UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

July 29, 2004

Guy R. McConnell
Chief, Environmental Resources Section
U. S. Army Corps of Engineers
Post Office Box 6898
Anchorage, Alaska 99506-6898

Re: Chester Creek Restoration Draft Report and Environmental Assessment, ER-04-14

Attn: Ms. Lizette Boyer

Dear Mr. McConnell:

The National Marine Fisheries Service (NMFS) has reviewed the Environmental Assessment (EA) for the Aquatic Ecosystem Restoration of Chester Creek, Anchorage, Alaska. NMFS believes this restoration project will have a positive impact on Essential Fish Habitat (EFH) and the anadromous fishery resources of Chester Creek.

The project proposes to restore fish passage at the mouth of Chester Creek. Culverts presently connecting Westchester Lagoon to Knik Arm would be removed and an intertidal channel would be constructed. The project would allow spawning salmon to access the creek and would provide an area for smolt to acclimate to salt water.

Upstream improvements are presented in the environmental assessment to demonstrate the total potential of this restoration project. However, these upstream projects are not funded under the proposed work and will be analyzed in a future decision document when funding becomes available.

Fish Passage at Westchester Lagoon

The document describes management actions which blocked fish passage, eliminated the salinity gradient, and restricted tidal flushing at the mouth of Chester Creek. The specific goals of the plan are to improve access to the lagoon area for returning adult salmon, provide a saltwater transition zone for out-migrating juvenile salmon, and reestablish the intertidal marsh area for improved bird habitat.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson - Stevens Act) requires NMFS to make conservation recommendations regarding any federal action that would adversely affect EFH. We offer the following recommendations pursuant to section 305(b)(4)(A) of the Magnuson-Stevens Act to minimize the impacts of the proposed project.

Westchester Lagoon Passage Conservation Recommendations

The project should include a plan for monitoring the success of revegetation efforts, measuring channel morphology changes, and assessing improvements of adult fish passage and outmigration of smolts.

Proposed Upstream Restoration Projects

The document addresses upstream improvements in Appendix G: Potential Restoration Projects to Chester Creek. The document focuses on the following impacts from urbanization:

Runoff - A primary link between urbanization and the demise of fisheries habitat is excessive runoff. Peak flow events can increase five to ten times and groundwater flows during summer months can decrease to zero. The reality of many urban streams is that they have become storm sewers. Sedimentation through storm sewer input and local runoff has impacted water quality. Chester Creek has more than 100 outfalls entering the creek. Contributing to the runoff/storm sewer problem is the loss of wetlands adjacent to the stream. Wetlands filter sediment and pollution, cycle nutrients, reduce peak flows, augment low flows and are essential to a healthy stream system.

Passage - Besides the major passage problem at Westchester Lagoon, Chester Creek has numerous road and trail crossings with culverts and bridges. Depending on flow conditions, these obstacles can cause delays or totally block migrating adults. These barriers can also inhibit juvenile salmon movement to suitable habitats.

Channelization - Channelization results in loss of meanders and subsequent loss of complexity, including loss of pool habitat, loss of undercut banks, and loss of point bars. Long reaches of riffles, loss of macroinvertebrate diversity, and excessive sedimentation are also associated with channelization. Channelized sections typically lack flow diversity and large woody debris that provide cover and sort gravel.

Riparian Zone - The riparian zone filters sediment and pollution, cycles nutrients, provides large woody debris, stabilizes streambanks, and provides cover. Healthy riparian systems are essential for sustaining well-functioning natural stream systems. A redeeming attribute of Chester Creek is the relatively healthy riparian zone. However, many riparian areas need to be enlarged and restored. The riparian area around road crossings is particularly important because roads are a source of sediment and other pollutants.

Recommendations for Upstream Projects

Projects need to focus on:

1. a. Major passage problems
   b. Minor passage problems

2. Storm drain outfalls and wetlands development (water quality)

3. Restoring channel meander and habitat complexity

4. Riparian zone rehabilitation and expansion

Passage - If fish cannot enter the stream and migrate to spawning and rearing habitat, the stream cannot produce fish. The major passage problem at Westchester Lagoon is being addressed by this proposal. The Seward Highway and Lake Otis crossings are other major passage problems. The remainder of the fish passage problems within Chester Creek watershed should be prioritized. Alaska Department of Fish and Game (ADFG) has a comprehensive crossing survey and analysis for Chester Creek, which should be used to prioritize future fish passage projects. Projects may occur independently, or be opportunistically coordinated with road upgrades or repairs. The best long-term solution for improving passage problems caused by culverts is to either remove the culvert and install a bridge or utilize bottomless culverts. These structures provide passage at all flows, reduce maintenance, reduce upstream and downstream erosion problems, and improve habitat. If culverts are used, they should pass fish during at least 90 percent of all anticipated flows and be consistent with ADF&G fish passage guidelines for both adult and juvenile salmon.

Storm drains and wetlands - Storm drain outfalls and wetlands loss have huge negative impacts on water quality and stream hydrology. Sediment needs to be controlled at its source or within the storm drain system. Each of the 100+ storm drain outfalls should be carefully scrutinized and routed to wetlands (natural or created) if possible. This should be a major focus of future restoration efforts and municipal planning in the watershed. Further wetland losses within the watershed should be avoided or minimized. Oil and grit separators help to clean water before entering the creek, but they have to be maintained and do nothing by themselves to reduce peak flows or augment low flows. They provide excellent stormwater pretreatment prior to entering wetlands. These projects are essential to the viability of Chester Creek. Storm drain/wetland projects may occur independently, or may opportunistically be coordinated with road, storm drain, or sewer upgrades and repairs.

Channel Meander and Habitat Complexity - The goal of any work done within a channelized section of the stream should be to restore channel meanders. This will add pool/riffle complexes, undercut banks, variable flows, sorted gravels, smaller width-to-depth ratios, and sediment movement through the system. Boulders and large wood can be used to encourage stream

meandering and provide cover. This is needed for a healthy stream system and habitat complexity that produces fish.

Riparian Zone - The riparian zone is essential to the long-term health of the stream. Revegetation projects are needed along many sections of the stream. Most revegetation projects should be fenced to allow recovery. In some cases light-penetrating walkways are needed to give the public access to the stream. Private landowners should be encouraged and perhaps assisted to install and maintain suitable riparian vegetation. Municipal park usage and maintenance should be altered in several places to allow a wider buffer of woody-stemmed riparian vegetation to grow. Future development should provide a minimum 100-foot riparian buffer.

The proposed work on Chester Creek provides a great opportunity to restore an ailing urban stream to a healthy viable system. It will add to the quality of life in Anchorage. NMFS looks forward to working with you on this project. Thank you for the opportunity to comment on this proposal.

Please note that under section 305(b)(4) of the Magnuson-Stevens Act, the Corps is required to respond in writing within 30 days to NMFS recommendations. If the Corps does not make a decision within 30 days of receiving NMFS EFH Conservation Recommendations, the Corps should provide NMFS with a letter to that effect, and indicate when a full response will be provided. Brian Lance is the NMFS contact for this project, and can be reached at (907) 271-1301.

Sincerely,

Arnold J. Berg

For James W. Balsiger
Administrator, Alaska Region

cc: USFWS, EPA, ADNR/OHMP, ADFG, ADEC - Anchorage
Municipality Of Anchorage