

**SUSITNA
HYDROELECTRIC PROJECT**

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114

**SOCIAL SCIENCES PROGRAMS
FISCAL YEAR 1984
DETAILED PLAN OF STUDY**

HARZA-EBASCO
SUSITNA JOINT VENTURE

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ALASKA POWER AUTHORITY

SUSITNA HYDROELECTRIC PROJECT

**SOCIAL SCIENCE PROGRAM
DETAILED PLAN OF STUDY
FISCAL YEAR 1984**

Report by

Harza-Ebasco Susitna Joint Venture

Prepared for

Alaska Power Authority

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NOTICE

ANY QUESTIONS OR COMMENTS CONCERNING
THIS REPORT SHOULD BE DIRECTED TO
THE ALASKA POWER AUTHORITY
SUSITNA PROJECT OFFICE

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1.0 INTRODUCTION

1.1 BACKGROUND

Task 4, the Environmental Program for the Susitna Project, is subdivided into three major areas of activity. These are: Social Sciences, dealing primarily with cultural, socioeconomic, recreation, aesthetic and land use resources issues; Terrestrial, dealing with wildlife and botanical resources issues; and, Aquatic, dealing with fisheries, aquatic habitat and water quality resources issues.

The general and specific objectives for each of these three programs have been presented in general investigation memoranda, along with the general methodologies by which these objectives will be accomplished.

This document presents a detailed plan of study for the Social Science Program for the fiscal year 1984. Included are plans to accomplish all field data collection, analysis, assessment and mitigation planning activities scheduled for this period. Study sub-tasks are defined for each such activity and include, as appropriate, the following elements:

- o a clear statement of the objectives of the sub-task hypotheses to be tested;
- o a summary of previous studies;
- o a delineation of study area boundaries;
- o data specifications and formats;
- o detailed descriptions of methods, including sampling locations, frequencies, and techniques;
- o data management and analysis techniques;

- o specifications of reports, report formats, and schedule for deliverables;
- o requirements and methods for coordination with other studies;
- o quality assurance plans and specifications; and,
- o schedule for study completion.

1.2 SOCIAL SCIENCE PROGRAM

This Detailed Plan of Study, which addresses the Task 4 Social Science Program, complements the Social Science Program General Investigation Memorandum (November 1983). Together, these documents present a complete description of the issues, regulatory requirements, study objective, technical management methodology, schedule, deliverables, and budget for the Social Science Program in FY 1984.

2.0 STUDY OBJECTIVES

Following a review of the FERC License Application and other reports related to the Project and meetings with the Power Authority and Social Science subcontractors, four general study objectives were defined for the FY 1984 Social Science Program. These study objectives are as follows:

1. conduct environmental planning activities required to support the FERC licensing process,
2. provide input to the FERC License Application update,
3. provide information to support the preparation of the Draft and Final EIS's, and
4. participate in the settlement process.

In addition, specific FY 1984 study objectives were also defined for each Social Science Program subtask. These specific study objectives are outlined below:

1. Cultural Resources - The principal objectives of the Cultural Resources Subtask are: to continue identifying historic and archeological sites potentially affected by the Project and to reevaluate the Susitna Cultural Resources Program in light of questions regarding program methodology and the role of the Advisory Council on Historic Preservation.
2. Socioeconomics - The main objectives of the Socioeconomic Subtask are to update the projections of socioeconomic baseline and with-project conditions (based on updated secondary data and surveys of households, businesses, and public sector employers in local

communities) and to revise the mitigation plan in accordance with the updated projections.

3. Recreation - The primary objective of the Recreation Subtask is to prepare a Recreation Plan Implementation Report which will outline the schedule and steps required to implement the Recreation Plan as identified in Chapter 7, Exhibit E of the License Application.
4. Aesthetics - The principal objective of the Aesthetics Subtask is to update the Aesthetics Mitigation Plan which will recommend the steps and schedule necessary to implement the aesthetics mitigation program as identified in Chapter 8, Exhibit E of the License Application.
5. Land Use - The main objective of the Land Use Subtask is to review and update, as necessary, land use and land status information presented in Chapter 9 of Exhibit E for the License Application revision.
6. Project Alternatives - The primary objective of the Project Alternatives Subtask is to develop a matrix that summarizes and displays differences in environmental impacts between alternative project locations, designs, and energy sources.

3.0 GENERAL APPROACH

3.1 GENERAL METHODOLOGY

In order to accomplish the general and specific study objectives for the Social Science Program in FY1984, a plan of study was outlined for each Social Science Program subtask. The following five-step planning process was followed in developing an approach for each subtask.

First, because the FY 1984 environmental studies and licensing activities will draw upon the Final License Application and its supporting documents, previously completed studies that provide relevant background and/or baseline information were reviewed. (See Section 6.1 for a list of principal project-related studies containing information relevant to the FY 1984 Social Science Program.)

Second, applicable local, state, and federal agency regulations, policies, and laws were examined.

Third, a preliminary list of issues that must be addressed in the licensing process was developed based on the first two steps and a review of correspondence to the Power Authority regarding the Susitna Project, testimony to the Power Authority Board of Directors, agency comments on the Draft License Application, workshop summaries, and discussions with subcontractors. (A complete list of those issues is found in Section 6.2.)

Fourth, data and other information gaps were identified that required additional work in FY 1984 and FY 1985 to keep the licensing process on schedule and meet FERC deadlines for providing supplemental information requests.

Fifth, a list was developed which outlined the work activities, deliverables, schedules, and participation by subcontractors. (See Sections 6.0 and 8.0 of the Social Science Program General Investigation Memorandum for a description of the Social Science Program work activities by subtask, and the deliverables schedule.)

3.2 WORK EFFORTS

The major work efforts in the FY 1984 Social Science Program will focus on the Cultural Resources, Socioeconomic, Recreation, and Aesthetics subtasks. Section 4.0 of this Detailed Plan of Study provides descriptions of the principal work activities for each of these four subtasks. The specific work activities that will be described are as follows:

1. Cultural Resources: Identify archeological and historic sites within the project area.
2. Cultural Resources: Reevaluate the Susitna Cultural Resources Program.
3. Socioeconomics: Update baseline and with-project socioeconomic projections.
4. Socioeconomics: Update the Socioeconomic Mitigation Plan.
5. Recreation: Prepare a Recreation Plan Implementation Report.
6. Aesthetics: Prepare an Aesthetics Mitigation Plan Update.

4.0 SPECIFIC WORK ACTIVITY DESCRIPTIONS

4.1 CULTURAL RESOURCES: IDENTIFY ARCHEOLOGICAL AND HISTORIC SITES WITHIN THE PROJECT AREA

4.1.1 Background

The Susitna Hydroelectric Project's Cultural Resources Program, as presented in Chapter 4, Exhibit E of the License Application, has been designed to comply with cultural resource laws and regulations and to meet criterion for a FERC license application. The basic program activities include: identifying archeological and historic sites within the project area, systematic testing to assist in determining site significance and to evaluate the impact of the Project on cultural resources, and developing a mitigation plan to avoid or lessen the impact of the Project on those resources. The purpose of the following discussion is to outline the plan of study for continuing the identification of cultural resources in the project area.

4.1.1.1 Rationale. At the end of the 1983 field season, a total of 243 archeological and historic sites had been documented through the University of Alaska Museum's field programs. The site-identification process had been completed for the Watana and Devil Canyon dams and impoundment areas (including the zones of indirect impact) and for 12 borrow areas. During the 1984 field season, the site-identification process will continue as reconnaissance surveys are conducted for the access road, railroad, and the transmission lines from Fairbanks to Healy, Willow to Anchorage, and the Watana Dam site to the Intertie.

4.1.1.2 Previous Studies. Prior to the beginning of the cultural resource program begun by the University of Alaska Museum in 1980, three reconnaissance level archeological surveys had been conducted for the

Susitna Hydroelectric Project. The first, conducted by Dr. William Irving in 1953, documented one site in the project area (Irving, 1957). The second, conducted in 1970 by Dr. Fred West in the Stephan Lake area, resulted in the location of one site. The third, conducted by Mr. Glenn Bacon in 1978 in the area of the proposed Watana Dam and Watana Base Camp, resulted in the identification of four sites (Bacon, 1978).

The most important studies completed on cultural resources in the Susitna project area are those which have been conducted by the University of Alaska Museum. The results of the 1980 and 1981 summer field work are presented in "Final Report Subtask 7.06 Cultural Resources Investigation for the Susitna Hydroelectric Project: A Preliminary Cultural Resource Survey in the Upper Susitna River Valley" (Dixon et al, 1982a). The results of the field work conducted in 1982 are summarized in "Final Report 1982 Field Season Subtask 7.06 Cultural Resources Investigation for the Susitna Hydroelectric Project: Cultural Resource Survey in the Middle Susitna River Valley" (Dixon, et al, 1982b). The final report for the 1983 field season ("Final Report 1983 Field Season Subtask 7.06 Cultural Resources Investigation for the Susitna Hydroelectric Project: Cultural Resource Survey in the Middle Susitna River Valley") will be completed in February 1984.

4.1.1.3 Data Availability. With the exception of the limited archeological surveys conducted in 1953, 1970, and 1978, little information concerning cultural resources in the project area was available prior to the 1980 field program. Because of the small amount of available data, archeological data from contiguous areas were used initially to assess the archeological potential of the project area and to select survey locales (areas exhibiting potential for site occurrence).

4.1.2 Hypotheses to be Tested

Two general hypotheses will continue to be tested during the 1984 field program. The first is the validity of the cultural chronology developed from the literature search for this program. The second is the validity of the predictive model for site occurrence in the upper Susitna River area.

The cultural chronology will continue to be tested by comparing hypothesized cultural traits to those discovered and dated. Each archeological period must be evaluated separately using data from sites located during each survey. The validity of the predictive model for site occurrence in the upper Susitna River area will continue to be tested by evaluating locational information about identified sites with the model's predictions. One objective of the research is to obtain more precise data relevant to prehistoric settlement patterns and the juxtaposition of individual sites in relation to the natural environment.

4.1.3 Study Locations

The cultural resource study area is defined as land within approximately 3 kilometers of the Susitna River from just below Devil Canyon to the mouth of the Tyone River. Also included are areas associated with the proposed borrow areas, transportation corridors, recreation sites, and transmission line corridors from Fairbanks to Healy, Willow to Anchorage, and the Watana Dam site to the Intertie. During the 1984 field season, field work will focus on the access road, railroad, and transmission lines.

4.1.4 Detailed Methodology

4.1.4.1 Data Requirements. Archeological, ethnological, and historical data will continue to be synthesized into a regional and local chronology in an effort to predict the types and ages of sites that could be expected to

occur within the project area. In addition, geological data concerning the last glaciation and the surficial geology of the project area as well as baseline data on volcanic ashes (tephras) will be used to assist in establishing limiting dates for sites. Data resulting from ongoing cultural resource and geoarcheological studies will also continue to be used to update the data base.

4.1.4.2 Sampling and Analytical Procedures. Based on the delineated cultural chronology, documented sites of each culture period, and geoarcheologic evaluations, survey locales will be identified. These survey locales will then be subject to on-the-ground reconnaissance level surveys to locate cultural resources. In addition, areas subject to ground disturbing activities associated with the Project (such as geotechnical exploration or the siting of camp-related facilities) will also be examined.

In addition to identifying areas that exhibit archeological potential, areas that have very low or no potential for containing cultural resources and/or areas that cannot be surveyed using present testing methods will also be identified. These areas, which include steep canyon walls, standing water, and exposed gravel bars, will be eliminated from survey activities unless they are subject to specific work associated with the Project, such as drilling auger and bore holes, running seismic lines, digging test trenches, and clearing helicopter landing pads. In these cases, a survey will be attempted.

Once an archeological site is located, additional shovel tests will be excavated, when possible, to the north, south, east, and west of the test pit first documenting the site. This testing is designed to assist in determining the extent of the site as well as to locate additional cultural material. In an effort to minimize site disturbance, preliminary testing at each site will be limited and all test pits will be backfilled.

4.1.5 Data Management and Report Formats

To ensure consistent data collection in the field and to provide a systematic format for data retrieval, a Site Survey Form will be used (see Figure 6-1 in Section 6.3). This form will serve as a basis for recording specific information on each site located during the reconnaissance level survey and for evaluating sites to be included for further testing. The form is organized into the following major categories: site location, environmental setting, site description and condition, photographic record, artifact inventory, crew members, field book references, and recommendations for further testing.

A site map, which consists of a freehand drawing of the topographic setting of the site showing the location and orientation of all shovel and test pits, will be completed and attached to the Site Survey Form. Specifically, the site map will include horizontal and vertical datum points, site grid, location of surface artifacts, features (such as hearths, cabin remains, house pits), distance and direction to other sites or major land features, relevant vegetation, name of person drawing map, name of person recording data, scale, date, and references to pages in field notebooks on which additional information is recorded. A regional map showing the site in relation to a larger portion of the study area including nearby rivers, lakes, topographic features, vegetation communities, and other sites in the immediate area will also be drawn.

Photographs will be taken at each site. The first picture will be an identification photo which will indicate site number, date, and crew members. Additional photographs will record the environment around the site, features at the site, soil profiles exposed in test pits, and artifacts or features in situ before removal by excavation.

Detailed soil profiles will be drawn of soil deposits exposed at each test pit. The profiles will include a description of color, grain size, and soil consistency. Measurements documenting depth and thickness for each unit will also be recorded.

Survey Locale Evaluation Forms (see Figure 6-2 in Section 6.3) will also be completed to ensure the recording of data on surface morphology, archeological potential, and the location of testing. Survey Locale Maps will be drawn at a scale of 200 to 300 meters to one inch showing the path taken by the survey crew, the location of subsurface testing, and the location of all sites which fall within the confines of the map. A similar map, the Site Location Map, will be prepared for sites that do not appear on Survey Locale Maps.

Daily field notes will be kept by each crew member, field notebooks will record much of the same information found on the Site Survey Forms, such as site location, topography, vegetation, soils, extent of site, and photographs taken. Crew leaders will keep a continuous log of all areas surveyed, noting both the location of all test pits and natural exposures, and the presence or absence of cultural material.

The location of all excavated and surface-collected artifacts will be recorded. Specimens recovered during reconnaissance level survey will be bagged by arbitrary 5 centimeter levels, unless natural stratification is encountered. Radiometric samples collected will be double wrapped in aluminum foil and placed in ziplock bags. All individual bags from each test will be placed in a larger bag with site number, name, date, and location on the outside. All test pit bags will be placed in a site bag with the site number and date on the outside. All site bags will be organized by survey locale. A catalog of all specimens collected in the field during survey will be prepared. All field notebooks, maps,

photographs, forms, and cultural material will be placed on file at the University of Alaska Museum in Fairbanks.

4.1.6 Coordination of Work Activities

4.1.6.1 Within Subtask. This work activity will be coordinated with the reevaluation of the Cultural Resources Program described in Section 4.2.

4.1.6.2 With Other Studies. The continued identification of archeological and historic sites will be coordinated closely with Task 39 Logistics, Task 41 Transmission System, and Task 3 Engineering.

4.1.6.3 With Subcontractors. The University of Alaska Museum will continue to conduct the field work associated with the Cultural Resource Program. The work efforts related to this activity must be coordinated closely with the Museum.

4.1.6.4 With Regulatory Agencies. The continued identification of cultural resources in the project area is responsive to FERC's request for cultural resources information about the Project. In addition, this work effort will require the acquisition of relevant permits from land management agencies and private landowners.

4.1.7 Schedule and Deliverables

The 1984 field program is scheduled to begin in early June. The results of the survey work will be summarized and submitted to FERC on February 1, 1985.

4.2 CULTURAL RESOURCES: REEVALUATE THE SUSITNA CULTURAL RESOURCES PROGRAM

4.2.1 Background

The principal research efforts focusing on cultural resources potentially affected by the proposed Susitna Hydroelectric Project were begun in 1980 by the University of Alaska Museum in Fairbanks. Field programs that concentrated on identifying and systematically testing archeological and historic sites have been conducted for four summers, beginning in 1980. At the end of the 1983 field season, reconnaissance surveys had been completed for the Watana and Devil Canyon dam sites and impoundment areas and 12 borrow areas; systematic testing had been completed at 24 sites; and sensitivity mapping had been completed for the proposed access road, railroad, Phase I recreation sites, and the transmission line from Fairbanks to Healy, Willow to Anchorage, and the Watana Dam site to the Intertie.

Subsequent to the submittal of the Draft and Final License Application, a number of issues have been raised regarding the Cultural Resources Program methodology and the role of the Advisory Council on Historic Preservation (ACHP). One objective of the FY 1984 Cultural Resources Program is to reevaluate the program in light of methodological and procedural questions raised so that necessary changes in program methodology can be incorporated into the mitigation program.

4.2.1.1 Rationale. The Susitna Project's Cultural Resources Program represents a complex and detailed scientific research effort encompassing a large geographic area which has no previously established archeological record. The cost of this program (including the University of Alaska Museum subcontract, Harza-Ebasco administration and management, and logistical support for fieldwork) represents a significant annual project expenditure. Changes in program methodologies or scope could result in an increase or decrease in the overall cost of the licensing effort.

In a review of correspondence to the Power Authority regarding the Susitna Project, testimony to the Power Authority Board of Directors, agency comments on the Draft License Application, and workshop summaries, a number of agency-raised issues regarding the Cultural Resources Program were identified. The following list outlines the principal issues raised:

1. The role of the Advisory Council on Historic Preservation should be clarified.
2. The approach for evaluating archeological resources (either individually or as districts) needs to be determined.
3. Resource significance criteria for evaluating site or resource significance needs to be defined.
4. The advice of the Advisory Council on Historic Preservation should be solicited in developing a plan for the continued survey and inventory of cultural resources and for developing a detailed mitigation plan.
5. A detailed mitigation plan should be developed and approved by the Advisory Council on Historic Preservation, the State Historic Preservation Officer, and representatives of appropriate land management agencies.

(See Section 6.2 for the complete list of agency-raised issues.)

In light of the procedural and methodological issues raised and the potential implications to the cost of the Cultural Resources Program and the overall licensing effort, a reevaluation of the program is warranted.

4.2.1.2 Previous Studies. The reevaluation of the Cultural Resources Program will examine Chapter 4, Exhibit E of the License Application as well as annual field season reports prepared for the Project. (See Section 6.1 for the complete references for these documents.)

4.2.1.3 Data Availability. In addition to examining previous Susitna-related studies, this task will also utilize relevant documents from the ACHP (Treatment of Archeological Properties: A Handbook and Working with Section 106: Guidelines for the Review Process Established by 36 CFR Part 800). Furthermore the following legislation and regulations will be examined: Historic Sites Act of 1935, National Historic Preservation Act of 1966 as amended, the Archeological and Historic Preservation Act of 1974, the National Environmental Policy Act, the Alaska Historic Preservation Act, Executive Order 11593: Protection and Enhancement of the Cultural Environment, and 36 CFR Part 800: Protection of Historic and Cultural Properties. (See Section 6.1 for the complete references for this information.)

4.2.2 Hypotheses to be Tested

While there are no hypotheses to be tested in this work activity, there are a number of methodological questions which must be addressed. These include:

1. Is it appropriate to progressively broaden the research or should there be a plan which can progressively focus it?
2. What criteria should be used to focus research efforts?
3. Is it appropriate to locate and recover data from as many sites as possible, or is it more appropriate to develop a plan for strategically acquiring essential information from the best sites?

4. Is it appropriate to recover data for all sites where avoidance is not possible regardless of the relative quality of each site?
5. Should the research questions and hypotheses be refined in order to focus inventory, systematic testing, and mitigation efforts?
6. Should research and analysis or non-archeological properties be given more emphasis?
7. Is it appropriate to designate the Susitna project area as an archeological district rather than to examine each site individually to determine site significance?
8. How will resource significance be determined?

In addition, one procedural question must be answered: What is the legal role and responsibility of the ACHP on the Susitna Project?

4.2.3 Study Locations

The reevaluation of the Cultural Resources Program will focus primarily on the study area previously identified for the program. This area is defined as land within approximately 3 kilometers of the Susitna River from just below Devil Canyon to the mouth of the Tyone River. Also included are areas associated with the proposed borrow areas, transportation corridors, recreation sites, and transmission line corridors from Fairbanks to Healy, Willow to Anchorage, and the Watana Dam site to the Intertie.

4.2.4 Detailed Methodology

In order to accomplish the objectives of this task, two basic activities will occur. First, a position paper outlining the role and legal responsibilities of FERC and the ACHP as well as the Alaska State Historic Preservation Officer (SHPO) and the Bureau of Land Management (BLM) with regard to the Cultural Resources Program of the Susitna Project will be

prepared. Second, a mechanism will be established to resolve the methodological questions raised concerning the program.

4.2.4.1 Data Requirements. The data required for writing the position paper regarding the role of the ACHP are outlined above in Section 4.2.1.3. Included are documents from the ACHP and applicable state and federal legislation and regulations. In addition to this information, data requirements for resolving methodological questions will include backup information presented by agencies who questioned particular procedures.

4.2.4.2 Sampling and Analytical Procedures. The position paper will be written following a review and analysis of the documents listed above in Section 4.2.1.3. Methodological questions raised about the Cultural Resources Program will be addressed in a workshop held in early April 1984. The purpose of the workshop will be to present a refined list of program-related methodological questions, concerns, and issues to workshop participants for discussion. Representatives of the following agencies and groups will be invited to participate (in addition to the general public): FERC, ACHP, SHPO, BLM, and the National Park Service.

Following the workshop the Power Authority (in conjunction with Harza-Ebasco) will prepare a position paper that addresses each methodological issue raised at the workshop. The purpose of the position paper will be to guide the development of the Cultural Resources Mitigation Program which will be submitted to FERC in February 1985.

4.2.5 Data Management and Reports

4.2.5.1 Data Processing. Information that feeds into the preparation of both position papers and the workshop will be documented and placed in the Harza-Ebasco project files. This will include all pertinent meeting and

telephone conversation reports as well as Cultural Resource Program correspondence.

4.2.5.2 Report Formats. The position paper regarding the ACHP will focus on clarifying the role of relevant federal and state agencies on the Susitna Project. The paper will briefly summarize the purpose and jurisdiction of each agency; relevant federal and state laws, regulations, and policies; and the legal role and responsibility of each agency on the Project.

