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December 30, 1983

Keith M. Schreiner
Regional Director
U. S. Fish and Wildlife Service
1011 East Tudor Road
Anchorage, AK 99503

Dear Mr. Schreiner:

Thank you for the opportunity to supplement the overview of issues and concerns for the Tetlin National Wildlife Refuge which was provided to the State on November 14, 1983. The State's concerns for this refuge are compiled in our "Resource Management Recommendations" for Tetlin. Copies of this document have been distributed to refuge planners in your office. We found no reference to this document or the concerns addressed in it in the overview of issues and concerns. Therefore, enclosed is a copy of the revised Resource Management Recommendations which we request be addressed in future documentations of issues and concerns for planning of the refuge.

In addition to those concerns addressed in the Resource Management Recommendations, State Conservation System Units (CSU) Contacts have offered the following comments:

Page 2, paragraph 1 - "catagories" should be "categories."

Page 2, Issue 1 - The way this issue is written seems to imply that current access to private property may be in jeopardy depending on the desires or needs of the Fish and Wildlife Service. Unless we are mistaken, this access is protected by Section 1109 of the Alaska National Interest Lands Conservation Act (ANILCA) and in some cases by 43 USC 932 (RS2477).

Page 2, Issue 2 - The only comment we have on this issue is again related to Section 1109 of ANILCA: The discussion on limiting access to the refuge needs to clearly state that this does not pertain to rights of traditional access or to private lands that had legal access before December 2, 1980.

Page 3, Issue 4 - Although the feeling is often expressed that locals should be given preference in the use of resources, we don't believe that ANILCA allows locals to have preference for hunting and trapping cabins (Section 1303(b)).

Page 3, Issue 5 - We request the Fish and Wildlife Service to carefully consider more than local input when addressing this issue. It impacts from increased use and access can be mitigated and if there is a statewide desire to use this refuge, increased access should be given serious consideration.

Page 3, Issue 7 - The comment on Issue 5 generally applies as it relates to the development of campgrounds.

Page 5 - An issue category related to nongame wildlife species should be added. The area is a natural migration corridor and numerous records of "first-sightings" of nongame birds in the State have been reported from the area (see Lincoln and Gabrielson, Birds of Alaska). Many avian species, including raptors, make transitory use of the area and many others stay and nest. Nongame bird populations are both a State and national concern. Other, non-migratory, non-game species are a State concern and all species should be addressed in upcoming refuge management plans.

In conclusion, we'd like to thank you for allowing us to be involved in these early planning stages for the Terlin National Wildlife Refuge. We look forward to continuing this cooperation. Please call on us if we can be of any further assistance.

Sincerely,

Tina Cuning
State CSU Coordinator

Enclosures

cc: Norm Olson, F&WS
Lisa Parker, ALUC
Wandy Wolf, OMB
Robin Foster, CACFA
State CSU Contacts

STATE OF ALASKA
RESOURCE MANAGEMENT RECOMMENDATIONS
FOR
TETLIN NATIONAL WILDLIFE REFUGE
AND SURROUNDING AREA

January 2, 1984

Objectives, policies and plans included in these recommendations may be revised as changes occur which affect resources within or adjacent to the conservation system unit. Persons desiring further information should contact State Conservation System Unit Coordinator's office, 333 Raspberry Road, Anchorage, Alaska 99502 (267-2202).

RESOURCE MANAGEMENT RECOMMENDATIONS
TETLIN NATIONAL WILDLIFE REFUGE
AND SURROUNDING AREA

Information and recommendations contained in this document represent the State of Alaska's (State) existing management policies and objectives, as well as identification of management issues and solutions, for Tetlin National Wildlife Refuge (NWR) and surrounding area. Adoption of these management recommendations by Federal land management agencies will ensure continuance of traditional uses, while concurrently providing for sound conservation of the various natural resources.

