STATE OF ALASKA

Bill Sheffield, Governor

Annual Performance Report for

QUALITY SPORT FISHERY MAINTENANCE: Yakutat

by

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Study No.: S Study Title: ANADROMOUS SALMON STUDIES

Job No: 1-5 Job Title: QUALITY SPORT FISHERY MAINTENANCE: Yakutat

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ABSTRACT

Thirty-nine land use applications were reviewed regarding proposed activities in the Yakutat area. Recommendations and stipulations were made to protect fish populations and habitat subject to impact by these activities. Logging, disposal of solid waste, and mining were the most common land use activities having potential impact on fishery habitat. Standard procedures and stipulations associated with responding to the various land-use applications are discussed. The productive potential of fish habitat in Tawah Creek and the Lost River was improved through development of a new access channel to the headwaters of the streams.

KEY WORDS

Yakutat, land use, logging, mining, hydroelectric, solid waste, coho salmon, Oncorhynchus kisutch.

BACKGROUND

Recreational fisheries based on wild stocks of salmon, trout, and char in the Yakutat area have increased dramatically through tourism promotions and nomination of the Situk River for "Wild and Scenic River" designation. Competition for the use of three U.S. Forest Service (USFS) recreational cabins located in the Situk River drainage has become so intense that users are selected via a lottery. The two lodges in Yakutat are booked-full a year in advance of the steelhead and coho salmon fisheries. Fish stocks on which Yakutat sport fisheries are based are also extensively harvested by commercial fisheries in the Gulf of Alaska and set gillnet fisheries in the mouths of the rivers.

Land use developments in the Yakutat area, including recent construction of a multimillion dollar sawmill and development of the timber industry, place the area's extremely valuable fishery resources in a vulnerable position. Because of the extremely high demand for fishery resources in the Yakutat area by all user groups, it is important that the quality of local fish habitat be maintained.

Research on fish habitat and on-site surveys will be necessary to provide appropriate stipulations to protect the fishery resources in areas subject to timber harvest and other land use activities.

A list of common names, scientific names, and abbreviations of all species discussed in this report is presented in Table 1.

Table 1. List of Common Names, Scientific Names, and Abbreviations.

Common Name	Scientific Name	Abbreviations
Coho salmon	*Oncorhynchus kisutch* (Walbaum)	SS
Steelhead trout	*Salmo gairdneri* Richardson	SH

RECOMMENDATIONS

Management

1. Continue to cooperate in land use planning activities and provide stipulations to protect fish habitat and sport fishing interests.

OBJECTIVES

1. To provide recommendations and stipulations to protect fish populations and habitat subject to impact by timber harvest, mineral extraction, and other land-altering activities in the Yakutat area.

TECHNIQUES

Habitat permits were received from the Alaska Department of Fish and Game (ADF&G), Habitat Division for review and comment; Sport Fish Division's comments were routed back to them for use in responding to the applications. Individuals requesting information on habitat protection stipulations or permits needed for development were directed to the Habitat Division.

The approach to handling land use permits was to provide stipulations that would maintain fishery values of the subject area or improve habitat values at the expense of the development. This general approach was the same, regardless of the agency requesting the permit or the type of permit.

The following areas were addressed in response to habitat permit applications:

1.) perceived impacts, if any, upon the habitat of recreational fish species;

2.) perceived impacts or disturbance, if any, to the species themselves;

3.) perceived impacts or disturbance, if any, to fishing areas, recreational areas, hunting areas, etc; and

4.) recommendations regarding actions necessary to avoid or mitigate the mentioned impacts. Such recommendations could be in the form of conditions (such as timing) or actual recommended modifications of the project.

Upon receiving a habitat permit application, it was reviewed; a decision was made whether or not to respond to that application; and if a response was considered necessary, its content was discussed to ensure that all concerns would be adequately addressed.

If the proposed activity was located such that it had no effect on fish habitat, public access, or sport fisheries, this information was provided in the cover memo and the application was routed back to the Habitat Division without further delay. Applications involving fish habitat, public access, or sport fisheries required a more thorough analysis and response.

Perceived impacts to fish habitat, fish, and fisheries were determined from the type of land use activity, procedures, and timing given in the habitat permit application. Stream alteration activities were usually determined to be detrimental to fish and habitat; however, the effects were often difficult or impossible to quantify, given the data and time available for response.

