

*Allen Bingham*



# MEMORANDUM

## State of Alaska

Richard Logan  
Sport Fish Director  
Department of Fish and Game  
Juneau

DATE: August 2, 1985

FILE NO: 02-85-13.21

TELEPHONE NO: (907) 274-7583

FROM: Richard L. Cannon  
Fishery Biologist IV  
Department of Fish and Game  
Susitna Aquatic Studies  
Anchorage

SUBJECT: Susitna Aquatic Studies  
White Paper

The enclosed white paper which provides an overview of the Susitna Aquatic Studies Program was prepared in response to the Commissioner's request and your instructions and guidelines. It must be emphasized that the discussion provided in this overview only covers one aspect of the Department's involvement with the Susitna Hydro Studies Program. The Commissioner may want to request that similar overviews be prepared by the Divisions of Game and Habitat, so that he could be provided a more complete briefing concerning the Department's involvement in the Susitna Project. Also, the list of policy documents provided in Attachment 3 is undoubtedly incomplete as it does not include all correspondence developed through the involvement of the Game Division and Habitat Division.

After going through this exercise, several questions came to mind. One question concerns the program oversight which was to be provided for by the various interdepartmental and interdivisional committees that were set up to provide coordination and direction for the various facets of the studies and our Department's involvement with this project. Are these groups still active? If they are, what is the frame work for providing necessary coordination? If they are not, do they again need to be established or activated? This should be of particular importance to us given the apparent intent of APA to finalize the settlement process and corresponding agreements with the power utilities by the end of this year or early next year. Coordination will also be necessary to prepare for the upcoming FERC hearings.

Thanks again for your support and for allowing Christopher Estes to participate in writing the white paper.

cc: w/attachments  
G. Thornburgh  
K. Parker  
K. Florey  
D. Vrasnowski

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achments  
lls  
tes  
Project Leaders

**ARLIS**  
Alaska Resources  
Library & Information Service  
Anchorage, Alaska

TK  
1425  
.S8  
A68  
no.3502

AN OVERVIEW OF  
THE SUSITNA AQUATIC STUDIES PROGRAM  
It's History and Future Direction

Prepared by the Susitna Aquatic Studies Staff  
Division of Commercial Fisheries  
Region II

August 1, 1985

## INTRODUCTION

Commissioner Collinworth has requested that a briefing paper, which provides a concise overview of the Susitna Aquatic Studies Program, its history and future direction, be prepared to assist the Department in its review and policy development regarding the proposed Susitna hydroelectric development. In accordance with this request, the following discussion of the Susitna Aquatic Studies Program is presented. This discussion describes the recent history of the project, its relationship to the Federal Energy Regulatory Commission (FERC) licensing process, its accomplishments, and the projected future direction of the program.

It must be emphasized, however, that this paper outlines only one aspect of the Department's overall association with the Susitna hydroelectric development evaluation. Integral to a more complete understanding of the Department's involvement and responsibility for a project with the magnitude and complexity of the Susitna Hydro Project are the significant roles played by the Division of Game which has been responsible for a major portion of the terrestrial studies program and the Habitat Division which has the regulatory review responsibility for the project. A listing of significant correspondence from which this document has been synthesized is included as Attachment 3.

## BACKGROUND

The Susitna River is approximately 275 miles long from its sources in the Alaska Mountain Range to its point of discharge into Cook Inlet. The river and its main tributaries, the Chulitna, Talkeetna, and Yentna rivers, have a total drainage area of 19,400 square miles and annually contribute approximately 70-80 percent of the freshwater entering Cook Inlet. The Susitna River and its associated riparian lands support diverse and abundant populations of fish and wildlife resources which are of considerable commercial, cultural, and recreational value.

The State of Alaska has proposed to build and operate hydroelectric power generation facilities on the Susitna River. Initial plans called for the construction of two dams over two stages on the upper Susitna River at Devil and Watana canyons. These plans were modified in 1984 by the APA to add a third stage where by the Watana Dam would be constructed in two phases. The Alaska Power Authority (APA), in the Department of Commerce and Economic Development, is responsible for planning and supervision of the Susitna River Hydroelectric Project.

