SUSITNA HYDROELECTRIC PROJECT

TASK 7 - ENVIRONMENTAL

SUBTASK 7.10 - FISH ECOLOGY

A SURVEY OF QUESTIONS AND CONCERNS PERTAINING TO INSTREAM FLOW ASPECTS OF THE PROPOSED SUSITNA HYDROELECTRIC PROJECT

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INTRODUCTION

In November 1979 the Alaska Power Authority (APA) contracted with Acres American Inc. to undertake a feasibility study pertaining to the development of a major hydroelectric project on the Susitna River and to prepare an application for license for submission to the Federal Energy Regulatory Commission (FERC). One element of Exhibit E of the application for license is a discussion of project effects on existing instream flow uses and on any existing or proposed uses of project water for irrigation, domestic supplies, and industrial or other purposes. In order to provide this type of response, it is necessary to identify the nature and extent of both existing and anticipated uses of streamflows in the project area. An instream flow assessment will probably be conducted to provide the information needed to support the discussion in Exhibit E.

An instream flow assessment is a technical study undertaken to determine the effects of incremental changes in streamflow on various instream uses. Under a somewhat broader definition, the assessment includes an evaluation of the effects of incremental changes in sediment load, thermal regime, and water quality. Instream uses are uses made of water in the stream channel as opposed to uses made of water out of the channel. More traditional instream flow uses include hydroelectric power generation, navigation (commercial or recreational), and waste load assimilation (receiving water standards). Some contemporary uses that are advancing as potential instream flow considerations are:

downstream delivery requirements to satisfy existing treaties, compacts, or water rights; freshwater recruitment to estuaries; water requirements for riparian vegetation, fish and wildlife habitats, and recreation; and water required to maintain desirable characteristics of the river itself (width/depth ratios, sediment and thermal regimes, channel gradient, reach velocity, or stream type).

The type and degree of analysis involved in the instream flow assessment will, to a large extent, depend upon the concerns of local citizens, public interest groups, and government agencies. As a part of APA's public participation program, the feasibility study plan (Acres American Inc. 1980) was distributed to state and federal agencies, private organizations, public interest groups, individuals, and public libraries. In addition, APA conducted community meetings in Anchorage, Fairbanks, Talkeetna, and Willow (Alaska Power Authority 1980a). In November 1980 APA's Public Participation Office published a newsletter outlining the general focus of the feasibility study and summarizing the progress-to-date (Alaska Power Authority 1980b).

As an extension of these public participation activities, a survey was undertaken in mid-January 1981 as the initial step in the development of an instream flow study plan. Interviews were conducted with individuals representing federal and state agencies, public interest groups, and native corporations in order to obtain a first-hand impression of their level of understanding and interest in the feasibility study, and to record those questions that they felt needed to be answered by the instream flow assessment. An attempt was also made to identify the

specific data and information needs of those agencies charged with issuing permits and/or reviewing APA's application for license and the FERC environmental impact statement.

APPROACH

In January 1981, correspondence and background information on file at APA's office were reviewed in order to establish the initial list of contacts. Interviews were conducted in person and by telephone with 55 organizations from January 15 to January 26, 1981. Each person was advised that an instream flow study plan is being developed, and that the purpose of the survey was to ensure that any appropriate questions they might have pertaining to instream uses or impacts were not overlooked. It was often necessary to identify who the consultants were and briefly explain their respective roles in the feasibility study.

During each personal interview, a hand out was provided that contained a definition of an instream flow use and an instream flow study, and then the person was asked to identify any categories or specific questions that he or she felt needed to be addressed before the proposed Susitna hydroelectric project could be approved. Most people responded verbally, but four provided additional written comments.

At the conclusion of the interview, the individual was advised that the Alaska Power Authority would transmit a copy of the survey report to their organization, both to verify the accuracy of their recorded "point-of-view," and to provide a mechanism for obtaining any additional comments that might come to mind from reviewing the comments and questions of others (R. Mohn, pers. comm.). The results of the January survey were submitted to Acres American Inc. on January 31, 1981.

Following internal review, APA and the consultants redirected portions of the feasibility study and work plan to better address concerns and needs raised during the survey.

The survey results were distributed by APA to each organization in early April. Follow-up interviews were conducted with all participants and two additional organizations from April 13 to April 29, 1981. After reviewing the survey results, several agencies clarified and reemphasized their concerns or expanded and reinforced the concerns and comments of other groups, and four groups sent written comments to APA.

This report summarizes the most current perceptions, concerns, and questions of numerous agencies and public interest groups regarding those aspects of the proposed Susitna hydroelectric project that should be addressed within the context of an instream flow assessment. It is the purpose of this report to serve as a working document in the preparation of a study plan for the instream flow assessment. The instream flow study plan will be structured to provide conclusive answers to selected questions at an interim date (March 1982), with the understanding that additional studies will be pursued where warranted. The first draft of the study plan will be delivered to APA and its contractors in May 1981. Review comments will, at first, be solicited from FERC, the Susitna Hydroelectric Steering Committee, and the Cooperative Land Managers Task Force Instream Flow Work Group, all of which include state and federal resource agency representatives familiar with the FERC licensing process and instream flow issues in Alaska. Following their

review, the draft study plan will be revised and resubmitted for review and comment by all interested parties.

The organizations contacted are listed in Figure 1. All of their questions and comments are presented on the interview forms in the Appendix, but only those pertinent to the development of an instream flow study plan are included in the following discussion. Several questions and comments are presented that reflect a genuine lack of knowledge about the proposed Susitna hydroelectric project, the river basin, and the feasibility study. In many cases, their information needs could only be phrased as questions and very little substantive input was provided with regard to specific data requirements. In part, the obscure and indefinite response of these agencies is attributable to an apparent lack of technical information reaching them.

Most groups interviewed had numerous questions and comments pertaining tc the instream flow study plan, but they were requested to concentrate on expressing their major concerns. These concerns have been separated into nine instream use categories, using the examples from the hand out. Responses are summarized by category in Figure 2. This graph does not indicate that the value of any one category is more important than another; however, it does indicate that the level of interest or perceived need for study and information is greater for certain categories than for others. The results of the survey are discussed below.

Figure 1. Organizations contacted.

State

Anchorage Fish and Game Advisory Committee, Alaska Board of Fish and Game
Div. of Energy and Power Development (DEPD), Alaska Dept. of Commerce and Economic Development
Office of Special Industrial Development, Alaska Dept. of Commerce and Economic Development
Div. of Community Planning, Alaska Dept. of Community and Regional Affairs
Southcentral Regional Office, Alaska Dept. of Environmental Conservation (DEC)
Sport Fish Div., Alaska Dept. of Fish and Game (ADF&G)
Su Hydro Team, Alaska Dept. of Fish and Game (ADF&G)
Alaska Dept. of Law
Water Management Section, Div. of Forest, Land and Water Management, Alaska Dept. of Natural Resources (DNR)
Div. of Parks, Alaska Dept. of Natural Resources (DNR)
Div. of Research and Development, Alaska Dept. of Natural Resources (DNR)
Central Region Planning and Research, Alaska Dept. of Transportation and Public Facilities
Office of Coastal Management, Alaska Office of the Governor
Alaska Water Resources Board

Federal

Environmental Section, U.S. Army Corps of Engineers (USACE)
District Office, U.S. Bureau of Land Management (BLM)
Resources Section, U.S. Bureau of Land Management (BLM)
Aids to Navigation Branch, U.S. Coast Guard
Representative - Office of the Secretary, U.S. Dept. of Agriculture
North Pacific Fisheries Management Council, U.S. Dept. of Commerce
Alaska Railroad, U.S. Dept. of Transportation
Alaska Water Study Committee, U.S. Dept. of Interior
Alaska Operations, U.S. Environmental Protection Agency
Assistant Area Director for Environment, U.S. Fish and Wildlife Service (USFWS)
Ecological Services (ES), U.S. Fish and Wildlife Service (USFWS)
Fishery Resources Program, U.S. Fish and Wildlife Service (USFWS)
Western Alaska Ecological Service, U.S. Fish and Wildlife Service (USFWS)
Chugach National Forest, U.S. Forest Service
Water Resources Div., U.S. Geological Survey
U.S. Heritage, Conservation and Recreation Service (HCRS)
U.S. National Marine Fisheries Service (NMFS)
Alaska Area Office, U.S. National Park Service
River Forecast Office, U.S. National Weather Service
U.S. Soil Conservation Service (SCS)
Snow Survey Supervisor, U.S. Soil Conservation Service (SCS)

Local

Planning Dept., Matanuska-Susitna Borough

Figure 1 (Continued). Organizations contacted.

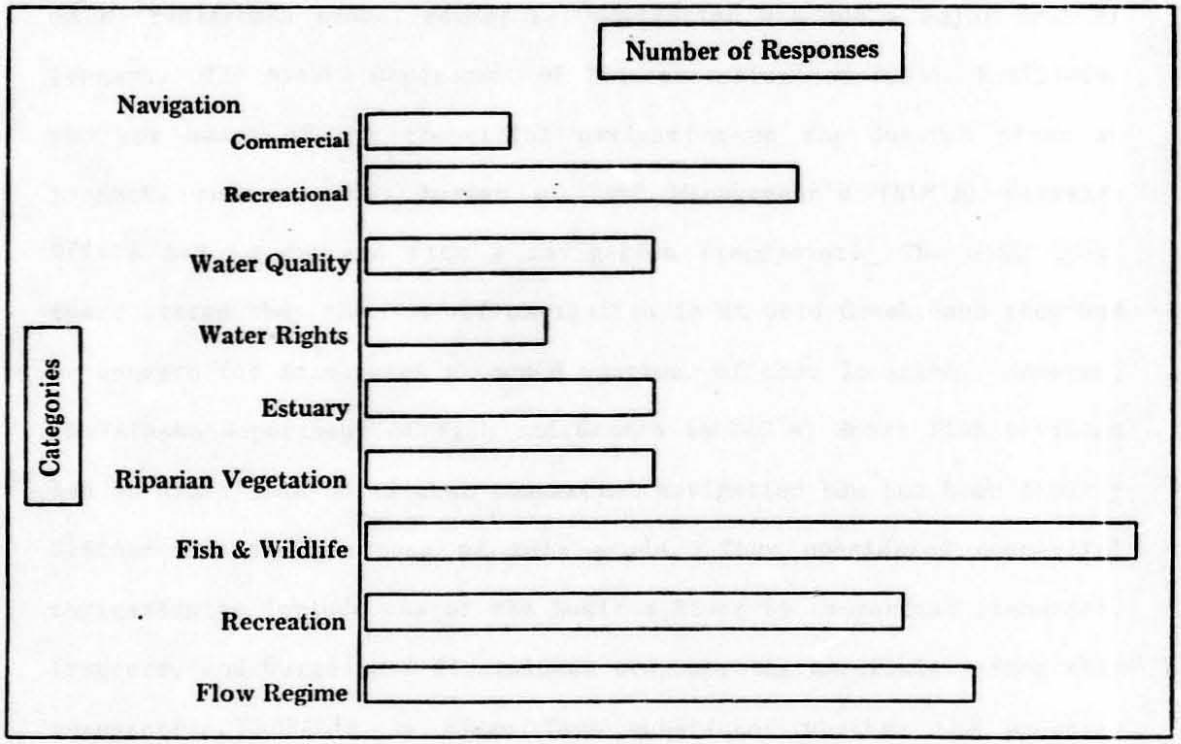
University

Arctic Environmental Information and Data Center (AEIDC), University of Alaska
Cooperative Fisheries Research Unit, University of Alaska

