Clearwater Lake

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
NORTHERN REGIONAL OFFICE
610 UNIVERSITY AVENUE
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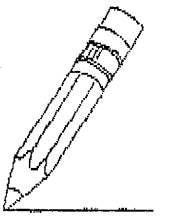

Sent to: Eric Deeken

From: Amy Ash

Subject: Clearwater Lake

Date: 5/22 Pages to Follow: 8

Eric - I have no data to support or refute the impaired (or not) Status of Clearwater Lake

Amy Ash

MEMORANDUM

State of Alaska
Department of Environmental Conservation
Northern Regional Office

To: Gene Burden
Commissioner
ADEC/Juneau

Thru: William D. McGee
Regional Administrator

From: Amy Ash
Environmental Specialist
Water Quality/ADEC/Fairbanks

Date: May 4, 1995

File: 900.89.004

Telephone: (907) 451-2360
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Subject: Clearwater P.L. 566 Watershed Rehabilitation Project

Attached is the information on the P.L. 566 Delta-Clearwater Watershed Rehabilitation Project proposed for signing by the Director of the National Resources Conservation Service and the State co-sponsors of the Department of Environmental Conservation, the Department of Fish and Game, and the Department of Natural Resources, on June 5, 1995, in Anchorage, Alaska, at the National Resources Conservation Service Offices.

If you would like additional information, please contact Amy Ash, in the Northern Regional Offices at 451-2136.

Alaska Department of Environmental Conservation
Northern Regional Office
610 University Avenue, Fairbanks, AK 99709-3643
Telephone: (907) 451-2360
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May 3, 1995

ADEC's Opportunities with the Delta Clearwater P.L. 566 Watershed Rehabilitation Project

History

The Delta Clearwater River, also known as the Clearwater River or Clearwater Creek, is a spring-fed water system in interior Alaska, approximately 100 miles southeast of Fairbanks. It is the largest of all clear water spring-fed streams in the Tanana drainage.

The Department of Natural Resources Division of Agriculture disposed of forested wetlands for agricultural development adjacent to the Clearwater River. Agriculture development was closely followed by the establishment of the Alaska Department of Fish and Game's Bison Range. Other development in the area included fire breaks, forestry operations and military roads and inholdings.

Water Quality monitoring on the Clearwater River began after baseline monitoring conducted by Dr. Jackie La Perriere was completed in 1978-1979. ADEC interrupted this monitoring during the Exxon Valdez Oil Spill, and, subsequent monitoring has been funded a variety of ways, lastly, through CWA Section 319 funds from an EPA grant.

Issues Impacting Water Quality

ADEC is concerned upstream flooding and erosion over disturbed lands will carry pesticide and herbicide laden sediments to the Clearwater River. ADEC has a similar concern for potential fecal coliform contamination from feedlots, the Bison Range, and residential and farm developments.

Assistance to Affected Publics

The affected publics of this project extend far beyond the confines of the Watershed. The Delta Clearwater is the 5th most popular Arctic Grayling and Coho Salmon fishery in Interior Alaska and, as such, supports a burgeoning tourism industry that greatly contributes to the local economy. The Watershed landowners are affected by the upstream land erosion that affects their farming and homesteading opportunities, and recreational cabin use. Last years' devastating fire exposed even more land adjacent to the Clearwater that has a tremendous potential for additional sediment delivery.

Inter-Agency Cooperation

The ADEC along with the Department of Fish and Game Habitat Division, the Department of Natural Resources Divisions of Agriculture and Forestry, the National Resources Conservation Service (formerly the Soil Conservation Service), the Salcha-Big Delta Water Conservation District Board, the United States Fish and Wildlife Service, the Deltana Community Corporation, the Watershed Landholders Representatives, the United States Army Fort Greely, and the Alaska Department of Transportation and Public Facilities formed a Steering Committee to assist in the preparation of a Watershed Rehabilitation Plan and Environmental Assessment drafted by the National Resources Conservation Service. This Steering Committee has recently accepted the Final (Conceptual) Watershed Plan and Environmental Assessment. The Steering Committee will continue advising the National Resources Conservation Service in the completion of the Final Design for the Watershed Rehabilitation Project.

