



Alaska District
U.S. Army Corps of Engineers

Civil Works Branch

Public Notice

MAY 04 2010

Date _____ Identification No. ER-10-04
Please refer to the identification number when replying.

**Interim Risk Reduction Measures
Grubbing in Cleared Areas
Chena River Lakes Project
Fairbanks, Alaska**

The U.S. Army, Corps of Engineers, released an environmental assessment (EA) in January, 2010, to address actions needed to reduce risks and consequences of dam failure at the Chena River Lakes project near Fairbanks, Alaska. The January EA allowed the Corps to clear vegetation and take other necessary measures that were required before the potential flood season. The January EA did not address effects to wetlands because we could avoid discharge into wetlands with the proposed actions and because we could not delineate wetlands with the information that was available at that time.

The accompanying EA and Clean Water Act 404 determination identify the extent and types of wetlands in the cleared areas and address the effects of filling those wetlands.

Both the January and May EA's are posted on the Alaska District's web page at: www.poa.usace.army.mil. Click on Civil Works and Planning and look under Documents Available for Public Review, Reports & Environmental Documents.

You are invited to comment on the proposed action. Comments will be accepted during the 30-day review period that begins on the date of this notice. Any comments will be carefully considered before action proceeds. If you have any questions or need additional information, please contact Guy McConnell at (907) 753-2614 or guy.r.mcconnell@usace.army.mil.


Michel R. Salyer
Chief, Environmental Resources Section



**US Army Corps
of Engineers**

Alaska District

Environmental Assessment and
Finding of No Significant Impact

Interim Risk Reduction Measures
Grubbing in Cleared Areas
Chena River Lakes Project
Fairbanks, Alaska

May 2010

Finding of No Significant Impact
Interim Risk Reduction Measures
Grubbing in Cleared Areas
Chena River Lakes Project
Fairbanks, Alaska
May 2010

The U.S. Army Corps of Engineers, Alaska District, will conduct mechanical grubbing to remove roots and remaining vegetation in approximately 70 acres at the Chena River Lakes project, near Fairbanks, Alaska. Low areas will be filled and the grubbed area will be graded and seeded with grass as part of the grubbing operation. The action is required to enable access for dam inspection and repair and to prevent regrowth of vegetation that could weaken the dams. The area to be grubbed was recently cleared as part of a broader program to reduce risks and consequences of dam failure at the project. That program was addressed in an environmental assessment (EA) and FONSI prepared in January, 2010.

The action will impact the same areas that were addressed in the January 2010 EA and that were cleared earlier this year. Approximately 4.55 acres of low to moderate value palustrine wetlands will be modified and filled by this action. All practicable measures will be taken to minimize or avoid impacts. Wetland losses will be compensated by placing 7.5 acres of high value palustrine wetlands and associated riparian habitat into protected status.

The actions addressed in this Finding are defined and discussed in the EA *Interim Risk Reduction Measures, Grubbing in Cleared Areas, Chena River Lakes Project, Fairbanks, Alaska, May 2010*. I have determined that this action will not significantly affect the human environment and therefore, an environmental impact statement will not be prepared.

Date

Reinhard W. Koenig
Colonel, Corps of Engineers
District Engineer

**Environmental Assessment
Interim Risk Reduction Measures
Grubbing in Cleared Areas
Chena River Lakes Project
Fairbanks, Alaska**

Proposed Action

The Alaska District, U.S. Army Corps of Engineers is clearing vegetation, lowering a floodwater retention sill, and revising operations at the Chena River Lakes project near Fairbanks, Alaska, to reduce the risk and consequences of dam failure. Those risk reduction measures are addressed in the *Interim Risk Reduction Measures, Chena River Lakes Project Environmental Assessment, January, 2010* (January 2010 EA). A finding of no significant impact was signed for those actions on March 5, 2010.

The January 2010 EA addressed clearing approximately 100 acres of woody vegetation to enable better access and inspection of the dam and associated project features. These actions will lessen Chena River floodwater retention time and facilitate floodwater discharge from the project floodway. The area cleared is shown in figures 5 and 6 of the January 2010 EA.

