

KAMISHAK SPECIAL USE AREA
ADL 225459

AND SITE SPECIFIC PLAN
Classification # SC-90-010

November 27, 1990

I. INTRODUCTION

The Department of Natural Resources, Division of Land and Water Management, Southcentral Regional Office (DNR) is proposing, through this site specific plan and special use area designation to implement management guidelines for two parcels of state land, on the west side of Cook Inlet, between Katmai National Park and Preserve and McNeil River State Game Sanctuary. There is a growing demand for the use of these lands, mainly by "commercial recreational users". It is becoming increasingly important to manage commercial recreational uses of these areas to minimize contact between humans and the brown bear population of the area and impacts on valuable bear habitat.

The primary importance of the Kamishak area to the brown bear is as a feeding and denning area and as a movement corridor between feeding areas. Many of the bears using the Kamishak River area have large ranges. If bears learn to associate humans with an artificial food source at the Kamishak River, they will develop behaviors based on that association, and will exhibit the same behaviors in other areas. These behaviors have the potential to create a serious public safety hazard within the area, and to undermine the Alaska Department of Fish and Game's (ADFG) program of controlled bear viewing at the McNeil River Falls.

Although the primary objective of this site specific plan and special use area designation is to regulate commercial recreational users to reduce the high potential for conflict/habituation problems with brown bear, it also recognizes the importance of the area for its remote character and fishery resources, both habitat and harvest.

II. BACKGROUND INFORMATION

A. LOCATION

1. GEOGRAPHIC: The subject area consists of two parcels at Kamishak Bay on the Alaska Peninsula. The smaller of the parcels has an area of 7,458 acres, and is located between the McNeil River State Game Sanctuary and Katmai National Park and Preserve. The other parcel is a coastal area, part adjoining McNeil River State Game Sanctuary and Katmai National Park and Preserve and, part within park boundaries. Together they total 102,846 acres:

Kamishak Special Use Area and Site Specific Plan
Page 2

2. BOROUGH/MUNICIPALITY: Kenai Peninsula Borough
3. NATIVE REGION: Cook Inlet Region, Inc.
4. COASTAL DISTRICT: Kenai Peninsula Borough
5. USGS MAP COVERAGE: Iliamna A-1 and A-2, A-3, A-4,
Mt. Katmai D-2

B. LEGAL DESCRIPTION

The following state-owned land and water including tide and submerged land is the proposed Kamishak Special Use Area, and the area to be classified or reclassified under SC-90-010, subject to valid existing rights.

Parcel 1 (7,458 acres)
Section: 13,14 T14S R32W SM
23-26
31-36

Parcel 2 (95,388 acres)
Section: 1-3 T13S R30W SM
10-15
19-36

T13S R29W SM

T13S R28W SM

T13S R27W SM

Section: 4-9 T13S R26W SM
17-20
30, 31

3, 10, 15, 16, 21, 28, 29 & 32 All state
lands lying west of the former Katmai National Monument boundary.

The subject areas encompass approximately 104,098 acres.

C. TITLE/LAND STATUS

1. TITLE STATUS:

a. PATENTED STATE LAND:

Selection: GS-738, GS-678
Patent: 50-67-0209, 50-67-0389

b. TENTATIVELY APPROVED: GS-1518, GS-1519, GS-1520 and GS-1521.

c. STATE OWNED TIDE AND SUBMERGED LANDS: Statehood Act, State Tide and Submerged Lands Act

2. TITLE REPORT: Township 13 South, Ranges 26-29 West, SM, were TA'd to the State on August 30, 1974; Township 13 South, Range 30 West, SM, was patented to the State on January 27, 1967 and Township 14 South, Range 32 West, SM, was patented to the state on October 14, 1966. There are no native interests in the subject areas. Refer to Title Report No. SC-90-076.

