

**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 which created the McNeil River State Game Refuge and expanded the existing sanctuary took effect on January 1, 1993. The Board of Game has substantially revised sanctuary access regulations, and the changes will be implemented this year. ADF&G is proposing substantial fee increases to more adequately fund sanctuary management. An operational management plan will be reviewed by the Board of Game next fall.

The number of brown bears observed in the sanctuary was up slightly and visitor use was down slightly, but numbers remain essentially stable. There were no known adverse bear-human interactions in the sanctuary or refuge. Brown bear hunting was not open in the refuge in 1992.

There was little change in other human uses and activities from recent years. Commercial fishing for McNeil River chums was curtailed for the third year in a row due to low returns. Fisheries enhancement experienced several setbacks, including a third year of low sockeye returns to the Paint River and an outbreak of IHN in Chenik Creek. There was no known mineral exploration or new claims.

In addition to raising fees, ADF&G has made significant progress in developing supplemental sources of funding for sanctuary and refuge research and management.

## Introduction

The Paint River fish ladder was certified to be in operation effective January 1, 1993. With this certification, the legislation which expanded the sanctuary and created the refuge (SCS CSHB 306[FIN]) is in effect.

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 much the same purposes. The differences are that human uses and activities are to be managed to maintain and enhance the unique bear viewing opportunities within the sanctuary, and that opportunities for hunting and trapping compatible with (1) shall be provided unless the Board of Game prohibits brown bear hunting.

The new 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. This area will not be subject to the refuge statute or regulations unless it is tentatively approved as a state land selection.

## Status of Litigation

In April 1991 five groups (Friends of McNeil River, Wilderness Society, National Wildlife Federation, Alaska Chapter Sierra Club, Alaska Wildlife Alliance) filed a motion for preliminary injunction and a suit against the Corps of Engineers and the U.S. Department of Commerce's Economic Development Administration. The suit sought declaratory and injunctive relief based on the defendants' failure to give public notice or adequately evaluate the potentially significant adverse impacts of the project prior to approving permits and granting funding, as required by the National Environmental Policy Act and its implementing regulations.

Partly as a result of the suit, the Corps provided an extended review period to allow for additional comments on the proposed issuance of the permit. After the review period, the Corps added a stipulation to the permit which required an annual meeting of the Cook Inlet Aquaculture Association, U. S. Fish and Wildlife Service, National Park Service, Alaska Department of Natural Resources, and ADF&G to consider potential impacts of the new fishery on the area's resources. The first meeting of this group will occur in February 1993.

Meanwhile, the preliminary injunction and several appeals were denied by the U.S. District Court and the fish ladder was completed in October 1991. The most recent appeal and a motion for reconsideration were denied by the court in fall 1992. The court found the motion that argued the inadequacy of the first environmental assessment was moot, because the Corps' more recent environmental assessment was adequate. It is unclear at this time what course the plaintiffs intend to pursue.

#### Status of Regulatory Changes and Management Plans

At ADF&G's request, the Board of Game substantially revised sanctuary access regulations in fall 1992. These regulations will take effect in time for the summer 1993 visitor season. Major changes include:

- 1) The permit lottery period begins June 7, rather than July 1.
- 2) Standby permits will also be issued by lottery, rather than allowing visitors to fill slots on a first-come-first-served basis.
- 3) A waiting list for standby permits will allow persistent applicants a guaranteed chance to visit the sanctuary at some point in the future.
- 4) The number of scientific-educational permits was increased from 9 to 15 annually (the new permit periods are in June).
- 5) A new permit class was created to allow fishing guides to establish temporary, seasonal camps along the Kamishak River, as they were allowed to do before the area was incorporated into the sanctuary.

Currently, ADF&G is reviewing a proposal to raise sanctuary fees to more adequately fund management activities. The following changes are proposed:

- 1) Increase the application fee from \$10 to \$20.
- 2) Increase the user fee for bear viewing by Alaskan residents from \$40 to \$100 (standby permits would increase from \$25 to \$50).

- 3) Increase the user fee for bear viewing by non-Alaskans from \$40 to \$250 (standby permits would increase from \$25 to \$125).
- 4) Charge an annual fee of \$10 to remain on the waiting list for standby permits.
- 5) Charge an annual application fee of \$100 to fishing guides and lodges who want to operate a camp on the Kamishak River.

The McNeil River Advisory Group was convened in 1992 and met 6 times. The group consisted of 10 public members selected from all of the major user groups and potential users of the sanctuary and refuge. The advisory group reached consensus on a number of controversial issues and made recommendations to the ADF&G. However, they were unable to reach consensus on one of the primary issues: brown bear hunting in the refuge. The advisory group disagreed with decisions by the Board of Game and ADF&G not to adopt all of the group's recommendations relating to access permits and fees.