A prerequisite of construction and operation of hydroelectric facilities is the acquisition of a Federal Energy and Regulatory Commission (FERC) license. The series of actions involved with the acquisition of this license has been called the FERC licensing process. Integral to this process is the development of an Environmental Impact Statement (EIS) which assesses the environmental, cultural, and social impacts of hydroelectric development on the affected resources. Incorporated into the process is consideration of the numerous federal and state permits and letters of approval which are required prior to construction and operation of the hydroelectric facilities. The process thus ensures coordination and consideration of relevant state and

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federal laws and regulations (e.g., Fish and Wildlife Coordination Act, National Environmental Policy Act, Clean Water Act, Endangered Species Act, and the Alaska Constitution Title 16). A review of the relevant state and federal laws and regulations which must be satisfied during the licensing process is provided in the Department's November 1979 Plan of Study (see Attachment 3: F). Further discussion on this topic has been provided in the following correspondence (see Attachment 3: E, G, K, M, O, P, R, S, T, W, X, Y, AB, AC, AD, and AH).

In 1977, the Alaska Department of Fish and Game (ADF&G) presented the APA a Plan of Study (POS) for researching the environmental impacts of the proposed hydroelectric development on the fish and wildlife resources of the Susitna River basin (see Attachment 3: A, B, C, D, E). The POS was proposed by the Department to ensure that it would have an adequate and legitimate data base from which it could fulfill its statutory responsibilities to provide timely input and response into the FERC licensing process. Unfortunately, funding was unavailable until November 1979 to begin project evaluation studies. At this time, the Department's 1977 POS was updated and submitted to APA. The November 1979 POS formed the basis for subsequent program and RSA negotiations with the APA. The document also lined out the many mandates, issues, constraints, and recommendations regarding the environmental feasibility studies.

The primary study goal outlined in the November 1979 POS was to provide the necessary background information to enable proper evaluation of impacts of the proposed hydroelectric development on the fish and wildlife resources of the Susitna River by the State and FERC. In order to accomplish this goal, primary study objectives were developed which attempted to describe the natural pre-project variations in fish and wildlife populations and their habitats at a level of reliability necessary to detect and explain possible future changes caused by the hydroelectric development. Specifically, two research areas were outlined. The first, termed the Susitna Aquatic Research Study, involved the collection and analysis of pre-project data on the fisheries and aquatic habitat resources of the Susitna River. The second, termed the Susitna Terrestrial Research Study, involved the collection and analysis of pre-project data on the terrestrial populations and their habitat within the affected area.

The Department, based on negotiations with the APA, agreed that the POS could be completed in two phases over five years. Five years of evaluation were considered to be the minimum time needed to provide the basic cyclic environmental data which, from the Department's perspective, was required to properly evaluate project impacts and provide the basis for designing the mitigative requirements or alternatives that are available. Data collected by the Department in support of the POS would then be analyzed by the Department to support a pre-project assessment of the fish and wildlife resources of the Susitna River. This information, when compared with project design and operation projections, is required by the APA and FERC to evaluate potential impacts of hydroelectric development on the pre-project fish and wildlife resources and to evaluate possible mitigative measures proposed to offset any potentially harmful impacts of the development.

In 1980, funding was provided by the APA via a Reimbursable Services Agreement (RSA) to the ADF&G. Subsequently, the Department organized the Susitna Studies Research Program in 1980 to address the objectives stated in the November 1979 POS. The study program was divided at this time into two study teams, an Aquatic Research Study Team and a Terrestrial Research Study Team, as previously described. The following background describes the history of the Aquatic Research Study Team.

Six basic objectives were agreed upon between the APA and the Department for the Aquatic Research Study Team. These were to:

1. Determine the relative abundance and distribution of adult anadromous fish populations within the drainage.
2. Determine the distribution and abundance of selected resident and juvenile anadromous fish populations.
3. Determine the aquatic habitat and instream flow seasonal requirements of anadromous and resident fish species during each stage of their life histories.
4. Determine the economic, recreational, social, and aesthetic values of the existing resident and anadromous fish stocks and habitat.
5. Determine the impact the Devil Canyon project will have on the aquatic ecosystems and any required mitigation prior to a construction approval decision.
6. Determine a long-term plan of study, if the project is authorized, to monitor the impacts during and after project completion.

Data to address these objectives were to be collected in two phases over a five year period. The two phase approach was coined by the APA and its prime contractor (Acres American, Inc.) and is not relevant to the six objectives proposed by the Department (see Attachment 3: Z).