The Alaska District now proposes to grub roots of woody vegetation from approximately 70 acres of the recently cleared land to retard vegetation re-growth. The areas to be cleared would be all the areas shown in figures 5 and 6 of the January 2010 EA except the vegetation off the south end of the floodway in the Tanana River floodplain. The action also would grade and fill the grubbed areas and would establish grasses, forbs, and other non-woody vegetation in those cleared areas. This environmental assessment addresses that proposed action. It draws extensively from the January 2010 EA and incorporates it by reference.

Grubbing was identified as a required action in the January 2010 environmental assessment. It was not addressed in the finding of no significant impact for that action because the extent of wetlands, and therefore the significance of project impacts, could not be determined at that time. Wetlands have now been delineated and project impacts can be addressed.

Need for the Action

The proposed grubbing is part of a broader interim risk reduction action that lessens the volume and duration of floodwater retention by the project and that corrects potential sources of structural failure. Trees and brush inhibited access and repair and reduced effectiveness of dam inspections on and near the project's Moose Creek Dam and at project dikes. Critical areas have been cleared. Project operators can now inspect for problems before and during floods and workers have better access to maintain and repair the dam.

The tree roots and uneven ground that remain in the cleared areas still present problems. Willow, cottonwood, and most other woody vegetation regenerate from cut stumps or roots, so the cleared areas will soon be thickly overgrown if they are left. The irregular ground and soft, wet areas inhibit inspection and access.

Alternatives

The proposed action is to grub remaining roots and woody vegetation from approximately 70 acres of land cleared for vegetation control at the Chena Project, fill low areas, grade the soil to a smooth surface, and seed with grass. Three alternatives, including the proposed action, were considered and are described as follows:

No-action would leave roots and stumps in the cleared area. The Corps' ability to safely operate and maintain the Chena Project would be compromised, and there could be more risk to human safety and property.

Herbicides could be applied to the cleared areas to control woody vegetation re-growth. Herbicides could be selected to target woody plants and forbs but let grasses grow. This would be relatively inexpensive and would effectively establish grasses as the dominant plants on the cleared areas. This alternative would be quick, inexpensive, and effective. Principal disadvantages would be as follows:

- Roots and rough ground would remain and would impair access and inspection.
- The uneven ground would be difficult to mow, so woody vegetation would tend to grow back.
- Selecting, trial testing, and coordinating application of herbicides for this purpose would be a lengthy and uncertain process.

Grubbing would drag or push steel teeth through the cleared ground to pull up and collect stumps, roots, and other woody plant parts left from clearing earlier in 2010. Soils would be thoroughly grubbed to a depth of approximately 18 inches and most woody debris less than 1 inch in diameter would be removed. Woody material would be collected and moved to an upland disposal site provided by the contractor. Grubbed areas would be graded and filled as needed with silt or silt with gravel to reduce surface soil permeability and so that vegetation can be mowed annually. Silt or gravel-silt mixture for the fill would be acquired from a commercial source or as waste from another project. The contractor performing the work would prepare and implement a storm water pollution protection plan to minimize sediment and turbidity in runoff from the cleared areas.

After the cleared areas were grubbed, filled as necessary, and graded, they would be planted with grass seed adapted to the Fairbanks climate. The grass would stabilize the cleared soil, retard growth of woody vegetation, and allow access and inspection during flood events.

Approximately 4.55 acres of wetlands would be filled during grubbing, filling, and grading for this alternative. As compensation for loss of these low to moderate value

wetlands, the Corps would set aside and protect 7 acres of high value wetlands and adjacent riparian habitat in and adjacent to a remnant channel (ox bow) of the Chena River. This is consistent with national policy for compensatory mitigation of impacts on wetlands.

Affected Environment and Environmental Consequences

The proposed action would directly affect approximately 70 acres. The affected areas are shown in the January 2010 EA, and the affected environment is described in that assessment. The affected areas are all the areas identified for clearing in the January 2010 EA, except the 31 acres in the Tanana River floodplain off the end of the project floodway.

The target areas were highly disturbed by clearing in the late winter and early spring of 2010. The vegetation was cleared when the ground was frozen, so there is relatively little ground disturbance, but nesting, cover, and feeding habitat values are substantially diminished in the cleared areas.

