

MANAGEMENT OF McNEIL RIVER STATE GAME SANCTUARY
FOR NONCONSUMPTIVE USE OF ALASKAN BROWN BEARS

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Abstract: Increased nonconsumptive use by the public in the McNeil River State Game Sanctuary during July and August of 1970 and 1972 had a measureable adverse effect upon the viewable number of brown bears available to photographers--one of the purposes for which the sanctuary was established. Continued unrestricted public use was considered to be incompatible with the intended purposes of the sanctuary and restrictive measures were implemented. In the summer of 1973, a limited permit system was initiated to regulate the number of persons in the sanctuary during the period of bear concentrations. The permit system provided for restricted public activities. During its first season, the system seemed to be acceptable to the public and appeared to have minimized the undesirable effects of public overuse of the area.

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This paper discusses the history and nature of human use of McNeil River State Game Sanctuary, the conflicts which developed with unrestricted nonconsumptive use of the brown bear (*Ursus arctos*) resource and the management program adopted to reduce these conflicts.

HISTORY OF THE AREA

The McNeil River State Game Sanctuary is located near the mouth of Cook Inlet, approximately 200 air miles southwest of Anchorage. In July and August, brown bears congregate on the river to feed upon Pacific salmon (*Oncorhynchus* sp.) returning to the system to spawn. About a half mile above its mouth, the river tumbles over a series of rocks and boulders to form the famed McNeil River falls. These falls act as an obstacle to the upstream migration of salmon; during periods of low water, they may even temporarily block this movement. While navigating the falls, the salmon are particularly vulnerable to predation by bears. As there is no other comparable fishing area on the river, the bears concentrate at the falls in numbers that may exceed 30 individuals at one time. The total population of bears utilizing the area each season exceeds 70 individuals.

Salmon streams frequented by brown bears are common in Alaska, but the large number of bears which concentrate in the relatively small area of the falls make McNeil River unique. Brown bears were first protected from hunting in this area by the territorial government in July 1955. This restriction remained in effect until 1967 when the Alaska State Legislature established the area as the McNeil River State Game Sanctuary protecting both the bears and their vital habitat.

USE OF THE AREA

The earliest documented public use of the area for photography purposes was published in 1954 (Rhode, 1954). The number of persons visiting the area gradually increased, and, with increased use, conflicts began to occur between the human visitors and the bears. Two bears, both sows protecting cubs, have been killed in "defense-of-life" situations by photographers. With increased public use the problem of bears entering human camps became more frequent, with an associated increase in the potential for future reduction in bear numbers as a result.

The present demand for wildlife photographs has stimulated much of the increased public use at McNeil River. The majority of visitors to the area represent professional or semi-professional photographers. The expense of travel to the sanctuary has served to restrict public use, as access is primarily by charter aircraft from the communities of Homer and King Salmon.

Beginning in 1969, and with the aid of Utah State University personnel in 1971 and 1972, the Department recorded the level of public use at McNeil (Table 1). In 1970 humans frequently outnumbered bears at the falls. Competition for pictures resulted in photographers ranging over a wide area. Dangerous situations developed when individuals failed to use discretion while approaching animals. In previous years, the bears proved quite tolerant of human disturbances as long as the occasions were infrequent. With a higher intensity of human intrusion, the bears were tolerant only as long as the public activities remained within previously established patterns. The actions of visitors harassed many bears away from the falls. Department of Fish and Game observers found that the bears showed a different pattern of falls use in 1970 than in 1969 when there was less public use.

In 1970, the bears abandoned the falls when the first persons arrived in the morning. Once the humans were settled in, the bears gradually returned. The less tolerant bears again left the falls in the late afternoon in response to the activity of the departing persons. When all human activity had basically ceased in the evening, the bears crowded into the falls in their greatest numbers. Furthermore, some bears may have completely abandoned the area and the numbers of bears present was less than that prior to the influx of people. One of the two defense of life kills occurred in 1970, and the other problems developed when bears began raiding the visitors' camps. Under light public disturbance, the bears tended to visit the falls at all times of the day with only slight tendency to concentrate in the afternoons.

In 1971, an extended period of adverse weather curtailed aircraft travel into McNeil and restricted public entry. The season progressed with few of the problems that characterized 1970. In 1972, the influx of visitors nearly equaled that of 1970 and similar problems recurred. Department personnel in the area requested and received voluntary cooperation from many of the visitors and thus minimized the adverse effects upon the bears using the falls. It was evident, however, that continued unrestricted public access into the area would be detrimental to the concentration of bears that the sanctuary was established to protect.

Because of the detrimental effects of extensive human activity, the Department of Fish and Game terminated research activities in McNeil River State Game Sanctuary. These activities initiated in 1963, consisted primarily of obtaining basic life history information through capturing, marking and observing individual brown bears over a period of several years. Ongoing research in the area is now restricted to a Utah State University graduate program in brown bear behavior.