ACCESS

The Alaska National Interest Lands Conservation Act (ANILCA) guarantees traditional public access (Sec. 1109 and Sec. 1110) on public lands. U. S. Fish and Wildlife Service (F&WS) should continue to allow such access along roads, trails, waterways and aircraft landing areas in Tetlin NWR for public utilization of fishery, wildlife and recreational resources. Methods of transport, including mechanized land, water and air transportation, should be retained. F&WS should consult the State before any access point or method is restricted to evaluate the effects on public utilization of fish, wildlife or other resources. In instances where the only feasible access to other lands is across Tetlin NWR, subsistence, commercial and recreational users should be allowed traditional access routes and methods:

The State recommends that a broad, liberal approach to access be used. If area-specific designations are necessary to manage Tetlin NWR, such sites should be identified by both the State and F&WS. At the present time the State recommends that the following historical and current access areas be recognized as traditional access as well as all Revised Statute (RS) 2477 rights-of-way. Additional areas may be identified in the future.

Aircraft Access.

1. Wellesley Lakes
2. Mirror Lake (near Mirror Creek)
3. Takomahto Lake
4. Jatahmund Lake
5. Pickerel Lake
6. Deadman Lake
7. Yarger Lake
8. Large unnamed lakes north of the Black Hills
9. Fern Lake
10. Four unnamed lakes south of Fern Lake
11. Halthmund Lake
12. Large lakes on Tetlin Flats
13. Large gravel bars on Nabesna River
14. Large gravel bars on Chisana River
15. Gravel bars on Stuver Creek

Water Access.

1. Nabesna River
2. Chisana River
3. Scottie Creek
4. Desper Creek
5. Mirror Lake
6. Kalutna River
7. Stuver Creek
8. Wellesley Creek
9. Mark Creek
10. Moose Creek
11. Access point on Moose Creek
12. Access point on Chisana River
13. Access point on Tanana River at Riverside
14. Tanana River

Road and Trail Access.

1. Trail south from Northway to Jatahmund Lake
2. Ten Mile Lake Trail
3. High Cache Trail to Scottie Creek
4. Trail from the Alaska Highway to confluence of Moose Creek and Tanana River
5. Nabesna River winter trail
6. Winter trail along north foothills of Nutzotin Mountains near Pickerel Lake
7. Trail near Border City Trading Post to Mirror Creek
8. Riverside Landing to Big John Lake
9. Island Lake across Scottie Creek
10. Gardiner Creek Trail
11. Virtually all frozen rivers, creeks and lakes for snow-machines

The continued use of off-road vehicles (ORV's) should be allowed. ORV's include, but are not limited to, snowmachines and tracked or wheeled transport vehicles. ORV's have traditionally provided a means of access for hunters, fishermen, trappers and other recreationists. For example, snowmachines provide trappers a primary means of access for establishing and checking traplines. Such ORV access should remain unaltered unless Alaska Department of Fish and Game (ADF&G) determines cooperatively with F&WS that more restrictive access regulations are necessary for the continued viability of wildlife populations.

Tetlin NWR encompasses extensive amounts of habitat occupied by moose, caribou, sheep, bears, wolves, waterfowl, furbearers, unclassified game and various fish resources. Restricting hunter, fisherman, trapper or other recreationist use in any area under F&WS jurisdiction may create a shift of activities to adjoining areas, potentially creating adverse impacts on fish and wildlife populations in those areas.

Major hunting areas and access routes within and adjacent to Tetlin NWR may be in private ownership. The F&WS and the State should be encouraged to develop cooperative management plans with private landowners to assure continued access, fishing and hunting opportunities and other resource uses on these lands.

The Alaska Department of Natural Resources (ADNR), Division of Land and Water Management, should be allowed continued access to Tetlin NWR for data collection and to enforce statutes (Alaska Statute (AS) 46.15, Water Use Act) and regulations (Chapter 93, Water Management) governing water usage in Alaska.

FACILITIES AND DEVELOPMENTS

The F&WS is requested to cooperate with other Federal and State agencies in conducting studies of power projects, making feasibility recommendations and identifying and mitigating potential impacts on fish and wildlife due to project construction and operation. Potential sites on Refuge lands should not be ruled out simply because they are on one side of a political boundary. Access associated with power project development and transmission corridors should also be cooperatively planned by Federal and State agencies to reduce potential environmental conflicts.

