

STATE OF ALASKA

DEPARTMENT OF FISH AND GAME

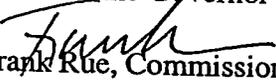
Office of the Commissioner

TONY KNOWLES, GOVERNOR

P.O. BOX 25526
JUNEAU, AK 99802-5526
PHONE: (907) 465-4100
FAX: (907) 465-2332

MEMORANDUM

TO: John W. Katz, Director of State/Federal Relations
Office of the Governor

FROM: 
Frank Rue, Commissioner
Department of Fish and Game

DATE: March 16, 1999

SUBJECT: Chester Creek

HAB
↓ 3-29-99
KDM

RECEIVED
MAR 29 1999
REGULATORY BRANCH
Alaska District, Corps of Engineers

The following information on Chester Creek and its fish populations is provided in support of current efforts to seek federal funding to restore fish passage and to rehabilitate portions of Chester Creek. The Alaska Department of Fish and Game (ADF&G) supports and encourages those efforts. The department believes that Chester Creek is a good candidate for rehabilitation, and with a moderate investment can once again make a substantial contribution to the sport, commercial, and subsistence fisheries of upper Cook Inlet.

Chester Creek originates in the Chugach Mountains, and flows in a westerly direction across Fort Richardson, Muldoon, and Anchorage. Chester Creek discharges into Cook Inlet in Bootlegger's Cove, approximately one mile south of downtown Anchorage. It drains an area of approximately 24 square miles, and is approximately ten stream miles in length. The average stream flow is 12.0 cubic feet per second. Chester Creek has a relatively low gradient, with a good substrate for most of its length. Water quality in the headwaters is very high, but declines in the developed portion of the city. According to U.S. Fish and Wildlife Service (FWS) reports and local residents, prior to World War II (WWII) Chester Creek "supported substantial runs of king, silver, chum, and pink salmon, as well as abundant numbers of Dolly Varden and rainbow trout." No escapement counts are available, but it is likely that Chester Creek provided spawning and rearing habitat for several thousand salmon of all species. Resident Native Alaskans had seasonal fish camps at the mouth of the creek to harvest the abundant and accessible runs of salmon. Chester Creek's salmon runs also "received concentrated fishing pressure from both military and civilian populations in the immediate area."

Rapid development of the area, beginning during WWII, degraded water quality and altered the stream course. Poor land use and lack of any pollution control regulations through the 1960s resulted in a rapid decline in fish runs. The FWS cited pollution as the main reason for the

decline, but alteration of the stream course was likely a contributing factor. Chester Creek supported much reduced populations of salmon and other species through the 1970s. In 1972 a low dam was constructed near the mouth of Chester Creek to flood the tidal flats and create Westchester Lagoon. A fish ladder was constructed to allow salmon to pass over the dam. However, this fish ladder was not effective because it had to be designed to accommodate an existing at-grade culvert under the Alaska Railroad, a short distance downstream. Salmon returning to Chester Creek must now enter a long culvert and remain in a large well until incoming tides fill the well and lift them up to the ladder entrance. A few are able to pass; however, this complex system further reduces salmon escapements into Chester Creek. Surveys by ADF&G have documented remnant-spawning populations of coho, Dolly Varden, and chum salmon, as well as substantial numbers of stocked rainbow trout.

Although Chester Creek is currently much diminished from presettlement conditions, it is a good candidate for rehabilitation. Efforts to control pollution via construction of a sanitary sewer system throughout the city improved water quality in the 1970s. Enactment of the Clean Water Act brought further improvements, and has provided funding to deal with remaining pollution problems. Large sections of the creek flow through a greenbelt, which helps control nonpoint source pollution and provide productive riparian habitat. Sections of the creek that were channeled have begun to revegetate, reestablish meanders, and undercut banks. A few sections of streambank have been restored and revegetated in conjunction with other projects.

