

Field visit to lower Icicle Creek on July 2, 2015, to evaluate habitat enhancement opportunities

Attendees: Jim Craig (US Fish and Wildlife Service), Jeremy Cram (WA Dept. of Fish and Wildlife), Mike Kane (Chelan Co. Natural Resources), Ericka Hegeman (Chelan Co. Natural Resources)

1. Leavenworth National Fish Hatchery's head gate dam (Structure 2)

- a. Current operation based on BiOp. Long-term goal to eliminate operation for groundwater recharge. IWG recommendation of max 2,600 cfs to preserve habitat function in historic channel.
- b. Description: Possible large rock structure downstream of dam to induce and/or maintain existing scour hole
- c. Feasibility: Unlikely location for habitat work due to head gate maintenance, tribal fishing location, landowner access



Figure 1 Head gate dam with migration curtain



Figure 2 Downstream of head gate dam (Structure 2), location of possible scour hole and current tribal fishing location

2. Historic channel

- a. Current condition: Very functional side channel habitat providing coho spawning and rearing. Some Chinook (hatchery) spawning and rearing is also present.
- b. Description: Due to lack of large wood recruitment into side channel, one project discussed would be to thin out some trees on USFWS property and possibly private property on right bank (Copper Notch) and fly whole trees with rootwads into channel rather than building large ELJ structures.
- c. Feasibility: Use excavator to remove on-site trees and move with helicopter, maybe 20-30 trees. ~\$60-70K



Figure 3 Historic channel, looking downstream



Figure 4 Historic channel, looking upstream

3. Structure #5

- a. Current condition: Channel-spanning structure. Pickets used when 50 spring Chinook pass during broodstock collection.
- b. Description: Removal of structure and replacement with grade control structure, ELJ's, possible fishing platform, plantings, ~\$300K+.
- c. Feasibility: Probably most interesting project to consider within this reach but require details to sort out with tribal fisheries, bridge access, etc.



Figure 5 Structure #5

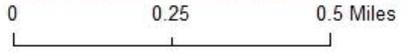
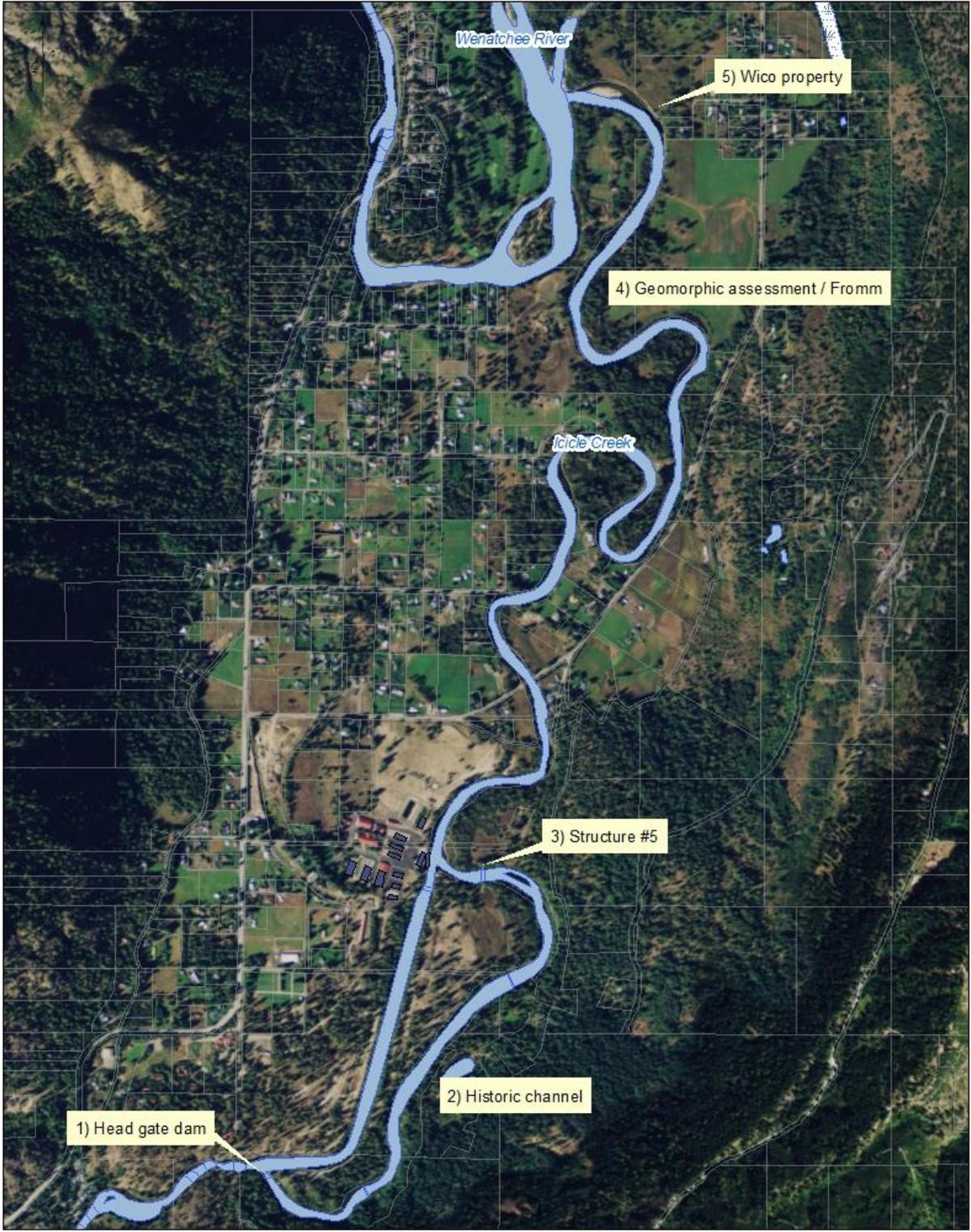
4. Geomorphic Assessment of the lower 2.7 miles of Icicle Creek

- a. Current condition: High width to depth ratio.
- b. Description: A geomorphic assessment could be used to document existing conditions and identify the opportunities and constraints of habitat improvements. For example, using large rock and or wood to reinforce existing islands, develop thalweg and reduce overall channel width.
- c. Feasibility: There appear to be limited opportunities upstream of the Fromm property based an existing land use, armoring and recreational use. Opportunities within the Fromm-owned reach would have to accommodate landowner use and spring and summer recreation use.



Figure 6 Icicle Creek at Fromm property (photo taken 2008)

5. East Leavenworth Road Potential Side channel / floodplain connection
Discussed opportunities near the lower end of icicle connecting thru the WICO property with possible acquisitions to allow for enhancement projects as well as protection (referred to BOR 2006 draft map book with project opportunities).



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