# Phase I Study Plan for Fish and Wildlife Studies for the Susitna Hydroelectric Feasibility Studies

June 1980

# MEMORANDUM

# State of Alaska



TO: Robert Mohn
Director of Engineering
Alaska Power Authority
Anchorage

DATE: June 2, 1980

FILE NO:

TELEPHONE NO: 344-0541

SUBJECT: Su Hydro
Fish and Wildlife
Studies

FROM: Thomas W. Trent
Regional Supervisor
Habitat Protection Section
Department of Fish and Game
Anchorage

In accordance with the discussions between your agency and Acres-American Inc. the Alaska Department of Fish and Game will participate in the Susitna Hydro Project Feasibility Studies pursuant to the finalization of the following agreement:

The Alaska Power Authority APA and the Alaska Department of Fish and Game have mutually agreed:

1. that the fish and wildlife studies are a necessary effort to determine potential impacts of the Susitna Hydroelectric Project on the valuable fish and wildlife resources of the Susitna River Basin.



2. that Acres-American, the prime contractor for the Susitna Hydroelectric Project Feasibility Studies, will review the results of ADF&G's field programs providing baseline fish and wildlife population and habitat information, and as the Alaska Power Authorities representative prepare the fish and wildlife Exhibit S, of the filing documents for the Federal Energy Regulatory Commission license for the project.

3. that, although the studies conducted in Phase I of the Susitna

Hydroelectric Feasibility Studies can provide a preliminary assessment of project impacts and are a basis for preparation for the Exhibit S, continuation studies into Phase II will be essential to make the best judgement of the project impacts and identify fish and wildlife mitigation alternatives.

Therefore, the Alaska Power Authority has agreed to fund the Alaska Department of Fish and Game participation in the Susitna Hydro Feasibility studies, and ADF&G agrees to implement these studies as follows:

ADF&G Studies Susitna Hydro Feasibility Study Team and its General Functions

1. The Alaska Department of Fish and Game will establish a Susitna Hydro Feasibility Studies Team.

2. The ADF&G Susitna Hydro Feasibility Studies Team will function in the

   a. coordination and further development of the fish and wildlife studies with the APA, Acres-American, other fish and wildlife or resources agencies, and other feasibility study contractors as appropriate

   b. the development and recommendation of the Department's policies, concerns, and advices with respect to resource protection, study direction and their progress to APA, Acres-American, other fish and wildlife and resource agencies and study contractors.

c. representation of the Alaska Department of Fish and Game on the Fish and Wildlife Steering Committee, and for coordinating the involvement of other delegated Department representatives from outside the study team.

d. review and approval, as delegated by the Commissioner to the ADF&G Studies Coordinator, of the Susitna Hydro Project Feasibility Study activities of APA, Acres-American or their subcontractors which may affect State designated anadromous fish waters

e. implementation of the fisheries baseline studies. (Wildlife studies are covered in a separate agreement, but staff of these studies are part of the ADF&G Studies Team.)

Administration and Support

APA has agreed:

1. To fund ADF&G administration and support services for overall Susitna Hydro Project Studies coordination, planning and implementation as shown in Attachment I. The purpose of these funds is to:

a. provide for basic State personnel and budget administration at the Anchorage office of the Study Team, and additionally fund administrative support required from within the ADF&G Division of Administration in Juneau.

b. provide for support services of:

1) ADF&G personnel to develop, manage, and analyze data being generated by the fisheries field program

2) ADF&G personnel to maintain and construct equipment and apparatus needed for the field program

3) ADF&G personnel to edit scientific and technical reports and documents generated by the field research program.

2. That Acres-American will provide certain supplemental administration and support services directly to ADF&G as shown in Attachment II. The purpose of this support is:

a) provide clerical assistance for typing of required reports and documents related to the Susitna Hydro Project.

b) provide cartographic and drafting services for required technical and scientific reports and documents

c) provide the full time assistance of a hydraulic engineer to the ADF&G to aid in the planning, implementation and evaluation of seasonal and spatial habitat studies in consultation with ADF&G, the Alaska Department of Natural Resources and the U.S. Fish and Wildlife Service.

d) provide office space, warehousing, workshop and outside storage space to support the fisheries field studies, and the program administrative, coordination and support staff, as well as the office supplies, office equipment and communication services required for this staff.

ADF&G agrees:

that the Clerk IV under the Su-Hydro Coordinator, in addition to other duties, will be responsible for the coordination, on a departmental basis, of the monitoring and administrative processing of all personnel, purchasing, and accounting documents for the Division of Sport Fish, Division of Commerical Fisheries, and Habitat Protection Section. The Divisions of Sport Fish and Commercial Fisheries will forward all approved personnel, purchasing, and accounting documents directly to the Su-Hydro Coordinator's Office to be processed for payment, etc. The Divisions of Sport Fish and Commercial Fisheries will provide to the Su-Hydro Coordinator's Office, each month, copies of the payroll warrant registers, monthly expenditure journals (MEJs), and current year authorization balances runs for their codes affected by the APA project. The Clerk IV, in turn, will provide to the Divisions of Sport Fish and Commercial Fisheries monthly audit reports on the status of their fund balances.

Field Program

ADF&G agrees to implement the fisheries-aquatic studies program as shown in Attachment III.

Equipment

APA and Acres-American have agreed that Acres-American will provide the equipment shown in Attachment IV for use in the ADF&G fisheries program. The schedule for obtaining and the release and use of this equipment to ADF&G by Acres-American will be in accordance with the field study timeframes shown in Attachment III.

Helicopter Support

APA and Acres-American have agreed that Acres-American will provide helicopter support for transport of field crews, equipment and material in the studies area. The minimum air hour requirements for helicopter support will basically follow these outlined in ADF&G's October 31, 1979 study proposals and modified to the timeframes below:

| | CY 81 | Phase II CY 82 |
|---|---|---|
| Resident & Juvenile Anadromous Study | 88 hrs. | 46 hrs |
| Spatial & Seasonal Habitat Study | 20 hrs. | 20 hrs. |
| Total | 108 hrs. | 66 hrs. |

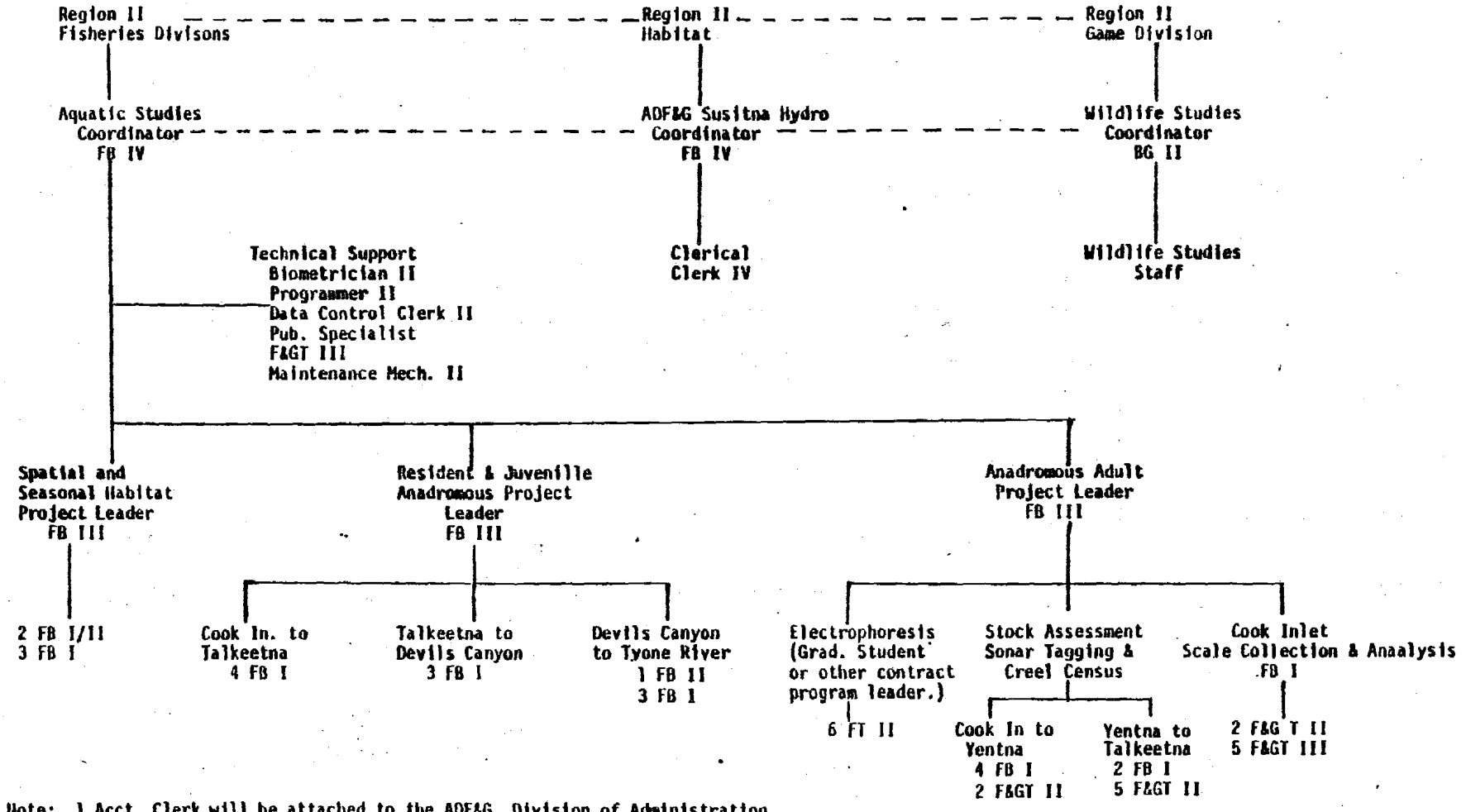
Reporting Requirements

The Department of Fish and Game will follow the schedule of reporting requirements to Acres-American and Terrestrial Environmental Services as shown in Attachment V.

Procedures Manual

The Alaska Department of Fish and Game will provide procedures manual sections to Acres-American and Terrestrial Environmental Services in accordance with Attachment VI.

Attachment I




Note: ) Acct. Clerk will be attached to the ADF&G, Division of Administration in Juneau and is not shown on this table of organization.

Administrative support provided by Acres for the Fishery Program during Phase I:

| Line 100 | 1980 | 1981 | 1982 |
|---|---|---|---|
| Secretary | 9,816.00 | 19,632.00 | 19,632.00 |
| Cartographer | — | 6,561.00 | 6,561.00 |
| Hydrologist | provided as part of Acres Task 3 - Hydrology | | |
| **Line 300** | | | |
| Office space 2,000 ft.$^2$ | 12,000.00 | 24,000.00 | 24,000.00 |
| storage space 1,000 ft.$^2$ 1/ | -- | 9,000.00 | 9,000.00 |
| Communications | 2,400.00 | 4,800.00 | 4,800.00 |
| Office equipment | 3,600.00 | 7,200.00 | 7,200.00 |
| **Line 400 - Commodities** | | | |
| Office Supplies | 3,600.00 | 3,600.00 | 3,600.00 |
| **Line 500 - Equipment** | | | |
| Office units (10) | 4,000.00 | | |
| Equipment Insurance | | 9,000.00 | 9,000.00 |
| Total | 35,416.00 | 83,793.00 | 83,793.00 |

1/ Any additional storage space that will be required will be provided in Anchorage or at the Watana Camp site by Acres as part of other tasks.

The overall goals of the ADF&G Study are 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 spatial and seasonal habitat 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.

   The Department has not developed a specific work plan for this objective but the studies conducted under this RSA will contribute from the standpoint of providing information which will have value to the socioeconomic studies that will be developed by Acres-American and their subcontractor.

5. Determine the impact the Devil Canyon project will have on the aquatic ecosystems and any required mitigation prior to construction approval decision. This is the primary objective of both Phase I and II studies. This will be discussed in detail in the Phase II work when it is written.

6. Determine a long-term plan of study, if the project is authorized, to monitor the impacts during and after project completion. This is also an objective of Phase II.

The study areas are generally categorized within the following locations:

A. Cook Inlet area

B. Cook Inlet to the Yentna River confluence

C. Yentna River to the Talkeetna River confluence

D. Talkeetna River confluence to the Devils Canyon dam site

E. Devil Canyon dam site to the Tyone River confluence

Scaling of the proposed studies with respect to timing, geographic locations, and intensity has been done with consideration of the resource knowledge available for each of the geographic locations identified above.

TITLE

STOCK ASSESSMENT OF ADULT ANADROMOUS FISH POPULATIONS

Background

The Susitna River salmon stocks are major contributors to the Cook Inlet area recreational and commercial fisheries. Determining total escapement into this system is complicated by the glacial conditions of the major streams and the enormity of the area. Management of the northern Cook Inlet salmon stocks has been difficult due to the mixed stock commercial fishery in Cook Inlet and the lack of adequate tools to provide accurate in-season escapement estimates for the drainage.

The major hydroelectric project impacts on the anadromous fish species are expected to be due to changes in habitat. Alteration of the normal flow regimes and the physical and chemical water characteristics will probably be the most critical impacts. It is difficult at this time to determine the distance downstream from the proposed dams that changes will occur. Studies conducted by Townsend (1975) in the Peace River demonstrate that effects were observed 730 miles downstream from the Bennett Dam.

Baseline fisheries inventories were conducted by the Alaska Department of Fish and Game in the upper Susitna River during the 1974-1977 field seasons. Emphasis has been on the inventory of adult and juvenile salmon stocks and habitat assessment. Ongoing Alaska Department of Fish and Game research investigations have concentrated on determining salmon escapement into the Susitna River and the distribution of these escapements. Emphasis has, however, been primarily on sockeye salmon. Successful tag and recovery projects were operated in the lower river during 1975 and 1977 and the feasibility of sonar operation was tested in the mainstem Susitna River approximately 25 miles upstream from Cook Inlet during 1976. Side-scan sonar counters have been utilized to determine escapements into the river since 1977 and are considered the state-of-the-art equipment for determining escapements in glacial river systems in Alaska.

Only through total stock assessment will it be possible to determine what portion of the Susitna River salmon stocks will be affected by the project and determine the level of mitigative measures which will ultimately be required. It is essential to know what portion the affected stocks

contribute to the total Susitna River salmon escapement in order to determine potential changes in fish populations and numbers. An evaluation of the contribution of the Susitna River salmon runs to the Cook Inlet fisheries is essential to establishing the importance of the Susitna River salmon to the economy of the Cook Inlet area as a whole.

## Study Approach

Adult anadromous fisheries studies will be divided into five major geographical areas. All studies, however, will be interrelated. The following outlines baseline studies required for each area and general work plans.

1. Cook Inlet Area. Contribution of the Susitna River Salmon Stocks to the Cook Inlet Fisheries - Quantitative Separation of Stocks

## Objectives

The objectives in this study are to:

1. identify the proportion of the Susitna River salmon stocks harvested by the commercial and recreational fisheries; and

2. determine quantitatively that portion of the total catch produced in the Susitna River drainage.

## Background

The major area of salmon resource competition is within the Upper Cook Inlet area, i.e., that area north of the latitude of Anchor Point. The

Susitna River salmon stocks are intermixed with other large salmon stocks produced from the Kenai Peninsula and west side of Cook Inlet.

All five species of Pacific salmon are harvested in Upper Cook Inlet. The majority of these salmon pass through the area at the same time, thus creating a mixed species and mixed stock fishery. Any feasibility study of the Susitna River project will require an assessment of the contribution of the Susitna River salmon populations to the commercial and recreational fisheries.

Work Plan

Commercial catch data is available through the Alaska Department of Fish and Game. Final statistical runs are available through 1976 and preliminary data is available through the current years harvest.

Identification and separation of the various stocks of salmon will be by scale pattern analysis and/or electrophoresis. Differences in scale patterns have already been found to exist in sockeye and coho salmon populations in Cook Inlet and the Susitna River stocks have been statistically separated from the other major Cook Inlet stocks. Data is, however, only available for one age class. Chum and pink salmon stocks have not successfully been separated on the basis of scale pattern analysis in other areas, due to the absence of freshwater growth. Electrophoretic techniques would be employed for stock identification of these species. An analysis of length-weight relationships may provide sufficient data for these two species.

The program requires the regular collection of scales and tissue samples from the commercial catch and from the major salmon producing areas (i.e., known escapement samples). Expansion of the on-going Alaska Department of Fish and Game Stock Separation Program would provide the necessary data base for stock assessment of sockeye, coho, and chinook salmon. Cost estimates and design of this program are based on incorporating these studies with ADF&G programs. If a separate program is designed additional funding would be required for sampling crews and laboratory equipment and analysis.