Public Interest Groups

Alaska Center for the Environment
Alaska Conservation Society
Alaska Miners Association
Alaska Public Interest Research Group (AKPIRG)
Alaska Rural Electric Cooperative Association
Alaskans for Alternate Energy
Cook Inlet Aquaculture Corporation
Cook Inlet Region, Inc.
Denali Citizens Council
Devil Canyon Corporation
Fairbanks Environmental Center
Knik Kanoers and Kayakers
Alaska Region Office, National Audubon Society
Resource Development Council
National Representative, Sierra Club
Knik Group, Sierra Club
Susitna Power Now
Trustees for Alaska
Village Presidents Association

Figure 2. Spokesperson Responses by Instream Use Categories



SURVEY RESULTS

Navigation - Commercial

In a traditional sense, commercial navigation was not a major area of concern. The Alaska Department of Transportation and Public Facilities was not aware of any commercial navigation on the Susitna River at present, and the U.S. Bureau of Land Management's (BLM's) District Office had no concern from a navigation standpoint. The U.S. Coast Guard stated that the head of navigation is at Gold Creek, and they had no concern for structures proposed upstream of that location. However, the Alaska Department of Fish and Game's (ADF&G's) Sport Fish Division and Su Hydro Team noted that commercial navigation has not been clearly defined for the purposes of this study. They considered commercial navigation to include use of the Susitna River by commercial fishermen, trappers, and barges and floatplanes transporting materials. From this perspective, ADF&G's Su Hydro Team questioned whether the proposed Susitna hydroelectric project would adversely affect commercial navigation on the lower Susitna River and in upper Cook Inlet.

Navigation - Recreational

Questions pertaining to anticipated effects of the proposed Susitna hydroelectric project on recreational navigation fell into two major areas: 1) access to the Susitna River by water, air, and land, and 2) movement within the Susitna River itself.

Boat and float plan access to side channels and small tributaries and to the west side of the lower Susitna River was questioned by the U.S. Fish and Wildlife Service's (USFWS's) Fishery Resources Program, the Fairbanks Environmental Center, and ADF&G's Sport Fish Division and Su Hydro Team. The Anchorage Fish and Game Advisory Committee and the U.S. National Marine Fisheries Services (NMFS) were concerned about sportfishing access, primarily downstream from Talkeetna. The Sierra Club's Knik Group asked whether recreational access, in general, would be reduced or enhanced. The main concern of the Alaska Department of Natural Resources (DNR) was whether or not streamflow alteration would affect access to land disposal sites. ADF&G's Su Hydro Team concurred with this concern, and was also concerned about the effect on access to future land developments. However, the Alaska Center for the Environment felt that access to cabin sites (land disposal) was not being considered at all. The National Audubon Society felt that comprehensive recreation policies should be adopted that are specific to the reservoirs, mainstem river, and its tributaries. Furthermore, these must be integrated in DNR's land use plan for the Susitna River basin, particularly in regard to assuring public access to public waters.

The effects of postproject flows on kayaking, boating, and rafting between the Denali Highway and Talkeetna were questioned by ADF&G's Su Hydro Team, and the Sierra Club's National Representative was specifically concerned about effects on whitewater boating (see related comments under recreational requirements). Trustees for Alaska questioned whether movement within the Susitna River would become more hazardous as a result of reduced summer streamflow.

The need for a navigation user needs survey was stressed by DNR's Water Management Section.

Waste Load Assimilation (Water Quality)

The Alaska Department of Environmental Conservation (DEC) questioned the general effects of the proposed change in flow regime on the assimilative capacity of the Susitna River. Both the sediment and thermal regimes of the Susitna River are expected to change. Thus, future discharge permit applicants might be required to incur additional treatment costs before meeting Alaska's water quality standards. In a somewhat similar fashion, the U.S. Army Corps of Engineers (USACE) indicated an interest in having the anticipated postproject flow regimes reviewed with respect t the granting of 404 permits to postproject applicants. The interests of both agencies are accented by renewed discussion of the capital move. Alaskans for Alternative Energy and ADF&G's Su Hydro Team also mentioned the capital move and questioned the effects of postproject flows on domestic and industrial waste disposal.

DEC also commented that during the construction phase, turbidity (suspended solids) may increase to the point that the present "drinking water" classification for the Susitna River might be jeopardized. On the other hand, the proposed reservoirs might serve as large settling ponds, thereby facilitating maintenance of the present classification. The Alaska Center for the Environment and ADF&G's Su Hydro Team were interested in knowing whether nitrogen supersaturation problems were

being investigated, and Trustees for Alaska would like assurance that postproject flows would not aggravate pollution from placer mining during low flows.

Downstream Delivery Requirements to Satisfy Water Rights Holders

A fundamental question asked by the Alaska Miners Association and ADF&G's Su Hydro Team was "what permitted or licensed water use rights presently exist in the Susitna River basin?" Two additional questions raised by ADF&G's Su Hydro Team and Susitna Power Now were: 1) whether operation of the dam would allow present day out-of-stream diversions to be maintained, and 2) whether postproject flows would result in a change of water table conditions that would adversely affect domestic wells or surface water supplies.

DNR's Water Management Section indicated that Susitna River basin water rights applications have not been completely adjudicated. The Water Management staff doubted that any existing out-of-stream diversions would be affected by the proposed Susitna hydroelectric project; however, this should be investigated during the instream flow studies. Pursuant to AS 46.15.080 (criteria for issuance of permit) DNR will require this information before issuing water rights permits and reservations of water for the proposed Susitna hydroelectric project. The staff anticipates instream flow requests from agencies due to this project, and instream flow requirements that may be requested by ADF&G might also protect other instream flow uses.

Freshwater Recruitment to the Estuary

Due to the lack of knowledge about the freshwater requirements of the Cook Inlet estuary, NMFS and ADF&G's Sport Fish Division suggested that a study be undertaken to determine whether or not a problem might exist. In general, their questions focused on how much change in flow would occur at the estuary and whether this would affect the estuarine environment. The Sierra Club's National Representative, ADF&G's Su Hydro Team, and DNR's Division of Parks were concerned about the effect of altered flows on winter icing in upper Cook Inlet. Furthermore, USACE and the National Audubon Society stated a need for information to determine the productivity and type of wetlands that exist at the estuary and in the Susitna River basin. Others mentioned the possible change of water quality in upper Cook Inlet and questioned the effect that postproject flows might have on waterflow use at Susitna Flats.

Riparian Vegetation Requirements

Although a number of groups, including ADF&G's Su Hydro Team, USFWS's Fishery Resources Program, NMFS, the University of Alaska's Arctic Environmental Information and Data Center (AEIDC), and Trustees for Alaska, acknowledged that riparian vegetation is important, there were few specific questions raised. The major concerns focused on whether or not postproject flows would maintain a disturbed environment conducive to the production of moose browse. USFWS's Western Alaska Ecological Services questioned whether flows to maintain early seral stages of

vegetation would need to be designed into the reservoir operation as part of the mitigation plan. The U.S. Soil Conservation Service (SCS) felt this would not be necessary, and they doubted whether project-induced vegetation changes below the Chulitna River would be measureable. However, ADF&G's Sport Fish Division disagreed, feeling that a reduction in flow might have more impact because most of the riparian vegetation is in the delta islands area.

Fish and Wildlife Requirements

Over twenty groups commented on fish and wildlife requirements. The majority of specific comments focused on defining project-induced effects on the existing fishery resources.

Would there be enough water to support existing fish populations? How many sloughs, oxbows, and side channels would be dewatered or have limited access? How would changes in flow regime, temperature, silt, and water quality parameters affect spawning, movement, outmigration, egg development, and seasonal habitat use? Would higher stream velocities associated with increased winter flows affect young-of-the-year that migrate into the mainstem from tributaries during winter months? What overwintering of juvenile and resident anadromous fish occurs in the main channel and how would it be affected? What would be the effect of reducing the sediment load, and therefore associated nutrients, on downstream biota? Would the reduction of peak flows affect fishery utilization of side channels and backwater areas?

Susitna Power Now and the Alaska Public Interest Research Group (AKPIRG) stated that the emphasis should not just be on salmon, and that grayling should be considered. Both the U.S. Department of Interior's Alaska Water Study Committee and SCS felt that conditions supporting superior king salmon runs in the Kenai River as compared to the Susitna River ought to be investigated as one means of evaluating effects on this particular fishery. ADF&G's Sport Fish Division and Su Hydro Team were apprehensive about conducting such a study since characteristics of the two river basins are quite different. The Kenai River system contains lakes with low sediment levels and different fish stocks, and there is different recreational and commercial utilization.

