

**YAKUTAT SET GILL NET FISHERY  
MANAGEMENT PLAN, 1992**



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## INTRODUCTION

The Yakutat Area encompasses the waters of Alaska between Cape Suckling and Cape Fairweather. The area is divided into two fishing districts: the Yakataga District between Cape Suckling and Icy Cape, and the Yakutat District between Icy Cape and Cape Fairweather. All five salmon species are harvested in the Yakutat Area, with sockeye, coho, chinook, and pink salmon comprising the majority of the catch in that order of importance.

Set gill net gear is the only net gear permitted in the Yakutat Area. About 200 commercial set net entry permits are renewed annually. Set net permit holders in the Yakutat Area do not have registered sites and may fish in any open fishing area and they may also move between fishing areas during the season, as long as no more than one river is fished concurrently.

There are 25 unique fisheries in the Yakutat area. Most of these fisheries target sockeye salmon from mid-June through July; coho salmon dominate the catch in August and September. The only targeted pink salmon fishery occurs in the southeast portion of Yakutat Bay and harvests fish returning to Humpback Creek. Set gill net fisheries in the Yakataga District harvest primarily coho salmon.

### *Anticipated Salmon Returns*

Total salmon catches in the Yakutat Area in recent years have been below historical peak levels. Annual salmon catches as high as 800,000 fish have been recorded while the 1982-1991 average annual catch was 417,000 fish. In 1991, about 404,000 salmon (90% of the total Yakutat area salmon catch) were harvested by set net gear. The remainder of the salmon catch was harvested in the commercial troll fishery.

No formal preseason forecast program exists for the Yakutat salmon returns. Instead, preseason expectations are based on known, or estimated, parent-year spawning escapements and commercial catches, local observations of rearing conditions and, in some cases, the strength of certain year classes. The 1992 Yakutat area salmon runs are expected to be average to below average for sockeye salmon, average to above average for coho salmon, and average for pink salmon (see pages 11 and 12 for selected run projections).

### ***Fishery Management***

Set gill net fisheries in the Yakutat area are managed by adjusting the fishing times and areas in each fishery in response to in-season assessments of run strength. These actions are taken to provide adequate spawning escapements and to allow harvests of salmon surplus to escapement goals. In-season assessment methods include both fishery performance and spawning escapement information. In the glacial systems, fishery performance data is utilized for management because poor visibility prevents the accurate observation of spawning escapements.

During 1992, the major fishing areas can be expected to open on the following dates:

#### Yakutat District

Area	Opening Date
Yakutat Bay (south of 59 <sup>0</sup> 40' N. latitude)	11 June
Dangerous River	11 June
Eastern Situk-Ahrnklin Lagoon (approximately two miles)	11 June
Alsek River	11 June
Manby Shore Ocean	15 June
Lost River	15 June
Situk-Ahrnklin Lagoon	15 June
East River	22 June
Akwe River	22 June
Remainder of the Yakutat District	22 June
Italio River	by Emergency Order

#### Yakataga District

Season	Opening Date
Sockeye Season	17 June (except Tsiu River is closed)
Coho Season	by Emergency Order

## 1992 SUMMER MANAGEMENT PLAN

This management plan concentrates on the major fisheries in the Yakutat area. Information on areas that are fished only occasionally is available from the Yakutat Area Management Biologist listed at the end of this plan.

### *Alsek River*

The Alsek River, located 45 miles southeast of Yakutat, is a major transboundary river that drains a large area east of the coastal mountain range. It extends approximately 130 miles from its mouth, up-river into the Yukon Territory of Canada. The U.S./Canada border is approximately 40 miles upstream from the river mouth. The Alsek River supports large populations of chinook, sockeye, and coho salmon, and small populations of pink and chum salmon. Alaskan set gill net fisheries target on sockeye and coho salmon, and Canadian subsistence and sport fisheries target on sockeye and chinook salmon.

Commercial salmon landings from the Alaskan portion of the Alsek River have averaged approximately 13,100 sockeye, 4,200 coho, and 200 chinook salmon annually (1987-1991). The Canadian subsistence and sport harvest has averaged approximately 535 chinook, 2,000 sockeye, and 100 coho salmon during the same period. Subsistence and sport fisheries in the Alaskan portion of the river are relatively minor, harvesting about 200 salmon annually.