The workshop on Cultural Resource Program methodologies will be structured to serve as a forum for gathering information and ideas on specific research questions. The discussions regarding each question will be documented at the workshop. Following the meeting, a summary of the workshop proceedings will be compiled. This summary will focus on each methodological question and will summarize the implications of each question on the project's schedule and budget. Finally, a position paper will outline the Power Authority's recommendation concerning each methodological question discussed at the workshop.

4.2.6 Coordination of Work Activities

4.2.6.1 Within Subtask. This work activity will be coordinated closely with other activities in the Cultural Resources Program including the continued identification of archeological and historic sites within the project area.

4.2.6.2 With Other Studies. This work activity will be coordinated as appropriate with Licensing Support and Permitting, Engineering, Logistics, and the Aquatic and Terrestrial study teams.

4.2.6.3 With Subcontractors. This work activity will be coordinated as appropriate with the University of Alaska Museum, who is responsible for conducting the Susitna Cultural Resource Program studies.

4.2.6.4 With Regulatory Agencies. This work activity will be coordinated with four principal regulatory agencies: FERC, ACHP, SHPO, and BLM.

4.2.7 Schedule and Deliverables

The schedule for this work activity will conform to the major milestones identified in the FERC licensing process. The deliverables and due dates for completion are presented below:

<u>Deliverable</u>	<u>Due Date</u>
Position Paper on Agency Roles	January 1, 1984
Workshop on Cultural Resources Program Methodologies	April 4, 1984
Workshop Summary	April 28, 1984
Position Paper on Methodo- logical Issues	May 15, 1984

4.3 SOCIOECONOMICS: UPDATE BASELINE AND WITH-PROJECT SOCIOECONOMIC PROJECTIONS

4.3.1 Background

Chapter 5 of Exhibit E of the License Application identified socioeconomic impacts resulting from the proposed Susitna Hydroelectric Project for local and regional impact areas, as well as for the State of Alaska. The local impact area is defined as the Mat-Su Borough, including lands in and around the project site and nearby communities such as Cantwell. The regional impact area (referred to as the Railbelt) includes the Anchorage, Kenai-Cook

Inlet, Seward, Valdez-Chitina-Whittier, Mat-Su Borough, Southeast Fairbanks, and Fairbanks-North Star census divisions. A map of the local and regional impact areas is presented in Figure 4-1. These projections are being updated in response to requests by the FERC. In addition, following the preparation and submittal of the License Application, State and Railbelt economic and demographic projections were revised by the Institute of Social and Economic

Research (ISER). The revised projections are based on reformulated assumptions regarding anticipated economic activity in the State and, more specifically, in the Railbelt and Mat-Su Borough. In addition to incorporating the revised ISER projections, the updated projections for the Susitna Project will also reflect the results of household, business, public sector, and transmission line worker surveys.

4.3.1.1 Rationale. In response to changing economic conditions in Alaska, the Railbelt, and the Mat-Su Borough, and in light of new community-specific data, baseline socioeconomic forecasts will be updated. This update will reflect different scenarios for access and commuting options including alternative routes and modes of transporting workers. Together these baseline and without-project forecasts will provide the basis for updating socioeconomic impact projections.

4.3.1.2 Previous Studies. Socioeconomic projections for the Susitna Project were developed through the use of an integrated econometric model. Estimated socioeconomic impacts considered the residency and movement of project construction and operation personnel, adequacy of available housing, and impacts on public services and facilities, fish and wildlife user groups, and local government revenues and expenditures. This information was presented in Chapter 5, Exhibit E of the License Application.

Harza-Ebasco conducted a workshop in July 1983 to facilitate a broader understanding by interested agencies and the general public of the

analytical approach and techniques used to forecast potential socioeconomic impacts of the Project. Working Paper No. 1 (Susitna Hydroelectric Project Subtask 4.5 Socioeconomic Studies: Projection Assumptions, Methodology, and Output Formats) provided workshop participants with specific assumptions and methodologies used to forecast potential impacts. The paper addressed in detail the structure of the model, including the economic-demographic, public facilities and services, and fiscal modules and their linkage.

Stephen Braund and Associates conducted a study as part of the license application process, entitled Susitna Hydroelectric Project Sociocultural Studies, on the social organization of communities in the local impact area, including Trapper Creek, Talkeetna, Chase, Curry, Sherman, and Gold Creek. Through informal interviews, Braund and Associates described the social structure of these communities as well as attitudes towards the Susitna Project. The information contained in the report was used in projecting social impacts in Chapter 5, Exhibit E of the License Application.

4.3.2 Hypothesis to be Tested

Task 4 is designed to test the following hypothesis: construction and operation workers and their families who move from other parts of Alaska or from the Lower 48 to a community within the local impact area will (as predicted in the License Application) relocate primarily to Cantwell, Trapper Creek, and Talkeetna. Specifically, the estimated peak project-induced population in-migration, which was estimated to occur in 1990, is 475 persons in Trapper Creek, 1,000 persons in Cantwell, and 335 persons in Talkeetna. As a result, adverse impacts are expected to occur in these communities on housing supply and prices and on the communities' ability to meet the increased demand for public services and facilities.

The magnitude of population in-migration to Cantwell will depend on whether Ahtna, Inc. develops corporation land for housing. Trapper Creek is

expected to experience the largest relative population impact due to its location in the northern part of the Mat-Su Borough and on the Parks Highway. Talkeetna is expected to experience the smallest population impact relative to Cantwell and Trapper Creek. The with-project forecasts were based on the assumptions of Denali Highway access, a new town at the project site to house workers, but no specified worker rotation schedule or transportation arrangements.

4.3.3 Study Locations

The updated projections will include both regional and local impact areas with emphasis placed on Cantwell, Talkeetna, and Trapper Creek, the location of household, business, and public sector surveying. The transmission line worker survey will provide information on workers residing in the Cantwell and Trapper Creek areas.

4.3.4 Detailed Methodology

In order to update the baseline and with-project forecasts, primary data on the local impact area communities will be collected. This will be accomplished through face-to-face surveys in these communities. The data will subsequently be tabulated, analyzed, and summarized in survey reports. In addition to collecting primary data, secondary data will be collected to update the baseline forecasts. These data will be collected for Anchorage, Fairbanks, Mat-Su Borough, communities within the Mat-Su Borough, and Cantwell. The revised socioeconomic projections will be documented in Working Paper #2.

4.3.4.1 Data Requirements. Household, business, and public sector surveys were conducted in Cantwell, Talkeetna, and Trapper Creek in October and November 1983. The household survey was designed to obtain information on demographic characteristics, employment, length of residence,

characteristics of the housing stock, satisfaction with public services and facilities, and hunting, fishing, and trapping activities. (See Section 6.4 for a copy of the Household Survey instrument.) The following information from the household surveys will be used to update the socioeconomic projections: vacancy rates; average household size; number of primary and secondary school-age children per household; prior place of residence and reasons for settling in community; seasonality of resident; employment status; number of unemployed workers by age and sex; number of employed adults per household; primary occupations of the unemployed; employment by length of residence; number of persons employed less than full time; mode of transportation to and from work; average commute time; number of round trips per week; and time references for commuting to work.

Questions on the business survey are related to the types of products and/or services provided, the volume of revenues, number of employees, business expansion plans, and revenues associated with hunting, fishing and trapping (See Section 6.5 for a copy of the Business Survey instrument.). The following information from the business surveys will be used in updating the projections: products and services by Standard Industrial Classification (SIC) code; business volume; and seasonality of employment for part- and full-time employees.

The public sector survey, which is based on the business survey, was designed to obtain employment and budgetary information on public sector employers. (See Section 6.6 for a copy of the Public Sector Survey instrument.) Information on part- and full-time employment, size of the public sector, size of the budget, and plans for expanding or decreasing service levels will be used to update the projections. Together the business and public sector surveys will provide a complete characterization of employment in each community.

A survey of transmission line workers on the Anchorage/Fairbanks Intertie Project was conducted in September 1983. This survey, which consists of ten questions, was designed to elicit information on the geographic origin, family composition and location, and temporary housing characteristics. (See Section 6.7 for a copy of the Intertie worker survey instrument).

Secondary data will be collected to update the baseline forecasts. These data include government revenues and expenditures, school revenues and expenditures, capital budgets, population, employment, and characteristics and capacities of affected public services and facilities. The sources of these published services and unpublished data include the Mat-Su Borough; Anchorage Office of the Mayor; City of Fairbanks; the Mat-Su, Railbelt, Anchorage, and Fairbanks school districts; local offices of mayors; Institute of Social and Economic Research; Alaska Department of Labor; Alaska Department of Commerce and Economic Development; Mat-Su Borough Planning Department; State Trooper offices; and Valley Hospital.

4.3.4.2 Sampling and Analytical Procedures. The household surveys were based on a 30 percent sample of households in each community. An attempt was made to survey all businesses and public sector employers in each community as well as all transmission line workers residing in the areas of Talkeetna and Cantwell. Based on the 1982 tax assessment records for the Mat-Su Borough, Trapper Creek had 60 households and Talkeetna had 126 households within the townsite. Based on the Cantwell postmaster's 1982 records, Cantwell had 89 households. A total of 36 households and 25 of the 26 existing businesses were surveyed. In Talkeetna, 34 households and 30 of the 32 existing businesses were surveyed. In Trapper Creek, 20 households and all 12 businesses were surveyed. In the public sector survey, 19 employers from a possible total of 21 employers were surveyed. For the transmission line survey, responses were obtained from 89 out of 148 workers.

A combination of stratified and cluster sampling techniques was used to select the household survey sample. In each community, houses were clustered into blocks on a map according to their location. The Mat-Su Borough Tax Assessor's office provided the Talkeetna and Trapper Creek maps; the U.S. Post Office in Cantwell provided the map illustrating houses in Cantwell. A 100 percent sampling of households within each block was taken until the overall 30 percent sample was attained. In Talkeetna, the blocks were selected randomly to determine the order in which households would be surveyed. A modified version of the cluster sampling technique was used in Trapper Creek and Cantwell, where the population is relatively heterogeneous. In Cantwell, the clusters, or blocks, were stratified to ensure that both Natives and non-Natives were represented. In Trapper Creek, stratification was used to ensure that households on both the east and west sides of the Parks Highway were sampled.

The technique for gathering the data varied according to the type of survey administered. Face-to-face interviews were conducted for the households and businesses. Interview instructions, which are provided in Section 6.8, were developed to outline the procedures for administering these surveys. The public sector surveys were administered by telephone, while the transmission line worker surveys were distributed and collected by contract managers.

The household and business survey instruments went through several iterations before they were finalized. During the various stages of development, the survey instrument was reviewed internally as well as by the Power Authority, Alaska Department of Fish and Game, Alaska Department of Community and Regional Affairs, Mat-Su Borough, and Charlotte Thomas, an independent consultant. Both the public sector and transmission worker surveys were developed by Harza-Ebasco staff in cooperation with the Power Authority.

A pre-test of the household and business survey instruments was conducted to evaluate the efficacy and sequencing of the questions. The pre-test was conducted in Cantwell so that the survey would be administered to Native households. Five household and two business surveys were administered during the pre-test. The household survey was subsequently revised.

The response to each question on the household, business, and transmission line worker surveys will be coded directly on the computer. The analyzed data will be output to illustrate the average of responses, frequency distributions, and cross tabulations. Responses from the public sector surveys were analyzed by hand and included an analysis of the average of responses and frequency distributions.

4.3.5 Data Management and Reports

Applicable survey and secondary data will be input into the socioeconomic impact model, which is the mechanism for processing and analyzing the data and producing the updated projections. The economic-demographic module will calculate the impacts of the Project on population, employment, and housing, by impact area and year, and will provide detailed population in- and out-migration information to the public facilities and services, and fiscal modules. This information is then used in those modules to determine impacts on public facilities and services, and expenditures and revenues of local jurisdictions.

The results and findings of this work activity will be summarized in a series of reports and working papers. Reports on the household and business surveys will be prepared by community. The results of the public sector survey will be summarized in one report as will the results of the transmission line worker survey. Each report text will include a description of the sampling methodology and survey instruments used. The results for each variable, which will be tabulated primarily by calculating

mean responses, frequencies, and percentage distributions, will also be shown.

Working Paper #1, which has been completed, describes each of its economic-demographic, public facilities and services, and fiscal modules. The assumptions and methodologies used to estimate the impacts within each module are explained as well as the overall structure of the model and the functional relationships among all the modules.

Working Paper #2 will consist primarily of the computer printouts used to prepare the socioeconomic projections. This report will contain two discrete sections: (1) backup for projections presented in the Final License Application, and (2) backup for the updated projections. Working Paper #2 will contain input variables, parameter names, values, data sources and equations, and the revised projections.

4.3.6 Coordination of Work Activities

4.3.6.1 Within Subtask. This work activity will be coordinated closely with updating the Socioeconomic Mitigation Plan. The mitigation plan will be developed based on the impacts identified through this activity.

4.3.6.2 With Other Studies. The activity of revising socioeconomic projections will be coordinated with the aquatic and terrestrial studies. A continuing dialogue of fish and wildlife use in the project area will be maintained among the individuals responsible for conducting this work.

4.3.6.3 With Subcontractors. Frank Orth and Associates, Inc. will continue to conduct activities in socioeconomics to support and facilitate the licensing process for the Susitna Project. As subcontractors, they will continue to report directly to Harza-Ebasco and be responsive to the technical requirements of this activity. Ms. Charlotte Thomas conducted the

public sector survey and participated in the review of the household and business surveys.

4.3.7 Schedule and Deliverables

The schedule for this work activity will conform to the milestones identified in the FERC licensing process. The deliverables and due dates for completion are listed below.

<u>Deliverable</u>	<u>Due Date</u>
Working Paper No. 2	December 31, 1983
Household, Business, and Public Sector Survey Reports	December 31, 1983
Updated Socioeconomic Projections	January 31, 1984
Transmission Line Worker Survey Report	March 1, 1984

4.4 SOCIOECONOMICS: UPDATE THE SOCIOECONOMIC MITIGATION PLAN

4.4.1 Background

The purpose of developing a socioeconomic impact mitigation program is to help minimize or eliminate the adverse socioeconomic impacts resulting from the construction and operation of the Susitna Hydroelectric Project. This will be accomplished by developing and providing impact information to communities, agencies, and organizations; evaluating the cost-effectiveness of such measures; making adjustments to these measures as baseline socioeconomic conditions change and/or as new information on project planning is received; and implementing the mitigation plan.

4.4.1.1 Rationale. The Socioeconomic Mitigation Plan must be responsive to socioeconomic projections as they are revised so that the plan may be prescriptive rather than reactive. The impact mitigation plan will be directed toward avoiding or minimizing project impacts on two groups: residents in the project vicinity, with emphasis placed on the Mat-Su Borough and the communities of Talkeetna, Trapper Creek, and Cantwell; and the construction and operation work forces.

Chapter 5, Exhibit E of the License Application did not contain a well defined socioeconomic impact mitigation plan. Rather, the section on mitigation planning was a discussion of objectives and processes used to prepare a mitigation plan. Specific mitigation measures were not identified in the License Application because several of the key variables, i.e., management of a new town, transportation of workers, and worker rotation schedules, were unknown. This updated mitigation plan will be developed to address a range of impacts that will be calculated using different project planning scenarios. In addition, this plan will provide more current information to FERC and interested agencies.

4.4.1.2 Previous Studies. No previous studies on mitigation measures for the Susitna Project have been conducted other than the discussion of mitigation in Chapter 5, Exhibit E of the License Application.

4.4.2 Hypothesis to be Tested

There are no hypotheses to be tested for this task. However, the focus of the mitigation plan will depend upon the results of the hypothesis to be tested in updating the baseline and with-project socioeconomic projections described in Section 4.3.

4.4.3 Study Locations

The mitigation plan will be directed toward mitigating project-induced impacts on residents of the Mat-Su Borough and, specifically, on the communities of Talkeetna, Trapper Creek, and Cantwell. The mitigation plan will also recommend measures to enhance productivity and the quality of life for construction and operation workers at the project site. This aspect of the mitigation plan will focus on the construction camp and permanent village.

4.4.4 Detailed Methodology

4.4.4.1 Data Requirements. Estimating the difference between the with-project and baseline projections will form the basis for identifying the types of potential socioeconomic impacts resulting from the construction and operation of the proposed project as well as their geographic distribution. Information on baseline conditions will be obtained both from secondary data used to update the baseline impacts as well as from household, business, and public sector surveys. Additionally, agencies and organizations potentially affected by the Susitna Project will be contacted to obtain input on possible mitigation measures.

4.4.4.2 Sampling and Analytical Procedure. The process for developing a mitigation plan will include the following tasks:

1. Formulate the objectives of the mitigation plan in coordination with affected agencies and communities.
2. List the types of impacts that could occur based on a comparison of baseline conditions and the revised with-project projections.

3. Prepare a draft mitigation plan and circulate this plan to the affected resource agencies and communities for their review.
4. Finalize the revised mitigation plan. The mitigation plan will be used as a working document throughout project licensing, design, and construction.

4.4.5 Data Management and Reports

The mitigation plan will be prepared as a separate document. The report will contain a description of each anticipated impact, recommended mitigation measure(s), and the extent to which the mitigation measure is expected to reduce the impact. The report will address mitigation measures for Talkeetna, Trapper Creek, and Cantwell as well as for the Mat-Su Borough. The organization of the report will reflect these separate elements of the plan.

4.4.6 Coordination of Work Activities

4.4.6.1 Within Subtask. This activity will be coordinated with updating baseline and with-project socioeconomic projections. The mitigation plan will be developed based on the impacts identified through updating the projections.

4.4.6.2 With Other Studies. The mitigation plan will be coordinated as appropriate with the aquatic and terrestrial wildlife studies.

4.4.6.3 With Subcontractors. Frank Orth and Associates, Inc. will prepare the mitigation plan under the supervision of Harza-Ebasco.

4.4.6.4 With Regulatory Agencies. The mitigation plan will be prepared in response to FERC's request. If appropriate, regulatory agencies other than

FERC, such as Alaska Department of Community and Regional Affairs and Alaska Department of Labor, will be involved in the review of the updated mitigation plan.

4.4.7 Schedule and Deliverables

The schedule for this work activity will conform to the major milestones identified in the FERC licensing process. The due date for completion of the Updated Socioeconomic Mitigation Plan is April 1, 1984.

4.5 RECREATION: PREPARE A RECREATION PLAN IMPLEMENTATION REPORT

4.5.1 Background

This task consists of preparing a report that describes in detail how to implement the Susitna Hydroelectric Project Recreation Plan presented in Chapter 7, Exhibit E of the License Application. This report will address the planning, development, and management responsibilities for all parties (i.e., the Power Authority, recreation and land management agencies, and landowners) associated with the recreation plan, implementation schedules, and recreation policies. A major focus will be guidelines for formulating and documenting necessary inter-party agreements. While primary emphasis of the implementation report will be on the first phase of the recreation plan, which includes facilities associated with the recreational impacts of Watana construction, the groundwork must be laid for implementation of the entire plan.

4.5.1.1 Rationale. FERC regulations require development of a plan for public recreation associated with the Susitna Project. While the License Application contains a proposed recreation plan, this plan is necessarily limited in scope by the nature of the License Application and the licensing process. Initially, the function of the recreation plan is to propose

specific recreation developments for review and concurrence. After general agreement has been reached on the content of the plan, but before the recreation plan can be carried out, four principal steps must be completed. These include: (1) resolution of policy issues concerning access to and use of the project area; (2) identification and development of agreements regarding land acquisition and transfer, or land easements for recreational use; (3) assignment of management responsibilities for recreation facilities and activities; and (4) detailed planning and design scheduling of facilities. The Recreation Plan Implementation Report will address these steps and will outline the activities, milestones, and schedules required to develop the proposed recreation facilities within the desired timeframe.

4.5.1.2 Previous Studies and Data Availability. The principal documents that will be used in this work activity include the License Application and supporting or related materials prepared in its development, comments by agencies and individuals, and external reports containing relevant information on current and future recreation and land management activities. Because of the interrelationships between study subtasks and project-area recreation, the License Application documents that will be used include: Chapter 7, Recreational Resources; Chapter 8, Aesthetic Resources; Chapter 9, Land Use; Chapter 5, Socioeconomics; and Chapter 3, Fish, Wildlife and Botanical Resources. Comment materials will include responses to FERC supplemental information requests as well as comments and responses concerning the Draft and Final License Application. External source materials will consist of the Alaska Outdoor Recreation Plan and other Alaska Division of Parks' documents; Bureau of Land Management reports concerning the Denali Planning Block, and the Denali Scenic Highway Study; Alaska Department of Fish and Game reports on fish and wildlife management in the project area; and any other relevant documents related to land disposal or other management activities of federal, state, local and Native organizations.

4.5.2 Hypothesis to be Tested

There are no hypotheses to be tested in this work activity.

4.5.3 Study Locations

The Recreation Plan Implementation Report will be keyed to the recreation plan presented in the License Application. As shown in Figure 4-2, the project area for the recreation plan may be generally described as the area south of the Denali Highway, west of the upper reaches of the Susitna River, north of Stephan, Watana and Clarence lakes, and east of the Parks Highway.

4.5.4 Detailed Methodology

Preparation of the recreation implementation report will not employ a specific and detailed analysis methodology. Rather, this effort will consist of an interactive group process aimed at achieving and documenting consensus on implementation and providing a framework for future actions.

4.5.4.1 Data Requirements. Review of the sources identified in Section 4.5.1.2 will provide most of the information required for developing the implementation report; the remainder will be derived through interaction with the Power Authority and other relevant agencies. While no new studies appear to be required for the implementation report, the results of recent or concurrent studies will be evaluated and utilized as appropriate. For example, the household surveys conducted under the Socioeconomics Subtask may provide useful information on recreational use of the project area that should be accounted for in implementing the recreation plan. Furthermore, since potential refinements to the project access plan could require substantial modifications to the recreation plan, additional studies on project access must be monitored.

4.5.4.2 Analytical Procedures. The implementation report will be prepared in accordance with the four key areas discussed above: (1) resolution of policy issues, (2) identification of land agreements, (3) assignment of management responsibilities, and (4) detailed planning and design scheduling.

1. Resolution of Policy Issues

Policy issues to be addressed in the implementation report will include concerns such as public access to the project area, the need for regulations to protect project-area resources and/or current users, and enforcement of new or existing regulations. The most significant issue will be whether the project area and access system will be open to the public, as was assumed in the recreation plan. Other unresolved issues include the potential need for measures to protect the interests of current subsistence users, special wildlife management provisions, restrictions on project workers, and replacement-in-kind of lost opportunities not fully addressed by the recreation plan.