The National Audubon Society and ADF&G's Su Hydro Team were concerned about the effects that project-induced changes on the fish would have on bird species dependent on aquatic life, such as bald eagles. Questions from other groups pertained to the effect of postproject flows on habitat requirements of small terrestrial mammals including furbearers, the effect of flooding Watana on caribou habitat and migration routes, and the effects on use of the estuary by Beluga whales and seals.

Recreational Requirements

Many groups indicated an interest in this topic, but their questions and comments frequently reflected preconceived personal biases rather than an objective consideration of postproject effects on recreational use.

The potential for increased recreational opportunities was recognized by several groups, including DNR's Division of Parks. the Devil's Canyon Corporation felt that there would be many increased recreational opportunities in the vicinity of the proposed reservoirs, but both DNR's Water Management Section and ADF&G's Su Hydro Team questioned the public's acceptance of reservoir recreation. The proposed reservoirs are expected to be very deep glacial lakes with a precipitous shoreline and fluctuating water surface. Such characteristics are not expected to draw many reservoir recreationists.

Several groups concentrated on recreational opportunities that would be lost. BLM's Resources Section and the National Audubon Society questioned to what extent the aura of the wild and scenic aspects of the Susitna River would be degraded. The U.S. Heritage, Conservation and Recreation Service (HCRS) and Knik Kanoers and Kayakers were particularly interested in the Devil's Canyon area, as it has world class status as a whitewater river. The Alaska Center for the Environment and Trustees for Alaska indicated that many forms of river based recreation are increasing in the project due to state land disposals and pressure from the Anchorage bowl, and both were concerned about the loss of kayaking opportunities. The Anchorage Fish and Game Advisory Committee and ADF&G's Sport Fish Division were interested in quantifying post-project impacts on fishing success. More specifically, the Anchorage Fish and Game Advisory Committee questioned whether streamflow changes would alter target fish species that sportsmen seek, and ADF&G's Sport Fish Division was concerned that restrictions to hunting and fishing would be imposed during project construction and operation.

The effect of postproject flows on maintaining moose habitat in the lower reaches of the Susitna River was mentioned as a possible impact on hunting as were the effects of postproject flows on boat access to the hunting areas. ADF&G's Su Hydro Team observed that at certain times, minimum flows rather than maximum flows will be desirable, as when maintaining a stable crossing for the Iditarod race. Many comments and questions pertaining to sportfishing were also noted.

In summary, then, the major question to be answered is "To what degree will riverine based recreation be increased or decreased as a result of constructing and operating the proposed Susitna hydroelectric project?" To answer this, both DNR's Water Management Section and USFWS's Ecological Services (ES) felt that a recreational user needs survey would be necessary because of the level of opposition due to perceived recreational losses, and the lack of information about what type of recreation is desirable.

Flow Regime Maintenance

Nearly twenty groups had questions and comments in this category but they were most often made in association with other issues. The majority of those interviewed recognized that various relationships exist between flow regime and instream uses, but their understanding of these relationships was extremely limited. Thus most of the comments were expressed as questions.

What would the stage be at selected locations during different times of the year? What would the magnitude of change in flow be under post-project conditions, and how would this affect access to tributaries? Will reduction in seasonal variability of streamflow have negative impact on the ability of the river to cleanse itself of debris? What is the dampening effect on streamflows downstream? How would changes in water level affect people living near the Susitna River (flood potential)? What is the worst case flood now (100-year flood, 500-year flood), and how does this compare to the projected flood in the event of dam failure? What is the relationship of groundwater levels to the Susitna River? The Alaska Railroad asked what, if any, expected changes might occur in the ground thermal regime and what the effect of permafrost melt or frost heaving on bridge piers would be.

What would be the effect of increased winter flows on icing? Would there be a greater accumulation of ice in the upper reach, with larger ice jams during breakup? There probably would be an increase in ice cover because of increased winter flows. Variable wintertime releases, which are common to operation of many hydro-power projects, could result in increased ice thickness, increased backwater from ice, or increased channel scour under ice. Also, there might be increased wintertime water temperatures from water passed through the turbines that would have an effect on ice formation. The effect would probably be most evident during the times when ice formation is incipient. If power demand or operation of the reservoir required that water be dumped in winter in years that the snow pack indicated a high spring runoff, would

there be a buildup of ice (aufeis)? Could this be managed by controlled releases of water under the ice?

Several groups are concerned about the effect of flows on erosion, and the Alaska Railroad was particularly concerned about the effect of annual spring flooding on bridges. Although the ice jams at the bridge locations might decrease, there would be increased erosion of bridge piers due to decreased silt concentrations and channelization of the river. Other groups were concerned about the effect of decreased sediment loads on scouring. There might also be scour in the channel downstream from the dam; the extent of scour and length of river that might be significantly affected need to be determined.

What would be the change in channel characteristics? What would be the effect of peak flow on sediment transport and stream morphology? How would postproject flows affect bedload movement associated with storm events? Is the present sediment differentiation from side to side in the vicinity of the east side tributaries below Talkeetna significant to fish passage?

Geographic Concerns

During the survey, individuals were asked to indicate to which study reach their particular concern or question was most applicable. The three study reaches defined on the hand out were: 1) Cook Inlet to Talkeetna, 2) Talkeetna to Devil's Canyon, and 3) Devil's Canyon to the Denali Highway. Many geographic concerns have been discussed in the

preceding section by category. Several groups identified a particular study reach after expressing all their concerns, and although not as meaningful, it was clear that most groups felt that the feasibility study should include all three study reaches. HCRS had a particular interest in the reach from Talkeetna to and including Devil Canyon, whereas the Alaska Department of Commerce and Economic Development's Division of Energy and Power Development (DEPD) felt the Devil Canyon to Denali Highway reach was more significant. A number of groups, including ADF&G's Sport Fish Division, DNR's Division of Parks and Water Management Section, USFWS's ES, NMFS, and AKPIRG felt that more emphasis should be placed on the Cook Inlet to Talkeetna reach. In expanding upon this concern, ADF&G's Sport Fish Division stated that although the primary impact would be above Talkeetna, the studies should extend to Cook Inlet because there is more fish utilization below Talkeetna and the resource may be impacted to a greater extent.

ADDITIONAL CONCERNS

Several of those interviewed provided comments and questions pertinent to the development of an instream flow study plan that do not belong in the preceding discussions concerning instream uses. These additional concerns and questions pertain to: the perceived lack of coordination and information exchange; the adequacy of the time and resources; the availability of qualified personnel; the methodologies being applied; and the duration of data collection required.

The Fairbanks Environmental Center and the National Audubon Society were concerned about coordination between the hydrology studies and the fish and wildlife studies. Many spokespeople felt they could not provide specific comments or questions pertaining to an instream flow study plan until additional information and data were available to them.

The Alaska Center for the Environment questioned whether the Acres budget is sufficient to provide equipment and personnel to interpret data for achieving the objectives stated in the feasibility study. Those experienced with conducting fishery resource investigations and preparing and reviewing licensing documents, including USFWS, ADF&G's Su Hydro Team and Sport Fish Division, and AEIDC, were very concerned about the attitude of the applicant with regard to making a license application in 1982. A number of groups, several represented on the Susitna Hydroelectric Steering Committee, felt that there was a lack of understanding on the part of the Alaska Power Authority about the Federal

Energy Regulatory Commission licensing procedures. Knowing that FERC can, and no doubt will, request additional studies; they felt it was imperative to obtain information and field data to answer questions that would be raised during the review process and to determine what areas require further work. They recognized that a failure to accommodate such requests now would result in future project delays.

Both the USFWS and AEIDC assumed that "incremental methodology" would be applied. They also commented that this methodology has yet to be tested in a large glacial river and asked what scheduling and funding accommodations have been made to define new procedures and field test them before undertaking routine application. ADF&G's Su Hydro Team responded that they intend to determine if instream flow methodologies can and should be applied, and if so, how? What would be the feasibility and what would the benefits be?

BLM's District Office noted that obtaining the necessary fisheries data will be an extremely difficult undertaking in the Susitna River. Additionally, DEPD felt that existing stream gages might not be placed to accurately represent reach specific streamflows, which would be required. USGS felt that in order to make a theoretical computation of the effects of scour, considerable sediment data would have to be collected and analyzed, and these data should include bedload and bed material sample results as well as the more conventional suspended sediment analysis results. USGS was concerned that potential changes or impacts of stream morphology be adequately addressed in the study. USFWS's Fishery Resources Program felt that a methodology must be

developed to assess riparian vegetation. The main concern of the Cook Inlet Aquaculture Association was whether the methodology would answer questions about effects of groundwater seepages adjacent to the river used for salmon spawning.

Several groups commented on the duration of data collection. The National Audubon Society felt that there would be a need for ongoing research and monitoring of project impacts on instream flow and asked if a strategy were being developed. SCS's Snow Survey Supervisor felt that the collection of snow pack and snowmelt runoff data in the upstream area should be continued and beneficial sties in the headwater country of the Alaska Range should be expanded, as this data would provide a good index for runoff into the reservoir system for downstream management.

SUMMARY

Interviews were conducted in person and by telephone with 55 organizations from January 15 to January 26, 1981. The survey results were submitted January 31, 1981. Following internal review by Acres and its subcontractors, the survey results were distributed to all those contacted during the January survey. Follow-up interviews were completed between April 13 and April 29 to obtain any additional comments and to ensure that concerns presented in the January 31 report were properly interpreted and presented. Questions and concerns have been identified under nine instream use categories to facilitate preparation of the instream flow study plan. The first draft is scheduled for completion in May 1981.

Due to the complex nature of the engineering and environmental questions that need to be answered, several organizations believed that the Alaska Power Authority was premature in raising public and political expectations for an early construction start-up. They were concerned that approvals would be sought before environmental questions were adequately addressed. They felt that APA's intent to file a license application in 1982 indicated a lack of understanding concerning FERC licensing requirements. The Alaska Power Authority and its contractors should increase technical level discussions with those agencies and public interest groups who will participate in the FERC process prior to submitting the application for license.

Other groups had no comments or questions concerning the proposed Susitna hydroelectric project but appreciated being informed. Most groups were pleased that an instream flow study plan is being developed and appreciated being contacted. Several commended the Alaska Power Authority for the undertaking.

