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HABITAT CONSERVATION FUND

FINAL REPORT

PROJECT NAME: Unnamed Kispiox Lake (Bartok Lake)
Outlet spawning gravel placement

FISCAL YEAR: 1991-92

BACKGROUND:

This small formerly barren lake has been stocked annually with rainbow trout since 1988. There are two inlet streams. One inlet stream has no spawning potential and the other supported limited spawning. The outlet stream flows all year but had extremely poor quality spawning habitat. Gravel placement in the outlet stream improved spawning potential thus eliminating the current annual stocking requirement.

OBJECTIVE:

To construct artificial spawning pads for rainbow trout on the outlet stream (Bartok Creek) of Bartok Lake.

TECHNICAL DETAILS:

A contractor with a Case 510 4 x 4 backhoe and a 6.1 metre extendahoe was hired to excavate mud and debris from the old stream bed to a depth of 50 cm. After the excavation was completed the backhoe used a 0.5 yard bucket to transport 18 yards of washed, screened gravel to the new channel. The gravel varied in diameter from 1.3 cm to 2.5 cm. Groups of boulders were placed across the stream channel to contain gravel movement and achieve greater water depth. This created the appearance of a series of shallow steps. In addition, some large boulders were placed strategically to create some habitat diversity, and holding areas for spawning fish. A mixture of grass seeds (Aliske clove and Timothy) was then broadcast along the stream banks to help stabilize the area disturbed during excavation.

RESULTS:

The gravel and boulder placement was completed and rainbow trout were observed on the gravel the following spring. Beavers had constructed a dam at the lake outlet which was removed on May 29, 1991. The enhancement was assess again on June 15, 1991. About six pairs of rainbow trout were observed on the gravel. Spawning

generally occurred earlier than normal this year and monitoring was possibly too late. Additional monitoring should be conducted in the spring of 1992.

PUBLIC REACTION:

As the enhancement site is directly adjacent to the road and rainbow trout can be seen surfacing on the lake, there is now a well worn trail beside the creek to the lake. Angling success is excellent with limit catches easily achieved. The rainbow trout average 30 cm and can be observed spawning on the enhancement site. The public have been informed of the fishery through the lake stocking summaries for Skeena region.

BUDGET DETAILS:

Of the allotted budget of \$2,380.00, a total of \$1,248.00 was originally spent on the contractor and gravel. The remaining \$1,131.00 will be used to complete the assessment of the project and install the H.C.F. public information sign.

CONTRACTOR PERFORMANCE:

The contractor hired to develop the enhancement site performed satisfactorily. He had a good understanding of the project, and an adequate knowledge of fish habitat requirements. He strived to complete the project within the allotted budget, and it is felt the Ministry received a very good product for its investment.

RECOMMENDATIONS AND SUGGESTIONS:

From the initial assessment the project appears to be a success. Further assessment of utilization will be necessary to get an accurate estimate for the number of trout using the gravels. The outlet stream should be monitored during the spawning season to remove recurring beaver dams. The lake should be sampled within the next three years to assess the growth rates of the rainbow trout, to assess recruitment from the spawning pads and to determine if further stocking will be required.



R. Tetreau
Fisheries Technician
Recreational Fisheries Branch

PHOTOGRAPHIC RECORD



1. Outlet of Bartok Lake,
May 29, 1991.

Note: Windfall across Bartok Creek
during the winter.