F&WS is requested to locate any developments in areas with the least detrimental impact to or conflict with wildlife, fisheries and water resources. F&WS should consider significant impacts regardless of ownership of the land affected by the development. F&WS is requested to pay particular attention to site specific resource values, such as stream confluences, which may attract large numbers of visitors. Special management designations may be necessary to avoid overuse problems that impact much larger areas.

F&WS is requested to allow, under appropriate agreement or easement, erection and maintenance of facilities or structures needed for fish and wildlife management by ADF&G on Tetlin NWR, provided these management programs are consistent with the purposes for which the Refuge was established. Facilities or structures include, but are not limited to, cabins, tent frames, counting towers, weirs, docks, temporary field camps, storage caches and wildlife exclosures.

Development of F&WS facilities, including support facilities, access trails, campgrounds and refuse disposal sites, may create or increase wildlife/human conflicts. The Alaska Boards of Fisheries and Game (Boards) retain authority over fish and wildlife, and their regulations should be followed to resolve these conflicts. F&WS should avoid locating support facilities on or near critical wildlife areas identified by ADF&G. Critical areas may include spawning concentrations, mineral licks, calving or nesting areas and winter ranges. ADF&G may also recommend transportation restrictions if travel occurs in any of these areas.

Coordination by F&WS with ADNR Division of Land and Water Management, ADF&G Habitat Division and Alaska Department of Environmental Conservation is requested for any action taken inside or adjacent to Tetlin NWR that may relate to: control of turbidity; ground and surface water quality; waste disposal; waste treatment facilities; and withdrawals from, discharges to, or manipulation of stream flow. Such actions include: 1) construction or operation of administrative and visitor facilities, 2) development and maintenance of access to and within Tetlin NWR, 3) determination of instream flow requirements, and 4) developments such as placer mining and hydroelectric projects.

AS 16.05.870 requires a permit from ADF&G Habitat Division, before any person or government agency begins activities in, or use of, a stream, river or lake that has been specified as important for migration, spawning or rearing of anadromous fish. Activities include any construction or use that diverts, obstructs, pollutes or changes the natural flow or bed of a specified waterbody. A permit is also required for the use of wheeled, tracked, excavating or log-dragging equipment in beds of these waterbodies. AS 16.05.840 requires a durable and efficient structure for fish passage be provided at every obstruction across streams frequented by fish. A written permit must be acquired from ADF&G prior to construction.

INHOLDINGS AND TRADITIONAL USES

F&WS should continue to coordinate identification, interpretation, and preservation of cultural resources with ADNR, Division of Parks, Office of History and Archaeology and with the State Historic Preservation Office.

Cabins on Tetlin NWR should remain available for continued use. Trespass cabins should not be destroyed unless their presence is detrimental to established programs for individual Refuge areas. Replacement of cabins destroyed by vandalism or natural disaster should be allowed. F&WS should allow the use of locally available resources for maintenance or reconstruction. Cabins should remain available to the public to facilitate recreational and subsistence uses and to provide public safety benefits for Refuge users in emergency situations.

The Boards will define and regulate subsistence, its users, methods and means, and resolve conflicts and demands for fish and wildlife within Refuges. F&WS should assist ADF&G, when possible, in collecting harvest data from local residents. F&WS and ADF&G should cooperate with each other and with local governments and organizations in designing and implementing a harvest monitoring system capable of providing accurate subsistence data.

F&WS should consult with ADF&G to establish management priorities consistent with Tetlin NWR objectives (ANILCA Sec. 302 (8)) to accommodate traditional uses to the greatest extent possible.

FISHERIES AND WILDLIFE

F&WS and ADF&G developed a Master Memorandum of Understanding (MOU) in March 1982. The MOU recognizes that ADF&G and the Boards are mandated the authority and responsibility to manage, control and regulate subsistence, commercial and recreational uses of fish and wildlife on Refuges, in a manner consistent with ANILCA. F&WS should adopt by reference State hunting, trapping, fishing and access regulations regarding use of fish and wildlife on Tetlin NWR, unless State regulations are formally determined to be incompatible with ANILCA goals and objectives. If future amendments permit additional uses in Tetlin NWR, F&WS should adopt applicable State hunting, trapping and related access regulations.