Potential effects of vegetation clearing on wildlife, birds, endangered species, and other resources of concern were addressed in the January 2010 EA, which determined that they were not significant impacts. The proposed action would not substantially add to effects to those resources. The action would greatly increase ground disturbance, which if unmitigated, could allow sediment and turbidity to run off into streams. Potential consequences would be mitigated by silt fences, coir logs, and other immediate measures to retard runoff and reduce sedimentation and turbidity in water from the project. A storm water pollution prevention plan (SWPPP) would be approved for the action before grubbing began and would be enforced during and following the grubbing. In the longer term, water quality would be protected by planting the disturbed soil with grass adapted to Fairbanks climatic conditions. Grass varieties that are relatively short would be preferred because they would make inspection easier.

Birds and mammals would be largely unaffected by grubbing because standing vegetation already has been cleared from the project areas. No grubbing would be in fish habitat, and fish habitat would be protected from sedimentation. Fish would not be substantially affected.

Of the 4.55 acres of wetlands that would be grubbed for the proposed action, most (4.29 acres) are Palustrine Scrub-Shrub wetlands. They consist of soils with wetland (hydric) characteristics that support low-growing woody vegetation. The other wetland type identified was in Palustrine Emergent soils (0.26 acre). They are soils with ponded water that have plants growing in and emerging from the water. Both wetland types are common in the region. Both wetland types function as sediment and nutrient traps as they filter water moving through them. They do not support fish but do add habitat diversity.

Those wetlands are relatively small, scattered areas that are in and surrounded by ground that was cleared for project construction. That cleared ground had naturally revegetated

since construction in the 1970's. The cleared ground became successional deciduous and mixed deciduous/coniferous forest. Those scattered wetlands tended to perform approximately the same functions as the surrounding woodlands. Vegetation clearing reduced those woodlands to highly disturbed areas with relatively low value as wildlife habitat.

Proposed actions in wetlands were evaluated for consistency with Section 404 of the Clean Water Act of 1972. The evaluation, which is appended, determined that the proposed action can be specified under section 404 guidelines of the Act.

Appendix

Interim Risk Reduction Measures
Chena River Lakes Project
Fairbanks, Alaska
Section 404 (b)(1) Evaluation

Interim Risk Reduction Measures
Chena River Lakes Project
Fairbanks, Alaska
Section 404 (b)(1) Evaluation

Prepared by Fairbanks Regulatory Field Office
For US Army Corps of Engineers, Alaska District,
Civil Works Branch

Regulatory File No.POA-2010-155

Evaluation of Compliance with 404(b)(1) Guidelines

[restrictions on discharge, 40 CFR § 230.10 (a)-(d)]

The 404(b)(1) Evaluation is a document based on guidelines set forth in 40 CFR, Part 230. The purpose of these guidelines is to maintain the chemical, physical, and biological integrity of waters of the U.S. by controlling the discharges of fill material. Fundamental to these guidelines is the precept that no discharge of fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. Therefore, the following discussion will focus on aquatic resource characteristics that would be impacted by the proposed project, and the anticipated consequences.

(An * is marked above the answer that would indicate noncompliance with the guidelines. No * marked signifies the question does not relate to compliance or noncompliance with the guidelines. An "X" simply marks the answer to the question posed.) All section references are made to the Environmental Assessment (EA) issued under Public Notice ER-10-03 on January 28, 2010.

a. Alternatives Test:

The Alaska District proposes to mechanically clear 4.55 acres of wetlands in 13 areas within the floodway, along the upstream edge of the floodway and along the downstream toe of the Moose Creek Dam. Section 1.1 of the EA states the purpose of the proposed work is to reduce to allow thorough inspections, reduce risk of dam failure, and to remove obstructions that impede discharge of flood water. The overall purpose is to reduce the risk and consequences of failure of the Moose Creek Dam.

Proposed measures considered were limited to those that can be implemented in the near term with reasonably available resources and authorities (Section 2.1). These are considered to be interim measures, and may be incorporated into a tiered approach to more extensive modifications to the Chena River Lakes Project in the future. These measures are not mutually exclusive. Several of the measures may be implemented concurrently.

1. No action (Section 2.2). This alternative would result in no impacts to aquatic resources, but would not meet the overall project purpose.

2. Reduce the Volume of Water Entering Chena River Lakes Project (Section 2.3). Floodwater could be diverted into another drainage or stored in a new reservoir upstream of the project. Both of these options would result in additional impacts to the aquatic environment, in the form of diversion or impoundment structures. Although they were not studied in enough detail to provide quantitative estimates of potential impacts, they would very likely be much more extensive than those of the proposed actions. These measures would require additional legislation, and so are not practicable at this time.