Sampling design would be divided into two major components: collection of scales and laboratory and computer analysis of scale patterns.

A minimum of 250 scales per species and age class will be obtained during each fishing period. Known escapement samples would be obtained from existing research and management programs. Three additional cannery sampling crews (2 people each) will be required to obtain scale samples. Staff time will be required to design a program for chinook salmon. Existing crews should, however, be adequate to conduct sampling.

The ADF&G scale laboratory would be used to process samples. A supervisor and a second shift would be added to the staff to maximize the use of existing equipment. A digitizing station would have to be added to the existing microcomputer. Additional computer time would be required.

The feasibility of separating pink and chum salmon stocks by electrophoretic techniques probably could be determined after one sampling season. If this technique is unsuccessful it would be discontinued and

other methods would be evaluated. Analysis will be done either under contract to the University of Alaska or by the staff of the ADF&G Fisheries Rehabilitation and Enhancement Division. A minimum of 1,000 fish samples per fishery should be obtained for each species. Known escapement samples will also have to be collected. Three sampling crews would be required.

2. Cook Inlet/Susitna river confluence to the Yentna River confluence.

Stock assessment of the adult salmon populations

Objectives

The objectives of these studies are to provide:

1. escapement data, by salmon species, into the lower Susitna River;
2. differentiation of the Susitna and Yentna river stock contribution;
3. timing of the salmon migrations;
4. movements as related to stream flow and water quality; and
5. utilization of the mainstem river for spawning.

Background

Total escapement information for the Susitna River drainage is generally lacking. Various methods have been utilized by the Alaska Department of Fish and Game since 1974. Recent developments in side-scan sonar have provided the most valuable tool, to date, for evaluating in-season

escapement by species. Emphasis has, however, been on sockeye salmon.

Work Plan

Commercial Fisheries Division of the Alaska Department of Fish and Game currently operates an escapement project in the vicinity of Susitna Station as a part of their on-going sockeye salmon research program. Expansion of this program would provide the necessary escapement data required for the Susitna Hydro-Project baseline studies. Sonar counters and fishwheels would be operated from May through mid-October to determine escapement by species. This would require funding of the existing project beyond its normal operating dates. Data from this program would be correlated to the Stock Separation program within Cook Inlet and additional escapement studies in the upper Susitna River.

A sonar escapement enumeration program would be required in the lower Yentna River to differentiate between Yentna and Susitna river production. Comparative analysis of the Yentna River escapement data and the mainstem Susitna River sonar data would be made to determine stock contribution of each system. Two side-scan sonar counters and two fishwheels (for species apportionment) would be deployed on the Yentna River.

Salmon captured in the fishwheels at the Susitna Station sites will be marked with a color and a number coded Peterson disc tag. Numbers of salmon tagged will be based on a statistically valid sample size. Marked fish will be recaptured upstream to provide an assessment of stocks utilizing this area.

Migrational timing data would be obtained from fishwheel catch data at the sonar site.

Scale samples will be obtained from the fishwheel catch to provide a known data base for Cook Inlet stock separation studies. A minimum of 40 samples per day will be required for each species.

Eulachon, an anadromous smelt, utilize the lower mainstem Susitna and Yentna rivers for spawning. The extent of utilization of the mainstem river will be documented and a review of the population status will be made.

3. Yentna River confluence to Talkeetna. Stock Assessment of Adult Salmon Populations

Objectives

The objectives of these stock assessment studies are to determine the:

1. numbers of adult salmon utilizing this area for migration and spawning;
2. migrational timing of the adult salmon;
3. recreational utilization of these stocks; and
4. movement of salmon as related to stream flow and water quality.

Background

Many of the important recreational use areas occur within this area of the river. These areas have road access on the east side of the river and receive high use via aircraft transportation on the west side. All five species of adult salmon utilize this area for spawning and migration.

Due to the braided nature of the Susitna River in this area many impacts are expected to be seen due to alterations of stream flow.

Work Plan

One side-scan sonar projects will be established within this area of the river. Seasonal apportioned counts by species will be compared to the lower Susitna and Yentna river sonar projects to determine importance of this area to the entire drainage. Fishwheels and possibly other sampling gear will be used to apportion sonar counts.

The sonar project will be located in the vicinity of Sunshine. These programs will provide information on: 1) the importance of this area of the river for spawning; 2) the extent to which this area is used for migration to spawning areas upstream of Talkeetna; and 3) the contribution of these salmon stocks to the total Susitna River drainage. A total of 2 side-scan sonar counters and 4 fishwheels will be required.

All salmon captured in the fishwheels at the "Sunshine site" will be marked with a color- and number-coded Peterson disc tag. Marked fish will be recaptured upstream to provide an assessment of stocks utilizing this area.

Migrational timing will be determined by fishwheel catches at the sonar projects and survey crews.

Recreational utilization of these salmon stocks will be determined partially by on-going ADF&G creel census programs. Expansion of these

programs will be required to adequately monitor all species. The creel-census programs will also provide data on migrational timing and tag recoveries.

Movement of salmon through this geographic area will be monitored by remote sensing devices for radio tagged fish. Sonar counters may also provide horizontal distribution data for that particular area.

Alaska Department of Fish and Game survey data will be used to determine chinook salmon escapements into major tributaries. These surveys may have to be expanded to assure adequate coverage of major tributaries.

4. Talkeetna to Devil Canyon Dam Site. Stock Assessment of Adult Salmon Populations

Objectives

The objectives within this study area are to determine the:

1. abundance of adult salmon;
2. stock assessment of the Susitna-Chulitna-Talkeetna stocks;
3. migrational timing of the salmon stocks;
4. recreational utilization;
5. movement of salmon stocks through this area as related to stream flow and water quality.

Background

Population estimates of salmon species utilizing the Susitna River above the Chulitna River confluence were estimated during the 1974, 1975, and

1977 field seasons based on tagging and subsequent recovery of fish. These studies indicate a portion of the salmon tagged are not destined to spawn above the tagging site, but rather below it. The importance and extent of this milling behavior in the upper river areas requires definition. The alterations in flow and water quality in the mainstem river after project completion could significantly affect this behavior and consequently spawning success.

Observations of spawning areas between the Chulitna and Susitna river confluence upstream to Portage Creek during fall surveys indicate that a reduction in flow to proposed post-construction levels would prevent access to many important spawning areas.

Work Plan

Salmon escapement estimates will be determined by a tag and recovery program in this area. Fish marked at the "Sunshine site" will be recovered by ground survey crews upstream from the Chulitna River confluence.

Surveys of major spawning areas between Talkeetna and the Devil Canyon dam site will be conducted in conjunction with juvenile studies to determine distribution.

Escapement estimates will be compared to sonar project located in the lower river, primarily the "Sunshine site," and will provide information on importance of the upper river for spawning and also contribution of the Talkeetna and Chulitna river salmon stocks to the entire drainage.

Migrational timing of salmon stocks utilizing this area will be determined by stream surveys.

Recreational use within this area will be determined by a creel-census program.

5. Devil Canyon dam site to the Tyone River confluence. Stock Assessment of Adult Salmon Populations

Objective

To determine if salmon utilize that area of the Susitna River above Devil Canyon.

Background

Studies conducted during the late 1950's indicate that Cook Inlet salmon stocks are unable to ascend the Susitna River beyond Devil Canyon, the latter being a natural water velocity barrier to migration (U.S. Department of the Interior, 1957). Reports from local residents of salmon observations above Devil Canyon indicate that this should be investigated further.

Work Plan

Surveys and escapement sampling will be conducted in the proposed impoundment areas between the Denali Highway and Devil Canyon during periods of peak adult salmon abundance. Initial observations will be conducted by aerial surveys to document the presence or absence of adult salmon. Surveys will be done in conjunction with resident fish investigations. Data obtained will be utilized to determine necessary mitigation measures.

TITLE

STOCK ASSESSMENT OF ADULT RESIDENT FISH AND JUVENILE RESIDENT AND ANADROMOUS FISH POPULATIONS

Study Approach

Adult and juvenile resident fisheries studies will be divided into three major geographical areas. All studies, however, will be interrelated. The following outlines baselines studies required for each area and general work plans.

1. Cook Inlet/Susitna River confluence to the Talkeetna River confluence. Stock Assessment of the Resident and Juvenile Anadromous Fish Populations.

Objectives

The objectives of these studies are to:

1. Determine specific occurence and species composition of resident and juvenile anadromous stocks throughout the year within the Susitna River mainstem and within the reaches of tributary streams regularly influenced by the Susitna River. Of particular importance to this study are the Alexander Creek, Flat Horn Lake, Deshka River and Willow Creek;

2. Define any apparent seasonal changes in occurrence and relative

abundance of resident and juvenile anadromous species at the confluence of tributary systems and the Susitna mainstem;

3. Develop suitable sampling techniques for the collection and determination of relative abundance of resident and juvenile anadromous species in the Susitna mainstem throughout the year;

4. Define and describe habitat type utilization by resident and juvenile anadromous species throughout the year and at varying hydrologic conditions;

Background

This reach of the Susitna River encompasses many important fish producing and recreational fishing tributaries and is an area of critical environmental concern because of the possible seasonal use and migration between clearwater tributaries and the Susitna River. Studies of these seasonal migrations and the distribution of resident and juvenile anadromous fish in and to habitats in the Susitna River are essential. The studies would be initiated for selected streams and for a prescribed distance: upstream throughout the year. Expansion or retirement of these studies would depend on confirmation for migration and habitat use by resident and juvenile anadromous fish in the Susitna River. If confirmation of these movements and distribution to the Susitna is positive, the basic

inventory will, in conjunction with the study task on habitat evaluation, identify specific year to year study locations for ongoing programs required to determine fishery impacts on the fish populations.

Work Plan

The initial year of this study, 1981 will be comprised of two field operations, a summer and a winter program on the Susitna River

A crew of three biologists, utilizing a riverboat as their primary means of transportation, will operate in the Susitna mainstem and tributary systems during the ice free months, May through October. Their responsibilities will include:

1. Sampling using established techniques and their adaptations including gill nets, minnow traps, adult traps, angling, seines, and electrofishing.

2. Developing suitable techniques for sampling the Susitna mainstem. Particular emphasis will be placed on the design of an effective stationary fish trap.

3. Classifying in terms of depth, velocity, turbidity, and substrate types in conjunction with the sampling of resident populations. It is essential that close cooperation is maintained between hydrologic and fisheries research.

4. Tag adult resident fish and note species, size, date and location of capture.

A crew of four biologists will carry out fisheries research during the winter months. This facit of the field operations will be based on road access until such time as the mainstem Susitna ice condition has stablized sufficiently to provide safe transportation via snowmachine. This crew will:

1. Survey in the proximity of areas surveyed during the previous summer using established sampling techniques such as gill nets and minnow traps. As ice conditions improve and data is analyzed this effort will be expanded to include as much of the study area as possible.

2. Design an effective resident species adult trap for use in this study area as established sampling techniques meet with limited success when applied under a cover of ice in the river environment.

3. Classify habitat in terms of ice cover, depth, velocity turbidity, and substrate in conjunction with sampling of resident populations.

Following the first season's determination of resident and juvenile anadromous fish occurrence, areas of greatest availability and suitable methods of capture, the 1982 program will be directed to largely the same areas and intensified with respect to relative abundance and preferred

habitat utilization. The 1982 study plan will again consist of two segments, summer field operations, and winter field operations.

A crew of three biologists utilizing a riverboat as their primary means of transportation will operate in the Susitna mainstem and tributary systems during the ice free months to:

1. Confirm previous seasons data base with regard to occurrence and species composition.

2. Determine relative abundance of resident stocks in predetermined locations by seasonal period and further establish patterns of intrasystem migration.

3. Further define preferred habitat parameters.

4. Continue to tag adult resident fish and note any recaptures from previous year.

A crew of four biologists will carry on the initial year's study from January through April. This four man crew will begin the second field season in December of 1982 and following the first season's determinations the program will:

1. be expanded to include additional areas;

2. be intensified at one or two predetermined locations; and

3. continue to determine habitat requirements.

2. Talkeetna River confluence to Devil Canyon. Stock Assessment of the Resident and Juvenile Anadromous Fish Populations.

Objectives

The objectives of programs within this study area are to:

1. Determine specific occurance and species composition of resident and anadromous stocks utilizing the mainstem Susitna River and it's major tributaries;

2. Define seasonal changes in occurrence and abundance of resident and anadromous specis within the mainstem Susitna River and it's tributaries;

3. Define habitat types utilized by resident anadromous fish species, seasonally throughout this year, at varying hydrologic conditions, both within the mainstem Susitna River and the major tributaries; and

4. Establish the impacts of flow regulation upon the habitat which currently meets seasonal requirements of resident and anadromous fish stocks within the study area.

Background

This study area includes the mainstem Susitna River and a number of important clearwater tributaries which [illegible]

resident game fish and provide spawning and rearing habitat for anadromous species. Several of the more important lateral tributaries are Portage Creek, Indian River, Gold Creek, and Fourth of July Creek. All are located in the upper reaches of the study area and in the general vicinity of the railroad crossing at Gold Creek.

Five species of Pacific salmon, chinook, coho, sockeye, pink and chum are native to this portion of the study area. The most important resident fish species within this area are Arctic grayling and rainbow trout, however, burbot, whitefish Dolly Varden and various other species are also present.

While a higher degree of reliability in knowledge of possible flow, water quality, and stream morphology changes exists in this reach because of previously collected baseline data, baseline studies on resident and juvenile anadromous fish must be initiated to better detail specific occurrence, distribution, and seasonal migration and habitat use of the Susitna River as well as document the population sizes of resident fish.

Work Plan

Due to limited access to much of the Susitna River upstream of Talkeetna, and related high cost of transportation, work proposed for 1981 is limited to the Indian River - Portage Creek - Gold Creek area. This area is accessible by railroad and can be investigated by a single field

crew located in the Gold Creek area. These investigations will be extended downstream into other areas in the second and third years of study.

A four man crew will be located in the Gold Creek or Indian River area housed in a local cabin or tent camp, and provided with a river boat and Zodiac type raft to conduct the following activities:

1. Establish the occurrence and species composition of resident and anadromous fish stocks utilizing the mainstem Susitna River during the period May through October of 1981. This work will entail intensive netting, electro-shocking, trapping, or use of set lines or other suitable collection methods within the mainstem reach from Fourth-of-July Creek upstream to Portage Creek. Some of these collection devices are expected to require modification and/or development as the season progresses.

2. Perform similar sampling by net, electro-shock, trap or angling within the Indian River, Portage Creek, Gold Creek, and Fourth-of-July Creek tributaries. A program of fish tagging will be implemented to define intra-system movement.

3. Creel census anglers utilizing these four streams to determine harvest of resident fish by: a) species, b) age class, c) size, d) seasonal period, and e) area of availability. The creel census will also help with recovery of tagged fish.

4. Conduct the adult anadromous studies in this area in cooperation with the anadromous program.

Following the first seasons determinations of resident and anadromous fish occurrence, areas of greatest availability, and suitable methods of capture, the 1982 program will be directed to largely the same areas and intensified to include population estimations and preferred habitat utilization.

A similar two man crew will be located in the Indian River or Gold Creek area, depending upon which seems more appropriate as a result of the first year study. The same equipment will be utilized. Study objectives for 1982 will be as follows:

1. Determine relative abundance of resident and anadromous fish stocks in Indian River and Portage Creek, at predetermined locations, by seasonal period, and further define intra-system movements and migrations. These studies will necessitate an intensified tag and recovery program to provide instantaneous population estimates at specific seasonal periods and also numerous aerial surveys. While the methods with which to accomplish this work may be more apparent after the first years efforts, it is at this time considered likely that trapping devices or a statistically designed angling scheme may be most appropriate.

2. Conduct similar studies in appropriate sections of the mainstem river and side channels during spring, summer, and fall. Techniques for this work segment will be similar to objective No. 1.

3. Define habitat utilization of resident and anadromous species both within the mainstem and the Gold Creek, Fourth-of-July Creek, Indian River, and Portage Creek tributaries as related to hydrologic conditions.

   Areas of resident and anadromous fish preference will be surveyed in terms of flow, substrate, turbidity, depth, etc. to determine if these parameters are responsible for instream movements and distribution. These data will be correlated with historical climatological data and mainstem flows. Particular emphasis will be placed upon this facet during periods when mainstem flows approach the proposed regulated flow.

