

1998

## **Nome Board of Fisheries Meeting**

### **Overview of Habitat Division's Permitting Efforts in Nome**

The Northern Region Habitat and Restoration Division is based out of Fairbanks and had little presence in Nome during the 1970s and early 1980s. Field staff numbered less than 4 for all of northern Alaska north of the Alaska Range until 1984. In 1985 the division began making at least one trip to the Seward Peninsula annually and coordinated with the Divisions of Commercial Fisheries and Management Development and Sport Fish, who were and remain our primary "eyes and ears" in this region. It is estimated that over 90% of all inwater activities in anadromous fish streams were not permitted or regulated in the mid-1980s. Staff established dialog with local development interests, native corporations, civic groups, state and federal agencies, and media and today an estimated 95% of all instream activities are regulated under ADF&G's Fish Habitat Permitting Program.

Currently, staff spend an average of six staff weeks annually in Nome conducting compliance inspections and coordinating with industry and other agencies/native corporations on habitat enhancement projects. While this is less than desirable, it represents the limit of what existing staff levels can support.

In 1997, 147 permit reviews were conducted in northwestern Alaska. Of that, approximately 32 were for sub-district 1. Similar levels of activity are anticipated in 1998.

At this time I would like to give you a brief recap of our assessment of drainage specific habitat conditions for chum salmon in sub-district 1.

### **Cripple River**

The Cripple River is at the western edge of the heavy mining activity that occurred in conjunction with the Nome gold rush. The main river has not been dredged; however, both historic and current placer operations occur on Oregon Creek upstream of the Blogett Highway bridge. Hardrock exploration is occurring in the upper Cripple River watershed approximately 10 miles upstream of the Blogett Highway bridge. Many of the tributary streams along the west side of the Cripple River were historically mined and / or diverted into ditch / flumes to support sluicing operations. While this undoubtedly had adverse impacts on other anadromous fish species, it is not known to have impacted chum salmon spawning or rearing habitat.

Today, a commercial / sans tourist placer mining operation exists at the mouth of the Cripple River. Gold Prospectors Association of American has maintained this facility since the early 1980s on private claims. Up to 250 tourists are present at any one time between mid-June and the first week of August. Satellite camps with up to 12 individuals each are located on Bowhead Creek, Arctic Creek, Stella Creek, and Fox Creek. Most mining activity occurs along the Norton Sound beachline immediately east of the Cripple River using hand-fed rocker boxes. Limited pick and shovel and small suction dredge mining occurs at satellite camps. No dredging is authorized in the Cripple River proper. Operations are field inspected annually. No instream activities, including ATV use within chum salmon spawning areas, is allowed. Although criminal citations for instream violations were issued in the mid-1980s, no subsequent violations have occurred.

The lower one mile of Oregon Creek was extensively mined for gravel in the mid-1970s. This activity significantly impacted this reach of the tributary; however, it primarily impacts Dolly varden stocks and is located upstream of documented chum salmon spawning habitat.

### **Penny River**

No historic mining activity is known to have occurred in the Penny River watershed although access to mining prospects are known to have forded the Penny River upstream of documented chum salmon spawning areas. Hardrock mining exploration presently is occurring in the highlands west of the Penny River (Cominco Alaska).

### **Snake River**

Historic and current placer mining operations occur in numerous headwater and tributary streams (notably Goldbottom Creek, Bangor Creek, Iron Creek, and Glacier Creek). Instream equipment fords occur at two locations within known chum salmon spawning habitat but are presently regulated (since the mid-1980s) under a Fish Habitat Permit. Instream activities are restricted to a point to point crossing along tradition access routes. Chum salmon spawning habitat appears to be of high quality and has not been impacted by human activities.

### **Nome River**

The Nome River experienced intense mining activity in the first 40 years of this century. Numerous tributaries were mined for gold. Given the practices of the time, it is presumed that significant sediment loads were delivered to the mainstem Nome River. However, current substrate analysis indicates that the mainstem spawning gravels appear to have recovered from earlier mining activities. Approximately eight mines currently exist in tributary streams. Each mine has strict effluent limitations that preclude discharges in excess of 0.2 ml/l settleable solids.

