

FRE

Smithers, B.C.
January 1952 60-2-Regional Supervisor of Fisheries,
Prince Rupert, B.C.

MAY 29 1952

Herewith please find my annual report of the Fisheries
Babine - Morice Area for season 1951. **ENTER No.****A. TREND OF THE SEVERAL FISHERIES.**

There being no commercial fishing in this area we can only follow the trend through Indian Fishery for food purposes and from Sports fishing. The Indian food supply catch at Moricetown fell short of other years with the catch for the year being a total of 4,267 salmon compared with 9,051 for 1950. No apparent reason can be seen for this small catch except that they did not try very diligently, perhaps as a sort of protest against the fishways or because there is so much work around the district that they didn't require the fish. However, in our estimation the fish were there for those who wanted them and several got good catches. It is true that there was not the congestion of salmon below the falls as in former years and we attribute this to the successful functioning of the fishways. The runs of salmon on this system were approximately the same if not better than last year therefore there was fish available for the Indians.

On Babine Lake a total of 19,204 salmon were taken compared to 27,249 for 1950 and 28,525 for 1949, added to this years catch were approximately 3,000 sockeye which were discarded as being unfit for food purposes due to damage and over-ripeness resulting from the Babine River Rock Slide. It was contemplated closing the Indian fishery because of this slide and the reduced number of salmon getting to Babine Lake, but are now glad that it wasn't done because of complications which might have arisen. From observations by us on the Indian fishing grounds we found that the Indians were taking a large proportion of damaged and fatigued fish allowing the less fatigued fish to ascend to the spawning grounds.

In the Bear Lake area there were only two families fishing, taking a total of 400 springs and 150 sockeye. We would like to point out that should the whole Bear Lake tribe of Indians fish the Bear River on years such as this they could take the whole run. Their method of fishing springs is by spear on the spawning grounds.

Sports fishing was particularly good and many good catches were taken. The larger lakes are becoming more and more popular to tourists, many of which are American. The increased use of planes has made most lakes accessible and very little is known of their trips. Rainbow, Charr and Dolly Vardon seem to be the most popular and are taken both by fly and by trolling. There has been an increase in the sports fishing along the Bulkley River for salmon and steelhead.

B. CONDITION OF FLEET OF FISHING VESSELS.

As there is no commercial fishing in this area we have no conventional fishing craft, only those types used by Indians and Sports fishermen. The prosperity of Indians and the improved roads allowing better accessibility to the sports fishermen has added more and better craft to our lakes.

C. DEVELOPEMENT OR CHANGES.

The Fish Culture and Development Branch had a number of projects in this area this season namely;

1. The Moricetown Fishways under Engineer M.H. Campbell were worked on during the winter of 1950-51 and completed far enough so that it could be operated successfully for the Salmon

C DEVELOPEMENT OR CHANGES Continued

runs this season, some improvements and maintenance work was completed this fall but Engineer Campbell expects to return next spring as high water did not permit him to finish.

2. The Babine Lake stream clearing program under Engineer J.B. Dyson was continued until high water and the arrival of salmon. Improvements were made on Pierre Cr.; Twin Cr.; Nine Mile Cr.; Five Mile Cr.; Sockeye Cr.; and Hatchery Cr.; he expects to carry on more improvements and maintenance work next year.

3. Biologist J. Stokes carried out a tagging program at Moricetown Canyon and then remained on the Nanika River spawning grounds until almost the end of the spawning to check results. He estimated the run at being 59,800 Sockeye. The rugged terrain, lack of equipment and fast water, made this inspection very difficult, however I feel that his estimate is very close. His work was in connection with the proposed Alcan project in that area. Indications show that extensive survey work has been carried on about a half mile below the Nanika River Falls for a dam site. Water readings are being very rigidly kept.

4. The biggest undertaking in this area will be the removal of the rock slide on the Babine River. This was discovered during the first part of the sockeye run arriving at the Babine River counting fence. A trip was made into the slide area and a survey made with the result that it was decided to build a road into the slide from Hazelton so that supplies could be transported there in an effort to have the slide removed. Work has progressed under Engineer J.B. Dyson until they now have a road pushed through the bush about half way from Hazelton to the slide.

Captain R.C. Mercer and crew arrived at Babine Lake to work on the F.P.L. Branta. They installed a reduction gear which greatly improved the performance, overhauled the engine, and some work was done on the controls but as yet they are not satisfactory.