A review of the current recreation plan and appropriate supporting documents from the licensing process will provide the starting point for the resolution of these policy issues. Agency and public positions on these issues will be determined from the existing record, including comments on the License Application, results of workshops and of the public participation process, and agency plans and policy documents. Further input will be solicited by letter from affected organizations. Subsequently, the Power Authority will develop proposed policies for interactive review. It is anticipated that the following organizations will be included in this process:

1. U.S. Bureau of Land Management
2. U.S. Fish and Wildlife Service
3. U.S. National Park Service
4. Alaska Department of Natural Resources
5. Alaska Department of Fish and Game
6. Alaska Department of Transportation and Public Facilities
7. Native Corporations
8. Interest and User Groups

For issues that can be resolved through this process, consensus agreements will be documented and stipulated to by the concerned parties. Issues that remain unresolved will be so identified in the implementation report, along with the positions of the respective organizations, the steps necessary or possible for resolution in the future, and a proposed timetable for such action.

2. Identification of Land Agreements.

Acquisition of land or easements will be necessary before development of most of the facilities proposed in the recreation plan can occur. Actual negotiation and completion of such land agreements can and should be identified in the report. Based on an updated inventory of land status in the project area, and any modifications to the recreation plan resulting from the settlement process, the report will provide basic information relating to land rights needed to implement the plan. For recreation sites that are part of Phase I, this will include identification of all landowners involved, the recommended method of acquisition (inter-agency land transfer, outright purchase, or easement), acreage requirements, and the general course of action required by the Power Authority's land agent. Only the first step, landowner

identification, will be conducted for sites in Phase II through Phase V of the recreation plan.

3. Assignment of Management Responsibility

Agency responsibilities for implementating the recreation plan and any policies agreed to through the settlement process must be assigned and documented. The ultimate goal will be to obtain a formal agreement between the Power Authority and the Alaska Division of Parks specifying all financial, administrative and other responsibilities for the construction and operation of the project's recreational facilities. If any facilities are to become the responsibility of agencies other than the Division of Parks, similar assignments must be made. This would apply to facilities at Brushkana Camp, since this development will constitute an addition to an existing BLM campground, and the Watana Townsite.

Land management responsibilities must also be addressed for recreation development or activities which will occur on BLM, Alaska Department of Natural Resources (ADNR), or Native corporation lands. This would also apply to cases where easements must be reserved on BLM or ADNR lands prior to transfer or disposal. Additionally, management responsibilities must be assigned for implementing any policies agreed to under the first part of this activity, such as management of public access and any special management of project-area wildlife resources.

The objective of the implementation report will be to assign and document management responsibility to the greatest extent possible, since this work must be done prior to the granting of the FERC license. In cases where agreement on responsibilities is not possible, the report will outline respective positions and the

steps required to reach consensus. The process for this work will be the same as described above for the resolution of policy issues.

4. Detailed Planning and Design Scheduling

Following the broader strategic activities of issue resolution and assignment of management responsibilities, a series of detailed actions are required to complete the recreation plan. These actions include: 1) refinement of the recreation concept based on the resolution of policy issues; 2) preparation of a masterplan for each proposed facility; 3) detailed construction drawings for each facility; 4) completion of bid documents and specifications; 5) proposal development and contractor selection; 6) construction supervision; and 7) post-construction evaluation for conformance to specifications. The implementation report will set specific dates for these actions, and discuss their timing relative to resolution of outstanding policy and responsibility issues.

The results of this work activity will be summarized in a chart indicating what was accomplished through this task and what remains to be done, by or with whom, possible approaches to resolution, relationship to other studies, necessary deliverables, and data required. Once complete, the chart can be used to track the critical-path progress of the recreation plan.

4.5.5 Data Management and Reports

All verbal information obtained in preparing the Recreation Plan Implementation Report will be recorded on standard Harza-Ebasco meeting and reports-of-conversation forms. Meetings will be documented as to date, topic discussed, and results. Meeting summaries will be circulated to all

participants for review and concurrence, and will be included as appendices to the report.

The Recreation Plan Implementation Report format will include a background discussion relating the report to the FERC licensing process and a discussion chapter on each of the four work items identified in Section 4.5.4.2. For example, the chapter on the resolution of policy issues will present a summary of facts related to each issue, a listing of more detailed references, the initial policy positions of all parties, consensus reached through the implementation report activity, and issues that remain to be resolved. Summary material will clearly specify the remaining implementation work that must be accomplished prior to the granting of the license, and will outline the schedule required to complete this work.

4.5.6 Coordination of Work Activities

4.5.6.1 Within Subtask. The primary coordination needs within the recreation implementation task involve the first three work items concerning policy issues, land agreements, and management responsibilities. Interrelationships among these work items are self-evident from the previous discussion. Progress on the identification of necessary land agreements can be independent of the other work to some extent, while assignment of management responsibilities is largely dependent upon issue resolution.

4.5.6.2 With Other Studies. As described previously, the recreation implementation report must be completed in consultation with past and current work on fish and wildlife resources, socioeconomics, aesthetic resources, and land use. In addition, any major changes in the project access plan would probably require substantial revisions of the recreation plan.

4.5.6.3 With Regulatory Agencies. Further information requests or comments concerning policy issues, management responsibilities, and future recreation planning work have been made by FERC and other agencies in their review of the License Application. The recreation implementation report work activity has been designed to respond to those concerns. Aside from FERC, the agencies likely to be involved in the implementation process were identified in Section 4.5.4.2.

4.5.7 Schedule and Deliverables

Work on this activity will begin on January 15 so that agency comments on the License Application and responses to those comments can be effectively incorporated into the work plan. As set forth in the Social Science Program General Investigation Memorandum for FY 1984, the implementation report will be completed April 1, 1984. This report constitutes the only deliverable for this work activity, although summaries of agency meetings will be transmitted to the Power Authority as they are prepared.

4.6 AESTHETICS: PREPARE AN AESTHETICS MITIGATION PLAN UPDATE

4.6.1 Background

FERC regulations require that Chapter 8, Exhibit E of the License Application describe mitigation measures that will be incorporated into design of the Susitna Hydroelectric Project. While a large number of general and specific aesthetic mitigation possibilities were identified in Chapter 8, decisions and commitments as to which measures will be implemented have not been resolved. These decisions must be finalized prior to granting of the FERC license.

4.6.1.1 Rationale. Selection of aesthetic mitigation measures to be incorporated into project design is a significant decision that requires

interdisciplinary review of the available options, and consultation with agencies and other interested parties. This process, which will not be complete until final project planning has been accomplished, will be initiated in FY 1985. The major objective of this work activity is to outline the necessary steps to ensure that final aesthetic mitigation measures are selected on a timely basis. This task will also provide a general schedule for implementing those mitigation measures throughout the construction phase of the Project.

4.6.1.2 Previous Studies. Previous studies that will provide the background materials for preparing this report include Chapter 8 of the License Application; reports addressing relevant Alaska projects, such as Commonwealth Associates' reports on the Intertie; and general sources on mitigation techniques published by the U.S. Forest Service and U.S. Fish and Wildlife Service. A specific reference list is included in Section 6.1

4.6.2 Hypothesis to be Tested

There are no hypotheses to be tested in this work activity.

4.6.3 Study Locations

The Aesthetics Mitigation Plan Update will examine mitigation measures that may be applied to the proposed project facilities. As such, the locations of interest will focus on areas within the viewshed of each project facility, including the dam sites, impoundment areas, access roads, railroad, transmission lines, and recreation sites.

4.6.4 Detailed Methodology

The basic approach to be followed in preparing of the mitigation plan update will be to review previous work, examine the current project status, set

the bounds of the mitigation discussion, identify the parties that must be involved, and determine the process necessary to reach a decision.

4.6.4.1 Data Requirements. Preparation of the Aesthetics Mitigation Plan Update will require a review of the location and design of all project facilities, existing and on-going studies, and information from project engineers and task leaders regarding the engineering feasibility of the potential mitigation measures identified in Chapter 8. Moreover, input will be required from the Power Authority regarding their decision-making process for mitigation commitments. It will also be necessary to examine the existing comment/response record to determine which agencies must be consulted regarding proposed aesthetic mitigation measures, and the current policy positions of those agencies.

4.6.4.2 Analytical Procedures. In general, the Aesthetics Mitigation Plan Update will specify the role of the Interdisciplinary Design Team, identify agencies/groups to be involved, discuss the relationship of the plan to other studies, and describe the basic details of the mitigation program as they relate to each phase of the project.

The Interdisciplinary Design Team will be an ongoing entity whose purpose will be to review and monitor project design and design changes and to recommend appropriate mitigation measures to the Power Authority. Use of an interdisciplinary approach will ensure that recommended mitigation measures are examined from many different perspectives. The updated plan will discuss the staffing of the Interdisciplinary Design Team, guidelines for what the design team will address and review the timing of the design team's activities with other tasks.

The Aesthetics Mitigation Plan Update will describe potential mitigation measures that were identified in Chapter 8, review subsequent changes resulting from the review and comment/response process, and identify what

needs to be done before the design team can make final recommendations to the Power Authority. These remaining actions largely relate to the engineering, environmental, and economic advisability of potential mitigation measures. For example, an engineering assessment based on hydraulic calculations would be required before terracing the side slopes of the emergency spillway could be considered a feasible mitigation measure. The update will identify all feasibility and trade-off studies required, and will provide a general outline of the timing and level of effort for each study. In addition, key schedule milestones will be identified.

The overall aesthetics mitigation program will change over time as the licensing, design, construction, and post-construction phases of the Project occur. The licensing phase has and will continue to focus largely on general mitigation measures that have broad application, such as feathering the transmission line rights-of-way or applying form, line, and color techniques to switchyard facades. These general mitigation measures will receive the greatest public, agency, and project management attention, and will account for the bulk of the effort of the Interdisciplinary Design Team. During the design phase, aesthetic mitigation efforts will focus on incorporating specific mitigation measures into detailed project design activities. During the construction phase, mitigation efforts will focus on preparing environmental mitigation construction plans (blueprints for contractors to follow during construction), and on management supervision. Mitigation efforts in the post-construction phase will focus on monitoring programs to ensure compliance with mitigation specifications.

4.6.5 Data Management and Reports

All verbal information obtained in preparing the Aesthetics Mitigation Plan Update will be recorded on standard Harza-Ebasco meeting and report-of-conversation forms. Meeting summaries will be circulated for review by meeting participants. Meeting summaries and contact forms containing

substantive material relating to mitigation recommendations will be included in the update. The Mitigation Plan Update will include a background discussion relating the update to the FERC licensing process; a section on the composition, function and procedures of the design team; and sections on each project phase. A chart will be prepared listing potential mitigation measures, their status, team input, agency involvement, data needs, and key dates and deliverables.

4.6.6 Coordination of Work Activities

4.6.6.1 Within Subtask. The Aesthetics Mitigation Plan Update will not involve disparate activities that will require extensive internal coordination.

4.6.6.2 With Other Studies. This work activity will need to be coordinated with the settlement process and any studies of potential project design modification studies.

4.6.6.3 With Regulatory Agencies. Preparation of the update can be undertaken without independent coordination with regulatory agencies, other than submitting the results to FERC. While several agencies will be involved in the design team evaluation process, the identification of agency concerns needed for the update can be accomplished through a review of existing project information.

4.6.7 Schedule and Deliverables

Work on the Aesthetics Mitigation Plan Update will begin on February 1, 1984. The update is the only deliverable for this work activity. As set forth in the Social Science Program General Investigation Memorandum for FY 1984, the due date for this report is May 1, 1984.

5.0 QUALITY ASSURANCE PROGRAM

5.1 PURPOSE

The purpose of the Harza-Ebasco Quality Assurance (QA) program is to provide control of the quality of the Susitna Hydroelectric Project environmental studies and assurance that resulting data and reports represent quality end-products which will withstand public and professional examination. The QA Program comprises all planned and systematic actions, including quality analysis and corrective actions, necessary to provide adequate confidence in the results of the Aquatic, Terrestrial, and Social Science programs.

5.2 GENERAL APPLICATION

The QA Program will be applied specifically to all Harza-Ebasco management activities and subcontractor technical activities related to the Susitna Project environmental studies. However, where these activities interface directly with other project tasks, such as hydrologic and hydraulic studies, elements of this QA program may be applied. The general contents of the QA Program address four major elements: organization and responsibilities; operating procedures; document control; and audits. Specific QA guidelines and actions will be implemented with each subcontractor to assure quality, reliability, redundancy and traceability of technical data, information, and project records.

The QA Program for the environmental studies is compatible with the Harza-Ebasco Quality Control Plan as defined in Exhibit 7 of the Harza-Ebasco Susitna Hydroelectric Project contract with the Power Authority. In addition, this QA Program complies with the "Ebasco Quality Assurance Manual for Hydroelectric Power Stations" which has been identified as a guidance document for this project. Finally, the QA Program for environmental

studies is in conformance with the General Investigation Memoranda for the Aquatic, Terrestrial, and Social Science programs.

5.3 ENVIRONMENTAL STUDIES QA PROGRAM CONTENT

All subcontractors will be required to incorporate quality assurance guidelines in their studies. This will include quality assurance procedures for data collection, checking and storage, analytical procedures, analyses performed on data, and processes for incorporating data into final reports. Other items included in the QA Program will be organization charts, lines of authority and identification of person(s) responsible for QA, methods for assuring competency and safety of files, audit programs, and the identification of persons responsible for the technical quality of work products.

5.3.1 Organization and Responsibilities

The QA Program will address the organizational structure, functional responsibilities, levels of authority, and lines of internal and external communication for managing, directing and executing environmental studies. All key positions and their project relationships will be clearly defined. These positions include, but are not limited to:

Harza-Ebasco

Project Director
Project Manager
Operations Manager
Group Leaders
Principal Staff

Subcontractors

Project Managers
Technical Leaders

Power Authority

Project Manager
Deputy Project Managers
Technical Leaders

5.3.2 Operating Procedures

The QA Program will define efforts to oversee the quality of Harza-Ebasco management responsibilities as well as technical studies conducted primarily by subcontractors. Numerous procedures for administrative and technical operations are underway for the Project which will receive attention through quality assurance activities. The QA Program requires each major subcontractor to submit a QA Manual or "Statement of Compliance" with the Harza-Ebasco QA Program.

Operating procedures which are monitored by the QA Program include, but are not limited to:

1. sample collection;
2. packaging, shipping, and receipt of samples;
3. sample preservation and analysis;
4. maintenance of technical standards;
5. calibration of equipment; and
6. recording, reduction, evaluation, and reporting of data.

In short, all operating procedures dealing with field or other data collection, lab or office analysis, and the reporting of results are part of the QA Program.

5.3.3 Document Control

Criteria for document and data identification; logging of incoming and outgoing documents; document review, approval and release; and document checks, distribution, use, and revisions are addressed in the QA Program. Moreover, the QA Program also describes the system of control for all project documents which affect quality-related environmental activities. Furthermore, the QA Program provides guidelines for the filing, collection,

storage, disposition, and maintenance of records and data affecting the quality of the Project.

5.3.4 Audits

The QA Program provides for a variety of audit activities which may be applied to the Susitna Project environmental studies. These activities may include internal inspections of Harza-Ebasco project files, external audits of subcontractor files against their QA Manual and procedures, and surveillance of subcontractor field and laboratory data gathering and analysis activities to assure compliance with their QA Manual and procedures. Internal inspections of Harza-Ebasco project files may be conducted by the Project Director, Project Manager, or Operations Managers at any time during the Project. External audits and surveillance activities of subcontractors will be performed by Operations Managers or Group Leaders at least once each year and possibly more often at the discretion of the Project Manager.

5.3.5 Harza-Ebasco QA

Harza-Ebasco will develop a generic QA Manual to encompass studies in which it directly participates. This manual will include an overview of QA procedures by all environmental subconsultants, will be compatible with other project requirements, and will serve as the umbrella over the environmental studies. The contents of the Harza-Ebasco QA Manual will include:

1. copies of subcontractor's procedures and QA Manuals;
2. QA responsibilities including levels of authority;
3. safety, location, duplication of data files;
4. applicable audit programs;

5. procedures for maintenance of QA records; and
6. technical review procedures.

5.4 QA PROGRAM APPLICATION TO SOCIAL SCIENCE PROGRAM

The Social Science Program will comply with the QA requirements outlined above. Specifically, appropriate input about the program and its principal subcontractors will be provided as necessary. This will include copies of the QA Manuals developed by the University of Alaska Museum and Frank Orth and Associates.

6.0 ATTACHMENTS

- 6.1 REFERENCES
- 6.2 AGENCY-RAISED ISSUES
- 6.3 CULTURAL RESOURCES PROGRAM SURVEY FORMS
- 6.4 SUSITNA HYDROELECTRIC PROJECT HOUSEHOLD SURVEY
- 6.5 SUSITNA HYDROELECTRIC PROJECT BUSINESS SURVEY
- 6.6 SUSITNA HYDROELECTRIC PROJECT PUBLIC SECTOR SURVEY
- 6.7 ANCHORAGE/FAIRBANKS INTERTIE WORKER SURVEY
- 6.8 SUSITNA HYDROELECTRIC PROJECT INFORMATION FOR INTERVIEWERS

6.1 REFERENCES

6.1 REFERENCES

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6.2 AGENCY-RAISED ISSUES

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SC-1 The role of the Advisory Council on Historic Preservation should be clarified.	NPS and ADP	1. Cultural Resources Workshop (22 July 1983)	In cooperation with FERC, determine existing information that has been forwarded to Advisory Council; obtain working guidelines from FERC; define role of Advisory Council in licensing process; define appropriate relations; solicit FERC and Advisory Council concurrence.	1 Nov 1983
SC-2 Need to determine approach for evaluating archeological resources, individually or as districts.	NPS and ADP	2. Cultural Resources Workshop (22 July 1983)	Determine alternatives; legal and licensing implications of each alternative, relative advantages, mitigation implications.	15 Oct 1983
SC-3 Need to define resource significance criteria for evaluating site or resource significance.	NPS and ADP	3. Cultural Resources Workshop (22 July 1983)	In conjunction with preceding action, interpret federal regulations to Susitna Project's archeological resources.	1 Nov 1983
SC-4 Comments of Advisory Council on Historic Preservation should be solicited for developing a plan for future survey and inventory and for the mitigation plan.	NPS	4. Letter to APA, 3 Dec 1982 (Vol. 10B)	Role of Advisory Council is being assessed.	15 Oct 1983
SC-5 Advisory Council on Historic Preservation should be involved in the cultural resources mitigation program at the earliest possible time.	ADP	5. Letter to APA, 3 Dec 1982 (Vol. 10B)	Role of Advisory Council is being assessed.	15 Oct 1983
SC-6 The role of the Advisory Council on Historic Preservation should be better developed and clarified.	NPS	6. Letter to APA 4 Feb 1983 (Vol. 10B)	Role of Advisory Council is being assessed.	15 Oct 1983
SC-7 The detailed mitigation plan should be developed and approved by SHPO and representatives of appropriate land management agencies.	NPS	7. Letter to APA 4 Feb 1983 (Vol. 10B)	Procedures for developing and approving the detailed mitigation plan are being assessed.	15 Oct 1983

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SS-8 Additional information is needed on worker shift and rotation schedules in order to accurately forecast socioeconomic impacts of the Susitna Project.	MSB	8. Socioeconomic Workshop (19 July 1983).	Two alternative courses of action are proposed: 1) conduct studies to evaluate the access route, transportation of workers, construction camp and permanent village; 2) conduct extensive sensitivity analyses in order to forecast potential socioeconomic impacts associated with these key factors.	Spring 1984 for Alternative 2 1985 for Alternative 1
SS-9 Additional information is needed on the project access route in order to accurately forecast socioeconomic impacts of the Susitna Project.	FWS	9. Socioeconomic Workshop (19 July 1983)		
SS-10 Additional information is needed on how workers will be transported to and from the Project site in order to accurately forecast socioeconomic impacts of the Susitna Project.	FWS	10. Socioeconomic Workshop (19 July 1983)		
SS-11 Additional information is needed on the type of housing, work force facilities, and amenities at the construction camp and permanent village in order to accurately forecast socioeconomic impacts of the Susitna Project.	ADCRA	11. Socioeconomic Workshop (19 July 1983)		
SS-12 Concern was expressed about the need for a hiring plan/program.	ADOL	12. Socioeconomic Workshop (19 July 1983)	H-E will investigate the Remote Rural Hire Dispatch Pilot Programs and any other job training programs that have been implemented for energy resource development projects in Alaska.	May 1984 (part of the Mitigation Plan)

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SS-13 How the seasonality of Susitna construction work will affect the number of workers who relocate permanently and what those people will do for work when they are temporarily laid off (during the winter) should be examined.	MSB	13. Socioeconomic Workshop (19 July 1983)	H-E will investigate this issue to ensure that it has been adequately addressed.	Revised Projections (text) November 1983
SS-14 The effects of project-related in-migration on groundwater supply and quality should be explored.	MSB	14. Socioeconomic Workshop (19 July 1983)	H-E will outline alternative approaches for the communities for examining this concern.	Revised Projections (text) November, 1983
SS-15 The costs of educating the project-induced population need to be examined as well as the effects of the education costs on Mat-Su Borough tax rates.	ADFG	15. Socioeconomic Workshop (19 July 1983)	The per pupil cost of education will be investigated for each of the locally impacted communities.	Revised Projections (text) November 1983
SS-16 Impacts to fish and wildlife users have not been adequately addressed.	ADFG	16. Letter to APA, 13 Jan 1983 (Vol. 10B)	Information on use patterns will be supplemented through surveys of local residents (1). Information on guiding services will be obtained through surveys of guides (2).	Fall 1983 (1) Fall 1984 (2)
SS-17 Some description should be provided on the relative importance of natural resource harvests as part of household income.	ADFG	17. Letter to APA, 13 Jan 1983 (Vol. 10B)	Information on use patterns and the importance of subsistence fishing, hunting, and trapping will be obtained through a survey of local residents.	December 1983
SS-18 Indirect and direct impacts to commercial businesses dependent upon fish and wildlife resources are undefined.	ADFG	18. Letter to APA, 13 Jan 1983 (Vol. 10B)	Information on the dependency of businesses on fish and wildlife resources will be obtained through a survey of local businesses and project area guides and lodge operators.	Fall 1984
SS-19 Impacts to subsistence and recreation user groups and to fish and wildlife resources should be addressed.	ADFG	19. Letter to APA, 13 Jan 1983 (Vol. 10B)	Supplemental information on the effects of the project on subsistence and recreational use of fish and wildlife resources will be obtained through surveys of project area residents, guides, and lodge operators.	Fall 1983 (Survey of Residents) Fall 1984 (Survey of guides, lodge operators)

