

## **Request for Proposals**

### **Stream Geomorphic Assessment, Permit-level Designs**

#### **Taneum Creek Watershed – 6 locations**

Sponsor: Yakama Nation Fisheries YKFP

Thursday, December 21, 2017

**Introduction:** The Yakama Nation's Yakima-Klickitat Fisheries Project (YKFP) is soliciting stream geomorphic assessments and designs for salmon passage improvement and habitat restoration at six locations on the mainstem Taneum Creek in Kittitas County, Washington. The project will involve placing woody material to encourage future channel configurations that improve fish passage, protect infrastructure, and enhance rearing and spawning habitat for salmonids. Six sites are included in this project. The required level of design and assessment varies tremendously between sites. The relative priority of stewardship need also varies widely from one site to the next. For example, passage improvement at the downstream site is of great importance, while installation of channel-forming habitat features at the upstream-most site will be beneficial for fish productivity, but is not urgent.

The Taneum watershed is approximately 80 square miles. Ownership at all sites is public, including combinations or whole ownership/management of the following:

- Washington State Department of Fish and Wildlife (WDFW – four sites);
- Washington Department of Natural Resources (WDNR – two sites);
- U.S. Department of Interior (BOR – one site); and,
- U.S. Forest Service (one site).

The YKFP has been implementing habitat stewardship through collaboration with other resources managers for over a decade in Taneum Creek. The relative urgency of need to implement stream restoration also varies.

**Project Description:** Stream assessments, and designs are requested for the locations described below, starting at the downstream end. The rigor of assessment required varies between sites. Funding source for these designs is through the Bonneville Power Administration Accords Agreement. Project locations and design objectives are described below.

The BPA Environmental Compliance Lead will determine if work may be able to have full ESA-coverage (NOAA & USFWS) under the 2013 Habitat Improvement Program Biological Opinion (HIP3). The HIP3 has expanded coverage for projects that may pose a moderate to high risk of impacting an ESA-listed species or critical habitat that would normally require a Biological Assessment. For work that qualifies, projects will undergo a review by the BPA-internal Restoration Review Team (RRT). The selected consultant will be expected to participate in the RRT review process for HIP3 coverage. Conceptual design at 30% will be submitted for HIP3 consideration and further instruction and information needs and requirements for coverage eligibility.

**Site #1 – WDFW Headcut.** The site is located at Creek Mile 1.9 m/l, approximately 1000 feet upstream of the Thorp cemetery Road Bridge, and Interstate 90 bridge crossings of Taneum. This parcel includes the entire geomorphic floodplain upstream of the county road up to the next upstream ownership. The parcel was purchased on 12/2015 through collaboration with YKFP and WDFW, and is now permanently protected for fish and wildlife habitat. On the property, Taneum Creek flows over a 3' vertical headcut this may completely block upstream passage of juvenile salmonids, while posing serious passage problems for adult coho salmon and resident trout during some flow discharges. See Figures 1 and 2 below.



Figure 1 Taneum Creek - flow from left to right. Headcut location shown.



Figure 2. Present location of headcut. Hydraulic drop at low flow approximately 3.5 feet.



YKFP habitat managers seeking permit-level design that is based upon a geomorphic analysis of the site. **Level of analysis required for this site is considered to be high** because of proximity to infrastructure. Managers expect the design solution for the headcut will be limited to actions necessary to encourage channel meandering to a longer, more stable configuration during high flow. Strategic wood placements and limited site clearing are anticipated to be included in the design. Extensive excavation will be discouraged. A draft of the design shall be provided to WDFW land and habitat managers, Kittitas County Public Works Department and WSDOT. Final designs shall incorporate input from same as deemed appropriate and reasonable for the site limitations. LIDAR is available, however it was flown in 2009, prior to the flood of record, which occurred in May 2011.

**Site #2 – USDI BOR Heart K property.** This site is located immediately upstream of site #1. This property comprises the entire geomorphic floodplain and was purchased by USDI BOR for habitat conservation approximately 15 years ago. The property includes an irrigation diversion structure for Taneum Canal Company, a spillway from the Kittitas Reclamation District and a reverse syphon (undershot) for the same. These features limit the scale of habitat restoration that can be implemented, however stream habitat upstream and downstream of the diversion and syphon/spillway lacks instream wood for the entirety of the 1.1 mile stream reach encompassed by this ownership. See figure #3.