4. Determine mid-winter occurrence and distribution of resident and juvenile anadromous fish species both in Indian River and the mainstem Susitna River.

   As Indian River is the only major accessible upper tributary stream during mid-winter, these studies will be limited to it.

   The mainstem river is characterized as being extremely dangerous to work in mid-winter due to poor ice conditions. As deemed

possible, netting, trapping, and set lines will be utilized to determine occurrence and distribution of resident species during the winter months and to recapture fish tagged earlier in the year.

Winter sampling of both the tributary and mainstem will be conducted during November and December on a field trip basis, on a monthly schedule. No permanent camp is contemplated.

3. Devil Canyon to the Tyone River confluence. Stock Assessment of Resident and Anadromous Fish Populations

Objectives

The objectives in this study area are to:

1. determine specific occurrence and species composition of fish stocks utilizing the mainstem Susitna River and it's major tributaries;

2. define seasonal changes in occurrence and abundance of fish species within the mainstem Susitna River and tributaries;

3. define habitat types utilized by fish species, seasonally throughout the year, at varying hydrologic conditions; both within the mainstem Susitna River and major tributaries;

4. establish the impacts of inundation upon the aquatic habitat

of the clearwater tributaries, necessary to sustain the indigenous fish species; and

5. conduct complete hydrological surveys at the tributary mouths and at predetermined locations on each tributary.

Background

This area of study includes the more than fifty miles of the mainstem Susitna River and tributary streams, which will be either totally or partially inundated by construction of the Devil/Watana Hydroelectric Complex.

This portion of the Susitna River drainage lies in a truly wilderness setting, is roadless, is inaccessable except by boat or light aircraft, and is only moderately utilized by recreational anglers at this time. Angling in this reach of the Susitna River system can be termed a "quality experience."

This area has obvious identifiable habitat and biological impacts due to eventual inundation of segments of the clearwater tributaries feeding the impoundment. Critical habitat needs, as well as recreational fishing opportunities, are provided primarily at the mouths of these respective tributaries.

Workplan

A three man crew will work in the proposed impoundment area during the

ice free months, utilzing helicopter and light aircraft for transportation throughout the study area. The study crew will be housed in a temporary/protable field camp. Investigations will be directed to:

1. Conduct extensive on-the-ground surveys of Goose, Jay, Kosina, Watana, Deadman, Tsusena, and Fog creeks, and the Oshetna River. These investigations will include hydrological surveys and will determine the types of aquatic habitat currently available to resident species.

2. Determine the types, magnitude of, and location of aquatic habitats which will be lost upon inundation, by respective stream. Geographical features blocking upstream migration will be noted. Conversely, stream areas which will benefit in terms of imporved access to fish stocks, upon impoundment, will be recorded.

3. Extensive netting, trapping, and fish collection will be conducted to determine the specific occurence, and compostion of resident species occupying these eight tributarial waters. As possible, efforts will be directed to determine the extent of seasonal intra-seasonal migrations.

4. To tag any and all adult fish captured for determination of intra-system movement and migrations.

Upon completion of the first year's (CY-81) assessment of aquatic habitats, and biological distribution of fish species within the impoundment area

tributaries, investigations will be directed to the upland lake areas and the mainstem Susitna proper.

A two man field crew will again operate with a transportable field camp, utilizing helicopter and light aircraft for transportation. Investigations will begin as soon as "ice-out" occurs in the spring and continue until freeze up in the fall.

Studies in CY-1982 will be directed to:

1. Surveys of fish utilizing selected tributarial stream mouths throughout the season to determine intra-system movements of resident fish, and their reliance upon the mainstem river during the critical winter months. Tentative stream selections are Kosina, Jay, and Watana creeks.

   A semi-permanent camp will be located in the vicinity of these stream mouths, and the individual streams sampled for fish occurrence on an established sampling schedule throughout the season.

2. Conduct surveys of upland lakes associated with mainstem Susitna River tributary streams for fish population and related biological data. Habitat information will also be collected from inlet and outlet streams, and be used later in determining the impacts to seasonal migrations and biological requirements of resident fish as a result of impoundment, road construction,

3. To determine resident fish occurrence and distribution within the mainstem Susitna River throughout the spring-summer-fall periods. This work will be accomplished by the same field crew utilizing a chartered boat for transportation on a pre-determined sampling schedule. Nets, trot lines, traps, etc. will be used to determine fish presence.

4. To continue to collect complete hydrological data.

It is anticipated the single two man crew will be capable of performing all the above tasks. Determination of mainstem fish occurrence and distribution (#3) will be accomplished by two or three scheduled week long trips through the impoundment area.

The upland lake surveys will be accomplished during "non-sample" periods at the tributary mouths. Close coordination will be necessary, as will helicopter support at frequent intervals.

TITLE

SEASONAL AND SPATIAL HABITAT STUDY

Study Approach

Spatial and seasonal habitat studies will be divided into three major geographical areas. Sampling upstream of the Susitna-Talkeetna river confluence will be conducted primarily by fisheries study groups. Design of sampling programs will be done by the habitat studies supervisor. These studies will be performed in addition to work proposed by DNR, but

will be done in close cooperation and coordination with that agency and other tasks performed by consultants as a part of the overall Susitna Hydro-feasibility study. It is anticipated that other agencies such as the USGS and USFWS will also provide support for these instream flow studies.

The following outlines baseline studies required for each study area:

1. Cook Inlet to the Talkeetna-Susitna river confluence.* Spatial and Seasonal Habitat Requirements of Fish Populations.

Objectives

The objectives within this study area are to:

1. define essential seasonal habitat requirements for incubation, rearing, spawning, and passage of anadromous and resident fish populations;

2. define the seasonal relationships between flow regimes and essential physical and biological habitat characteristics;

3. define the relationships between the tributary and slough physiochemical and biological habitats with the mainstem Susitna River at various flow regimes;

4. develop state-of-the-art capabilities to evaluate habitat characteristics in this difficult reach of river; and

* Habitat study plans for the esturaine area will be based upon the findings of Phase I studies and initiated in the Phase II biological studies.

5. generate data essential for evaluating the effects of various flow regimes on terrestrial and reparian habitat.

Background

This reach of the Susitna River provides important habitat for rearing, incubating, spawning, and migrating resident and anadromous fish species. Unfortunately, its physical characteristics also make it one of the most difficult to evaluate. Studies of seasonal habitat characteristics will be coordinated on an annual basis with the life history and distribution fish studies (both anadromous and resident).

Expansion or termination of these studies will depend upon determination and confirmation of:

1. The seasonal habitat requirements between various life history stages of the resident and anadromous fish.

2. The relationship of seasonal habitat to various discharges.

If positive confirmation is provided by the habitat study in conjunction with other biological studies, specific year to year study locations should be identified for ongoing programs to determine the effects of the project on the fish and wildlife resources in this portion of the basin.

## Work Plan

The initial year of this study will be comprised of essentially three field operations:

1. mainstem seasonal instream flow measurements;
2. tributary seasonal instream flow measurements; and
3. collection of other physiochemical and biological habitat data.

A crew of biologists will utilize a customized riverboat as their primary means of transportation and will operate in the mainstem and selected tributary systems during the ice-free months May through October to:

1. Procure equipment.
2. Establish and refine large river instream flow measurement techniques.
3. Collect instream flow data in terms of depth, velocity, wetted perimeter, and substrate.
4. Collect water quality data as related to discharge.

It is essential that items 2 and 3 be coordinated with other fishery related and hydrological studies.

2. Talkeetna River confluence upstream to Devil canyon. Spatial and Seasonal Habitat Requirements of Fish Populations.

See Resident Fish Study Proposal.

3. Devil Canyon damsite upstream to the Tyone River confluence. Spatial and Seasonal Habitat Requirements of Fish Populations.

See the Resident Fish Study Proposal for this area.

Attachment III
Budget

# ADF&G FISHERIES STUDIES BUDGET SUMMARY
# SUSITNA HYDROELECTRIC PROJECT

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| **ADMINISTRATION & SUPPORT** | | | |
| Division of Administration | 24.4 | 26.2 | 13.5 |
| Habitat Protection Section | 74.5 | 65.0 | 50.5 |
| Sport Fish Division | 179.7 | 192.1 | 202.6 |
| Subtotal Adm. & Support | 278.6 | 283.3 | 266.6 |
| **STOCK ASSESSMENT OF ADULT FISH POPULATIONS - COMMERCIAL FISH DIVISION** | | | |
| Scale Pattern Analysis - Cook Inlet | 25.6 | 87.6 | 115.2 |
| Electrophoresis - Cook Inlet | 16.4 | 24.3 | |
| Susitna Station | 35.3 | 38.9 | 75.6 |
| Yentna Station | 37.8 | 46.5 | 83.4 |
| Sunshine Station | 46.7 | 50.6 | 101.9 |
| Creel Census | 9.3 | 24.6 | 34.6 |
| Studies Supervisor | 39.4 | 24.5 | 39.2 |
| Subtotal Adult Stock Assessment | 210.5 | 297.0 | 449.9 |
| **STOCK ASSESSMENT OF ADULT RESIDENT FISH & JUVENILE RES. & ANADROMOUS FISH POPULATION - SPORT FISH DIVISION** | | | |
| Devil Canyon to Tyone River | 27.5 | 35.9 | 72.8 |
| Talkeetna River to Devil Canyon | 52.9 | 66.1 | 123.1 |
| Cook Inlet to Talkeetna River | 103.0 | 86.0 | 208.8 |
| Subtotal | 183.4 | 188.0 | 404.7 |
| **SPATIAL & SEASONAL HABITAT STUDY - SPORT FISH DIVISION** | | | |
| Cook Inlet to Devil Canyon | 140.9 | 129.9 | 301.6 |
| Above Devil Canyon, air charter | 2.7 | 2.7 | 5.4 |
| Subtotal | 143.6 | 132.6 | 307.0 |
| GRAND TOTAL | 816.1 | 900.9 | 1428.2 |
| Equipment to be provided by Acres American Inc. | 414.9 | | |

ADMINISTRATION AND SUPPORT (Subschedule)

| | PHASE I | |
|---|---|---|
| | FY 1981 | FY 1982 |
| **Division of Administration** | | |
| Line 100 - Personal Services | | |
| Account. Clk. III (mm 12, 6, 12) | 24.4 | 26.2 |
| Total Div. of Administration | 24.4 | 26.2 |
| **Habitat Protection Section** | | |
| Line 100 - Personal Services | | |
| HB IV, Susitna Hydro. Pr. Coord. (mm 12, 12, 6) | 44.9 | 48.6 |
| CL IV (mm 12, 6, 12) | 22.1 | 12.4 |
| | 67.0 | 61.0 |
| Line 200 - Travel | | |
| Travel and Per diem | 3.0 | 1.5 |
| Line 300 - Contractual Services. | | |
| ~~Data Processing~~, Communication Services, ~~Equipment repair~~, Freight, Transp./charter | 1.0 | .5 |
| | 2.0 | 1.0 |
| | 3.0 | 1.5 |
| Line 400 - Commodities | | |
| Clothing, materials, ~~etc~~ Office supplies and library | 1.5 | 1.0 |
| Total Habitat Protection Section | 74.5 | 65.0 |
| **Sport Fish Division** | | |
| Line 100 - Personal Services | | |
| FB IV Aqu. Studies Coord. (mm 12,12,6) | 46.5 | 49.5 |
| Biometrician (mm 12, 9, 9) | 42.8 | 33.9 |
| EDP Programmer II (mm 6, 9, 9) | 16.6 | 25.2 |
| Data Control Clk. II (mm 6, 9, 9) | 13.5 | 20.4 |
| Publications Spec. II (mm 6) | -0- | 17.8 |
| Maintenance Mech. II (mm 6, 6, 12) | 17.3 | 17.3 |
| FT III (mm 2, 2, 4) | 4.4 | 4.4 |
| | 141.1 | 168.5 |
| Line 200 - Travel | | |
| Travel and Per diem | 12.2 | 5.8 |
| Line 300 - Contractual Services | | |
| Data Processing | 6.0 | 5.5 |
| Equipment repair, Freight, Transp./charter | 10.0 | 6.1 |
| | 16.0 | 11.6 |
| Line 400 - Commodities | | |
| Clothing, materials, etc. | 10.4 | 6.2 |
| Total Sport Fish Division | | |

| | | PHASE I | | PHASE II |
|---|---|---|---|---|
| | | FY 1981 | FY 1982 | FY 1982-83 |
| ANADROMOUS ADULT - STOCK ASSESSMENT | | | | |
| Task #1. Cook Inlet Stock Assessment | | | | |
| Scale Pattern Analysis | | | | |
| Line 100 - Personal Services | | | | |
| FT II | (mm 4.5,6,10.5) | 8.8 | 12.0 | 21.7 |
| FT III | (mm 0,21,21) | -0- | 45.9 | 47.1 |
| FB I | (mm 2.5,8,10.5) | 6.5 | 20.8 | 28.2 |
| Total | | 15.3 | 78.7 | 97.0 |
| Line 200 - Travel | | | | |
| Travel/per diem | | .5 | .5 | 1.0 |
| Total | | .5 | .5 | 1.0 |
| Line 300 - Contractual Services | | | | |
| Contractual services (computer time) | | 2.5 | 2.5 | 5.0 |
| Aircraft charter (10 hrs. C185 @150/hr.) | | .8 | .7 | 1.5 |
| Vehicle rental (3 @ 250/mo. & 3,000 mi.) | | 1.0 | 1.0 | 2.0 |
| Total | | 4.3 | 4.2 | 8.5 |
| Line 400 - Commodities | | | | |
| Scientific supplies (500/field crew) | | .8 | .7 | 1.5 |
| Food @ 15/day | (days: 100,107) | 2.3 | 2.4 | 4.7 |
| Gill nets | | 1.0 | -0- | |
| Housing (650/mo.) | | .6 | .7 | 1.3 |
| Clothing (200/person) | | .8 | .4 | 1.2 |
| Total | | 5.5 | 4.2 | 8.7 |
| Total for Scale Pattern Analysis | | 25.6 | 87.6 | 115.2 |

ANADROMOUS ADULT - STOCK ASSESSMENT (cont)

| | | PHASE I FY 1981 | PHASE I FY 1982 | PHASE II FY 1982-83 |
|---|---|---|---|---|
| Task #1. Cook Inlet Stock Separation | | | | |
| Electrophoresis | | | | |
| Line 100 - Personal Services | | | | |
| FT II | (mm 2,6) | 3.9 | 11.7 | -0- |
| Total | | 3.9 | 11.7 | -0- |
| Line 200 - Travel | | | | |
| Travel/per diem | | .5 | .5 | -0- |
| Total | | .5 | .5 | -0- |
| Line 300 - Contractual Services | | | | |
| Contractual services (graduate student) includes all analysis of samples | | 7.5 | 7.5 | -0- |
| Aircraft charter (10 hrs. C185 @ 150/hr.) | | .7 | .8 | -0- |
| Vehicle Rental (2 @ 250/mo. and 2,000 mi.) | | .7 | .7 | -0- |
| Total | | 8.9 | 9.0 | 0.0 |
| Line 400 - Commodities | | | | |
| Scientific supplies | (days: 100,107) | .5 | .5 | |
| Food @ 15/day | (days: 100,107) | 1.5 | 1.6 | |
| Housing (650/mo) | | .7 | .6 | |
| Clothing | | .4 | .4 | |
| Total | | 3.1 | 3.1 | 0.0 |
| Total for Electrophoresis | | 16.4 | 24.3 | 0.0 |

| | PHASE I FY 1981 | PHASE I FY 1982 | PHASE II FY 1982-83 |
|---|---|---|---|
| ANADROMOUS ADULT - STOCK ASSESSMENT (cont) | | | |
| Task # 2. Susitna River Mouth to Yentna River | | | |
| Susitna Station (May 15 - October 15) | | | |
| Line 100 - Personal Services | | | |
| FB 1 (mm 8, 12, 20) | 20.8 | 31.2 | 53.6 |
| Total | 20.8 | 31.2 | 53.6 |
| Line 200 - Travel | | | |
| Travel/per diem | .1 | .1 | .2 |
| Total | .1 | .1 | .2 |
| Line 300 - Contractual Services | | | |
| Aircraft charter (18 hrs. C185 @ 150) | 1.3 | 1.4 | 2.7 |
| Freight (barge charter) | .2 | .3 | .5 |
| Repairs and maintenance | .6 | .6 | 1.2 |
| Total | 2.1 | 2.3 | 4.4 |
| Line 400 - Commodities | | | |
| Fish Tags (10,000) | 7.0 | | 7.0 |
| Food @ 15/day (days: 273, 280, 553) | 4.1 | 4.2 | 8.3 |
| Scientific supplies | .2 | .1 | .3 |
| Gas and O/B oil (15 barrels @ 75) | .5 | .6 | 1.1 |
| Camp supplies | .2 | .3 | .3 |
| Clothing | .3 | .1 | .4 |
| Total | 12.3 | 5.3 | 17.4 |
| Total for Susitna Station | 35.3 | 38.9 | 75.6 |