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SS-20 A survey of community usage of wildlife resources by Cantwell residents would be useful in assessing levels of use and importance of salmon, moose, and caribou.	ADFG	20. Letter to APA, 13 Jan 1983 (Vol. 10B)	Information on use patterns of fish and wildlife of Cantwell residents will be obtained through a survey of local residents.	Fall 1983
SS-21 Additional assessment of user groups should be made for the domestic use of salmon.	ADFG	21. Letter to APA, 13 Jan 1983 (Vol. 10B)	Information on subsistence fishing will be obtained through a survey of residents of Talkeetna, Trapper Creek, and Cantwell.	Fall 1983
SS-22 The assessment of trapping activity and its importance to users in the Local Impact Area should be more extensive.	ADFG	22. Letter to APA, 13 Jan 1983 (Vol. 10B)	Information on use patterns of trappers will be collected through a survey of local residents.	Fall 1983
SS-23 A monitoring program should be established to assess impacts and recommend modifications to the mitigation program.	FWS	23. Letter to APA, 14 Jan 1983 (Vol. 10B)	A monitoring program of the local residents and businesses is currently underway and will be updated periodically.	Fall 1983 and On-going
SS-24 Modification of base case population projections would dramatically change the impacts predicted and ultimately the mitigation requirement.	FWS	24. Letter to APA, 14 Jan 1983 (Vol. 10B)	The baseline forecasts will be revised to reflect the most current statewide economic and demographic conditions.	Winter 1984
SS-25 A mitigation plan should be prepared that relates to anticipated impacts based upon a broadly accepted data base.	FWS	25. Letter to APA, 14 Jan 1983 (Vol. 10B)	A mitigation plan will be prepared and updated periodically.	Spring 1984 and On-going
SS-26 Assumptions upon which population projections are based should be discussed.	FWS	26. Letter to APA, 14 Jan 1983 (Vol. 10B)	A detailed explanation of the assumptions used in the population projections is provided in Work Paper #1 (Projection Assumptions, Methodology, and Output Format).	N/A
SS-27 Clarify whether the assumption that full public access would be provided by the project through the upper Susitna basin has been made.	FWS	27. Letter to APA, 14 Jan 1983 (Vol. 10B)	Policies on public access to the upper Susitna basin will be made at a later date.	To be determined

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SS-28 The proposed administration of the construction camp and village needs to be reevaluated.	FWS	28. Letter to APA, 14 Jan 1983 (Vol. 10B)	Further studies of the siting, type, administration, and other aspects of the construction camp and village will be examined.	Fiscal Year 1985
SS-29 If local hiring assumptions are high, the impacts of project-induced population increases are low.	FWS	29. Letter to APA, 14 Jan 1983 (Vol. 10B)	For discussion of assumptions regarding population influx refer to Working Paper #1.	
SS-30 If most businesses in the upper basin are dependent upon fish, big game, and furbearer species and the project may severely impact these species through elimination of their habitats, then most of the businesses would suffer severe adverse impacts.	FWS	30. Letter to APA, 14 Jan 1983 (Vol. 10B)	Information on the dependency of businesses on fish and wildlife resources will be obtained through a survey of local businesses.	December 1983
SS-31 The importance of the Susitna system to subsistence, and how potential losses and mitigation proposals would affect subsistence use should be addressed.	FWS	31. Letter to APA, 14 Jan 1983 (Vol. 10B)	Information on use patterns and the importance of subsistence fishing will be obtained in three communities through a survey of local residents (1). A Preliminary Impact & Mitigation Plan will be developed and updated as appropriate (2).	Fall 1983 (1) April 1984 (2)
SS-32 Discussion should be included on the possible decrease in the area's attractiveness for remote, wilderness hunting given the increase in access and human activities in conjunction with project development.	FWS	32. Letter to APA, 14 Jan 1983 (Vol. 10B)	Information on guiding services will be obtained through a survey of guides.	Fall 1984 and On-going
SS-33 The discussion should consider relative demands and values for commercial, recreational, and subsistence hunting for each species in comparison to other species.	FWS	33. Letter to APA, 14 Jan 1983 (Vol. 10B)	Information on commercial, sport, and subsistence hunting will be obtained through a survey of local residents.	Fall 1983
SS-34 Socioeconomic mitigation should be established with regard for impacts on fish and wildlife resource user groups.	FWS	34. Letter to APA, 14 Jan 1983 (Vol. 10B)	The mitigation plan will be responsive to this comment.	Spring 1984

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SS-35 Policies on access routes and restrictions on access need to be delineated in order to assess impacts to users.	FWS	35. Letter to APA, 14 Jan 1983 (Vol. 10B)	Policies on public access to the upper Susitna basin will be made at a later date.	To be determined
SS-36 Information on trappers should be accumulated, impacts analyzed, mitigation proposed and then reevaluated.	FWS	36. Letter to APA, 14 Jan 1983 (Vol. 10B)	Additional information on trapping will be obtained through a survey of local residents.	Fall 1983
SS-37 Impacts to fish and wildlife resources and their users are related to the type of construction camp established, access provided, and the administration of these facilities.	FWS	37. Letter to APA, 14 Jan 1983 (Vol. 10B)	The siting, type, administration, and other aspects of the construction camp and village will be examined in future studies in conjunction with fish and wildlife resource representatives.	Fiscal Year 1985
SS-38 A detailed mitigation plan should be developed and coordinated with fish and wildlife resources analyses.	FWS	38. Letter to APA, 14 Jan 1983 (Vol. 10B)	A mitigation plan will be developed and updated in cooperation with fish and wildlife resource representatives.	Spring 1984
SS-39 A monitoring panel should be established consisting of representatives of appropriate agencies to assess impacts and recommend modifications to the mitigation program.	FWS	39. Letter to APA, 14 Jan 1983 (Vol. 10B)	A monitoring program is being implemented, but does not include agency representatives.	September 1983
SS-40 A more appropriate location for the permanent townsite should be identified.	ADNR	40. Letter to APA, 13 Jan 1983 (Vol. 10B)	The siting and design of the townsite will be examined in future studies.	Fiscal Year 1985
SS-41 If in-migration is seriously underestimated then a wide range of socioeconomic impacts is also underestimated.	ADNR	41. Letter to APA, 13 Jan 1983 (Vol. 10B)	Refer to Alaska Power Authority response to letter from Alaska Department of Natural Resources (Volume 10B) and Alaska Department of Community and Regional Affairs (August 2, 1983).	N/A
SS-42 A clearly defined and legal program will be needed to ensure that unemployed local residents get a chance to obtain project jobs.	ADNR	42. Letter to APA, 13 Jan 1983 (Vol. 10B)	This issue will be addressed as part of the mitigation planning effort.	Spring 1984

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SS-43 In order to clarify the relationship between assumptions of the socioeconomic impact model and unresolved state policies, the Power Authority should provide a process for key state agencies to become actively involved in the methodology and use of the model.	ADCRA	43. Letter to APA, 16 Mar 1983	Letter response sent 3 Aug 1983.	N/A
Ss-44 The socioeconomic impacts resulting from the Susitna project are significantly understated.	ADCRA	44. Letter to APA, 16 Mar 1983	Letter response sent 3 Aug 1983.	N/A
SS-45 Responsibilities for provision of services and facilities within the local project area should be more clearly defined for the state, borough, and the contractor.	ADCRA	45. Letter to APA 16 Mar 1983	Letter response sent 3 Aug 1983.	N/A
SS-46 Legal responsibilities for access to the project site both during and after construction need to be clearly defined.	ADCRA	46. Letter to APA 16 Mar 1983	Letter response sent 3 Aug 1983.	N/A
SS-47 More information needs to be provided about the proposed permanent townsite.	ADCRA	47. Letter to APA 16 Mar 1983	Letter response sent 3 Aug 1983.	N/A
SS-48 All assumptions, standards, and input variables used in the impact model should be summarized.	ADCRA	48. Letter to APA 16 Mar 1983	Letter response sent 3 Aug 1983.	N/A
SS-49 Impacts of the Project on users of fish and wildlife resources (such as commercial fishery use, big game and professional guides, subsistence use, trappers, and river guides) should be assessed.	FWS	49. Letter to APA 5 Oct 1982		
SS-50 Effects of project construction and operation on instream flow as it relates to socioeconomics should be examined.	ADFG	50. Dwight & Trihey 81 Survey		

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SS-51 The possibility of dam failure should be taken into consideration, particularly for areas downstream of the dam.	ADCRA	51. Letter to APA 16 Mar 1983		
SR-52 Many of the recreational use projections are underestimated.	ADFG	52. Letter to APA, 13 Jan 1983 (Vol. 10B)	Monitoring and optional development phases would ensure against under-estimation.	Fiscal Year 1985 and On going
SR-53 Management of lands for public recreation and appreciation requires additional clarification.	ADFG	53. Letter to APA, 13 Jan 1983 (Vol. 10B)	Incorporated in Feb 1983 License Application.	N/A
SR-54 The discussion of wildlife and recreation fails to address impacts to inundated tributaries to the Susitna River.	ADFG	54. Letter to APA, 13 Jan 1983 (Vol. 10B)	Comments addressed in Exhibit E, Chapter 3 and Chapter 7, Sections 2.1 and 3.2 of Feb 1983 License Application.	N/A
SR-55 There is inadequate discussion of construction worker policies regarding use of recreation resources.	ADFG	55. Letter to APA, 13 Jan 1983 (Vol. 10B)	Comment addressed in Feb 1983 License Application.	N/A
SR-56 A definition of wildlife species and recreational uses is needed.	ADFG	56. Letter to APA, 13 Jan 1983 (Vol. 10B)	Species descriptions and mitigation provided in Exhibit E, Chapter 3 of Feb 1983 License Application.	N/A
SR-57 The primary objectives of the Recreation Plan as they relate to potential impacts to fish and wildlife resources are not met.	FWS	57. Letter to APA, 14 Jan 1983 (Vol. 10B)	Comment incorporated in Feb 1983 License Application. Additional information on Recreation Plan implementation will be outlined in the Recreation Plan Implementation Report.	April 1984
SR-58 Discuss impacts on recreation to east-side tributaries below Talkeetna.	ADFG	58. Dwight & Trihey 81 Survey		
SR-59 Describe the relative proportion of impacts on recreation above and below Talkeetna.	FWS	59. Dwight & Trihey 81 Survey		

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SR-60 Project-related in-migration should be a major consideration in the Recreation Plan as well as use control measures.	FWS	60. Letter to APA, 14 Jan 1983 (Vol. 10B)	Generally incorporated in Feb 1983 License Application. Controls on use to be considered in the Recreation Plan Implementation Report.	April 1984
SR-61 Identification of specific responsibilities for implementation and operation of the Recreation Plan should be included.	FWS	61. Letter to APA, 14 Jan 1983 (Vol. 10B)	To be addressed in the Recreation Plan Implementation Report.	April 1984
SR-62 The Recreation Plan fails to recognize the differences between sport, trophy, and subsistence use of particular wildlife resources.	FWS	62. Letter to APA, 14 Jan 1983 (Vol. 10B)	Comment referenced to appropriate discussions in Exhibit E, Chapters 3 and 5 of Feb 1983 License Application.	N/A
SR-63 The competition between resources users and the supply and demand of fish and wildlife needs to be expanded.	FWS	63. Letter to APA, 14 Jan 1983 (Vol. 10B)	This issue will be addressed through an interdisciplinary team organized by H-E.	Fiscal year 1984
SR-64 Appropriate mitigation should be addressed for reduced water quality due to the proposed flow regime as it relates to fishing opportunities.	FWS	64. Letter to APA, 14 Jan 1983 (Vol. 10B)	Comment adequately addressed in Exhibit E, On-going Chapters 3 and 11 of Feb 1983 License Application. Development of mitigation measures will continue.	
SR-65 Additional clarification is needed on what areas will be open to the public for recreation.	FWS	65. Letter to APA, 14 Jan 1983 (Vol. 10B)	Will be considered in the Recreation Plan Implementation Report.	April 1984
SR-66 The project sponsor must identify specific mitigation measures and develop a comprehensive plan which will address proper control by landowners and managers.	FWS	66. Letter to APA, 14 Jan 1983 (Vol. 10B)	To be addressed in the Recreation Plan Implementation Report.	April 1984
SR-67 Mitigation for the excavation of borrow areas should be specifically identified and incorporated as part of the Recreation Plan.	FWS	67. Letter to APA, 14 Jan 1983 (Vol. 10B)	Incorporated in Feb 1983 License Application.	N/A
SR-68 Management programs during construction should be identified and discussed along with associated costs.	FWS	68. Letter to APA, 14 Jan 1983 (Vol. 10B)	Operation costs incorporated in Feb 1983 License Application. Management responsibilities will be considered in the Recreation Plan Implementation Report.	April 1984

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SR-69 Before construction begins, existing river conditions from upstream of the project to Gold Creek should be recorded on film.	NPS	69. Letter to APA, 14 Jan 1983 (Vol. 10B)	To be considered during design development for Devil Canyon visitor center.	2003
SR-70 Consideration should be given to providing public access to the Susitna River below Watana dam prior to the completion and operation of Devil Canyon Dam.	NPS	70. Letter to APA, 14 Jan 1983 (Vol. 10B)	To be considered in design development for Phase II (Watana Implementation Phase) of the recreation plan.	1993
SR-71 Consideration should be given to providing public access from the project transportation corridor to Portage Creek for fishing and/or kayaking.	NPS	71. Letter to APA, 14 Jan 1983 (Vol. 10B)	Comment adequately addressed in Exhibit E, Chapter 11 of Feb 1983 License Application.	N/A
SR-72 Appropriate day use and/or overnight facilities should be considered for Gold Creek.	NPS	72. Letter to APA, 14 Jan 1983 (Vol. 10B)	Should be investigated with response letter to NPS.	Fiscal Year 1984
SR-73 Public access to the Talkeetna River via the Stephan Lake-Prairie Creek corridor is an important issue that needs to be resolved early.	NPS	73. Letter to APA, 14 Jan 1983 (Vol. 10B)	Comment adequately addressed in Exhibit E, Chapter 11 of Feb 1983 License Application.	N/A
SR-74 The Power Authority should consider a leasing or concession arrangement with CIRI to facilitate public recreation use on Stephan Lake.	ADNR	74. Letter to APA, 13 Jan 1983 (Vol. 10B)	Will be examined in Recreation Plan Implementation Report.	April 1984
SR-75 The Recreational Plan should add three sites adjacent to the Alaska Railroad: Indian River, Gold Creek, and Curry.	ADNR	75. Letter to APA, 13 Jan 1983 (Vol. 10B)	Indian River, Gold Creek, and Curry should be investigated with response letter to DNR.	Fiscal Year 1984
SR-76 A decision is needed on whether or not the access road will be open to the public.	ADNR	76. DNR Memorandum 23 Dec 1982 (Vol. 10B)	Feb 1983 License Application clearly assumes that access road will be open to public use, but leaves issue open by stating that final decision will be made in 1993; resolution requires policy decision by the Power Authority, preferably during 1984.	(To be supplied by Power Authority)

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SR-77 The transmission line crossing of Willow Creek State Recreation Area conflicts with site development plans and impacts the site's recreation qualities.	ADNR	77. Task 41 Meeting, 10 May 1983	Consider alternative routing or route refinement. Will be addressed in supplemental transmission line studies.	Nov 1983
SR-78 Effects of project construction and operation on instream flow as it relates to recreation resources should be examined.	ADFG	78. Dwight & Trihey 81 Survey		
SA-79 Mitigation measures have not been specifically identified and incorporated into project plans.	FWS	79. Letter to APA, 14 Jan 1983 (Vol. 10B)	Adoption and implementation of aesthetic mitigation measures will be addressed by interdisciplinary design team to be formulated during late 1983.	On-going
SA-80 Additional location and design studies are required for the construction camps and townsite.	ADNR	80. Aesthetics Workshop (1 Dec 1982)	Issue not adequately addressed. Needs additional study.	Fiscal Year 1985
SA-81 The north and south stubs of the transmission line need additional location studies.	ADNR	81. Aesthetics Workshop (1 Dec 1982)	Concern will be addressed in supplemental transmission line studies.	Nov 1983
SA-82 The transmission line crossing of Willow Creek State Recreation Area conflicts with site development plans and impacts the site's scenic qualities.	ADNR	82. Task 41 Meeting, 10 May 1983	Consider alternative route or routing refinement. Concern will be addressed in supplemental transmission line studies.	Nov 1983
SA-83 Effects of project construction and operation on instream flow as it relates to aesthetic resources should be examined.	ADFG	83. Dwight & Trihey 81 Survey		

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SL-84 Potential railroad impacts to land use and access downstream from Gold Creek should be addressed.	ADFG	84. Letter to APA, 13 Jan 1983 (Vol. 10B)	Generally incorporated in Feb 1983 License Application.	N/A
SL-85 Proposed mitigation measures and their implementation need to be more clearly outlined.	ADFG	85. Letter to APA 13 Jan 1983 (Vol. 10B)	Adoption and implementation of mitigation measures is unresolved issue, requiring policy decision by the Power Authority.	Fiscal Year 1985
SL-86 Proposed mitigation for the loss of public use of project lands should identify alternatives such as replacing opportunities lost with lands that provide equal value.	ADFG	86. Letter to APA, 13 Jan 1983 (Vol. 10B)	Incorporated in Feb 1983 License Application.	N/A
SL-87 Discussions of wetlands and floodplains, including mitigation measures, should be expanded.	FWS	87. Letter to APA, 14 Jan 1983 (Vol. 10B)	Generally incorporated in Feb 1983 License Application. Additional wetlands mapping is planned.	Fiscal Year 1985
SL-88 Specific measures to mitigate impacts from the transmission line should be addressed.	FWS	88. Letter to APA, 14 Jan 1983 (Vol. 10B)	Incorporated in Feb 1983 License Application. Also to be addressed in supplemental transmission studies.	Nov 1983
SL-89 Concern about the Healy to Fairbanks transmission line right-of-way and its impacts on land disposal should be addressed.	ADNR	89. Letter to APA, 3 Feb 1983 (Vol. 10B) 28 Jan 1983	Concern to be addressed in supplemental transmission line studies.	Nov 1983
SL-90 Overall concern about the transmission line right-of-way and its effects on land disposal actions and land management practices should be addressed.	ADNR	90. Letter to APA, 3 Feb 1983 (Vol. 10B)	Concern to be addressed in supplemental transmission line studies.	Nov 1983
SL-91 The status of land for the damsite, access roads, and transmission corridors should be addressed now.	ADNR	91. DNR Memorandum, 23 Dec 1982 (Vol. 10B)	Work is currently being performed by Power Authority contractors responsible for land use authorizations and land acquisitions.	Unknown
SL-92 Types of land acquisition procedures should be investigated and action begun.	ADNR	92. DNR Memorandum, 23 Dec 1982 (Vol. 10B)	Work is currently being performed by Power Authority contractors responsible for land use authorizations and land use acquisitions.	Unknown

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ISSUE	AGENCY	SOURCE	STATUS	COMPLETION DATE
SL-93 The transmission line crossing of Willow Creek State Recreation Area conflicts with site development plans.	ADNR	93. Task 41 Meeting, 10 May 1983	Consider alternative routing or route refinement. Concern will be addressed in supplemental transmission line studies.	Nov 1983
SL-94 Concern that the project will result in trespass on Native lands should be examined.	AHTNA	94. Land Use Workshop 30 Nov 1982	Issue has not been resolved. Mechanism needs to be established to outline how concern will be addressed.	Fiscal Year 1984
SL-95 Concern about the compatibility of the access plan with the Denali Scenic Highway plan should be addressed.	AHTNA	95. Land Use Workshop 30 Nov 1982	The development of the plan needs to be monitored and evaluated when adopted.	Unknown
SS-96 There is a need to estimate speculative in-migration.	ADCRA	96. Socioeconomic Workshop (19 July 1983)	H-E will estimate the number of people who will move into the area to find work on the Susitna Project but who are not successful in obtaining a job. This will be accomplished by contacting B.C. Hydro and other utilities, as necessary, to evaluate what their experience has been with speculative in-migration on large scale energy development projects, hydro in particular.	Revised Projections (text) November 1983

6.3 CULTURAL RESOURCES PROGRAM SURVEY FORMS

ARCHAEOLOGY
UNIVERSITY MUSEUM
UNIVERSITY OF ALASKA

FILLED SITE NO.: _____
SURVEY LOCALE NO.: _____
AHRS NO.: _____

SUSITNA HYDROPOWER PROJECT

CHECKED BY _____ DATE _____
CL _____
FS _____
PS _____

I. SITE LOCATION

- A. USGS QUAD: Talkeetna Mountains _____ Scale: 1:63,360 PI* _____
B. AIR PHOTO REFERENCE: Roll _____ Frames _____ (if available)
C. TWP _____, RNG _____, Seward Meridian
_____ $\frac{1}{4}$ of the _____ $\frac{1}{4}$ of the _____ $\frac{1}{4}$ of Section _____
D. UTM: Zone 6 Easting _____ Northing _____
E. LATITUDE: _____ " LONGITUDE: _____ "
F. GEOLOGICAL UNIT: _____ (if known)
G. REGION: Devil Canyon _____ Watana _____ Other: _____

* as needed

II. ENVIRONMENT:

- A. Site morphology. (See back of form for information required.)

- B. Surrounding terrain morphology. (See back of form for information required.)

C. Ecosystem. (See back of sheet for descriptions.)

1. _____ Moist Tundra _____ High Brush _____ Other: _____
_____ Lowland spruce-hardwood _____ Upland spruce-hardwood

2. Site vegetation and surface description:

3. Vegetation in surrounding area and surface description:

III. SITE:

A. Description:

1. Characteristics. (lithic scatter, stratified site, cabin, etc.)

number of shovel tests

number of test pits

(indicate on map)

2. Number, size and spatial relationship of features, etc.

3. Stratigraphy (if relevant):

B. Artifact inventory.

1. Surface:

a. Artifacts collected:

b. Artifacts observed but not collected:

2. Systematically excavated artifacts:

C. Period: _____ Unknown _____ Precontact

_____ Historic: Native _____ Non-Native _____

D. Size:

1. Observed Size: _____ x _____ meters

Justification for boundaries:

2. Estimated Size: _____ x _____ meters

Justification for boundaries:

E. Site disturbance (current and anticipated). Indicate expected effect of the hydroelectric project on the site.

1. Natural: _____

2. Human: _____

G. Draw and attach map(s) of site with location of tests and surface features; soil profile(s); and general location and vegetation map.