A lot of work remains. The first step is to provide a salmon friendly alternative to the pair of subterranean Alaska Railroad culverts. The culverts act as very long sluice boxes, and are an obstruction to fish passage at most if not all tide levels. The second step is to build a fish ladder that will function in concert with a new portal through the railroad bed to facilitate the passage of fish from the inlet to Westchester Lagoon at all tide levels. Once a new portal and ladder are installed, allowing returning salmon to pass freely into Chester Creek, it is likely that they will begin to rebuild Chester Creek stocks. Installing a new portal and fish ladder would also provide an opportunity for visitors and local residents to view salmon from the coastal trail as fish migrate upstream from June through August.

The current interest in restoring America's waterways, as well as Pacific salmon stocks, presents many opportunities for restoring Chester Creek and its salmon populations. Chester Creek restoration has the support of the City of Anchorage, the Corps of Engineers, FWS, National Marine Fisheries Service, local community councils, all three state resource agencies, and many conservation and environmental groups. Any assistance you can provide in securing funding or identifying funding opportunities would be greatly appreciated.

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

P.O. BOX 25526
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August 19, 1999

Mr. Jerry McCutcheon
P.O. Box 241623
Anchorage, AK 99524

Dear Mr. McCutcheon:

The Governor asked me to respond to your June 10 letter regarding the Anchorage Municipal Assembly's resolution supporting construction of a functioning fish ladder at Westchester Lagoon and restoration of the Chester Creek drainage. We are pleased to see that the assembly supports restoration of Chester Creek, and we appreciate all of your efforts in this regard. The State of Alaska and the Alaska Department of Fish and Game (ADF&G) strongly support the construction of a new fish ladder and culverts under the Alaska Railroad to allow salmon to pass freely into Westchester Lagoon. The purchase of wetlands and undeveloped riparian property in the Chester Creek drainage and the restoration of previously impacted portions of Chester Creek would not only hasten the restoration of salmon and trout populations, but would also help ensure the longterm productivity of the restored system.

ADF&G would like to see Chester Creek restoration move ahead as rapidly as possible, and the department will assist with this effort in any way it can. This is a challenging project because of the many different landowners and regulatory agencies that will have to cooperate to bring this project to fruition. We are very fortunate that there seems to be strong support for this project at every level of government and in the public. It is also fortunate that there are several sources of federal funding available from the Corps of Engineers, Natural Resources Conservation Service, and the U.S. Fish and Wildlife Service to restore pacific salmon populations and habitat.

Thanks again for all of your hard work on behalf of Chester Creek.

Sincerely,


Frank Rue
Commissioner



ANCHORAGE WATERWAYS COUNCIL

P.O. Box 241774 • Anchorage, Alaska 99524-1774

August 13, 1996

Re: DeBarr Extension to the wetlands east of Muldoon Road

Assembly Members
Municipality of Anchorage
Anchorage, AK 99506-0898

Dear Members of the Anchorage Assembly:

The Anchorage Waterways Council is a group of citizens who work to protect, restore, and enhance the creeks, lakes, and wetlands of Anchorage. We have learned of the opportunity to enhance the Chester Creek Green Belt by dedication of the present right-of-way of DeBarr extension east of Muldoon Road.

Citizens of Anchorage have been working since at least as far back as 1956 to ensure green belts for our streams. The first, and sometimes the most difficult, step to adequate stream protection is the establishment of a green belt with its ensured and adequate setbacks and buffer strips. Of course in an urban setting a green belt provides an ideal park setting. This piece of land and parts of the adjacent greenhouse property which may be obtainable in a separate action could protect the Preservation Wetlands, undisturbed flood plains of Chester Creek and its source tributaries. The area upstream contains the largest remaining undisturbed section of Chester Creek, the Creek's only known coho salmon spawning bed, and coho salmon nursery areas. It is also a spring area where Chester Creek's water supply surfaces.

Should sometime in the future the land to the east become available to development, it would be better to reach it on high ground to the north or south rather than using this high-maintenance route and through the pristine wetlands now on the military land.