To meet the first three objectives, the Susitna Aquatic Research Study Team was divided into three principle and two support study units in 1980. Each principle study unit assessed what was viewed as essentially unique aspects of the fisheries and associated habitat resources of the Susitna River basin. The study units established were the Adult Anadromous Fish Studies (AA), the Resident and Juvenile Anadromous Fish Studies (RJ), and the Aquatic Habitat and Instream Flow Studies (AH). The support study units established were the Biometrics Support Unit and the Administrative Support Unit.

The studies were continued to the present to meet objectives 1, 2, and 3 by focusing and re-directing efforts, when necessary, on specific problem areas determined by each year of progress and the availability of funding. Additionally, efforts were initiated on planning scopes of work to address the remaining objectives. During this phase, one additional unit was added to the study team to provide increased data interpretation and review demands of the APA. The added program was the Secondary Task Coordination Support Unit (SWAT).

#### REIMBURSABLE SERVICES AGREEMENTS (FY 80-FY 85)

The ADF&G has signed RSA's with the APA for the initiation and implementation of the activities of the Susitna Aquatic Research Study Team. The RSA's were signed for the fiscal years (FY) 1980, 1981, 1982, 1983, 1984, and 1985. The FY 1980 RSA only covered activities and costs associated with the Susitna Terrestrial Research Study Team. A breakdown of the activities and costs associated with the FY 81-FY 85 RSA's is presented in Attachment 1.

Each of these RSA's included a description of scopes of work and budgets for the agreed upon programs. These programs include only areas of investigation which were mutually agreed upon by both the APA and ADF&G with the review and comment of other state and federal agencies, the APA's private contractors, and the Susitna Hydroelectric Steering Committee through annual negotiations. Evaluations of the studies by the FERC were also used to determine the merits of project studies (see Attachment 3: AB, AC, AD). Through this process, the APA made the final determinations as to which areas of investigation identified in the November 1979 POS or in initial annual proposals were actually funded and conducted. Accordingly, some of the studies proposed by ADF&G were not funded.

Primary funding for the activities covered by the RSA's was provided for by the APA. Additional funding was also provided by the APA's primary contractor for essential support services, leases, and equipment purchases. The primary contractor for the period covering FY 80-FY 82 was Acres American, Inc., whereas for the period covering FY 83-85, it was Harza Ebasco Susitna Joint Venture, Inc.

A legislative audit (see Attachment 3: Z, AA) was conducted and special report prepared in 1983 on the Department's performance during the period covering FY 80-FY 82 in the Susitna River Hydroelectric Project. The audit was conducted to determine:

1. The current status of the Department of Fish and Game's research for the Susitna River Hydroelectric Project.
2. If the Department is accomplishing the Project's goals and objectives previously established.
3. The Alaska Power Authority's impression of the Department's performance in the Project.
4. If the Project expenditures incurred by the Department are appropriate and reasonable.

Results of the audit concluded that although problems existed between the APA and the Department in the coordination of a project as large and complex as the Susitna River Hydroelectric Project that caused delay of the licensing process, that the Department has adequately performed its responsibilities in its involvement with the Susitna River Hydroelectric Project over the period covering FY 80-FY 82.

## STUDY ACCOMPLISHMENTS (FY 81-FY 85)

Information pertaining to meeting objectives 1, 2, and 3 has been supplied to the APA at the end of each fiscal year in the form of basic data reports (Attachment 2). These reports have generally summarized pre-project conditions of the fisheries and aquatic habitat resources of the Susitna River and their responses to flow variations. Specifically, these reports represent a summary and analysis of the areas of investigation as funded by the APA. Based on agreements with the APA, the program's initial reports (FY 80-FY 83) were limited to summaries of data; however, beginning in FY 84, the APA requested that the Department provide interpretations of the data it collected.

The FY 1981 RSA program was negotiated with the APA during the June-August 1980 time period. Accordingly, final agreement on the RSA was not made in time to acquire personnel and equipment to initiate a field program during the open-water season of 1980. Accordingly, program accomplishments for FY 1981 only included the creation of positions and the recruitment of staff and the preparation of the 1980-81 Aquatic Studies Procedures Manual (see Attachment 2, references 6 and 7). Actual data collected during FY 1981 (i.e., the 1980-81 ice-covered season and 1981 spring start-up) were included in the FY 82 program completion reports.

Accomplishments during FY 1982 included collection of data and preparation of reports on adult salmon abundance and distribution investigations, adult salmon stock separation investigations, resident fish abundance and distribution investigations above and below the proposed dam sites, juvenile anadromous salmon abundance and distribution investigations, and aquatic habitat and instream flow investigations. Additionally, one report which contained a partial synthesis of the 1981 fishery and aquatic habitat data was produced.