PHOTOGRAPHIC RECORD:

[illegible]

CIR W: (include relevant pages in fieldbook)

A. Names: _____, _____, _____
 _____, _____, _____
 _____, _____, _____

3. Date(s) visited: _____

Field Recommendation for further testing:

II. A. Site morphology.

1. What terrain feature is the site on: flat plain, sloping plain, continuous ridge, hill, point, shoreline, terrace, valley, etc.
2. What is the topographic context:
 - a. no topographic relief relative to surrounding terrain, higher topographic relief than surrounding terrain, lower topographic relief than surrounding terrain.
 - b. give elevation: 1) above sea level; 2) Relative to surrounding terrain.
3. Is the terrain feature continuous or discrete?
4. What is the size, shape and direction of this feature?
5. What is the relative position of the site on this feature?
6. Field of view:
 - a. direction and range of view;
 - b. what is in view?
 - c. would a change in the present vegetation increase or decrease view? How?
7. Describe any special attributes that make this site location unique.
8. Are there other settings similar to that of this site in the unit? Where?

II. B. Surrounding terrain morphology.

Describe surrounding landforms and water features in relation to the site. What is the direction, distance and difference in elevation of surrounding features? The following characteristics should provide a guide:

1. Streams and rivers:
 - a. proximity to site
 - b. access from site
 - c. are any in view from site?
 - d. has downcutting created valley wall constriction in this area?
 - e. is stream or river (1) shallow with rapids and sandbars, or (2) deep and smooth in this vicinity, etc.
 - f. is water clear or turbid?
 - g. what is the general width in this vicinity?
 - h. is terracing present?
 - i. in this area is the river course:
 1. straight;
 2. bending;
 3. serpentine.
 - j. are confluences with other streams or rivers nearby? How far?
 - k. what kind of terrain does this stream or river drain? (lakes, hills, marsh)
2. Lakes:
 - a. size in hectares using template.
 - b. inlet present? outlet present?
 - c. single lake or part of lake system?
 - d. characterize terrain surrounding lake (low, wet, steep, etc.)
 - e. is there any evidence that lake size is changing (vegetation overgrowth, old shorelines, etc.)
 - f. characteristics of shoreline. Old shorelines present?

ECOSYSTEMS LIKELY TO BE ENCOUNTERED IN PROJECT AREA *

MOIST TUNDRA: Moist tundra ecosystems usually form a complete ground cover and are extremely productive during the growing season. They vary from almost continuous and uniformly developed cottongrass tussocks with sparse growth of other sedges and dwarf shrubs to stands where tussocks are scarce or lacking and dwarf shrubs are dominant. Associated species are arctagrostis, bluejoint, tufted hairgrass, mosses, alpine azalea, wood rush, mountain-avens, bistort, low-growing willows, dwarf birch, Labrador tea, green alder, Lapland rosebay, blueberry and mountain cranberry.

HIGH BRUSH: These are dense to open deciduous brush systems. **Floodplain thickets:** The subsystem is similar from the rivers of the southern coastal areas to the broad-braided rivers north of the Brooks Range. It develops quickly on newly exposed alluvial deposits that are periodically flooded. The dominant shrubs are willows and alders. Associated shrubs are dogwood, prickly rose, raspberry, buffaloberry and high bush cranberry. **Birch-alder-willow thickets:** This subsystem is found near timberline in interior Alaska. It consists of resin birch, American green alder, thinleaf alder and several willow species. Thickets may be extremely dense, or open and interspersed with reindeer lichens, low heath type shrubs, or patches of alpine tundra ecosystems. Other associated species are Sitka alder, bearberry, crowberry, Labrador tea, spirea, blueberry and mountain cranberry.

UPLAND SPRUCE-HARDWOOD FOREST: This ecosystem is a fairly dense interior forest composed of white spruce, birch, aspen and poplar. Black spruce typically grows on north slopes and poorly drained flat areas. Root depths are shallow. Fire scars are common. White spruce averaging 40 to 80 feet in height and up to 16 inches in diameter occurs in mixed stands on south facing slopes and well drained soils; forms pure stands near streams. Aspen and birch average 50 feet in height. Poplar averaging 80 feet in height and 24 inches in diameter occurs in scattered stands along streams. Undergrowth consists of mosses with grasses on drier sites and with brush on moist slopes. Typical plants are willow, alder, ferns, rose, high and low bush cranberry, raspberry, current and horsetail.

LOWLAND SPRUCE-HARDWOOD FOREST: This ecosystem is a dense to open interior lowland forest of evergreen and deciduous trees, including extensive pure stands of black spruce. Black spruce are slow growing and seldom exceed 8 inches in diameter or 50 feet in height. Cones of this tree open after fire and spread abundant seed, enabling black spruce to quickly invade burned areas. The slow-growing stunted tamarack is associated with black spruce in the wet lowlands. It seldom reaches a diameter of more than 6 inches. Rolling basins and knolls in the lowlands have a varied mixture of white spruce, black spruce, paper birch, aspen and poplar. Small bogs and muskegs are found in the depressions. Undergrowth species include willow, dwarf birch, low bush cranberry, blueberry, Labrador tea, crowberry, bearberry, cottongrass, ferns, horsetail, lichens and a thick cover of sphagnum and other mosses. Large areas burned since 1900 are covered by willow brush and very dense black spruce sapling stands.

AFTER: Major Ecosystems of Alaska. Joint Federal-State Land Use Planning Commission for Alaska. July 1973.

*For sites and locales within the study area vegetation maps compiled for the Susitna Hydroelectric Project should be used because they provide information concerning plant communities on maps which are 1 inch = 2000 feet.

SURVLY LOCALE:

CHECKED BY DATE

CL _____

FS _____

PS _____

PI* _____

*as needed

a. Describe the surface morphology noting topographic features, drainage, soils, variation in surface slope, etc.

This image shows a single sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper appears slightly aged or off-white. There is no handwriting or other markings on the page.

b. What, if any, are the discrepancies between the determination of the unit (based on air photo interpretation) and the field observation of the unit? Would you characterize the total area as a single unit based on the homogeneity of surface morphology?

c. Identify areas within the locale that potentially may be eliminated from further archaeological survey. Please provide objective criteria in your evaluation such as: 1) areas where testing is not feasible using standard archeological field techniques (areas of standing water, talus rubble); 2) areas where the substrata have been removed by natural erosion (indicate whether these areas have been surface examined for archeological materials); and 3) overly steep slopes. This would include slopes of greater than 15° to horizontal which you deem unlikely for site occurrence (describe and measure slope angle).

6.4 SUSITNA HYDROELECTRIC PROJECT HOUSEHOLD SURVEY

Questionnaire #: _____

SUSITNA HYDROELECTRIC PROJECT
HOUSEHOLD SURVEY

Community: _____
Interviewer: _____
Date: _____

Location of Household:

Block #: _____ Housing Unit # (assigned. by interviewer): _____

First Contact Attempt:

Contact Made: 1. YES
2. NO

Comments:

Second Contact Attempt:

Contact Made: 1. YES
2. NO

Comments:

Third Contact Attempt:

Contact Made: 1. YES
2. NO

Comments:

Hello, my name is _____ and I am conducting a survey for the
Alaska Power Authority (SHOW IDENTIFICATION). We would like you to
participate in this survey. Your answers will be completely confidential
and voluntary, and will be greatly appreciated.

This study is part of the Susitna Hydroelectric Project. Its purpose is
to provide current information on the _____ area that can be used
for project planning.

The questions are about housing, characteristics of the people in your
household, hunting and fishing that you do, and recent changes in your
community. IF THEY REQUEST MORE INFORMATION, SHOW SUSITNA BROCHURE OR
APA LETTER.

I need to speak with someone 18 years or older that lives here. Would
that be you?

The first set of questions will focus on the size of your household and
the length of time that you have lived here.

Q-1 Are you the head of this household?

- _____
1. YES
2. NO
3. NO HEAD OF HOUSEHOLD

Q-2a How many adults (age 18 or older) live in this household?
IF THIS IS NOT CLEAR, SAY: I mean, all adults who consider this
their permanent residence, including people that are not related
to you.

FOR A CHILD THAT STAYS PART-TIME, RECORD AS A FRACTION IN QUESTIONS 2b-2d

Q-2b How many children under 5 years of age live in this household?

MAKE SURE THAT THE RESPONDENT INCLUDED INFANTS.

Q-2c How many children ages 5 through 11 live in this household?

Q-2d How many children ages 12 through 17 live in this household?

1a Are there any household members that live here all year round, but usually stay here less than four days per week?

IF 1, ANSWER FOLLOWING QUESTION

1. YES
2. NO

Q-3b (IF 1) How many?

Q-4 Did you or other household members live outside _____ (Cantwell, Trapper Creek, or Talkeetna) sometime in the last 12 months?

IF YES, ANSWER QUESTIONS 5-16

1. YES
2. NO

Q:5-16 In which months during the last twelve months did you not live here?

How about the other adults in your household?
Which months during the last twelve months did they not live here?

Respondent	Adult #2	Adult #3	Adult #4	Adult #5	Adult #6
5a _____ OCTOBER	5b _____ OCTOBER	5c _____ OCTOBER	5d _____ OCTOBER	5e _____ OCTOBER	5f _____ OCTOBER
6a _____ NOVEMBER	6b _____ NOVEMBER	6c _____ NOVEMBER	6d _____ NOVEMBER	6e _____ NOVEMBER	6f _____ NOVEMBER
7a _____ DECEMBER	7b _____ DECEMBER	7c _____ DECEMBER	7d _____ DECEMBER	7e _____ DECEMBER	7f _____ DECEMBER
8a _____ JANUARY	8b _____ JANUARY	8c _____ JANUARY	8d _____ JANUARY	8e _____ JANUARY	8f _____ JANUARY
9a _____ FEBRUARY	9b _____ FEBRUARY	9c _____ FEBRUARY	9d _____ FEBRUARY	9e _____ FEBRUARY	9f _____ FEBRUARY
10a _____ MARCH	10b _____ MARCH	10c _____ MARCH	10d _____ MARCH	10e _____ MARCH	10f _____ MARCH
11a _____ APRIL	11b _____ APRIL	11c _____ APRIL	11d _____ APRIL	11e _____ APRIL	11f _____ APRIL
12a _____ MAY	12b _____ MAY	12c _____ MAY	12d _____ MAY	12e _____ MAY	12f _____ MAY
13a _____ JUNE	13b _____ JUNE	13c _____ JUNE	13d _____ JUNE	13e _____ JUNE	13f _____ JUNE
14a _____ JULY	14b _____ JULY	14c _____ JULY	14d _____ JULY	14e _____ JULY	14f _____ JULY
15a _____ AUGUST	15b _____ AUGUST	15c _____ AUGUST	15d _____ AUGUST	15e _____ AUGUST	15f _____ AUGUST
16a _____ SEPTEMBER	16b _____ SEPTEMBER	16c _____ SEPTEMBER	16d _____ SEPTEMBER	16e _____ SEPTEMBER	16f _____ SEPTEMBER

17 Where was your household located before it came to _____?
(Cantwell, Trapper Creek, or Talkeetna)

- a. TOWN/CITY: _____
- b. STATE: _____
- c. COUNTRY: _____
- d. ENTER CODE: _____

- 1. ANOTHER COMMUNITY IN THE MAT-SU BOROUGH
- 2. ANCHORAGE
- 3. FAIRBANKS
- 4. OTHER RAILBELT
- 5. OTHER ALASKA
- 6. OUT-OF-STATE

Q-18 What are the two most important reasons the household moved here?

- a. _____: Reason #1
- b. _____: Reason #2

- 1. TO OBTAIN A JOB
- 2. TO SET UP A BUSINESS
- 3. AVAILABILITY OF LAND/LAND DISPOSAL/HOMESTEAD OPPORTUNITY
- 4. AVAILABILITY OF HOUSING
- 5. RECREATION--HUNTING/FISHING/OUTDOOR RECREATION
- 6. INEXPENSIVE TO LIVE
- 7. BORN OR RAISED HERE
- 8. FRIENDS OR RELATIVES NEARBY
- 9. QUALITY OF HOUSING
- 10. SHOPPING FACILITIES
- 11. COMMUNITY SERVICES
- 12. SCHOOL SYSTEM
- 13. PROXIMITY TO WORK
- 14. QUALITY OF LIFE
- 15. OTHER _____

The next set of questions deal with the type of housing you live in.

Q-19 Does the household own or rent this dwelling?

- 1. OWN/BUYING IT
- 2. RENT
- 3. OTHER _____

20 DO NOT ASK UNLESS IT IS NOT OBVIOUS
What type of home is this?

1. SINGLE FAMILY
2. DUPLEX
3. MULTIFAMILY BUILDING (BUILDING FOR THREE OR MORE FAMILIES)
4. MOBILE HOME ON SINGLE FAMILY LOT
5. MOBILE HOME IN MOBILE HOME PARK
6. TRAVEL TRAILER
7. ROOM/CABIN IN A LODGE
8. TENT OR OTHER TENT-LIKE STRUCTURE
9. OTHER _____

Q-21 Where do you get your water?

1. SURFACE
2. GROUND

Q-22 Does the home you live in have:

- _____ a. Cold Running Water..... 1. YES 2. NO
- _____ b. Hot Running Water..... 1. YES 2. NO
- _____ c. Septic Tank..... 1. YES 2. NO
- _____ d. Telephone..... 1. YES 2. NO
- _____ e. Electricity..... 1. YES 2. NO
(HOOKUP OR GENERATOR) IF 1, ANSWER NEXT QUESTION

f. . What is your main source of electricity?

1. MATANUSKA ELECTRIC ASSOCIATION
2. GENERATOR
3. BUY ELECTRICITY FROM NEIGHBOR/NEARBY BUSINESS
4. OTHER _____

g. How do you heat your home?
WRITE DOWN MORE THAN ONE CODE, IF APPLICABLE.

- I. _____
- II. _____
- III. _____

1. WOOD-BURNING HEATER
2. OIL HEATER
3. GAS-FIRED HEATER
4. PROPANE OR KEROSENE HEATERS
5. COAL BURNING STOVE
6. OTHER _____

Q-23 I'd like to ask you to rank, on a scale of 1 to ⁵/₇, your satisfaction with the following public facilities and services (SHEET A). Of course, some of these are provided by the state and some by the Mat-Su Borough (IF IN CANTWELL, SAY other governmental entities). NO FRACTIONAL SCORES.

IF 4 OR 5, ASK Why?

- a. _____ State Trooper protection _____

- b. _____ Schools _____

- c. _____ Fire Protection _____

- d. _____ Solid Waste or Gar-
bage disposal _____

- e. _____ Ambulance _____

- f. _____ Other Medical Care &
Services _____

- g. _____ Road System _____

- h. _____ Other transportation
(Railroad, airports) _____

- i. _____ Mental Health Services _____

- j. _____ Social Services
(GIVE EXAMPLES)
Mental Health, Alcohol Treatment _____

- k. _____ Libraries _____

- l. _____ Indoor Recreation
Facilities _____

- m. _____ Outdoor Recreation
Facilities _____

Q-24 How do you rate, on a scale of 1 to ⁵/₇, your water and waste water treatment system?

- a. _____ Quantity of Water _____

- b. _____ Water Quality _____

- c. _____ Septic Tank or Other
Sewage System _____

is next section contains questions about employment. I'll be asking you questions about each adult that lives in your household. You said there were ____ adults. Let's begin with yourself.

	<u>Respondent</u>	<u>Adult #2 in Hsehd</u>	<u>Adult #3 in Hsehd</u>
First Name	_____	_____	_____
Q-25 What is your relationship to the head of household?	a. _____ 1. SPOUSE 2. PARENT OR PARENT IN-LAW 3. SON OR DAUGHTER 4. GRANDPARENT 5. ROOMMATE OR FRIEND 6. OTHER _____	b. _____ 1. SPOUSE 2. PARENT OR PARENT IN-LAW 3. SON OR DAUGHTER 4. GRANDPARENT 5. ROOMMATE OR FRIEND 6. OTHER _____	c. _____ 1. SPOUSE 2. PARENT OR PARENT IN-LAW 3. SON OR DAUGHTER 4. GRANDPARENT 5. ROOMMATE OR FRIEND 6. OTHER _____
Q-26 How long has (USE FIRST NAME) lived in _____? (INSERT COMMUNITY NAME)	a. _____	b. _____	c. _____
Q-27 What is your age?	a. _____	b. _____	c. _____
Q-28 Is that person male or female?	a. _____ 1. Male 2. Female	b. _____ 1. Male 2. Female	c. _____ 1. Male 2. Female
Q-29 Are you a member of a native, regional, or village Corporation?	a. _____ 1. YES 2. NO	b. _____ 1. YES 2. NO	c. _____ 1. YES 2. NO
Q-30 Which category best describes your present employment status? (SHEET B)	a. _____ 1. Employed or self-employed 2. Retired 3. Unemp. (active) 4. Unemp. (inactive) 5. Homemaker 6. Student 7. Disabled	b. _____ 1. Employed or self-employed 2. Retired 3. Unemp. (active) 4. Unemp. (inactive) 5. Homemaker 6. Student 7. Disabled	c. _____ 1. Employed or self-employed 2. Retired 3. Unemp. (active) 4. Unemp. (inactive) 5. Homemaker 6. Student 7. Disabled
Q-31 What do you do for a living (primary occupation)?	a. _____	b. _____	c. _____
INTERVIEWER PUTS INTO CATEGORY (SHEET D)	a. _____	b. _____	c. _____

First Name

Adult #4 in Hsehd

Adult #5 in Hsehd

Adult #6 in Hsehd

d _____

e _____

f _____

Q-25. What is your relationship to the head of household?

d _____

1. SPOUSE
2. PARENT OR PARENT IN-LAW
3. SON OR DAUGHTER
4. GRANDPARENT
5. ROOMMATE OR FRIEND
6. OTHER _____

e _____

1. SPOUSE
2. PARENT OR PARENT IN-LAW
3. SON OR DAUGHTER
4. GRANDPARENT
5. ROOMMATE OR FRIEND
6. OTHER _____

f _____

1. SPOUSE
2. PARENT OR PARENT IN-LAW
3. SON OR DAUGHTER
4. GRANDPARENT
5. ROOMMATE OR FRIEND
6. OTHER _____

Q-26 How long has (USE FIRST NAME) lived in _____ ?
(INSERT COMMUNITY NAME)

d _____

e _____

f _____

Q-27 What is your age?

d _____

e _____

f _____

Q-28 Is that person male or female?

d _____

1. Male
2. Female

e _____

1. Male
2. Female

f _____

1. Male
2. Female

29 Are you a member of a native, regional, or village Corporation?

d _____

1. YES
2. NO

e _____

1. YES
2. NO

f _____

1. YES
2. NO

Q-30 Which category best describes your present employment status?
(SHEET B)

d _____

1. Employed or self-employed
2. Retired
3. Unemp. (active)
4. Unemp. (inactive)
5. Homemaker
6. Student
7. Disabled

e _____

1. Employed or self-employed
2. Retired
3. Unemp. (active)
4. Unemp. (inactive)
5. Homemaker
6. Student
7. Disabled

f _____

1. Employed or self-employed
2. Retired
3. Unemp. (active)
4. Unemp. (inactive)
5. Homemaker
6. Student
7. Disabled

Q-31 What do you do for a living (primary occupation)?

d. _____

e. _____

f. _____

INTERVIEWER PUTS INTO CATEGORY
(SHEET D)

d. _____

e. _____

f. _____

	<u>Respondent</u>	<u>Adult #2 in Hsehd</u>	<u>Adult #3 in Hsehd</u>
Q-32 Is there anything else you do for a living (secondary occupation)?	a. _____ 1. YES 2. NO	b. _____ 1. YES 2. NO	c. _____ 1. YES 2. NO
Q-33 IF YES TO Q-32, what else do you do for a living?	a. _____	b. _____	c. _____
INTERVIEWER PUTS INTO CATEGORY (SHEET D)	a. _____	b. _____	c. _____
Q-34 Who do you work for now or most recently?	a. _____	b. _____	c. _____
INTERVIEWER PUTS INTO CATEGORY (SHEET C)	a. _____	b. _____	c. _____

IF THEY HAVE MORE THAN ONE EMPLOYER, ANSWER FOR PRINCIPAL JOB.

