



# MEMORANDUM

## State of Alaska DEPARTMENT OF FISH AND GAME

FROM: Steven McCurdy  
Habitat Biologist  
Habitat and Restoration Division  
Craig

Date: September 7, 1999

RE: Tributary to Twelvemile Arm

On September 3, 1999 I inspected two small streams that flow into Twelvemile Arm for possible nomination to the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes. The streams are located in the very northern portion of section 13, T75S, R83E, CRM. The two streams flow together in the upper intertidal area of Twelvemile Arm. Both streams are crossed by forest service road 2120 020 at approximately milepost 0.47 and 0.48 adjacent to an old log transfer facility. The habitat below the road is in the upper intertidal area of Twelvemile Arm. Both stream crossings are through 18-inch diameter culverts. Both culvert outlets are perched and upstream fish passage is probably only possible at extreme high tides.

In May 1998, Jack Gustafson (ADF&G) observed 50-100 juvenile coho in the intertidal area below the culverts but was unable to trap any fish at the time. As part of the Inspection of September 3, 1999 I electroshocked portions of each stream both above and below the road. I captured one coho below the road at the outlet of the culvert in the first stream to the south (M.P. 0.47), and three coho above the road in the ditch. Numerous (20+) sculpins were captured below the road on both streams. In the second stream above the road I observed no coho although I captured one sculpin. The coho were all 70 to 80 mm in fork length.

These streams were crossed decades ago by road construction and the drainage patterns have been drastically changed. The area is all second growth timber that was logged 30+ years ago. The area immediately above the road on both streams is an old rockpit. The first stream drains off a steep hillside then flows north along the road ditch for 65 meters before entering the culvert. As this stream comes off the hillside it appears that it is flowing down an old logging road with no well-defined channel. There is potentially 20+ meters of low gradient fish habitat between the hillside and the ditch. The fish habitat in the second stream flows entirely through a rockpit above the road. There is 25 meters of potential fish habitat between the culvert and the barrier falls leading into the rockpit. Jack Gustafson recommended replacing the culvert from the second stream with a larger bedded culvert, removing the culvert from the first stream and, "construct an approximately four foot deep meandering channel through wetlands on upslope side, connecting with the rockpit channel". I agree with his recommendations. I would also recommend: constructing a small pond in the rock pit; improve the existing ditch by deepening it and possibly adding some meanders; and by improving the channel for the 20+ meters leading into the ditch. The amount of

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potential habitat above the road includes: the 65 meters of the ditch; the 20 meters of low gradient stream leading into the ditch; the 22+ meters of new channel by connecting the two streams, the 25 meters of channel between the falls and culvert in the rockpit channel, plus any habitat created from the excavation in the rockpit for a small pond.

Although the quality of habitat is presently marginal it is still being utilized for rearing by juvenile coho salmon. The large number of juvenile fish observed in the spring of 1998 below the culverts suggest that improvements made to upstream fish habitat and fish passage at the road would result in a significant number of fish utilizing the available habitat. It is doubtful if adults are able to spawn here; it is more likely that the juveniles dispersed from nearby streams (perhaps Twelvemile Creek). The culverts need to be replaced on these streams and with a backhoe on site the recommended improvements to the streams for fish habitat could probably be completed in one or two days at little extra expense.

This stream should be listed as being important for the rearing of coho salmon.



**McCurdy, Steve J.**

**From:** Ingle, Moira

**Sent:** Tuesday, August 31, 1999 9:29 AM

**To:** McCurdy, Steve J.

**Subject:** FW: uncataloged fish habitat at old Twelve-mile Arm LTF

Did you and Sue do anything in this area? Another area to go back to... Maybe send Jack a copy of whatever you submit. Thanks!

-----Original Message-----

**From:** Jack Gustafson [mailto:[jack\\_gustafson@adfg.state.ak.us](mailto:jack_gustafson@adfg.state.ak.us)]

**Sent:** Tuesday, August 31, 1999 9:25 AM

RD 2120 020

**To:** 'Ingle, Moira'

**Subject:** uncataloged fish habitat at old Twelve-mile Arm LTF

Moira; I had an unfinished item that fell through the cracks after I was sent to the Coffman Cove area with the Tongass roads project last May. Observed quite a few juvenile coho at a small stream and slough complex that was crossed decades ago by road construction at the old Twelve-mile Arm LTF site. For some reason, though, this did not actually get trapped, but the intent was to go back and put traps in just to formalize the fish stream nomination. I was only inches away from juv. coho and got positive I.D., so there was no problem about I.D., just no fish in hand. The CMP at the road was perched, but it seemed coho could move up into the slough above the road at extreme high tides. Until this happened, though, the juvenile coho in the stream below the CMP were essentially caught in a death trap---they were in very small pools exposed to the first fish-eating bird to come along, so maybe the blue herons picked-off most of the small fry before they could find a more secure spot. Anyway, I was wondering if you might get the chance to go by there sometime soon, trap or electroshock it and submit the nomination? I also gave the FS recommendations for rehabilitation for the site. My field notes read as follows:

May 14, 1998; 21020 Road at old Twelvemile Arm LTF Area is coho rearing habitat. 50-100 juvenile coho observed in upper intertidal area below perched CMP and another CMP which french drains.

M.P. 0.47; Replace 18" CMP with 24" CMP bedded for juvenile coho passage. Remove 20 cubic yards of fill on downslope side of road. Construct an approximately four foot deep meandering channel through wetlands on upslope side, connecting with the "rockpit" channel.

M.P. 0.48: Remove 18" CMP and connect flows with the new 24" CMP at M.P.

0.47