We desire to secure and enhance such stream environments and to demonstrate our resolve to maintain our wealth-producing, renewable, and God-given resources for which our State has become so famous. By demonstrating our self-restraint, lack of near-term greed, and foresight we are setting a fitting example of moral integrity for those to come. We will also be demonstrating our capability for moral leadership in the prudent development of the resources of the state as a whole.

Please call me at 277-7150 if you have any questions.

Sincerely yours,

Julius Rockwell, Jr., Ph.D.
Vice President

CHESTER CREEK PARK EAST

On July 27, 1996 the Anchorage Assembly approved a long-range transportation development plan which included the widening of the DeBarr Extension to the wetlands east of Muldoon Road. The construction of such a road would require converting a significant Chester Creek east of Muldoon Road. On August 13 the Assembly amended this ordinance to restore the eastward extension to local road status so that it could be included in a park-extension of the Chester Creek Green belt. A letter was written by the Anchorage Waterways Council and testimony was given on August 13 essentially as follows:

"We have learned of the opportunity to enhance the Chester Creek Green Belt by dedication of the present right-of-way of Debarr extension east of Muldoon Road.

"Citizens of Anchorage have been working since at least as far back as 1954 to ensure green belts for our streams. The first, and sometimes the most difficult, step to adequate stream protection is the establishment of a green belt with its ensured and adequate setbacks and buffer strips. Of course in an urban setting a green belt provides an ideal park setting. This piece of land and parts of the adjacent greenhouse property which may be obtainable in a separate action could protect the Preservation Wetlands, undisturbed flood plains of Chester Creek and its source tributaries. The area upstream contains the largest remaining undisturbed section of Chester Creek, the Creek's only known coho salmon spawning bed, and coho salmon nursery areas. It is also a spring area where the Chester Creek water supply surfaces.

"Should sometime in the future the land to the east become available to development, it would be better to reach it on high

ground to the north or south rather than using this high-maintenance route through the pristine wetlands now on the military land.

"We desire to secure and enhance such stream environments and to demonstrate our resolve to maintain our wealth-producing, renewable, and God-given resources for which our State has become so famous. By demonstrating our self-restraint, lack of near-term greed, and foresight we are setting a fitting example of moral integrity for those to come. We will also be demonstrating our capability for moral leadership in the prudent development of the resources of the state as a whole."

The amendment was vetoed by the major on the following day. At their next meeting on August 27 the Assembly over rode the veto by a unanimous vote.

However, there is still much work to be done before this land is incorporated into the park system. It is very important to the biological and hydrological health of Chester Creek that damaged reaches east of Muldoon Road be protected and restored. It is also important the lovely proposed park is realized to enhance enjoyment and educational opportunities for the people of the Muldoon area.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
222 W. 7th Avenue, #43
Anchorage, Alaska 99513-7577

March 17, 1999

John Burns
Alaska District Corps of Engineers
CEPOA-EN-CW-ER
P.O. Box 898
Anchorage, Alaska 99506-0898

Re: Chester Creek Restoration

Dear Mr. Burns:

National Marine Fisheries Service has reviewed the Preliminary Restoration Plan for Chester Creek and believes the plan is a positive action that will benefit fisheries. The multi-faceted plan includes improving fish passage and restoration of wetlands, stream channels, streambanks, the riparian zone, etc. We fully endorse the project.

The NMFS looks forward to participating in final plan development and review.

Thank you for the opportunity to comment.