From 1950 to 1990 road construction and maintenance activities impacted the Nome River on numerous occasions. The road is constructed of river gravel and in many segments appears to have impacted the river floodplain and river channel. One large river gravel mining site (mid 1980s) near Banner Creek is just now reaching a stable configuration. No instream gravel mining has been authorized since the mid-1980s. Instream activities and vehicle fords are strictly regulated. In recent years, ADOT&PF has cooperatively worked with ADF&G to construct off-channel fish enhancement structures (e.g., over wintering ponds) in the upper watershed.

### **Solomon River**

The Solomon River was extensively mined in the first 30 years of this century and less intensively for another 15 years after that. Thirteen gold dredges are thought to have operated simultaneously on this system. The lower river is known to have had at least three dredge passes over it. Road access to the Council mining area was constructed through the Solomon River floodplain and included instream gravel mining. The river is still seeking to reestablish a stable channel (including the majority of the known chum salmon spawning habitat).

A new mining operation is proposing to explore gold deposits adjacent to the lower Solomon River in 1998. The operator has agreed to restrict inwater activities and is willing to work with ADF&G to enhance lower Solomon River channel conditions if that will help restore optimum chum salmon spawning conditions.

Although the Solomon River is visibly impacted, at this time, it is staff's judgment that current chum salmon returns to the Solomon River are less than the residual habitat is capable of supporting.

## **Talking points - Riverine habitat quality, Northern Norton Sound chum salmon systems.**

This overview starts in the Northwest and works to the east through Subdistrict 1 to selected streams in Subdistricts 2 and 3.

### **Sinuk River - River of Concern**

The Sinuk River is a pristine river that has little evidence of mining or other developmental impacts throughout most of its length. Limited floodplain gravel mining occurred for road construction during the mid-1970s to 1980s immediately downstream of the Blogett Highway bridge crossing. The U.S. Army National Guard conducts military training activities in the upper headwaters (Stewart River); however, no inwater activities have been authorized. This river supported a village and later a small mission at its mouth until the 1930s. Today it is crossed by Blogett Highway at the upper limit of chum spawning habitat. It has relatively little boat traffic. There is one active subsistence camp at the river's outlet.

### **Cripple River**

The Cripple River is at the western limit of the heavy mining activity associated with the Nome gold rush. The main river has not been dredged; however, both historic and current placer mining activities occurred in the Oregon Creek watershed upstream of the Blogett Highway bridge. Many of tributary streams along the west side of the Cripple River also were historically mined and/or diverted into a ditch/flumes to support sluicing operations. Upland hardrock lode mine exploration is occurring in the upper headwaters of the Cripple River and Oregon Creek. There is extensive winter overflow and icing in previously disturbed segments (Oregon Creek) where width/depth ratio has increased and as a result there is some impact on winter water flows downstream. We do not feel that historic or current mining operations have a significant impact on present chum salmon spawning habitat.

The Cripple River supported a subsistence fishery in the late 1950s. During the 1980s, this stream supported several subsistence camps at its mouth. Based on the 1982 tagging study results, chum salmon destined for streams northwest of Cape Nome are believed to first come ashore in Norton Sound at Cape Nome and then move north and west to their spawning streams. The area northwest of Cape Nome (Western Subdistrict 1) has been closed to commercial fishing for all species of salmon since 1983 and it has been closed to saltwater subsistence salmon fishing from June through at least mid-July since 1991. The Cripple River has been closed to sport and subsistence fishing for chum salmon for 6 years and the river has been posted as such. Since the early 1980s, there has been a tourist mining operation headquartered on private claims at the mouth of the Cripple River. Up to 250 tourists may be present at the camp at any one time between mid-June to the first week of August. Satellite camps with up to 12 individuals each are located on Bowhead Creek, Arctic Creek, Sidney Creek, and Fox Creek. Most mining activity occurs along the Norton Sound beachline immediately east of the Cripple River using

hand-fed rocker boxes. Limited pick and shovel and small suction dredging mining occurs at the satellite camps in tributary streams. No dredging is authorized in the Cripple River proper. These operations are field inspected and monitored annually by the department's Habitat Division and are strictly prohibited from mining or operating ATVS within this river's chum salmon spawning areas.

Extensive gravel mining for highway construction occurred in the lower one mile of Oregon Creek upstream of known chum salmon spawning areas. Although habitat values for Dolly Varden and coho salmon juveniles remains low today within the mined section, gravel mining activities do not appear to have significantly impacted or destabilized downstream chum salmon spawning habitats.

