

# YAKUTAT SET GILLNET FISHERY

## 1994 MANAGEMENT PLAN



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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 gillnet gear is the only net gear permitted in the Yakutat area. About 173 commercial setnet entry permits are renewed annually. Setnet permit holders in the Yakutat area do not have registered sites and may fish in any open fishing area. They may also move between fishing areas during the season, as long as not more than one river is fished at a time.

There are 25 unique fisheries in the area. Most 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 it harvests fish returning to Humpback Creek. Set gillnet fisheries in the Yakataga District harvest primarily coho salmon.

### *Anticipated Salmon Returns*

Overall salmon catches in the Yakutat area are currently below historic peak levels. Annual catches as high as 800,000 fish have been recorded, while the 1984-1993 average annual catch was 475,000. Historic high catches may have over-exploited the stocks and may not be sustainable. In 1993, about 599,000 salmon (68% of the total Yakutat area commercial salmon catch) were harvested by setnet gear. The remainder of the salmon catch, approximately 286,000 fish, was harvested in the commercial troll fishery.

No formal forecast program exists for the Yakutat salmon runs. Preseason expectations are based on estimated parent-year spawning escapements and commercial catches, local observations of rearing conditions and, in some cases, the strength of certain year classes. The 1994 Yakutat area salmon runs are expected to be average to above average for sockeye salmon, average for coho salmon, and average to below average for pink salmon (see p. 13 for selected run projections).

### *Fishery Management*

Set gillnet fisheries in the Yakutat area are managed by adjusting fishing times and areas in each fishery in response to inseason assessments of run strength. These actions are taken to provide adequate spawning escapements and to allow harvests of salmon that are surplus to escapement goals. Inseason 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 1994, the major fishing areas can be expected to open on the following dates:

Yakutat District

Area	Opening Date
Yakutat Bay (south of 59°40' N.lat.)	13 June
Dangerous River	13 June
Eastern Situk-Ahmklin Inlet (approximately 2 miles)	13 June
Alsek River	6 June
Manby Shore Ocean	20 June
Lost River	20 June
Situk-Ahmklin Inlet	20 June
East River	27 June
Akwe River	27 June
Remainder of the Yakutat District	27 June
Italio River	by Emergency Order

Yakataga District

Season	Opening Date
Sockeye Season	15 June (except Tsiu River closed)
Coho Season	by Emergency Order

**1994 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 the 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, upriver into

the Yukon Territory of Canada. The U.S./Canada border is approximately 40 miles upstream from the river mouth. The river supports large populations of chinook, sockeye, and coho salmon, and small populations of pink and chum salmon. Alaskan set gillnet fisheries target on sockeye and coho salmon. 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 17,450 sockeye, 3,550 coho, and 200 chinook salmon annually (1989-1993). The Canadian subsistence and sport harvest has averaged approximately 547 chinook, 2,600 sockeye, and 200 coho salmon during the same period. Subsistence and sport fisheries in the Alaskan portion of the river are relatively minor, harvesting about 190 salmon annually.

Historically, a set gillnet 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 now harvested only incidentally during the sockeye salmon fishery in early June. The 1994 run of chinook salmon is not expected to produce fish surplus to a Klukshu River escapement goal of 4,700.

The initial Alsek River opening will be 12 hours from 12:01 p.m. through 11:59 p.m., Monday, June 6. Depending on the proportion of sockeye to chinook salmon, another 12 hours could be added to this period. This represents the first time since 1987 that the Alsek Fishery will open on the date specified in published regulations. The early segment of the Alsek sockeye run is expected to be above average in 1994; the late segment will probably be below average. The primary brood year (1989) early run Klukshu River weir escapement was 3,400 sockeye; the late run was 20,142. The 1989 Village Creek escapement was approximately 9,500. The 1989 escapements to U.S. systems were below average. Subsequent fishing time will be based on a comparison of current year fishery performance (catch and effort) in relation to historical performances. However, in order to reduce the impact on chinook, the early June periods are expected to be limited in 1994.

To reduce the incidental harvest of chinook salmon, gillnet mesh-size will be restricted to a maximum of six inches through July 1. Set gillnet fishers 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 inriver fishery. The surf fishing area includes the shoreline, 3/4 mile 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 inriver fishery. East River salmon catches have averaged about 137,100 sockeye, 6,200 chum, and 8,900 coho salmon (1989-1993). 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 27). 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 has been established for the East River. As in recent years, upriver 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 1990 parent-year escapement was estimated at 42,000 fish. An average return from 42,000 spawners would yield a surplus of about 138,000 fish.