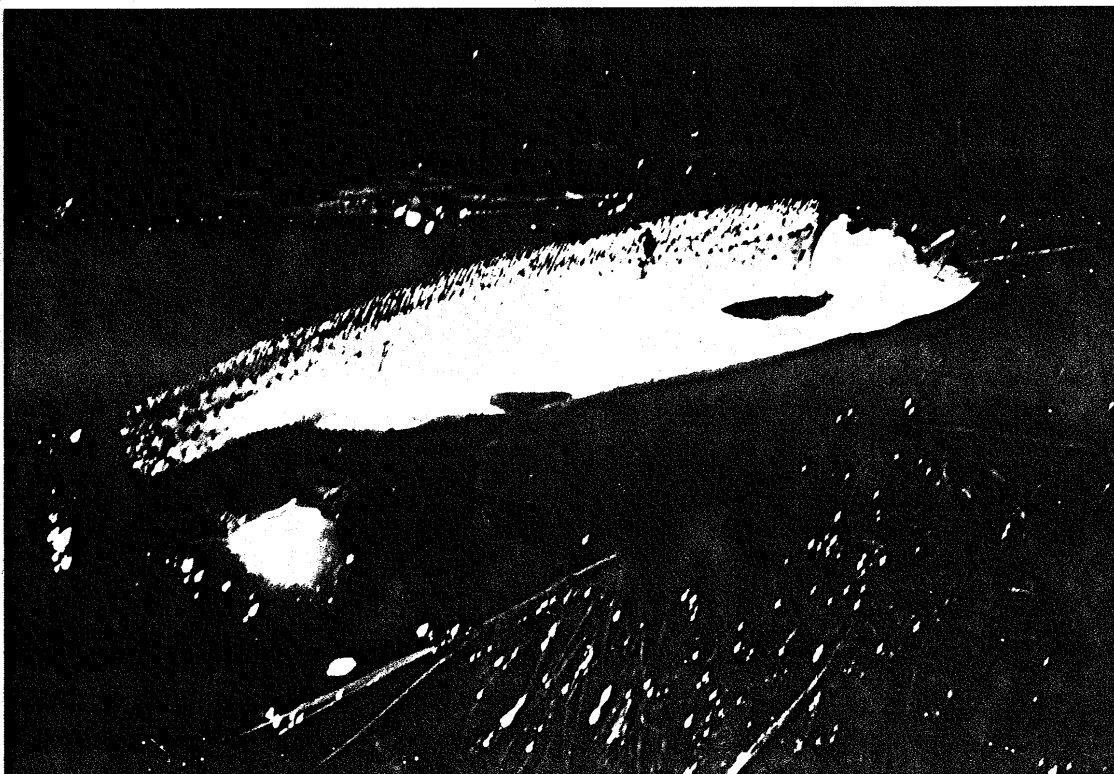


2. Bartok Creek, upstream of logging
road.

Note: Growth of vegetation beside
enhancement site.



3. Small beaver dam at outlet of Bartok Lake.



4. 30 cm Rainbow Trout from Bartok Lake.

FOR FURTHER PHOTOGRAPHIC DETAILS SEE THE ENCLOSED PROGRESS REPORT.

**HABITAT CONSERVATION FUND
HABITAT ENHANCEMENT PROJECT
PROGRESS REPORT**

1. **NAME OF PROJECT:** Unnamed Kispiox Lake outlet spawning gravel placement
2. **REPORTING PERIOD:** August 15, 1990 to March 31, 1991.
3. **OBJECTIVES:** The construction of artificial spawning pads for rainbow trout on the outlet stream (Bartok Creek) of an unnamed Kispiox Lake.
4. **TECHNICAL DETAILS:**

4.1 WHAT WAS DONE:

The enhancement site was located about 80 km north of Hazelton adjacent to a mainline logging road (Mitten Main). ON September 25, 1990 a case 510 4 x 4 backhoe with a 20 foot extendahoe was used to excavate the mud and debris from the old stream bed, to a dept of 50 cm.

The backhoe started digging at the log culvert under the logging road and dug the channel out as it moved upstream to the lake outlet. The new channel was 26 metres long and varied between 2.5

metres and 6 metres in width. A small beaver dam at the lake outlet was left in place to keep water out of the work area. After the excavation was completed the backhoe used its .5 yard bucket to transport the 18 yards of washed and screened gravel to the new channel. The gravel varied in size between .5 inches and one inch. After the gravel was placed in the channel the backhoe moved up to the lake outlet and placed the remainder of the gravel. The beaver dam was then removed to allow the creek to flow down the channel. The backhoe then proceeded to level and cleanup the worksite in preparation for seeding the area with grass seed.