The approach that was usually taken documented the fisheries values of the subject area through juvenile fish trapping and a review of salmon escapement data. Juvenile fish-trapping data (on file in the area management office) were used to document the numbers and species of fish present. Data on salmon escapements are on file in the area Sport Fish office and Commercial Fisheries Division "Salmon Escapement Surveys" computer files. Escapement data were presented in conjunction with harvest information to demonstrate overall stream production. When coded-wire tag data were available, they were presented to demonstrate the overall stream production and areas of harvest that would be impacted by development. When sport harvest survey data were available for the subject area, they were presented to demonstrate the level of angling activity and number of anglers using the area.

Other measures that were used to document public use of an area include SFS cabin use days, air charter logbook information, and data from various economic and recreational surveys. A survey was conducted when

documentation of fish presence was not available. Juvenile fish data were collected by trapping with "Gee" minnow traps baited with salmon egg clusters. Traps were set in productive-looking habitat for a period of approximately 2 hours. Records of fish species and numbers per species were recorded for each trap. Additionally, visual observations of rearing or spawning fish were made and recorded.

Site-specific stipulations were provided in all instances when data were available or could be quickly obtained through field surveys. Depending on the particular land use activity, additional generic stipulations have been cited (Department of Natural Resources 1981a, 1981b, 1984; Department of Environmental Conservation 1979, 1983).

The methods of entering Federal and State planning processes is described under "logging". These methods and opportunities to affect planning in Federal and State agencies were essentially the same, regardless of land use activity. Private individuals were required to get applications from various State resource agencies for review; thus, the ADF&G was made aware of most land use activities. The review of permits requiring review by more than one State agency was coordinated by the Office of Governmental Review.

Land Use Activities

Logging (State and Private):

State and private commercial logging operations of 10 acres or more require a "Forest Practices Notification" as described in the Alaska Department of Natural Resources (1981b). Copies of the notification and logging plans are sent to local ADF&G offices by DNR for review and comment within 20 days of their reciept. Sport Fish Division's comments are returned to DNR via the Habitat Division for incorporation in DNR's response.

Preoperation inspections of timber harvest areas are generally conducted by DNR with representatives of ADF&G (Habitat and/or Sport Fish) and the logging company. During this inspection, potential problem areas are identified and often resolved; practices for timber harvest with minimal adverse effects are also identified.

Interagency meetings are usually held with DNR early in the planning process to identify areas of concern. Identification of anadromous fish waters occurs at these meetings, as they receive a higher level of protection than nonanadromous waters. Participation early in the planning process is critical in achieving the highest level of fish habitat protection. Rather than reacting to a set of plans that have been already made, it is often possible to plan initial road locations. The DNR uses ADF&G's comments in planning road locations and harvest units; however, logging plans usually fail to address all fish habitat concerns adequately. Compromises in these areas are then negotiated by the two Departments. The amount of documentation available on fish resources in the subject area usually reflects the level of protection an area ultimately receives.

Generic stipulations to protect fishery habitat and resources are provided in a manual published by DNR (1981b). Other stipulations applying to certain situations or circumstances are issued when they are encountered. For instance, restrictions on timing for "in-water" work or on tidelands are included when appropriate.

Routine inspections are conducted by DNR and ADF&G personnel to monitor logging operations and to determine if they are in compliance with stipulations that have been issued. During such inspections, regulatory enforcement procedures are initiated when operators are not in compliance. The standard set of stipulations developed by DNR are normally reiterated concerning beach log salvage operations. However, site-specific stipulations are developed when necessary.

Logging (U.S. Forest Service)

The USFS is mandated by Congress to provide 450 million board feet of timber for harvest annually in the Tongass National Forest; additional volume is to be provided for independent sales. There is good interaction and cooperation between the USFS and ADF&G in planning Federal timber sales because the State manages the fish and wildlife, and the USFS is the custodian of the timber resources on Federal lands.

The USFS produces logging alternatives that will supply the required volume of timber. Contact with the ADF&G prior to drafting alternatives is optional, but usually occurs. Alternatives are presented to the Department and public for review and comment in the form of a Draft Environmental Impact Statement (DEIS). One alternative is identified as the USFS's "preferred alternative".

The alternative having the least effect on the fishery resources is recommended to the Habitat Division. The Habitat Division then reviews the concerns of all divisions and develops the ADF&G's preferred alternative. Generally, many modifications to logging proposals in the selected alternative are recommended to further reduce impacts to fish and fish habitat. The general stipulations found in DNR (1981b) are reiterated along with site-specific stipulations for critical areas.