Q-35 Where is/was your principal/last job located? [Is it within 10 miles of your home?]	a. _____ 1. Local(w/in 10 mi) 2. Other Mat-Su 3. Anchorage 4. Fairbanks 5. North Slope 6. Elsewhere	b. _____ 1. Local(w/in 10mi) 2. Other Mat-Su 3. Anchorage 4. Fairbanks 5. North Slope 6. Elsewhere	c. _____ 1. Local(w/in 10 mi) 2. Other Mat-Su 3. Anchorage 4. Fairbanks 5. North Slope 6. Elsewhere
Q-36 About how many hours per week do/did you work?	a. _____ 1. 0-9 2. 10-19 3. 20-29 4. 30-34 5. 35 or more	b. _____ 1. 0-9 2. 10-19 3. 20-29 4. 30-34 5. 35 or more	c. _____ 1. 0-9 2. 10-19 3. 20-29 4. 30-34 5. 35 or more
Q-37 If you are working part-time (34 hours or less per week), would you be interested in working full-time?	a. _____ 1. YES 2. NO 3. POSSIBLY	b. _____ 1. YES 2. NO 3. POSSIBLY	c. _____ 1. YES 2. NO 3. POSSIBLY

	Adult #4 In Hsehd	Adult #5 In Hsehd	Adult #6 In Hsehd
Q-32 Is there anything else you do for a living (secondary occupation)?	d. _____ 1. YES 2. NO	e. _____ 1. YES 2. NO	f. _____ 1. YES 2. NO
Q-33 IF YES TO Q-32, what else do you do for a living?	d. _____	e. _____	f. _____
INTERVIEWER PUTS INTO CATEGORY (SHEET D)	d. _____	e. _____	f. _____
Q-34 Who do you work for now or most recently?	d. _____	e. _____	f. _____
INTERVIEWER PUTS INTO CATEGORY (SHEET C)	d. _____	e. _____	f. _____

IF THEY HAVE MORE THAN ONE EMPLOYER, ANSWER FOR PRINCIPAL JOB

Q-35 Where is/was your principal/last job located? [Is it within 10 miles of your home?]	d. _____ 1. Local(w/in 10 mi) 2. Other Mat-Su 3. Anchorage 4. Fairbanks 5. North Slope 6. Elsewhere	e. _____ 1. Local(w/in 10mi) 2. Other Mat-Su 3. Anchorage 4. Fairbanks 5. North Slope 6. Elsewhere	f. _____ 1. Local(w/in 10 mi) 2. Other Mat-Su 3. Anchorage 4. Fairbanks 5. North Slope 6. Elsewhere
Q-36 About how many hours per week do/did you work?	d. _____ 1. 0-9 2. 10-19 3. 20-29 4. 30-34 5. 35 or more	e. _____ 1. 0-9 2. 10-19 3. 20-29 4. 30-34 5. 35 or more	f. _____ 1. 0-9 2. 10-19 3. 20-29 4. 30-34 5. 35 or more
Q-37 If you are working part-time (34 hours or less per week), would you be interested in working full-time?	d. _____ 1. YES 2. NO 3. POSSIBLY	e. _____ 1. YES 2. NO 3. POSSIBLY	f. _____ 1. YES 2. NO 3. POSSIBLY

WORKING OR UNEMPLOYED, ASK THE FOLLOWING QUESTIONS

	<u>Respondent</u>	<u>Adult #2 in Hsehd</u>	<u>Adult #3 in Hsehd</u>
38-49 During which of the past twelve calendar months were you employed or self- employed full-time?	38a <input type="checkbox"/> OCTOBER	38b <input type="checkbox"/> OCTOBER	38c <input type="checkbox"/> OCTOBER
	39a <input type="checkbox"/> NOVEMBER	39b <input type="checkbox"/> NOVEMBER	39c <input type="checkbox"/> NOVEMBER
	40a <input type="checkbox"/> DECEMBER	40b <input type="checkbox"/> DECEMBER	40c <input type="checkbox"/> DECEMBER
	41a <input type="checkbox"/> JANUARY	41b <input type="checkbox"/> JANUARY	41c <input type="checkbox"/> JANUARY
	42a <input type="checkbox"/> FEBRUARY	42b <input type="checkbox"/> FEBRUARY	42c <input type="checkbox"/> FEBRUARY
	43a <input type="checkbox"/> MARCH	43b <input type="checkbox"/> MARCH	43c <input type="checkbox"/> MARCH
	44a <input type="checkbox"/> APRIL	44b <input type="checkbox"/> APRIL	44c <input type="checkbox"/> APRIL
	45a <input type="checkbox"/> MAY	45b <input type="checkbox"/> MAY	45c <input type="checkbox"/> MAY
	46a <input type="checkbox"/> JUNE	46b <input type="checkbox"/> JUNE	46c <input type="checkbox"/> JUNE
	47a <input type="checkbox"/> JULY	47b <input type="checkbox"/> JULY	47c <input type="checkbox"/> JULY
	48a <input type="checkbox"/> AUGUST	48b <input type="checkbox"/> AUGUST	48c <input type="checkbox"/> AUGUST
	49a <input type="checkbox"/> SEPTEMBER	49b <input type="checkbox"/> SEPTEMBER	49c <input type="checkbox"/> SEPTEMBER
Q-50 Have you owned your own business during the last 12 months?	a <input type="checkbox"/>	b <input type="checkbox"/>	c <input type="checkbox"/>
	1. YES	1. YES	1. YES
	2. NO	2. NO	2. NO

IF WORKING OR UNEMPLOYED, ANSWER THE FOLLOWING QUESTIONS

38-49 During which of the
past twelve calendar
months were you
employed or self-
employed?

38d ☐ OCTOBER
39d ☐ NOVEMBER
40d ☐ DECEMBER
41d ☐ JANUARY
42d ☐ FEBRUARY
43d ☐ MARCH
44d ☐ APRIL
45d ☐ MAY
46d ☐ JUNE
47d ☐ JULY
48d ☐ AUGUST
49d ☐ SEPTEMBER

38e ☐ OCTOBER
39e ☐ NOVEMBER
40e ☐ DECEMBER
41e ☐ JANUARY
42e ☐ FEBRUARY
43e ☐ MARCH
44e ☐ APRIL
45e ☐ MAY
46e ☐ JUNE
47e ☐ JULY
48e ☐ AUGUST
49e ☐ SEPTEMBER

38f ☐ OCTOBER
39f ☐ NOVEMBER
40f ☐ DECEMBER
41f ☐ JANUARY
42f ☐ FEBRUARY
43f ☐ MARCH
44f ☐ APRIL
45f ☐ MAY
46f ☐ JUNE
47f ☐ JULY
48f ☐ AUGUST
49f ☐ SEPTEMBER

Q-50 Have you
owned your
own business during
the last 12 months?

d ☐
1. YES
2. NO

e ☐
1. YES
2. NO

f ☐
1. YES
2. NO

INSTRUCTIONS FOR INTERVIEWER: ASK QUESTIONS 51-53 FOR EACH ADULT WHO IS CURRENTLY OR RECENTLY EMPLOYED, AND FOR THE JOB THAT REQUIRES THE MOST TRAVEL TIME.

Q-51 How do you travel to work now (or in the most recent job that required travel)?

<u>Respondent</u>	<u>Adult #2 in Hsehd</u>	<u>Adult #3 in Hsehd</u>
a1 _____	b1 _____	c1 _____
a2 _____	b2 _____	c2 _____
a3 _____	b3 _____	c3 _____

1. PERSONAL MOTORIZED VEHICLE (CAR, TRUCK, VAN)
2. BUS
3. TRAIN
4. OTHER MOTOR VEHICLE
5. PLANE
6. ON FOOT/BICYCLE
7. NOT APPLICABLE

Q-52 What is the average time it takes/took to travel one way to work?

<u>Respondent</u>	<u>Adult #2 in Hsehd</u>	<u>Adult #3 in Hsehd</u>
a _____	b _____	c _____

1. LESS THAN 30 MINUTES
2. 31 TO 60 MINUTES
3. 1 HOUR (AND SOME MINUTES)
4. 2 HOURS (AND SOME MINUTES)
5. 3 HOURS (AND SOME MINUTES)
6. 4 HOURS (AND SOME MINUTES)
7. 5 HOURS (AND SOME MINUTES)
8. 6 HOURS OR MORE
9. NOT APPLICABLE

Q-53 How many round-trips to work do/did you make in an average week?

<u>Respondent</u>	<u>Adult #2 in Hsehd</u>	<u>Adult #3 in Hsehd</u>
a _____	b _____	c _____

1. LESS THAN ONE
2. ONE
3. TWO
4. THREE
5. FOUR
6. FIVE
7. SIX
8. SEVEN OR MORE
9. NOT APPLICABLE

INSTRUCTIONS FOR INTERVIEWER: ASK QUESTIONS 51-53 FOR EACH ADULT WHO IS CURRENTLY OR RECENTLY EMPLOYED, AND FOR THE JOB THAT REQUIRES THE MOST TRAVEL TIME.

Q-51 How do you travel to work now (or in the most recent job that required travel)?

Adult #4 in Hsehd

d1 _____
d2 _____
d3 _____

Adult #5 in Hsehd

e1 _____
e2 _____
e3 _____

Adult #6 in Hsehd

f1 _____
f2 _____
f3 _____

1. PERSONAL MOTORIZED VEHICLE (CAR, TRUCK, VAN)
2. BUS
3. TRAIN
4. OTHER MOTOR VEHICLE
5. PLANE
6. ON FOOT/BICYCLE
7. NOT APPLICABLE

Q-52 What is the average time it takes/took to travel one way to work?

Adult #4 in Hsehd

d _____

Adult #5 in Hsehd

e _____

Adult #6 in Hsehd

f _____

1. LESS THAN 30 MINUTES
2. 31 TO 60 MINUTES
3. 1 HOUR (AND SOME MINUTES)
4. 2 HOURS (AND SOME MINUTES)
5. 3 HOURS (AND SOME MINUTES)
6. 4 HOURS (AND SOME MINUTES)
7. 5 HOURS (AND SOME MINUTES)
8. 6 HOURS OR MORE
9. NOT APPLICABLE

Q-53 How many round-trips to work do/did you make in an average week?

Adult #4 in Hsehd

d _____

Adult #5 in Hsehd

e _____

Adult #6 in Hsehd

f _____

1. LESS THAN ONE
2. ONE
3. TWO
4. THREE
5. FOUR
6. FIVE
7. SIX
8. SEVEN OR MORE
9. NOT APPLICABLE

INSTRUCTIONS TO INTERVIEWER: ASK QUESTIONS 54-55 OF RESPONDENT AND ANY OTHER ADULT MEMBER OF HOUSEHOLD THAT IS PRESENT

Q-54 What is the average amount of time you would be willing to travel to work one way on a daily basis?

Respondent

a _____

Adult #2 in Hsehd

b _____

Adult #3 in Hsehd

c _____

1. LESS THAN FIFTEEN MINUTES
2. 15 TO 29 MINUTES
3. 30 MINUTES - 60 MINUTES
4. 1 HOURS
5. 2 HOURS
6. 3 HOURS
7. 4 HOURS OR MORE
8. NOT APPLICABLE

Q-55 What is the average amount of time you would be willing to travel to work one way on a weekly basis?

Respondent

a _____

Adult #2 in Hsehd

b _____

Adult #3 in Hsehd

c _____

1. LESS THAN THIRTY MINUTES
2. 31 TO 60 MINUTES
3. 1 HOUR (AND SOME MINUTES)
4. 2 HOURS (AND SOME MINUTES)
5. 3 HOURS (AND SOME MINUTES)
6. 4 HOURS (AND SOME MINUTES)
7. 5 HOURS (AND SOME MINUTES)
8. 6 HOURS OR MORE

INSTRUCTIONS TO INTERVIEWER: ASK QUESTIONS 54-55 OF RESPONDENT AND ANY OTHER ADULT MEMBER OF HOUSEHOLD THAT IS PRESENT

Q-54 What is the average amount of time you would be willing to travel to work one way on a daily basis?

Adult #4 In Hsehd

d _____

Adult #5 In Hsehd

e _____

Adult #6 In Hsehd

f _____

1. LESS THAN FIFTEEN MINUTES
2. 15 TO 29 MINUTES
3. 30 MINUTES - 60 MINUTES
4. 1 HOURS
5. 2 HOURS
6. 3 HOURS
7. 4 HOURS OR MORE
8. NOT APPLICABLE

Q-55 What is the average amount of time you would be willing to travel to work one way on a weekly basis?

Adult #4 In Hsehd

d _____

Adult #5 In Hsehd

e _____

Adult #6 In Hsehd

f _____

1. LESS THAN THIRTY MINUTES
2. 31 TO 60 MINUTES
3. 1 HOUR (AND SOME MINUTES)
4. 2 HOURS (AND SOME MINUTES)
5. 3 HOURS (AND SOME MINUTES)
6. 4 HOURS (AND SOME MINUTES)
7. 5 HOURS (AND SOME MINUTES)
8. 6 HOURS OR MORE

Is last set of questions concerns the hunting, fishing and/or trapping that you or members of this household may do. The purpose of these questions is to get an idea of how construction of the dam could affect your hunting, fishing, and trapping activities.

Fishing

Q-56 Do you or other members of your household fish?

a. _____ (IF YES, HOW MANY?) b. _____

1. YES

2. NO

IF THE ANSWER TO QUESTION 56 IS NO, SKIP TO QUESTION 65.

Q-57 What are the reasons you or other household members fish?

IF ONLY ONE REASON IS GIVEN, ASK "Are There Any Other Reasons?"

REASON #1 _____

REASON #2 _____

REASON #3 _____

1. FOR FOOD

2. FOR SPORT/RECREATION

3. FOR CULTURAL REASONS

4. FOR MONEY/INCOME

5. OTHER

Q-58 Of these reasons, what is the main reason?

Q-59 How many total days have you and other members of your household spent fishing in the last twelve months? (INTERVIEWER SHOULD PROVIDE AN EXAMPLE SO THE RESPONDENT UNDERSTANDS THAT WE ARE CONCERNED WITH FINDING OUT THE TOTAL PERSON-DAYS FOR ALL MEMBERS OF THE HOUSEHOLD). IF TWO PEOPLE ON A GIVEN DAY, WERE OUT FISHING FOR ANY PART OF THE DAY, THAT WOULD BE COUNTED AS TWO PERSON-DAYS

Q-60 How many total days have you and members of your household spent fishing in the last 12 months in the area shown on the map?

1. What kinds of fish does your household catch in this area? (show map)

- a. _____ SALMON (IF THEY SAY SALMON, ASK THEM TO BE MORE SPECIFIC)
- b. _____ RED OR SOOKEYE
- c. _____ PINK OR HUMPY
- d. _____ SILVER OR COHO
- e. _____ CHUM OR DOG
- f. _____ KING OR CHINOOK
- g. _____ GRAYLING
- h. _____ RAINBOW TROUT
- i. _____ BURBOT
- j. _____ DOLLY VARDEN
- k. _____ OTHER (specify) _____, _____, _____

Q-62 Of the total amount of meat and fish eaten by your household during the last 12 months, what portion comes from this area?

- 1. NONE
- 2. LESS THAN ONE QUARTER
- 3. ONE QUARTER TO ONE HALF
- 4. ABOUT ONE HALF
- 5. ONE HALF TO THREE QUARTERS
- 6. MORE THAN THREE QUARTERS

ASK QUESTIONS 63 AND 64 ONLY IF CULTURAL AND RECREATION WERE GIVEN AS REASONS IN QUESTION 57.

Q-63 Of all your cultural activities, how important is fishing in the area shown on the map?

- 1. VERY IMPORTANT
- 2. IMPORTANT
- 3. NOT SO IMPORTANT
- 4. UNIMPORTANT

Q-64 Of all your recreational activities, how important is fishing in the area shown on the map?

- 1. VERY IMPORTANT
- 2. IMPORTANT
- 3. NOT SO IMPORTANT
- 4. UNIMPORTANT

ating

Q-65 Do you or other members of your household hunt?
a. _____ (IF YES, HOW MANY?) b. _____

1. YES
2. NO

IF THE ANSWER TO QUESTION 65 IS NO, SKIP TO QUESTION 78.

Q-66 What are the reasons you or other household members hunt?
IF ONLY ONE REASON IS GIVEN, ASK "Are There Any Other Reasons?"

- a. _____ REASON #1
- b. _____ REASON #2
- c. _____ REASON #3

1. FOR FOOD
2. FOR SPORT/RECREATION
3. FOR CULTURAL ACTIVITIES
4. FOR MONEY/INCOME
5. OTHER

Q-67 Of those reasons, what is the main reason?

Q-68 Do you or other household members have a subsistence permit from
the Department of Fish and Game?
_____ (IF YES, ANSWER THE NEXT QUESTION)

1. YES
2. NO

Q-69 How many household members hold such permits?

Q-70 How many total days have you and other members of your household
spent hunting in the last 12 months? (IF NECESSARY, MAKE IT
CLEAR THAT YOU ARE INTERESTED IN TOTAL PERSON-DAYS FOR ALL
MEMBERS OF YOUR HOUSEHOLD). COUNT EACH PERSON FOR HOWEVER LONG
THEY SPENT HUNTING AS ONE PERSON-DAY.

Q-71 How many total days have you and members of your household spent
hunting in the last 12 months in the two areas shown on the map?
a. _____ Area #1
b. _____ Area #2

72 What kinds of animals does your household hunt within each area?

	MOOSE	CARIBOU	SHEEP	BLACK BEAR	WOLF	WATER- FOWL	PTARMI- GAN	OTHER		
Area #1	a1	b1	c1	d1	e1	f1	g1	h1	i1	j1
Area #2	a2	b2	c2	d2	e2	f2	g2	h2	i2	j2

Q-73 How many animals did you and other household members harvest in each area (by species)?

	MOOSE	CARIBOU	SHEEP	BLACK BEAR	WOLF	WATER- FOWL	PTARMI- GAN	OTHER		
Area #1	a1	b1	c1	d1	e1	f1	g1	h1	i1	j1
Area #2	a2	b2	c2	d2	e2	f2	g2	h2	i2	j2

Q-74 How many animals did you and other household members obtain from road kills (by species)?

	MOOSE	CARIBOU	SHEEP	BLACK BEAR	WOLF	WATER- FOWL	PTARMI- GAN	OTHER		
	a1	b1	c1	d1	e1	f1	g1	h1	i1	j1

Q-75 Of the total amount of meat and fish eaten by your household during the last twelve months, what portion comes from your harvests in these areas (combined) excluding road kills?

1. NONE
2. LESS THAN ONE QUARTER
3. ONE QUARTER TO ONE HALF
4. ABOUT ONE HALF
5. ONE HALF TO THREE QUARTERS
6. MORE THAN THREE QUARTERS

ASK QUESTIONS 76 AND 77 ONLY IF CULTURAL AND RECREATION WERE GIVEN AS REASONS IN QUESTION 66.

Q-76 Of all your cultural activities, how important is hunting within these areas?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT SO IMPORTANT
4. UNIMPORTANT

7 Of all your recreational activities, how important is hunting within these areas?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT SO IMPORTANT
4. UNIMPORTANT

TRAPPING

Q-78 Do you or other members of your household trap?

a. _____ (IF YES, HOW MANY?) b. _____

1. YES
2. NO

IF THE ANSWER TO QUESTION 78 IS NO, SKIP TO QUESTION 88.

Q-79 What are the reasons you or other household members trap?
IF ONLY ONE REASON IS GIVEN, ASK "Are there any other reasons?"

- a. _____ REASON #1
- b. _____ REASON #2
- c. _____ REASON #3

1. FOR FOOD
2. FOR SPORT/RECREATION
3. FOR CULTURAL ACTIVITIES
4. FOR MONEY/INCOME
5. OTHER

Q-80 Of those reasons, what is the main reason?

Q-81 How many total days have you and other members of your household spent trapping in the last 12 months? IF NECESSARY, MAKE IT CLEAR THAT YOU ARE INTERESTED IN TOTAL PERSON-DAYS FOR ALL MEMBERS OF YOUR HOUSEHOLD). COUNT EACH PERSON FOR HOWEVER LONG THEY SPENT IN THE AREA AS ONE-PERSON DAY.

Q-82 How many total days have you and members of your household spent trapping in the last 12 months in the two areas shown on the map?

- a. _____ Area #1
- b. _____ Area #2

73 What kinds of animals does your household trap within each area?

	BEAVER	MARTEN	LYNX	MINK	MUSK- RAT	OTTER	RED FOX	WOL- VERINE	OTHER		
Area #1	a1	b1	c1	d1	e1	f1	g1	h1	i1	j1	k1
Area #2	a2	b2	c2	d2	e2	f2	g2	h2	i2	j2	k2

Q-84 How many animals did you and other household members harvest in each area (by species)?

	BEAVER	MARTEN	LYNX	MINK	MUSK- RAT	OTTER	RED FOX	WOL- VERINE	OTHER		
Area #1	a1	b1	c1	d1	e1	f1	g1	h1	i1	j1	k1
Area #2	a2	b2	c2	d2	e2	f2	g2	h2	i2	j2	k2

ASK QUESTIONS 85 AND 86 ONLY IF CULTURAL AND RECREATION WERE GIVEN AS ANSWERS TO QUESTION 79.

Q-85 Of all your cultural activities, how important is trapping within these areas?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT SO IMPORTANT
4. UNIMPORTANT

Q-86 Of all your recreational activities, how important is trapping within these areas?

1. VERY IMPORTANT
2. IMPORTANT
3. NOT SO IMPORTANT
4. UNIMPORTANT

Q-87 What portion of your yearly income is from animals trapped in these areas shown on the map?

1. NONE
2. LESS THAN ONE QUARTER
3. ONE QUARTER TO ONE HALF
4. ABOUT ONE HALF
5. ONE HALF TO THREE QUARTERS
6. MORE THAN THREE QUARTERS

38 That is it for the questions on hunting, fishing and trapping. Now can you tell me, Have you noticed any changes in your community since 1980?
(IF 1, ANSWER QUESTION 89)

1. YES
2. NO

:
:
:
:

Q-89 Please describe how your community has changed since 1980 (GIVE THEM SHEET E). (probe until no more: Yes, can you think of any others?)

CHANGE	CODE
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Thank you for your cooperation and for sharing your thoughts. You have been very helpful and it is greatly appreciated. When we are putting this information together, it is possible that some problems may come up, if for instance a mistake was made in recording an answer. Would you be willing to give me your phone number (or post office box number), to use only in such a case?.