ADF&G is working on an operational management plan for the sanctuary and refuge. This plan will address fish and wildlife management and public access. Because many land use decisions will depend on the distribution and abundance of salmon introduced into the Paint River, and bear use patterns which develop as a result of the introduced fish, ADF&G will not develop a strategic management plan until this information is better known. The strategic plan will address major land uses such as land leases and permits, mineral exploration and development, and motorized vehicle use.

The Board of Game had asked to review the operational management plan during its spring 1993 meeting. ADF&G asked the Board to postpone consideration of this plan until its fall 1993 meeting, to give the advisory group, public, and ADF&G more time to conduct an adequate review.

### Status of Brown Bears

Sanctuary staff record the number and sex of bears observed at McNeil Falls and other portions of the sanctuary during June, July, and August. The number of recognizable bears observed in the sanctuary during the summer, excluding cubs, was 82. This number has fluctuated from 78 to 84 during the last 5 years, indicating that bear numbers have stabilized after increasing from a low count of 38 bears in 1976.

The total bear-use days index, which is the annual sum of the number of days each individual bear is observed in the sanctuary, was 1,961. This figure is up from last year (1,810), but still below the most recent 5-year average (2,022). The slight rebound in bear numbers and the bear use-days index can be attributed to a chum salmon escapement index of 19,200 fish, which is double the 1990 and 1991 escapement indices--although still 20% less than the 1988-92 average escapement index of 24,000. Because the escapement index in McNeil River was below the goal of 20,000 to 40,000 fish, the

commercial chum fishing season was closed early in the season, when it became apparent that the run was weak, for the third year in a row. The estimated number of chum salmon caught by bears at McNeil Falls was 18,544, substantially less than the estimated number caught during the peak chum salmon returns in the late 1980s (e.g., 33,391 in 1989). The escapement index and the estimate of the number of chums eaten by bears are independent; in other words, we cannot subtract the number eaten from the escapement index to determine the number of surviving spawners nor can we add the escapement index and the number eaten to determine the total number of chums entering McNeil River.

At Mikfik Creek, which is the sanctuary's primary bear viewing area in June, the observed number of adult and subadult bears (29) remained relatively high and the bear use-days index (497) continued to increase. This was despite the fact that the sockeye salmon escapement index for Mikfik was 7,770, 19% less than the 1988-92 average of 9,600 fish.

Aerial surveys of brown bears were conducted in the sanctuary and refuge from 1989-1991 to gain an understanding of their distribution and abundance prior to the anticipated influx of spawning salmon. No aerial surveys were flown in 1992. A significant change in bear distribution and abundance is unlikely to occur until salmon begin returning in large numbers to the Paint River. Now that a set of baseline information has been collected, continuing these aerial surveys is not cost-effective unless a significant change in bear behavior is anticipated.

There were no known human uses or activities that would have affected other wildlife or fish resources in the sanctuary or refuge.

### Public Use

A permit is required for access to the sanctuary. Permits to visit bear viewing areas in June, July, or August are issued through an annual lottery. ADF&G received 1,672 applications in 1992, down from the peak number of 1,818 in 1991 probably because the application form indicated that fees might be substantially higher (however, fees were not raised in 1992).

Including standby permittees, 245 people visited the sanctuary during the bear viewing period. This was only slightly less than in 1991 and 10% less than the 1988-92 average of 272. Similarly, the number of visitor use-days dropped to 1,210, down from the 1988-92 average of 1,317 use-days. The number of people taken to a bear viewing area is limited to 10/day. A sanctuary goal is to maximize the number of bear viewers within this constraint; however, all slots are not filled, despite use of standby permits, mainly because occasional periods of stormy weather dampen the desire to view bears. In addition, bear viewing is less reliable at both ends of the visitor season--in early June and late August--and, as a result, in some years fewer people visit the sanctuary. In 1992, from 11 June to 21 August, an average of 9.5 people visited bear viewing areas each day.

Several scientific-educational permits issued in 1992 have yielded impressive results. The British Broadcasting Corporation (BBC) filmed McNeil bears in 1991 and 1992 and produced 2 videos. The Great Bears of Alaska will premiere on the Discovery Channel on 15 March at 9 p.m., with repeat showings on 20 and 21 March. A Gathering of Bears is a half-hour video which highlights both McNeil bears and ADF&G's viewing program. The BBC agreed to produce this video as an educational tool for the department to use in promoting the sanctuary and positive bear-human interactions. ADF&G is paying only \$16,000 towards production costs, a bargain considering the quality of the finished product. Another valuable product is a distinctive poster of bears at McNeil Falls. A third product is a coffee-table book, A River of Bears, which describes the bears and the sanctuary. This book was co-authored by the sanctuary manager and is expected to go on sale in late March. Some of the proceeds from sales of the short video, poster, and book have been dedicated to the Watchable Wildlife Conservation Fund. The Fund will give this money to the department to augment management activities in the sanctuary and refuge.