Even with a Fish and Wildlife Protection presence out of the Nome office, illegal sport harvest is thought to occur in this system.

## **Subdistrict 1**

### **Penny River**

This is a small river with its mouth a mile from the mining camp at the Cripple River. During the 1980s, three subsistence camps existed at the mouth of this river. Sport fishing effort and traffic on the beach has caused these camps to be virtually abandoned. The salmon returns to the Penny River has been subject to the same commercial, sport and subsistence restrictions described for the Cripple River above. No historic mining activities are known to have occurred within the watershed although access to mining prospects in the upper Cripple River did cross the Penny River upstream of known chum salmon spawning areas. Hardrock lode mining exploration presently is occurring in the highlands west of the Penny River. One family residence is located near the Blogett Highway bridge.

Even with a Fish and Wildlife enforcement presence out of the Nome office, illegal sport harvest is thought to occur in this system.

### **Snake River** - River of Concern

The Snake River mouth is the port of the City of Nome. The River was the city water source for most of the past 100 years. The lower mile of the river has been channelized and dredged for gold. Today the river is diverted around the airport. The lower six miles of the river follows a former beach line and the substrate is mostly sand, a poor spawning substrate for salmon. Upstream, spawning habitat is much better. The stream has a good year round flow of water, high quality spawning gravel and excellent water quality. The road system provides many access points for all forms of recreational use. The level of use is relatively high. Fish racks dating from the 1960s and 1970s can be found near chum salmon spawning beds, however they have not been used for twenty years. This stream is judged by staff to have some of the best chum salmon spawning habitat in the area yet it has some of the lowest returns. The Department has operated a small instream-incubator on a tributary to this river since 1992 to help restore chum salmon to this

system. For the first time in years, we believe that the chum salmon escapement goal for this system was attained in 1997 based on the counts at the tower project.

The maximum potential for chum salmon on this river is not known. The habitat appears to be of high quality and winter flow rates are high. Salmon production prior to the gold rush may have been quite high. Early records indicated a seasonal fish camp existed somewhere near the mouths of the Nome and Snake Rivers in the late 1800s.

Historic and current placer gold mining occurred in the numerous headwater and tributary streams (notably Goldbottom Creek, Bangor Creek, Iron Creek, and Glacier Creek). Instream equipment vehicle fords occur at two locations within known chum salmon spawning areas but have been regulated under a Fish Habitat Permit since 1986 by the Habitat Division. Instream activities currently are restricted to a limited bank to bank crossings along traditional access routes.

#### **Nome River** - River of Concern

This river is located three miles east of the City of Nome. Like the Snake River, there is easy access to this river for both recreational and subsistence users. This river has supported a small community, Fort Davis, and fish camps at its mouth since the early part of this century. The people there harvest marine mammals and salmon from Norton Sound and Nome River. During the 1970s and early 1980s there was a small commercial salmon fishery that operated in this general vicinity. Prior to 1974, there was an undocumented fishery that sold cured fish for human and dog use from this area. Since 1985, the escapement goal for the Nome River has been met only one time, although survey conditions were poor for a number of those years. For the past six years severe harvest restrictions have been in place.

The Nome River saw some intense mining in the first 40 years of this century. Numerous tributaries were dredged for gold. Substrate analysis of the spawning beds indicate that they have recovered from earlier mining activities. Approximately eight mines currently operate in tributaries with strict limits on sediment discharge. Field inspections by the Habitat Division indicate only limited permit compliance problems with existing operations.

From 1950 to 1990 road construction and maintenance impacted the stream on occasion. The Kougarok Road runs parallel to the river, often in the flood plain. The road is constructed from river gravel in different segments. The river changed its channel and gradient at the largest gravel pit sites. The river is just now reaching a stable configuration at a site near one of the larger gravel pit areas at Banner Creek. There is extensive winter overflow and icing in previously disturbed segments where width/depth ratio has increased and as a result, there is some impact to winter water flow rates downstream. Today, the Nome River, is a clear river with excellent spawning substrate and adequate winter flow rates. We have operated a small instream incubator near the upper limit of chum spawning habitat on this river since 1992 to help restore the chum salmon to this system.