Sincerely,

for Jeanne L. Hanson
Field Office Supervisor
Habitat Conservation Division

NMFS Contact Person: Daniel J. Vos

cc: USFWS, EPA, ADGC, ADFG, ADEC - Anchorage



Municipality of Anchorage



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Rick Mystrom, Mayor

DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT

June 29, 1999

Mr. John Burns
U.S. Army Corps of Engineers
Engineering Branch
P. O. Box 898
Anchorage, AK 99506-0898

Subject: Section 206--Chester Creek Restoration Plan

Dear Mr. Burns:

I am writing to finalize our joint planning effort in the development of a *Chester Creek Ecosystem Restoration* program with a statement of intent for commitment by the Municipality of Anchorage. Under the authority of Section 206 of Public Law 99-332, as amended, and the Energy and Water Development Appropriations Act, your office will soon request appropriations for watershed restoration. As you know, this Chester Creek watershed restoration plan is entirely consistent with historic efforts by the Municipality, which have focused extensive priority and planning actions on the Chester Creek Watershed. This Chester Creek proposal also builds around funding that had been earlier provided as compensatory mitigation for the Jet Fuel Pipeline Project across the Knik Arm tideflats. These funds now reside in a municipal Heritage Land Bank account, specifically dedicated to the restoration of Chester Creek fish passage.

The Municipality requests that the Corps of Engineers become a partner in this *Chester Creek Watershed Restoration* project through the Section 206 program. Besides municipal support, the public and the local resource agencies, especially the Alaska Department of Fish and Game, have shown intense interest and commitment to the restoration of anadromous fish passage and habitat in the Chester Creek system.

The Municipality of Anchorage requests that the Corps proceed with this Chester Creek Restoration Project and we understand that the Municipality's responsibilities should the project be accepted and funded include:

1. Providing, without cost to the United States, all necessary land easements and rights-of-way necessary for project construction, operation and maintenance;
2. Assure operation, maintenance, repair, rehabilitation and replacement during the useful life of the works as required to serve the project's purpose;
3. Provide the non-federal share of matching funds equal to 35% of the project costs;

Mr. John Burns
June 29, 1999
Page 2

4. Hold and save the United States free from claims for damages that might result from project construction and subsequent maintenance, except damages due to the fault or negligence of the United States or its contractors;
5. Compliance with applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies of 1970; and
6. Execute the Assurance of Compliance pertaining to Title IV of the Civil Rights Act of 1984.

It is my understanding that the value of rights-of-way and easements, in-kind services and funds from other non-federal sources can be considered in the local 35% match. We have reviewed and concur with your cost estimates and project schedule and are interested in being a local sponsor committed to the share amounts listed in your Preliminary Restoration Plan draft. We understand that the actual values, costs and local match stated in the draft plan are preliminary and subject to change during the feasibility stage of this program. Final Municipal commitment will be actually reflected and required at the end of the feasibility stage.

The Municipality reserves the right to review and approve the final costs, figures, plans and related documents prior to entering into a binding agreement with the Corps for implementation of this Chester Creek Project. Once funds are appropriated for this activity, we request that your office continue to conduct agency meetings to further fine-tune relevant projects and cost estimates. At this time, Thede Tobish of my staff will be the municipal contact for this work and he will coordinate other municipal agency input and involvement as necessary.

Thank you for the opportunity to participate in this high profile restoration effort.

Sincerely,



Caren L. Mathis
Director

cc: George J. Vakalis, Municipal Manager
Larry Houle, Executive Director, Heritage Land Bank

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF MINING, LAND AND WATER
DAM SAFETY AND CONSTRUCTION UNIT

TONY KNOWLES, GOVERNOR

550 W. 7th AVENUE SUITE 900A
ANCHORAGE, ALASKA 99501-3577
PHONE: (907) 269-8636
Fax: (907) 269-8947

December 15, 2000

Municipality of Anchorage
Department of Public Works
P. O. Box 196650
Anchorage, Alaska 99519

Attention: Mr. Howard Holtan

RE: WESTCHESTER LAGOON DAM (AK00029)

Dear Mr. Holtan:

Thank you for your letter dated November 9, 2000 regarding the Westchester Lagoon Dam. The Dam Safety and Construction Unit (Dam Safety) of the Alaska Department of Natural Resources understands that you wish to place a hold on the Municipality of Anchorage (MOA) application for a *Certificate of Approval to Operate a Dam* dated February 14, 2000. The stated reason for this request is based upon plans to construct a major modification of the dam during 2001 and 2002.

