

R. M. file

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Planning (Artificial Spawning Channel)

As a result of the artificial spawning channel work on Indian Creek at Hollis, it became apparent that the success of an artificially constructed channel without control headworks is dependent upon the fluctuation in discharge. To be economically maintainable, the channel should be capable of withstanding flood peaks of at least a five-year frequency magnitude, preferably more. It is physically impractical, in most cases, to construct a channel similar to the Indian Creek design, which will withstand a discharge of more than about 2,660 c.f.s.

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A study was made of 183 streams listed in the "Stream Catalog of Eastern Section of Ketchikan Management District of S.E. Alaska" to determine the magnitude of floods which might be expected to occur on each of these streams. By this study, the number of potential sites was reduced to 23 streams. On-the-ground reconnaissance conducted by South Tongass personnel and R.O. fishery biologist in 1962 and 1963, further reduced the number of streams to four: K-4A, Halibut Bay, Klu Creek in Upper Behm Canal, Black Bear Creek in Union Bay, and Sea Level Creek in Thorne Arm. These four streams satisfied all criteria, with the exception of five-year return floods not to exceed 1,200 c.f.s.

To find out if discharge in these four streams was suitable for construction of flood plain artificial spawning channels, the U.S.G.S. was contracted for crest gage installation in 1963. Results of this crest gaging show that three of the streams; K-4A, Sealevel Creek, and Black Bear Creek, exceeded 1,300 c.f.s., the maximum acceptable level for construction of flood plain channels, during the fall of 1963, a relatively light water year. Therefore, according to R.O. engineers, these three streams cannot be considered for installation of flood plain artificial spawning channels.

This leaves only Klu Creek as a possible site for construction of a spawning channel. Crest gages will be left in all four streams so that more detailed discharge data may be collected and correlated.

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