MEMORANDUM State of Alaska

TO: George Van Wyhe, Reg. Supervisor
Sport Fish Division
Fairbanks

DATE: June 23, 1975

FILE NO:

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FROM: Kenneth T. Alt, Fishery Biologist
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Department of Fish and Game, Fbks.

SUBJECT: Tok - Delta Trip

Monday

I checked the shallow pothole lakes in the Donnelly Dome area that I looked at in April. These lakes were to be used for interim rearing of sheefish as they freeze to the bottom during the winter.

Refer to memo of April 3 for winter condition of the lakes.

Lake #1

Water temperature 14°C, pH 6.4, hardness 22 ppm. Lake has a grassy shore, with a hard bottom with 4 inches of musk on top.

Lake #2

Water temperature 15°C, pH 7.5, hardness 51 ppm. Lake appears too large to seine. Much emergent grass vegetation.

Lake #5

Water temperature 14°C, pH 6.3°C, hardness 17 ppm. Has good shore, hard bottom with 4 inch musk on top.

Lake #8

Temperature 12.5°C, pH 6.7, hardness 17 ppm. Lake is too big for seining, has only one good beach and has a mucky bottom.

Lake #9

Temperature 13.5°C, pH 6.7, hardness 17 ppm. Has a good beach, with a firm grassy bottom but is too deep to wade.

Lake 6 and 7

Had no suitable beaches.

Island Lake #4

Was netted on Thursday.

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I also looked at small potholes along the gravel road up the back side of Donnely Dome and they were much smaller (less than 1 acre) and might be more suitable for seining.

I think that with the exception of Lake #1 all these pothole lakes are not suitable for interim rearing unless we can recapture the fingerlings by other methods than seining. Explore feasibility of using 1) fyke net, 2) clorox to drive fish to one end of lake, and 3) shocker boat.

Tok

I took a sport canoe into Four Mile Lake. I set a 100' 5" gill net near the beaver lodge but caught nothing. A 125' variable mesh net and a 100' 5 1/2" gill net set in the traditional spot near the rock outcrop behind the island, took only one silver salmon. I trolled for four hours and had four sheefish on but could only land two. They were caught near the surface between 10:00 PM and midnight on a "pixie lure". Both were potential spawners (female - 7 lbs, 62 cm, male - 5 lbs, 56 cm).

I believe we could use these fish for an egg take if we have difficulty in obtaining fish from other sources. It would require two men for three days and would entail holding the captured fish until they are ripe.

Chemical Analysis of Four Mile Lake

Water temperature - 16°C
Alkalinity 25 ppm
Hardness 17 ppm
pH 7.3

The lake is rich with Gammarus sp. and Afuatic insects.

I recommend stocking sheefish fry as soon as the next silver salmon stock complete their life cycle.

Delta Area - June 19 and 20

Set a gill net in Island Lake (Lake #3). We caught no fish so this would be an ideal lake for sheefish fry. It has extensive shoal areas plus the deep area. It is the only lake in the area with a good firm rocky bottom. There are fairy shrimp and freshwater shrimp present. The temperature was 16°C, ph 7.4, and hardness 34 ppm. We looked at other tiny (less than 1 acre) potholes close to the highway in Donnelly Dome area and found four that would be suitable for interim rearing.

We went into Fort Greely to gill net lakes. I checked last April but the Army was at war and would not let us in. Peckham said he would gill net these sometime this summer.

KTA:cp