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| ANADROMOUS ADULT - STOCK ASSESSMENT (cont) | | | |
| Task # 2. Yentna Sonar Station | | | |
| Line 100 - Personal Services | | | |
| FB 1 (mm 4, 6, 10) | 10.4 | 15.6 | 26.8 |
| FT 11 (mm 4, 6, 10) | 7.8 | 11.7 | 20.1 |
| Overtime (hrs: 240, 360, 600) | 5.1 | 7.6 | 13.0 |
| Total | 23.3 | 34.9 | 59.9 |
| Line 200 - Travel | 0.0 | 0.0 | 0.0 |
| Line 300 - Contractual Services | | | |
| Freight (barge charter) | .3 | .3 | .6 |
| Aircraft charter (35 hrs @ 150/hr) | 2.6 | 2.6 | 5.3 |
| Repairs and maintenance | .8 | .8 | 1.5 |
| Total | 3.7 | 3.7 | 7.4 |
| Line 400 - Commodities | | | |
| Food @ 15/day (days: 273, 280, 553) | 4.1 | 4.2 | 8.3 |
| Camp supplies | .7 | .8 | 1.0 |
| Parts | .8 | .7 | 1.5 |
| Tools | .3 | .2 | .3 |
| Gas and O/B oil (45 barrels @ 75) | 1.7 | 1.7 | 3.4 |
| Scientific supplies | .2 | .1 | .3 |
| Fishwheels (2 - parts and labor) | 2.4 | | .5 |
| Clothing | .6 | .2 | .8 |
| Total | 10.8 | 7.9 | 16.1 |
| Total for Yentna Sonar Station | 37.8 | 46.5 | 83.4 |

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| ANADROMOUS ADULT - STOCK ASSESSMENT (cont) | | | |
| Task # 3. Sunshine Sonar Station | | | |
| Line 100 - Personal Services | | | |
| FB 1 (mm 4, 6, 10) | 10.4 | 15.6 | 26.0 |
| FT II (mm 4, 7, 11) | 7.8 | 13.7 | 22.1 |
| Overtime (hrs: 295, 525, 1200) | 6.2 | 11.0 | 26.0 |
| Total | 24.4 | 40.3 | 74.1 |
| Line 200 - Travel | 0.0 | 0.0 | 0.0 |
| Line 300 - Contractual Services | | | |
| Vehicle rental (250/mo & 2,500 mi) | .8 | .9 | 1.7 |
| Repairs and maintenance | .7 | .8 | 1.5 |
| Total | 1.5 | 1.7 | 3.2 |
| Line 400 - Commodities | | | |
| Food @ 15/day (days: 306, 307, 613) | 4.6 | 4.6 | 9.2 |
| Camp supplies | .7 | .8 | 1.0 |
| Parts | .8 | .7 | 1.5 |
| Tools | .3 | .2 | .5 |
| Gas and O/B oil (45 barrels @ 75) | 1.6 | 1.8 | 3.4 |
| Scientific supplies | .2 | .1 | .3 |
| Fishwheels (4- parts and labor) | 4.8 | | .5 |
| Fish tags (10,000) | 7.0 | | 7.0 |
| Clothing | .8 | .4 | 1.2 |
| Total | 20.8 | 8.6 | 24.6 |
| Total for Sunshine Sonar Site | 46.7 | 50.6 | 101.9 |

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| ANADROMOUS ADULT - STOCK ASSESSMENT (cont) | | | |
| CREEL CENSUS | | | |
| Line 100 - Personal Services | | | |
| FT II (mm 2, 7, 9) | 3.9 | 13.7 | 18.1 |
| Overtime (hrs: 100,350, 450) | 2.1 | 7.4 | 9.7 |
| Total | 6.0 | 21.1 | 27.8 |
| Line 200 - Travel | 0.0 | 0.0 | 0.0 |
| Line 300 - Contractual Services | | | |
| Vehicles (2 @ 250/mo & 2,000 mi) | .4 | .5 | .9 |
| Line 400 - Commodities | | | |
| Food @ 15/day (days: 133, 140, 273) | 2.0 | 2.1 | 4.1 |
| Housing (500/mo) | .4 | .4 | .8 |
| Gas and O/8 oil | .5 | .5 | 1.0 |
| Total | 2.9 | 3.0 | 5.9 |
| Total for Creel Census | 9.3 | 24.6 | 34.6 |

Task # 4. Budget is included in juvenile studies.

Task # 5. Budget included in resident fisheries studies.

Anadromous Fisheries Studies

| | | | |
|---|---|---|---|
| Anadromous Fisheries Studies | | | |
| Supervisor, HB III (mm 12, 7, 11) | 39.4 | 24.5 | 39.2 |
| GRAND TOTAL ANADROMOUS ADULT FISHERY STUDY | 210.5 | 297.0 | 449.9 |

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| RESIDENT AND JUVENILE ANADROMOUS FISHERY STUDY | | | |
| Devil Canyon to Tyone River Impoundment | | | |
| Line 100 - Personal Services | | | |
| 3 FB I's (mm. 7, 11, 18) | 18.2 | 28.6 | 48.3 |
| Total | 18.2 | 28.6 | 48.3 |
| Line 200 - Travel | | | |
| Transportation (train) | .4 | .4 | .7 |
| Private vehicle mileage @ .30/mile | .1 | | .2 |
| Per diem @ 55/day (days: 7, 7, 15) | .4 | .4 | .8 |
| Total | .9 | .8 | 1.7 |
| Line 300 - Contractual Services | | | |
| Communications | .1 | .1 | .2 |
| Professional Services | .2 | .1 | .3 |
| Repairs | .2 | .3 | .5 |
| Freight & Transportation | .3 | .2 | .2 |
| Air charter | | | |
| Fixed wing @ 150/hr | 1.5 | 1.5 | 6.0 |
| Watercraft charter @ 300/day | .5 | .5 | 6.0 |
| Vehicle lease @ 200/mo | .5 | .5 | 1.0 |
| Miscellaneous | .2 | .3 | .5 |
| Total | 3.5 | 3.5 | 14.6 |
| Line 400 - Commodities | | | |
| Clothing | .5 | .2 | .8 |
| Food @ 15/day (days: 146, 147, 300) | 2.2 | 2.2 | 4.5 |
| Outboard fuels @ 1.10/gal | .1 | .1 | .2 |
| Camp materials, supplies, tents, stoves, heaters, etc. | .5 | .2 | .5 |
| Trap and net materials | 1.4 | | 1.2 |
| Miscellaneous | .2 | .3 | 1.0 |
| Total | 4.9 | 3.0 | 8.2 |
| Total for Devil Canyon to Tyone River | 27.5 | 35.9 | 72.8 |

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| **RESIDENT AND JUVENILE ANADROMOUS FISHERY STUDY** | | | |
| **Talkeetna River to Devil Canyon** | | | |
| **Line 100 - Personal Services** | | | |
| 1 FB II (mm 6, 6, 12) | 17.7 | 17.8 | 36.9 |
| 3 FB I's (mm 9, 15, 24) | 23.4 | 39.0 | 64.4 |
| Total | 41.1 | 56.8 | 101.3 |
| **Line 200 - Travel** | | | |
| Transportation (train) | .8 | .8 | 2.0 |
| Private vehicle mileage | .1 | .2 | .5 |
| Per diem @ 55/day | .6 | .5 | 1.1 |
| Total | 1.5 | 1.5 | 3.6 |
| **Line 300 - Contractual Services** | | | |
| Communications | .1 | .2 | .3 |
| Professional services | .1 | | .1 |
| Repairs | .3 | .4 | 1.0 |
| Freight & Transportation (train) | .5 | .5 | 1.1 |
| Air charter | | | |
| Fixed wing @ 150/hr | .7 | .7 | .9 |
| Watercraft charter | .3 | .2 | |
| Cabin rental @ 150/mo | .4 | .4 | 1.0 |
| Miscellaneous | .2 | .3 | .4 |
| Total | 2.6 | 2.7 | 4.9 |
| **Line 400 - Commodities** | | | |
| Clothing (boots, waders, etc.) | .7 | .3 | 1.2 |
| Gill nets @ 150 each | 1.2 | | 1.2 |
| Seines 2 @ 150 each for Phase I Phase II includes minnow traps | .3 | | .7 |
| Food @ 15/day (days: 200, 200, 400) | 3.0 | 3.0 | 6.0 |
| Outboard fuel @ 15/day | 1.1 | 1.1 | 2.4 |
| Marine oils, lubes, etc. | .1 | .1 | .2 |
| Building materials | .3 | .2 | .5 |
| Trap materials, net frames, buoys, etc. | .5 | | .5 |
| Miscellaneous | .3 | .3 | |
| Camp gear, stove, lantern, etc. | .2 | .1 | .6 |
| Total | 7.7 | 5.1 | 13.3 |
| Total for Talkeetna River to Devil Canyon | 52.9 | 66.1 | 123.1 |

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| RESIDENT AND JUVENILE ANADROMOUS FISHERY STUDY | | | |
| Cook Inlet to Talkeetna | | | |
| Line 100 - Personal Services | | | |
| 4 FB I's (mm 14, 12, 42) | 36.4 | 31.2 | 112.7 |
| Resident Fisheries Study, Supervisor FB III (mm 12, 9, 9) | 39.4 | 31.5 | 32.2 |
| Total | 75.8 | 62.7 | 144.9 |
| Line 200 - Travel | | | |
| Per diem @ 55/day (days: 54, 56, 110) | 3.0 | 3.1 | 6.1 |
| Miscellaneous (pickup mileage) | .2 | .3 | 1.0 |
| Total | 3.2 | 3.4 | 7.1 |
| Line 300 - Contractual Services | | | |
| Air Charter @ 150/hr | 4.8 | 4.8 | 12.0 |
| Vehicle @ 250/mo | 2.6 | 2.7 | 5.2 |
| Engine Repair | .3 | .4 | 2.6 |
| Equipment Rental | .4 | .3 | 1.0 |
| Communications | .3 | .4 | 1.0 |
| Total | 8.4 | 8.6 | 21.8 |
| Line 400 - Commodities | | | |
| Food @ 15/day (days: 326, 327, 1053) | 4.9 | 4.9 | 15.8 |
| Clothing | 1.0 | 1.0 | 2.0 |
| Building materials | 1.0 | .9 | 1.9 |
| Camp gear | .3 | .3 | |
| Net gear | 4.3 | | 4.0 |
| Fuel | 2.3 | 2.4 | 7.5 |
| Oil | .3 | .3 | 1.0 |
| Marine supplies | .2 | .3 | .5 |
| Snowmachine supplies | .3 | .2 | .4 |
| Miscellaneous | 1.0 | 1.0 | 1.9 |
| Total | 15.6 | 11.3 | 35.0 |
| Resident and Juvenile Anadromous Fishery Study | | | |
| Total for Cook Inlet to Talkeetna | 103.0 | 86.0 | 208.8 |
| GRAND TOTAL RESIDENT AND JUVENILE FISHERY STUDY | 183.4 | 188.0 | 404.7 |

| | PHASE I | | PHASE II |
|---|---|---|---|
| | FY 1981 | FY 1982 | FY 1982-83 |
| SPACIAL AND SEASONAL HABITAT STUDIES | | | |
| Cook Inlet to Devil Canyon | | | |
| Line 100 - Personal Services | | | |
| Habitat Study Supervisor | | | |
| FB III (mm 12, 7, 11) | 39.4 | 24.5 | 39.1 |
| 2 FB II's (mm 10, 11, 24) | 29.6 | 32.6 | 73.8 |
| 3 FB I's (mm 13.5, 13.5, 36) | 35.1 | 36.2 | 95.6 |
| Total | 104.1 | 93.3 | 208.5 |
| Line 200 - Travel | | | |
| Per diem @ 55/day (days: 60, 60, 120) | 3.3 | 3.3 | 6.6 |
| Total | 3.3 | 3.3 | 6.6 |
| Line 300 - Contractual Services | | | |
| Air charter | | | |
| 15 hrs/mo for 7 mo @ 150/hr | 7.9 | 7.9 | 15.8 |
| Vehicle 12 mo @ 250/mo | 1.5 | 1.5 | 3.0 |
| Engine repair and maintenance | .5 | .5 | 1.0 |
| Equipment rental | .2 | .1 | .3 |
| USGS, Instream flow | | | |
| Group Consultation | 6.0 | 8.0 | 16.0 |
| Boeing computer analysis | 5.0 | 5.0 | 25.0 |
| Miscellaneous | .2 | .3 | .5 |
| Total | 21.3 | 23.3 | 61.6 |
| Line 400 - Commodities | | | |
| Food @ 15/day (days: 346, 353, 980) | 5.2 | 5.3 | 14.7 |
| Clothing: boots, life jackets, tents, sleeping bags, etc. | 2.5 | | 1.0 |
| Fuel: 20 weeks 200 gal/wk @ 1.25 gal | 2.5 | 2.5 | 5.0 |
| Oil, lube, etc. | .3 | .4 | .7 |
| Marine supplies | .7 | .8 | 1.5 |
| Snowmachine supplies | .1 | .1 | .2 |
| Miscellaneous | .9 | .9 | 1.8 |
| Total | 12.2 | 10.0 | 24.9 |
| Spacial and Seasonal Habitat Studies | | | |
| Total for Cook Inlet to Devil Canyon | 140.9 | 129.9 | 301.6 |
| Devil Canyon to Tyone River | | | |
| All costs included in Resident Studies except Air Charter | 2.7 | 2.7 | 5.4 |
| GRAND TOTAL FOR SPACIAL AND SEASONAL HABITAT STUDIES | 143.6 | 132.6 | 307.0 |

Attachment IV

## Equipment to be Provided by Acres

| | |
|---|---|
| Cameras, calculators (HP97 and HP 67) and shop equipment | 9,100.00 |
| Digitizer (Omega computer) | 8,200.00 |
| 2 slide scan sonar counters | 78,000.00 |
| 2 recorders | 600.00 |
| Oscilloscope | 1,800.00 |
| 2 boats | 4,000.00 |
| Four 25 hp outboards | 2,976.00 |
| 2 side scan sonar counters & spare parts | 86,200.00 |
| Generator | 350.00 |
| Compressor | 350.00 |
| 2 tape recorders (sonar) | 600.00 |
| Oscilloscope (sonar) | 1,800.00 |
| 2 shotguns (bear protection) | 400.00 |
| SSB radio | 1,600.00 |
| 2 boats | 4,000.00 |
| 4 outboards | 2,976.00 |
| 2 side scan sonar counters & spare parts | 86,200.00 |
| Generator | 350.00 |
| Compressor | 350.00 |
| 2 tape recorders | 600.00 |
| Oscilloscope | 1,800.00 |
| 2 shotguns | 400.00 |
| SSB radio | 1,600.00 |
| 1 boat trailer | 1,700.00 |
| Inflatable boat | 2,000.00 |
| Outboard | 1,000.00 |
| Radio | 1,600.00 |
| Riverboat | 2,500.00 |
| Thermographs @ 450 each | 5,400.00 |
| DO meter | 600.00 |
| Conductivity meter | 600.00 |
| ph meter | 200.00 |
| Outboard motor 2 at 75 Hp | 5,500.00 |
| Jet units @ 600 each | 1,200.00 |
| Rubber raft | 3,500.00 |
| Outboard 25 hp | 1,200.00 |
| Radio | 1,200.00 |
| Snowshoes @ 25 each | 300.00 |
| Guns 2 @ 250 | 500.00 |
| Snowmachines 2 @ 1,600 | 3,200.00 |
| Snowmachine sleds (2) | 150.00 |
| Ice Auger | 300.00 |
| Electroshocker | 1,200.00 |
| Riverboat | 1,600.00 |
| 75 hp outboard | 2,700.00 |
| 25 hp outboard | 1,200.00 |
| Jet unit | 600.00 |