Protection and Enhancement of Valuable Water Quality Resource

By providing the necessary support for the final design phase of the Watershed Rehabilitation Project under Public Law 566 allocations (estimated at $2.5 million), the Department, along with the co-sponsors of the ADF&G, ADNR, and the Salcha Big-Delta Water Conservation District Board, can take steps to control pollution and prevent future watershed degradation. This support will ultimately result in the enhancement and protection of a valuable water quality resource and fisheries habitat, and thus enhance and protect a valuable resident Alaska and tourism resource.

Opportunity for Area Public Service

Support of this final design phase will commence with a ceremonial signing of acceptance of the conceptual design and sponsorship with the Director of the National Resources Conservation Service on June 5, 1995, in their Anchorage offices. This signing does not obligate any of the cooperating agencies until the Final Design is complete and reviewed, and the sponsors obligations for continued in-kind support are precisely and specifically detailed and agreed upon. The opportunity for the Department to contribute to area wide public service is immeasurable and should be a top priority.

STATE OF

WALTER J. HICKEL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

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Fax: (907) 451-2187

Northern Regional Office
610 University Avenue, Fairbanks, AK 99709-3643

NRO File: 900.89.004
Agriculture Non-point

November 21, 1994

Mr. Mike Carlson, Chairperson
Salcha-Big Delta Soil and Water
Conservation District
P.O. Box 953
Delta Junction, Alaska 99737

PINK COPY

Re: Selected Alternatives for the Delta-Clearwater 566 Watershed Rehabilitation

Dear Mr. Carlson:

Enclosed please find substantial comments on the National Resources Conservation Service (formerly the Soil Conservation Service) engineer's recommended plan selections of 3S, Greenbelt Expansion, and 5R, Water Spreading Diversions, for the above referenced project.

The Department expects the opportunity to comment on the finalized plan and design for the project. If you have any questions concerning the comments on this project please don't hesitate to contact me at 451-2136.

Sincerely,

Amy Ash
Environmental Specialist

AA/mcn h:\eq\401\566com.aka
Enclosure
cc: Ms. Joyce Swartzendruber, NRCS, Fairbanks
Mr. Jim Schmidt, NRCS, Anchorage
Mr. Glen Franklin, DNR, Div. of Ag., Fairbanks
Mr. Robert MacLean, ADF&G, Fairbanks
Ms. Joanne Kuykendahl, NRSC, Delta Junction
Mr. Doug Witte, DNR, Div. of Ag., Anchorage
Joyce Beelman, ADEC, Fairbanks
Paul Bateman, ADEC, Fairbanks
Pete Mc Gee, ADEC, Fairbanks

ADEC COMMENTS ON 566 WATERSHED REHABILITATION FOR THE DELTA - CLEARWATER WATERSHED

The following are the comments on Chapter 4, "Formulation and Comparison of Alternatives" for the Delta/Clearwater 566 Watershed Rehabilitation Project requested of the National Resources Conservation Service by the Salcha-Big Delta Soil and Water Conservation District Board.

The Salcha-Big Delta Soil and Water Conservation District Board and members of the public have accepted the State Engineer's recommended alternatives of 3S: Greenbelt Expansion, and, 5R: Waterspreading Diversions and Waterways, in combination, to be further developed for implementation. These comments are therefore restricted to those selections.

These comments are referenced to the pertinent sections of the Chapter 4 Draft for your convenience. As a sponsor of this project, the Department expects the opportunity to review and comment on all finalized designs prior to project implementation commitment.

4.2.3 Plan 3S (Sawmill) - Expansion of Greenbelt around Sawmill Creek and the Clearwater Bog

The Department heartily agrees with the selection of this alternative, with the following provisions:

The reshaping and revegetation of gullies should be designed as meandering channels; channels meander in order to dissipate energy, which drops out sediment. The Department does not recommend straight channels (as illustrated in the engineers drawings on aerial photos) as they would concentrate flow, deepen the gullies, and further exacerbate erosion. More land may be required to properly rehabilitate the gullies than shown on the engineer's draft that illustrates straight channels. The Department recommends a field reconnaissance and survey to accurately determine land locations and acreages.

