intent of this programmatic consultation, and document the agreement in Appendix G, PBACF.

35. Thinning/felling trees or single tree removal will be done manually. Felled trees will be left onsite. No temporary roads, skid trails, or other points of access will be built as a part of this activity. If this BMP cannot be met, the project requires separate section 7 consultation.

36. Replacement roads under the road relocation description will only be built in locations where there are no negative impacts to federally listed species or their habitats.

37. Replacement roads under the road relocation description will not add additional road miles to the watershed. If additional road miles are needed, the project requires a separate section 7 consultation. Replacement roads will be constructed to maintain natural drainage pathways as much as feasible.

38. If the source population for carcasses is not sampled according to established procedure as documented in the *Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State, Formally adopted on March 17, 1998* (see Appendix I, The WDFW protocol and guidelines document describes the application of fertilizer however, that activity is not covered by this PBA) the carcasses can only be distributed within the drainage of origin.

39. To transfer carcasses out of the drainage of origin, the following must occur and be documented: 1) every population must be sampled according to established procedure (minimum of 60 fish) as documented in the *Salmonid Disease Control Policy of the Fisheries Co-Managers of Washington State, Formally adopted on March 17, 1998* (see Appendix I, The WDFW protocol and guidelines document describes the application of fertilizer however, that activity is not covered by this PBA), and 2) populations must be sampled for viruses, *Yersinia ruckeri* (Enteric redmouth), *Aeromonas salmonicida* (Furunculosis)*,* *Renibacterium salmoninarum* (Bacterial kidney disease), and *myxobolus cerebralis* (Whirling disease).

40. There will not be any transfer of carcasses into drainages where viruses are not known to occur (no introduction of viruses). Fish health experts at WDFW and USFWS will be consulted to determine disease status of drainages.

41. If live salmon identified for carcass deployment are treated with drugs while in the Hatchery, all drugs must be used per labeled directions or other permits as issued by the Food and Drug Administration, including directions regarding the withdrawal times for the drugs. Mortalities which occur prior to the end of the withdrawal time will not be used for carcass deployment.

42. There will not be any transfer of salmon carcasses that are resistant to antibiotics used to treat diseases.

TABLE 3.1: Restoration Activities and Applicable BMPs.

|  |  |  |
| --- | --- | --- |
| Restoration Activity | General BMPs | Specific BMPs |
| 1. Install instream structures | 1-19 | 25, 26, 31, 32 |
| 2. Improve secondary channel habitats | 1-19 | 25, 26, 31, 32 |
| 3. Reduce upland sediment production/delivery | 1-19 |  |
| 4. Restore wetland hydrology | 1-19 | 32 |
| 5. Install/develop wildlife structures | 1-19 | 20 |
| 6. Reduce livestock impacts | 1-19 | 21 |
| 7. Improve road/trail conditions | 1-19 | 22, 23, 24, 31, 32, 36, 37 |
| 8. Plant native vegetation | 1-19 |  |
| 9. Promote native vegetation growth | 1-19 | 25, 26, 27, 35 |
| 10. Remove/setback hydraulic constrictions | 1-19 | 32 |
| 11. Remove/Replace structural barriers | 1-19 | 22, 23, 28, 32, 33 |
| 12. Collect information/ monitor | 1-19 |  |
| 13. Install/modify fish passage structures | 1-19 | 28, 32, 34 |
| 14. Install signs | 1-19 |  |
| 15. Deploy salmon carcasses | 1-19 | 29, 30, 38, 39, 40, 41, 42 |

*(Table 3.1 revised January 5, 2006)*

**ENCLOSURE C. APPENDIX L. CONSERVATION MEASURES FOR**

**LISTED SPECIES**

**CONSERVATION MEASURES FOR FISH SPECIES**

This section lists specific conservation measures which will be implemented to reduce impacts to endangered, threatened, proposed and candidate fish species, and their designated or proposed critical habitats. Conservation measure F1 applies to all listed, proposed and candidate fish species. Conservation measures BT1, BT2 and BT3 apply to all listed bull trout DPSs covered by this programmatic consultation. Conservation measures BT1 and BT3 supersede conservation measure F1 with regard to in-water work periods. Conservation measure BT2 supersedes conservation measure F1 with regards to fish passage projects. The species are grouped according to listing status, and are listed alphabetically.

F1. When the restoration activity requires a Hydraulic Project Approval permit (HPA), an HPA will be secured and conditions will be followed. Any ambiguities related to permit conditions will be cleared up prior to construction.

BT1. In bull trout local population areas (spawning and early rearing areas), in-water work will only occur during the watershed-specific timing windows identified in Appendix F.1 – WDFW’s *Gold and Fish Pamphlet* (WDFW 1999) or more up-to-date, USFWS-approved information. For information on local population areas, refer to the “Key Habitat for Bull Trout Recovery” maps in the *Draft Recovery Plan for the Coastal-Puget Sound Distinct Population Segment of Bull Trout* or to Table 4.4. This conservation measure supersedes conservation measure F1 when conducting in-water restoration activities in bull trout local population areas.

BT2. Fish passage structures will not be installed and barriers will not be removed in locations where there are concerns for impacts to bull trout populations from exotic or non-native species. This conservation measure supersedes conservation measure F1 when conducting fish passage activities.