Dam Safety will grant your request upon receipt of an application for a *Certificate of Approval to Modify a Dam* as required by 11 AAC 93.171 for jurisdictional dams. (The Westchester Lagoon Dam is regulated under 11 AAC 93, as discussed in a letter to the MOA dated December 17, 1999.) Furthermore, Dam Safety will also consider your request for a change of the downstream hazard classification; however, additional information is requested in order to justify any change. These issues are discussed in additional detail herein.

Please note that 11 AAC 93.171 requires a substantial level of submittals with an application for a *Certificate of Approval to Modify a Dam*. In order to expedite the issuance of this permit, Dam Safety strongly recommends that a partial application be submitted early in the design process. Additional information can be submitted as the design develops. If we agree on the work being performed as the design progresses, there is little opportunity for misunderstandings after the final design is complete. Dam Safety suggests the following process in order to issue the certificates required by 11 AAC 93:

- Complete and submit an application form for a *Certificate of Approval to Modify a Dam* including the appropriate application fee, with a copy of the preliminary design referenced in your letter, and a schedule for the proposed work. A copy of the application form is attached for your convenience.
- Submit additional information required by 11 AAC 93.171 as it is developed including, at a minimum, an engineering report that includes detailed hydrologic, hydraulic, seepage and stability evaluations (as appropriate), geotechnical investigation reports, interim and final design drawings, construction specifications, and an engineering cost estimate.
- Dam Safety will issue a *Certificate of Approval to Modify a Dam* after the final design is complete and all of the information requested is submitted. A milestone on your schedule for this event is suggested. Please note that no construction may occur until this certificate is issued, as the certificate may contain special conditions for the construction and operation of the dam.
- After construction is substantially complete, submit the as-built drawings, a construction certification report, a current operations and maintenance manual, and an emergency action plan (if required).

"Develop, Conserve and Enhance Natural Resources for Present and Future Alaskans"

- Assuming general compliance with the design, Dam Safety will issue the *Certificate of Approval to Operate a Dam*. This certificate may contain special conditions for the operation, inspection and maintenance of the dam, and will be valid up to the date of the first periodic safety inspection specified therein.

The Westchester Lagoon Dam is currently assigned a Class II (significant) downstream hazard classification by Dam Safety based on the several utilities and the railroad located downstream of the dam. HDR Alaska Inc. reviewed the hazard classification of the Westchester Lagoon Dam in a letter to the MOA dated February 4, 2000. HDR Alaska stated their opinion was that there was no "potential for failure" which would result in damage to those facilities (based on the current configuration). However, both the Dam Safety classification and HDR's opinion appear to be subjective, since there is no formal risk assessment or other objective information on file to quantify the probability of damage to those utilities, and HDR did not provide any backup to justify their opinion.

Generally speaking, a hazard classification is based on the risks that the dam represents to the area downstream. HDR stated that "a few homes" could be damaged in the event of a dam failure, and presented the same argument as in your current letter, stating that the risk to homes is the same with or without a dam failure. Dam Safety is willing to accept this argument in order to limit the dam from a Class I (high) classification as defined in the current version of 11 AAC 93.157. (Proposed revisions to 11 AAC 93 in the pending public review draft would limit Class I dams to those where loss of life is probable in a dam failure.) However, Dam Safety is unwilling to further downgrade the current hazard classification of the dam without additional discussion and review. Consequently, the following suggestions are made:

- The design criteria for the proposed modifications should be agreed upon. These criteria are generally based on the hazard classification, but are not currently defined by Dam Safety. However, Dam Safety recommends that the dam be designed to a Class II (significant) hazard standard based on U.S. Corps of Engineers guidelines for hydrology and stability of dams.
- Based on a review of the proposed modification of the dam, a detailed review of the probability for damage to the downstream utilities and salmon habitat should be conducted (see 11 AAC 93.157 (2)). This may require some type of a limited risk assessment, dam break analysis, or other quantitative argument.
- After an objective review, the downstream hazard classification will be formally agreed upon, which will dictate future periodic safety inspection intervals and emergency action plan requirements.