The Fisheries Research Board operated the Counting fence on the Babine River again this season giving us a final count of 152,457 Sockeye; 50 Pinks; 2,778 Springs; 2,122 Coho; or a total of 157,407 Salmon. They first reported to us that salmon were arriving at the fence in a damaged and fatigued condition which started the investigation to find out what was causing these fish to be in this condition. It was then discovered that a large rock slide had come into the Babine River about 8 air miles up stream from the Indian Village of Kisgegas. We should like to take this opportunity in thanking them all for their co-operation with us in all ways.

The Fisheries Research Board also operated an adult and fry counting fence on Wiggins or Six Mile Creek. After considerable difficulty with leaves and refuse coming down stream under freezing conditions they were able to get some idea as to the number of fry that came down although it was not an accurate count. This season the water was so low that salmon were unable to enter this stream. We hope that this years disappointment will not deter them and cause them to abandon these studies, we wish them more success in the future.

D. ABUSEMENTS

There were very few abusements this season and nothing that required legal action.

E. CLOSE SEASONS

Weekly close seasons were well kept this year and no difficulties were encountered in enforcing them.

F. STEPS TAKEN FOR PREVENTION OF ILLEGAL FISHING.

A Guardian was stationed at Moricetown Canyon to take a count of the Indian Food supply catch, to prevent illegal fishing and sale of salmon by the Indians, to regulate fishing and to inspect several spawning grounds.

On Babine Lake a patrolman was situated at Fort Babine and his time was spent in checking Indian Fishery for food purposes only, patrols for illegal fishing, repairing equipment and buildings. A Captain - Engineer was employed on the F.P.L. Branta during the greater part of the season. The Junior Inspector spent considerable time on the F.P.L. Branta making inspections of creeks, sawmills, making general patrols, and co-operating with the Fish Culture and Development Branch Stream Clearers, and the Fisheries Research Board. The Senior Inspector, organized the activities, purchases of supplies etc., and made considerable use of the Department owned vehicle to carry out patrols, prevention of illegal fishing, sale of salmon by Indians and for stream inspections.

G. THE PROTECTION OF WATERS FREQUENTED BY FISH.

A check is constantly made of sawmills in this area which are scattered over the whole district. Most of these are very mobile and therefore a check has been made of them quite frequently. The many mills and increased population in the bush has increased the fire hazard to our watersheds.

There are several mines in the area that have developed to the point where they are now erecting mills. The most advanced being the Cronin Mine situated above Chapman Lake and on the Fulton River watershed. Final plans for tailing disposal and settling basins have not been made as yet.

The Sil-Van Mine situated near Aldrich Lake or the old Duthie Mine site are now surveying for a mill and expect to have approximately 100 men working before spring. They have informed us that as soon as surveys are finished plans will be available to the Department for their approval.

The Glacier Gulch Mine situated on Hudson's Bay Mountain close to Smithers have done a lot of preliminary drilling but so far have not started on a mill. Periodic patrols have been made in the above areas to keep track of progress.

H. CONDITION OF FISHWAYS.

The fishways at Moricetown, which were almost completed this spring just as high water came, seem to have weathered the water very well and from all indications they worked to our satisfaction. More work was done this fall but high water prevented them from finishing it.

I. SPAWNING CONDITIONS.

SOCKEYE

In the Bulkley River system sockeye arrived slightly later than usual at the Moricetown Canyon. They did not show up in great numbers as in other years and have learned that the fishways must have been aiding them even though we were unable to see them working. Biologist Stokes and Crew spent some time tagging etc. at Moricetown and then went to Manika River to make count of the run on the spawning grounds of the Manika River. He estimated the run at being 58,800 sockeye, all seemed to be in good condition except for gaff marks from the Indian fishery, sexes about even. Water levels were low but there seemed to be sufficient gravel to handle the amount of salmon. At the time of our trip to this area the spawning had just started and I believe that considerable more entered the area after we left. I believe Biologist Stokes made a very close estimate.

In the Bear Lake area we were very disappointed with the run, the streams were very poor, almost all the salmon had died when we arrived but by the reds it didn't compare with anything we had

SOCKEYE Continued -----

previously seen. Lake spawning which usually constitutes a large part of the spawning in this area turned out very poor. We have been unable to find out the reason for such a poor spawning. Water levels were extremely low but salmon seemed to surmount all places without difficulties.