Historically, a set gill net fishery targeting on chinook salmon was conducted during May in the Alaskan portion of the river. However, due to depressed runs, the directed fishery has been closed since 1962 and chinook salmon are harvested only incidentally during the sockeye salmon fishery in early June. The 1992 run of chinook salmon is not expected to produce fish surplus to the Klukshu River escapement goal of 4,700.

The initial Alsek River opening will be for 24 hours beginning 12:01 p.m., Thursday, June 11 and extending through 12:00 noon Friday June 12. This early season opening is intended to harvest sockeye salmon. The June 11 opening date is a 1.5 week delay from the date scheduled in the published regulations. The Thursday to Friday opening is scheduled because of conflict with the Monday, June 8, halibut opening. Subsequent fishing time will be based on a comparison of current year fishery performance (catch and effort) in relation to historical performances.

To reduce the incidental harvest of chinook salmon, gill net mesh-size will be restricted to a maximum of six inches through June 31. Set gill net fishermen are encouraged to reduce the incidental harvest of

chinook salmon as much as possible. Reducing the impact on chinook should help afford more fishing time in the future on early season sockeye returns.

The Alsek River surf fishing area is expected to be open during the same periods as the in-river fishery. The surf fishing area includes the shoreline, 0.75 miles in each direction, from the river mouth to the outermost bar where the surf breaks.

### *East River*

The East River is a short, clear river originating from the upwellings and local drainage of the eastern portion of Dry Bay. The river produces good runs of sockeye, coho and chum salmon. Commercial fishing occurs two miles upstream from the mouth and in the adjacent ocean waters within two miles of the mouth in each direction out to 500 yards from the shore at low tide. The surf and ocean area is open during the same periods as the in-river fishery. East River salmon catches have averaged about 109,500 sockeye, 11,000 chum, and 8,700 coho salmon (1987-1991). In recent years, the East River has been one of the most productive sockeye salmon fisheries in the Yakutat area.

The East River sockeye salmon season opens by regulation on the fourth Monday of June (June 22). The duration of weekly fishing periods and open areas will be based on escapement observations, effort levels, and fishery performance. A minimum aerial index escapement goal of 30,000 sockeye salmon has been established for the East River. As in recent years, up-river closures may be necessary during high water periods to reduce the harvest of poor quality fish that "back out" of the closed area.

The sockeye salmon season is expected to continue until late August. The 1988 parent-year escapement was estimated at 38,000 fish. However, the actual parent-year sockeye escapement may have been considerably less than 38,000 fish due to problems with misidentification of coho or chum salmon as sockeye. An average return from 38,000 spawners would yield a surplus of about 84,000 fish.

### *Situk-Ahrnklin and Lost River*

The Situk-Ahrnklin Lagoon is the site of the oldest and, historically, the most productive fishery in the Yakutat area. Located about nine miles by road from Yakutat, the Situk-Ahrnklin fishery normally supports the largest concentration of fishing effort in the Yakutat area. Fishing occurs primarily in the lagoon, although some fishing occurs at the river mouth and in the adjoining surf fishing area. Sockeye salmon make up the major portion of the harvest during the summer; coho salmon dominate the catch during the fall. Situk-Ahrnklin River catches have averaged about 85,300 sockeye, 53,000 coho, 19,100

pink, and 400 chinook salmon (1987-1991). The sockeye escapement goal for the Situk River drainage is 40,000 to 55,000 fish.

Based on spawner-recruit information, the 1992 Situk River sockeye salmon run is expected to be similar to the 1991 return. The 1987 parent-year Situk River sockeye escapement was 72,700 fish, exceeding the upper limit of the escapement goal range by approximately 15,000. The 1992 Situk River sockeye catch is expected to be around 120,000 fish distributed between the Situk, Lost, Yakutat Bay and Manby Shore Ocean fisheries.

The June 11 opening date for the eastern part of the Situk-Ahrnklin lagoon is set in anticipation of a surplus of Ahrnklin River sockeye. Run timing of Ahrnklin sockeye salmon is generally earlier than Situk sockeye. Evidence of the earlier timing and strength of the Ahrnklin River sockeye was seen in the last two fishing seasons when approximately 10,000 sockeye were harvested during the second week of June openings. Age composition analysis indicates that most of the harvested sockeye were freshwater age-0; distinguishing them from Situk stocks. The parent-year escapement (1988) to the Ahrnklin was average and surplus production is anticipated. During the second week of June, fishing will be confined to the eastern end of the Situk-Ahrnklin Lagoon with a 24-hour opening. After the first opening, fishing periods will be based on run strength as indicated by fishery performance and by escapements through the Situk River weir. A run-timing model will be used to estimate the total Situk River sockeye return beginning after several weeks of harvest and escapement data is available. A similar model will be used to project Situk chinook salmon abundance.