The basic areas of data collection and report preparation during FY 1983 were similar to those of FY 1982.

During FY 1984, program coverage was altered to address a narrower scope of pre-project conditions. Studies during this fiscal year were primarily limited to the geographic area above the Chulitna-Susitna-Talkeetna confluence area, as it was felt that project impacts would be greatest in this reach. The narrower focus of the studies allowed for greater detailed studies and reports on fisheries resources and their habitats in the middle reach of river. A major emphasis of the FY 84 program involved habitat modelling. An access and transmission corridor study was also initiated, completed, and reported in FY 1984.

The FY 1985 program essentially continued similar areas of investigations as in FY 1984. The FY 1985 program, however, also included an expanded winter studies program and a new lower river studies program on juvenile salmon habitat. All of the reports covering this period have not yet been produced in final.

#### FY 86 RSA

The FY 86 RSA that was signed with the APA represents a significant reduction in the scope and level of effort by the Department in the Susitna River Hydroelectric Feasibility Studies than that of previous years. The RSA, totalling 2.29 million dollars, is approximately one half that of the FY 85 effort. The reduced FY 86 RSA stipulates that the Department limit data collection and analysis efforts to long-term population and habitat monitoring, as it is the Department's opinion that directing its efforts into these areas can best meet the Department's and APA's data and information needs within existing budgetary constraints.

One critical task that was deleted from the FY 86 RSA during the negotiations was the completion of a summary and integration report. The completion of this report, integrating and summarizing the past four years of fisheries and habitat data collected by the Department, is required to provide needed insights necessary to make decisions concerning impacts, flow requirements, and mitigation options. Any other relevant Departmental reports would also be included in the summary. Additional important tasks that were deleted during the negotiations included middle river mitigation, middle river winter juvenile anadromous studies, and invertebrate studies. The first of these is of special concern in light of the APA's desires to arrive at an instream flow settlement in FY 86.

#### FY 86 REORGANIZATION

With the completion of the FY 1985 studies, approximately four years of data on the fishery resources and habitat requirements of important fish species and life stages have been obtained. These data primarily addressed the first three objectives stated in the November 1979 POS, as subsequently modified by the APA through negotiation with the Department and funded by each year's RSA. Additionally, the fourth objective stated in the POS is currently being addressed by the APA through its major contractor and subcontractors.

With the substantial progress that has been made towards completing objectives 1 through 4, the remaining two objectives (5 and 6) remain to be funded by the APA in order to enable the Department to meet its statutory requirements and to enable the APA to complete its FERC licensing process. Objective 5 and 6 include the completion of the quantification of impacts of the proposed hydroelectric project, the development of a mitigation strategy that addresses the impacts as determined by Departmental statutory mandates and policy (see Attachment 3: F, H, I, M, N, P, R, S, W, X, Y, AB, AC, AD, AG, AH), and provisions for a monitoring program or enforcement structure within ADF&G to ensure that the agreed upon mitigation plan is implemented and effective.

Specifically, the following tasks remain to be met to address objectives 5 and 6:

1. Complete the ongoing open-water 1985 field studies to provide the required five years of fishery and habitat data which, from the Department's perspective, are required to provide the basic cyclic environmental data which is required to properly evaluate pre-project conditions.



2. Continue monitoring efforts to provide a long-term environmental baseline to assess actual project impacts and success of mitigation options exercised. Incorporated in this objective is implementation of any additional monitoring which are required to address site-specific mitigation efforts. Also incorporated into the objective is the completion of a comprehensive interdivisional review of the long-term study and monitoring program to ensure that study designs are technically sound and cost effective. The selection of mitigation options should be based on demonstrated capability (e.g., pilot studies) to ensure that a reasonable potential for operational and economic success exists.
3. Provide analytical summaries and an index of the previously established data base that can be used by resource group policy makers in the regulatory process and that can be used by Alaska Power Authority (APA) and its contractors during mitigation planning.
4. Provide critical review of documents prepared by the APA, FERC and, their consultants through the Habitat Division to ensure departmental policies are being implemented in the proposed development.
5. Develop a departmental policy through the Habitat Division concerning the desired type of mitigation activities to be recommended for implementation to the APA.