Once the review period is over, the USFS selects or develops the alternative that will become the upcoming 5-year logging plan. The final alternative must be determined by the Coastal Zone Management Program (CZM) to be consistent with program goals; i.e, all concerns and interests are adequately addressed and provided for. This is the last chance for the State to affect any changes to the logging plans. In this final round of review and comment, recommendations (often the same ones provided earlier but not included) to reduce detrimental effects to fisheries, including all documentation available, are provided. CZM sometimes requires ADF&G stipulations to be accepted by the USFS so that the preferred alternative will be consistent with the CZM program.

The opportunity for input is essentially over once CZM accepts the USFS alternative. On-site surveys are conducted periodically to monitor activities and ensure that protective measures are being used by the contractor of the logging operation.

Stipulations Issued for Mining Activities

The State requires that standard placer-mining stipulations and water quality regulations are followed. Hard-rock mining involves activities that affect fish habitat. These activities are listed in the following sections.

Stipulations Issued for Highway, Road, Bridge Construction, and Culvert Placement

1. Minimize habitat loss through road alignment; i.e., not on tidelands, adjacent to streams, etc.

2. Require that fill material and roadsides be capped for stabilization and seeded to reduce sedimentation.

3. Require that culverts be spaced periodically to provide as natural a hydrology of the subject area as possible.

4. Maintain maximum natural streamside cover in areas adjacent to road construction.

5. Require that drainage from road construction sites meet water quality standards.

6. In prioritized order, bridges, arch culverts, and regular culverts are recommended for stream crossings.

7. Stream banks must not be impacted in bridge crossings.

8. Recommend that mats be used for equipment travel alongside streams and in flood plains.

9. Recommend that equipment not cross streams and, if absolutely necessary, only one crossing be allowed.

10. In wide, flat flood plains, require that bridge approaches be supported on pilings and that flood planes not be filled.

11. Require that bridge adjustments be stabilized to prevent erosion.

12. Require that all stream crossings be perpendicular to the stream flow.

13. Require that culverts be situated so that flow does not exceed 1.5 cfs.

14. Require that culverts be sized to accommodate all possible water flows and installed so they will pass fish both upstream and downstream at all water levels.

15. Require spawning gravel to be placed at the ends of culverts located in areas lacking spawning substrate.

Stipulations Issued for Land-Fill Activities

1. Fill must comply with local CZM plan specifications.

2. Fill material must be clean, or the area to be filled must be diked prior to filling.

3. Fill areas must be stabilized and capped to prevent sediment pollution from entering local drainages.

4. Fill material should not be placed in flood plans.

5. Some form of mitigation should be provided when fill is placed in flood plains or below mean high tide.

Stipulations Issued for Gravel Mining Activities

1. Gravel may not be removed from active streams.

2. Gravel must be removed from flood plains only in such a way as to prevent entrapment and subsequent loss of fish.

3. Drainage from gravel pits must meet State water quality standards.

4. Where appropriate, require that gravel pits be constructed to ultimately provide for streamside fish-rearing habitat.

Stipulations Issued for Solid Waste Disposal Activities

1. Require disposal sites to be diked prior to any filling activities.

2. Require that the drainage from the disposal sites does not enter fish streams.

3. Require that no toxic materials be deposited in pits.

4. Suggest that existing disposal pits be expanded when possible, rather than developing additional new sites.

5. Require that sewage deposition comply with DEC regulations.

6. Require that industrial waste comply with Federal and State regulations.

Stipulations Issued for Waste Water Disposal Activities

1. Recommend that the treatment level of effluents should be the maximum possible.

2. Discharge point should be as far as possible from publicuse areas.

Stipulations Issued for Hydroelectric Activities

1. Prevent or minimize adverse effects on water quality, quantity, and the physical characteristics of the stream.

2. Require that minimum stream flows be maintained at all times downstream from dams.

3. Require that dams pass fish in both directions at all water levels or require mitigation to offset the loss of fish habitat.