3. Modify Project Operations to Store Less Water (Section 2.4). The Corps proposes to no longer impound water behind Moose Creek Dam for the specific purpose enabling operation of the fish ladder for upstream fish passage. In an additional procedure modification, the Corps proposes to station qualified observers at critical downstream locations during flood events to monitor potential flooding, allowing the safe discharge of as much water as possible. These procedural modifications would not result in a discharge of dredged or fill material into waters of the U.S.

4. Modify Project Features to Impound Less Water (Section 2.5). This measure could involve modification of either the control structure at the Chena River or the control sill at the Tanana River. Modification of the control structure to release more water was eliminated as a reasonable interim measure, since it would require extensive reconstruction of the Chena River channel to prevent downstream flooding. Lowering the control sill would divert water into the Tanana River sooner, reducing the maximum pool elevation and duration of floodwater storage. However, it would also increase the probability that water from the Tanana River could enter the floodway, potentially affecting aquatic habitat functions of the Chena River. The Corps proposes to install a temporary barrier at the Richardson Highway crossing of the floodway during Tanana River flood events to prevent inflow from the Tanana River from reaching the Chena River and avoid potential impacts. This measure would not result in a discharge of dredged or fill material into waters of the U.S.

5. Remove Sediment and Control Vegetation (Section 2.6). The Corps proposes to remove sediment from the stilling basins at the control works and the floodway control sill, and to remove vegetation obstructing inspection of the dam and impeding water flow out of the project floodway (approximately 70 acres total, of which 4.55 acres are wetlands). All sediment removed from the stilling basins would be placed in uplands, so there would be no discharge of dredged material in waters of the U.S. Vegetation would be removed in a 50' wide swath along the downstream toe of Moose Creek Dam, in several discontinuous areas within the floodway (approximately 25 acres), and between the control sill and the Tanana River (approximately 31 acres). The vegetation would be removed by handcutting or with mechanical flails or cutters in the early spring while the ground is still frozen. All timber useful for firewood will be stockpiled in uplands to make available to the public. Grubbing to remove roots is proposed to occur later in the growing season. The grubbing would result in a discharge of fill in the wetland areas (4.55 acres). No grubbing is proposed below the control sill. The purpose of the clearing and grubbing downstream of the toe of the dam is to prevent potential "piping" of water along root channels, and to allow visual inspection of the dam toe and associated

relief wells. The purpose of the clearing and grubbing of vegetation in the floodway is to remove impediments to water flow out of the floodway, thereby reducing floodwater storage times. Removal of the roots (grubbing) would reduce the need for frequent maintenance of the clearing.

