

MEMORANDUM

State of Alaska

TO: Art Schmidt
Sport Fish
Sitka
Dept. of Fish and Game

DATE: July 30, 1975

FILE NO:

TELEPHONE NO:

FROM: Donald L. Siegelman
Sport Fish
Ketchikan
Dept. of Fish and Game

SUBJECT: Tyee Lake

KTN M.D. (A. J.)

Set a variable mesh nylon gillnet in Tyee Lake, Bradfield Canal, on July 21 at 1820 hours. Started survey out attempting to hook and line sample Arctic grayling stocks in the head stream that were stocked in the lake in 1967. Fished upstream for about $\frac{1}{4}$ mile without results. There was a good pool riffle ratio with good looking gravel or rocks from 1 - 4" in size. Noted granite sand in amongst the gravel which did tend to compact the gravels. Water temperature was 40.5° F.

When we flew back in to pick up the net, we flew up the head valley. Stream forks about two miles up but has one area approximately one mile upstream that is swift or narrow with rapids. Could be a barrier to grayling, but not salmonids if they were stocked. Above these rapids or narrows stream continues to possess a good pool/riffle ratio.

Noted some aquatic insect life in stream, midges, but stream looks rather barren or as all snow fed streams look in SE.

No fry were noted in stream in area surveyed and no grayling were caught. Hook and line fished on the left side of the stream outlet (looking down lake) to other stream that flows off mountain. No fish were caught or observed surface feeding. No fry were observed in the shallow area at this end though area looked excellent for rearing fry. Noted numerous midges on lake water surface in area's fished.

Set the net on the left side of stream extending from sand bar on shore into lake. Outer end of net was sunk.

Due to bad weather, the net was not pulled until July 27 at 1330 hours. Net was set for five day plus 19 hours and 10 minutes. Catch was seven arctic grayling, which appeared to have been in the net for two or three days at a minimum. All seven were females. I could not tell if they had spawned this season or not, but one or two looked as if they were reabsorbing a few eggs.

Lengths (mm) were as follows: 390, 408, 410, 398, 425, 393 and 416. (15-17"). All appeared to be from the same age group. Read the scales at 5+, but they could have been 7+ just as easily. The scale growth patterns were all comparable. It may be the case that these fish were progeny from the original stocking if the original stock could have produced within three years. Seems rather strange that all fish caught were in the age group, size group, etc. without some smaller fish in the sample.

On the spot stomach analysis indicated the predominate organism to be blood worms or midges (Chironomidae) 60% Caddis fly larvae and cases 15%, freshwater shrimp 15%, stone fly 5% and mayfly larvae 5%.

It appears that this lake is one of the richer lakes I have tested so far in SE Alaska if stomach samples are indicative of food abundance. Apparently the fish were primarily bottom feeders. The catches in the net further substantiate this assumption since all but one of the fish were in the net area where it was hanging over the drop off area.

The grayling caught were probably in a school moving around the lake. I assume that there are only a few fish in the lake if this catch is indicative of catch/unit of effort. Since there were no juveniles observed or caught, this lake may be dying out or will continue to be at a low.

It would be interesting to stock some Alaskan rainbow trout in this lake system. I feel that they would do better than the grayling and provide a better sport fishery.

The grayling presently are not providing a good sport fishery and are doing poorly. There was no sign of sport activity on this lake.

Restocking this lake with rainbow trout could provide an excellent sport fishery for Wrangell, Petersburg and Ketchikan sport fishermen. If the food could hold up under greater numbers, this lake could compare to Walker Lake in fish abundance and size.

Perhaps instead of just restocking this lake, it should be checked for productivity potential and water quality standards.

Ed Jones checked the lake a couple years prior and is sending me information to evaluate along with this. Will send it along when received.

There was one group of about 10-12 geese on the lake and two small diving ducks of which one got confused in the net. Appeared to be a Buffle Head or Golden Eye. No other wildlife was observed.

CC: Ed Jones
R. Armstrong