The stream was turbid after the beaver dam was removed consequently it was not possible to place boulders across the stream channel.

On October 2, 1990 groups of boulders were placed across the stream channel to contain gravel movement and achieve greater water depth. This created the appearance of a series of shallow steps. In addition, some large boulders were placed strategically to create some habitat diversity, and holding areas for spawning fish. And finally, a mixture of grass seeds (Aliske clover and Timothy) was broadcast along the stream banks to help stabilize the area disturbed during excavation.

To date \$1,248.91 of the budget of \$2,380 has been spent. In 1991 there will be additional costs associated with completing this project. These will be primarily administrative and travel

expenses. Also, about \$800 to \$1,000 should be earmarked for a public information sign to be erected at the enhancement site.

4.2 MONITORING THE ENHANCEMENT METHOD

A preliminary assessment of the enhancement can be made in the spring of 1991 by simply observing the spawning gravels to see if any rainbow trout are using them. It is anticipated this will be done several times between mid May and early June.

5.0 INITIAL RESULTS

The gravel and boulder placement was completed and it is anticipated that spawning rainbow trout will use the gravel. the possibility that beavers may construct another dam at the lake outlet will have to be monitored through the spring and spawning season.

6.0 PUBLIC REACTION

As the Kispiox unnamed lake is on a mainline logging road between the Kispiox and Kitwanga valleys, the public is already aware of the angling opportunities for rainbow trout. The enhancement site is directly adjacent to the road and will provide the opportunity to observe rainbow trout spawning in May and June. The public will be informed through the lake stocking summaries for Skeena Region.

At the Kispiox and Hazelton area Sportfish Advisory Committee meeting the issue of stocked lakes in the Kispiox valley was discussed. The fishing guides and lodge owners were informed of the various stocked lakes and the HCF project on the Kispiox Lake (Bartok Lake).