| | |
|---|---|
| Trailer boat | 500.00 |
| Radio | 1,000.00 |
| Rifle | 300.00 |
| 4 snowmachines | 6,400.00 |
| 2 trailers (SM) | 1,000.00 |
| 2 ice augers | 600.00 |
| 2 chainsaws | 600.00 |
| Canoe | 600.00 |
| Backpack shocker | 1,200.00 |
| Survey Stakes | 300.00 |
| 2 measuring tapes & holders 300' @ 150 | 300.00 |
| 2 35 mm SLR cameras (macro lens and polarized filter) @ 350 each | 700.00 |
| 2 rifles @ 250 each | 500.00 |
| 5 current meters (AA) @ 350 | 1,750.00 |
| 3 current meters (pygmy) @400 | 1,200.00 |
| 3 Marsh McBirney flow meters digital readout @ 1,600 each | 4,800.00 |
| 11 top setting wading rods @ 200 each | 2,200.00 |
| Suspended flow support system | 400.00 |
| 2 boat mounted flow metering systems @ 1,600.00 | 3,200.00 |
| Sonar narrow beam system | 3,000.00 |
| 8 headsets @ 50/each | 400.00 |
| two 2-way radio walkie talkie @ 1,000 ea. | 2,000.00 |
| 2 compasses @ 50 each | 100.00 |
| Rebar | 100.00 |
| 4 cable tagliners 300' @150 | 600.00 |
| Tools for repair | 175.00 |
| 20' Wooldrige boat (capable of performance in Portage area) | 4,000.00 |
| 13' Avon riverboat | 1,800.00 |
| 85 hp (jet foot ) | 3,800.00 |
| 25 hp (kicker) | 1,200.00 |
| 25 hp (for Avon) | 1,200.00 |
| Boat trailer | 2,000.00 |
| 3 field calculators @ 35 each | 105.00 |
| 5 DO meters @ 600 each | 3,000.00 |
| 5 ph meters @ 200 each | 1,000.00 |
| 15 thermometers @ 25 each | 375.00 |
| 20 thermographs @ 450 each | 9,000.00 |
| 400 Leupold staff gages @ 11 each | 4,400.00 |
| DO meter | 600.00 |
| Conductivity meter | 600.00 |
| pH meter | 200.00 |
| 3 thermometers @ 25 each | 75.00 |
| Marsh McBirney meter | 1,600.00 |

| | |
|---|---|
| AA meter | 350.00 |
| Pygmy meter | 400.00 |
| 2 measuring tapes 300' @ 150 each | 300.00 |
| 2 topsetting wading rods @ 200 each | 400.00 |
| 2 headsets @ 50 each | 100.00 |
| 35 mm camera, (macro lens and polarized filter) @ 350 | 350.00 |
| 25 Leupoid staff gages @ 11.00 | 275.00 |
| GRAND TOTAL EQUIPMENT TO BE PROVIDED BY ACRES | 414,857.00 |

Attachment V

# SUSITNA HYDROELECTRIC PROJECT

## ENVIRONMENTAL PROGRAM

## ALASKA DEPARTMENT OF FISH AND GAME

## REPORTING REQUIREMENTS

Monthly Progress Reports - Letter reports, due on the 10th of each month, summarizing program activities of the previous month, any problems encountered, and plans for the following month. Significant findings should also be identified.

Procedures Manual - Documentation of study design, sampling methodologies, and analysis procedures to be followed throughout the Phase I program. Can be amended as necessary, with approval of the TES Group Leader and QA Coordinator. Four copies due 90 days from start of program.

Quarterly Reports - Three quarterly reports will be required during each project year. Reports will include a summarization of data collected during the preceeding quarter and will include sampling dates and methods employed, data tables, and sufficient discussion to permit an understanding of reported data. Four copies will be due on the first day of May, August, and November of 1980 and 1981. These reports will be an important means of information exchange among disciplines.

Annual Report - A detailed account of the first year's program including literature review, methodology, results, discussion, conclusions, and summary. Four copies due 60 days following completion of the first year's program, and no

later than March 1, 1981. Written responses to comments by Group Leaders will be required, but complete revision of the annual report will be avoided, if at all possible.

Draft Phase I Report - A detailed, thorough account of the entire Phase I program, including methodology, results, discussion (including comparisons with pertinent literature), conclusions, and a summary. Four copies due 60 days after completion of the Phase I program, but no later than February 1, 1982.

Final Phase I Report - Incorporating the comments of the Group Leaders on the Draft Phase I Report. Four copies due 30 days following receipt of comments.

January 4, 1980

# SUSITNA HYDROELECTRIC PROJECT

## ENVIRONMENTAL STUDIES

## PROCEDURES MANUAL - GUIDELINES FOR DEVELOPMENT

The procedures manual will serve as detailed documentation of both study design and implementation. It will serve a dual function: as quality assurance and as a useful guide to project personnel. The procedures manual must contain sufficient detail to assure that the program can continue uninterrupted if unexpected changes of personnel or equipment malfunction occurs.

Improvements to the procedures are encouraged, but all changes must be documented in advance by authorized amendments to the procedures manual, approved by the TES Group Leader and Quality Assurance Coordinator. The procedures manual will be a controlled document, all copies being numbered to insure that all holders will receive copies of authorized amendments.

Following is a list of items that should be included in the procedures manual:

1. Introduction - describes the study and general objectives of each part of the program.
2. Technical procedures - includes rationale for each part of the program, methods of sampling, type and model of equipment, degree of accuracy of equipment, calibration procedures if any, references, etc.

3. Data procedures - includes copies of typical field recording sheets, data reduction procedures, expected statistical procedures and rationale, typical table and graph format, etc.

4. Quality control - includes procedures for routine quality control on all aspects of the program.

5. Schedule - includes schedule of expected field, lab and data events.

6. Personnel - descriptions of the qualifications required to perform the different tasks in the program. In addition, at least the top 4 people should be identified by name and experience (e.g. those in charge of each aspect of the fisheries program: adult anadromous fish studies, resident and juvenile anadromous fish studies, and habitat studies, as well as their supervisor).

7. Reporting - as in December 19, 1979 description of reporting requirements.

Office of the Governor
Budget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

POSITION TITLE: Habitat Biologist IV
ADF&G Susitna Hydroelectric Feasibility Studies Coordinator

LOCATION: Anchorage

TYPE (FULL OR PART-TIME): PFT

NUMBER REQUESTED: 1

| RANGE | BARGAINING UNIT |
|---|---|
| 20A | GGU |

| MONTHLY SALARY | # MONTHS FY |
|---|---|
| $2,845. | 12 |

| | | |
|---|---|---|
| 01 | PERSONAL SERVICES | 44.9 |
| 02 | TRAVEL | 2.5 |
| 03 | CONTRACTUAL | 2.5 |
| 04 | COMMODITIES | 1.0 |
| 05 | EQUIPMENT | 0.0 |
| 08 | OTHER | |
| | TOTAL | 50.9 |
| 1002 | FEDERAL | |
| 1003 | G/F MATCH | |
| 1004 | GENERAL FUND | |
| 1005 | I/A RECEIPTS | 50.9 |
| 1028 | PROGRAM RECEIPTS | |

JUSTIFICATION:

The Susitna Hydro Feasibility Studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which, because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by the APA could not be budgeted as a part of ADF&G's program for FY 81.

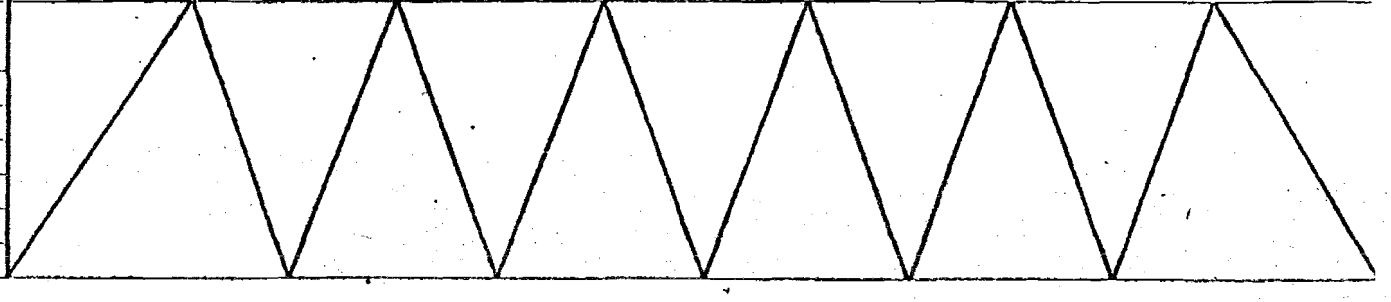
The ADF&G Su Hydro Coordinator will be the lead coordinator and administrator for the Department of Fish and Game's Susitna Hydro Fish and Wildlife Studies. He will review, coordinate and plan the development of the Department's policies, and programs for the project with State, Federal and local governments. The coordinator will work to insure statutory and regulatory provisions requiring a review study, and mitigation of the impacts of the proposed projec on fish and wildlife are identified, and that these requirements are instituted as a part of the overall Susitna Hydropower Feasibility Studies of the Alaska Power Authority.

Duration of the position is expected to be through Phase I of the Susitna Feasibility Studies until July 1982, and may continue for up to three years more in Phase II if the APA proceeds through project license application.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

Detail of Related Expenses

12 months salary + benefits @ $3,741/month.
Travel to project area, Juneau, Wash. D.C./perdiem, personal vehicle mileage.
Communications and other services, air charter to project area, vehicle rental, clothing, publicationns, office and library supplies.



Office of the Governor
Budget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

**POSITION TITLE:** Clerk IV

**LOCATION:** Anchorage

**TYPE (FULL OR PART-TIME):** PFT

**NUMBER REQUESTED:** 1

| RANGE | BARGAINING UNIT |
|---|---|
| 9 | GGU |

| MONTHLY SALARY | # MONTHS FY |
|---|---|
| $1,355 | 12 |

**JUSTIFICATION:**

The Susitna Hydro Feasibility Studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which, because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by the APA could not be budgeted as a part of ADF&G's program for FY 81.

The Clerk IV will be the sole clerical position for the Susitna Hydro aquatic studies program and the Su Hydro Coordinator. The position is required to handle administrative tasks and other tasks for direct ADF&G personnel and program budget and expenditure monitering needs. The prime contractor, Acres-American, Inc. will provide the majority of clerical assistance for typing of reports and field research results for the Su Hydro feasibility studies, and the ADF&G clerk will also coordinate the work handled for ADF&G by the Acres clerical staff.

Duration of the position is expected to be through Phase I of the Susitna Feasibility Studies until July 1982, and may continue for up to three years more in Phase II if the APA proceeds through project license application.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies

| | | DETAIL OF RELATED EXPENSES |
|---|---|---|
| 01 | PERSONAL SERVICES: 22.1 | 12 months salary + benefits @ $1,841/month |
| 02 | TRAVEL: .5 | 1 trip to Juneau, perdiem, personal vehicle mileage. |
| 03 | CONTRACTUAL: .5 | Communications services, vehicle rental, contractual services to run office. |
| 04 | COMMODITIES: .5 | Office supplies and commodities. |
| 05 | EQUIPMENT: 0.0 | |
| 08 | OTHER | |
| | TOTAL: 23.6 | |
| 1002 | FEDERAL | |
| 1003 | G/F MATCH | |
| 1004 | GENERAL FUND | |
| 1005 | I/A RECEIPTS: 23.6 | |
| 1028 | PROGRAM RECEIPTS | |

Budget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

POSITION TITLE: Fishery Biologist III
Anadromous Adult Project Leader

LOCATION: Anchorage

TYPE (FULL OR PART-TIME): PFT

NUMBER REQUESTED: 1

| RANGE | BARGAINING UNIT |
|---|---|
| 18A | GGU |

| MONTHLY SALARY | # MONTHS (CY) |
|---|---|
| $3284 | 12 mm |

JUSTIFICATION: The Susitna Hydro feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility of a proposed major capital improvement project which the Department of Fish and Game cannot accomplish within its general programs and which, because of the development by the APA of the Susitna Hydro Plan of study late in this fiscal year, could not be budgeted as a part of ADF&G's program for FY81.

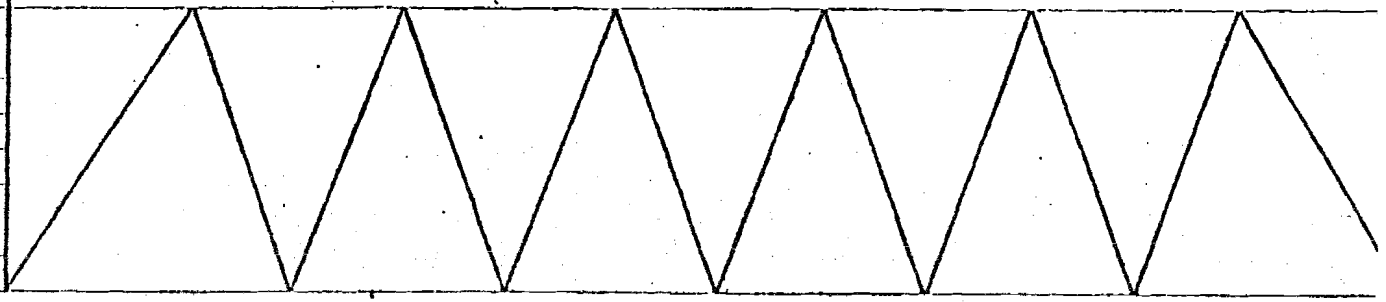
The FB III Anadromous Adult Project Leader will provide essential technical and administrative supervision to accomplish the tasks and objectives of this diverse project which encompasses sonar enumeration, fishwheel sampling tag and recapture studies, creel census and stock separation. Scale analysis work will be coordinated with the Department's stock separation laboratory and electrophoresis analyses will be accomplished by a technically trained graduate or ADF&G staff member. The Project Leader will also be responsible for report preparation post-season.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies

| | | |
|---|---|---|
| 01 | PERSONAL SERVICES | 39.4 |
| 02 | TRAVEL | 0.5 |
| 03 | CONTRACTUAL | 8.9 |
| 04 | COMMODITIES | 3.1 |
| 05 | EQUIPMENT | 0.0 |
| 08 | OTHER | 0.0 |
| | TOTAL | 51.9 |
| 1002 | FEDERAL | |
| 1003 | G/F MATCH | |
| 1004 | GENERAL FUND | |
| 1005 | I/A RECEIPTS | 51.9 |
| 1028 | PROGRAM RECEIPTS | |

DETAIL OF RELATED EXPENSES

Cost of 12 man months salary and benefits @ 3284/mo
Travel and vehicle mileage between Anchorage to Talkeetna and Juneau
Contractual services for Electrophoresis, air charter, vehicle rental
Food $15/day x 100 man days, Scientific supplies, housing $650/mo x 1 mo, clothir



# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

**POSITION TITLE:** Fish and Game Tech II Stock Assessment (sonar) crew member

**LOCATION:** Anchorage

**TYPE (FULL OR PART-TIME):** Seasonal

**NUMBER REQUESTED:** 5

| RANGE | BARGAINING UNIT |
|---|---|
| 9A | GGU |

| MONTHLY SALARY | # MONTHS (FY) |
|---|---|
| $1950 | 8 mm 535 hrs. OT |

| | | |
|---|---|---|
| 1 | PERSONAL SERVICES | 26.9 |
| 2 | TRAVEL | 0 |
| 3 | CONTRACTUAL | 0 |
| 4 | COMMODITIES | 0 |
| 5 | EQUIPMENT | 0 |
| 6 | OTHER | 0 |
| | TOTAL | 26.9 |
| 002 | FEDERAL | |
| 003 | G/F MATCH | |
| 004 | GENERAL FUND | |
| 005 | I/A RECEIPTS | 26.9 |
| 028 | PROGRAM RECEIPTS | |

**JUSTIFICATION:**

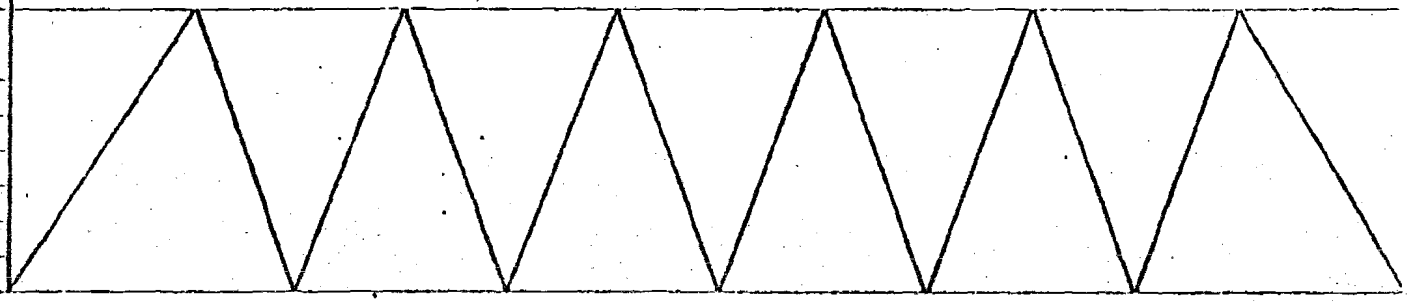
The Susitna Hydro feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility of a proposed major capital improvement project which the Department of Fish and Game cannot accomplish within its general programs and which, because of the development by the APA of the Susitna Hydro Plan of study late in this fiscal year, could not be budgeted as a part of ADF&G's program for FY81.