From the Counting fence on the Babine River we have received the following data through the courtesy of the Fisheries Research Board, on the sockeye run. A total of 152,457 past through the fence and of these 7.2 % were Jacks. From Samples taken sexes were just about even. 27.4 % were damaged or injured, this was blamed on the Babine River Rock Slide. Subtracting the loss from injured, fatigued, and the Indian Fishery some 110,000 sockeye reached the spawning grounds. On arrival of the first run, water levels were very low, some of the smaller streams being too low to take a run, the result was that the medium sized streams had a fair run and seeding comparing favourably with other years, the reduced run was noticeable on the large streams and rivers and these were very light. These also had the bulk of the Jacks plus the biggest percentage of the injured and fatigued fish. Lake spawning also reflected the reduced run this year with only one spot just below the island in Nilkitkwa Lake that could be said to be heavy. From observations of the spawning it was noted that many of the fatigued sockeye, though spawning, did not seem to be digging redds or polishing gravel, therefore the efficiency of the spawning was doubted, the percentage of these fish was not high though. From egg samples taken at the time we could not see any difference between these eggs and vital fish. We feel that the low water will be an advantage this season as all the eggs will be in the channels and therefore well protected by the present water levels.

SPRINGS The run of springs on the Babine River was very light and was also blamed on the Babine River Rock Slide, until our patrol of Bear Lake Area when it was found that the run there was also very light. The Bulkley River system although not nearly so noticeable was I believe lighter than the preceeding year. The whole spring run to this area must therefore have been light. I think that the Slide did hold up a good number of Spring on the Babine River run. Springs all seemed to be of good size and the sexes seemed about even.

PINKS The Pink run to the Babine River can be counted as negligible as they were nearly all stopped by the slide, 50 were counted through the fence. From patrols below the fence only an odd Pink was seen. In the Bulkley River there were a few through Morissetown Canyon but other duties and the large varied area they may have gone to kept me from finding where they eventually spawned as this was the first run above the Falls and we didn't have an inkling where they would go.

This was supposed to have been a good run on the Bear River this season but they didn't arrive in the numbers we had expected. A time of our patrol the spawning was practically over, with many dead, count of which was about 2,000.

COHO On the Babine River the fence count was 2,122 and it is thought that a few more entered after the fence was opened and from observations made of the numbers on the creeks. However these were also held up because of the slide. In the Bulkley River system a fairly good run entered the spawning areas, on some creeks the escapement was quite heavy. Low water and early freeze up made inspections difficult, then on Oct. 26th. we had warm rains and wind which melted snow and brought up the Bulkley River to a point just short of being as high as in spring run off. The results of this are not known and extremely high water then made the inspections more difficult as the water was so dirty that they could not be seen.

CHUMS No Chums entered the area this season that I know of.

STEELHEAD An excellent run of steelhead entered the area early in the spring of 1951 and a medium run again entered the area this fall. They were seen in some numbers in the Babine River and it was assumed that they had negotiated the slide without too much difficulty.

DOLLY VARDON This predator abounds in the lakes and streams of this area. They become good sized and many sports fishermen like catching them.

J. GUARDIAN SERVICE.

The Guardian service in the Babine - Morice Area is comprised of a Guardian at Moricetown Canyon and a Patrolman at Fort Babine on Babine Lake.

K. - SUMMARY.

A large rock slide in the Babine River blocked salmon entering Babine Lake to such an extent that only about 150,000 passed through the counting fence, this will cause a great loss to the industry. Counting those which died unspawned from damage or fatigue, Indian Fishery etc. an estimated 110,000 Sockeye spawned in the Babine Lake area. In order to clear this slide a road is now under construction from Hazelton to the slide.


A stream clearing crew under Engineer J.B. Dyson made improvements to six streams in Babine Lake. In this season of low water this work has helped greatly. In many cases salmon would not have been able to get up the creeks.

The Small number of salmon of all species in the Bear Lake area was particularly noticeable in comparison with past years. We can not find and reason for this as the slide in the Babine River should not have any effect in this area. In general the Bulkley River system was somewhat better than other years, springs and coho in the Bulkley River above Houston seem to be gradually increasing, whereas the Springs in the Morice River dropped slightly. In the Nanika River Sockeye seem to have slightly increased and should compare fairly well with cycle years, although there is no report for part of it.

