

S.T. Kansas P.D.

REPLY TO: 2030 Habitat

February 2, 1970

SUBJECT: Indian Creek Spawning Channel



TO: Regional Engineer

In 1952, the Fisheries Research Institute of the University of Washington designed and built a salmon spawning channel in Indian Creek at Hollis of the South Tongue National Forest. Because instantaneous maximum flows exceeded those for which the channel was designed, the project was a failure with regard to increased production of pink salmon. Construction of the channel was financed by the Bureau of Commercial Fisheries through Saltonstall-Kennedy funds, the Wood Products Industry, Ketchikan Pulp Company and the Forest Service.

We have thought for some time that from the standpoint of salmon production and public relations (this channel is close to the Klawock Hollis Trans-Island Highway), we should attempt to reclaim the channel. With this in mind, Cecil Stowell designed a control flow structure, but the cost appeared to be prohibitive. Later, we talked with the Maccaferri gabions representative, who thought energy dissipation could be achieved with properly spaced gabions for an estimated cost of \$40,000-\$50,000.

Background on the Indian Creek spawning channel, including original design, final evaluation report and design for controlled flow and gabion structures is included with this memorandum. We would appreciate your review of this material as we are still interested in reclamation of the Indian Creek spawning channel.

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Division of Recreation, Lands,  
Wildlife and Watershed Management

Enclosures

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INDIAN CREEK

Dan Swaney and I examined the Indian Creek spawning channel the same day we examined Old Frank's Creek. On the high normal flow at the time of our visit, a bar was apparent in the lower middle part of the channel. Velocity on the right side of the bar was suitable for spawning; the dead water on the other side was not. It is quite likely that in the area of the original spawning channel, present production of pink and chum salmon is not as good as it was prior to channel construction. On the usual higher than normal flows in September and October, salmon would spawn in areas subject to drying out and freezing after the flows decreased during late fall and winter.

Both sides of the channel were checked for an appropriate place to bypass flood waters to achieve a renovated, control-flow spawning channel. The best place was halfway up the channel (one-third of original channel would be lost) on the right, where an old cat road runs from Indian Creek for 1500-feet, diagonally, to the Harris River. Removal of 2-4 feet of overburden (about 6,000 yards of material) and construction of a control dam would accomplish the modified channel. Limitations to this approach are the cost of dam construction (estimate by RO Engineering is over \$100,000) and loss of one-third to one-half of the channel.

Dan Bishop, Cecil Stowell and I have since discussed rehabilitation of the Indian Creek channel with Maurice Downham of Maccaferri gabions. Downham thinks gabions could be used to reconstruct the channel for a total cost of \$50,000. If true, this would give a good benefit/cost ratio. Bishop, Stowell and I will continue discussion with Gil Ziemer of Alaska Department of Fish and Game, and we hope to come up with a good design and a reliable estimate of rehabilitation costs as well as a sound benefit cost ratio. There is some possibility that ADF&G can cooperate financially on this project. This will be explored further.

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R-10 December 1969