The channel design should contain the NORMAL HIGH FLOW with a constructed vegetated floodplain for flood conditions. The gradient should proceed in a series of flats and steeps versus a uniform gradient that would tend to concentrate flow and exacerbate down-cutting. Check dams and grade control structure tend to encourage instability, and actually INCREASE bank erosion, whereas a "dynamic equilibrium" will distribute channel energy. The construction should take place during the winter months to prevent further impacts to water quality. The Department would expect cross-sections of the designed channels to review.

Removal of additional forested wetlands to accomplish this project should be kept to the barest minimum possible. The revegetation should include live shoots and seeded erosion control mats to hold the soil until the new vegetation becomes established. In order to protect the integrity of the rehabilitated gullies, the Greenbelt Expansion Area
should be "off limits" to livestock grazing; the vegetation used should be permanent cover, not a seasonal crop. This land should be placed into a permanent conservation easement.

4.3.2 Plan 5R (Rhoades/Granite) - Waterspreading Diversions and Waterways

The construction of this alternative constitutes a major disturbance in the Watershed. The Department will support this alternative with the following provisions:

The waterspreading diversions shown on the aerial photos and engineers drawings are illustrated as straight channels. The Department does NOT support design of straight channels as they will tend to concentrate flow, cause down-cutting, and bank erosion will add to the sediment delivery to the bog.

The waterspreading diversions should be designed as meandering channels. The channels should be further designed as a "dynamic equilibrium" system. A dynamic equilibrium system factors in the gradient, meander length, low width/depth ratio, and capacity (to hold the normal high flow), in order to dissipate the energy and drop out the sediment. Provisions for sediment recovery should be included; it is the opinion of the Department that the sediment will plug the exposed gravels and cobbles called for in the engineers report. More land will be required to properly construct these diversions than shown on the engineers draft report. The Department recommends a full field reconnaissance and survey to determine exact locations and acreages needed to construct

this portion of the project. The Diversion channels should be stabilized and vegetated. The Diversions should be constructed in season of low flow to prevent further degradation of water quality. The Department expects the opportunity to review and comment on the finalized design and plan.

The waterways north of the highway should be designed as meandering channels to prevent concentrations of flow and down-cutting that will further erode banks and add to sediment delivery to the bog area. These waterways are currently shown on the engineers draft plans on the aerial photos as straight channels. The Department will not support straight channel design for the reasons referenced above. The Department expects the opportunity to review and comment on the finalized plan and designs.

Additional comments on issues not referenced in the engineers draft report:

DOT Culvert installation: The design and placement of culverts planned for the Alaska Highway should be investigated for their potential detrimental effect on the watershed. Attenuated flows, flow concentrations, sediment transport, back-cutting or gullying, and embankment stabilization should be reviewed. The final design should consider the effects of the culverts.

Dufendach property protection: At the public meeting November 8, 1994, a berm was proposed as a means of protecting this property from flood waters and erosion. Care should be exercised in the design and placement of this berm so that the berm does not inadvertently direct water to the property.

1408 Trail Rehabilitation: This issue should be re-visited in the final report. The trail could be permanently put to bed, re-vegetated, and a meandering and stabilized channel constructed to convey runoff. Closure of this trail would also assist in the protection of adjacent wetland areas south of the highway.

Timber salvage along the banks of Sawmill Creek: This was mentioned by DNR Forestry personnel during the steering committee meeting preceding the public meeting on November 8, 1994. This would require Tri-Agency review and field inspection prior to authorization. This review and inspection could be scheduled for the '95 field season, with comments to the project manager for the 566 project.

Hadjukovich fire timber salvage and area stabilization: The fire of 1994 burned through the protective duff and mosses and exposed the mineral soil. Emergency aerial seeding of this area should be considered to control erosion and runoff over the exposed mineral soil. Any timber salvage should occur only during the winter months to prevent further degradation to the intermittent wetlands in this area.

Watershed Agreement Document: The Department will negotiate this document once the final design has been reviewed and commented on, and, all agency concerns have been addressed.