7. PHOTOGRAPHIC RECORD

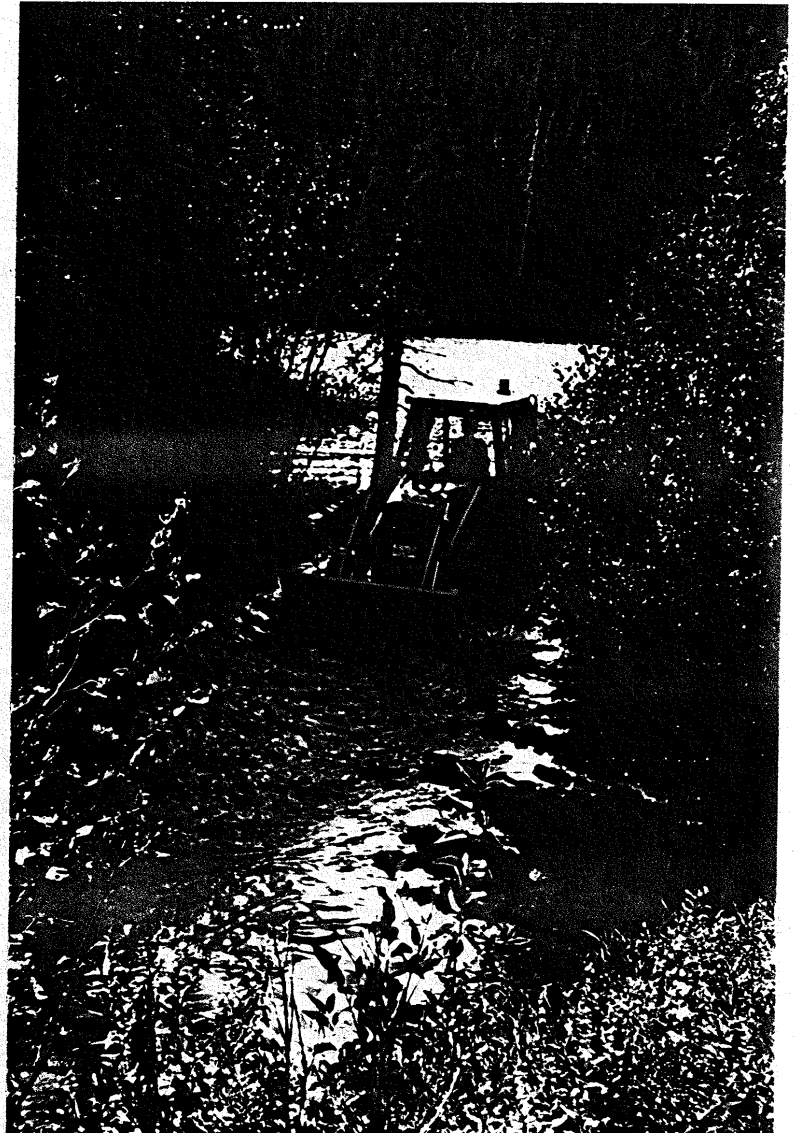


1. Lake outlet prior to enhancement

2. Bartok Cr. upstream of log culvert
prior to enhancement



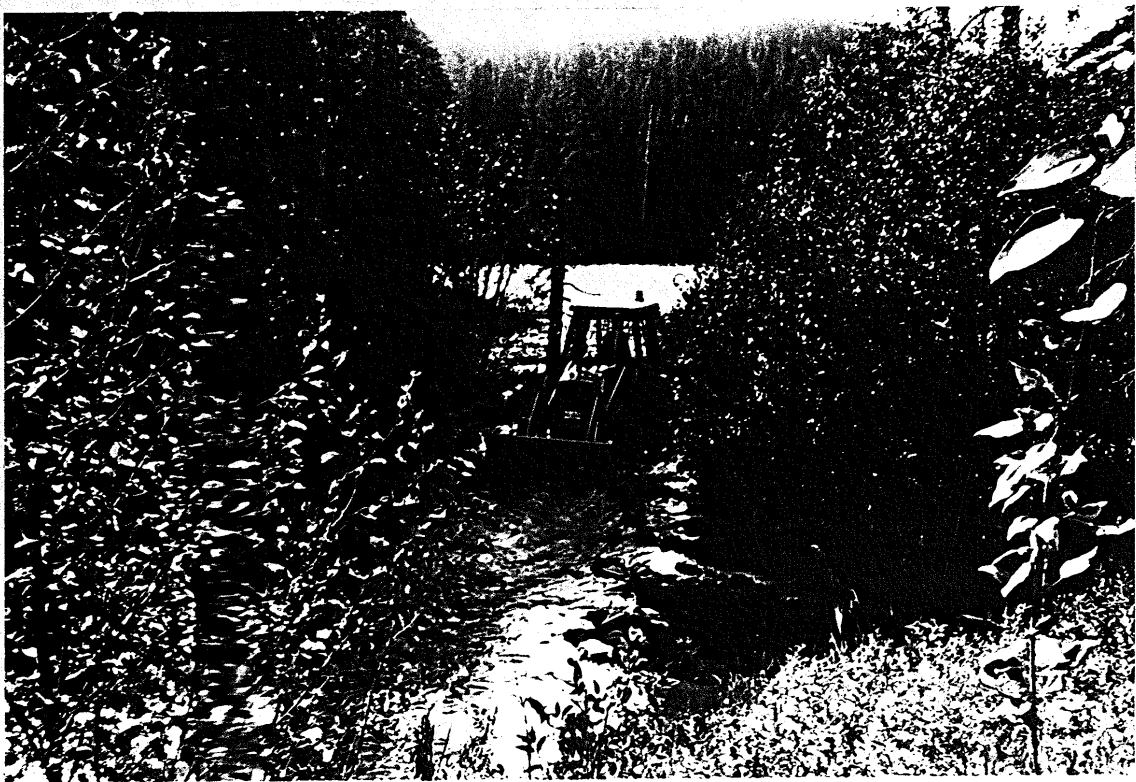
3. The backhoe excavating the old stream channel