Several of those interviewed provided comments and questions pertinent to the development of an instream flow study plan that do not belong in the preceding discussion. THese additional concerns and questions, which are included in the Appendix, pertain more to the general implementation, administration, and management of a study plan than to distinct instream use categories requiring study.

Following internal review if is recommended that the draft instream flow study plan be provided to the Susitna Hydroelectric Steering Committee, the Cooperative Land Managers Task Force Instream Flow Work Group, and the Federal Regulatory Energy Commission. All other organizations contacted by this survey should be informed of its availability and provided a copy upon request.

REFERENCES

Acres American Inc. 1980. Susitna hydroelectric project; plan of study. Report for Alaska Power Authority, Anchorage, AK. 1 vol.

Alaska Power Authority. 1980a. A report on the first series of community meetings on the feasibility studies for the Susitna hydroelectric project and other power alternatives. Anchorage, AK. 61 pp.

_____. 1980b. The Susitna hydro studies. Anchorage, AK. 8 pp.

Mohn, R. 1981. Interview. January 14, 1981. Alaska Power Authority, Anchorage, AK.

APPENDIX

Interview Forms

INTERVIEW FORM

Organization: Anchorage Fish and Game Advisory Committee
Alaska Board of Fish and Game
Date: 1-22

Address: c/o Thomas G. Stevans
1805 Juneau Drive, Anchorage 99501

Phone: 279-4664 (hm)

Person: Thomas G. Stevans (Bill Wilson, 279-4523)
Spokesperson Y* N__

Correspondence

Source

Questions, Concerns, and Comments

Main concern - access to hunting and fishing. Will streamflow changes alter target species that sportsmen seek?

4-14

No further comment.

INTERVIEW FORM

Organization Div. of Energy and Power Development (DEPD) Alaska Dept. of Commerce and Economic Development

Date 1-15

Address 338 Denali Street, Anchorage 99501

Phone 276-0508

Person Dale Rusnell, Heinz Noonan

Spokesperson Y* N__

Send duplicate copy to Heinz Noonan

Correspondence

Source

Questions, Concerns, and Comments

Main concern - sufficient data should be collected to be of value in determining appraisal of power resource and in answering all concerns.

Geographic concern - Watana and Devil's Canyon.

Gages are placed to represent total streamflow - concerned that gages may not represent this.

4-15 (phone)

Has not seen report, just interview form - no additional commments.

Requested report (delivered).

INTERVIEW FORM

Organization Office of Special Industrial Development Alaska Dept. of Commerce and Economic Development

Date 1/26 (phone)

Address Pouch EE, Juneau 99811

Phone 465-2018

Person Dick Eakins

Spokesperson Y X N

Correspondence

Source

Questions, Concerns, and Comments

No comment.

4-27 (phone)

Circulated report to staff, no specific comments at present.

INTERVIEW FORM

Organization: Div. of Community Planning, Alaska Dept. of Community and Regional Affairs — Date: 1-20 (phone)

Address: 225 Cordova, Bldg. B, Anchorage 99501

Phone: 264-2206

Person: Larry Kimball (Ed Busch) — Spokesperson Y* N__

Correspondence — Source

Questions, Concerns, and Comments

Minimum instream flows for sport fishing, subsistence, etc., should be maintained.
No further comment - defer to resource management agencies.

4-13 (phone)

Has not read report - will call if wants appendix or has additional comments.

INTERVIEW FORM

Organization Southcentral Regional Office
Alaska Dept. of Environmental Conservation (DEC)

Date 1-15

Address 437 E Street, Second Floor, Anchorage 99501

Phone 274-2533

Person Bob Martin

Spokesperson Y* N__

Correspondence

Fish and wildlife studies don't contain methodologies for assessing impacts.

Source

Sturdevant, D. 1980. Review of technical procedures manuals Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage, AK, October 27, 1980.

Questions, Concerns, and Comments

Main instream flow issue - waste assimilation.

Construction - effects of routing and rerouting flows, pumping, concrete placement, and removal of overburden on turbidity and suspended solids concentrations. May cause problem for maintaining classification of Susitna for drinking water purposes.

Operation - if there are lower flows in winter, the Susitna might not be able to assimilate chlorinated wastewater discharges, and fish could be killed. The capability of the Susitna to assimilate treated discharges from increased population growth in the area should be maintained. The reservoir would serve as a large settling pond, and depending on outfall design, some solids might be removed. Water downstream would be easier to treat for drinking, as chlorine would not oxidize on so many suspended solids.

4-14 (phone)

No further comment, wants appendix (delivered).

INTERVIEW FORM

Organization Sport Fish Division
Alaska Dept. of Fish and Game (ADF&G) Date 1-23

Address 333 Raspberry Road, Anchorage 99502

Phone 344-0541

Person Larry Heckart Spokesperson Y* N

Correspondence

Source

Questions, Concerns, and Comments

Main concern - long term effects.

Don't yet have understanding of how the estuary might be impacted.

What overwintering of juvenile and resident anadromous fish occurs in the main stem?

What will the philosophy of use be during and after construction? Will there be restrictions on hunting and fishing? If access to the impoundment is restricted, there will be a loss of recreational opportunity.

Will recreational and rearing access to east side tributaries below Talkeetna be maintained?

Impact on water quality and quantity will be easier to see down to Talkeetna than it will from the Parks Highway to the Deshka River, where it is broader and shallower. However, a small change in water level here will cause other changes to occur.

Sport Fish Division
Alaska Dept. of Fish and Game

What is the sediment differential from side to side in this stretch? Is it significant to fish passage?

Adequate mitigation studies should be provided.

Major impacts will occur downstream of the dam.

Concerned that funding and personnel won't be available.

4-20 (phone)

"Commercial navigation" is not defined.

Disagrees with SCS opinion that riparian vegetation would readjust to postproject conditions and feels that project-induced vegetation changes below the Chulitna River would be measurable. A 40 percent reduction in flow might have more impact because most of the riparian vegetation is in the delta islands area.

Disagrees with SCS and Alaska Water Study Committee on value of comparing Susitna and Kenai fisheries as all circumstances are different. The Kenai system contains lakes with low sediment levels, there are different fish stocks and different recreational and commercial utilization.

Input on recreational requirements was not "personal bias" but professional opinion.

Geographic concern - the primary impact will be above Talkeetna, but studies should extend to Cook Inlet. There is more fish utilization below Talkeetna and the resource may be impacted more.

Wants appendix (delivered).

INTERVIEW FORM

Organization Su Hydro Aquatic Studies Team
Alaska Dept. of Fish and Game (ADF&G)

Date 1/15

Address 2207 Spenard Rd, Anchorage 99503

Phone 274-7583

Person Tom Trent, Christopher Estes

Spokesperson Y x N

Correspondence

Impact of project of rearing, fish passage, and egg incubation in river from mouth should be examined.

Source

Trent, T. 1980. Review of technical procedures manual. Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage, AK, October 13, 1980.

Questions, Concerns, and Comments

1. How will the construction and operation of the dams affect commercial navigation?
   a. Will navigation in upper Cook Inlet (especially access to the Port of Anchorage) be influenced by the dams? How?
   b. How will construction and operation of the dams affect recreational navigation? Will private citizens have reduced access by boats and floatplanes to westside homes?
   c. Will transportation to and from adjacent tributaries be affected? How?
   d. How will kayaking, rafting and boating be affected on the river in the Denali Highway to Talkeetna reach?
2. How will construction and operation of the dams affect the water quality in all reaches of the river, including the Cook Inlet Estuary at the mouth of the Susitna River?
   a. How will water quality be affected by the dams if waste materials are discharged into the river by communities and industrial operations downstream of the dam?
   b. How will temperature conditions in all reaches of the river be affected by construction and operation of the dams?
   c. How will sediment levels and turbidity be influenced by construction and operation of the dams?
3. Which laws influence the appropriation of and regulation of water quality in the Susitna River?

a. Has any of the Susitna River discharge been appropriated?
   1. To whom and how much?
   2. Where are they located?
b. If the dams are constructed, will the seasonal flows be sufficient to meet out of stream requirements for the new capital, other population growth, and industrial, mineral and agrarian development?

4. What effects will the construction and operation of the dams have on aquatic, riparian, and terrestrial plant and animal organisms in the Susitna River Basin and Cook Inlet?
5. How will the construction and operation of the dams affect instream flow related economic, recreational, social, scientific, and aesthetic values of the existing river system and the fish and wildlife it supports?
6. How will construction activities influence the fishery resources and associated values of the streams in the road and transmission line corridors?
7. How will ice conditions downstream of the dams be influenced by construction and operation of the dams?
8. How will ice conditions upstream of the dams be influenced by construction and operation of the dams?

4-22

What is the definition of "commercial navigation?" The importance of the river in its frozen state to commercial nagivation should be considered, ie, use by trappers with snow machines. The river provides access to land leases and private lands used by commercial fishermen and trappers. ADF&G uses barges provided by local operators to haul in gear. There is a historical record of commercial use by steamboats. The potential of commercial navigation should be examined as related to land use development in the area, ie,DNR disposals, agriculture and forestry - logging potential. How could the river support these types of development, ie, transport of materials by riverboat or air charter, capability to land, number of people involved?

Would float plane and barge traffic and commercial fishing be included under recreational navigation? Agree with DNR concern about effect of streamflow alteration on access, add "and future land developments."

What is the life of the reservoir, and what effect will release of sediment and glacial flour to prolong the life of the reservoir (if this is done) have downstream. Gas supersaturation (dissolved nitrogen) may cause problems downstream and should be considered in the dam design.

Also concerned with effect of altered flows on winter icing in Cook Inlet.

Disagrees with SCS and Alaska Water Study Committee on value of comparing Susitna and Kenai fisheries. The value would be qualitative rather than quantifiable. Agrees with National Audubon Society concerns, as there are large hooligan runs which are major concentration points for black bear and bald eagles (such as at the Yentna).

May want minimum flows for some activities rather than maximum flows. The river currently provides a stable crossing for the Iditarod, and as the race is gaining international stature, this should be considered.