Figure 3. Site #2 project location shown between red bars.

At this site, YKFP fish habitat biologists are seeking conceptual designs for instream and floodplain wood habitat complexes. Conceptual designs will be used for permit applications, and shall be based upon input from YKFP, USDI BOR and WDFW biologists. **Level of analysis required for this site is considered to be high** because of proximity to irrigation infrastructure. The number of wood complexes constructed will be based upon future budget limitations and YKFP staff capacity to implement, although it is possible that as many as 20-30 individual structures may be constructed. It is anticipated that these complexes will be comprised entirely of native wood. Material will be obtained from local publicly owned forests. Habitat function intended to be restored with these wood structures include but are not

limited to pool formation, flow complexity, side channel and alcove formation, gravel sorting, and overhead cover.

**Site #3 – WDNR, WDFW Floodplain.** This site is located approximately two miles upstream of Site #2. The drive from the upstream border of site #2 is approximately 2.5 miles. The road-adjacent portion of this floodplain area is owned by Washington Department of Natural Resources, while the area farther from the road is owned by Washington Department of Fish and Wildlife. The paved road accessing the area is managed by USFS. The floodplain is seasonally inundated during high stream discharge, and was used for motorized recreation until the early 1990's, when vehicular access was blocked. Floodplain plant succession is ongoing, however woody riparian plants and the floodplain roughness they provide is absent in much of the 18 acre floodplain meadow. Since the 2011 flood, the overflow channel that inundates this area has been scouring a channel immediately adjacent to the road. See figure #4.



Figure 4. Site #3 project location shown between red bars. Blue line denotes approximate location of high flow channel.

At this site, managers believe limited, proactive incorporation of floodplain roughness will protect the road prism and shoulder from flood-induced scour, while promoting plant diversity via microclimate enhancement and sediment deposition during floods. YKFP fish habitat biologists are seeking permit-level designs for floodplain wood habitat complexes that are based upon a geomorphic analysis of the stream reach. **Level of analysis required for this site is considered to be medium** because of the extremely broad floodplain width, lack of bridges and irrigation. Designs will be used for permit applications, and shall be based upon input from YKFP and WDFW biologists, WDNR and USFS managers. The number of wood complexes constructed will be based upon future budget limitations and YKFP staff capacity to implement, although it is possible that as many as 20-30 individual structures may be constructed. It is anticipated that these complexes will be comprised entirely of native wood, although limited placement of large angular rock may be incorporated proximate to the road ROW. Revegetation with native riparian plants in clumps will be included in designs.



**Site #4 – Section 34 floodplain, WDFW ownership:** Township 19N, Range 16E south half Section 34. Disconnected floodplain, public access location, dispersed camping typify this site (see figure 5).



Figure 5. Site #4 project location shown between red bars. Parking/camping area located near upstream (upper left) end of figure.

YKFP fish habitat biologists are seeking permit-level designs for shoreline levee removal and stream and floodplain wood habitat complexes that are based upon a geomorphic analysis of the stream reach. **Level of analysis required for this site is considered high because of road proximity, popularity of the site for vehicle parking and camping.** Designs will be used for permit applications, and shall be based upon input from YKFP and WDFW biologists, and USFS managers. This location will be restored when funding is available for the entire suite of restoration actions.

**Site #5 – Cedar Creek floodplain, WDNR ownership:** Township 19N, Range 16E Section 29, approximately four crow-miles upstream of Site #2. This WDNR-owned section lacks woody material, and is incising, resulting in reduced floodplain connectivity. Infrastructure issues/concerns are limited to possible wood transport downstream to a stream-adjacent segment of the USFS 3300 road, approximately 1.5 stream miles. **Level of analysis required for design of wood structures at this site is considered medium.** The USFS 3300 road is laterally to the downstream end of the project site, and wood placements in this vicinity could be designed to limit lateral scour while enhancing in channel habitat complexity. Designs for stable wood jams that can collect additional wood and promote floodplain inundation are needed for permitting and coordination with WDNR land managers. Habitat structures shall incorporate high quality woody material, placed to be relatively stable at high flows – proper species, size, inclusion of rootwads on some of the pieces, and robust quantity of restoration material will be required. The number of wood complexes constructed will be based upon future budget limitations and YKFP staff capacity to implement. A total of 10-15 individual structures may be constructed. See Figure 6.