6. The backhoe removing beaver dam at lake outlet



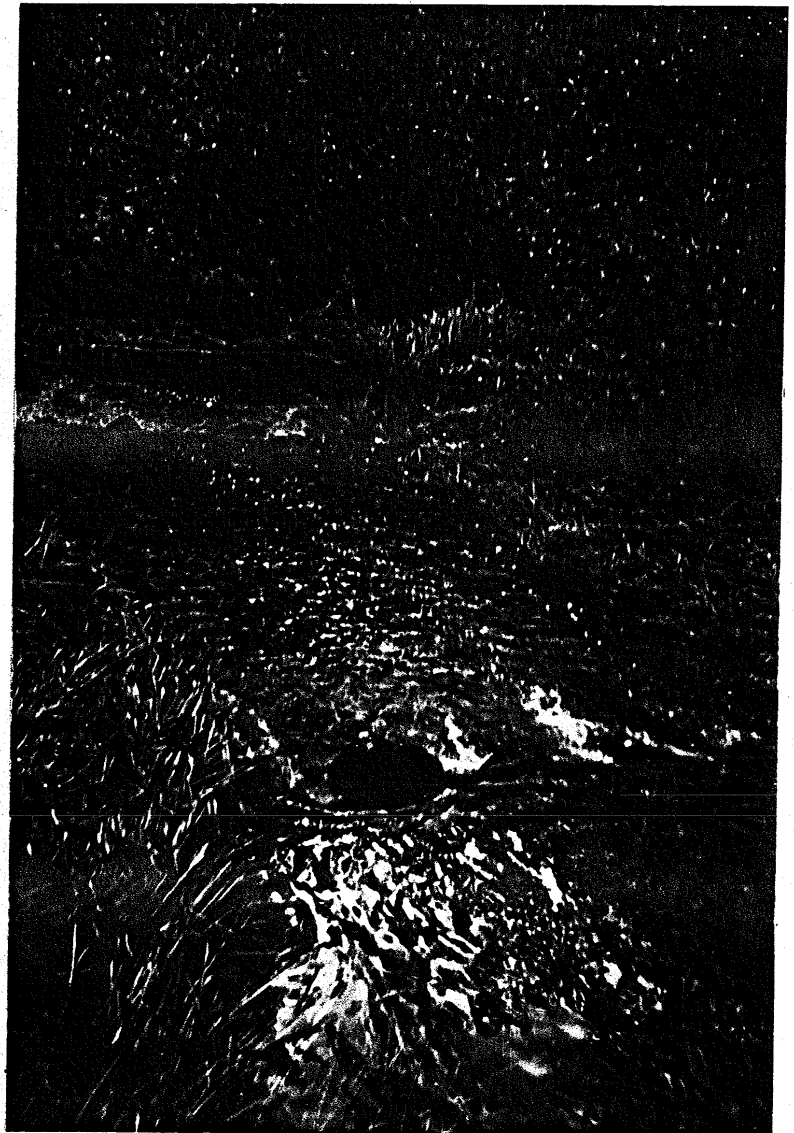
4. The backhoe placing gravels in the new channel



