

Status of Brown Bears  
and Other Natural Resources in the  
McNeil River State Game Sanctuary and Refuge

Annual Report to the Alaska State Legislature

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## Executive Summary

The statute creating the McNeil River State Game Refuge and expanding the existing sanctuary took effect on January 1, 1993. The Board of Game passed minor modifications to sanctuary access and special permit regulations. Revised criteria for the review of special permits were completed by Region II staff and used for the 1993 season. The draft operational plan was reviewed by the Board of Game and approved with two minor amendments.

The number of brown bears observed in the sanctuary increased from last year, and reached a record high. Visitor use decreased slightly, following an expected decline related to regulation changes adopted to reduce campground crowding. Both of these numbers are viewed as essentially stable. There were no known adverse bear-human interactions in the sanctuary or refuge. The Board established a drawing permit process for brown bear hunting in the refuge.

Commercial fishing for McNeil River chums and Mikfik sockeyes was closed due to very poor returns. Sockeye salmon returns to the Paint River enhancement project remained poor for the fourth consecutive year. Sockeye smolt outmigration from Chenik Lake was lower than the last two years, and sampling indicated a low incidence of IHNV.

A new reporting requirement for commercial sport fishing operators indicated that about 700 anglers caught over 1,200 salmon and almost 1,500 Dolly Varden in the sanctuary.

## Introduction

The Alaska State Legislature passed legislation (AS 16.20.160) in May 1991 which expanded the McNeil River State Game Sanctuary and created the McNeil River State Game Refuge. The legislation became effective on January 1, 1993, when the Commissioner of Fish and Game certified the Paint River fish ladder as operational.

The sanctuary was established to (1) provide permanent protection for brown bears and other fish and wildlife populations and their habitats so that these resources may be preserved for scientific, aesthetic, and educational purposes; (2) manage human use and activities in a way that is compatible with (1) and to maintain and enhance the unique bear viewing opportunities within the sanctuary; and (3) provide opportunities that are compatible with (1) for wildlife viewing, fisheries enhancement, and fishing, for temporary safe anchorage and for other activities.

The refuge was established for similar purposes. The differences are that human uses and activities in the refuge are to be managed to maintain and enhance the unique bear viewing opportunities within the sanctuary, that opportunities for brown bear hunting shall be determined by the Board of Game, and that mineral entry is allowed.

The statute requires the Commissioner of Fish and Game to submit an annual report to the Legislature regarding status of brown bears and other fish and wildlife resources within the sanctuary and refuge and effects of fishing and fishery enhancement activities on these resources. This report is provided in response to that requirement.

## Land Status

All of the land in the new refuge and sanctuary extensions is state-owned or tentatively approved, except 14 sections that encompass Chenik Lake and Chenik Head. These sections were jointly selected by the state and Seldovia Native Corporation. They are not subject to refuge authority unless they become tentatively approved state land. There have been no new developments in the settlement of this case.

## Status of Litigation

In April 1993, a conditional Stipulation of Dismissal was signed by all parties in the suit against the Corps of Engineers and the Economic Development Administration. This agreement concluded the legal actions that had been placed against the fish ladder.

## Regulatory Changes and Management Plan

In November 1993, the Board of Game approved minor regulation changes (in 5 AAC 92.065) that established criteria for issuing or denying special permits, and also established an access permit category for purposes other than bear viewing.

The McNeil River State Game Sanctuary Operational Management Plan was reviewed by Board of Game members prior to the fall 1993 meeting. The plan was tentatively approved at that meeting with two minor amendments. The first was to add a management guideline to provide visitors with information on bear population management, and the second was a recommendation on the base-line time period that will be used to determine the threshold for impacts to the bear population.

A strategic management plan that will address major land uses such as land leases and permits, mineral exploration and development and motorized vehicle use will be developed by an intragency team in 1995.

## Status of Brown Bears

Sanctuary staff conducted a comprehensive review of all raw and recorded bear use and viewing data during the fall of 1993. This effort was made to establish a standard set of information and to eliminate any inconsistencies in previous reporting efforts. Information on bear numbers and bear-use days in this report should be recognized as the standard and may differ from figures previously reported.

Sanctuary staff record the number and sex of bears observed at Mikfik Creek, McNeil Falls and other portions of the Sanctuary during June, July and August. The number of recognizable bears, excluding cubs, observed in the sanctuary totaled 90 bears. This total represents a record high, but is only a small increase (8%) over the 5 year 1989-1993 average of 83 bears.

Even though there was a record number of bears observed at McNeil, there was concurrently a record low in bear use at the sanctuary. There was a total of 1,948 bear use days recorded, (only adult/subadult bears in all areas) which represents the lowest use since 1985. This is a 7% decline from the 1989-1993 average of 2,085 use days and the trend in use since 1989 has been down.