**Flambeau River** - River of Concern

The chum salmon escapement goal for this system was not attained in 1997 although survey conditions were considered poor. However, it was attained during the previous three years. This is a small pristine river with minimal human use. There is a large seasonal fish camp situated at the estuary mouth. There have been a series of settlements and fish camps on this river system for thousands of years. The entrance to Safety Sound has moved within the last 100 years and so have the settlements. The rivers of Safety Sound have supported salmon harvests for a long time.

Recently escapements have recovered to some extent in this system and we hope that trend will continue.

**Eldorado River** - Former River of Concern

The Eldorado and Flambeau Rivers have a common mouth. The Eldorado is the largest chum salmon producing stream in Subdistrict 1. The Eldorado is also a fairly pristine river with relatively little recent human use. Several of the tributaries above the salmon spawning beds received heavy mining impacts in the first 30 years of this century. Those portions of the watershed have long ago reached a stable state and are not thought to have an impact on the current salmon spawning habitat quality. The Safety Sound streams now support the bulk of the subsistence fishing effort in this Subdistrict. Subsistence harvests have been severely limited for the last six years on this river since it has a relatively small pink salmon return and is managed with chum salmon as the focus.

**Bonanza River** - River of Concern

This is a small pristine river which flows into Safety Sound. The chum salmon returns are small and have been difficult to monitor due to the large number of pink salmon in this river. The stream has relatively little chum salmon habitat. This stream has had very little mining impact or any other development.

**Solomon River** - River of Concern

The Solomon River was heavily mined during the first 30 years of this century and less intensely mined for another 15 years after that. Thirteen gold dredges are thought to have operated simultaneously on this system. In addition to that, roads were constructed in the flood plain of the river. The mining has now been limited to almost no impact. Much of the earlier road system has been relocated out of the active floodplain. River channels are slowly recovering through natural revegetation and channel adjustment. There is extensive winter overflow and icing in previously disturbed segments where the width/depth ratio has increased and as a result is some impact on winter water flows downstream. The river is still seeking a stable channel with the lower reaches (including the majority of chum salmon spawning habitats) being relatively more stable and productive. Salmon habitat is recovering and there is no historical record concerning conditions of the premining stream bed. Although further channel reclamation would result in further improvement of the habitat for spawning salmon, it is the staff's

judgment that the current chum salmon return is less than the existing salmon habitat is capable of supporting.

Significant recreational and commercial instream vehicle access occurs in the West Fork of the Solomon River along a traditional RS2477 access route to the Casadepaga River and American Creek mining areas. These instream equipment fords are regulated under a Fish Habitat Permit issued by the Habitat Division and occur upstream of known chum salmon spawning areas. Another access road extends up Big Hurrah Creek to the abandoned Little Hurrah lode mine. Recreational vehicle traffic, and recently renewed interest in the Little Hurrah lode prospect, occurs. ADOT&PF relocated the access road out of the active floodplain (except for a single ford crossing) in 1989.

We have operated a small instream-incubation box on this river since 1995 to help restore the chum salmon there. Success in producing fry has been limited at this site due to the low gradient at the water source.

### **Subdistrict 2**

The **Fish River** System - Former River of Concern

This is historically the largest chum producing system in Norton Sound. There is a long record of human use of this chum salmon stock. The chum salmon of this river declined to a low point in the late 1980s and have recovered to some extent since that time. During the gold rush there was heavy mining on this system, however it peaked earlier than at Nome. The mining impacts have reached a relatively stable state today and are not thought to be a significant problem any longer. In the last twenty years, Nome residents have come to rely on this chum stock for a major portion of their chum salmon needs as stocks more proximal to Nome declined.

### **Subdistrict 3**

**Kwiniuk River** - Former River of Concern

The Kwiniuk River stock has attained the escapement goal for the past four years. The former commercial fishery in this Subdistrict had to be completely closed to bring the return back. The river is pristine with only a single ATV trail to its headwaters and a road to its mouth from nearby Elim. The only human development is at the mouth where there is an abandoned FAA station, an abandoned fish processing plant, and a seasonal fish camp.

**Tubutulik River** - River of Concern

This stock has met its escapement goal three of the last four years. The river is pristine with very little human impacts on it. There is an old village site two miles from the mouth and a modern day seasonal fish camp on the barrier spit near the river mouth. The stock is depressed with little associated harvest or impacts to explain the current poor returns.