3. ACTIONS OF RECORD:

a. Land exchange application: ADL 220016
Kamishak Bay land exchange, August 1984, Dept. Fish & Game,
F.R.E.D. Division - Inactive Request

b. Oil and gas lease: ADL 62323 - Closed
November 1, 1974

4. CLASSIFICATION: Subject lands are currently classified as Resource Management/Public Recreation/Wildlife Habitat under SC-80-037. The tidelands are currently unclassified. This site specific plan will reclassify the uplands and classify the tide and submerged lands to Wildlife Habitat as the primary value and Public Recreation as a secondary value.

5. MINERAL STATUS: The subject lands are open to mineral entry.

D. RESOURCE VALUES

1. TOPOGRAPHY: The subject lands range from sea level to 3,500 feet. The coastal parcel is mainly low rolling hills and coastal plains. The inland parcel consists of mountains between 1,500-3,500 feet in elevation. The tidelands are shallow and at low tide consist of wide mudflats.

2. SOILS: In the lower elevations soils are mainly silt and sand over gravel or stony loam. There are layers of volcanic ash as well. Organic peat soils occupy depressions throughout the lowlands. In the higher elevations where slope is greater than 12%, soils are gravelly to loamy. Poorly drained peat soils also occur. Permafrost does not occur in this area.

3. WATER: The area overlies bedrock; groundwater sources should yield between 0-10 gpm. Surface water consists of Strike Creek, Little Kamishak River, Kamishak River and the

Douglas River. These river drainages encompass approximately 704 square miles and support both sport and commercial fisheries.

4. MINERALS: Copper, gold, molybdenum, silver, lead and zinc may occur in low amounts but no major mineral deposits are within the area. Oil and gas may occur in moderate amounts within the Chignik subterranean, which underlies the majority of the two parcels. There has been little activity in the past.

5. MATERIALS: Sand and gravel occur in large quantities but it is unlikely they would be used either commercially or personally.

6. VEGETATION: At the higher elevations vegetation consists of alpine tundra and barren ground. Vegetation at lower elevations, including river drainages, consists of high brush, mainly willow and alder. Grasses and sedges occur in the low coastal areas near river mouths. There is little value for either personal or commercial use.

7. WILDLIFE: The area supports a wide diversity of wildlife, both large and small game, and is unique for its high density of brown bears. The area is also important as a movement corridor for bears travelling between feeding locations in the Big River/Swikshak Lagoon area and the McNeil River area. ADFG surveys, conducted on the Alaska Peninsula in 1990, provided brown bear densities ranging from 0.5 to 1.2 bears per square mile. These densities are the highest known brown bear densities in the world. Brown bear habitat at Kamishak River is similar to that of the Alaska Peninsula. A midpoint density estimate for Kamishak would be about 0.9 bears per square mile, or approximately 145 bears (161 square miles x 0.9 bsm = 145 bears). The uplands are closed to brown bear hunting but are open for other species. The area receives low use by waterfowl. There is no record of subsistence use and there are no known endangered species within the area.

8. FISHERIES: The rivers of the area support several species of salmon, with chum being the predominant species, as well as resident fish species. Both commercial and sport fisheries occur within the subject area. The commercial salmon fishery has been important economically since 1930, while the coho sport fishery is continuing to grow in significance. Subsistence use has not been documented.

9. RECREATION: The subject areas adjoin both Katmai National Park and Preserve (Katmai NPP) and McNeil River State Game Sanctuary. There is increasing use of the Kamishak River, mainly for sport fishing during the fall coho run. The area is closed to brown bear hunting but other hunting does occur. Moose season overlaps coho fishing season. Poor weather conditions in

the fall may limit the usage of the subject area for both activities.

E. LAND USE/ECONOMIC CONDITIONS

1. LAND USE PLAN COVERAGE:

a. DNR LAND USE PLAN COVERAGE: No state plans are approved for this area. Work is beginning on the Kenai Area Plan which will include the subject area.

b. LOCAL GOVERNMENT COMPREHENSIVE PLAN: None

c. ALASKA COASTAL MANAGEMENT PLAN: The subject lands are within the Kenai Peninsula Borough Coastal District. The Kenai Peninsula Borough Coastal Management Plan was approved by the Coastal Policy Council on January 30, 1990. This site specific plan and special use area are consistent with the objectives of the coastal management plan and 6 AAC.80.130 Habitats.