As agreed in the MOU, the State's regulatory process should be used to develop or modify regulations governing or affecting use of fish and wildlife in Tetlin NWR, unless F&WS regulatory needs are beyond the legal authority of the State. F&WS is encouraged to confer with ADF&G prior to making specific regulation recommendations and to make full use of normal Advisory Committee, Regional Resource Council and Boards processes.

WILDLIFE

The MOU also indicates that F&WS will adopt management plans with provisions in substantial agreement with State wildlife management plans and their revisions, unless State plans are formally determined incompatible with the purposes for which Tetlin NWR was established. F&WS should pursue available administrative or legislative alternatives to allow management actions determined necessary by ADF&G for continued health and viability of wildlife populations.

The following Wildlife Management Plans provide for an array of continued wildlife resource uses in Tetlin NWR and surrounding areas. The overall management objective for each species is to protect, maintain and enhance the population in concert with other components of the ecosystem and to assure its capability of providing sustained opportunities for the specific objectives in each Wildlife Management Plan.

The wildlife management plans applicable to this refuge provide management recommendations for large, region-wide geographic areas. The State recognizes that the management objectives for specific areas within these regions, including areas in the refuge where appropriate, will be modified to provide for subsistence uses where those uses exist (ANILCA, Title VIII), and those uses will be accorded a priority when restrictions on harvests are necessary. Therefore, although the specific accommodations for subsistence uses are not necessarily reflected in the relative management plans, the identification and accommodation of subsistence uses is a prime management objective.

Black Bear. The Interior Alaska Black Bear Management Plan applies to Tetlin NWR. The primary objective for this plan is to provide the greatest sustained opportunity to participate in hunting black bear and a secondary objective is to provide sustained opportunities for subsistence use of black bear.

The following management guidelines apply:

1. Regulate season timing, methods and means of taking and bag limits to provide for local use.
2. Encourage recreational hunting of black bears to achieve greater utilization of the black bear resource.
3. Regulate access and methods of hunter transport, if necessary, when in conflict with management objectives for other species.
4. Increase public awareness of black bear behavior to reduce adverse bear/human interactions.

Brown Bear. The Yukon-Tanana Brown Bear Management Plan has a primary management objective to provide the greatest sustained opportunity to participate in hunting brown bears.

Management guidelines for the Yukon-Tanana Plan include:

1. Maintain brown bear hunting seasons.
2. Encourage recreational brown bear hunting on caribou calving ranges.

Wolf. The Alaska Wolf Management Plan has a primary objective to provide sustained opportunities for commercial use of wolves. Secondary objectives are to provide the greatest sustained opportunity to participate in hunting and trapping wolves and sustained opportunities for subsistence use of, and to view and photograph, wolves.

Management guidelines include:

1. Maintain wolf trapping seasons and bag limits consistent with suitable wolf population levels during periods of pelt primeness.
2. Maintain wolf hunting seasons not necessarily limited to the period of pelt primeness, with restrictive bag limits.
3. Promote efficient and humane trapping methods.
4. Maintain wolf:ungulate ratios that will allow for ungulate reproduction adequate to sustain ungulate populations, wolf populations and human utilization of each.
5. Promote public understanding of the interrelationships of wolves with other wildlife species in the northern environment.

6. Encourage public viewing, listening and photography of wolves in a wilderness setting.
7. Increase public awareness of wolf behavior to reduce adverse wolf/human interactions.

Caribou. Three distinct caribou management plans apply to Tetlin NWR and adjacent lands. The North Wrangell Mountains Caribou Management Plan applies to an area adjacent to the southwest corner of the Refuge. The primary objective of this Plan is to provide sustained opportunities to hunt caribou under aesthetically pleasing conditions.