Su Hydro Aquatic Studies Team
Alaska Dept. of Fish and Game

The "intent" to apply incremental methodology should be clarified. ADF&G intends to determine if instream flow methodologies can and should be applied, and if so, how? What is the feasibility and what would be the benefits?

Wants appendix (delivered).

INTERVIEW FORM

Organization Alaska Dept. of Law Date 1-20 (phone)

Address 420 L Street, Suite 100, Anchorage 99501

Phone 276-3550

Person Tom Meachum Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Will be working with Water Management Section, Alaska Dept. of Natural Resources, on instream flow regulations and will have more comments later.

4-14 (phone)

Has not reviewed report, wants appendix (delivered). Will call back if additional comments.

Water Management INTERVIEW FORM Section
Div. of Forest, Land and Water Management

Organization Alaska Dept. of Natural Resources (DNR) Date 1-20

Address 323 E. 4th Ave., Anchorage 99501

Phone 279-5577, ex 211

Person Dean Brown (Greg Doggett, Steve Mack, Mary Lu Harle) Spokesperson Y* N__

Correspondence	Source
Since water use is based on doctrine of prior appropriation, it is imperative that instream flow requirements be quantified and withdrawn for these purposes to avoid litigation.	Petrie, B. 1979. Letter to J. Madden, Div. of Policy Development and Planning, Alaska Office of the Governor, Juneau, AK, January 29, 1979.
Preliminary plan of study terminated the downstream study at Talkeetna - inadequate to address concerns over navigation and fisheries downstream as 43% of the average flow at Talkeetna will be subject to manipulation. State agencies will have to do sufficient work to execute management responsibilities.	Smith, T. 1979. Letter to E. Yould, Alaska Power Authority, Anchorage, AK, October 26, 1979.

Questions, Concerns, and Comments

Navigation user needs survey should be conducted.

It is doubtful that existing water rights will be affected by the proposed project, however, this should be investigated during the instream flow studies. Instream flow requirements that may be requested by ADF&G for fish and wildlife might also protect other instream uses.

Recreational user needs should be determined because of level of opposition to the project because of perceived recreational losses. What kinds of recreation are desirable? Many reservoirs from hydroelectric projects are perceived positively. However, downstream fishing and kayaking may be preferred to reservoir recreation.

Expecting instream flow requests from agencies.

By statute, interested in all aspects of water use. Need assurance that correct data will be collected, expect answers at level of state-of-the-art investigations.

Needs to be information bulletin from the Alaska Power Authority to let agencies know what publications are available.

Water Management Section
Div. of Forest, Land and Water Management
Alaska Dept. of Natural Resources

Navigation for access for river craft - should be navigation user needs survey to identify these areas.	Smith, T. 1980. Letter to J. Hayden, Acres American Inc., Buffalo, NY, February 25, 1980.
Methdologies and procedures are needed for accomplishing subtask 7.10. Need navigation user needs survey for impact assessment and mitigation planning.	Harle, M.L. 1980. Review of technical procedures manuals. Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage, AK, September 23, 1980.
Corrections and additional comments on survey report.	Brown, D. 1981. Letter to D. Wozniak, Alaska Power Authority, April 23, 1981.

Geographic concern - entire river system. Talkeetna to Cook Inlet not being studied in adequate detail.

4-24

Received copy of letter to David Wozniak, noted corrections on interview form and in text.

Wants appendix (delivered).

INTERVIEW FORM

Organization Div. of Parks
Alaska Dept. of Natural Resources (DNR) Date 1-22

Address 619 Warehouse, Anchorage 99501

Phone 274-4676

Person Jack Wiles, Pete Martin Spokesperson Y * N

Correspondence Source

Questions, Concerns, and Comments

How would operation of the project influence winter icing in upper Cook Inlet? More freshwater discharge in winter could cause greater icing.

Watana would endanger the caribou herd - flooding of habitat and impedement or blockage of migration.

Don't want to see recreational potential of Montana Creek or Little Susitna lost as they are the most heavily used salmon streams in Cook Inlet (50% increase in last three years).

Dynamics of flooding vs. decreased flooding should be examined to determine how the character of the area will change - there could be enhanced recreation if the flow is not too low for motor boats. Initially, more gravel bars would be exposed, but lack of fluctuations could cause willows to grow in, which might increase hunting. Within 20 to 30 years, the willow species will change and alders will intrude as the forest matures, and as moose browse decreases, hunting would decrease. There would be more hydrologic impact on shallow, broader areas. Configuration of channels could be permanently changed.

How long will the study last?

Div. of Parks
Alaska Dept. of Natural Resources

Will there be mitigating structures (gabians, etc.) built near access points? These could increase recreational potentials.

A dammed lake has low recreational potential - too cloudy for fishing and boating - cf. Eklutna.

There is no river management system - this could be an outcome of the study. A plan should be developed before land passes into private ownership and the plan could include mitigation measures.

There is less recreation on the west side of the Susitna as access is limited to skiffs, jet boats, and planes. The Susitna is used as an access corridor to tributaries, which are used for river rafting.

How soon will the impoundment silt in?

What is the worst case flood now (100-year flood, 500-year flood), and how does this compare to the projected flood in the event of dam failure?

4-14 (phone) Pete Martin

4-17 (phone) Jack Wiles

Corrections noted on interview form and in text.

Original comments focused on lower segment rather than upper segment.

"Personal bias" should read "professional judgement."

Wants appendix (delivered).

INTERVIEW FORM

Organization Div. of Research and Development ~~Alaska Dept. of Natural Resources~~ (DNR) Date 1-20

Address 323 E. 4th Ave., Anchorage 99501

Phone 279-5577

Person Al Carson Spokesperson Y* N__

Correspondence	Source
Needs to be navigational user needs survey.	Carson, A. 1980. Letter to E. Yould, Alaska Power Authority, Anchorage, AK, August 29, 1980.
Need to identify the effect of the project on rearing, fish passage and egg incubation in the Susitna from the mouth to the dam site.	Carson, A. 1980. Review of technical procedures manuals. Letter to E. Yould, Alaska Power Authority, Anchorage, AK, November 21, 1980.

Questions, Concerns, and Comments

The main concern of the Alaska Department of Natural Resources is access to lands.

4-15 (phone)

No further comment, commended initial effort.

INTERVIEW FORM

Organization Central Region Planning and Research, Alaska Dept. of Transportation and Public Facilities (DOTPF) Date 1-22

Address Pouch 6900, Anchorage 99502

Phone 266-1455

Person Jay Bergstrand Spokesperson Y * N__

Correspondence

Source

Questions, Concerns, and Comments

Not aware of commercial navigation.

Principal concern - construct highway facilities that won't wash out. What are the peak floods (50 year, 100 year)?

Recognize ADF&G's concern for fish passage.

Information on fish presence and timing will help DOTPF on route selection and construction timing.

4-13 (phone)

No further comment.

DOTPF is beginning a transportation study for interior Alaska including the Denali Highway, and APA and Acres should work closely with DOTPF's Fairbanks planning unit.

INTERVIEW FORM

Organization Office of Coastal Management ~~Alaska Office of the Governor~~ Date 1/26 (phone)

Address Pouch A P Juneau 99811

Phone 465-3540

Person Murray Walsh Spokesperson Y x N__

Correspondence Source

Questions, Concerns, and Comments

No specific comment - has broad interest. Defer to other agencies

4-27 (phone)

Has not received report (mailed with sample cover letter). Will call if further comments.

INTERVIEW FORM

Organization Alaska Water Resources Board Date 1-19

Address 323 E. 4th Ave., Anchorage 99501

Phone 279-5577

Person Dick Sims (Peg Tileston, 274-3621) Spokesperson Y * N

Correspondence Source

Questions, Concerns, and Comments

No comment - the board has not taken a position on Susitna.

4-16 (phone)

No further comment, send to Dick Sims (mailed with sample cover letter).

INTERVIEW FORM

Organization Environmental Section
U.S. Army Corps of Engineers (USACE) Date 1-22

Address P.O. Box 7002, Anchorage 99510

Phone 752-4310

Person John Burns Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Impact on fish and wildlife and water quality degredation of dredge disposal and placement of structures in river. This information is generally available because other agencies have requested it.

Information on productivity and type of wetlands is not available.

Unable to make contact during follow-up survey. Left message to call.

INTERVIEW FORM

Organization District Office
U.S. Bureau of Land Management (BLM) Date 1-21

Address 4700 E. 72nd Ave., Anchorage 99507

Phone 344-9661

Person John Rego, Mike Scott, C.M. Wheeler Spokesperson Y * N

Correspondence Source

Questions, Concerns, and Comments

No interest from navigability standpoint. Portage Creek is limit of navigability.

Will there be enough water to support present species of fish?

Effect of winter flow on fry that migrate into the Susitna from tributaries. Should look at tributaries that are good producers of non-salmon species.

What will the stage be at different times of the year? What is the effect of temperature change on spawning, movement, outmigration, and egg development?

Is money available to study the whole system? If not, it would be better to study a portion in detail.

Obtaining fish data will be difficult.

4-15 (phone)

No further comment.

INTERVIEW FORM

Resources Section

Organization U.S. Bureau of Land Management (BLM) Date 1-19 (phone)

Address 701 C Street, Box 13, Anchorage 99513

Phone 271-5069

Person Lyle Linnell Spokesperson Y * N

Correspondence Source

Questions, Concerns, and Comments

Adequate instream flow for fish and wildlife.

Aesthetic value of wild and scenic aspects of the river.

4-13 (phone)

Has skimmed through report once - no additional comments.

INTERVIEW FORM

Organization Aids to Navigation Branch
U.S. Coast Guard, Attn. Martin Millea

Date 1/26 (phone)

Address Commander 17th Coast Guard District
Box 3-5000 Juneau 99802

Phone 586-7757

Person Martin Millea

Spokesperson Y X N

Correspondence

Source

Questions, Concerns, and Comments

Gold Creek is head of navigation - no concern with structures above that point.

4-27 (phone)

Will call if further comment after rereading report.

INTERVIEW FORM

Organization Representative - Office of the Secretary
U.S. Dept. of Agriculture (USDA) Date 1-20 (phone)

Address Suite 126
2221 E. Northern Lights Blvd., Anchorage 99504

Phone 274-7738

Person James Fisher Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

No comment - contact USDA agencies.