This season water levels were lower than have been seen for some time. Salmon were only able to spawn in the channels and therefore there shouldn't be any danger of freezing as water levels have remained almost constant if not slightly higher.

The large increase in industry over this country hasn't caused much concern in this area as yet but under certain conditions it could have a great effect, for example the placing of a dam on the Nanika River by the Aluminum Co. would cause a great loss in the Bulkley River system.

The Department owned truck was used to transport supplies etc. to different camps and to facilitate the inspection and control of the area.


W.K. Elliott
Fishery Officer.

WEATHER CONDITIONS.

There was a heavier than normal snowfall during the winter of 1950-1951 and temperatures were generally lower than normal. Water levels were low during the winter, but snowfall protected the exposed spawning beds from frost, and little loss is expected from this cause.

The Spring run-off started early and by the time that fry started to emerge from the gravel, water levels were back to normal. This run-off was gradual and at no time did rivers come up to flood stage. After the spring rise in water, levels dropped rapidly, and due to a long dry summer remained unusually low until well into the fall. This low water was not considered to be harmful to this years spawning because, although a few of the smaller streams that usually carry a few hundred fish were barren, the larger streams were well seeded and all spawning was well down in the stream beds and will not be harmed by frost this winter.

There were three sepearte flash floods in the Terrace vicinity this fall, and there is no doubt that some damage was done on the spawning grounds. This condition was local and streams in the Hazelton vicinity and further north did not suffer to any extent. weather in the, early winter and up to New Year was mild and snow-fall was light.

SPAWNING GROUND SUMMARY.

Spawning ground inspections were made throughout the area and stream reports were submitted on most of the salmon streams in the district.

Sockeye.

The total sockeye run this year was about 27,000 fish, which is about average for this area. It does not approach the 1948 figure of 59,000 but is equal to the 1949 run and better than the 1950 run of 20,000. Lakelse lake spawning grounds were lightly seeded in comparison with the cycle year, but Allistair lake, Kitsumgalum river and Kispiox river systems more than made up for this loss.

Springs.

Only a few of the smaller streams in which spring salmon spawn in this area are clear enough to get an accurate account of numbers, and the larger streams, such as Kitsumgalum and Cupper rivers, which are known to carry the bulk of the run, are to silty for accurate observation. For this reason a definat figure can not be put on the spring escapement, and only a comparison can be made from the Indian catch and from the few fish found in the smaller streams. The spring salmon run was a little below normal this year.

Cohoe.

The coho run was estimated to be about 34,000 fish on the streams that were inspected this year. There is no doubt that this figure is low as spawning takes place on some of the larger rivers where an accurate is impossible. This years run compares favorably with 1948 and is better than the runs of 1949 and 1950.

Pinks.

The pink escapement Of about 310,000 fish is the best for any of the odd years that I have been in the area. This run has been increasing in the odd years since 1947 and this year was nearly as good as the 1950 run.

Several of the small streams in which this variety spawns were too low to carry any fish, but the larger ones, such as Lakelse river, Kitwanga river and Kispiox river were much heavier than the cycle year.

Chums.

Chum spawning in this area is scattered with the heaviest seeding being found on Lakelse and Kitwanga rivers and some of the sloughs on the Skeena river on the lower part of the district. Lakelse river had a heavier seeding than 1948, while the rest of the larger streams were about the same as 1948. Some of the smaller streams were barren due to low water. A total of about 11,000 fish can be considered a good average spawning.

Steelhead.

Taking the average from the Indian catch and from catches by sport fishermen, the steelhead run can be considered better than last year and about the same as in 1948.

Sportfishing.

Fishing was generally good, with an increase of sportfishermen due to the increase in the population in the Terrace district. Good catches of steelhead were taken from the Copper river in the early spring.

INDIAN FISHERY.

The Indian catch has been gradually getting lighter in the Terrace-Lakelse area. The following figures are given for comparison.

	1951	1950	1949
Sockeye	6,628	9,344	11,190
Springs	730	721	1,046
Cohoe	1,072	1,216	2,534
Steelhead	468	338	890
Pinks	1,710	2,305	1,573
Chums	86	67	46
	<u>10,694</u>	<u>13,991</u>	<u>17,239.</u>

Only 68 fishing permits were issued in the area this year compared to 97 in 1950 and 84 in 1949. More Indians went to the canneries this year during the salmon season and increased wages in the sawmills in the area have taken others away from their usual fishing.