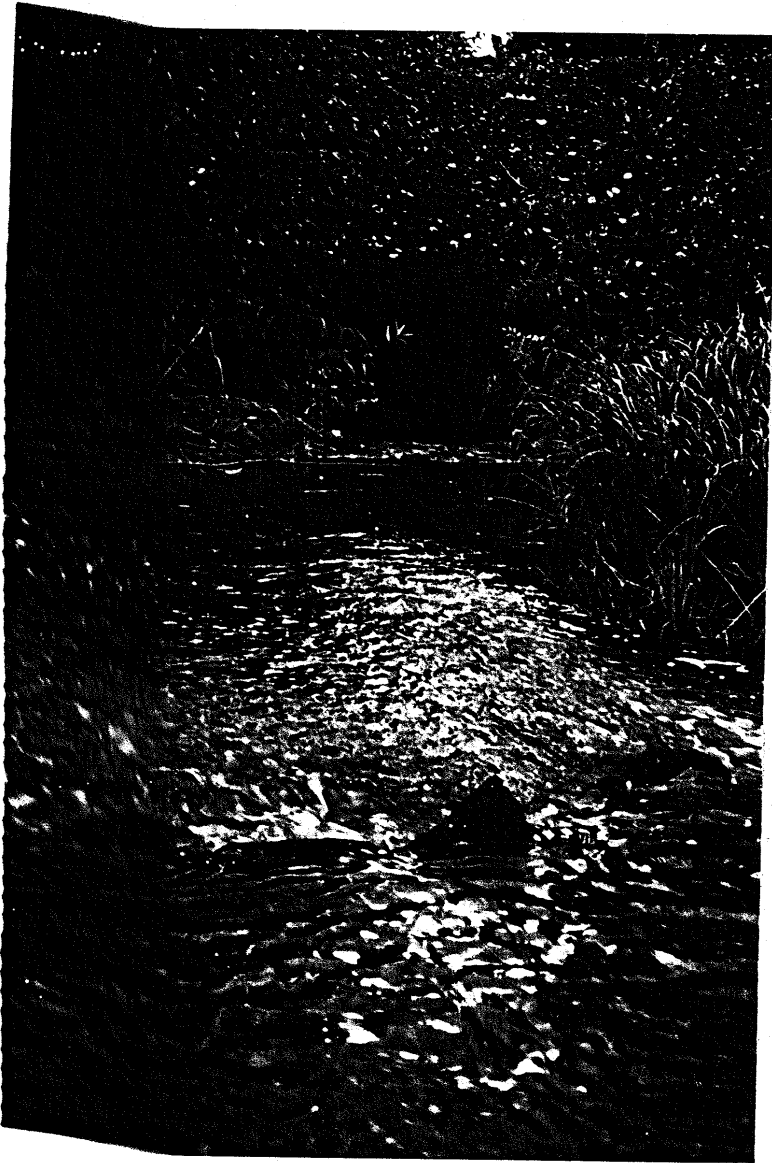
5. The backhoe removing beaver dam at lake outlet



8. Lake outlet after enhancement



9. A portion of the stream showing boulder placement and newly placed gravels (logging road with log culvert)



10. A portion of the stream showing
boulder placement and newly
placed gravels (logging road
with culvert)



11. Portion of Bartok Creek upstream
of log culvert

8. BUDGET DETAILS

The budget that was submitted and approved is as follows:

Code

20 Contracts

Backhoe - 8 hrs @ \$50.00/hr.	\$400.00
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Lowbed - hauling	\$400.00
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Gravel - Purchase and delivery

20 yds @ \$9.00/yd.	\$180.00
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2 loads @ \$250.00/load	\$500.00
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20 Sign	<u>\$900.00</u>
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Total	\$2,380.00
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Expenditures to date are:

Code

20 Contracts

Gravel	\$157.41
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Hauling	\$425.00
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Backhoe and hauling 11 hrs @ \$55.00/hr	\$605.00
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30 Administration

Travel expenses	\$ 61.50
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Total	<div style="border-top: 1px solid black; display: inline-block; width: 100px;"></div> \$1,248.91
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There is no outstanding commitments to be charged against this fiscal budget. However, it is requested that \$1,000 be set aside

for construction, painting and placement of a public information sign at the enhancement site.

9. FUTURE ACTIVITIES

As discussed previously, future activities will entail completion of the project (assessment) and placement of the public information sign.

R. Tetreau
Fisheries Technician
Recreational Fisheries Branch

10. APPROVAL

1.

Program Manager
Fisheries Branch

Date

Regional Manager
Fish and Wildlife

Date

Director
Fisheries Branch

Date

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