4-13 (phone)

Has not received report (delivered), but won't have additional comments.

INTERVIEW FORM

Organization North Pacific Fishery Management Council
U.S. Dept. of Commerce
Suite 32

Date 1-19 (phone)

Address 333 W. 4th Ave., Anchorage 99501

Phone 274-4563

Person Jim Branson (Jim Richardson)

Spokesperson Y* N__

Correspondence

Source

Questions, Concerns, and Comments

Has not addressed any of the questions about Susitna and doesn't have a position. Not an issue that the Council would normally become involved in as jurisdiction extends from 3-200 miles offshore. Concerned with adverse effect on salmon resource and habitat for raising salmon.

4-14

Corrections to original comment noted above.

INTERVIEW FORM

Organization Alaska Water Study Committee
U.S. Dept. of Interior

Date 1-19 (phone)

Address P.O. Box 3276 DT, Anchorage 99510

Phone 271-4313

Person Dick Dworsky

Spokesperson Y* N

Correspondence

Source

Questions, Concerns, and Comments

Impact of flow regime modification should be compared to the situation on the Kenai Peninsula to evaluate the effect on fisheries.

4-14 (phone)

No additional comment, would like to see matrix if appropriate.

INTERVIEW FORM

Organization Alaska Railroad, Federal Railroad Administration U.S. Dept. of Transportation Date 1-21 (phone)

Address Pouch 7-2111, Anchorage 99510

Phone 265-2457

Person Francis Weeks (Ted Trueblood) Spokesperson Y* N__

Correspondence	Source
Operation of the project to decrease annual spring flooding can decrease the chances of serious ice jam damage to railroad bridges but may cause erosional problems at bridge piers due to decreased silt input and more restricted channelization of the river. The latter should be investigated.	Fuglestad, T.C. 1974. Letter to K. Cheung, Engineering Div., Alaska District, U.S. Army Corps of Engineers, Anchorage, AK, November 27, 1974.
Additional concerns for inclusion in instream flow studies.	Weeks, F. 1981. Letter to D. Wozniak, Alaska Power Authority, Anchorage, AK, April 10, 1981.

Questions, Concerns, and Comments

Problem stated in letter still exists.

4-13 (phone)

Expanded on comments that were sent to Dave Wozniak.

What, if any, expected changes may occur in the ground thermal regime? What would the effect of permafrost melt or frost heaving on bridge piers be?

Has information about permafrost presence in railroad bed.

Provided information to R&M on breakup.

Curious about operating schedule of dam.

Wants interview forms with related concerns (delivered).

INTERVIEW FORM

Environmental Evaluations Branch

Organization U.S. Environmental Protection Agency (EPA) Date 1-19 (phone)

Address 1200 6th Avenue, Seattle WA 98101

Phone (206) 442-1285

Person Judy Schwartz (Bill Britt, 271-5083) Spokesperson Y* N__

Send duplicate copy to Bill Britt
701 C Street, Box 19, Anchorage 99513

Correspondence Source

Questions, Concerns, and Comments

EPA is interested in bottom line policy but not in day-to-day concerns at this time.

4-21 (phone)

No further comment, refer to Seattle office.

4-27 (phone) Judy Schwartz

Has not read report, will call if further comment.

INTERVIEW FORM

Organization Assistant Area Director for Environment
U.S. Fish and Wildlife Service (USFWS) Date 1-16

Address 1011 E. Tudor Road, Anchorage 99503

Phone 276-3800

Person Keith Bayha Spokesperson Y * N

Correspondence	Source
The most significant biological impacts may occur downstream from Talkeetna. Need quantification of habitat. Effect of altered flow regimes for fish and wildlife.	Hickman, G. 1979. Letter to E. Yould, Alaska Power Authority, Anchorage, AK, November 15, 1979.
Need measurement of potential riparian habitat change over time. Need river profiles below Talkeetna as background to measure potential change in river configuration and habitats downstream.	Schreiner, K. 1980. Letter to E. Yould, Alaska Power Authority, Anchorage,AK, June 23, 1980.

Questions, Concerns, and Comments

To what extent will other tributaries be available for power development? If nothing is planned, it should be stipulated in the license.

Clear water at head of Susitna is what carries sediment.

Gravel in Susitna - near capital site.

Fisheries, gravel, freshwater resources for consumption - should be considered as area develops.

Recommend multiagency approach.

4-23

Wants appendix (delivered). Reviewed appendix after reading report. Feels that concerns about commercial navigation, recreational navigation, water rights, and fisheries are adequate; wildlife concerns are too general; concerns about water quality, estuarine requirements, riparian vegetation requirements, wetlands, wild and scenic reivers, flooding, and offstream needs are understated; and concerns about gravel resources are grossly understated. Report accurately

presents information provided by those surveyed, but does not want APA or Acres to feel that these are the only instream flow concerns - more issues will be identified as more information becomes available. Plans to discuss this with Eric Yould.

INTERVIEW FORM

Organization Ecological Services (ES)
U.S. Fish and Wildlife Service (USFWS) Date 1-21

Address 1011 E. Tudor Road, Anchorage 99503

Phone 276-3800

Person Gary Stackhouse, Don McKay, Bruce Apple Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

ANILCA requires quantification of water rights.

Need recreational user evaluation.

Has more information on flow been generated below Talkeetna? This is needed to answer the question of commercial navigation.

Effect on icing at mouth of Chulitna because of increased flows in winter.

More habitat will be lost below Talkeetna than above - more impact on recreation below than above.

Incremental methodology has never been applied to a large silty river. It is not suitable for quantifying water rights. ADF&G is developing techniques not proven by field testing. Can't comment further without seeing ADF&G's work plan and R&M's work to date.

4-23

Received comments from Keith Bayha.

INTERVIEW FORM

Organization Fishery Resources Program
U.S. Fish and Wildlife Service (USFWS) Date 1-15

Address 1011 E. Tudor Road, Anchorage 99503

Phone 276-3800

Person Norval Netsch Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Recreational navigation - small boats - into and out of clearwater tributaries, ie, Willow, L. Willow, Deshka, etc.

Waste load assimulation.

What would it take to maintian riparian vagetation or what would occur in riparian vegetation?

Requirements for all major species of fish, including salmon (5 species), rainbow trout, grayling. All stages - spawning, migration, overwintering, rearing, feeding.

Instream flow maintenance as related to above concerns.

Methodologies will need further devlopment for evaluation of riparian vegetation effects. Also application of incremental methodology to large glacial systems in the far north.

4-23

Received comments from Keith Bayha.

INTERVIEW FORM

Organization Western Alaska Ecological Services
U.S. Fish and Wildlife Service (USFWS) Date 1-22

Address 733 W. 4th Ave., Anchorage 99501

Phone 271-4575

Person Bruce Apple (Don McKay) Spokesperson Y * N

Correspondence

No specific comment on subtask 7.10, but overall impact and mitigation analysis is lacking.

Source

Bowker, R. 1980. Review of technical procedures manuals. Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage, AK, September 26, 1980.

Questions, Concerns, and Comments

Riparian vegetation requirements - what will be the magnitude of flow change under project conditions? Will the capacity to release annual or semi-annual flood flows to maintain early seral stages of shrubby vegetation be designed into the project? Has the vegetation study been modified to include sufficient monitoring of vegetation to provide the data to detect changes from preproject to project conditions?

Fish and wildlife requirements - Will altered flow regimes cause side channels that are used for spawning and rearing by salmon to either dewater or become inaccessable to fish? How will project flows influence the furbearers, aquatic furbearers and nongame fauna through either changes in vegetation succession, innundation, or flooding? How will potential changes in water temperatures as a result of the project influence seasonal use of mainstem and side channel habitats by resident and anadromous fish? Will aquatic and terrestrial habitat analyses quantify the habitat that is altered due to project conditions?

4-23

Received comments from Keith Bayha.

INTERVIEW FORM

Organization Regional Office
U.S. Forest Service Date 1-20

Address P.O. Box 909, Juneau 99802

Phone

Person Robert Phillips (Ken Thompson, 279-5541) Spokesperson Y* N

Send duplicate copy to Ken Thompson
2221 E. Northern Lights Blvd., Anchorage 99504

Correspondence Source

Questions, Concerns, and Comments

Not involved in study.

Be sure to contact resource people most concerned - commercial fishermen, ADF&G, etc.

4-13 (phone)

Report adequate, will call if wants appendix.

INTERVIEW FORM

Organization Water Resources Div. U.S. Geological Survey (USGS) Date 1-16

Address 733 W. 4th Ave., Anchorage 99501

Phone 271-4138

Person Bob Lamke Spokesperson Y* N__

Correspondence

No problem with subtask 7.10, but the water quality subtask is essential to this subtask, and USGS can't determine the extent of data required, the additional data needed, or the details and timing of data collection.

Source

Lamke, B. 1980. Review of technical procedures manuals. Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage,AK, October 9, 1980.

Questions, Concerns, and Comments

As an agency, USGS's needs are for data and information that will help them to better understand the hydrology of the area and state. USGS issues no permits. However, they do occasionally review license applications to FERC (at headquarters in Washington, DC) and nationally USGS reviews environmental impact statements. USGS is interested and involved in instream flow methodologies and quantification of flows needed for specific purposes such as reservation of water rights for federal lands and indian tribes. These needs are not specific to the Susitna River instream flow assessment but are generic to USGS's missions in collecting and providing water data and information and analyzing, summarizing, and reporting these water data and information for use by other agencies.

In order to make a theoretical computation of the effects of scour, considerable sediment data have to be collected and analyzed, and these data should include bedload and bed material sample results as well as the more conventional suspended sediment analysis results. Concerned that potential changes or impacts of stream morphology be adequately addressed in the study.

4-22

Original comment expanded (above), provided additional information for incorporation into text, wants appendix (delivered).

INTERVIEW FORM

Organization U.S. Heritage, Conservation and Recreation Service (HCRS) Date 1-15

Address 1011 E. Tudor Rd., Anchorage 99503

Phone 277-1666

Person Larry Wright, Bill Welch Spokesperson Y* N__

Correspondence

Reviewed cultural resources and recreation.