Since chinook salmon are taken incidentally in the set gill net fishery, the Situk commercial catch of chinook is largely dependent on the fishing time allowed for sockeye. If the chinook salmon return is weak and the sockeye return is average or above average, conservation actions may be necessary to reduce the incidental take of chinook salmon.

At the 1991 Board of Fisheries meeting, the Board adopted the following Chinook Salmon Management Plan for the Situk-Ahrnklin Inlet and Lost River:

1. If the projected escapement of chinook salmon to the Situk River weir is less than 350 large chinook (three ocean age and older) the department will close the Situk River subsistence, commercial, and recreational fisheries, and close the commercial troll fishery in state waters between loran lines 7960-Y-30390 and 7960-Y-30200.
2. If the projected escapement of chinook salmon to Situk River weir is between 350 and 450 large fish (three ocean age and older), the department shall:
  - A. Implement restrictions in the commercial fisheries by emergency order that shall include the following:

- i. Establish a "non-sale" chinook salmon season in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries;
    - ii. Close the commercial troll fishery in state waters between loran lines 7960-Y-30390 and 7960-Y-30200;
    - iii. Restrict the weekly fishing periods in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries.
  - B. Close the sport fishery for chinook salmon in the Situk River.
3. If the projected escapement of chinook salmon to Situk River weir is between 450 and 750 large fish (three ocean age and older), the department shall:
  - A. Implement restrictions in the commercial fisheries by emergency order that shall include one or more of the following:
    - i. Establish a "non-sale" chinook salmon season in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries;
    - ii. Close the commercial troll fishery in state waters between loran lines 7960-Y-30390 and 7960-Y-30200;
    - iii. Restrict the weekly fishing periods in the Situk-Ahrnklin Inlet and Lost River set gill net fisheries.
  - B. Restrict the sport harvest of chinook salmon in the Situk River by one or more of the following options:
    - i. Portions of the river may be closed to chinook salmon sport fishing;
    - ii. Only un-baited, artificial lures may be used;
    - iii. Only catch and release sport fishing for chinook salmon over 16 inches may be allowed.
4. When the projected escapement of chinook salmon to the Situk River weir is greater than 750 large fish (three ocean age and older), the department shall:

- A. **Manage the commercial set gill net fisheries in the Situk-Ahrnklin Inlet and Lost River based on sockeye salmon run strength.**
  
- B. **Provide a sport fishery for chinook salmon during which the bag limit is one chinook salmon over 16 inches in length and the seasonal limit from June 1 through August 31 is two chinook salmon over 16 inches in length. If a chinook salmon seasonal limit is imposed, each angler shall immediately record the catch on the Situk River chinook salmon catch record.**

**Steelhead trout in post-spawning condition occasionally accumulate in the Situk River prior to the time that they out-migrate to the ocean. When the out-migration is late, there is a potential for the Situk set net fishery to harvest a portion of the out-migrating adults. The rate of out-migration of spawned-out steelhead often increases following periods of heavy rainfall. If a major out-migration is expected to occur during a scheduled gill net fishing period, the opening may be delayed for a few days to reduce the incidental harvest of steelhead.**

**Because the Lost River is located only a short distance from the Situk River, fish from both rivers are harvested in the Lost River fishery. The Lost River is usually opened for the same weekly fishing periods as established for the Situk River fishery during the summer sockeye season. However, if extensive fishing periods become necessary on the Situk River, it may not be possible to maintain the same weekly periods for the Lost River because of the smaller stock size. The management strategy for the Lost River will depend primarily on the abundance of the Lost River sockeye return.**

### ***Yakutat Bay***

**There are three distinct set gill net fisheries in Yakutat Bay. The Monti Bay fishery occurs in the ocean waters of Yakutat Bay south of 59<sup>0</sup>40' N. latitude and normally opens by regulation on the second Monday of June. The Manby Shore Ocean fishery encompasses the ocean waters of Yakutat Bay north of 59<sup>0</sup>40' N. latitude and opens the third Monday of June by regulation. The Manby Shore Inland fishery, which opens by regulation on the fourth Monday of June, includes the streams along the northern shore of Yakutat Bay.**