2. IMPROVEMENTS/FACILITIES: Access is limited to boats and small aircraft. Improvements consist of one unauthorized cabin on the Little Kamishak River; one cabin and four tent camp sites on the Kamishak River. Five permits have been applied for but have not been issued, pending a review and decision on management of the subject area. These five sites have been used overnight by guides and as emergency shelter for lodge guests on day fishing trips. The users of these sites, and others, also keep boats on-site. There are no roads or docks. Additionally, commercial fishermen traditionally put mooring buoys in the Kamishak River for overnight anchorages between June 1 and September 15. On the south side of the Kamishak River there is a rough landing strip. No permits have been issued for its use. Mikfik Lake is sometimes used for floatplane access. The western half of the lake is within McNeil Sanctuary where aircraft landings are prohibited. There is potential for ATV use, although none has been documented to date.

3. SUBSISTENCE USES: No known subsistence hunting or fishing occurs in the subject areas.

4. CULTURAL/HISTORIC USE PATTERNS: There are no known historic or archaeological resources.

5. ADJACENT LAND USES: The subject areas are surrounded by the Katmai National Park and Preserve and the McNeil River State Game Sanctuary. The management of these two areas is not expected to change in the future.

6. LOCAL ECONOMIC CONDITIONS: There are no residents in this area and as such, no local economy. However, commercial fishing and commercial recreational guiding within the area make a significant contribution to the regional and statewide economy.

III. ISSUES THIS PLAN ADDRESS

A. HUMAN/BEAR CONFLICTS

For a number of years several lodges have operated small tent camps on the Kamishak River for day use by fishing clients. Guides often remain in these camps overnight. The lodges are requesting permits for overnight use by guides and emergency shelter for guests. Both ADFG and the National Park Service (NPS) are concerned about the increased potential for human/bear contact and the attraction of food, fish or refuse odors to the bears. Several brown bears, known to be long term users of McNeil River Falls, have been observed at the Kamishak and Douglas Rivers and in Katmai NPP during the months of June through September. Because they use both the McNeil and Kamishak Rivers during this period, bears that learn to associate humans and human-created food sources at the Kamishak River could create public safety problems at the McNeil River State Game Sanctuary, as well as within the Kamishak Special Use Area. Although no problems at Kamishak have been reported to date, the potential grows with the number of fishermen. There have been incidents involving fishermen and bears at Brooks Camp, within Katmai NPP, and at McNeil River State Game Sanctuary prior to the adoption of stringent precautions. The growing number of visitors to Brooks Camp is causing the NPS to design a new management plan for the area, possibly similar to that at McNeil Sanctuary.

Management in the McNeil Sanctuary requires all visitors to camp in a specified area. An enclosed cook shack and food cache are provided for cooking and food storage. Visitors observing bears at the falls are required to remain on specific trails or the gravel viewing pad. At the falls, an ADFG employee will accompany them at all times. These precautions have been effective in preventing the brown bears frequenting McNeil Sanctuary from becoming habituated to artificial food sources. At the Kamishak River there are no guidelines in place to minimize the probability of contact between bears and human visitors; to prevent "attractive nuisance", i.e. food or garbage that attracts bears to camps; to minimize disruption of normal feeding behavior; or to prevent harassment.

There are numerous studies documenting the effects of habituation to artificial food sources on bear behavior, although none are specific to the Kamishak area. However, there is no reason to believe that these bears would behave differently than bears studied in other areas. A 1972 report by G. Cole, Preservation

and Management of Grizzly Bears in Yellowstone National Park, states that "Conclusive results showed that bears learn to migrate to garbage dumps and other artificial food sources and that the human influence of artificial food was responsible for 95% of injuries to humans by bears in the last 40 years." There have been no bear-caused human injuries at McNeil Sanctuary since visitor restrictions went into effect in 1973.

