Alaska Department of Environmental Conservation

Watershed Management Unit

Waterbody Assessment and Monitoring Report

Waterbody / Watershed: Hammer Slough Date & Time: **October 23, 1996 .**

Conditions: Overcast day following a previous day of moderate rainfall. Occassional clearing in afternoon.

Inspector: D. Redburn and E. Decker (DEC), Leo Luczak and Ken Thynes (City of Petersburg); Ken Hagerman (DOT); Brian Lynch (ADF&G). Interview with Petersburg Pilot at afternoon debriefing.

Impaired / 303(d) / Suspected / Water of Concern (Circle appropriate water category)
Tier III water which has implemented a waterbody recovery plan

Segment Inspected / GPS Location (if available): Headwaters of Hammer Slough from City Quarry down to City shop location; control headwater tributaries of Hammer Slough; mouth of Hammer Slough at Nordic Drive Bridge. Also monitored Ohmer Creek and Wrangell Narrows (Papke's Landing and DOT maintenance yard stations - see separate report for results).

Parameters of Concern: Turbidity, sediment as primary parameters; petroleum hydrocarbons as secondary parameters. Fecal coliform bacteria counts to assist in assessing natural background conditions in Petersburg.

Purpose of Inspection: Followup on March 1996 field assessment and subsequent recovery plan actions to verify whether sediment and turbidity BMP controls implemented by the City of Petersburg and DOT to restore and maintain water quality of Hammer Slough have been put in place and are working effectively. Walk the Slough as a group to inspect controls and collect turbidity and a photographic record of recovery actions. Reach consensus on BMP effectiveness and whether any further controls are needed

Hammer Slough is a "Tier III" water in the state's 1996 Water Quality Assessment Report, meaning that waterbody recovery plans are in the process of being implemented through control mechanisms. These controls began in spring 1996 and included revegetation of steep or erodable slopes, quarry access road, and mud piles adjacent to Hammer Slough in the vicinity of the rock quarry, designating and using new snow disposal sites on the City road system, more frequent maintenance of the airport and quarry road, maintenance of settling ponds at the quarry, and strategic placement of hay bales and silt fences to minimize sediment into the Slough.

Monitoring Data Collected: 1) Duplicate turbidity measurements at the following stations: gravel quarry settling pond; below the settling pond; beaver pond at culvert on north side of airport runway (West fork); culvert outlet to Hammer Slough adjacent to City Shop; and control fork immediately above the confluence with the "culvert outlet" (West fork) flow by the City Shop. 2) one fecal coliform sample taken at Nordic Drive Bridge at mouth of Hammer Slough, and one sample in Hammer Slough directly below the City Community Development office. Fecal coliform samples were collected within one to two hours around high tide. While not a parameter of concern, staff are attempting to document FC levels in SE streams to begin developing an improved database on background concentrations and possible waterfowl influences.

See previously-filed map for station locations. Photographs were taken of remedial actions at all sites.

Range of turbidity values by station were as follows: 1) Quarry settling pond (5.06 and 5.32NTUs); 2) below settling pond in the roadside ditch above hay bales (6.12 NTU); 3) beaver pond station on uphill side of airport runway (7.27 and 7.97 NTU); 4) downstream from major culvert at City Shop location (10.8 NTU); 5) control site (fork) of tributary entering Hammer Slough above the City Ship (2.42 and 2.48 NTUs).

Fecal coliform results were as follows: 1) Hammer Slough below City Shop offices (30 Fecal colonies/100 ml); 2) Nordic Drive Bridge at mouth of Hammer Slough (20 colonies/100 ml). Background FC concentrations in both Ohmer Creek and Papke's Landing were 10 FC/100 ml. All values appear to be within water quality standards when adjusted for natural condition or background. The City has succeeded in getting all homes on Hammer Slough hooked up to the city sewer system. This is evident in the low FC bacteria readings.

Visual Observations: Hammer Slough headwaters were flowing at reduced flow compared to the March 1996 "worst case" rain event. Water clarity was high at all control and established stations; slight natural tannin color due to muskeg runoff. BMPs controls outlined above were implemented well and are effective in controlling sediment and turbidity inputs to Hammer Slough. The City of Petersburg and DOT have done a fine job in following up on agreed-upon controls. The City's hand-seeding of the overburden on the rock quarry with 50 lbs of seed in May and June was successful and vegetation (grass) is established. Grass is also well established along the ditch parallel to the quarry road. DOT seeding (by Aggregate Construction) of the large fines pile ½ way down the quarry road, and cleanup of solid waste by the DOT subcontractor (by Miller Electric) at this site, were completed and vegetation has rooted in most locations. The quarry road was graded and maintained in excellent shape. Settling pond has been mucked out and hay bales repositioned along ditch paralleling the road.

A very slight oil sheen from leaking hydraulic fluid was visible in the settling pond on the state side of the quarry, the source being a DNR backhoe. The City agreed to notify the DNR

contractor (Olson Logging) on the need to place sorbent materials under equipment to capture hydraulic fluid. The City of Petersburg has capped all barrels and installed a portable oil catchment container on their side of the quarry where all fuel product transfers and barrel storage occurs. All spilled hydraulic fluid was cleaned up. On the State side of the quarry, the fines pile has been moved and fuel storage is elevated well above the water level.

The City has applied for a 404 permit for consolidated disposal of peat soils/muskeg overburden and stumps from land clearing into muskegs adjacent to Hammer Slough above the airport runway. DEC has provided BMPs in our 401 that should, in combination with the Corps requirements, control turbidity inputs to the Slough. A containment dike and settling basin will be installed, with silt fences and drainage controls. *?

Maintenance of the access road paralleling the airport runway is a joint responsibility of the City, State and FAA. FAA's plan to apply chip seal/asphalt rock to a 1000 ft segment of road to control dust was not carried out; alternatively, the State DOT provided surplus materials to FAA to use in controlling dust. The FAA contractor is no longer in town. The City applied D-1 crushed rock (3/4 inch) over the road and grades the road, as needed for safety, during the May through October season.

Recommended Actions: 1) Provide this assessment report to DOT, the City of Petersburg, and ADF&G outlining the assessment findings by December 31. Some reseeding of a portion of the DOT fines pile adjacent to the quarry road where revegetation did not "take" may be necessary in the spring. Ken Hagerman of DOT will evaluate this site in spring 1997 and report to DOT/Juneau and DEC on the results. Seeding that is completed after early September runs the risk of not being successful. By the City Shop, some of the stockpiled sand for road maintenance is too close to the banks of Hammer Slough and would benefit by the City placing a physical barrier (fence, telephone pole or other means) between the bank and sand piles to minimize sloughing of sand into the creek. Once these minor actions are completed, Hammer Slough will qualify for the Tier IV category of no further action. Done Photos.

2) Receive final written commitments from City of Petersburg and DOT/PF on conducting and verifying the followup work in spring 1997.

3) Followup DEC visit recommended in summer 1997 to verify that additional work is successfully completed. 4) Place Hammer Slough on Tier IV list (no further action required) based on documented completion of steps 1) through 3) above.