Management guidelines include:

1. Control access, number and distribution of hunters and methods of hunter transport, if necessary, to maintain aesthetic hunting conditions.
2. Maintain early-season use of caribou.
3. Maintain a minimum pre-calving caribou population of 2,500.
4. Maintain a minimum post-hunting season population sex ratio of 35 bulls per 100 cows.
5. Encourage a natural fire regime in caribou range.
6. Discourage land-use practices which adversely affect the wilderness character of the area.

The Chisana Caribou Management Plan applies to the Refuge area east of the Nabesna River and south of the Alaska Highway. The primary objective of this Plan is to provide the greatest sustained opportunity to participate in hunting caribou.

Management guidelines include:

1. Maintain limited harvests to allow for an increase in the caribou population.
2. Encourage a natural fire regime in caribou range.
3. Discourage land use practices that adversely affect caribou habitat.

The McComb Plateau Caribou Management Plan applies to an adjacent area west of the Nabesna River. The primary objective of the McComb Plan is to provide the greatest sustained opportunity to participate in hunting caribou.

Management guidelines include:

1. Maintain limited harvests to allow for an increase in the caribou population.
2. Maintain a minimum population of 350 caribou.

3. Control access, number and distribution of hunters and methods of hunter transport to distribute hunting pressure through the area and to maintain the harvest at desired levels.
4. Maintain a minimum post-hunting season population sex ratio of 25 bulls per 100 cows.
5. Discourage land use practices that adversely affect caribou habitat.

Dall Sheep. One sheep management plan applies to areas within or adjacent to Tetlin NWR. The Wrangell-Mentasta Mountains Sheep Management Plan has a primary objective to provide the greatest sustained opportunity to participate in hunting sheep.

Management guidelines include:

1. Maintain minimal restrictions on hunter access and methods of hunter transport.
2. Maintain the sheep population in balance with its habitat, if possible.
3. Discourage land use practices that adversely affect important sheep habitat.

Moose. The Yukon-Tanana Moose Management Plan has a primary objective to provide the greatest sustained opportunity to participate in hunting moose and a secondary objective to provide sustained opportunities for subsistence use of moose.

Management guidelines include:

1. Increase carrying capacity of selected areas for moose through habitat improvement.
2. Maintain the moose population at the carrying capacity of its habitat.
3. Control methods of hunter transport and develop hunter access to distribute hunting pressure through the area, if necessary.
4. Maintain a post-hunting season population sex ratio of no less than 20 bulls per 100 cows.
5. Harvest antlerless moose, when necessary, to attain the desired population size and structure.
6. Regulate hunting seasons, bag limits, and methods and means of taking moose, to provide for local use.

Furbearers. The Greater Alaska Furbearer Management Plan has a primary management objective to provide sustained opportunities for commercial use of furbearers. Secondary objectives are to provide the greatest sustained opportunities to participate in harvesting furbearers, and for sustained opportunities for subsistence use of furbearers and to view and photograph furbearers.

Management guidelines include:

1. Promote efficient and humane trapping methods.
2. Maintain trapping seasons and bag limits during periods of pelt primeness consistent with population levels.
3. Maintain hunting seasons on selected species, with seasons not necessarily limited to the period of pelt primeness and with restrictive bag limits.
4. Maintain restrictive trapping seasons and bag limits on beaver based upon current beaver population levels.
5. Encourage proper preparation and handling of furbearer pelts to maximize fur values.
6. Close areas well suited for viewing and photography of furbearers to hunting and trapping or otherwise restrict use, if necessary.
7. Discourage land use practices that adversely affect furbearer habitat.

Restrictions of trapping within the Refuge would prevent adequate use of the resource, as well as reduce an important source of cash in the rural economy. Commercial trapping should be maintained. Native lands should be consolidated to facilitate access by people outside the corporations to run traplines within Tetlin NWR. Regulations affecting airplane and snowmachine use on the Refuge should consider use of the area by trappers.

Small Game. The Alaska Small Game Management Plan that applies to Tetlin NWR has a primary management objective to provide the greatest sustained opportunity to participate in hunting small game. Secondary objectives are to provide sustained opportunities for subsistence use of small game and to view and photograph small game.