### *Situk-Ahrnklin and Lost River*

The Situk-Ahrnklin Inlet 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 Yakutat (up to 96 permits). Fishing occurs primarily in the inlet, 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, while coho salmon dominate the catch during the fall. Situk-Ahrnklin catches have averaged about 104,000 sockeye, 89,000 coho, 18,300 pink, and 600 chinook salmon (1989-1993). The sockeye escapement goal for the Situk River drainage is 40,000 to 55,000 fish through the weir.

Based on spawner-recruit information, the 1994 Situk-Ahrnklin sockeye salmon run is expected to be greater than the 1993 return. The 1989 brood year Situk River sockeye escapement was 84,400 fish. The 1994 Situk River sockeye catch is expected to be around 200,000 fish split between the Situk, Lost, Yakutat Bay and Manby Shore Ocean fisheries.

The June 13 opening date for the eastern part of the Situk-Ahrnklin Inlet is set in anticipation of a surplus of Ahrnklin River sockeye. Run timing of Ahrnklin sockeye is generally earlier than Situk sockeye. Evidence of the earlier timing and strength of the Ahrnklin River sockeye was seen when approximately 10,000 sockeye were harvested during the second week of June openings in 1990 and 1991. Age composition analysis indicates that most of the harvested sockeye were freshwater age-0; distinguishing them from Situk stocks. The parent-year (1990) escapement to the Ahrnklin was above average and surplus production is anticipated. During the second week of June, fishing will be confined to the eastern end of the Situk-Ahrnklin Inlet 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 run 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 gillnet 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 harvest of chinook salmon.

At the 1991 Board of Fisheries (Board) meeting, the Board adopted the following Situk-Ahrnklin Inlet and Lost River Chinook 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 (3-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 (3-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 gillnet 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 gillnet 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 (3-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 gillnet 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 gillnet 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 unbaited, 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 (3-ocean age and older), the department shall:
  - A. Manage the commercial set gillnet 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.

In January of 1994 the Situk-Ahrnklin Inlet and Lost River Chinook Management Plan was amended by the Board to require a conservative approach in the management of the sport and commercial fisheries prior to making an abundance projection. Prior to projecting the chinook salmon return into the Situk River, the Situk River sport fishery shall be restricted to non-retention of chinook salmon and the Situk-Ahrnklin Inlet and Lost River commercial fisheries shall be restricted to the non-sale of chinook salmon.

Steelhead trout in post-spawning condition occasionally accumulate in the Situk River prior to the time that they emigrate to the ocean. When the emigration is late, there is a potential for the Situk setnet fishery to harvest a larger than normal number of adults. The rate of emigration of spawned-out steelhead often increases following periods of heavy rainfall. If a major emigration is expected to occur during a scheduled gillnet 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 gillnet fisheries in Yakutat Bay. The Monti Bay fishery occurs in the ocean waters of Yakutat Bay south of 59°40' N. latitude and opens by regulation on the second Monday of June. The Manby Shore Ocean fishery encompasses the ocean waters of Yakutat Bay north of 59°40' N. latitude and opens the third Monday of June by regulation. The Manby Shore Inland fishery opens by regulation on the fourth Monday of June and 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 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 regulation on Monday, June 13 for 2.5 days. The weekly fishing period will be limited to a maximum of 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 fishery will open by regulation on Monday, June 20. Weekly fishing periods will depend on Situk River sockeye salmon run strength assessment.

## **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 27. Additional open periods will depend on fishery performance information.

## **Humpback Creek Fishery**

The "Humpy Creek," fishery located in the southeastern portion of Yakutat Bay, targets pink salmon. A below average run is expected at Humpy Creek for the 1994 season, given the below average 1992 parent-year peak count spawning escapement of 4,500. Inseason 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 this lower portion of the river. The 1989-1993 average Akwe River harvest was approximately 4,800 sockeye, 5,900 coho, and 140 chinook salmon.