B. COMPATIBILITY WITH ADJOINING LANDS

Present user group management policies for state lands to be included in the Kamishak Special Use Area do not conform with the management objectives for the adjoining Katmai National Park and Preserve and McNeil River State Game Sanctuary. The subject area receives high usage by brown bear, particularly the Kamishak River in August and September, when bears are feeding on coho salmon.

A 1982 report by C.J. Martinka, Rationale and Option for Management in Grizzly Bear Sanctuaries states, "Grizzlies occupy large home ranges that frequently extend across sanctuary boundaries. Protected populations may therefore be subjected to stresses beyond the control of sanctuary managers. The report further states, "...control through human activity management holds the greatest promise for success on a regional basis."

C. ATV USE

Currently, access to the subject areas is limited to boat and small aircraft. There is potential for ATV use. Human activity is generally confined to the area along the banks of the Kamishak River. ATV use could allow access to denning areas and other areas that are currently undisturbed. A report by B. McLellan, Relationships Among Human Industrial Activity and Bears, states "...increased motorized access resulting in increased human activity...with the consequent increase in bears being shot is the most significant aspect of industrial developments." The subject areas will be monitored by DNR for changes in land use activities. ATV use will be addressed either through review of the Kamishak Special Use Area or the Kenai Area Plan, whichever comes first. If ATV use is determined to be detrimental to the resource, then ATV use will be restricted.

IV. ALTERNATIVES AND IMPACTS

A. THE ALTERNATIVES

1. Alternative 1: Manage the lands as they are currently, without additional management guidelines. Under DNR authority, eliminate trespass improvements, adjudicate permit

requests and address ADFG concerns through special stipulations to permits.

2. Alternative 2: Create a Special Use Area with management guidelines to address recreational uses and minimize human/bear contact. Within the Special Use Area, reserve an area for commercial recreational use only.

3. Alternative 3: Implement a land exchange between the National Park Service and the state to incorporate the subject area into Katmai National Park.

4. Alternative 4: Enter into a cooperative management agreement for the subject areas with the National Park Service.

5. Alternative 5: Initiate legislative action to include the subject area in the McNeil River State Game Sanctuary.

B. IMPACTS

1. IMPACTS ON NATURAL RESOURCES:

a. Alternative 1 would allow essentially unregulated public recreational uses which could result in loss of wildlife habitat, disruption of normal bear feeding behaviors, and conflicts between bears and humans, possibly resulting in injury or death to either the user or the bear. Although the ADFG has commercial fisheries catch data, total numbers of salmon for this area are not known. Escapement numbers for chum have been at or below goals (escapement goals are not set for sockeye or coho) and creel census data does not exist. In 1989 and 1990 runs for all species of salmon were weak and commercial fishing in several subdistricts of the Kamishak District were closed for the 1990 season. There may be increased competition between sport fishermen and bears for shared fishing locations, which could result in conflicts. Increased sportfishing (especially in years with weak runs) could be a significant factor in determining if adequate escapements of coho and sockeye are met.

b. Alternative 2 would protect both habitat and wildlife by regulating public recreation as to location, intensity and time of use.

c. Alternatives 3-5 would protect habitat and wildlife by including the subject areas within either Katmai NPP or the McNeil River State Game Sanctuary.

2. IMPACTS ON LAND USE:

a. Alternative 1 could result in additional

unauthorized use and increased human/bear contact. Although ATV use has not been documented in the past, their use is possible. ATV use could establish ease of access to many areas currently accessible only with great difficulty. New trails would be established, possibly into denning areas. This would further increase human/bear contact. Confrontations are likely to occur in denning areas if sows with cubs are encountered.

b. Alternative 2 would regulate access and commercial recreational use of tent camps. It would be possible to deny future permits. Public use of the commercial recreational use site would be restricted.

c. Alternatives 3-5 would subject the area to regulations that would restrict or deny access, thus decreasing any impacts on land use.