With the evolution of the study program to enable the Department to initiate activities to meet the remaining two study objectives, the Department has recently reorganized its study program (see Attachment 3: AH). The reorganization both redistributes and divides the existing Aquatic Habitat and Instream Flow (AH), Adult Anadromous (AA), and Resident and Juvenile Anadromous (RJ) projects, and the administration and Data Processing into the following components:

1. A long-term field monitoring program, including completion of short term pre-project fishery and habitat evaluations,
2. an analytical and technical support program, and
3. a technical instream flow evaluation program in support of Departmental regulatory functions.

The reorganization was implemented in order to better allow the Department to meet the last two objectives (5 and 6). Actual implementation of these two objectives is stated for FY 87. Additionally, better coordination of the study program in the Department was implemented to assure that the investment the State of Alaska has made in the intensive data collection effort conducted to date will be fully utilized in the FERC licensing process. This will assure that the Department will have only one evaluation of the collected data base.

Under the reorganization plan, the Susitna Aquatic Studies program has been integrated into the ongoing stock assessment and research programs of the Division of Commercial Fisheries' South Central Region. This process was initiated by placing the project leader's position in the South Central

Regional program under the direct supervision of the Regional Supervisor. In addition, the role of the Susitna Aquatic Studies Project Leader has been re-defined to include the responsibility, under direction of the regional supervisor, for planning and coordinating all Departmental salmon escapement activities in the Susitna River, in addition to administering the Department's RSA obligations with the Alaska Power Authority. This arrangement is similar to that which currently exists in the Division of Game where all Susitna Hydroelectric Project studies are administered through the Division's Regional Research Coordinator.

#### FY 87 AND BEYOND

With the completion of the FY 86 field program, the majority of tasks included in the five year pre-project evaluation proposed in the Department's 1979 POS will have been completed. The FY 87 program will begin to address objectives 5 and 6 of the POS by initiating the first year of long-term project monitoring which is scheduled to continue through construction and operation of the hydroelectric project. The monitoring phase of the program is necessary to evaluate long-term changes in and potential impacts on fisheries populations and habitats for purposes of developing and implementing as well as monitoring the effectiveness of mitigation plans. A January 1985 draft mitigation and long-term monitoring plan (see Attachment 3: AG) was prepared by APA's principal contractor, HESJV. The plan will be revised during FY 86 based on resource agency review and comments. The final plan will become the basis for the Department's long-term monitoring program to begin in FY 87.

In order to prepare for the FY 87 field season and the initiation of the long-term monitoring program, the Department must carefully evaluate its pre-project data base to ensure that all major questions concerning the pre-project conditions of fisheries resources and their habitats have been adequately answered by past studies. This is essential for meeting its regulatory and project review responsibilities. Accordingly, all previous data must be synthesized and reviewed for error. The five year data synthesis report task proposed by the Department within the FY 86 RSA would have greatly enhanced the capability to conduct this evaluation. However, the synthesis project was not funded by APA in the FY 86 RSA. This task, however, may be included in subsequent amendments to the RSA for use of FY 85 carry-over funds.

The level of funding available for long-term monitoring studies in FY 87 will probably be considerably decreased from FY 86 levels. It is imperative that the Department conduct a technical review of ongoing and proposed long-term monitoring projects early into the current fiscal year to ensure that a technically sound and cost effective program will be initiated in FY 87. A review process similar to that used to evaluate Kenai River Studies in 1984 may provide an excellent format for conducting the review.

It should also be determined if there are other schedules and expectations that the APA and other agencies have for the Department and the various ADF&G contractors to the APA during this (FY 86) and future fiscal years (e.g., the FERC Licensing and Agency Settlement Processes, Mitigation Negotiations, etc.). This information is paramount to re-evaluating all of the ADF&G's contractual and non-contractual activities with the APA for FY 86 regardless

of the Division or activity involved. It also provides the opportunity for the Department to evaluate and comment on the validity and merits of the APA's schedules and will enable us to serve notice whether the Department can meet their schedules.

Equally important, is the necessity for the ADF&G to prepare its staff for providing expert testimony through formal training and consultation with the Attorney General's Office. The ADF&G will have no authority regarding the selection of its employees to be cross examined by the various intervenors at the forthcoming FERC hearings. It is also recommended that all correspondence from the Commissioner's Office over the past ten years regarding this project be reviewed as part of the FERC hearing process.

Attachment 1. Summary of ADF&G/APA RSA Budget Figures for FY 81-FY 85 - with noted products. (Products refer to items in the ADF&G Susitna Aquatic Studies Bibliography [as of 06/25/85] as attached).