A few more barbed gaff-hooks were supplied to the Indians at Hagwilget Canyon and a few others are using an improvised wire dipnet, but the majority are slow in taking up new methods of fishing.

VIOLATIONS.

Two charges were laid by the inspector under the Fisheries Act and in both cases fines of \$100.00 were paid.

Two other charges were laid by the local game warden which resulted in a \$50.00 fine in each case.

The area was covered as often as possible by inspector and Guardian and a close watch kept on the fishing spots in the area. Rosters were put up and regulations discussed with fishermen in course of patrols. Inspection of logging operations in the vicinity of salmon streams were carried out and no violations found in this respect.

GUARDIANS.

One Guardian was employed in the area this year. This Guardian, Mr. G.F. Ironside was employed in the Hazelton vicinity and looked after the Indian Fishery in that area as well as making routine patrols and doing the spawning ground inspections on local streams. This man has been employed in the area for several years and his services have been satisfactory.

LOGGING.

LOGGING.

There was a general increase in logging in the area during the year.

Columbia Cellulose Co. started logging on their limits along the west bank of the Kitsumgalum river and have a logging road completed about 16 miles long from which they bring out their timber.

They continued with their river driving operation, started last year, in the main Skeena river, but met with very little success as they lost a great deal of timber. It is practically certain that they will discontinue log driving for the present, with the exception of some contemplated rafting on the lower river.

A spur has been put in on the west bank of the Kitsumgalum river and logs are being loaded at this point for shipment by rail. They have continued their operations at Shames and Exstew and have also purchased quantities of timber from local contractors in the area. A few small portable mills have been put into operation but as yet none of these operations have directly interfered with salmon streams. The logging along the Kitsumgalum river, while it has had no direct affect on the stream as logging has not been right up to the banks, may as it continues, and as larger areas are cleared, be the cause of scouring and flash floods in the future.

WATER RIGHTS.

Two applications for water rights were investigated and passed in this area, as in both cases they were on small streams that are not salmon producers.

Detailed reports were submitted on both the Kitsumgalum river and the Zymoetz (Copper) river in regards to salmon runs on these streams and the effect power projects would have on their productivity.

A survey crew from the Water Rights Branch spent the summer making a survey of the Copper (Zymoetz) river both for a power site on the lower river and for a holding dam on the upper river in the vicinity of McDonnell lake.

SEAL HUNT.

The annual seal hunt was carried out by inspectors Gelley and Giraud on the lower Skeena river. A total of 158 seals were killed this year. The seal population appeared to be about the same as last year with the exception of the number of yearlings which showed a definite reduction over previous years.

STREAM CLEARING.

The only stream clearing carried out this year was the clearing of a large beaver dam on Falls creek at the head of the Kispiox river system. This dam was cleared during the first of the sockeye run to the area and later inspections to the area showed it was still clear.

BABINE RIVER SLIDE.

A large rock slide was found on the Babine river during a patrol of the river by aircraft. This patrol was made because the number of dead and damaged sockeye in the main river indicated some stoppage up stream.

A ground party was put in to this slide by packtrain in order to survey the damage and estimate the cost of removal.

At present a crew of men are engaged in building a road into the slide in order that supplies and equipment can be transported there.

KEY STREAMS.

A program of redd sampling and stream survey was set up on Key streams, in which certain streams were visited periodically and water levels, temperatures, depth of snow and ice recorded, and a few redds sampled to try and get an estimate of survival rate.

EQUIPMENT.

No new equipment was supplied to this area during the year. All equipment operated efficiently, although the panel truck supplied in 1949 naturally showed some increase in cost of operation.

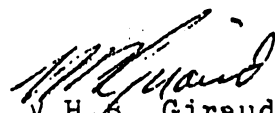
The increase in logging operations by Cellulose Co. and the project by Alcan at Kitamat have increased the population of the area considerably.

During the summer two survey crews were operating out of Terrace. One by the Canadian National Railways to find a grade for a railroad between Terrace and Kitamat and the other by Kitamat Construction Co. to locate a highway route between these points.

It is understood that construction of both a railroad and a highway will be started at an early date.

Mining in the Hazelton area was quite active, with expansion done by Silver Standard Mines, work on the Old Rocher De Boule mine and the Red Rose Tungsten mine by Western Uranium Mines, and development work carried out on American Standard.

Terrace, B.C.,
January 28th 1952.


V.H.B. Giraud,
Fisheries Inspector.