3. IMPACTS ON ADJACENT LAND USES AND ECONOMY:

a. Alternative 1 could result in a bear population accustomed to acquiring food from humans and accustomed to humans behaving in a unpredictable or threatening manner. As outlined above in 2.a., ATV use could bring human encroachment into bear denning areas. The Little Kamishak River is surrounded by a high density denning area. The events outlined above in 1.a. and 2.a. may lead to a reduced bear population due to "protection of life or property" killings of bears. User safety would also be at greater risk. These results would have a detrimental effect on the McNeil River State Game Sanctuary program of controlled bear viewing at the McNeil River Falls. This program is estimated to produce a \$2.2 million contribution to the Alaska economy. Impairment of this program would have a significant effect on portions of the economy.

b. Alternative 2 will minimize impacts on adjacent land uses. Short-term income loss for lodges could result but is not expected to create long-term or irreversible impacts. This income loss can be attributed to lodge operators needing to make changes in their operations to accommodate the management guidelines.

c. Alternative 3: A land exchange was first proposed in 1984 (ADL 220016). Several meetings were held to discuss the possibility. The NPS has not identified federal lands suitable for exchange. The question of the state accepting payment in lieu of acreage has been discussed as well. The last activity in relation to this exchange occurred in December 1988. An exchange may still be possible, but at this point appears unlikely.

d. Alternative 4: A cooperative management agreement was proposed in May 1989 (ADL 224766). However,

because the NPS no longer has a park ranger stationed on the lower Kamishak River and DNR has no citation authority to delegate to NPS field personnel, little would be accomplished through a cooperative management agreement.

e. Alternative 5: To date no action has been taken to introduce legislation to include the subject area in the McNeil River State Game Sanctuary.

V. AGENCY AND PUBLIC CONTACT

A. COMMENT PROCESS UTILIZED

1. Interagency Process: This draft plan was distributed for agency review and comments on June 5, 1990. Comments were received from ADFG and NPS.

2. Public Notice: This draft plan was made available to the public and concerned agencies on October 4, 1990.

3. Additional notice was provided to the permit applicants and other members of the public as appropriate on October 4, 1990.

B. COMMENTS RECEIVED (PUBLIC REVIEW)

1. ADFG: Comments received in response to the public review notice have been addressed and incorporated into this final site specific plan and special use area designation.

2. COOK INLET SEINERS ASSOCIATION: Comments pertaining to commercial fishing operations in the area have been addressed and incorporated into this final site specific plan and special use area designation.

3. COMMERCIAL RECREATIONAL USERS: Comments were received from three lodges which use the area for guided fishing trips. These comments have been addressed but did not require changes to this document.

VI. SELECTED ALTERNATIVE

Alternative 2 (management guidelines) is the preferred alternative for the subject area because it addresses the resource management problem; allows public use to continue; and is not dependant on a land exchange or management by other government agencies. The area will be designated as a special use area. Although this special use area includes tide and submerged lands there is no intent to restrict lawful commercial fishing operations or related activities.

VII. LAND USE PLAN

A. MANAGEMENT INTENT

To manage the land primarily for wildlife habitat and harvest with public recreation as a secondary value. Management will emphasize minimizing human/bear contact, bear habituation to human food sources, and impacts on important bear habitat. Public recreation is an important value, but will be allowed only if compatible with wildlife management objectives.

B. CLASSIFICATION

The subject lands are currently classified as Resource Management/Wildlife Habitat/Public Recreation under SC-80-037. The classification will be changed to Wildlife Habitat to reflect the primary value of wildlife habitat and harvest. Public Recreation is a secondary value. The tide and submerged lands which are currently unclassified will be classified similarly under SC-90-010.