As mentioned in previous letters, Dam Safety is willing to work closely with the MOA to bring the Westchester Lagoon Dam into compliance with the Alaska dam safety statutes and regulations. Your cooperation in completing this work is greatly appreciated. Please feel free to call me at (907) 269-8636 to discuss this process in additional detail.

Sincerely,



Charles F. Cobb, P. E.
State Dam Safety Engineer

Attachments: Application for *Certificate of Approval to Modify a Dam*

cc: Dave Martinson, U.S. Corps of Engineers
Dan Billman, HDR Alaska



United States Department of the Interior

FAXED
12/7/00

FISH AND WILDLIFE SERVICE

Ecological Services Anchorage
605 West 4th Avenue, Room 61
Anchorage, Alaska 99501-2249

WAES

December 7, 2000

Mr. John Burns
Environmental Resources Section
U.S. Army Corps of Engineers
P.O. Box 898
Anchorage, Alaska 99506-0898

Re: Chester Creek 206 Study, Aquatic Habitat
Restoration Project, Draft Report

Dear Mr. Burns:

Thank you for providing the U.S. Fish and Wildlife Service (Service) the opportunity to comment on the draft *Chester Creek 206 Study, Aquatic Habitat Restoration Project* (Chester Creek Project). The Service is pleased that the U.S. Army Corps of Engineers (Corps) is using Section 206 of the Water Resources Development Act (as amended) funding in partnership with the Municipality of Anchorage to restore degraded aquatic ecosystems within the Chester Creek stream corridor. We particularly appreciate your willingness to work in interdisciplinary teams during the assessment, design and construction phases of the project. This is complementary to Section 206 guidance and the Corps' "Ecosystem Restoration - Supporting Policy Information" (Pamphlet No. 1165-2-502). Pamphlet No. 1165-2-502 states "successful restoration at the landscape level will depend on program coordination among those agencies responsible for management decisions on the separate ecosystem components. In addition, cooperative efforts which effectively combine Federal investments can potentially achieve greater ecosystem restoration benefits than individual agencies could achieve alone."

The Service is in the process of obligating funds to the Westchester Lagoon Fish Passage portion of the Chester Creek Project. These funds will likely be expended during the engineering and design phase of the project, in order to expedite the relocation of the utility lines and petroleum pipelines at the lagoon outlet. In addition, the Service is administering a \$300,000 grant from the National Fish and Wildlife Foundation (NFWF) as an additional funding component of the Westchester Lagoon Fish Passage Project. We will need to closely coordinate restoration efforts with the Corps and the Municipality of Anchorage to ensure that all funds are spent according to the scopes of work in grant agreements, and the required \$300,000 nonfederal match from other partners is secured for this portion of the project.

The field visit on Friday, November 18, 2000, was a great opportunity to bring resource agency representatives together to look at possible ways to restore the Chester Creek corridor. We are pleased that the Corps is looking at the potential to restore the creek to portions of its former

channel. The Service has adopted a watershed-based ecosystem approach to conservation and would like to stress the urgent need for restoration and enhancement of water quality and aquatic resources in this basin. Corps' restoration guidance (Pamphlet No. 1165-2-502) complements the ecosystem approach by emphasizing that "restoration projects should be conceived in a systems context, considering aquatic, wetland and terrestrial complexes, as appropriate, in order to improve their potential for long-term survival as self-sustaining, functioning systems."

Problems associated with the loss of fish and wildlife habitat, deleterious impacts to water quality and changes to the morphology of Chester Creek stem from urban development around the stream corridor. The Chester Creek stream corridor has undergone significant and deleterious impacts which have reduced or eliminated its natural functions. Those impacts are a result of channelization, construction which has impounded or constricted the channel, the loss of riparian vegetation, the placement of hard structure (e.g., riprap, gabions) within the channel, and the alteration of wetlands associated with the stream corridor. Rehabilitation and restoration of the stream corridor, including instream restoration, is essential in order to restore fish and wildlife habitat functions.

