Hydrology Information

Will the project require placement of fill in stream beds or wetlands?

No

Will the project require bridge or culvert construction/replacement in stream beds?

No

Will the project authorize cutting trees anywhere near streams?

Yes, a small number of trees within the riparian area may be felled to accommodate pvc line placement, and potentially added to the small floodplain downstream of the proposed impoundment to add structure for improved flood resilience in this location.

Will the project require diverting or pumping water?

Yes. Water will be ponded behind an aluminum/wood structure ~ 1m high and diverted through a 6" pvc pipe to a micro-hydro generator located ~ 100m downstream. Instream flow sufficient for continued channel forming processes and fish passage will be maintained.

Will the project require discharging waste water?

No

__X___No effect to water resources is expected with this project.

__X__The proposed project is not within sole or principal drinking water aquifers, prime farmlands, wetlands, floodplains, or ecologically significant or critical areas.

Remarks

A site visit was conducted on May 31, 2018. The proposed project occurs on an unnamed stream draining into the Wrangell Narrows south of Petersburg Creek, near Petersburg, Alaska. The site of the proposed impoundment occurs approximately 100m upstream of the proposed micro-hydro generator, located on private property. The proposed impoundment would be created by an aluminum and wood structure approximately 1m tall placed perpendicular to flow, resulting in an impoundment area of < 1,000 ft^2 (~0.02 acres). In order to maintain instream flow, the impoundment may be placed upstream of the confluence on the tributary to the main channel (see Photo 1). Alternatively, if the impoundment is placed in the main channel, construction must ensure sufficient flow is maintained in the channel through the bypass reach to allow continued channel forming processes and fish passage. This Class I (anadromous) stream drains an area of approximately 450 acres and is classified as a moderate gradient, mixed control, small channel type (MMS) with a bankfull width of approxmately 3m and ~ 4% gradient. It is a relatively high energy stream as noted by the predominantly large cobble substrate of the bed. Streamflow was measured through the course of a year from November - September (10 months) by the property owner. According to his data, flow ranged between approximately 0.06 - 70 cubic feet per second (CFS), with high flows occurring in the fall and low flows in mid-summer, following

cubic feet per second (CFS), with high flows occurring in the fall and low flows in mid-summer, following local patterns. The channel through the bypass reach is short, relatively steep, incised, and stable with minimal floodplain development. As such, no meaningful effects to water resources are expected through the bypass reach and its immediate floodplain as a result of this project.

List any key public contacts that need to be made:
ADF&G Habitat Division, Army Corp of Engineers, FERC

Signature/Date:	/s/ *Heath Whitacre*	June 26, 2018
Name :	Heath Whitacre	
Title:	Hydrologist	

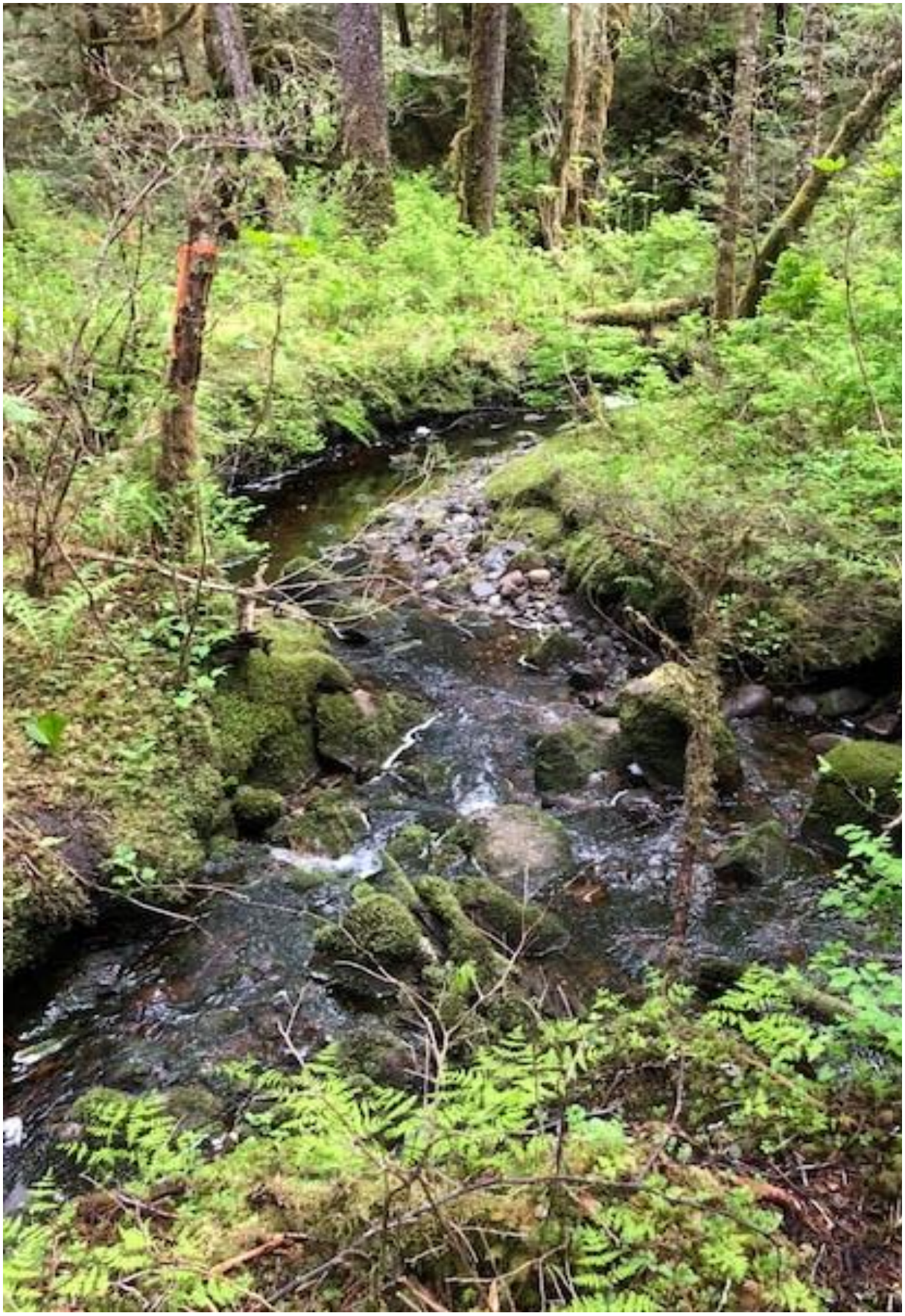

Photo 1. Site location looking downstream near the confluence; tributary enters on the downstream

ı left side.