C. ALLOWABLE ACTIVITIES WITHIN THE SPECIAL USE AREA

"Commercial recreational users" in this document refers to lodge operators, fishing/hunting guides, air taxi operators, etc. Commercial fishermen are excluded from this definition.

Public uses, including commercial fishing activities, shall be allowed to the extent those uses are compatible with the purposes of the Special Use Area. Lawful commercial fishing activities will be considered as compatible activities. DNR's Generally Allowed activities (11 AAC 96) will continue to be allowable, with the following exceptions:

1. Commercial recreational users of the subject area planning to leave guides overnight or leave boats onsite, at any time between May 1 and September 30, must have a permit. Permits may allow storage of boats during the permit period.
2. Seasonal permits for commercial recreational land use will be land based and will be confined within the area between the mouths of the Little Kamishak River and the Kamishak River, described as Sections 29, 30, 31 and 32, T13S, R29W, SM, (see attached map). The exact permit locations will be determined jointly by DNR and ADFG. Floatlodges, floathomes, floating camps, or similar structures are not permitted.
3. Those not defined above as "commercial recreational users" will not be allowed to camp in the area reserved for commercial recreational permittees between July 15 and September 30.

Permits or authorizations for allowed uses will be issued by the Southcentral Regional Office, Division of Land and Water Management.

Monitoring and enforcement of the terms and conditions of this Special Use Area will be carried out by the Southcentral Regional Office, Division of Land and Water within the limits of applicable laws, regulations, and funding. Violation of the provisions of this Special Use Area is considered trespass on state land. Procedures for enforcing trespass actions are contained in the division's Policy and Procedure Manual.

The Kamishak Special Use Area designation will be reviewed within five years or as part of the proposed Kenai Area Plan, whichever comes first, to see if conditions have changed which may warrant changes in the allowable activities.

D. MANAGEMENT GUIDELINES/PERMIT STIPULATIONS

Noncommercial recreational users of the Special Use Area will be allowed under the DNR's Generally Allowed Uses Policy, except between July 15 and September 30 when they may not camp in the "commercial recreational use" area.

The following guidelines and permit stipulations apply to commercial recreational users of the area:

1. A bond sufficient to cover the cost of removal of structures and cleanup of the site must be posted by permittees. The amount of the bond will be determined by the Regional Manager.
2. Permits will be required for overwinter boat storage. If overwinter storage of boats is allowed a bond sufficient for site cleanup will be required. The amount of the bond will be determined by the Regional Manager. Tent floors and other structures, with the exception of a community cache, will not be allowed to remain over winter.
3. The DNR will establish a boat storage site within the commercial recreational use area. Any permittee overwintering boats must use this storage site. All boats must be labeled with the owner's name or business name and any identification required by the Coast Guard. If boats are not used the summer season after they were stored, or are abandoned, DNR will consider eliminating the boat storage option and will require all operators to remove boats at the end of each season.
4. The DNR will work with the owner of the cabin near the mouth of the Kamishak River to remove the structure and bring the site into compliance with the management guidelines and

permit stipulations. The unauthorized structure on the Little Kamishak River will be removed as quickly as funding allows.

5. Airstrips, roads or establishment of trails to support camps will not be permitted.

6. Special Use Area permit stipulations will include, but are not limited to, the following:

a. For day use only, between May 1 and September 30, except in case of emergency. Each commercial recreational operator will be allowed to leave one guide overnight. Except in case of emergency, overnight guests are not allowed. Commercial sites will be restricted to the commercial recreational use area described above in VII. C.2. One community storage cache and one community privy will be permitted in this area.