The low use in 1993, and the downward trend, is related to the fifth consecutive poor return of chum salmon to the McNeil system. Numbers of available salmon and related bear activity at McNeil falls dropped rapidly after July 28; normally when a peak in use is just starting. By August 4, there were occasions when no bears were visible from the viewing platform and bear viewing

ended 2 weeks early on August 8. Salmon return to McNeil River is a critical factor in providing a quality viewing experience.

Aerial surveys of brown bears were conducted in the sanctuary and refuge from 1989-1991 to gain an understanding of bear distribution and abundance prior to the establishment of salmon runs in Paint River. No aerial surveys were flown in 1993. Noticeable changes in bear distribution or abundance are not likely to occur until salmon begin returning in large numbers to the Paint River. Continuation of these aerial surveys is not cost-effective until a significant change in bear behavior is anticipated.

### Public Use

A permit is required for access to the sanctuary. In 1993, a new system was in place that required both regular and standby permits to be issued through a lottery process. This system was established to reduce staff time required to manage the previous standby system, and to also reduce the potential for members of the public to receive more than one permit per year. The period when permits are required to visit bear viewing areas was extended to June 7 (from June 15) to increase viewing opportunity. Lottery permits are also still required for July and August.

The number of people taken to a bear viewing area is limited to 10/day. In 1993, from 7 June to 25 August, an average of 9 people/day visited bear viewing areas in the sanctuary. A sanctuary goal is to maximize the number of bear viewers within this constraint; however, all time slots sometimes are not filled despite use of stand-by permits, mainly because occasional periods of stormy weather dampen the enthusiasm to view bears. Additionally, bear viewing is less reliable at both ends of the season and some vacancies occur as people cancel their visits to the sanctuary.

In 1993, ADF&G received 2,150 applications for a total of 280 permits (185 regular and 95 standby); the greatest number ever received for this program. This total indicates the continued and growing public interest in the program.

A total of 225 people (standby and drawing permittees) visited the sanctuary in 1993. This was less than the 1991 and 1992 totals and a 12% decline from the 5 year 1989-93 average of 256. The decline in use was expected, and is related to the previously unrestricted public use (pre 1992) of the sanctuary before June 15. We anticipate that use will stabilize around this number due to the permit system now in place.

There were 12 special permits issued for the 1993 season. The majority of these permits were issued to members of the public interested in photography. Two permits, one to French nationals

and one to personnel of the British Columbia Parks system, were issued to provide experience for establishing bear viewing areas in their respective countries.

Due to the growing public demand for special permits, the criteria for issuing these permits were reviewed by staff from Region II Wildlife Conservation during the latter part of 1993. They developed revised criteria that clarified and strengthened the review process. These new criteria will provide consistency in the review of future proposals.

### Brown Bear Hunting

The sanctuary is closed to brown bear hunting. Refuge statutory language leaves the decision to allow brown bear hunting with the Board of Game. At the fall 1991 meeting, the Board adopted a registration hunt for the refuge and adjacent Amakdedori Creek drainage. ADF&G has determined that the sustainable harvest for this area is 3 bears/year. Five bears were reported taken in this area during the fall 1991 season, and ADF&G closed the spring 1992 hunting season by emergency order. Brown bear hunting seasons on the Alaska Peninsula are only open in the fall of years ending with odd numbers and in the spring of even years. Therefore, the next scheduled hunting season was October 1993. ADF&G extended the emergency order closing this area to hunting pending the Board's decision on the bear hunting issue in November 1993.

Several proposals were submitted to the Board for the fall 1993 meeting relating to brown bear hunting in this area. The Board heard extensive public testimony regarding this issue. They determined that although some individual bears that are seen in the sanctuary may be harvested in the hunting area, the population of bears in the area is not threatened by hunting. A lottery permit process was established to allow limited bear hunting to continue in the area. As many as 12 lottery permits may be issued to maintain an average harvest of 3 bears/year.

### Trapping

Very little information is known about trapping activity in the sanctuary and refuge. Some local trapping does occur by residents of Kakhonak, although sealing documents are not available. Furbearer densities are estimated to be low in the area because of limited habitat.

### Sport Fishing

Limited information is available on sport angling in the sanctuary and refuge. Some fishing occurs in McNeil Lagoon and Chenik Creek, but it is incidental to bear viewing activities.

The only area which attracts significant interest is the lower Kamishak River. Due to low sampling effort and questionnaire returns, the Division of Sport Fish's annual survey of sport anglers does not accurately portray angler effort on the Kamishak River.

To address this problem, the Department included an angler reporting requirement for lodges receiving special area operating permits for the Kamishak River portion of the sanctuary. Seven lodges operating in the area during July, August and September, reported a total of 698 individual anglers caught 820 coho, 245 chum, 81 pink and 1,484 Dolly Varden. During that period they also observed bears a total of 130 times along the river.