These five F&G Tech II personnel will operate stock assessment (sonar) facilities at Yentna River and Sunshine. They will install, operate and remove sonar fish counters, fish wheels, fish tagging equipment and other accessory gear to enumerat adult salmon, identify species, determine migration timing, recreational utilization and behavioral response to changes in stream flow and water quality.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

**DETAIL OF RELATED EXPENSES**

Cost of 8 man months salary and benefits @ $1950/mo plus 535 hrs. overtime.



udget & Management Div. C-R

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

**POSITION TITLE** Fish and Game Technician II
Stock Separation sampler
(Electrophoresis & scale analysis)

**LOCATION** Anchorage

**TYPE (FULL OR PART-TIME)** Seasonal

**NUMBER REQUESTED** 8

| RANGE | BARGAINING UNIT |
|---|---|
| 9A | GGU |

| MONTHLY SALARY | # MONTHS (FY) |
|---|---|
| $1950 | 6.5mm |

| | | |
|---|---|---|
| 01 | PERSONAL SERVICES | 12.7 |
| 02 | TRAVEL | 0.0 |
| 03 | CONTRACTUAL | 0.0 |
| 04 | COMMODITIES | 0.0 |
| 05 | EQUIPMENT | 0.0 |
| 08 | OTHER | 0.0 |
| | TOTAL | 12.7 |
| 1002 | FEDERAL | |
| 1003 | G/F MATCH | |
| 1004 | GENERAL FUND | |
| 1005 | I/A RECEIPTS | 12.7 |
| 1028 | PROGRAM RECEIPTS | |

**JUSTIFICATION:**

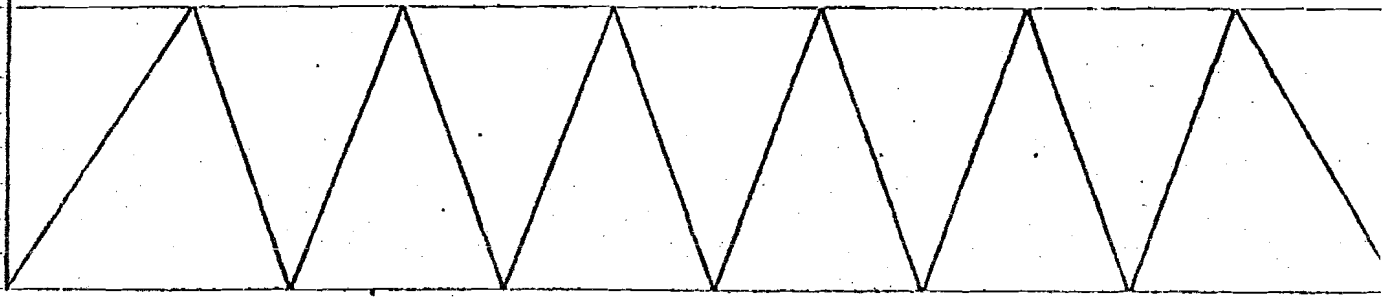
The Susitna Hydro feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility of a proposed major capital improvement project which the Department of Fish and Game cannot accomplish within its general programs and which, because of the development by the APA of the Susitna Hydro Plan of study late in this fiscal year, could not be budgeted as a part of ADF&G's program for FY81.

These eight technicians will sample escapements and subsistence, sport and commercial salmon harvests in Cook Inlet to collect scales and tissue samples to determine the number of Susitna River salmon captured in the fisheries. Scales will be collected from king, coho and sockeye salmon and tissue samples from pink and chum salmon. This sampling will augment ongoing sampling by ADF&G commercial fisheries. Division commercial harvests of which is applied only to sockeye salmon.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencie

**DETAIL OF RELATED EXPENSES**

Cost of 6.5 mm salary and benefits @ $1950/mo.



idget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

OSITION ITLE: Fishery Biologist I
Stock Separation

OCATION: Anchorage

YPE (FULL OR PART-TIME): Seasonal

IUMBER REQUESTED: 1

| RANGE | BARGAINING UNIT |
|---|---|
| 14A | GGU |

| MONTHLY SALARY | # MONTHS (CY) |
|---|---|
| $2600 | 2.5 mm |

| | | |
|---|---|---|
| 01 | PERSONAL SERVICES | 6.5 |
| 02 | TRAVEL | 0.5 |
| 03 | CONTRACTUAL | 4.3 |
| 04 | COMMODITIES | 5.5 |
| 05 | EQUIPMENT | 0.0 |
| 08 | OTHER | |
| | TOTAL | 16.8 |
| 002 | FEDERAL | |
| 003 | G/F MATCH | |
| 004 | GENERAL FUND | |
| 005 | I/A RECEIPTS | 16.8 |
| 028 | PROGRAM RECEIPTS | |

JUSTIFICATION: The Susitna Hydro feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility of a proposed major capital improvement project which the Department of Fish and Game cannot accomplish within its general programs and which, because of the development by the APA of the Susitna Hydro Plan of study late in this fiscal year, could not be budgeted as a part of ADF&G's program for FY81.

The Fishery Biologist I will direct the scale sampling of escapements and commercial, sport and subsistence harvests for adult salmon stock identification purpos He will be responsible for coordination of sampling with other ADF&G programs and for maintenance of accurate records of time, location and species sampled and delivery of scale samples to the stock separation laboratory in Anchorage.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies

DETAIL OF RELATED EXPENSES

Cost of salary and benefits @ $2600/mo for 2.5 man months
Travel and vehicle mileage between Anchorage, Talkeetna, Soldotna
Computer time, aircraft charter and vehicle rental
Scientific supplies, food 15/day x 100 man days, gillnets, housing, clothing

Iget & Management Div. CP

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

SITION
TLE: Fish and Game Technician II creel census

CATION: Anchorage

PE (FULL OR PART-TIME): Seasonal

MBER REQUESTED: 2

| NGE | BARGAINING UNIT |
|---|---|
| 9A | GGU |

| NTHLY SALARY | # MONTHS (FY) |
|---|---|
| 1950 | 2 mm 100 hrs O.T |

| | |
|---|---|
| PERSONAL SERVICES | 6.0 |
| TRAVEL | 0.0 |
| CONTRACTUAL | 0.4 |
| COMMODITIES | 2.9 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 9.3 |
| 02 FEDERAL | |
| 03 G/F MATCH | |
| 04 GENERAL FUND | |
| 05 I/A RECEIPTS | 9.3 |
| 08 PROGRAM RECEIPTS | |

JUSTIFICATION: The Susitna Hydro feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility of a proposed major capital improvement project which the Department of Fish and Game cannot accomplish within its general programs and which, because of the development by the APA of the Susitna Hydro Plan of study late in this fiscal year, could not be budgeted as a part of ADF&G's program for FY81.

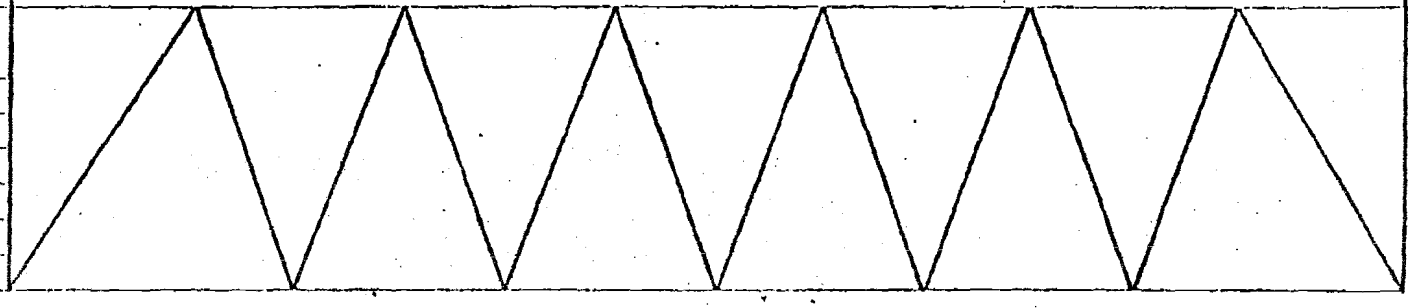
These two technicians, under the supervision of the Anadromous Adult Project Leader will expand ongoing ADF&G sport fish sampling of recreational salmon harvests to cover all salmon species and all harvest areas within the Susitna drainage. Their surveys will also contribute data on migration timing and tagged fish recoveries.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies

DETAIL OF RELATED EXPENSES

Cost of 2 mm salary and benefits @ $1950/mo plus 100 hrs O.T.

Vehicle rental 2 ea x $250/mo 2000 mi.
Food $15/day x 133 days; housing 500/mo; gas and OR (fuel)



idget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

OSITION ITLE: Fishery Biologist I
Stock Assessment (sonar)
crew leader

OCATION: Anchorage

YPE (FULL OR PART-TIME): Seasonal

IUMBER REQUESTED: 6

| ANGE | BARGAINING UNIT |
|---|---|
| 14A | GGU |

| MONTHLY SALARY | # MONTHS (FY) |
|---|---|
| $2600 | 16 mm |

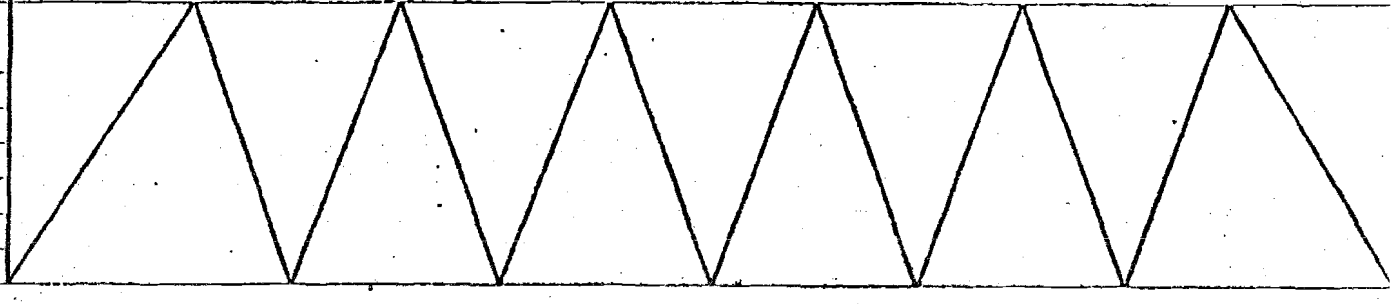
JUSTIFICATION:

The Susitna Hydro feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility of a proposed major capital improvement project which the Department of Fish and Game cannot accomplish within its general programs and which, because of the development by the APA of the Susitna Hydro Plan of study late in this fiscal year, could not be budgeted as a part of ADF&G's program for FY81.

These six Fishery Biologist I personnel will be responsible for pre-season preparation, conduct and data analysis for adult salmon stock assessment (sonar) studies at Susitna station, Yentna River and Sunshine. They will purchase and prepare supplies and oversee installation, operation and removal of sonar fish counters, fishwheels, fish tagging equipment and other accessory gear and maintain records of results. Post season they will assemble and analyze data.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| | | DETAIL OF RELATED EXPENSES |
|---|---|---|
| 01 | PERSONAL SERVICES | 41.6 — Cost of 16 mm salary and benefits @ $2600/mo |
| 02 | TRAVEL | 0.1 — Travel and vehicle mileage between Anchorage and Talkeetna |
| 03 | CONTRACTUAL | 7.3 — Aircraft charter, barge charter to Susitna Station, fabrication of gear |
| 04 | COMMODITIES | 43.9 — Fish tags, other scientific supplies, food, fuel, camp supplies, rain gear |
| 05 | EQUIPMENT | 0.0 |
| 08 | OTHER | |
| | TOTAL | 92.9 |
| 1002 | FEDERAL | |
| 1003 | G/F MATCH | |
| 1004 | GENERAL FUND | |
| 1005 | I/A RECEIPTS | 92.9 |
| 1028 | PROGRAM RECEIPTS | |



Jget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

SITION TLE: Fisheries Biologist IV

CATION: Anchorage

E (FULL OR PART-TIME): Permanent full-time

MBER REQUESTED: 1

| NGE | BARGAINING UNIT |
|---|---|
| 20 | GGU Supervisory |

| NTHLY SALARY | # MONTHS (CY) |
|---|---|
| 3,875 | 12 |

| | |
|---|---|
| PERSONAL SERVICES | 46.5 |
| TRAVEL | 6.0 |
| CONTRACTUAL | 4.0 |
| COMMODITIES | 2.5 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 59.0 |
| FEDERAL | |
| G/F MATCH | |
| GENERAL FUND | |
| I/A RECEIPTS | 59.0 |
| PROGRAM RECEIPTS | |

JUSTIFICATION:

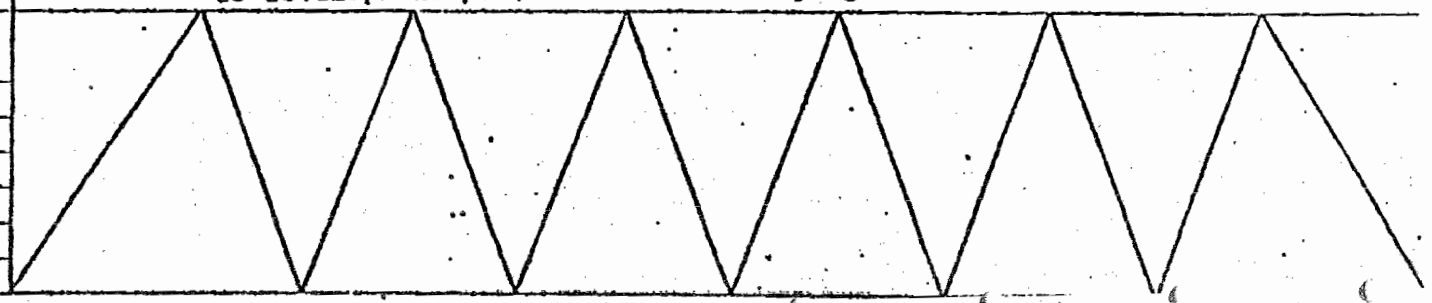
The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

The ADF&G aquatic studies coordinator will be the lead coordinator of aquatic habitat and fisheries studies resposible for coordinating the field and technical aspects of the studies with the fisheries management divisions of the Department, other State and Federal agencies and Acres-American, Inc., the prime feasibility studies coordinator. The coordinator will be responsible for the overall planning and development of the technical aspects of the field program and its management.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

DETAIL OF RELATED EXPENSES

Line 100 - 12 months of salary and benefits
Line 200 - travel and per diem in study area and trips to Juneau
Line 300 - cost of contractual services to establish and run office plus air charter to study area
Line 400 - costs of boots, special clothing and library supplies to develop and plan field research program.



Budget & Management Div.