MANAGEMENT PROGRAM

In response to the problems which developed with the increasing public use of the sanctuary, Department personnel developed a tentative management program for the area. This program consisted of limiting the number of persons present at the falls with a permit system and establishing a set of rules to restrict their activities while in the area. Authority for such a program was contained in the legislation establishing the sanctuary.

In April, 1973, the proposed permit system was presented to the Board of Fish and Game which establishes Alaska's game and fish regulations (Appendix I). The Board adopted the system and its attendant regulations and recognized that the welfare of the brown bears represents the primary consideration in the management of McNeil River, and all other uses of the area must be compatible with that objective.

This permit system was initiated in the summer of 1973 and an employee was stationed in the area to regulate it. Because of time constraints between the Board's actions in late April and the permit drawing deadline of May 15, the drawing portion of the regulation could not be implemented. Permits were issued on a first-come, first-serve basis.

RESULTS

The permit system did not noticeably diminish total public use of the area and the recorded level of use was second only to that of 1970 (Table I). It did, however, limit the number of people utilizing the falls on any given day. In addition, the greater control of public activity minimized adverse bear-human interactions. No bears were destroyed in defense of life situations and no dangerous encounters between bears and humans were reported. The campground was nearly free of bears, and no damage to camping gear or food supplies occurred.

In general, problems most commonly experienced by the public in 1973 were those associated with arriving at the sanctuary unprepared for the wilderness conditions. Better communications in the form of news items, handouts, and letters should reduce these problems in the future. Public acceptance of the program was good with most visitors supporting the concept of limited public use to protect the bear resource. This opinion was particularly pronounced after the visitor had spent several days in the area and fully accepted the unique nature of its brown bear concentration.

The summer of 1974 will be the first year of full implementation of the permit system. The system will again be carefully monitored and modifications made, if necessary. Our experience at McNeil River shows that management for nonconsumptive use needs protective restriction although it does not involve direct attrition to a wildlife population. The McNeil River program is an example of game management to protect a resource from unrestricted nonconsumptive use for the benefit of future nonconsumptive users.

TABLE 1
PUBLIC USE OF McNEIL RIVER, 1969-1973

	<u>No. of Parties</u>	<u>No. of Persons</u>	<u>No. of Man-days</u>
1969	9	27	48
1970	27	58	215
1971*	7	17	51
1972**	20	56	165
1973	17	48	183

Public use records of McNeil River State Game Sanctuary, 1969-1973.
(Data from Alaska Department of Fish and Game Personnel 1969-1970 and
Utah State University 1971-1972)

- * Data provided by Derek Stonorov, Utah State University
- ** Data provided by Allen Egbert, Utah State University

Appendix I, regulations adopted to control access into McNeil River State Game Sanctuary.

(13) access to the McNeil River State Game Sanctuary for the period July-August 15 shall be under the control of a permit system. Application for permits shall be made to the Alaska Department of Fish and Game, Game Division, 333 Raspberry Road, Anchorage, Alaska 99502. Conditions of the permit are as follows:

- (A) a maximum of ten nontransferable permits may be in effect for each day. A single permit will be issued to each individual. Six of the permits may be for a period of up to five consecutive days. The remaining permits shall be for a period of one day.
- (B) applicants for entry to McNeil River State Game Sanctuary must indicate on their application the time period for which they are applying. No person may be eligible for more than one 5-day permit.
- (C) application may be made by parties of up to three persons for the same time period. The names of all individuals must be on the application form.
- (D) applications must be received in Anchorage by May 1. A drawing will be held on May 15 and successful applicants will be notified by mail.
- (E) alternate permits may be issued on a first-come, first-served basis by the Anchorage regional game supervisor or his designee during periods when less than ten persons are present at the McNeil River State Game Sanctuary.
- (F) persons visiting McNeil River State Game Sanctuary without a permit shall confine their activity to the immediate vicinity of the campground and beach.
- (G) activities of persons at McNeil River State Game Sanctuary shall be governed by a set of rules provided by the Department to minimize adverse bear-human interaction. Violation of these rules may result in immediate revocation of the violator's permit by the Department. These rules shall cover:
 - (i) location of camping sites and trails;
 - (ii) location of photography and observation sites;
 - (iii) food storage;
 - (iv) garbage disposal;
 - (v) areas closed to public access;
 - (vi) areas closed to sport fishing.

REFERENCES

Rhode, C.E. 1974. When Giant Bears go Fishing. National Geographic 106(2):195-205.



WESTERN PROCEEDINGS

**Fifty-fourth Annual Conference
of the**

**Western Association of
State Game and Fish
Commissioners**

**Albuquerque, New Mexico
July 16-19, 1974**