Management guidelines include:

1. Achieve greater utilization of the small game resource by encouraging wider distribution of hunting pressure and identifying species that are lightly utilized.
2. Encourage public viewing and photography of small game.
3. Regulate or eliminate hunting seasons to minimize disturbance in areas especially suited for viewing or photographing small game.

4. Discourage land use practices that adversely affect small game habitat.

Waterfowl. The Middle Alaska Waterfowl Management Plan pertains to Tetlin NWR. The primary management objective is to provide the greatest sustained opportunity to participate in hunting waterfowl and a secondary objective to provide sustained opportunities for subsistence use of waterfowl:

Management guidelines include:

1. Maintain waterfowl hunting seasons and bag limits that reflect climatic conditions.
2. Regulate, within the constraints of federal regulations, methods and means of taking, methods of hunter transport, season timing, and bag limits, if necessary, to distribute hunting pressure and to provide for local use of waterfowl.
3. Obtain, maintain and improve hunter access to waterfowl hunting areas.
4. Control hunter access and methods of transport, if necessary, to minimize disturbance or harassment of waterfowl.
5. Encourage viewing and photography of waterfowl.
6. Discourage human activities that disturb or harass waterfowl during critical nesting or migration periods.
7. Enhance waterfowl habitat in high use areas to increase utilization of habitat by waterfowl, and discourage land use practices that are detrimental to waterfowl habitat.

Unclassified Game. The Alaska Raptor Management Plan has a primary management objective to provide sustained opportunities to view and photograph raptors. The secondary objective is to provide opportunities for scientific and educational study of raptors.

Management guidelines include:

1. Protect raptor populations from unnatural disturbance and harassment.
2. Discourage resource utilization that may adversely impact raptor nesting, roosting and feeding areas.
3. Develop public appreciation of raptor importance in the ecosystem.
4. Identify areas best suited for viewing, photography and scientific study of raptors and encourage their wise use.
5. Discourage viewing and photography during critical nesting periods.

6. Promote scientific studies of raptors.
7. Provide for limited utilization of selected raptor species for falconry.

Unclassified Game includes nongame birds and mammals and other animals not ordinarily hunted, fished or trapped. ADF&G recognizes the important roles all nongame wildlife play in ecosystems although management plans have not been formulated for each species. Important nongame species or species groups include loons, trumpeter swans, shorebirds, woodpeckers, passerine birds and the many small mammals. Considerations for the management of nongame include: 1) discourage resource utilization and human activities that adversely impact essential nesting, roosting and feeding habitats of nongame species, 2) protect nongame populations from human disturbance during critical periods of their life cycle, 3) encourage public viewing and photography of nongame animals in suitable areas except during times critical for the well-being of the populations, 4) encourage scientific studies of nongame species, 5) promote conservation education and appreciation of nongame species, 6) provide for limited consumptive utilization of nongame species and 7) enhance habitats for important nongame species and species with restricted or unique habitats.

Maintenance of healthy prey and predator populations is an ADF&G responsibility. Predator:prey ratios will sometimes be manipulated to avert prey population declines. Manipulation techniques may include changes in seasons or bag limits, predator control programs and habitat improvement, among others.

Potential bear/human conflicts are of concern in Tetlin NWR. Bears may lose their fear of humans through repeated and often favorably reinforced contact. Bear hunting in Tetlin NWR and adjacent areas should help maintain the bears' natural wariness of man and help minimize bear/human conflicts. Visitors must be educated to avoid conflicts along salmon streams and other bear travel routes and to dispose of garbage in an appropriate manner. Local residents on inholdings of Tetlin NWR are required to keep garbage and other attractants to a minimum on their land.

Research in Alaska has shown the futility of transplanting nuisance bears. The impracticality of this solution should be recognized by F&WS, and their programs and developments should be designed specifically to avoid conflicts between bears and people. Transplants of problem bears to areas outside of Tetlin NWR boundaries will not be allowed by the State.