### Commercial Fisheries

Natural sockeye salmon production within the McNeil Sanctuary fell short of preseason expectations. The sockeye salmon run to Mikfik Creek was weak with only 941 fish harvested. However, managers were successful in securing biological escapement requirements. The aerial escapement index count of 6,350 fish was close to the mid-point of the desired range of 5,000 - 7,000 fish.

Sockeye salmon returns to enhancement projects in the Kamishak District exceeded preseason expectations, but these had been adjusted downward to reflect recent production trends. The Chenik Lake harvest of 25,000 fish was over twice the projected 10,000. The Kirschner Lake harvest totalled 38,000 fish, which also exceeded the preseason forecast by 27%. In contrast, sockeye salmon returns to the Paint River enhancement project were poor. Although no commercial harvest of this run was allowed, only about 800 fish returned which was deemed insufficient to warrant opening the ladder to fish passage. It was the second year in a row that not enough fish have returned to justify opening the ladder.

The 1993 commercial chum salmon harvest in Lower Cook Inlet (LCI) was the lowest ever recorded, continuing a dramatic decline in chum salmon landings for a fifth straight year. McNeil River contributed only 374 chum salmon to the total LCI harvest. These fish were incidentally taken during the early Mikfik sockeye opening. Although weak chum salmon runs were apparently a statewide phenomenon, the poor return to McNeil River was particularly disappointing in that a strong 5-year age class was anticipated. Lengthy closures were necessary throughout the Kamishak Bay District to protect chums. As a result, maintenance level escapements were achieved, although the McNeil River chum escapement index, estimated at 17,430 fish, was still less than the goal of 20,000 - 40,000 fish.

## Fisheries Enhancement

Construction of the Paint River fish ladder was completed in October 1991. However, only 300 of an anticipated 20,000 sockeye salmon returned to the Paint River area in 1992, and only 800 sockeye salmon returned in 1993. Consequently, the structure was not open to allow water to flow and fish to pass upstream through the ladder system. The low returns may be related to the low productivity potential and high predation within both lake systems. Since 1991, approximately 750,000 sockeye fry (Tustemena stock) have been stocked annually in the Paint River Lakes.

Cook Inlet Aquaculture Association is currently evaluating other suitable sockeye salmon brood stocks from the west side of Cook Inlet as potential replacements for the Tustemena sockeye stock that has been repeatedly released into the Paint River lakes with little apparent success. Pink and chum salmon broodstock development for the Paint River system are being evaluated, but currently is on hold until an adequate funding source is secured.

Tustemena sockeye have also been used to stock Chenik Lake for many years. This sockeye salmon enhancement project has contributed significantly to the Lower Cook Inlet commercial seine fishery. For example, in 1988, an historic high return to Chenik Lake was documented at 173,000 sockeye salmon, representing over 50% of the entire LCI commercial sockeye harvest. Unfortunately, in recent years this contribution has dropped to as low as 8%.

Total 1993 sockeye outmigration at Chenik Lake was approximately 14,000 smolt. Although this count was lower than the two previous years, very few fish exhibiting the Infectious Hematopoietic Necrosis Virus (IHNV) disease were observed in the 1993 smolt. Smolt exhibiting the disease were observed in the early portion of the emigrants. Although pathology sampling conducted during the middle of the outmigration did not detect IHNV, the low smolt numbers in 1993 were assumed to be the result of fry mortality from the residual IHVN after the documented smolt epizootics in 1991 and 1992.

Due to this recent IHVN outbreak, the numbers of returning sockeye will decrease significantly in upcoming years. The factors related to IHVN epizootics are very complex and currently not well understood. Although it is remotely possible that the stocked sockeye salmon fry were the source of the virus, it is more likely that a reservoir for IHVN in Chenik Lake has been created from the sex products released by naturally spawning adult sockeye salmon or their decomposing carcasses. There is no practical onsite treatment of IHVN except perhaps to reduce fry stocking densities, which was addressed in the 1993 and upcoming 1994 seasons. ADF&G is currently reviewing future stocking levels and fertilization of Chenik Lake.

### Land Use Permitting

The Department issued a total of eleven special area permits for activities conducted on sanctuary or refuge lands. Eight permits were issued for the establishment of sportfishing guide camps on the Kamishak River within the sanctuary. One permit was issued for geological field assessment and temporary placement of navigation equipment within the sanctuary. One permit was issued for the installation and operation of a stream gauge on the Paint River within the sanctuary. One permit was issued to 3 members of the public who were kayaking along the Alaska Peninsula coast from Cold Bay, and then across Cook Inlet to Kenai. They camped in the sanctuary while staging for the final crossing of Cook Inlet.

An additional land use issue involves the private lodge facilities at Chenik Head. These facilities were first established as tent platforms in about 1978 and have expanded considerably. Neither DNR nor BLM have issued permits for permanent facilities at this location. The Department has provided comments to DNR stating that the trespass situation should be finalized before the State receives title to these lands.

### Bear-Human Conflicts

There were no known adverse interactions between bears and people in the sanctuary or refuge during the 1993 field season.