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

POSITION TITLE: Fisheries Biologist III

LOCATION: Anchorage

TYPE (FULL OR PART-TIME): Permanent Full-Time

NUMBER REQUESTED: 1

| RANGE | BARGAINING UNIT |
|---|---|
| 18 | GGU |
| MONTHLY SALARY | # MONTHS (CY) FY |
| 3,283 | 12 |

| | | |
|---|---|---|
| 01 | PERSONAL SERVICES | 39.4 |
| 02 | TRAVEL | 1.5 |
| 03 | CONTRACTUAL | 2.0 |
| 04 | COMMODITIES | 1.2 |
| 05 | EQUIPMENT | |
| 06 | OTHER | |
| | TOTAL | 44.1 |
| 1002 | FEDERAL | |
| 1003 | G/F MATCH | |
| 1004 | GENERAL FUND | |
| 1005 | I/A RECEIPTS | 44.1 |
| 1028 | PROGRAM RECEIPTS | |

JUSTIFICATION:

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

This position will function as project leader of all "resident and juvenile anadromous" related studies, and ensure coordination of these investigations with other fishery and aquatic-habitat related studies being conducted simultaneously. The project leader is responsible for planning, program formulation and implementation the hiring and organization of field personnel, and for the continued ongoing direction of these studies. The project leader will supervise approximately 10 individuals assigned to several "field" study teams. Will be responsible for analysis and documentation of field data.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies

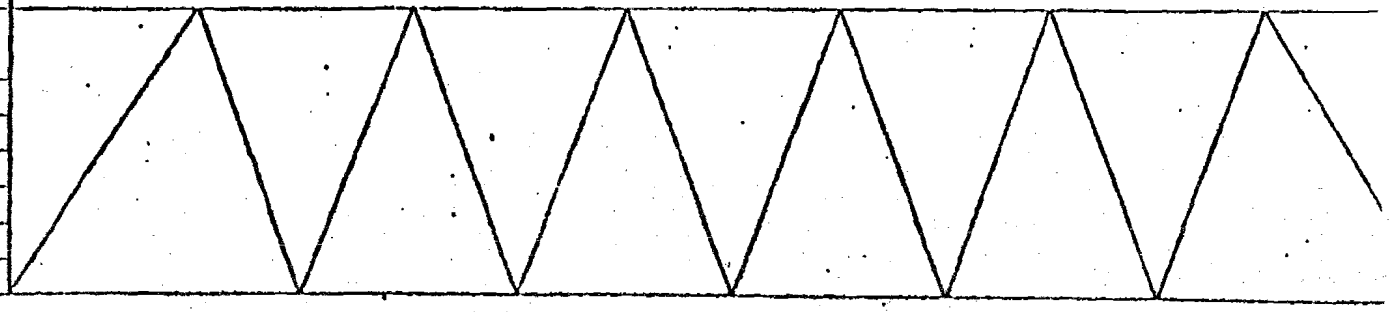
DETAIL OF RELATED EXPENSES

12 months salary and benefits

Commercial travel and per diem within and outside study area.

Primarily air charter to field camps within study area.

Miscellaneous materials, field supplies, special clothing, etc.



Iget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

SITION
'LE
Fisheries Biologist I

CATION
Anchorage

PE (FULL OR PART-TIME) Permanent/ Seasonal

MBER REQUESTED 4

| NGE | BARGAINING UNIT |
|---|---|
| 14 | GGU |
| **NTHLY SALARY** | **# MONTHS (0%) FY** |
| $2,600 | 14 |

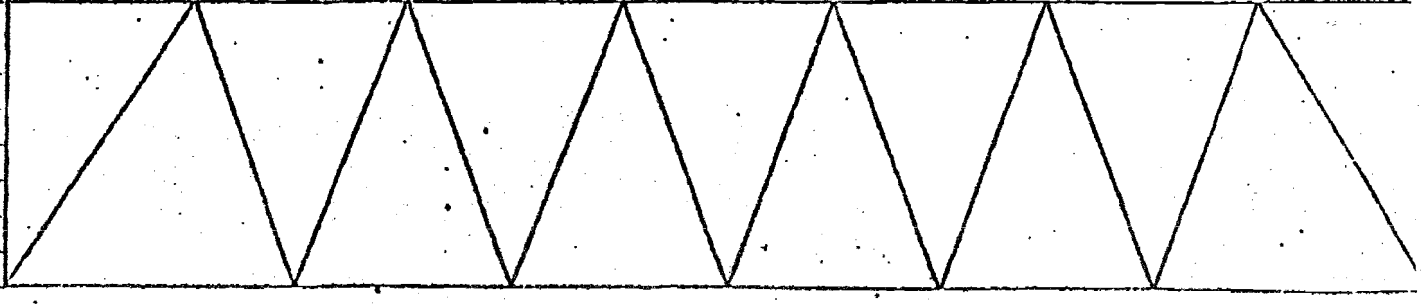
**JUSTIFICATION:**

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

The fishery biologists' responsibilities will be to collect biological data in the field pertaining to fish species distribution, composition, abundance, migrational patterns and characteristics, various life history requirements, critical habitat areas, angler utilization, and other pertinent information. Investigational crews will spend extensive time in the field and will utilize nets, seines, traps, electr shockers, boats, etc., to accomplish their goals. They will be responsible for following and meeting designated sampling schedules, biological preservation and/or preparation, keeping adequate records, and maintenance of gear and equipment. Area of emphasis will be Cook Inlet - Talkeetna.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| | | DETAIL OF RELATED EXPENSES |
|---|---|---|
| PERSONAL SERVICES | 36.4 | 14 months salary w/benefits |
| TRAVEL | 1.7 | Commercial travel and perdiem within study area |
| CONTRACTUAL | 6.4 | Air charter and professional services including equipment repairs |
| COMMODITIES | 14.4 | Miscellaneous building materials, marine and biological supplies, fuel, camp gear. |
| EQUIPMENT | | |
| OTHER | | |
| TOTAL | 58.9 | |
| 2 FEDERAL | | |
| 3 G/F MATCH | | |
| 4 GENERAL FUND | | |
| 5 I/A RECEIPTS | 58.9 | |
| 8 PROGRAM RECEIPTS | | |



udget & Management Div. SF

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

POSITION TITLE

Fishery Biologist II

LOCATION

Anchorage

TYPE (FULL OR PART-TIME) Permanent/ Seasonal

NUMBER REQUESTED 1

| RANGE | BARGAINING UNIT |
|---|---|
| 16 | / GGU |
| MONTHLY SALARY | # MONTHS (GY) FY |
| $2,960 | 6 |

JUSTIFICATION:

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

This position, a Fishery Biologist II, will serve as crew Leader and a member of t field study team assigned to the "resident and juvenile anadromous" fish studies c the Talkeetna to Devils Canyon river section. The Fishery Biologist II will be responsible for the field study team's compliance with biological sampling schedul the utilization of standardized biological techniques and adequacy of recordkeepin as established by the Fishery Biologist III, project leader.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| | | |
|---|---|---|
| 1 | PERSONAL SERVICES | 17.7 |
| 2 | TRAVEL | 0.5 |
| 3 | CONTRACTUAL | 0.8 |
| 4 | COMMODITIES | 1.0 |
| 5 | EQUIPMENT | |
| 6 | OTHER | |
| | TOTAL | 20.0 |
| 002 | FEDERAL | |
| 003 | G/F MATCH | |
| 004 | GENERAL FUND | |
| 005 | I/A RECEIPTS | 20.0 |
| 028 | PROGRAM RECEIPTS | |

| DETAIL OF RELATED EXPENSES |
|---|
| 6 months salary w/benefits |
| Commercial travel and per diem within study area. |
| Air charter and miscellaneous professional services. |
| Materials, project supplies, special clothing |

ct & Management Div.

SF

# REVISED PROGRAM REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

ITION
LE

Fishery Biologist I

ATION

Anchorage

E (FULL OR PART-TIME) Permanent/ Seasonal

IBER REQUESTED 3

| GE | BARGAINING UNIT |
|---|---|
| 14 | GGU |

| THLY SALARY | #/MONTHS (GY) | FY |
|---|---|---|
| 2,600 | 9 | |

| | |
|---|---|
| PERSONAL SERVICES | 23.4 |
| TRAVEL | 1.0 |
| CONTRACTUAL | 1.8 |
| COMMODITIES | 6.7 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 32.9 |
| FEDERAL | |
| G/F MATCH | |
| GENERAL FUND | |
| I/A RECEIPTS | 32.9 |
| PROGRAM RECEIPTS | |

JUSTIFICATION:

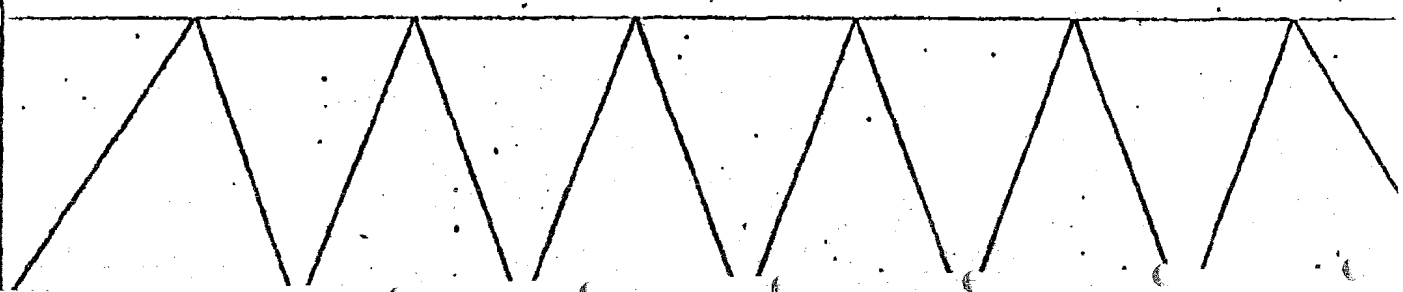
The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

The fishery biologists' responsibilities will be to collect biological data in t field pertaining to fish species distribution, composition, abundance, migration patterns and characteristics, various life history requirements, critical habita areas, angler utilization, and other pertinent information. Investigational cre will spend extensive time in the field and will utilize nets, seines, traps, ele shockers, boats, etc., to accomplish their goals. They will be responsible for following and meeting designated sampling schedules, biological preservation and preparation, keeping adequate records, and maintenance of gear and equipment. A of emphasis will be Talkeetna to Devils Canyon.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencie

DETAIL OF RELATED EXPENSES

9 months salary w/benefits
Commercial travel and per diem within study area.
Air charter and contractual professional services.
Miscellaneous building materials, marine and biological supplies, fuels, clothi



ce of the Governor
get & Management Div.

SF

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

ITION
LE

Fishery Biologist I

CATION

Anchorage

E (FULL OR PART-TIME) Permanent/ Seasonal

MBER REQUESTED 3

| GE | BARGAINING UNIT |
|---|---|
| 14 | GGU |
| THLY SALARY | # MONTHS (CY) |
| $2,600.00 | 7 |

| | |
|---|---|
| PERSONAL SERVICES | 18.2 |
| TRAVEL | 0.9 |
| CONTRACTUAL | 3.5 |
| COMMODITIES | 4.9 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 27.5 |
| FEDERAL | |
| G/F MATCH | |
| GENERAL FUND | |
| I/A RECEIPTS | 27.5 |
| PROGRAM RECEIPTS | |

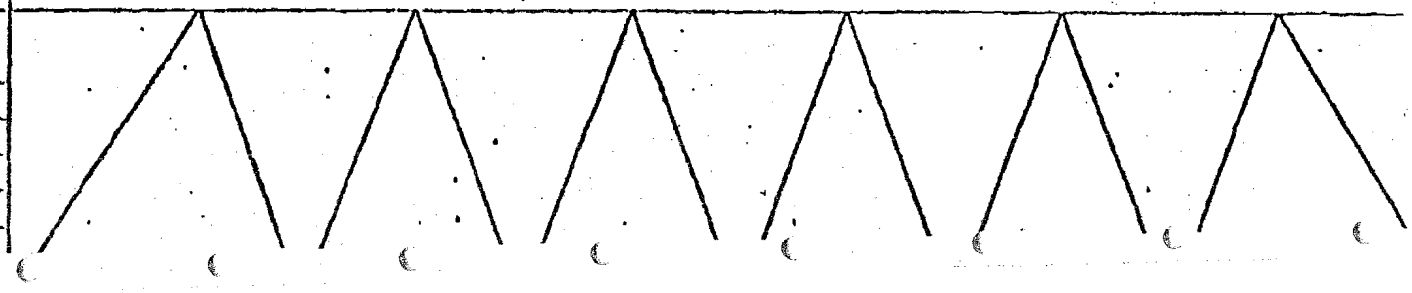
JUSTIFICATION:

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

The fishery biologists' responsibilities will be to collect biological data in th field pertaining to fish species distribution, composition, abundance, migrationa patterns and characteristics; various life history requirements, critical habitat areas, angler utilization, and other pertinent information. Investigational crew: will spend extensive time in the field and will utilize nets, seines, traps, elect shockers, boats, etc., to accomplish their goals. They will be responsible for following and meeting designated sampling schedules, biological preservation and/c preparation, keeping adequate records, and maintenance of gear and equipment. Are of emphasis will be the impoundment area.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| DETAIL OF RELATED EXPENSES |
|---|
| 7 months salary w/benefits |
| Commercial travel and per diem within study area |
| Air charter, equipment repair, fees for professional services. |
| Materials, marine and biological supplies, fuels, clothing. |



lget & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

SITION
'LE Fishery Biologist III

CATION
Anchorage

'E (FULL OR PART-TIME) Permanent
Full-time

MBER REQUESTED 1

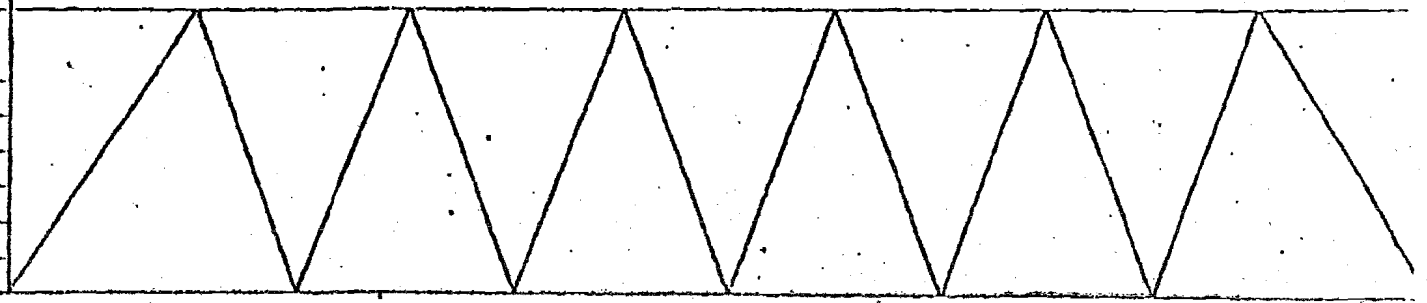
| 'GE | BARGAINING UNIT |
|---|---|
| 18 | GGU |

| NTHLY SALARY | #/ MONTHS (CY) FY |
|---|---|
| 3,283.11 | 12 |

JUSTIFICATION:
The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs; and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

This position will function as the project leader for the "spacial and seasonal habitat" studies. Responsibilities will be to hire and organize field personnel, plan, implement and direct specific habitat-related studies involving flow regimes, water quality, instream flow needs for fish, sediment loads and transport, riparian characteristics, etc. A further responsibility will be the close coordination of these studies with the related fisheries investigations, occurring simultaneously. Analysis and documentation of field data obtained in these studies will be the project leader's responsibility.
On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| | | DETAIL OF RELATED EXPENSES |
|---|---|---|
| PERSONAL SERVICES | 39.4 | 12 months' salary with benefits |
| TRAVEL | 1.3 | commercial travel and per diem within Cook Inlet study |
| CONTRACTUAL | 3.1 | Contractual for professional serves, repairs of equipment, air charters, etc. |
| COMMODITIES | 1.5 | Misc. supplies, materials and office commodities. |
| EQUIPMENT | | |
| OTHER | | |
| TOTAL | 45.3 | |
| 2 FEDERAL | | |
| 3 G/F MATCH | | |
| 4 GENERAL FUND | | |
| 5 I/A RECEIPTS | 45.3 | |
| 6 PROGRAM RECEIPTS | | |



dget & Management Div. SF

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

SITION TLE: Fishery Biologist I/II

CATION: Anchorage

PE (FULL OR PART-TIME): Permanent / Seasonal

MBER REQUESTED: 2

| RANGE | BARGAINING UNIT |
|---|---|
| 14/16 | CGU |

| MTHLY SALARY | # MONTHS (CY) | FY |
|---|---|---|
| 2,960 | 10 | |

JUSTIFICATION:

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

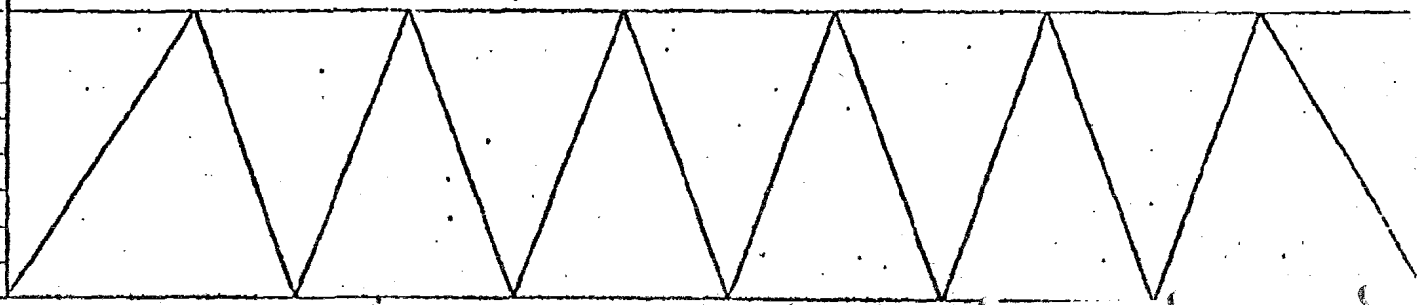
These positions will function as both members of, and leaders of, field study crews assigned to collection of habitat and stream flow data from the Susitna River. The Fishery Biologists II will be responsible for the field study team's compliance wit predetermined schedules, adherence to state-of-the-art and standardized methods of measurement and sampling, adequacy of recordkeeping, and ensure the sampling of essential habitat requirements of fish, flow regimes, etc., progress as planned.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| | |
|---|---|
| PERSONAL SERVICES | 29.6 |
| TRAVEL | 1.0 |
| CONTRACTUAL | 9.6 |
| COMMODITIES | 4.0 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 44.2 |
| 2 FEDERAL | |
| 3 G/F MATCH | |
| 4 GENERAL FUND | |
| 5 I/A RECEIPTS | 44.2 |
| 8 PROGRAM RECEIPTS | |

DETAIL OF RELATED EXPENSES

10 months salary with benefits
Commercial travel and per diem within Cook Inlet study area.
Air charter, leases of misc. field equipment and professional services.
Misc. supplied, fuels, building materials, marine supplies, etc.



get & Management Div. 21

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

SITION Fishery Biologist I
TLE

CATION Anchorage

PE (FULL OR PART-TIME) Permanent
Seasonal

MBER REQUESTED 3

| NGE | BARGAINING UNIT |
|---|---|
| 14 | CGU |

| NTHLY SALARY | # MONTHS (CY) FY |
|---|---|
| 2,600 | 13.5 |

| | |
|---|---|
| PERSONAL SERVICES | 35.1 |
| TRAVEL | 1.0 |
| CONTRACTUAL | 11.3 |
| COMMODITIES | 6.7 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 54.1 |
| 2 FEDERAL | |
| 3 G/F MATCH | |
| 4 GENERAL FUND | |
| 5 I/A RECEIPTS | 54.1 |
| 6 PROGRAM RECEIPTS | |

JUSTIFICATION:

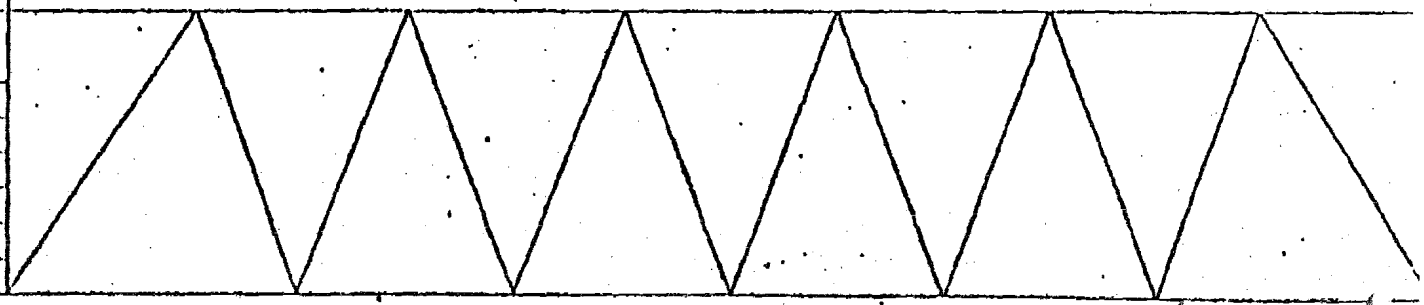
The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

The fishery biologists assigned to the seasonal spacial and habitat suttdies will be responsible for field data collections pertaining to: (1) essential habitat requirements for fish including spawning, incubation, rearing, passage, etc.; (2) the seasonal relationships of flow regimes and biological habitat characteristics; (3) water quality and chemical characteristics; and (4) develop methods of determining habitat characteristics in difficult reaches of the streams. Extensive time will be spent in field camps located the length of the affected reaches of the Susitna River.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

DETAIL OF RELATED EXPENSES

13.5 months' salary with benefits
Commercial travel and per diem within the study area.
Principally air charter, various lake analysis work and professional services.
Misc. materials, supplies, fuels and camp gear



...get & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

OSITION TLE Biometrician II

CATION Anchorage

PE (FULL OR PART-TIME) Permanent Full-time

MBER REQUESTED 1

| NGE | BARGAINING UNIT |
|---|---|
| 19 | GGU |

| NTHLY SALARY | # MONTHS (CM) FY |
|---|---|
| 3,566 | 12 |

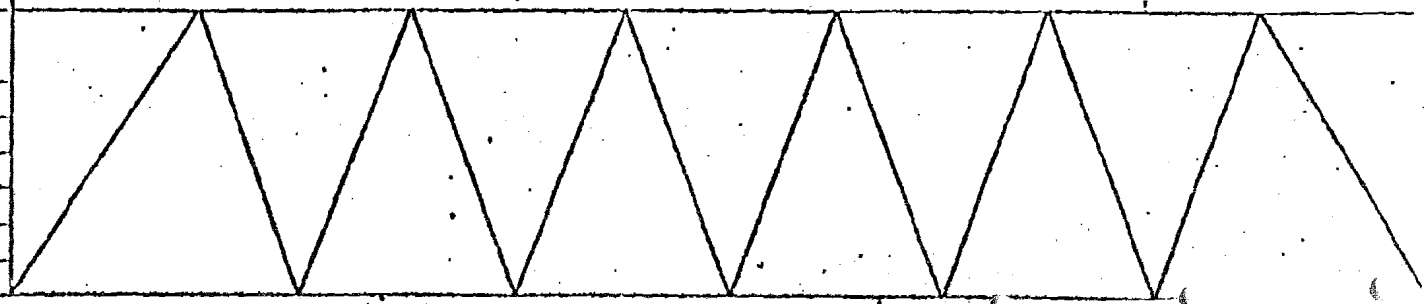
JUSTIFICATION:

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

Responsibilities of the biometrician will include statistical design and consultati in planning of the various Susitna Hydro projects, as well as development and application of methods for analysis of resultant data. The biometrician will also cooperate with Data Processing personnel, in coordinating data flow and management, and with other project personnel in interpretation of findings and production of reports. Performance of these biometric duties is essential to the efficient and time production of high quality, scientifically sound study information.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| | | DETAIL OF RELATED EXPENSES |
|---|---|---|
| PERSONAL SERVICES | 42.8 | 12 months' salary with benefits |
| TRAVEL | 3.0 | Commercial travel and per diem within and outside study area |
| CONTRACTUAL | 4.0 | Keypunching, computer time, data processing and storage |
| COMMODITIES | 1.5 | Office supplies, data processing supplies, references, data storage devices |
| EQUIPMENT | | |
| OTHER | | |
| TOTAL | 51.3 | |
| FEDERAL | | |
| G/F MATCH | | |
| GENERAL FUND | | |
| I/A RECEIPTS | 51.3 | |
| PROGRAM RECEIPTS | | |



...ges & Management Div.

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

SITION TLE: EDP Programmer II

CATION: Anchorage

PE (FULL OR PART-TIME): _____

MBER REQUESTED: 1

| NGE | BARGAINING UNIT |
|---|---|
| 17 | GGU |

| NTHLY SALARY | # MONTHS (FY) FY |
|---|---|
| 2,766 | 6 |

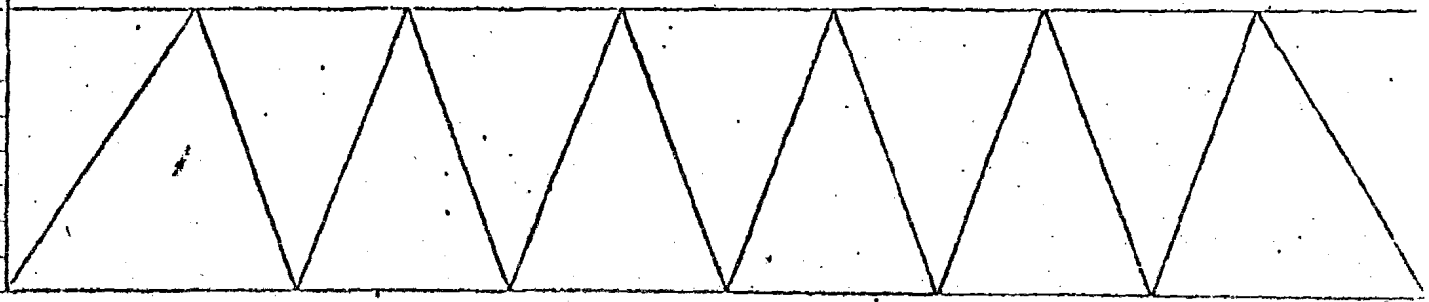
JUSTIFICATION:

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

Responsibilities of the programmer will include: execution of packaged computer programs; design, creation, compiling testing, maintenance and documentation of new computer programs; organization and quality control of input data; maintenance of computer files; and cooperation with the biometrician and Data Processing personnel in coordinating data flow and management. Performance of these activities is essential and timely production of high quality Susitna Hydro information.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| | | DETAIL OF RELATED EXPENSES |
|---|---|---|
| PERSONAL SERVICES | 16.6 | 6 months' salary with benefits |
| TRAVEL | 1.8 | Commercial travel and per diem, personal vehicle mileage |
| CONTRACTUAL | 3.5 | Keypunching, computer time, data processing and storage |
| COMMODITIES | .6 | Office supplies, data processing supplies, references, data storage devices |
| EQUIPMENT | | |
| OTHER | | |
| TOTAL | 22.5 | |
| ? FEDERAL | | |
| G/F MATCH | | |
| GENERAL FUND | | |
| I/A RECEIPTS | 22.5 | |
| PROGRAM RECEIPTS | | |



# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

OSITION ITLE: Data Control Clerk II

OCATION: Anchorage

YPE (FULL OR PART-TIME): _____

UMBER REQUESTED: 1

| ANGE | BARGAINING UNIT |
|---|---|
| 11 | GGU |

| ONTHLY SALARY | # MONTHS (CY) FY |
|---|---|
| 2,250 | 6 |

| | | |
|---|---|---|
| 1 | PERSONAL SERVICES | 13.5 |
| 2 | TRAVEL | .4 |
| 3 | CONTRACTUAL | .5 |
| 4 | COMMODITIES | .6 |
| 5 | EQUIPMENT | |
| 6 | OTHER | |
| | TOTAL | 15.0 |
| 02 | FEDERAL | |
| 03 | G/F MATCH | |
| 04 | GENERAL FUND | |
| 05 | I/A RECEIPTS | 15.0 |
| 23 | PROGRAM RECEIPTS | |

JUSTIFICATION:

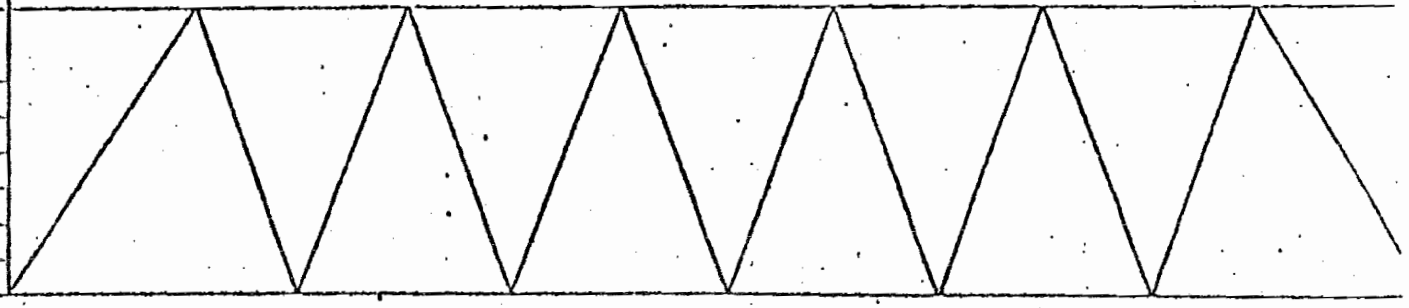
The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

Responsibilities of the data control clerk will include: data entry; data entry scheduling and control; maintenance and control of data storage devices; storage a retrieval of source documents; development and maintenance of forms and procedures ensuring accuracy and timeliness of data summary reports; and cooperation with the biometrician and data processing personnel in coordinating data flow, control and management. Performance of these activities is essential to the efficient and timely production of high quality Susitna Hydro information.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

DETAIL OF RELATED EXPENSES

6 months' salary with benefits
Personal vehicle mileage
Data storage
Data processing forms, data storage devices



ct & Management Div. SF

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

TION
E Maintenance ~~Mechanic~~ Mgr II

TION
Anchorage

(FULL OR PART-TIME) Permanent / Seasonal

IER REQUESTED 1

| E | BARGAINING UNIT |
|---|---|
| 14 | Local 71 |
| HLY SALARY | #MONTHS (EX) FY |
| ,883 | 6 |

| | |
|---|---|
| PERSONAL SERVICES | 17.3 |
| TRAVEL | 1.0 |
| CONTRACTUAL | 3.5 |
| COMMODITIES | 4.7 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 26.5 |
| FEDERAL | |
| G/F MATCH | |
| GENERAL FUND | |
| /A RECEIPTS | 26.5 |
| PROGRAM RECEIPTS | |

JUSTIFICATION:
The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

Duties of the maintenance mechanic will be the fabrication of field collection facili ties; the outfitting and maintenance of vehicular marine equipment, outboard engines, snowmachines and other motor driven and mechanical equipment. He will be involved in fabrication and repair work both in the shop environment and in remote field areas as needed. The mechanic will also be responsible for ordering and maintaining a stoc of essential spare parts and components for critical field equipment items.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

| DETAIL OF RELATED EXPENSES |
|---|
| 6 months' salary with benefits |
| Travel and per diem within study area |
| Contractual services for flying and for repair of equipment |
| Materials, supplies, special clothing and field equipment |

Office of the Governor
Budget & Management Div.

SF

# REVISED PROGRAM
# REQUEST FOR NEW POSITION

| | |
|---|---|
| CATEGORY | |
| COVER PROGRAM | |
| AGENCY | |
| DIVISION | |
| BUDGET REQUEST UNIT | |
| BUDGET COMPONENT | |
| APPROPRIATION | |
| ALLOCATION | |

POSITION TITLE: Fishery Technician III

LOCATION: Anchorage

TYPE (FULL OR PART-TIME): Permanent Part-Time

NUMBER REQUESTED: 1

| RANGE | BARGAINING UNIT |
|---|---|
| 11 | GGU |

| MONTHLY SALARY | # MONTHS (XXX) FY |
|---|---|
| 2,200 | 2 |

| | |
|---|---|
| PERSONAL SERVICES | 4.4 |
| TRAVEL | |
| CONTRACTUAL | .5 |
| COMMODITIES | .5 |
| EQUIPMENT | |
| OTHER | |
| TOTAL | 5.4 |
| 2 FEDERAL | |
| 3 G/F MATCH | |
| 1 GENERAL FUND | |
| 5 I/A RECEIPTS | 5.4 |
| 1 PROGRAM RECEIPTS | |

JUSTIFICATION:

The Susitna Hyro Feasibility studies are a cooperative effort with the Alaska Power Authority for the study of the feasibility a major proposed capital improvement project which the Department of Fish and Game cannot accomplish within the realm of its general programs, and which because of the development of the Su Hydro Plan of Study (POS) late in this fiscal year by APA could not be budgeted as a part of ADF&G's program for FY '81.

Duties of this position will be the expediting of equipment and supply orders for f field camps, assisting field crews order and purchase biological and related mater: and equipment, arranging charter flights, collecting biological field data and process for temporary data storage during the field season, etc. He will, on occa- son, fill in as a member of a "in-field" study team as needed.

On a continuing basis, funds for these studies will be budgeted as part of the capital improvement program for the Susitna Hydroelectric Project by the Alaska Power Authority, and allocated to the Department of Fish and Game in accordance with reimbursable services agreements formulated between these agencies.

DETAIL OF RELATED EXPENSES

2 months salary with benefits

Minor contractual services associated with field equipment

Misc. supplies and materials