Comments: Includes support services, leases, and equipment purchases which were supplied to ADF&G by APA's prime contractors (i.e., Acres American, Inc. and HESJV).

TASK	BREAKDOWN OF SOURCE	FY 81		FY 82		FY 83		FY 84		FY 85	
		FUNDS (K)	PRODUCTS	FUNDS (K)	PRODUCTS	FUNDS (K)	PRODUCTS	FUNDS (K)	PRODUCTS	FUNDS (K)	PRODUCTS
Administrative Support (A)	APA	173.5	6,7	475.4	15	447.3	17	500.2	41,42	755.3	66
	Sub-Contractor	111.4 (A)	-----	180.2 (A)	-----	182.7 (A)	-----	200.0 (B,C)	-----	100.0 (B,C)	-----
Maintenance	APA	23.7	-----	84.6	-----	101.2	-----	149.5	-----	162.3	-----
Data Processing & Cartography Support	APA	24.1	6,7	82.1	15	300.5	17	368.6	41,42	475.5	66
Aquatic Habitat & Instream Flow Evaluation	APA	152.8	6,7	476.5	11,12,13, 14,15	815.7	17,18,23, 24,25,26, 27,28,40 (D)	908.0	41,42,52, 63 (E,F)	1100.3	66,67,68 71,72,77 80,81,82 (G)
Resident & Juvenile Anadromous Studies	APA	225.0	6,7	666.0	9,10,11, 15	734.8	17,18,21, 22,26,27 28,40 (D)	646.3	41,42,44 63 (F,H)	1028.8	66,74 (I)
Adult Anadromous Studies	APA	247.0	6,7	870.5	8,15,16	653.2	17,18,19, 20,27,28 (D)	441.6	41,42,43	1060.7	66,73
Overall Equipment Support	Sub-Contractor	643.4	-----	17.9	-----	350.1	-----	167.3	-----	0.0	-----
TOTALS	TOTAL	1600.9		2853.2		3585.5		3381.5		4682.9	
	APA	846.1		2655.1		3052.7		3014.2		4582.9	
	Sub-Contractor	754.8		198.1		532.8		367.3		100.0	

Footnotes: (A) Includes project supervisors for FY 81-FY 85 for all projects except Adult Anadromous.  
 (B) Includes typing, building leases, and miscellaneous administrative support services.  
 (C) Estimated.  
 (D) Product number 28, includes products 29-39 in the bibliography.  
 (E) Product number 52, includes products 53-62 in the bibliography.  
 (F) Product number 63, includes products 64-64 in the bibliography.  
 (G) Product number 68, includes products 69-70 in the bibliography.  
 (H) Product number 74, includes products 75-79 in the bibliography.

## Attachment 2

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### Attachment 3. Policy Documents Concerning Susitna Hydroelectric Development

Note: if blue boxes indicating links are not visible via your browser, simply hover and click to link to the full-text Attachment located on the ARLIS server.

- A. State of Alaska, Department of Fish and Game letter from Ronald O. Skoog to Robert W. Ward, Chairman of the Alaska Power Authority, concerning the Susitna River Hydropower Plan of Study. December 21, 1977.
- B. State of Alaska, Department of Fish and Game letter from Ronald O. Skoog to Eric Yould, Executive Director of the Alaska Power Authority, regarding the status of the Department's efforts on the Susitna Project through December 31, 1977. August 14, 1978.
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- D. Trustees for Alaska letter from Susanne Willer to Ronald O. Skoog, Commissioner of the Alaska Department of Fish and Game, concerning the Department's views on the proposed Susitna Project. March 12, 1979.
- E. State of Alaska, Department of Fish and Game letter from Thomas W. Trent to Eric Yould, Director of the Alaska Power Authority, regarding the Department's review of the environmental plan of studies. September 28, 1979.
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- G. State of Alaska, Department of Fish and Game memorandum from Thomas W. Trent to Robert Mohn, Director of Engineering, Alaska Power Authority, regarding Su Hydro Fish and Wildlife Studies. April 4, 1980.
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- N. State of Alaska, Department of Fish and Game letter from Ronald O. Skoog to Jeff Weltzin, Fairbanks Environmental Center, concerning the Department's view regarding aquatic habitat impact issues for mitigation. January 19, 1982.
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- S. State of Alaska, Department of Fish and Game statement of Commissioner Ronald O. Skoog to Alaska Power Authority Board of Directors, regarding Susitna Hydroelectric Project Feasibility Report. April 16, 1982.
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