The DNR's rationale for issuing day use only permits to commercial recreational operators is to manage the amount of time the sites are in use and the number of users, thereby reducing the potential for human/bear encounters and the amount of food or refuse on site on a daily basis. Brown bears can be found at any time travelling through the area or feeding on the mudflats at low tide. The DNR is most concerned with the months of August and September because that is when the bulk of the coho salmon run occurs. Many bears that were feeding in the McNeil River or other areas earlier in the summer will move to the Kamishak River for these coho. The potential for problems should be minimized by confining camps to the commercial recreational use area and by adherence to the other permit stipulations. The DNR will attempt to have personnel on site between June and September.

b. A detailed site plan consisting of a sketch depicting the location of temporary improvements, i.e. tent, fuel storage areas, distance from water bodies, foot paths to the river, will be submitted by the applicant. The number of people using the site per day should be specified. Commercial recreational permittees will specify where the community cache and privy are located. The plan must also include the number and size of boats. Cache construction will follow guidelines developed by ADFG.

c. Permanent structures are prohibited with the exception of the community cache. Any other structures must be constructed in such a manner that they can be disassembled and transported from this site within 48 hours, or can be destroyed without appreciable loss to the owner. All such structures must be removed from the site upon expiration of the permit. This includes tent floors. Overwintering boat storage may be allowed on a case by case basis.

d. Sites will be kept clean. Food, refuse and fish will be stored in bear-proof containers while on site so as not to be an attractive nuisance to wildlife. Food, fish, and refuse will be removed daily. Guides remaining on site will keep any food in bear-proof containers within the cache. Boats will be kept clean and must have a bear-proof container on board for storage of food and fish.

e. Open fire pits are not permitted; refuse will not be burned.

f. Site disturbance shall be kept to a minimum to protect local habitat. The community privy, cache and tents must be at least 200 feet from water bodies.

g. No onsite disposal of solid or hazardous waste is allowed.

h. Fuel storage facilities shall not be placed within 100 feet of water bodies. Fuel storage of over 110 gallons is not permitted. All fuel containers shall be marked with the permittee's name or business name. Overwinter storage of fuels is not allowed.

i. All permittees and onsite guides will be required to attend a bear/human interactions orientation to be presented by the Department of Fish and Game. This orientation course will be presented in Anchorage, only once per year at the beginning of the season, no later than May 15. Permittees will be notified by DNR in advance of the orientation schedule. Proof of attendance will be required before a permit will be issued.

Failure to adhere to any permit stipulation will be cause to deny or revoke the permit.

The DNR strongly recommends that any commercial recreational operator who wishes to obtain a permit for a given season should submit an application by March 1 of that year. This will allow timely adjudication of the permit and notification of the applicant of the time for the bear/human interactions orientation course.

E. PROHIBITED USES

Under Fish and Game regulation 5 AAC 83.300(5) the area is closed to brown bear hunting.

VIII. BIBLIOGRAPHY

Cole, G.F. 1972. Preservation And Management of Grizzly Bears in Yellowstone National Park.

Martinka, C.J. 1982. Rationale and Operations for Management in Grizzly Bear Sanctuaries.

McLellan, Bruce N. Relationships Among Human Industrial Activity and Bears.

Kathleen Sheehan Dugan
Kathleen Sheehan Dugan,
Natural Resource Officer

Nov. 30, 1990
Date

Veronica Gilbert
Veronica Gilbert, Regional Manager

Nov. 30, 1990
Date

Gary Gustafson
Gary Gustafson, Director

11-30-90
Date

Rod Swope
Rod Swope, Commissioner

11/30/90
Date

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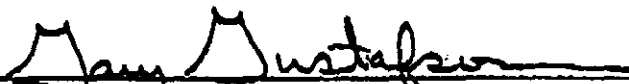
DESIGNATION OF THE KAMISHAK SPECIAL USE LANDS
ADL 225459

Effective Date 11-30-90

Under 11 AAC 96.010(a)(2) and 11 AAC 96.010(b), the lands shown on the attached maps and described herein are designated as special use lands. The area will be called the Kamishak Special Use Area.

I find that this is consistent with the Department of Natural Resources' management authority and that it is the best interest of the state.

In ninety (90) days or by written notice of the designation before the end of the 90-day period, the activities described herein will be managed according to the terms of this special use designation.



Gary Gustafson, Director
Division of Land and Water Management

11-30-90

Date