

STATE OF ALASKA
DEPARTMENT OF FISH AND GAME

P. O. BOX 499

SITKA, ALASKA

PHONE 747-8488

January 8, 1965

Attn: Regional Forester
Mr. W. L. Sheridan
U. S. Forest Service - R-10
Box 1631
Juneau, Alaska

Dear Bill:

This letter is in regard to the proposed study and plans for laddering Plotnikoff Lake stream near tidewater in Port Banks. After giving this project more consideration, it has been agreed, by both the Sport Fisheries Division and the Commercial Fisheries Division of the Alaska Department of Fish and Game, that this falls does not constitute a serious obstacle to migrating salmon and if circumstances remain the same, this area should be left in it's natural condition. Although I can agree with several of your statements regarding this project, especially your assumption of the condition factor of salmon after negotiating the falls, there are several reasons for our decision, some of which are --

1. After several years of observations, there has been no visible evidence of salmon mortality due to attempts at negotiating these first falls;
2. Under natural conditions the watershed is supporting a healthy and consistent run of cohos, in fact, the most significant coho run in the entire Sitka area;
3. Construction of an easier access to the system may allow predators or competitors to enter, I am thinking especially of Dolly Varden Trout which are now known to migrate from stream to stream with evident ease, another predator might be the sculpins.

We appreciate your concern in the project and the studies you have made in an effort, by your department, to enhance the potential of this system. However, I fear that such a proposed structure may disturb the natural balance which has been established in the system.

The Department of Fish and Game will continue to study the area and if circumstances should change our position, we will keep you informed.

May I suggest, Bill, if time and funds are available, that a feasibility study be made of the Goulding Lake System. Perhaps we could arrange for a co-operative study of this system

TO: W.L.Sheridian

FROM: J.W.Parker

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utilizing equipment which we have available at our Sitka office. As I have probably mentioned to you before, this system appears to me to have a tremendous potential for Sockeye production. However, I base my opinion only on preliminary observations. Gil Ziemer, our Department Engineer, has also made preliminary cost estimates for a pass to the upper lakes. If you think this project has possibilities, Bill, I could arrange my work accordingly to assist you in further study of the area.

Sincerely yours,

ALASKA DEPARTMENT OF FISH AND GAME

James W. Parker,
Area Management Biologist

JWP/bb

CC: Roy Rickey, Region Supervisor
Commercial Fisheries
ADF&G - Juneau
Rupert Andrews, S.F. Biologist
ADF&G - Sitka

MEMORANDUM

State of Alaska

TO: Roger Wadman
Management Biologist
ADFC, Juneau

FROM: Rupe Andrews

DATE : 11/2/64

SUBJECT: Plotnikof Survey - 1964

Next month in Juneau we can discuss the Port Banks fishway in detail. I will reserve discussion on several points until then. - Suffice for now - if Port Banks is laddered one of the most popular & attractive sport fisheries on Baranoff Island will be closed to sport fishing under section 203.28. Do we want this? Especially when the Cohos make the falls.

I do have scale samples & lengths from rainbow trout taken this summer from Plotnikof, Daviclof and Reganof. Khrostof would be the same as Reganof for age & species composition. No data on Gor Lake. Will work this up for December meeting.

Rupe

MEMORANDUM

State of Alaska

TO: Rupe Andrews
Fishery Biologist
ADF&G, Sitka

DATE : October 28, 1964

FROM: Roger Wadman
Management Biologist
ADF&G, Juneau

SUBJECT: Plotnikoff Survey (Sheridan)

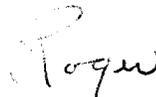
One of our prime rainbow lakes in Southeast. I guess their concept is, if you can't log it -- ladder it.

I seriously doubt if coho will be the species they end up helping. What is more natural than reds in a lake system.

Undoubtedly, steelhead, cutthroat and dollies would receive a "shot in the arm" from the proposed ladders but do we want them? Looks like another Goulding Lake deal to me.

Rupe, I haven't much on lower Baranof. Do you have, or can you get comparisons of ages and growth from Plotnikoff, Davidof, Rezanof, Khvostof, and Gar Lakes. I realize this work can't be done until next spring, but from the looks, it will be worth having. (Gar Lake is next large lake with cabin below Khvostof Lake.)

If you need any help on this survey, sing out.