An analysis of the current stream condition as it relates to stability, potential and function is critical during the assessment phase of this project. The identification of a reference reach is essential in order to compare the natural stability of the stream with its existing condition at target restoration areas. An analysis of current environmental (baseline) conditions, in order to provide a basis for assessing the performance of the completed restoration, is recommended in both reference reaches and those reaches targeted or affected by rehabilitation/restoration practices. Those analyses should include a biological examination which may entail macroinvertebrate and fish population sampling, as well as a hydrologic and geomorphic analysis which characterizes the watershed.

The Alaska Department of Fish and Game (ADFG) has performed biological baseline monitoring on Chester Creek during fiscal year 2001, and those data should become available for review during the summer of 2001 (pers. comm. Muhlberg). While ADFG has performed some morphological analyses, additional assessment is needed in reaches where restoration practices will occur and should include the installation of monumented cross-sections to record changes in channel geometry.

During the design phase of the project (to follow the assessment phase), some basic prescripts should be followed. These would include:

- a. Use only plants native to Alaska and appropriate for the site for the restoration.
- b. Provide as much unfragmented forested buffer along the existing or restored channel as possible. Work with the Municipality of Anchorage to encourage the relocation of paved walkways as far away from the creek channel as possible, and to reduce fragmentation of the corridor.
- c. Bioengineering techniques which reduce or eliminate the use of hard structure in

and along the channel, should be considered first and foremost in the design of the restoration project. Different reaches may necessitate different treatments for restoration. The *Streambank Revegetation and Protection, A Guide for Alaska*, (Muhlberg and Moore, 1998) is an excellent resource for this project and will aid the Corps in selecting restoration practices. The Service recommends the Corps design the project to incorporate a variety of restoration techniques (provided they are appropriate to the site) in order that the site may be used as an educational showcase for other potential restoration projects in the state.

- d. We agree priority should be given to sites where restoration would have the greatest immediate impacts to fish and wildlife resources, especially fish access, such as the Westchester Lagoon outlet restoration project targeting fish passage, and the Seward Highway crossing. We do not agree with some of the rankings set forth in Table D of the Draft Plan, and suggest the Corps work with the resource agencies and other partners to reprioritize restoration in those areas where it will provide the greatest immediate benefit to fish and wildlife resources.
- e. Overall, storm drains should be redirected outside the existing channel and through natural, vegetated filter strips in order to reduce the amount of sediment and contaminants entering surface waters from runoff. During our site visit on November 18, 2000, we discussed redirecting portions of the existing channel into relict channels (such as those found near C-Street and south of the Seward Highway), and restoring the former channel to wetlands that may be used as filters for stormwater runoff.
- f. Culverts should be replaced with structures that do not impede channel flow and allow for the movement of both bedload and aquatic organisms. Bridged road crossings should be considered above culvert replacements. We do recognize that funding is a limiting factor. We recommend culverts, if not replaced by bridges, be replaced by bottomless, multi-cell box, or multi-cell pipe culverts. Any culverts that are replaced should be designed to maintain the natural channel stability and aid in the restoration of stream function. This would include minimizing scour, erosion or deposition at the culvert inlet, outlet and in the culvert barrel. The maintenance or enhancement of fish and wildlife passage and habitat should be prioritized in the road crossing design. Alternatives to culvert replacement should be addressed during the design phase of the project, and as assessment of the best method of accommodating flow (including flood flows) for the particular site conditions needs to be determined. Coordination with the Alaska Department of Transportation is imperative to this project in those areas where road and highway right-of-way may be affected by the restoration prescription.
- g. The placement of large woody debris within the channel should be a component of the restoration prescription in order to add complexity within the channel and improve habitat for aquatic organisms.