No		Yes
(i) Based on the discussions in the EA, are there available, practicable alternatives having less adverse impact on the aquatic ecosystem and without other significant adverse environmental consequences that do not involve discharges into "waters of the United States" or at other locations within these waters? <i>No, the proposed clearing is the minimum necessary to meet the overall project purpose.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Based on discussions in the EA, if the project is in a special aquatic site and is not water dependent, has the applicant clearly demonstrated that there are no practicable alternative sites available? <i>Yes, the proposed project is a modification to the existing Chena River Lakes Flood Control Project. An alternative site would not meet the overall project purpose.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Special restriction. Will the discharge:		
(i) Violate state water quality standards? <i>Disturbed soils would be stabilized to prevent erosion and sedimentation.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) Violate toxic effluent standards (under Section 307 of the Act)? <i>No toxic materials are present in the project area.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iii) Jeopardize endangered or threatened species or their critical habitat? <i>NA. There are no endangered or threatened species in the project area.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iv) Violate standards set by the Department of Commerce to protect marine sanctuaries? <i>NA. There are no marine sanctuaries in the project area.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No		Yes
(v)	Evaluation of the information in the EA indicates that the proposed discharge material meets testing exclusion criteria for the following reason(s):	<input checked="" type="checkbox"/> <input type="checkbox"/>
	Based on the above information, the material is not a carrier of contaminants. <i>The material would be from the immediate area, where there are no known contaminants.</i>	<input checked="" type="checkbox"/> <input type="checkbox"/>
	The levels of contaminants are substantially similar at the extraction and disposal sites and the discharge is not likely to result in degradation of the disposal site and pollutants will not be transported to less contaminated areas.	<input checked="" type="checkbox"/> <input type="checkbox"/>
	Acceptable constraints are available and will be implemented to reduce contamination to acceptable levels within the disposal site and prevent contaminants from being transported beyond the boundaries of the disposal site.	<input checked="" type="checkbox"/> <input type="checkbox"/>
c.	Other restrictions. Will the discharge contribute to significant degradation of "waters of the United States" through adverse impacts to:	
(i)	Human health or welfare, through pollution of municipal water supplies, fish, shellfish, wildlife and special aquatic sites? <i>The proposed clearing and grubbing would be restricted to the minimum area necessary, and best management practices would be used to ensure sediment does not leave the disturbed areas.</i>	<input type="checkbox"/> <input checked="" type="checkbox"/>
(ii)	Life stages of aquatic life and other wildlife? <i>Clearing would be done prior to nesting periods to prevent impacts. Areas immediately adjacent to open waterways would be avoided.</i>	<input type="checkbox"/> <input checked="" type="checkbox"/>
(iii)	Diversity, productivity and stability of the aquatic life and other wildlife or wildlife habitat or loss of the capacity of wetland to assimilate nutrients, purify water or reduce wave energy? <i>The removal of woody vegetation from 4.55 acres of palustrine forested and scrub-shrub wetlands would cause an incremental reduction in wildlife habitat, the ability to filter contaminants and to assimilate nutrients. However, this impact would be minimal on a watershed scale. There would be no effect on wave energy, unless there were an impoundment pool. The purpose of the vegetation removal within the floodway is to remove impediments to water flow during a flood event, reducing the duration of the impoundment.</i>	<input type="checkbox"/> <input checked="" type="checkbox"/>
(iv)	Recreational, aesthetic and economic values? <i>Removal of vegetation from 4.55 acres of wetlands would result in a loss of aesthetic values, and therefore a small loss of recreational value within the flood control project. However, this impact would be minimal, given the previous vegetation removal and the relatively small amount of vegetation removed.</i>	<input type="checkbox"/> <input checked="" type="checkbox"/>
d.	Actions to minimize potential adverse impacts (mitigation). Will all appropriate and practicable steps (40 CFR § 230.70-77, Subpart H) be taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	<input checked="" type="checkbox"/> <input type="checkbox"/>

I. Actions to Minimize Adverse Effects (Subpart H, 40 CFR § 230.70)

All appropriate and practicable steps would be taken, through application of recommendation of §230.70 – 230.77 to ensure minimal adverse effects of the proposed discharge.

Actions taken:

Avoidance: Impacts to the Chena River channel and associated downstream wetlands would be avoided by selecting measures other than modification of the control works. Impacts to the wetlands within the vegetation removal area cannot be avoided, given the overall purpose of the project.

Minimization: Impacts to aquatic resources would be minimized by limiting clearing and grubbing to the area necessary to meet the project purpose. Grubbing of the roots would allow longer intervals between future clearing, and potentially allow the establishment of herbaceous wetland communities, provided the hydrologic regime is not affected. The portion of the floodway clearing north of the Chena River is on Tanana soils. Clearing of these soils can be expected to cause melting of permafrost, allowing saturated soils to thaw and drain.

Compensatory Mitigation Determination: There would be unavoidable impacts to 4.55 acres of palustrine wetlands as a result of the grubbing. The Corps of Engineers will, as compensatory mitigation for these impacts, will preserve 7.5 acres of high-value wetlands and adjacent riparian habitat essential for wetland functions at that site. Figures 1 and 2 show location and features of the compensatory mitigation site. The preservation status will prohibit any development or other land uses that would adversely affect wetland functions and values in that preservation area. The boundaries and restrictions will be recorded and appropriate notation will be cited on project real estate documents..

II. Findings of Compliance or Non-compliance (40 CFR§ 230.12)

The proposed disposal site for discharges of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions:

- a. A stormwater pollution prevention plan will be prepared, approved, and enforced during ground disturbing activities;
- b. 7.5 acres of high quality wetlands and adjacent riparian habitat will be placed in preservation status; status will be recorded on project real estate documents.



Figure 1. Chena River Lakes Project Compensatory Mitigation Site Location, approximately 1 mile east of Moose Creek Bluff



Figure 2. Chena River Lakes Mitigation Site (Approximately 7.5 acres on a relict oxbow of the Chena River)