### **Monti Bay and Manby Shore Ocean Fisheries**

**Both the Monti Bay and Manby Shore Ocean fisheries harvest mixed stocks of sockeye salmon. Tag recovery data collected in 1987 indicated that a major portion of the Monti Bay sockeye harvest was of Situk River origin. Due to the high Situk River sockeye contribution to the Monti Bay fishery and the**

Manby Shore ocean fishery, both fisheries will be managed to conserve or harvest Situk River sockeye from the third week in June through the third week of July. The Monti Bay fishery will open by emergency order on Thursday, June 11. The weekly fishing period will be limited to 4.5 days due to the mixed stock nature of the ocean fisheries, and the potentially adverse impact on weaker Yakutat area stocks.

The Manby Shore Ocean fisheries will open by regulation on Monday, June 15. Additional sockeye fishing in these areas will depend on Situk River sockeye salmon run strength assessment. Adequate harvest is expected in the terminal area fisheries, and the Monti Bay and Manby Shore Ocean fisheries are expected to be limited in duration.

### **Manby Shore Inland Fishery**

Management of the Manby Shore Inland fisheries, waters upstream of the mean high tide line, will be based on the abundance of local stocks. During the summer, these fisheries harvest salmon primarily from Manby and Sudden Streams. A 2.5 day weekly fishing period can be expected during the initial opening period scheduled for June 22. Additional open periods will depend on fishery performance.

### **Humpback Creek Fishery**

The "Humpy Creek" fishery, located in the southeastern portion of Yakutat Bay, targets on pink salmon. An above average return is expected at Humpy Creek for the 1992 season, given the excellent 1990 parent year spawning escapement of 14,000 fish. In-season management of this fishery will be based on observed pink salmon escapement to Humpy Creek and the availability of pink salmon in the Yakutat Bay fishery.

### *Akwe River*

The Akwe River is a glacial river system located about 35 miles south of Yakutat. The lower seven miles of the river are wide and shallow and flow parallel to the beach before entering the ocean. The commercial fishery occurs in the lower portion of the river. The 1987-1991 average Akwe River harvest was approximately 8,300 sockeye, 8,700 coho, and 200 chinook salmon.

The Akwe River parent-year (1987 and 1988) sockeye salmon catches were excellent and it is likely that the 1992 return will be above average. Increased sockeye salmon production in the Akwe River in recent years has resulted in additional fishing effort. To achieve good escapements, with the additional fishing

effort, reductions in the normal 2.5 day weekly fishing period, reduction of the size of the fishing area, and gear restrictions have been necessary. Last season, a foot survey revealed an escapement of approximately 3,000 sockeye salmon. This data indicated a removal rate of approximately 50%. Because the fishery was limited to 1.5 days per week, it is believed that this is a highly efficient fishery even though the effort level in 1991 was less than in previous years. The sockeye fishery is scheduled to open by regulation on June 22. The season should extend through early August. In-season management will be based on fishery performance and effort levels.

The Akwe River will be open upstream of the markers located about 0.5 miles above the confluence with the Italo River to the upper markers located 2.5 miles downstream from the westernmost end of the "Sand Dunes", a fishing area of about four miles.

### *Italo River*

The Italo River, located adjacent to the Akwe River, supports small runs of sockeye and coho salmon. The course of the Italo River changed and flowed into the lower Akwe River during the winter of 1986-1987, and both rivers now share a common river mouth. Both Italo and Akwe salmon stocks are present in this area and for some distance upstream in each river. Determination of Akwe or Italo salmon stock run strengths from fishing success in the junction area is not possible. Therefore, the junction and a portion of each river above the junction is closed to set gill net fishing.

Harvest in the Italo River fishery, including the Middle and Old Italo channels, has averaged approximately 200 sockeye and 1,500 coho salmon annually (1987-1991). Historically, the Italo has produced sockeye catches of over 20,000 fish. The Italo River fishery opens by emergency order when good escapements are observed. The river has not been opened for sockeye fishing the past three years due to poor runs. The reason for the recent run failures is unknown since parent-year escapements were good.

### *Yakataga District*

The Yakataga District, except the Tsiu River, will initially on Wednesday, June 17 for a 2.5 day period, from 6:00 a.m., Wednesday through 6:00 p.m., Friday. The duration of subsequent fishing periods will depend on effort levels and fishing success. The late-week fishing period is expected to be maintained until the fall season begins on August 3.