4. Require that turbine inlets be screened to prevent fish entry.

Stipulations Issued for Land Use/Preference Rights Requests

1. Recommend that public easement corridors be provided through the subject area.

2. Provide stipulations to protect fish habitat, depending on proposed land use.

3. Traditional public use of subject site must be allowed to continue.

Stipulations Issued for Water Use Permits

1. State water quality regulations must be met.

2. Minimum stream flows must be met.

3. Private bouys, docks, and facilities must not be placed in locations that will impact traditional fishery areas or access corridors.

4. Recommend that facilities be developed that will provide additional angling opportunity.

5. Provide timing as necessary to protect fish.

Stipulations Issued for In-Water and In-Stream Activities

1. Drainage from sites must meet State water quality regulations.

2. Minimum stream flows must be maintained.

3. When natural stream banks are lost through land use activities, require that mitigation in the form of habitat restoration be provided; i.e., overhanging banks, placement of spawning gravel, boulders, riffles, etc.

4. Require that fish be removed from the affected area prior to construction.

5. Specify the direction of in-water work to minimize the amount of habitat being affected during construction.

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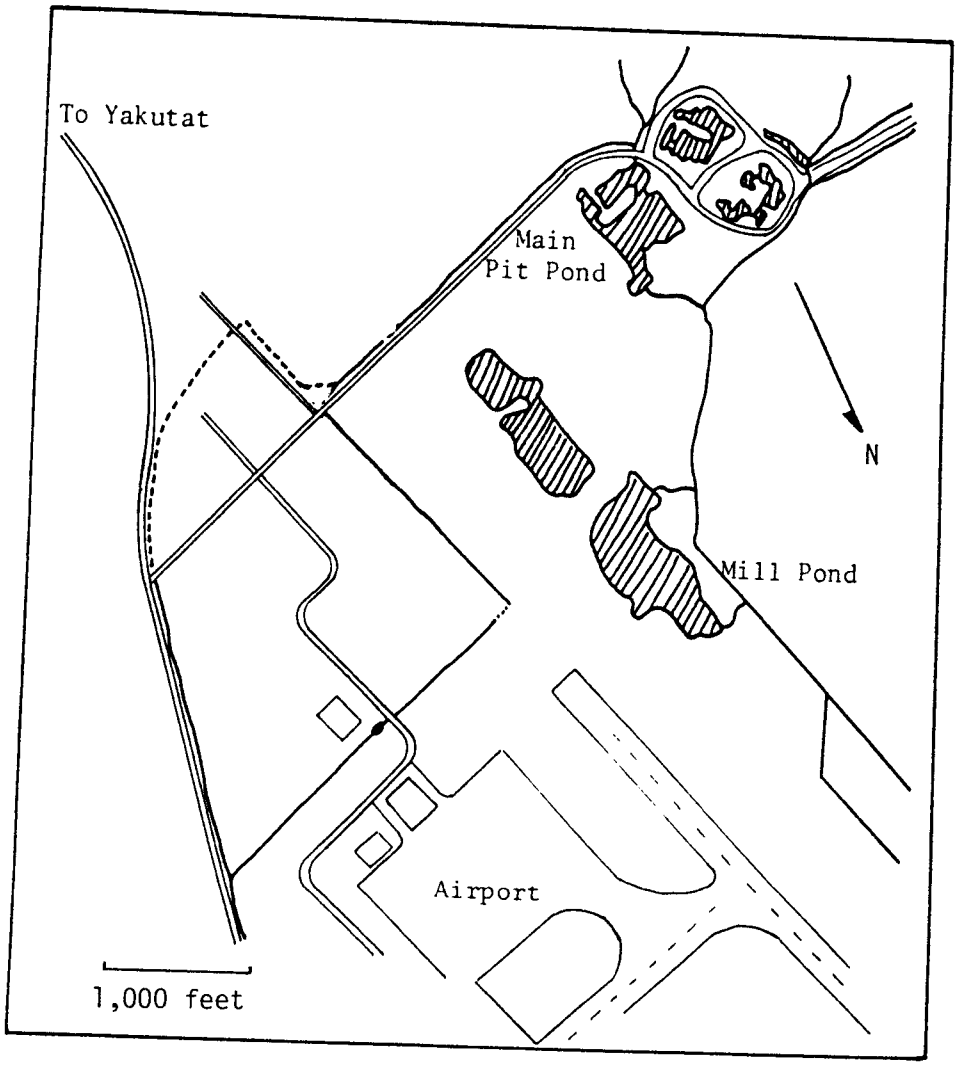

Figure 1. Yakutat Fish Pass (Constructed April 1986.).

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