The F&WS should adhere to State laws pertaining to wanton waste of wild food animals and the handling of animals destroyed under the defense of life and property provisions. Meat salvaged from big game animals could be an important supplement for local residents. Additionally, biological information gained from specimens (e.g., data on age, size, reproductive condition, samples for disease testing) should be available to ADF&G, regardless of how the animal died.

Commercial big game guiding on Tetlin NWR should be allowed to continue. Changes in regulations which would affect the guiding industry should be reviewed by the Boards and members of the guiding industry before being implemented.

FISHERIES

The State intends to continue management of commercial, subsistence and sport fisheries in Tetlin NWR according to sustained yield principles.

F&WS is requested to maintain the State's opportunity for implementation of established fisheries enhancement techniques. These techniques include, but are not limited to, life history studies, stock assessments, establishing hatcheries, installation of fish ladders and incubation boxes, fish stocking, acquiring brood-stock, planting fish eggs, fertilization of lakes and habitat alterations. These alterations may include removal of stream obstructions and manipulation of stream channel flows to rehabilitate fisheries habitat damaged by natural or man-made factors. ADF&G, Fisheries Rehabilitation, Enhancement, and Development (FRED) Division may propose specific measures to rehabilitate or enhance fish stocks. Until all fish distributions, critical habitats, hot spring locations, and waterbody and fish stocks evaluations are documented, all potential sites suitable for rehabilitation or enhancement cannot be identified. FRED Division seeks to reserve the option to conduct future investigations and projects in Tetlin NWR.

Anadromous fish streams throughout the state have been catalogued by ADF&G. These catalogs are available in the ADF&G Anchorage office and F&WS is encouraged to use them during their planning process. ADF&G would also welcome F&WS participation in the annual updating of these catalogs.

Basic research relating to fisheries rehabilitation and enhancement has not been conducted in most of the Tetlin NWR. Therefore, no specific FRED Division sites have been identified at this time.

However, the following systems may be potential sites for fisheries research, enhancement and rehabilitation. The Tanana River is used as a migratory corridor to upstream spawning areas. Additionally, spawning occurs in the main river between the Tetlin River and Fish Camp. Chum salmon are distributed in the Chisana River, but spawning areas are unknown.

Clarification of ANILCA Sec. 304(d) is needed (in particular, the statement "level of such use during 1979"). Because user intensity varies from year to year depending on economics and volume of the "run," a multiple rather than single year assessment needs to be done to better represent the complexity of fisheries harvest.

RESEARCH AND MANAGEMENT

F&WS is requested to cooperate with the State in the collection, interpretation and dissemination of research data, statistical data,

banding and tagging records, population data, census information, harvest tabulations and other use information for fish and wildlife in Tetlin NWR. However, F&WS should rely on ADF&G to conduct and interpret wildlife and fisheries surveys and censuses used in determining population trends for regulatory purposes.

F&WS is requested to maintain State opportunities for scientific sampling and investigations of fish and wildlife resources and their habitat. Activities may include, but are not limited to, low level aerial surveys, boat surveys, foot surveys, tagging or banding, pre-emergent fry sampling, collecting data by use of nets, seines, spears, angling, tranquilizing, firearms, traps, electro-shocking, egg-alevin pumps and operation of hydroacoustic equipment. The most reasonable place for conducting these activities may be within Tetlin NWR.

Opportunities for ADF&G to conduct aerial, ground and boat surveys of fish and wildlife must be maintained and not restricted by cumbersome permit requirements, as agreed in the MOU. Weather, migrational movements, changes in population status and other factors require ADF&G to retain the maximum level of flexibility to obtain sound management data. As indicated by the F&WS response to the State's general issues list, a blanket understanding or permit should be adopted allowing ADF&G to conduct routine surveys rather than requiring a permit for each projected activity. ADF&G should be allowed to use helicopters within Tetlin NWR in performing surveys and other biological work. New projects and their various aspects, including air, land and equipment logistics, should be discussed early enough in planning to assure no conflicts develop between agencies. A similar blanket permit has been issued by Federal agencies to allow the State to respond to marine mammal or migratory bird problems in a timely manner.