The Akwe River parent-year (1989 and 1990) sockeye salmon catches were above average and below average, respectively, and it is likely that the sockeye return for 1994 will be about average. Decreased sockeye salmon production in the last three years has resulted in a reduction of fishing effort. In spite of the reduced effort, fishery performance has not improved and reductions in the normal 2.5-day weekly fishing period have been necessary. Data from 1991 and 1993 indicate that this is a highly efficient fishery, with a removal rate of approximately 50%, even though the effort in 1991 and in 1993 was less than half that of previous years. The sockeye fishery is scheduled to open by regulation on June 27 and

the season should extend through early August. Inseason 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 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 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 gillnet fishing.

Harvest in the Italo River, including the Middle and Old Italo channels, has averaged approximately 1,600 coho salmon annually (1989-1993). The sockeye salmon fishery has not been open since 1987. The reason for the recent sockeye run failures is unknown since parent-year escapements were good. Historically, the Italo produced sockeye catches of over 20,000 fish. The Italo River fishery opens by emergency order when good escapements are observed. The parent-year escapements for this year's sockeye return were below average and no harvestable surplus is expected.

### *Yakataga District*

The Yakataga District, except the Tsiu River, will initially open on Wednesday, June 15 for a 2.5 day period, from 6:00 a.m. Wednesday to 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 fall fishing begins on August 1.

## **1994 FALL MANAGEMENT PLAN**

Fall fishing is directed primarily at harvesting 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 12:00 noon closing time.

During the fall, set gillnet 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 forecasts of coho salmon runs are available. However, due to average escapements to most systems in 1990, coho runs are expected to be average.

### *Yakutat District*

Fall fishing will begin on August 1 in the Yakutat District, except in the East River where management will continue to be based on sockeye salmon run strength through most of August.

Inseason management of all Yakutat District fall fisheries will be based primarily on fishery performance data since inseason 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 gillnet period specified by regulation.

Fishing time and area adjustments will be made for each river as needed for conservation. A closed area can be expected in the Yahtse River to protect schools of milling coho salmon at tributary mouths. The actual closed water area will be based on inseason 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 inriver set gillnet 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 been about 57,000 coho salmon, while the Kaliakh harvest has averaged about 9,400 coho salmon. Parent-year (1990) escapement counts and harvests were below average. The 1994 coho salmon return is expected to 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 open from 9:00 a.m. Monday through 9:00 a.m. Thursday, beginning on August 1.

## YAKUTAT AREA-1994 SALMON RUN PROJECTIONS

### *Sockeye*

#### **Alsek River**

The parent-year escapement was 21,600 through the Klukshu Weir. The catch may range from 15,000 to 22,000. Expect a strong early segment return and a weak late return.

#### **East River**

The parent-year escapement was estimated at 42,000. An average return-per-spawner would yield a catch of about 138,000 fish, with an escapement of 30,000.

#### **Akwe River**

No reliable escapement counts are available for 1989 and 1990. However, commercial harvest was good in 1989 and poor in 1990. A catch of 3,000 to 6,000 may be possible.

#### **Italio River**

Escapement was below average in 1989 and in 1990. Although recent returns have been improving, it is unlikely there will be a sockeye harvest this season.

#### **Lost River**

The parent-year escapement was 4,500. Catches will depend on Situk-Ahrnklin management. An average return is expected.

#### **Situk River**

The parent-year escapement was 84,400. A return per spawner of 3:1 with an escapement goal of 55,000, would result in a catch of about 200,000 split between the Situk, Lost, Yakutat Bay, and Manby Shore Ocean fisheries.

### *Coho*

#### **Tsiu/Kaliakh River**

With normal effort levels, a catch of over 45,000 may be possible in the Tsiu River this year. In the Kaliakh River, a harvest of 4,000-8,000 fish is expected.

#### **Area wide**

Parent-year escapements were average in most areas. The return is not expected to be as strong as it was in 1992 and in 1993. The area wide set gillnet catch may range between 150,000 and 175,000 fish.

## FISHERY CONTACTS

Following are Alaska Department of Fish and Game, Commercial Fisheries Division contacts regarding this management plan:

Scott Marshall  
Region I Supervisor

P.O. Box 240020  
Douglas, Alaska 99824  
(907) 465-4260

Doug Mecum  
Region I Management Biologist

P.O. Box 240020  
Douglas, Alaska 99824  
(907) 465-4258

Keith Weiland  
Area Management Biologist

P.O. Box 49  
Yakutat, Alaska 99689  
(907) 784-3255

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