Source

Wright, L. 1980. Review of technical procedures manuals. Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage, AK, October 9, 1980.

Questions, Concerns, and Comments

Main concern - balanced evaluation of negative and positive impacts of project on recreational opportunities be considered. Loss of recreation opportunities and recreation resource values should be considered at each of the reaches. Would there be decrease of current water-based access? What potential opportunities exist that the public is not currently utilizing that might be lost as a result of the project? What new recreational opportunities would be created as a result of the project at the reservoir and elsewhere through improved land and water access?

Interested in all reaches, but whitewater values are of particular interest. Reach including Devil's Canyon to Talkeetna important for wild and scenic river values, has world class status as whitewater river, no legislation to study it for this purpose at present.

Not familiar enough with recreational opportunities in the study area to say how the instream flow study will help.

Will be assisting in advisory role in the devleopment of Exhibit R and in the official review of the application for license. FERC requires the applicant to consult with HCRS on development of a recreation plan. HCRS provides a coordinating role among federal, state, and local interests.

4-16,4-17 (phone) Corrections noted, will call if wants appendix.

INTERVIEW FORM

Organization U.S. National Marine Fisheries Service (NMFS) Date 1-16

Address 701 C Street, Box 43, Anchorage 99513

Phone 271-5006

Person Brad Smith Spokesperson Y* N__

Correspondence	Source
Reviewed subtask 7.10 - no comment	Morris, R. 1980. Letter to E. Yould, Alaska Power Authority, Anchorage, AK, March 11, 1980.
Subtask 7.10 lacks detail, but TES can't begin until data is received from ADF&G. There needs to be input from all agencies for mitigation planning.	Smith, B. 1980. Review of technical procedures manuals. Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage, AK, September 29, 1980.

Questions, Concerns, and Comments

Verification of dampening effect of reduced flow downstream.

Freshwater recruitment to estuary - verify if this is a significant problem.

Recreational navigation - sportsfishing, access.

Riparian requirements.

Fish and wildlife requirements.

Recreational requirements.

Geographic concern - area above confluence of Yentna important, but defer to ADF&G.

4-14 (phone)

No additional comments.

Will this be a classical instream flow study?

INTERVIEW FORM

Organization Alaska Area Office
U.S. National Park Service

Date 1-20 (phone)

Address 540 W. 5th Ave., Anchorage 99501

Phone 271-4216

Person Al Lovass (Howard Wagner)

Spokesperson Y* N__

Correspondence

Source

Questions, Concerns, and Comments

No comment - other resource agencies will address these concerns.

4-14 Bailey Breedlove

Wants appendix (delivered).

No further comment - outside area of jurisdiction.

Will write David Wozniak, APA (received report with no cover letter - delivered sample letter).

INTERVIEW FORM

Organization U.S. Soil Conservation Service (SCS) Date 1-20

Address 2221 E. Northern Lights Blvd., Anchorage 99504

Phone 276-4246

Person Sterling Powell Spokesperson Y * N

Correspondence Source

Questions, Concerns, and Comments

Riparian vegetation will readjust to the system - will probably creep down in summer and be pushed back by winter ice. In the steep-walled area it may not change. Changes are probably not measureable below the Chulitna.

What will the differences in normal water levels be at the mouths of major streams in winter? What will the difference in sediment concentration in the Susitna be? What mixing will occur? How does this compare to the Russian and Moose Rivers on the Kenai? Why is the king salmon fishery so much better on the Kenai?

What will the effect of the project be on bedload movement associated with storm events? Has observed Montana Creek when it was too shallow for kings to enter because of the amount of gravel buildup after a storm.

The problem of buildup of water on winter ice could be managed by controlled releases once the pool is full.

What is the travel time of water in the reservoir? How many years will water stay in the pool? Where will the water be released(sediment concentrations could be controlled somewhat)? Settlement can be computed from determination of grain size.

4-14 (phone) No further comment.

INTERVIEW FORM

Organization Snow Survey Supervisor
U.S. Soil Conservation Service (SCS) Date 1-20

Address 2221 E. Northern Lights Blvd., Anchorage 99504

Phone 276-4246

Person George Claggett Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Contribution of tributaries below dam could offset or accentuate flow problem - need additional snow surveys outside drainage to determine this.

Area between Chulitna and dam is transition area - heavy snowpack. Need snow survey data from the Chulitna drainage.

4-27 (phone)

Commended effort.

R&M doing good job of collecting data in upstream area, including snowpack and snowmelt runoff data. This should be continued and beneficial sites in the headwater country of the Alaska Range should be expanded (nothing is being collected in the McClarren River drainage). This data will provide a good index for runoff into the reservoir system for downstream management.

INTERVIEW FORM

Organization Planning Dept. Matanuska Susitna Borough Date _____

Address Box B, Palmer 99645

Phone 745-4801

Person Rodney Schulling Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

4-27 (phone)

New contact, mailed report with sample cover letter, will call or write APA if comments.

INTERVIEW FORM

Arctic Environmental Information and Data Center (AEIDC)

Organization University of Alaska Date 1-22

Address 707 A Street, Anchorage 99501

Phone 279-4523

Person Bill Wilson Spokesperson Y* N__

Correspondence	Source
Inadequate time to complete studies. Effect of increased sport fishing.	Wilson, W.J. 1980. Review of technical procedures manuals. Letter to A. Carson, Div. of Research and Development, Alaska Dept. of Natural Resources, Anchorage, AK, September 26, 1980.
Additional comments on instream flow study.	Wilson, W.J. 1981. Letter to D. Wozniak, Alaska Power Authority, Anchorage, AK, April 16, 1981.

Questions, Concerns, and Comments

Wetlands, sloughs, riparian systems, use of estuary by Beluga whales and seals.

Availability of adequate number of technically qualified people - instream flow study requires a team effort and technical support.

Gathering habitat suitibility information in glacial rivers hasn't been done. How will procedures and approaches be established and field tested?

4-14

Concurs with report, writing letter to Dave Wozniak, wants appendix (delivered).

INTERVIEW FORM

Organization Cooperative Fisheries Research Unit
University of Alaska

Date 1-21 (phone)

Address Fairbanks 99701

Phone 479-7661

Person Jacqueline LaPerriere

Spokesperson Y* N__

Correspondence

Source

Questions, Concerns, and Comments

No comment - will comment on report.

4-14 (phone)

Not enough technical information to provide technical comments.

Effects on groundwater recharge.

Discussed recreation survey.

INTERVIEW FORM

Organization Alaska Center for the Environment (600) Date 1-19

Address 1069 W. 6th Ave., Anchorage 99501

Phone 274-3621

Person Peg Tilston Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Has seen Acres plan of study.

State land disposal program is not considering access - could affect fish and wildlife.

Effect on water quality of higher concentration of nitrogen in water passing through turbines.

Effects on downstream aquatic life and wetlands of impounding water and changing water temperature.

How many sloughs, channels, and oxbows would be waterless? What would the effect be on the estuary, wetlands populations, and riparian vegetation?

How will change in flow and water quality affect fish, moose habitat, and caribou crossings?

There is increased recreational use of all sections of the river for fishing. Rafting and kayaking in Devil's Canyon are increasing as more people gain experience. Use by Anchorage bowl residents is increasing due to recreational site disposals and crowding elsewhere. This will continue, especially if a small boat harbor is built in Anchorage.

Alaska Center for the Environment

Must get sense of dynamics of river over time.

Would like to see study of projection of flow regime if both dams are built.

Not comfortable with design engineer doing feasibility study.

Acres budget should be examined to see if adequate equipment and personnel to interpret data are being provided to achieve the objectives stated in the plan of study.

Sediment load may affect turbines so that blades have to be changed often - heavy maintenance and down time.

What are the options for instream, below-water-level generation of electricity (this is being done in Switzerland)?

4-16 (phone)

No further comment, wants appendix (delivered). Commended effort.

Send draft instream flow study plan to:
Alaska Center for the Environment
Alaskans for Alternate Energy
Alaska Public Interest Research Group
Fairbanks Environmental Center
Susitna Power Now
Trustees for Alaska

INTERVIEW FORM

Organization Alaska Conservation Society (1,200) Date 1-21 (phone)
c/o Dan Bishop, Environaid
Address RR4, Box 4993 Juneau 99803

Phone

Person Dan Bishop (Bob Weeden, 479-7095) Spokesperson Y* N

Correspondence Source

Questions, Concerns, and Comments

No comment - will circulate report to members and return comments.

4-14 (phone)

Concerns of members raised by others - please keep informed.

INTERVIEW FORM

Organization Alaska Miners Association (1,600) Date 1-19

Address 509 W. 3rd Ave., Suite 17, Anchorage 99501

Phone 276-0347

Person Howard Grey (274-2314) Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Will have further comment when more information is available. Basically in support of project, no perceived impact on miners at this time. Advantage of flood control to mining operations.

Discussed possible impacts to miners, including dilution factor of decreased flows and decreased water supply if tributaries are required to augment Susitna at certain seasons.

Have water rights and other uses of water on which livlihood depends (ie, guiding) been checked?

What would the effect of other projects constructed in the Susitna basin be?

4-20

Has not received report (delivered with sample cover letter and comments from miners received by APA), will call if further comment.

INTERVIEW FORM

Organization Alaska Public Interest Research Group (AKPIRG) Date 1-16

Address 513 W. 7th Ave., Anchorage 99501

Phone 278-3661

Person Eric Myers Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Has seen Acres Plan of Study, familiar with Terror Lake study.

Prime concern is with effect on biota, mainly vegetation, then fish and wildlife. Concerned about salinity, flow regime maintenance.

How will instream flow study assist in assessment of fisheries impact, including commercial fisheries?

Will instream flow study deal with ice-related problems - gouging of banks, ripping out of frozen vegetation, streambed erosion, dewatering under ice near banks?

Concerned with downstream impacts, mainly below Devil's Canyon, for fisheries. Emphasis should not be just on salmon.

Commended APA for this effort.

4-24 (phone)

Has not read report, no further comment - confident that report summarizes concerns.