ADF&G and F&WS may have projects of mutual concern and may wish to cooperate through sharing of funds, personnel or equipment in fish and wildlife work, consistent with State and F&WS needs. Such cooperative efforts benefit both agencies, the resource and public.

F&WS and ADF&G should cooperate in designing survey and census procedures to adequately assess the status of fish and wildlife using Tetlin NWR. For example, there are presently no census or survey techniques for bears that produce accurate results without using visual tags or collars. Study design should allow for marking sufficient bears to produce reliable estimates of the population size, distribution and movements.

Specific wildlife management and research needs identified for Tetlin NWR include:

1. Determination of moose populations seasonal range use and parameters of each population.
2. Determine the quality of moose habitat and project the carrying capacity of the habitat.
3. Study muskrat population dynamics.

4. Study fire/wildlife relationships on the 1982 Kennebec Fire.
5. Complete stream and lake inventory of fish resources.

HABITAT MANAGEMENT

F&WS is requested to cooperate with the State in the development and implementation of habitat management plans on Tetlin NWR for protection or improvement of habitat areas determined to be essential to the continued health and productivity of fish and wildlife populations. The State is not directly responsible for wildlife habitat management on F&WS lands. However, ADF&G and applicable wildlife management plans should be consulted before F&WS engages in, or forecloses opportunities for, habitat management due to its effects on fisheries and wildlife. Through Federal-State cooperation, habitat management will be consistent with needs of fish and wildlife populations.

F&WS is requested to consult with the State prior to entering into any cooperative land management agreements, and to accommodate, to the extent possible, the State's interest in such agreements.

F&WS should continue cooperating with the State in development of fire management plans. Plans should establish priorities for the control of wildfires and adopt policies for prescribed fires and maintenance of a natural fire regime. F&WS should consider these options to create a habitat mosaic (i.e., mixed successional stages) for the benefit of wildlife species. When developing these plans, F&WS should consult with the State regarding impacts of previous fires on individual areas.

ADF&G identified the following habitat management projects within Tetlin NWR that should be implemented:

1. Revision of the Fortymile Interim Fire Management Plan during 1983.
2. Use prescribed fire to rehabilitate riparian willow (*Salix* spp.) communities and to create habitat mosaics in areas where zoned wildfire would be too dangerous.
3. Use mechanical crushing in the winter to rehabilitate riparian willow stands not suitable for treatment by prescribed fire.
4. Use prescribed fire to maintain productivity of marshes.

PUBLIC INFORMATION AND EDUCATION

F&WS and the State should cooperate in preparing announcements and publications regarding resource information. Material obtained by either party or as a result of cooperative studies may be published or reproduced with proper credit given to the agency(ies) or organization(s) responsible for its acquisition or development.

F&WS should attempt to educate persons using Tetlin NWR through brochures or other means, explaining that consumptive uses are compatible with ecosystem management and are Congressionally allowed.

BOUNDARY ADJUSTMENTS AND LAND EXCHANGES

The State may request boundary or land status changes and land exchanges for management of wildlife, fisheries or other resources during F&WS development of Tetlin NWR comprehensive management plans. The State should be consulted to identify areas where adjustments are in the public's interest. Access, species home range and natural barriers to animal movements should be considered when adjusting boundaries. ANILCA Sec. 103(b) requires that easily identifiable natural features (e.g., rivers, ridgelines, shorelines), rather than section lines, be used as boundaries.

Natural resource management and human use of fish and wildlife cannot be effectively oriented along political boundaries. For example, existing Game Management Units and Subunits, which tend to be on a watershed basis, more accurately reflect the needs of wildlife populations. ADF&G does not intend to redivide Management Units to correspond with subdivisions established by F&WS within Tetlin NWR.

OTHER

Possession of firearms within Tetlin NWR should not be restricted. Restrictions on possession of firearms within Tetlin NWR cannot be justified for resource protection, endangered or threatened species conservation or other considerations. Due to the inherent wild nature of the area involved F&WS should allow possession of firearms to better ensure visitor safety.