

INCIDENTAL TAG RETURNS FROM
A 1970 STEELHEAD TAGGING PROGRAM
ON THE BABINE RIVER, B.C.

by

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During October of 1970 a tag-recapture program was instituted in cooperation with fishing lodges on the Babine River. The primary aim of the program was to obtain a valid estimate of the size of the steelhead populations. It was hoped some ancillary biological information would accrue in later years. This then is the basis of this additional report.

In October of 1970, 156 steelhead were tagged on the upper reaches of the Babine River. For details of the tagging program the reader is referred to a 1971 report "Population, Size and some Other Characteristics of Steelhead in the Babine River, British Columbia" by the author (File 42:02).

During 1972 tags from five steelhead were returned. Two were from fish caught in freshwater, three were from marine or estuarine areas. The data are presented in Table 1. Only limited growth data was available; lengths from three fish and weight from only one. A scale sample was received from only one fish.

Three "types" of activities are represented by the group in Table 1. Fish number 85 represented one activity type, fish number 260 another and fish numbers 275, 234, and 211 yet another type.

Steelhead number 85 is assumed to have ascended the river in August to October of 1970 when it was tagged. It probably held in the Babine River over the winter and spawned in the spring 1971. It is assumed to have returned to the ocean during June of 1971 and stayed in the ocean for some period of time prior to once again reascending the Skeena and Babine Rivers sometime in the fall or winter of 1971-72. It was no doubt

Table 1 - Extended Tag Return Data From Steelhead Tagged In The Babine River, October 1970

<u>Tag No.</u>	<u>Date Tagged</u>	<u>Location*</u>	<u>L.</u>	<u>W.</u>	<u>Date Recap.</u>	<u>Location</u>	<u>L.</u>	<u>W.</u>	<u>Remarks</u>
85M	October 6, 1970	Nilkitkwa Bar	23"	41b	March 1972	Outlet of Nilkitkwa Lake, head of Babine River	?	?	Caught by Indians from Fort Babine in a Gill Net.
260F	October 6, 1970	Cabin Pool	18"	21b	August 5, 1972	Kispiox River, near Corral Creek	19½"		Steelhead or Rainbow? No scales available
275F	October 7, 1970	Cabin Pool	26"	81b	August 8, 1972	Smith Island, at the Mouth of the Skeena R.	29¾"	111b*	Caught by Commerical *dressed Gill Netter. weight
234F	October 9, 1970	Cabin Pool	32"	121b	August 19, 1972	Mouth of the Skeena R. between Tyee and Kwinitsa Stations	32"	?	Caught by Fisheries service test Gill Netter
211F	October 7, 1970	Deadman's Drift	29"	121b	August 1, 1972	Freeman passage between ? Goschen & Porcher Island -s of Mouth of Skeena		?	Caught by Commercial Gill Netter

*All Locations,
Babine River

holding in the Babine waiting for water temperatures to rise and spawning to commence when it was captured. This is the only fish recaptured in the Babine River. It was caught approximately 3.5 miles upstream from the site where it was originally tagged.

Fish number 260 is something of an oddity. It was tagged in October of 1970 in the Babine River and recaptured in August of 1972 in the Kispiox River. It was a small fish (18 inches, 2 pounds) and the question of whether it was a steelhead or resident rainbow immediately comes to mind. It is quite easy for an experienced person to differentiate between large rainbow trout and small steelhead on the Babine system when he is handling quite a few of them. A review of field notes and tagging data regarding this fish indicates that it was thought to be a steelhead, however no scales are available so the possibility of it being a resident rainbow cannot be entirely dismissed. It is assumed this fish had a life history similar to fish number 85 but waited an extra year in the ocean before re-ascending to spawn again. That is, after spawning in May 1971 it returned to sea and spent approximately thirteen months there before re-ascending the Skeena. Instead of returning to the Babine this fish entered the Kispiox system and moved about twenty-five miles up the Kispiox before being captured. The affinity steelhead have for their native stream is unknown but generally it is assumed to be high, similar to that of the Pacific Salmon species. This return to an entirely different Skeena tributary is an interesting opportunity for speculation that the "homing instinct" of steelhead is not so well imprinted as we might think.

The other three steelhead, number 275, 234, 211 represent what is thought to be a normal repeat spawner situation in long run Skeena River steelhead. It is assumed spawning took place in May, 1971 in the Babine River. The fish returned to the sea in June and stayed there for 13 or 14 months before preparing for ascent of the Skeena when they were caught.

The life history pattern is verified by scales obtained from fish 275. A very clear spawning check is evident, following 2 fresh water years and 3 salt water years on the scale. This followed by some marine summer growth, marine winter growth and some further marine summer growth. This life history pattern is further supported by the fact that of the five returns obtained only one had returned to fresh water prior to spending an entire year in the ocean. No returns were obtained in 1971. Narver (1969) found from analysis of Babine River steelhead scales that three of four repeat spawners examined followed the same repeat spawning pattern indicated above.

It is noted that four of the five repeat spawners were females, Narver (1969) found from scale samples analysis that all the repeat spawners he examined were females. This suggests females have some definite advantage in either the kelt stage or repeat ocean life stage related to repeat spawning.


It is extremely interesting to note that while six tag returns were obtained only one fish, number 260, was obtained by angling and that was in the Kispiox River. The other four were captured by gill-net - three near the mouth of the Skeena. No tagged fish have been caught by fishermen on the Babine since the tagging program nor have any been observed

(E. Madsen, R. Wickwire, pers. comm.). It would seem that many factors other than anglers are having considerable effect on the steelhead of the Babine River. In fact, it may be that anglers are having very small effect upon steelhead in that river.

Growth between the time of tagging and time of recapture is small. Despite thirteen months at sea the fish which had fork length measurements reported had; no growth 1.5 inches and 3.75 inches added during nearly a two year period. It is suggested that repeat spawning and repeated ascents of the river has essentially nothing to do with the large size of many of the Babine River steelhead.

References

Narver, D.W. 1969. Age and size of steelhead trout in the Babine River, British Columbia. J. Fish. Res. Bd. Can., 26 (10): 2754 -2760.


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