We would not support the use of any restoration funds toward the Karluk Street cable relocation, or in association with any mitigation requirements set forth in any permits or leases associated with other development projects.

We commend the Corps for their willingness to work in partnership with the Service and others to develop and implement the Chester Creek Project. We would like to offer technical assistance to you and other partners during the assessment, design, construction, and monitoring phases of the project. The Service representative for this project is Anita Goetz, of my staff, and she may be reached at 907/271-1798 (email: anita_goetz@fws.gov) if you have questions or need additional information.

Sincerely,



Ann Rappoport
Field Supervisor

cc: Gay Muhlberg, ADFG
Dan Vos, NMFS
Thede Tobish, Municipality of Anchorage
Dick Dworsky, Municipality of Anchorage

References:

Muhlberg, G. Alaska Department of Fish and Game. Personal communication. November 14, 2000.

Muhlberg, G. A. and N. J. Moore. 1998. Streambank Revegetation and Protection, a guide for Alaska. Alaska Department of Fish and Game. Technical Report No. 98-3.

Municipality of Anchorage



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George P. Wuerch, Mayor

DEPARTMENT OF COMMUNITY PLANNING AND DEVELOPMENT

November 2, 2000

Mr. John Burns
U. S. Army Corps of Engineers
Engineering Section
P. O. Box 898
Anchorage, AK 99506-0898

Subject: Chester Creek 206 Aquatic Habitat Restoration Project—Draft Report

Dear Mr. Burns:

The Municipal Planning Department has reviewed the subject draft report prepared by HDR Alaska, Inc. This thorough and well-written report details preliminary engineering and cost requirements of 15 major Chester Creek restoration projects. These include activities that will allow for fish passage and recolonization of Chester Creek. Please consider the following comments for the final report.

Fish Passage

To the extent feasible and where appropriate, we would prefer to see these actions include recommendations for in-stream habitat enhancements. I assume that in-stream fish habitat may be limiting and discontinuous within the existing channel.

Project #13--“C” Street Habitat Improvements

The Municipality requests that this item be moved up in the priority ranking because of its importance to in-stream habitat. This area has been a chronic problem for the creek and its adjacent public amenities. This project may also require a line item and details for resolution of in-situ contaminants from the nearby fuel pipelines, which might be added to the contingency costs. From our standpoint, this project is arguably more important than project #s 10 & 12.

Miscellaneous Bank Restoration Projects

Rather than itemize bank restoration projects individually, as proposed in this listing, I would suggest that such projects be merged into a broader “bank restoration” category. There are numerous and varying-scale bank stabilization sites along the length of Chester Creek that may

Mr. John Burns
Chester Creek 206
November 2, 2000
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be better merged together into a "super" category. Since HDR generally knows the unit costs of these mostly similar projects, the report might present simply a total cost for the category, and the agencies and planning team can itemize and prioritize later into the project. The category could be listed simply as "Miscellaneous Bank Stabilization", with a subheading of X number of projects, summarized from the original PDR sites. This may make sense since our priorities and needs for addressing these areas may change or evolve through the life of the project.

The Municipality also requests that the overall project include an evaluation and estimation of overall fish carrying capacity of the watershed from the Alaska Department of Fish and Game. This analysis will allow the project team to further prioritize efforts and project goals, and perhaps give us a means to measure success. This may be more difficult than is feasible but surely we could get an approximation of fish capacity with the current system and another capacity finding given the set of channel enhancements we have developed. While a carrying capacity evaluation is not strictly a restoration project, it may be an important component to the overall planning and long-term success.

Thank you for the opportunity to comment. We look forward to the next steps in this restoration action. Please include Kristi Bischofberger of the Municipal Public Works Department, Watershed Management Section (343-8058), in any future meetings on this 206 project.

Sincerely,



Thede Tobish
Senior Planner/Coastal District Coordinator

cc: Kristi Bischofberger, DPW