### Brown Bear Hunting

The refuge statute leaves the decision to allow brown bear hunting with the Board of Game. At its fall 1991 meeting, the Board adopted a registration hunt for the area including the refuge and adjacent Amakdedori Creek drainage. ADF&G has determined that the sustainable harvest for this area is 3 bears/year. After 5 bears were taken in the fall 1991 season, ADF&G closed the spring 1992 hunting season in this area by emergency order. Brown bear hunting seasons on the Alaska Peninsula are only open in the fall of years ending in odd numbers and in spring of even years. Therefore, the next hunting season was scheduled for October 1993. ADF&G has postponed this hunt in the refuge and the Amakdedori drainage pending the Board's decision on the bear hunting issue, scheduled for November 1993.

### Trapping

Little is known of trapping activities and furbearer harvests in the refuge. Some localized trapping probably occurs, primarily by residents traveling by snowmachine from Kakhonak. No furbearers were reported harvested from the refuge in 1992. Furbearer densities in the area are presumably low because their habitat is limited.

### Sport Fishing

Little information is available on sport angling in the sanctuary and refuge. Some sport 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. One fishing guide estimates at least 550 anglers were flown to the Kamishak from mid-

July through September 1991. Beginning in 1993, fishing guides will be required to report the number of clients and salmon harvests to facilitate management of the area.

When a large number of salmon begin returning to the Paint River, it is also likely to attract anglers flown in by Iliamna Lake and Bristol Bay lodges.

### Commercial Fishing

McNeil River contributed approximately 2,041 chum salmon to the commercial harvest in lower Cook Inlet. The escapement index for McNeil River was 19,206 chums. Mikfik Creek, which drains into McNeil Lagoon, contributed 3,963 sockeyes to the commercial harvest. The escapement index for Mikfik was 7,770 sockeyes. At Chenik Creek, an expected return of 125,000 sockeyes failed to materialize. Only 23,647 sockeyes were estimated to have returned; of these, approximately 14,378 were harvested and escapement was 9,269 fish. Escapements for McNeil River and Mikfik Creek are estimated from aerial surveys; escapement for Chenik is based on weir counts.

ADF&G is currently reexamining escapement goals for lower Cook Inlet streams, including those in the sanctuary and refuge.

### Fisheries Enhancement

For the third consecutive year, the number of transplanted sockeyes returning to the Paint River was substantially less than anticipated. In July 1990 approximately 70 sockeyes returned to the intertidal area below the Paint River fish ladder. In July 1991 approximately 700 of an anticipated return of 22,000 sockeye salmon were observed in the same area. The fish ladder was completed in October 1991. In 1992, only 300 of an anticipated 20,000 sockeye salmon returned to the Paint River fish ladder. Consequently, the stoplogs were not lifted to allow water to flow through the fish ladder and fish to pass upstream. There is no clear explanation for the low returns; however, they may be related to adverse environmental conditions during in-lake rearing. In both 1991 and 1992, 750,000 sockeye fry were stocked in the Paint River lakes.

Cook Inlet Aquaculture Association is reviewing suitable salmon brood stocks in streams on the west side of Cook Inlet. They may decide to apply for a permit to replace the Tustumena brood stock that has been used in the Paint River with another brood stock.

Tustumena sockeyes are also stocked in Chenik Lake. This sockeye fishery has been a mainstay of commercial seining in lower Cook Inlet since 1986. In 1991 and 1992 Chenik Lake contributed 18% and 8%, respectively, of the lower Cook Inlet sockeye harvest. An outbreak of IHN, a potentially devastating virus, has drastically reduced the number of outmigrating smolts. In 1991 and 1992, of an expected 1.5 million smolts, only 32,000 and 42,000, respectively, were counted leaving Chenik Creek. Thus, the number of returning sockeyes will decrease significantly in upcoming years. This virus occurs in



sockeye populations naturally in the carrier state, and there is no treatment for the disease except to reduce stocking densities. ADF&G is currently reviewing stocking levels and the fertilization program in Chenik Lake.

#### Other Land Use Activities

ADF&G issued 1 special area permit which allowed ARCO to explore for oil and gas on tidelands and offshore waters of the sanctuary.

Approximately 8 land use permits were issued by the Department of Natural Resources for sport fishing camps on the lower Kamishak River, which is now part of the sanctuary. ADF&G will assume the lead management responsibility for permitting this activity in 1993. The stipulations developed in cooperation with DNR to minimize bear-human conflicts will serve as the basis for future permit guidelines.

There was no known mineral exploration in the refuge and no new claims are known to have been filed. American Copper & Nickel Company, which filed claims in recent years on a gold and copper deposit in the refuge near the upper Paint River Lake, did not explore the region further in 1992.

#### Bear-Human Conflicts

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

# MCNEIL RIVER STATE GAME SANCTUARY AND REFUGE



Refuge



Sanctuary

(Sanctuary and refuge include all adjacent tidelands.)

Kamishak Bay