INTERVIEW FORM

Organization Alaska Rural Electric Cooperative Association Date 1-22

Address 6000 C Street, Suite C, Anchorage 99502

Phone 276-3235

Person Dave Hutchins Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Need to know flow at dam sites to determine amount of water available for hydroelectric purposes.

Appreciated being informed about the instream flow effort.

4-20 (phone)

Has not read report, will call if further comment.

INTERVIEW FORM

Organization Alaskans for Alternate Energy (70) Date 1-19

Address 536 Bonanza, Anchorage 99502

Phone 279-5904

Person James Barkshire (Nancy Lee, Jack Spratt, 274-3621) Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Is Susitna necessary?

Is information available describing present water use?

The instream flow question (along with the seismic question) is essential to determining the feasibility of the project.

What are the associated habitat impacts, what is the trade-off?

By utilizing decentralized renewable energy systems, can the demand be sufficiently reduced to eliminate the need for Susitna, reduce the scale, or choose a smaller hydro site?

If Susitna allows for large-scale industrial development, what will the effect be on water quality?

4-15 (phone)

Has not received report, will look at Peg Tileston's copy.

4-27 (phone)

Will call back if additional comments.

INTERVIEW FORM

Organization Cook Inlet Aquaculture Association Date 1-26 (phone)

Address P.O. Box 850, Soldotna 99669

Phone 262-4441 ex 257

Person Floyd Heimbuck (Tom Mears) Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Spawning populations of salmon use groundwater seepages on floodplain adjacent to river. How will flow through side channels be affected, and what is the ability of the fish to get in and out?

What methodology will be used? Will results answer questions about spawning areas on the floodplain of the river and how it is affected under various flow regimes?

Will there be enough velocity data collected in the canyon to define available fish habitat and determine the cost of structures to provide fish access?

4-15 (phone)

Has not received report (mailed with sample cover letter), will call if further comment.

INTERVIEW FORM

Organization Cook Inlet Region, Inc. Date 1-20 (phone)

Address 2525 C Street, Anchorage 99503

Phone 274-8638

Person Marge Sagerser Spokesperson Y * N

Correspondence Source

Questions, Concerns, and Comments

No comment - refer to Village Presidents Association.

4-14 (phone)

Wants appendix (delivered), no further comment.

INTERVIEW FORM

Organization Denali Citizens Council (150) Date 1-22
c/o Chris Abshire
Address 7711 Highlander Drive, Anchorage 99502

Phone 344-7484

Person Chris Abshire (Pete Martin, 274-4676) Spokesperson Y* N

Correspondence Source

Questions, Concerns, and Comments

Concerned that rational development of Denali Park area proceed with caution.

Thorough evaluation of alternatives to Susitna should be conducted.

4-14 (phone)

No further comment.

INTERVIEW FORM

Organization Devil's Canyon Corporation Date 1-21 (phone)

Address c/o Troy Sullivan
Box 10216, South Station, Anchorage 99511

Phone 263 1777 (wk) 344-3883 (hm)

Person Troy Sullivan Spokesperson Y* N

Correspondence Source

Questions, Concerns, and Comments

Dam will provide enhanced recreational use of the area around the reservoir for winter and summer activities. Lodge will be within one mile of the waterline. Winter access of road to dam will allow people access to other side of the reservoir over the ice for cross country skiing, etc. Fishing and swimming will be available.

Appreciates APA's interest in the organization.

4-15 (phone)

No further comment.

INTERVIEW FORM

Organization Fairbanks Environmental Center Date 1-21 (phone)

Address 218 Driveway, Fairbanks 99701

Phone 452-5021

Person Jeff Weltzin Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Main concern - coordination between hydrology and fish and wildlife studies.

Impact of decreased flows on navigation (boat access) at Talkeetna.

Effect of decreased flow in summer on access to spawning sloughs between Portage Creek and Talkeetna.

How much silt will be released in winter flow - what will the effect be on incubation and rearing of fry?

What will be the effect of increased winter flow? How will it affect scouring?

Examination of sedimentation in reservoir is based on USACE work and should be re-examined.

Silting in of small dams elsewhere should be examined (cf. Scandinavian countries).

4-17 (phone)

Has not read report thoroughly, will call back if additional comments.

INTERVIEW FORM

Organization Knik Kanoers and Kayakers

Date _____

Address c/o Mary Kay Hession
SRA Box 319, Anchorage 99507

Phone 276-5113

Person Mary Kay Hession

Spokesperson Y* N__

Correspondence

Source

Questions, Concerns, and Comments

4-29 (phone)

New contact.

Same concern as HCRS on whitewater loss.

INTERVIEW FORM

Organization Alaska Region Office
National Audubon Society

Date 1-21 (phone)

Address 308 G Street, Suite 219, Anchorage 99501

Phone

Person Dave Cline

Spokesperson Y * N

Correspondence

Additional concerns for instream flow study.

Source

Cline, D.R. 1981. Letter to D. Wozniak, Alaska Power Authority, Anchorage, AK, April 27, 1981.

Questions, Concerns, and Comments

Concerned with water quality, fish and wildlife, recreation, and hydrology.

What will effect of project on birds (bald eagles) which feed on fish and other aquatic organisms be?

Entire river should be studied because impacts extend to the flats. This requires someone with the skill to look at the total ecosystem and apply ecosystem modeling.

Using the USACE sediment study is not sufficient.

In large dam projects protection of fish and wildlife habitat has been a low priority and should be evaluated as important.

How are the tasks being coordinated?

4-27

Additional concerns in letter to Dave Wozniak listed below.

Wants appendix (delivered).

Alaska Region Office
National Audubon Society

Comprehensive recreaton policies should be adopted that are specific to the reservoirs, mainstem river, and its tributaries. These must be integrated in DNR's land use plan for the Susitna basin, particularly as regards assuring public access to pubic waters.

Are comprehensive maps of wetland types in the Susitna basin, together with the best available information on wetland productivity, being developed?

Identify and throughly evaluate habitats and life requirements of all major fish species in the Susitna mainstem and tributaries.

The project area's wilderness resources should be thoroughly evaluated and projected losses documented, ie, opportunities for solitude and unconfined recreation in a setting where the imprint of man is substantially unnoticable. Existing wild and scenic river values are particularly important in this regard.

Have major impacts on instream flow and wetlands within both primary and secondary impact zones, together with proposed mitigative measures to deal with project losses, been identified?

There will be a need for ongoing research and monitoring of project impacts on instream flow. Is a strategy being developed to deal with this? For example, river profiles below Talkeetna to measure changes in riparian habitat from periodic flooding and scouring?

How does the Susitna project relate to the short and long term energy needs of the area?

INTERVIEW FORM

Organization Resource Development Council Date _____

Address P.O. Box 516, Anchorage 99510

Phone 278-9615

Person Paula Easley Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Not available for interview within study deadline.

4-16 (phone) Joyce Munson

No comment, but feels some people asking questions have predetermined answers.

INTERVIEW FORM

Organization Knik Group
Sierra Club
c/o Paul Johnson

Date 1-20 (phone)

Address 1664 Juneau Street, Anchorage 99501

Phone 279-6661 ex 285 (wk) 277-3703 (hm)

Person Paul Johnson

Spokesperson Y* N__

Correspondence

Source

Questions, Concerns, and Comments

Main concern - fisheries, wildlife, birds.

Will access for recreation be deteriorated or enhanced?

4-15 (phone)

Has not received report (mailed with sample cover letter), will call if further comment.

INTERVIEW FORM

Organization National Representative Sierra Club

Date 1-20 (phone)

Address 545 E. 4th Ave., #5, Anchorage 99501

Phone 274-2318

Person Jack Hession

Spokesperson Y * N

Correspondence

Source

Questions, Concerns, and Comments

Main concern - fish and wildlife and recreation.

Impact on white water boating - Jones and Jones report to USACE recommended relocation of dams to preserve whitewater recreation.

Impact on Cook Inlet.

Use USFWS model and latest methodology.

Look at whole system.

4-14 (phone)

No further comment.

INTERVIEW FORM

Organization Susitna Power Now (1,000) Date 1-22 (phone)

Address P.O. Box 981, Anchorage 99510

Phone 276-7744

Person Eve Dischner-Reeves Spokesperson Y* N__

Correspondence Source

Questions, Concerns, and Comments

Concerned about overall picture, special interest in fishery.

How will change in water level affect people living there?

How will changes in the water table affect wells or surface water sources?

What effect will the project have on resident fish (grayling) that furbearers feed on?

4-16 (phone)

Will call after board meeting if additional comments.

INTERVIEW FORM

Organization Trustees for Alaska (500) Date 1/19

Address 835 D Street, Suite 202, Anchorage 99501

Phone 276-4244

Person Rob Mintz Spokesperson Y x N__

Correspondence	Source
How will ADF&G cooperate with other agencies in coordinating study? What are goals of feasibility study? What sorts of studies are needed? How much time and money are required? What is ADF&G's view of potential impacts?	Weller, S. 1979. Letter to R. Skoog, Alaska Dept. of Fish and Game, Juneau, AK, March 12, 1979.

Questions, Concerns, and Comments

Recreational navigation - would hazards of movement increase or decrease? What is the potential of changing the character of the river - width, depth, sediment load, reduced summer flows, increased winter flows? What is the potential of increased pollution from placer mining from sediment and compounds?

Freshwater recruitment to the estuary.

Riparian vegetation requirements.

Effects of higher winter flows (and lower summer flows) on fish and wildlife should be studied.

Recreational impact - whitewater recreation at Devil's Canyon increasing.

Effect of adding excess turbid water to clear stream in winter?

Will reduction in seasonal variability of streamflow have negative impacts, ie, loss of ability for river to cleanse itself of debris?

Will the project provide flood protection such that there will be an increase of development in riparian lands?

4-15 (phone)

Corrections to interview form noted.

INTERVIEW FORM

Organization Village Presidents Association Date 1-23 (phone)

Address c/o Tyonek Native Corporation
445 E. 5th Ave., Suite 9, Anchorage 99501

Phone 272-4548

Person Agnes Brown (John Youngblood) Spokesperson Y * N

Correspondence Source

Questions, Concerns, and Comments

No comment - will review report and refer comments to Bruce Bedard, APA.

4-15 (phone)

Will call if additional comments.