BT3. In-water work will only occur during the timing windows identified in Appendix F.2, when the in-water restoration activity occurs in the following water bodies: the Duwamish Waterway, Lake Union and the Ship Canal, Lake Washington, Sammamish Basin, Columbia River Mainstem or in marine nearshore and estuarine areas. This conservation measure supersedes conservation measure F1 when conducting in-water restoration activities in the above mentioned areas.

**ENCLOSURE D. TABLE 4.4.** Coastal Puget Sound and Columbia River Bull Trout DPS's Core Areas, local populations and FMO areas within the area covered by the PBA.

| **Management or Recovery Unit** | **FMO Area** | **Core Area** | **Local Population Area** |
| --- | --- | --- | --- |
| Olympic Peninsula |  | Skokomish River, including North and South Forks from the mouth up to the National Forest or National Park boundaries |  |
| Hood Canal and independent tributaries up to the National Forest boundary |  |  |
|  | Dungeness River up to the National Forest boundary | Middle Dungeness River and tributaries |
| Strait of Juan de Fuca and independent tributaries up to the National Park boundary |  |  |
|  | Elwha River up to the National Forest or National Park boundary | Little River (potential local population) |
| Pacific Ocean and independent coastal tributaries (areas of National Park are not included) |  |  |
|  | Hoh River up to the National Forest or National Park boundaries | South Fork Hoh River and tributaries |
|  | Queets River up to the National Park boundary |  |
|  | Quinault River up to the National Forest or National Park boundary |  |
| Lower Chehalis River/Grays Harbor and independent tributaries |  |  |
|  |  |  |  |

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| **Management or Recovery Unit** | **FMO Area** | **Core Area** | | **Local Population** |
| Puget Sound |  | Chilliwack River up to the National Forest boundary | |  |
| Nooksack River up to the National Forest boundary | | Glacier Creek |
| Lower Canyon Creek |
| Lower North Fork Nooksack |
| Lower Middle Fork Nooksack River |
| Lower South Fork Nooksack River |
| Middle North Fork Nooksack River |
| Upper Middle Fork Nooksack River |
| Samish River |  | |  |
|  | Lower Skagit River up to the National Forest or National Park boundary | | Illabot Creek |
|  | Stillaguamish River up to the National Forest boundary | | Canyon Creek |
| North Fork Stillaguamish River |
| Upper Deer Creek |
|  | Snohomish/Skykomish Rivers up to the National Forest boundary | | South Fork Skykomish River |
| Lake Washington including the following: Lower Cedar River: Sammamish River; Lakes Washington, Sammamish and Union; and Ship Canal |  | |  |
| Lower Green River |  | |  |
|  | Puyallup River up to the National Forest or National Park boundary | | Carbon River |
| Clearwater River |
| Greenwater River |
| Upper Puyallup and Mowich Rivers |
| Upper White River |
| West Fork White River |
| Lower Nisqually River |  | |  |
| Marine Areas of Puget Sound |  | |  |
|  |  |  | |  |
| **Management or `1`Recovery Unit** | **FMO Area** | | **Core Area** | **Local Population** |
| Lower Columbia River Basin |  | | Lewis River up to the National Forest boundary | Cougar Creek |
| Pine Creek |
| Klickitat River up to the National Forest boundary | West Fork Klickitat River |
|  |  | |  |  |
| Middle Columbia River Basin | Mainstem Columbia River | | Yakima River up to the National Forest or National Park boundary | Mainstem Yakima River (Keechelus to Easton Reach) |
| Ahtanum Creek (North, South and Middle Forks) |
| Naches River tributaries (American River, Rattlesnake Creek and Crow Creek) |
| North Fork Teanaway River |
| Kachess Lake tributaries (Box Canyon Creek and the upper Kachess River) |
| Upper CleElum River |
|  |  | |  |  |
| Upper Columbia River Basin | Mainstem Columbia River | | Wenatchee River up to the National Forest boundary | Nason Creek (including Mill Creek) |
| Chiwaukum Creek |
| Chewawa River (including Chikamin, Phelps, Rock, Alpine, Buck and James Creeks) |
| White River (including Canyon and Panther Creeks) |
| Peshastin Creek (including Ingalls Creek) |
| Entiat River up to the National Forest boundary | Mainstem Entiat River |
| Mad River |
| Methow River up to the National Forest boundary | Gold Creek |
| Twisp River |
| Chewuch River |
| Wolf Creek |
|  |  | |  |  |
| Northeast Washington |  | | Pend Oreille River up to the National Forest boundary | Le Clerc Creek |
|  |  | |  |  |
| Umatilla-Walla Walla River Basin |  | | Walla Walla River up to the National Forest boundary | Mill Creek and tributaries |
| Touchet River and tributaries |
|  |  | |  |  |
| Snake River Basin | Mainstem Snake River | | Asotin Creek up to the National Forest boundary | North fork Asotin Creek including Cougar Creek |
| Tucannon River up to the National Forest boundary | Upper Tucannon River (river kilometer 78 to 93) and tributaries (Bear, Sheep, Cold, Panjab, Meadow, Little Turkey and Turkey Creeks |
|  |  | |  |  |
| Grande Ronde River Basin |  | | Grande Ronde River | Wenatchee Creek |