Figure 6 - Cedar Creek meadow. Stream flow is from left to right.

**Site #6 – WDFW/USFS Boundary Site:** one crow-mile upstream of site #4: Located within Township 19N, Range 15E Sec 25, Township 19N, Range 16E Sec 30. Site restoration objectives include wood placement for pool and complex channel formation, possible increases in floodplain inundation. **Level of analysis required for this site is considered to be extremely low at this site.** Loose wood placement designs for permitting on USFS ownership. The site does not allow access for heavy equipment, thus wood placements will be via griphoists, or lining from tractor-mounted winches. Loose wood will be placed, and simple designs depicting these are required for NEPA. Installation shall be based upon budget limitations and YKFP staff capacity to implement. As much as 150 individual pieces of large wood may be placed in the stream and geomorphic floodplain. See Figure 7.

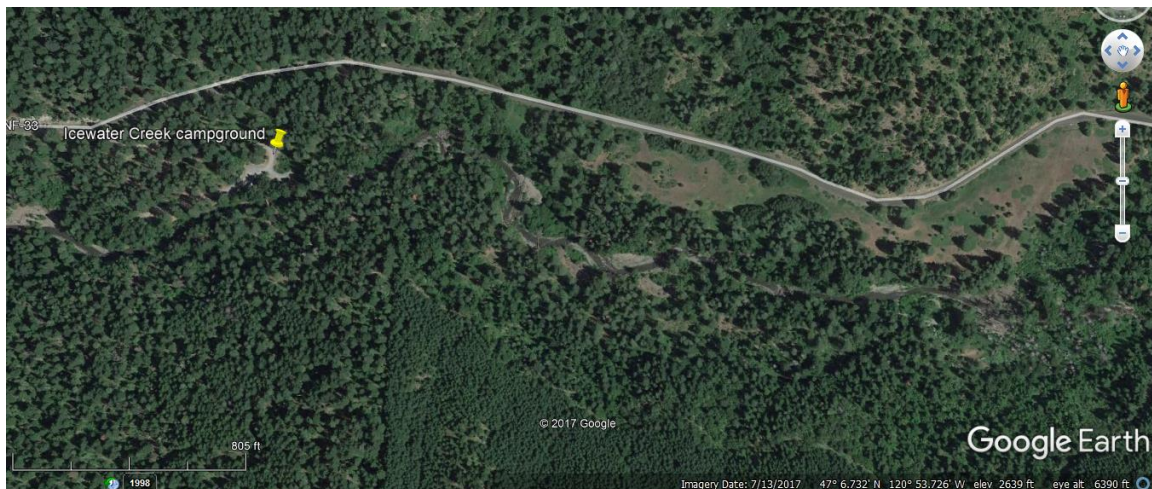


Figure 7 WDFW/USFS boundary. Icewater Creek campground is USFS-managed. Stream flow is from left to right.



**Proposal Submittal:** Interested parties shall submit a hard copy proposal for products described above to YKFP habitat managers. Hourly rate is needed also, for additional work as warranted during design and permitting.

Proposals shall include:

- Proponent resume including relevant experience
- Price for the products described herein. Price shall include attendance at three interdisciplinary meetings, permit-level designs based upon input from resource managers from agencies listed herein, up to three field visits as required. YKFP must have a total amount listed per contracting requirements.
- Hourly rate for additional work, to facilitate contract and permit processing.

**An optional site visit will be held for interested parties Thursday, January 4, at 10AM. Please RSVP by contacting Scott Nicolai at 509-945-3163.**

Please submit proposals **Thursday, January 11, 2018 by 3pm** to the following address:

Yakama Nation Fisheries - YKFP

Attn: Shirley Alvarado

P.O. Box 151

Toppenish, WA 98948

If mailing FEDEX, please address to 401 Fort Road, Toppenish, WA 98948