RESPONDENT'S FIRST NAME: _____

Phone Number _____

Box Number _____

0132h

HOUSEHOLD SURVEY

SHEET A

1. VERY SATISFIED
2. SATISFIED
3. NEITHER SATISFIED NOR DISSATISFIED
4. DISSATISFIED
5. VERY DISSATISFIED

HOUSEHOLD SURVEY

SHEET B

EMPLOYMENT STATUS

1. EMPLOYED OR SELF-EMPLOYED
2. RETIRED
3. UNEMPLOYED AND ACTIVELY SEEKING WORK
4. UNEMPLOYED AND NOT ACTIVELY SEEKING WORK
(DURING THE PAST MONTH)
5. HOMEMAKER
6. STUDENT
7. DISABLED

HOUSEHOLD SURVEY

SHEET C

INDUSTRY-EMPLOYER

1. **Agriculture, Forestry and Commercial Fishing** (loggers, farm implement & fertilizer sales, farmers and ag. laborers, trappers)
2. **Mining** (metal mining, oil & gas extraction, nonmetallic minerals)
3. **Construction** (carpenters, bricklayers, electricians, plumbers)
4. **Manufacturing** (Forest and Wood Products, Seafood Processors, Chemical and Allied Products, Paper and Paper Products)
5. **Transportation, Communications, Utilities**, excluding government utilities (telephone company, air transportation, electric, gas and sanitary services, and trucking and warehousing)
6. **Wholesale Trade** (establishments that sell goods to retail outlets and not directly to consumers such as distributors of furniture, alcoholic beverages, automotive parts, construction machinery)
7. **Retail trade** (establishments that sell goods directly to consumers such as clothing, hardware, and food stores, gasoline stations, eating and drinking establishments, automotive dealers)
8. **Finance, insurance and real estate** (banks, realty offices, insurance companies, credit agencies, and investment companies)
9. **Services**, other than wholesale and retail trade (hotels, legal services, auto repair shops, and business services)
10. **Federal government**
11. **State government** (including education)
12. **Local government** (including education and utilities)

HOUSEHOLD SURVEY

SHEET D

OCCUPATION

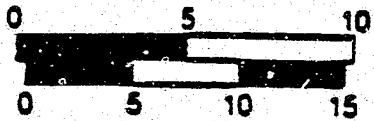
1. Professional, technical and managers (teachers, engineers, accountants, lawyers, medical & dental technicians, airplane pilots)
2. Clerical workers and sales persons (bookkeepers, secretaries, shipping & receiving clerks, tele. oper., and clothing sales people)
3. Service Workers (Hospital, hotel, restaurant workers, private household workers, police officers, firefighters)
4. Agriculture, fishery and forestry related workers (loggers, commercial fishers, trappers, farmers, and landscapers)
5. Processing (food, metal processing, ore refining)
6. Machine trades (Machinists, mechanics, printers, cabinetmakers)
7. Benchwork (Fabricators, Assemblers, & Repairers of metal, jewelry, photo equip. & textiles, tailors, sewing machine operators)
8. Structural (welders, electrical workers, carpenters, painters)
9. Armed Forces
10. Recreation-based occupations (guiding, mountain-climbing)
11. Motor freight & transportation (truck drivers, air transportation, railroad, parking lot)
12. Packaging and Materials Handling (packagers, movers, stevedores)
13. Mining (borers, drillers, cutters, and blasting specialists)
14. Miscellaneous (elec. util., water and water treatment, graphic arts workers)

HOUSEHOLD SURVEY

SHEET E

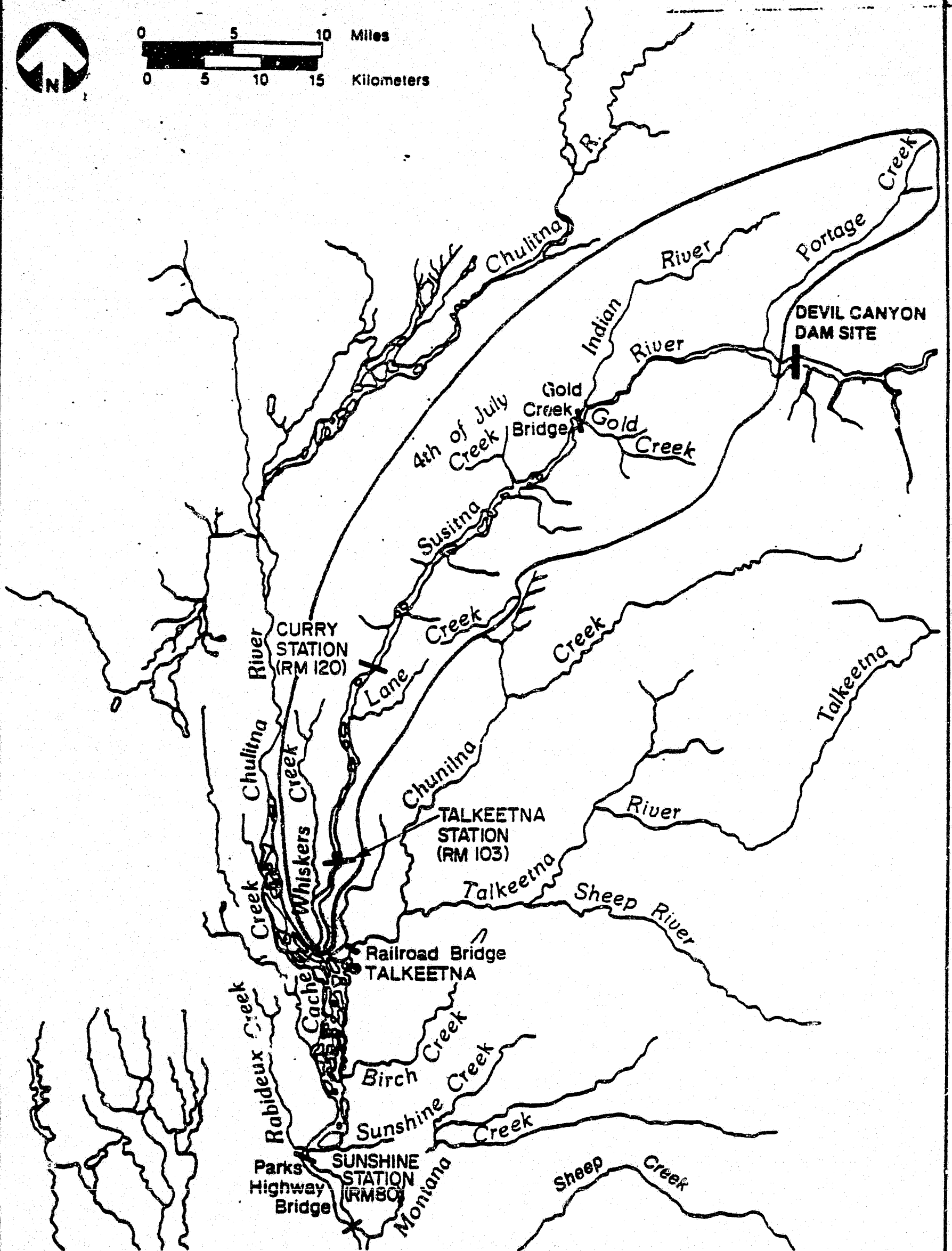
1. BIG CHANGE FOR WORSE
2. SMALL CHANGE FOR WORSE
3. BIG CHANGE FOR BETTER
4. SMALL CHANGE FOR BETTER

0136h



Miles

Kilometers



SUSITNA RIVER AND MAJOR TRIBUTARIES FROM MONTANA CREEK TO DEVIL CANYON

FIGURE E.3.5



6.5 SUSITNA HYDROELECTRIC PROJECT BUSINESS SURVEY

Questionnaire #: _____
Community: _____
Interviewer: _____
Date: _____

SUSITNA HYDROELECTRIC PROJECT
BUSINESS SURVEY

Business Name: _____

Address (location
if no address available): _____

Telephone Number: (907) _____ - _____

Owner's Name: _____

Manager's Name (if different than owner): _____

First Contact Attempt:

Contact Made: 1. YES
2. NO

Comments:

Second Contact Attempt:

Contact Made: 1. YES
2. NO

Comments:

Third Contact Attempt:

Contact Made: 1. YES
2. NO

Comments:

Hello, my name is _____ and I am conducting a survey for the Alaska Power Authority.

The survey is part of the Susitna Hydroelectric Project. A more complete understanding of businesses in the area is needed to plan for the construction and operation of the Project.

The survey questions are about your business, and any plans for expansion you may have.

We would like you to participate in this survey. Your answers will be completely confidential and voluntary, and will be greatly appreciated.

Q-1 What are the main products or services that your business provides?

a. Products _____

b. Services _____

Q-2 How many years has the business been in operation?

a. _____ (code)

b. _____ (actual number of years)

1. LESS THAN 1
2. 1-2
3. 3-5
4. 6-10
5. MORE THAN 10

Q-3 How many years have you owned this business?

a. _____ (code)

b. _____ (actual number of years)

1. LESS THAN 1
2. 1-2
3. 3-5
4. 6-10
5. MORE THAN 10

Q-4 How many persons, including yourself, were employed full-time during the summer of 1983? (Full-time = greater than 34 hours of work per week)

Q-5 Of the total number of full-time employees, how many were family members?

Q-6 How many persons, including yourself, were employed part-time during the summer of 1983? (Part-time = 1-34 hours of work per week)

Q-7 : Of the total number of part-time employees, how many were family members?

Q-8 Were most of your summer, 1983 employees, residents of the area for a year or more, less than a year, or a mixture of both?

1. RESIDENTS FOR A YEAR OR MORE
2. RESIDENTS FOR LESS THAN A YEAR
3. MIXTURE OF BOTH TYPES OF RESIDENTS

Q-9 How many persons, including yourself, were employed full-time during the winter of 1982-1983?

Q-10 Of the total number of full-time employees, how many were family members?

Q-11 How many persons, including yourself, were employed part-time during the winter of 1982-1983?

Q-12 Of the total number of part-time employees, how many were family members?

Q-13 Were most of your winter, 1983 employees, residents of the area for a year or more, less than a year, or a mixture of both?

1. RESIDENTS FOR A YEAR OR MORE
2. RESIDENTS FOR LESS THAN A YEAR
3. MIXTURE OF BOTH TYPES OF RESIDENTS

Q-14a How has your volume of business this year (1983) compared to your volume of business during the previous five years (1978-1982)? Please choose from among these choices (SHEET A)

1. A LOT MORE IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
2. MORE IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
3. ABOUT THE SAME IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
4. LESS IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
5. A LOT LESS IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
6. NO BASIS FOR COMPARISON

IF 1,2,4, or 5, THEN:

Q-14b What were the main factors that contributed to this change in business volume?

Q-15 What kinds of problems has your business faced within the last year?

1. LACK OF DEMAND

2. INADEQUATE COMMUNITY INFRASTRUCTURE

3. FINANCING

4. SUPPLY

5. INSURANCE

6. LABOR

7. WEATHER

8. CUSTOMER ACCESS TO BUSINESS

9. OTHER

Q-16a Do you have any plans for expanding this business during the next year?

IF 1 or 3, ASK NEXT 2 QUESTIONS.

1 YES

2 NO

3 NOT SURE

Q-16b: What are your business expansion plans?

When _____

Where (town) _____

Number of new hires _____

Why _____

Other comments _____

Q-16c: Are there any factors that would constrain your business expansion plans?

Q-17a Do you have any plans for starting a new business?

IF 1 OR 3, ASK THE NEXT TWO QUESTIONS.

1 YES

2 NO

3 NOT SURE

Q-17b: What are your plans for starting a new business?

Products/services _____

When _____

Where (town) _____

Number of new hires _____

Why _____

Other comments _____

Q-17c: Are there any factors that would constrain your business start-up plans?

ASK ALL OF QUESTION 18 IF THE BUSINESS IS A LODGING ESTABLISHMENT (HOTEL, MOTEL OR LODGE).

Q-18a How many rooms does your lodging establishment have? _____

Q-18b How many beds does your lodging establishment have? _____

Q-18c What was the occupancy rate during the summer of 1983? _____

Q-18d What was the occupancy rate during the winter of 1982-1983? _____

Q-18e Are you planning to add more beds?
_____ IF 1 OR 3, ASK NEXT QUESTIONS.

1 = YES

2 = NO

3 = NOT SURE

Q-18f How many beds are you planning to add? _____

Q-18g When do you plan to add these beds?

1. OCT-DEC, 1983
2. JAN-MAR, 1984
3. APR-JUN, 1984
4. JUL-SEP, 1984
5. AFTER SEP, 1984

Q-18h Why are you going to add these beds?

1. MORE GUESTS NOW/RECENTLY THAN I CAN ACCOMMODATE.
2. ANTICIPATE MORE GUESTS IN FUTURE THAN NOW/RECENTLY.
- 3.

OTHER _____

Q-19, (SHOW SHEET B) In which category would you place your gross annual business sales volume?

1. UNDER \$50,000
2. \$50,000-\$99,000
3. \$100,000-\$249,000
4. \$250,000-\$499,999
5. \$500,000-\$999,999
6. \$1,000,000 OR MORE

ASK THE FOLLOWING QUESTIONS IF THE BUSINESS IS ENGAGED IN OR IS RELATED TO HUNTING, FISHING OR TRAPPING ACTIVITIES.

Q-20 What percentage of your gross annual business revenues would you attribute to hunting activities?

1. LESS THAN 25%
2. 25% - 49%
3. 50% - 74%
4. 75% - 100%

Q-21 What percentage of your gross annual business revenues would you attribute to your hunting activities in the areas shown on this map?

1. LESS THAN 25%
2. 25% - 49%
3. 50% - 74%
4. 75% - 100%

Q-22 What species of animals were hunted as part of your business activities in these areas last year (SEASON)?

	MOOSE	CARIBOU	SHEEP	BLACK BEAR	WOLF	WATER- FOWL	PTARMI- GAN	OTHER		
Area #1	a1	b1	c1	d1	e1	f1	g1	h1	i1	j1
Area #2	a2	b2	c2	d2	e2	f2	g2	h2	i2	j2

Q-23 What percentage of your gross annual business revenues would you attribute to fishing activities?

1. LESS THAN 25%
2. 25% - 49%
3. 50% - 74%
4. 75% - 100%

Q-24 What percentage of your gross annual business revenues would you attribute to your fishing activities in the area shown on the map?

1. LESS THAN 25%
2. 25% - 49%
3. 50% - 74%
4. 75% - 100%

Q-25 What species of fish were caught as part of your business activities in this area last year (SEASON)?

a. _____ SALMON (IF THEY SAY SALMON, ASK THEM TO BE MORE SPECIFIC)

b. _____ RED OR SOCKEYE

c. _____ PINK OR HUMPY

d. _____ SILVER OR COHO

e. _____ CHUM OR DOG

f. _____ KING OR CHINOOK

g. _____ GRAYLING

h. _____ RAINBOW TROUT

i. _____ BURBOT

j. _____ DOLLY VARDEN

k. _____ OTHER (specify) _____, _____, _____

Q-26 What percentage of your gross annual business revenues would you attribute to trapping activities?

1. LESS THAN 25%
2. 25% - 49%
3. 50% - 74%
4. 75% - 100%

Q-27 What percentage of your gross annual business revenues would you attribute to trapping activities in the areas shown on the map?

1. LESS THAN 25%
2. 25% - 49%
3. 50% - 74%
4. 75% - 100%

Q-28 What furbearers were caught as part of your business activities in these areas last year (SEASON)?

	BEAVER	MARTEN	LYNX	MINK	MUSK- RAT	OTTER	RED FOX	WOL- VERINE	OTHER			
Area #1	a1	b1	c1	d1	e1	f1	g1	h1	i1	j1	k1	
Area #2	a2	b2	c2	d2	e2	f2	g2	h2	i2	j2	k2	

SHEET A

1. A LOT MORE IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
2. MORE IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
3. ABOUT THE SAME IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
4. LESS IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
5. A LOT LESS IN THE LAST 12 MONTHS THAN IN PREVIOUS YEARS
6. NO BASIS FOR COMPARISON

0156h

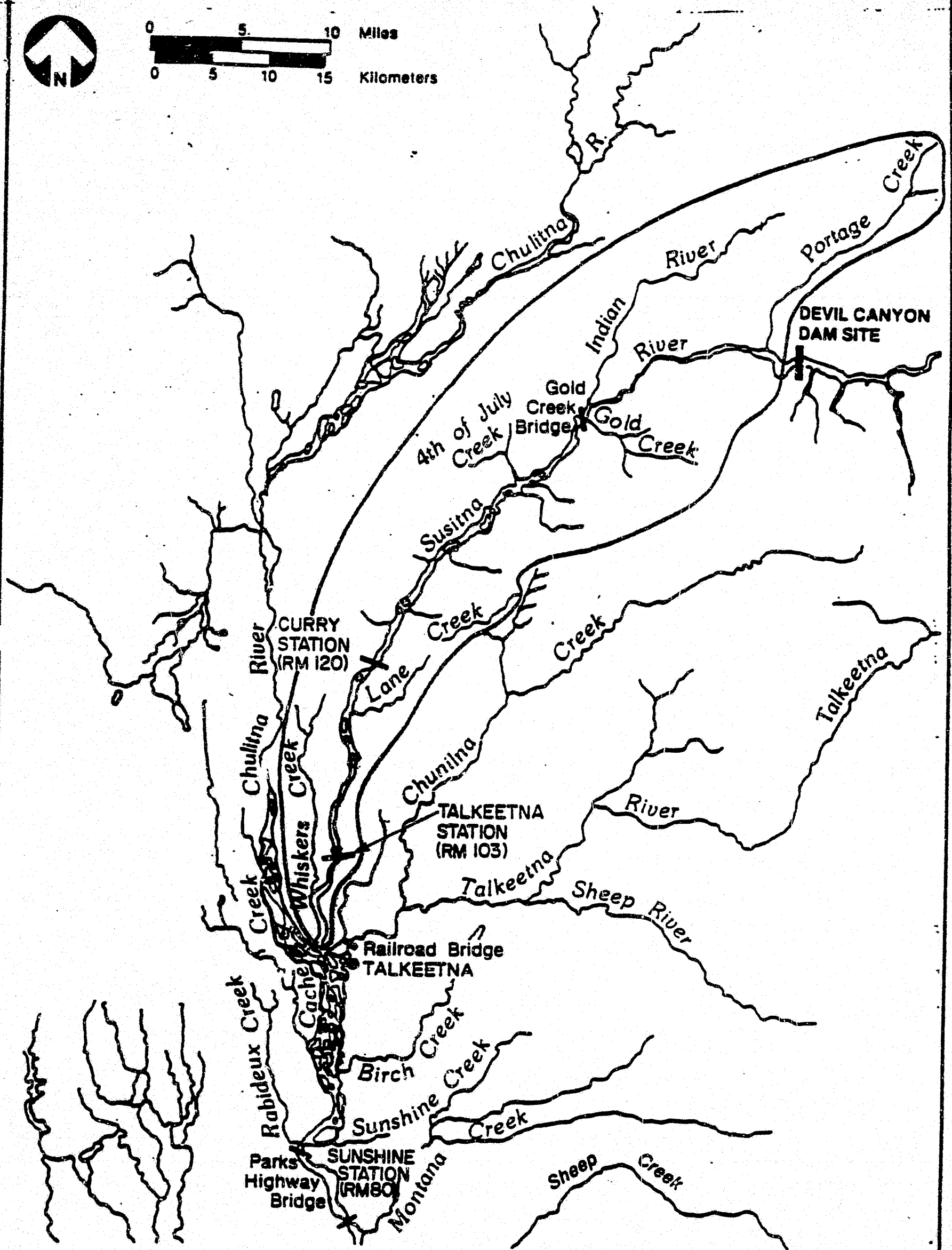
SHEET B

1. UNDER \$50,000
2. \$50,000-\$99,000
3. \$100,000-\$249,000
4. \$250,000-\$499,999
5. \$500,000-\$999,999
6. \$1,000,000 OR MORE

0156h

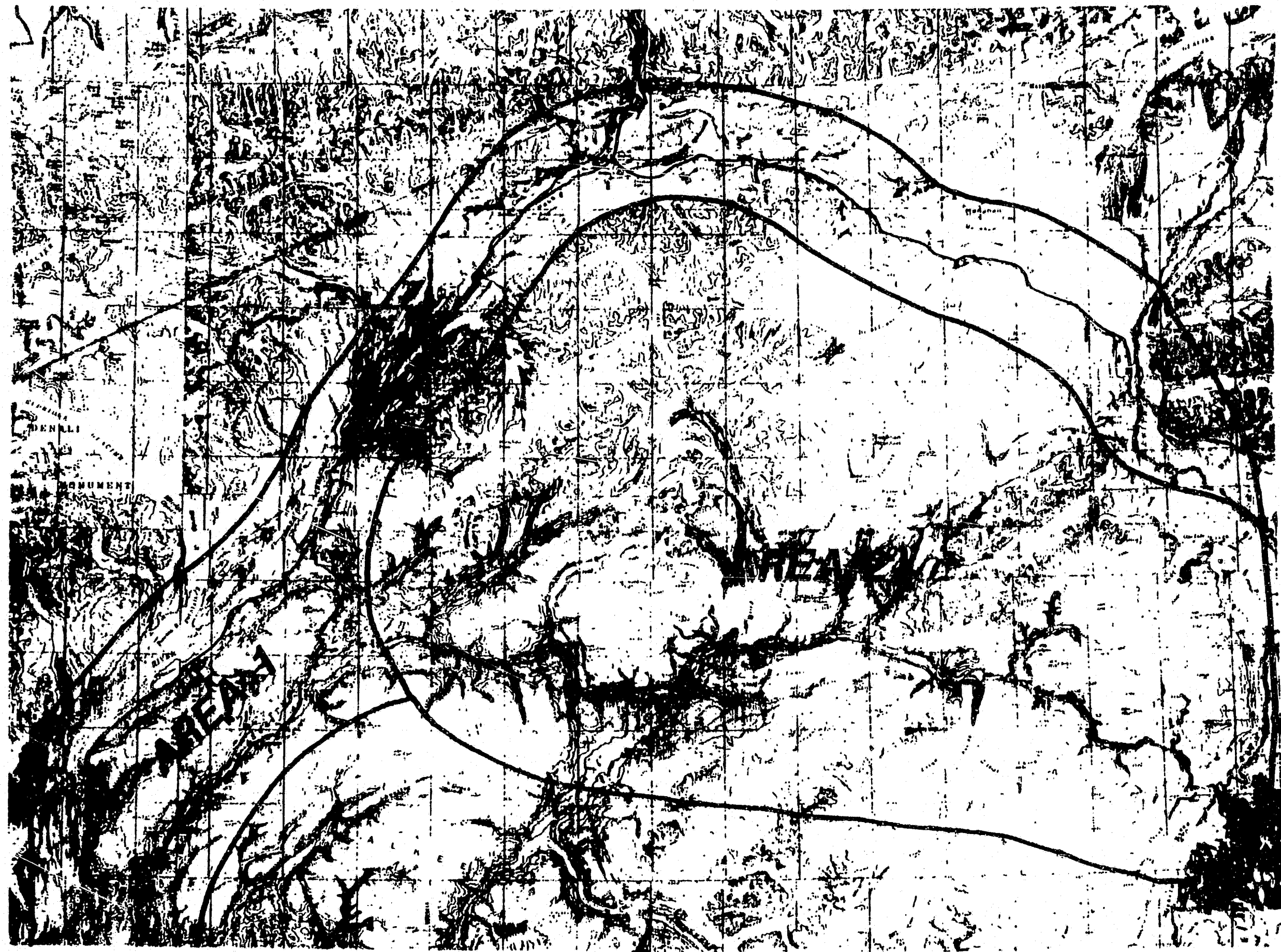


0 5 10 Miles
0 5 10 15 Kilometers



SUSITNA RIVER AND MAJOR TRIBUTARIES FROM MONTANA CREEK TO DEVIL CANYON

FIGURE E.3.3



6.6 SUSITMA HYDROELECTRIC PROJECT PUBLIC SECTOR SURVEY

Questionnaire # _____

Community _____

Interviewer _____

Date _____

**SUSITNA HYDROELECTRIC PROJECT
PUBLIC SECTOR SURVEY**

Agency Name: _____

Address: _____

Mailing: _____

Location: _____

Telephone: (907) _____

Agency Representative Interviewed: _____

Title: _____

First Contact Attempt

Contact Made: 1. YES _____

2. NO _____

Comments:

Second Contact Attempt

Contact Made: 1. YES _____

2. NO _____

Comments:

Third Contact Attempt

Contact Made: 1. YES _____

2. NO _____

Comments:

Hello, my name is _____ and I am conducting a survey for the Alaska Power Authority, as part of the Susitna Hydroelectric Project. A more complete understanding of the public and governmental agencies in the area is needed to plan for the construction and operation of the Project. The survey questions are about your agency and its plans for the future.