## 1992 FALL MANAGEMENT PLAN

Fall fishing effort is primarily directed at coho salmon, although fall chum salmon contribute to the catches on the East River. The fall fishing season generally begins on the first Monday of August. At that time, the regulatory weekly fishing period changes in most areas to a 12:01 p.m. opening and a 12:00 noon closing time.

During the fall, set gill net fishing occurs in both the Yakutat and Yakataga Districts. In the Yakutat District, the fall coho salmon fishery occurs primarily in the same areas as the summer sockeye salmon fishery. In the Yakataga District, there are areas where only coho salmon fishing takes place.

No formal forecast of coho salmon runs is available. However, due to good parent-year (1988) returns to most systems, the coho run is expected to be average to above average.

### *Yakutat District*

Fall fishing will begin on August 3 in the Yakutat District, except in the East River where management will continue to be based on the sockeye salmon run strength through most of August.

In-season management of all Yakutat District fall fisheries will be based primarily on fishery performance data since in-season coho escapement information is very limited. The initial fishing periods can be expected to extend from 12:01 p.m. Monday through 12:00 noon Thursday, the normal fall weekly gill net period specified by regulation.

Fishing time and area adjustments will be made for each river as needed for conservation. As in recent years, a closed water area can be expected for the Yahtse River to protect schools of milling coho salmon at tributary mouths. The actual closed area will be based on in-season observations of coho schooling behavior which is related to river flow conditions. Several small coho streams are located along the forelands west of the Yahtse River to Cape Yakataga. Most of these streams have very small numbers of spawning coho and cannot support in-river set gill net fisheries. This entire area will remain closed until harvestable surpluses are evident.

## *Yakataga District*

The major fisheries in the Yakataga District occur for coho salmon on the Kaliakh and Tsiu Rivers, located about 125 miles northwest of Yakutat. These two adjacent rivers will open by emergency order. The Tsiu River is the more productive of the two rivers; in recent years, catches have averaged about 42,000 coho salmon, while the Kaliakh harvest has averaged about 14,000. Although parent-year (1988) escapement counts were not possible due to high water conditions, average catches in 1988 indicate that the 1992 harvest should also be about average.

The Tsiu River opening date and fishing periods will be determined by the observations of escapement seen above and below the regulatory markers. The Kaliakh River will be open for sockeye fishing although no effort is expected prior to the early August coho fishery. The Kaliakh River weekly fall fishing periods will normally be open from 9:00 a.m. Monday through 9:00 a.m. Thursday, beginning on August 3.

## **YAKUTAT AREA - 1992 SALMON RUN PROJECTIONS**

### *Sockeye*

#### **Alsek**

The parent year escapement was 9,300 through the Klukshu Weir. The catch may range from 9,000 to 15,000.

#### **East**

The parent year escapement was estimated at 38,000. A return of 3.0:1 would yield catch of about 84,000 fish, with an escapement of 30,000.

#### **Akwe**

No reliable escapement counts are available for 1987 and 1988. However, commercial harvests were very good in both years. A catch of 6,000 to 10,000 fish may be possible.

### **Italio**

Escapement was above average in 1987 and below average in 1988. Recent returns have been poor for unknown reasons. It is unlikely there will be a sockeye harvest this season.

### **Lost**

The parent year escapement was poor, though the final surveys were flooded out. Catches will depend on Situk-Ahrnklin management. A strong return is not expected.

### **Situk**

The parent year escapement was 72,700. The 1991 return from similar escapement was about 2.8 to 1. A return/spawner of 2.5 to 1 with an escapement of 55,000 would leave a catch of about 127,000 split between the Situk, Lost, Yakutat Bay, and Manby Shore Ocean fisheries.

### *Coho*

#### **Tsiu/Kaliakh**

The Tsiu escapement counts were below average in 1988, but final surveys were flooded out. The 1989 escapements were above average. Harvests for both years were excellent. With normal effort levels, a catch of over 40,000 may be possible. Kaliakh escapements were below average both years. The harvest in 1988 was below average. In 1989 it was above average. The harvest in 1992 will depend on effort, but a catch of 8,000-12,000 fish is likely.

#### **Area Wide**

Parent-year escapements were average to above average in most areas. A 1989 drought may have some effect, but catches should be above average in 1992.

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Following are Commercial Fisheries contacts regarding this management plan:

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