Roger

RDW:dre
Attachment

Prop. ^{ASW}
Committee attached
LW 2/3

FINAL EXAMINATION OF PLOTNIKOFF LAKE SYSTEM

Sitka Ranger District

On August 8, 1964, I accompanied Brit Ash of the North Tongass Supervisor's Office on a salmon habitat reconnaissance of Plotnikoff Lake and outlet.

Lake Plotnikoff (surface area about 300 acres) discharges into Plotnikoff Creek and flows two miles to the east head of Port Banks on Whale Bay, 26 miles by water from Goddard. In these two miles, the stream drops about 260 feet for an average grade of 2.5 percent. Drainage area is about 22 square miles and mean discharge^{1/} is 250 cfs. Discharge on May 11, 1964, was estimated as 600 cfs.

There are two falls close to tidewater. The downstream fall rises 10 feet in an eight-foot run. The second fall, about 100 feet upstream from the first, rises 8 feet in a four-foot run. These first two blocks to salmon migration are easily accessible to equipment from saltwater. G. L. Ziemer, ADF&G engineer, estimated that they could be remedied by simple construction at an estimated cost of \$18,000. Although a pass could first be built in the fall closest to tidewater and a pass built over the second block later on if necessary, concurrent construction would be less costly than a two-stage procedure.

In addition to the two falls at tidewater, there are numerous other falls, cascades and rapids in the system.

Starting at the lake outlet and heading downstream, the first major obstacle (about 1/4 mile from lake outlet) is a fall 15-20 feet high in a 40-foot run. There is a velocity barrier on one side and water is shallow, running over protruding bedrock on the other side. Although no coho salmon were observed to make the fall, several were observed leaping at the bottom.

In addition, there are 8-10 minor falls between the lake outlet and tidewater (up to four feet high). Three more falls, about 100 yards apart, are 5-10 feet high. Salmon were observed leaping at one of these about midway between lake outlet and tidewater.

One of the most serious obstacles in the system is the first fall at tidewater. Although on our visit a few hundred cohoes were trying to ascend this fall, none were observed to be successful.

There is some large rubble spawning area in the lower stream; most of the streambed is, however, composed of falls and bedrock boulder rapids.

The large inlet tributary contains at least 50,000 square feet of good to excellent spawning gravel. The lake contains rainbow trout.

^{1/} From "Water Powers of Southeast Alaska"

There are several points to consider with regard to the Plotnikoff Lake system, as follows:

- 1. Information I have gathered from ADF&G Area Management Biologist and Sportfish Biologist in the Sitka District, Forest Service personnel, airplane pilots, etc., indicates that:
 - a. Historically, there has been a good run of coho salmon into Plotnikoff Creek. ADF&G Sportfish Biologist estimated that there were 6,000 to 8,000 cohoes off the lower fall in August. I could not find out definitely if sockeye salmon also enter the system. Test netting in the lake revealed a large population of rainbow trout. No coho or sockeye fry or fingerlings were captured, but this could have been due to the large mesh size of the gill-nets.
 - b. Although my observations (and those of others) indicate that the lower fall is a very serious obstacle on certain water levels, I can find no record of either individual or mass mortalities occurring because of delay at the lower fall. On the other hand, even though most of the salmon negotiate the fall in time, bruises caused by fish falling on bedrock outcrops and delays in timing of spawning might not show up in tidewater. Some of the salmon might die on their way up the stream; others might die in the lake of fungus infection caused by bruises and lacerations; still others might be so debilitated that they would be unable to spawn. However, the fact remains that this system is a consistent producer of coho salmon.
 - c. I could not determine if adult coho salmon have been observed by anyone in Plotnikoff Lake or its tributaries. Although it is possible that some or all of these cohoes spawn in the outlet stream and never enter the lake, this is highly unlikely.
 - d. While the cohoes remain in saltwater off the lower fall, they are subject to a sport fishery of unknown proportions. If this fall is laddered, upstream migration of salmon will probably be accelerated. I do not think, however, that migration will be accelerated to the point where there will not be at least some salmon available to sportsmen and sightseers.

Coho adults do not enter lake. I am caught. Probably spawn in outlet stream. WLS

In conclusion, I think that if the two falls next to tidewater are laddered, this will enable salmon to better ascend the stream. To overcome all the obstacles from tidewater to the lake, this stock of salmon must be an exceptionally strong one. However, even a very strong race is limited in its energy potential. Therefore, if the first two falls are made easier, the salmon will have left a greater abundance of energy reserve with which to negotiate the remaining two miles of stream.

W. L. Sheridan - Branch of Wildlife Management
 U.S. Forest Service - R-10
 October, 1964