We would like you to participate in this survey. Your answers will be confidential and voluntary, and will be greatly appreciated.

Q-1 What are the main services your agency provides from this office?

Q-2 What geographical area or areas does this office serve?

Q-3 What special groups, if any, does this office of your agency serve?

Q-4 How many years has this office been in this community?

- a. _____ (code)
b. _____ (actual number of years)

1. LESS THAN 1
2. 1-2
3. 3-5
4. 6-10
5. MORE THAN 10

Q-5 How many persons, including yourself, were employed during the summer of 1983? (Be sure to include people who work under contract, such as clerical workers, janitorial service workers, food service workers, and/or bus drivers.)

FULL-TIME (more than 34 hrs/week) _____

PART-TIME (less than 34 hrs/week) _____

Q-6 Were most of these summer 1983 employees people who lived here for one year or more, or people who lived here for less than one year; or a mixture of both?

1. RESIDENT FOR ONE YEAR OR MORE _____
2. RESIDENT FOR LESS THAN ONE YEAR _____
3. MIXTURE OF BOTH TYPES OF RESIDENTS _____

Q-7 How many persons, including yourself, were employed during the winter of 1982-83? (Be sure to include people who work under contract, such as clerical workers, janitorial service workers, food service workers, and/or bus drivers.)

FULL-TIME (more than 34 hrs/week) _____

PART-TIME (less than 34 hrs/week) _____

Q-8 Were most of these winter 1982-83 employees people who lived here for one year or more, or people who lived here for less than one year; or a mixture of both?

1. RESIDENT FOR ONE YEAR OR MORE _____
2. RESIDENT FOR LESS THAN ONE YEAR _____
3. MIXTURE OF BOTH TYPES OF RESIDENTS _____

Q-9 How many persons, including yourself, were employed during the summer in the last 5 years? (Be sure to include people who worked under contract.)

	<u>1982</u>	<u>1981</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>
FULL-TIME					
(>34 hrs/wk)	_____	_____	_____	_____	_____
PART-TIME					
(<34 hrs/wk)	_____	_____	_____	_____	_____

Q-10 How many persons, including yourself, were employed during the winter in the last 5 years? (Be sure to include people who worked under contract.)

	<u>1982</u>	<u>1981</u>	<u>1980</u>	<u>1979</u>	<u>1978</u>
FULL-TIME					
(>34 hrs/wk)	_____	_____	_____	_____	_____
PART-TIME					
(<34 hrs/wk)	_____	_____	_____	_____	_____

Q-11 What is your office's budget for this community for this fiscal year?

Q-12 What are your fiscal year dates?

Q-13 What month do you begin preparing your budget for the next fiscal year?

Q-14a How does the present fiscal year's budget for this office compare to the budgets in the previous 5 years?

1. A LOT MORE IN THIS BUDGET THAN IN PREVIOUS YEARS _____
2. MORE IN THIS BUDGET THAN IN PREVIOUS YEARS _____
3. ABOUT THE SAME IN THIS BUDGET AS IN PREVIOUS YEARS _____
4. LESS IN THIS BUDGET THAN IN PREVIOUS YEARS _____
5. A LOT LESS IN THIS BUDGET THAN IN PREVIOUS YEARS _____
6. FLUCTUATED, NO CONSISTENT PATTERN _____
7. NO BASIS FOR COMPARISON _____

IF 1, 2, 4, 5, or 6, THEN:

Q-14b What are the main factors which contributed to this change in the budget?

Q-15a Did your agency experience any problems in the last fiscal year?

- _____ 1. YES
- _____ 2. NO

IF YES, THEN:

Q-15b What were those problems?

Q-16a Does your office have any plans to expand its services in this area?

- _____ 1. YES
- _____ 2. NO
- _____ 3. NOT SURE

IF YES, ASK NEXT TWO QUESTIONS.

Q-16b What are your expansion plans?

WHERE _____

WHEN _____

WHAT _____

NUMBER OF NEW HIRES _____

BUDGETED/FUNDING _____

Q-16c Are there any factors which would limit your expansion plans?

Q-17a Does your office have any plans to decrease its level of service in the next fiscal year?

_____ 1. YES

_____ 2. NO

_____ 3. NOT SURE

IF YES, THEN:

Q-17b What are these plans?

WHERE _____

WHEN _____

WHAT _____

OTHER COMMENTS _____

6.7 ANCHORAGE/FAIRBANKS INTERTIE WORKER SURVEY

The Alaska Power Authority requests your cooperation on completing this survey of Intertie workers. This survey will be used to help develop information about people who may be working on the proposed Susitna Hydroelectric Project. Your cooperation in this effort is greatly appreciated. All answers are voluntary and confidential. Thank you.

ALASKA POWER AUTHORITY ANCHORAGE/FAIRBANKS INTERTIE WORKER SURVEY

1. What do you do on the Intertie Project? _____
 2. Is your job: union _____; non-union _____?
 3. What town do you live in now during the week? _____
 4. What type of housing do you live in now during the week? (Check one)
_____ housing provided by employer _____ travel trailer _____ apartment _____ tent
_____ lodge/hotel/motel _____ mobile home _____ house _____ other
 5. What town do you usually live in on weekends and during other time off from work?
Town _____; State _____
 6. What town did you live in before you took this job? Town _____; State _____
- IF YOU HAVE DEPENDENTS, PLEASE ANSWER QUESTION #7. IF YOU DO NOT, PLEASE SKIP TO QUESTION #8.
- 7a. What town did your dependents live in before you took this job?
Town _____; State _____
 - 7b. What town do your dependents live in now? Town _____; State _____
 - 7c. What are the ages of each of your dependents? _____
 - 7d. How many of your dependents are currently employed? _____
8. Where do you plan to live after your job on this project is completed?
Town _____; State _____
 9. What is your age? _____
 10. Male _____; Female _____.

THANK YOU FOR YOUR COOPERATION.
(See reverse side of card for more information about this survey.)

6.8 SUSITNA HYDROELECTRIC PROJECT INFORMATION FOR INTERVIEWS

SUSITNA HYDROELECTRIC PROJECT SURVEYS
IN CANTWELL, TRAPPER CREEK AND TALKEETNA

INFORMATION FOR INTERVIEWERS

I. INTRODUCTION

A. Types of Surveys

There are three types of surveys that will be conducted in the communities:

1. Household survey - 30% of the community's^a households
2. Business survey - 100% of the identifiable^b business establishments; in addition, business surveys should be conducted when home businesses are identified in the household survey.
3. Construction Worker Survey (In Talkeetna and Cantwell only)
This survey will be self-administered and will be distributed by the project managers. Completed questionnaires will be mailed to us.

^a As delineated in our maps of the community.

^b From telephone directories, 1983 for Talkeetna, Trapper Creek, and Cantwell.

B. Survey materials:

1. The list of blocks of housing units that will be contacted and additional blocks that may be needed; the list includes the number of housing units that are expected to be in each block and the total target number of households that you should try to interview in that community.
2. A preliminary listing of businesses.
3. Maps which show where the blocks are, in relation to roads and other identifiable landmarks.
4. A set of questionnaires.
5. A set of answer lists and 2 fish and game maps which will be used to support the administration of the survey. (from Harza-Ebasco)
6. A log to record housing units contacted.
7. Waterproof (e.g. clear plastic with zip-lock) container for several surveys
8. Compass (hand-held)
9. Flashlight
10. ID card, from the Alaska Power Authority (from APA)
11. A set of George Gleason's business cards (from APA)
12. Fact sheet on the project (from APA)
13. A copy of the latest newsletter on the project (from APA)
14. Call back sheets, to be placed at households where no one is home
15. Red pens
16. Time and expense sheets

II. HOUSEHOLD SURVEY

A. Background on the methodology:

Possible households were identified from the Mat-Su Borough's assessor records of housing units. These were clustered into areas called blocks. A random sampling method was used to choose the blocks that will be surveyed. Each household in a chosen block should be surveyed. This methodology was chosen in order to limit the amount of travel time needed to conduct the surveys.

Because of the methodology used, a number of issues may come up in trying to locate households:

1. Some units may be vacant.
2. We do not have the names of the residents we are trying to reach.
3. In some areas where roads are scarce, the map will not be specific as to where the housing unit is. This will be of most consequence in the Trapper Creek survey.
4. The assessor records may be outdated, and additional housing units may be found in some blocks.

B. Operational procedures:

1. Attempt to survey the blocks in the order listed.
2. Conduct the interviews between 9 a.m. and 9 p.m. If it appears that the time is inconvenient for the respondent, set an appointment for a better time. Be on time for appointments.
3. In areas designated as parcel "A16" or "B4", etc., the location of the "X" on the map is not meant to indicate the location within the parcel the housing unit is. It is not possible to determine the location with the data available to us.
4. If there is no one present at a possible residence, try at least 2 callbacks. Callbacks should be done at different times of the day, in order to maximize the possibility of finding the residents at home. If you are able to interview a neighbor of a housing unit that has no one at home, ask the neighbor about the unit (is it occupied; if so, what is a good time to catch the residents at home):
5. Do not spend more than 30 minutes trying to locate a housing unit.
6. Some areas of the Mat-Su Borough have a high incidence of no-trespass signs at driveways and private roads. If you run across one, try to go on in to see someone. However, if you run into any signs of hostility, leave immediately.
7. A housing unit will be considered successfully canvassed if:
 1. An interview occurs.
 2. The unit is identified as vacant by a neighbor.
 3. The interviewer has attempted to call on the housing unit three times, at different times of day, and has not been able to find someone at home.
- A housing unit will be considered not successfully canvassed if:
 1. The household refused to respond.
 2. The housing unit can not be located.
 3. It is impossible to gain access, due to barriers, dogs, etc.
8. The listing of blocks contains information on the target number of housing units to be canvassed. If you are unable to meet the target number of households, either because of households that refuse to respond or because the housing unit can not be located, there is a secondary listing of blocks that should be used. As always, interview every household in each secondary block that it is necessary to canvass.
9. If more housing is found in a block than was expected, go ahead and interview those additional units. This is especially likely to happen in Cantwell. Do not count such households as part of the listing of successfully canvassed housing units. These households will be in addition to the original target survey households.

10. Try to park your car as close to the housing unit as possible.

11. The questionnaires have been designed to allow open-ended questions to be precoded, as the interviewer is taking down the response. Also, there are instructions on several pages for the interviewer.

In order to help the interviewer distinguish quickly between text that should be spoken aloud and instructions which are only there for the interviewer's purposes, a convention in the typing of the questionnaire has been used:

1. All questions and sentences which should be said to the respondent are typed in lower-case letters.

2. All words which are not to be spoken aloud (instructions and precoded answers) are typed in upper-case letters.

12. In the course of doing some of the surveys, the interviewer may become aware that a member of the household owns a business (question Q-50).

If this is the case, you should explain to the respondent that we are doing two types of surveys, and that you would like to ask a few more questions after the household survey is complete. Upon completion of the household survey, take out a copy of the business questionnaire and run through it.

13. Read the questions exactly as written on the questionnaire. If the respondent does not understand the question, repeat it. It is permitted to elaborate on the meaning of the question, if that appears to be necessary (this is because we are a small group, and we will have gone over the purpose of each question in detail).

Keep a record of any questions that appear to be unclear to the respondent.

14. Some of the questions ask for pretty detailed information and may be construed as an invasion of privacy by some respondents. If a respondent seems reluctant to answer a question, reiterate that the questionnaires will be kept completely confidential, and that only the aggregated results will be made public. If the respondent refuses to answer the question, indicate this with an R in the answer slot, and go on to the next question. We do not want to encourage people to skip questions, but it is more important to complete the interview than to press for the answer to any particular question.

After the respondent has answered the last question, ask him if he will answer the unanswered question(s).

15. There are a couple of questions that should be coded by the interviewer, after leaving the house (including Q-31, Q-33, Q-34). Check over the questionnaires each evening for accuracy, legibility, clarity of the wording on the free-answer questions, and to identify/eliminate any conflicting answers.
16. In the case of conflicting answers that you identify later, make a note of the original responses and then correct the coded portion of the questionnaire as appropriate.

C. Filling in the Questionnaire

1. If there are a list of choices on the questionnaire, choose the one that best fits the respondent's answer and write the number of the question in the answer slot. If the answer does not fit into one of the categories, code the answer as Other, and write down the exact answer.
2. If the question asks for a number of years, people, etc., be sure to put a number in the answer slot. Thus, if the respondent answers "a couple of years", confirm that he means 2.
3. There are a few questions that are answered by putting check marks in the answer slots (Q:5-16, Q:38-49, 61, 72, and 83).
4. For any other questions, write down exactly what the respondent says, and add interviewer notes to clarify, where necessary.
5. If a respondent refuses to answer a question, write an R in the answer slot.

D. Guidelines to Questions that Respondents May Ask

1. How will this information be used?

- For project planning
- This is an opportunity for you and other residents to provide input to the planning process.
- Try and move back to the survey questions.

2. How long have you lived in Alaska?

- Stress that you've worked in Alaska a lot/ a long time/ many times.
- Trained to work on the surveys

3. Why do you keep studying this?

- It is a big and expensive project, important, deserves a lot of consideration.

6. How often will you be doing this survey?

- Once a year.
- If concern is shown: This is to provide continual input to project planning.
- We are only surveying about one-third of the households, using a random sample. Your household may or may not be part of the sample next year.

7. Skepticism about the APA running roughshod over communities.

- The purpose of the surveys and the socioeconomic program is to make sure the communities closest to the project are taken into account.

E. Guidelines on selected survey questions

Intro Display your Alaska Power Authority ID card at each household.

Present the full explanation of the survey to each respondent (client's request). There may be a number of respondents that are hesitant about participating, or that just refuse. Be as persuasive as possible, focusing specifically on the usefulness of the data to project planning (and the mitigation of impacts to the community).

If the respondent asks for more information on the project, explain a little and give him/her a fact sheet.

If the respondent asks to receive a copy of the results, explain that the APA has not determined distribution policy, and take down his/her name and address.

If the respondent asks questions about the project that are outside our scope of work, give him/her George Gleason's card, and explain that he will best be able to answer their questions.

If an adult that lives there is not available, try to determine, from the child or non-resident you are speaking with, a likely time to reschedule the interview.

Q-1 Head of household = primary wage earner. If more than one person makes the same amount of money, they are both heads of household.

Q-2a The answer should include people that are away at the hospital or on a trip.

Q-2b-2d Many people forget to identify new-born infants as members of the household because they aren't used to thinking of them as individuals yet. That is why there is an indication to the interviewer that this should be checked.

Age is determined by the person's last birthday. So, if someone is going to be 5 years old tomorrow, they should be listed as under 5 years.

Children who live in the resident on a part-time basis should be included as a fraction.

Q:5-16 Be sure to confirm that the respondent understands the question was asked in the negative. Place check marks next to the months they mention

Q-17 Write down the respondent's exact answer, and then fill in the coded answer.

Q-20 Trailer = unit on wheels; Mobile home = unit on blocks

Q:23-24 If the respondent answers that he/she considers the facility and service in question poor or very poor, ask what his/her reasons are.

Review the listing of facilities/services that are available in the community or for the community, and eliminate any sub-questions that are not relevant.

Q-30 Employment is considered to be an activity for which the respondent gains income. Working at their own business is employment. Building one's own house is not considered employment.

The answer is 2, Unemployed and actively seeking work, if the person has sought work during the past month.

Q-31 Write down the respondent's exact answer, and then fill in the coded answer.

Q-33 Write down the respondent's exact answer, and then fill in the coded answer.

Q-34 Write down the respondent's exact answer, and then fill in the coded answer.

Q-35 If you are unsure if the community the respondent mentions is within 10 miles of their home, ask him/her.

Q-50 If the answer is YES (1), make a note to do a business survey after the household survey is completed.

Q-65,
Q-78,
Q-87 A cultural activity is an activity you traditionally do with family or friends, that you do on a regular basis, and that is related to your way of life.

Q-90 If the respondent has not lived in the community since 1980, ask him/her to talk about any changes since moving there.

Q-91 As the respondent mentions changes, note the type of change in the left-hand column. Then, ask the respondent to rate the magnitude of the change and place the code in the second column.

III. BUSINESS SURVEY

A. Methodology

All businesses in each community should be interviewed. Each interviewer will start out with a listing of known businesses in the community. During the first couple of days, you should ask members of the community to identify any other businesses that there are.

In addition there will be some businesses that will be identified from the household surveys. These businesses should also be surveyed.

B. Procedures

1. Conduct the interviews between 9 a.m. and 9 p.m.

2. Ask to speak with the owner or manager. If that person is not there, determine a better time to reach him or her.

If the respondent is the manager and cannot answer all questions, obtain the owner's phone number. We will contact the owner at a later time.

3. Some respondents may operate more than one business. If this is the case, a questionnaire should be filled out on each business.

4. The questionnaires have been designed to allow open-ended questions to be precoded, as the interviewer is taking down the response. Also, there are instructions on several pages for the interviewer.

In order to help the interviewer distinguish quickly between text that should be spoken aloud and instructions which are only there for the interviewer's purposes, a convention in the typing of the questionnaire has been used:

1. All questions and sentences which should be said to the respondent are typed in lower-case letters.

2. All words which are not to be spoken aloud (instructions and precoded answers) are typed in upper-case letters.

5. Read the questions exactly as written on the questionnaire. If the respondent does not understand the question, repeat it. It is permitted to elaborate on the meaning of the question, if that appears to be necessary (this is because we are a small group, and we will have gone over the purpose of each question in detail).

Keep a record of any questions that appear to be unclear to the respondent.

6. Some of the questions ask for pretty detailed information and may be construed as an invasion of privacy by some respondents. If a respondent seems reluctant to answer a question, reiterate that the questionnaires will be kept completely confidential, and that only the aggregated results will be made public. If the respondent refuses to answer the question, indicate this with an R in the answer slot, and go on to the next question. We do not want to encourage people to skip questions, but it is more important to complete the interview than to press for the answer to any particular question.

After the respondent has answered the last question, ask him if he will answer the unanswered question(s).

7. Check over the questionnaires each evening for accuracy, legibility, clarity of the wording on the free-answer questions, and to identify/eliminate any conflicting answers.

C. Filling in the Questionnaire

1. If there are a list of choices on the questionnaire, choose the one that best fits the respondent's answer and write the number of the question in the answer slot. If the answer does not fit into one of the categories, code the answer as Other, and write down the exact answer.
2. If the question asks for a number of years, people, etc., be sure to put a number in the answer slot. Thus, if the respondent answers "a couple of years", confirm that he means 2.
3. There are a few questions that are answered by putting check marks in the answer slots (Q-22, Q-25, Q-28).
4. For any other questions, write down exactly what the respondent says, and add interviewer notes to clarify, where necessary.
5. If a respondent refuses to answer a question, write an R in the answer slot.

D. Guidelines on selected questions

- Q-1 Be sure that the respondent is answering the question for only that one business.
- Q-8a Met your needs = been able to provide you with the amount of goods and services that you need.
- Q-9a Expansion of an existing business and the start of a new business may not appear to be distinct actions to the respondent, when this first question is asked. If the respondent begins to talk about starting a new business, record this answer under Q-10. Then, clarify the distinction and ask if the respondent plans on expanding his/her present business as well.

Cantwell

Cantwell is an unincorporated community in an unorganized borough.

1. State Trooper post
2. School is new and well-equipped. Handles grades K-12.
3. Fire hall under planning/construction
4. Garbage dump is on land that is technically private (Native-owned).
Obtaining a better landfill is a high-priority need.
5. Ambulance would be associated with fire hall
6. No medical care available in the community. Use hospitals in Anchorage, Fairbanks, Palmer. There is a small clinic in Healy, doctors in Wasilla as well.
7. Road System - maintenance of state roads by the state.
8. There is a private air strip. The Railroad passes through, and a couple of residents use float planes on nearby lakes.
9. Social Services - only those provided by the state in Anchorage, Fairbanks.
11. Library - there is a library at the school.
12. Indoor Recreation - the Native community built a community building.
13. Outdoor Recreation Facilities - nearby McKinley National Park.
14. No water system
15. No sewage treatment system

Trapper Creek

Trapper Creek is an unincorporated community in the Mat-Su Borough.

1. State Trooper post
2. School is new and well-equipped. Handles grades K-6.
3. No fire protection. Old building and equipment that is not used or maintained.
4. Nearby landfill operated by the borough.
5. Ambulance and active EMT organization
6. No medical care available in the community; a nurse that lives in the community helps out when she can. Use hospitals in Anchorage, Fairbanks, Palmer. Doctors in Wasilla as well.
7. Road System - maintenance of state roads by the state, borough roads by the borough.
8. No other transportation facilities; residents use float planes on nearby lakes.
9. Social Services - a counselling center available in Palmer; there is an extension service in Trapper Creek periodically.
11. Library - was a hot political issue. I believe it was voted down..
12. Indoor Recreation - none
13. Outdoor Recreation Facilities - nearby Denali State Park, McKinley National Park.
14. No water system
15. No sewage treatment system

Talkeetna

Talkeetna is an unincorporated community in the Mat-Su Borough. Incorporated status was voted down in 1982.

1. Closest state Trooper post is in Trapper Creek.
2. School is new and well-equipped. Handles grades K-6.
3. Has a fire station and new equipment. Staffed by volunteers.
4. Nearby landfill operated by the borough.
5. Ambulance and active EMT organization
6. No medical care available in the community; Use hospitals in Anchorage, Fairbanks, Palmer. Doctors in Wasilla as well.
7. Road System - maintenance of state roads by the state, borough roads by the borough.
8. Railroad passes through. Airfield. Residents use float planes on nearby lakes.
9. Social Services - a counselling center available in Palmer; extension services were rejected by the Talkeetna community.
11. There is a library.
12. Indoor Recreation - none
13. Outdoor Recreation Facilities - nearby Denali State Park, McKinley National Park. Talkeetna is historically the take-off point for expeditions to Mt. McKinley, and fishing/hunting parties.
14. No water system
15. No sewage treatment system