Western Arctic Caribou Herd

Cooperative Management Plan

March 2003

This planning process and the Western Arctic Caribou Herd Working Group are supported by four resource management agencies working in Northwestern Alaska.

Front Cover: Western Arctic caribou seeking insect relief on the North Slope of the Brooks Range, July 1999. ADF&G photo by John Trent and pilot Jim Dau. Photo enhancement by Peter Bente.

Editing and production assistance: Laura McCarthy and Carole Healy.

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Copies of the Western Arctic Caribou Herd Cooperative Management Plan can be obtained at the ADF&G, BLM, FWS or NPS offices in Barrow, Nome or Kotzebue, or call the Nome ADF&G office at 907-433-2271.

This plan can be cited as: Western Arctic Caribou Herd Working Group. 2003. Western Arctic Caribou Herd Cooperative Management Plan. Nome, Alaska. 33 pp.

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INTRODUCTION

This new millennium has brought with it substantial challenges to the continued well-being of Alaska's caribou and the people who depend upon and value them. Today there are concerns about industrial development, contamination and increased potential for overhunting, and there are differing visions of how the Western Arctic Caribou Herd should be used and protected.

The Western Arctic Caribou Herd is Alaska's largest caribou herd, occupying the northwestern quarter of the state. Presently an estimated 15,000–20,000 Western Arctic caribou are killed each year for subsistence within the range of the herd. Nonresident and nonlocal hunters kill about 1,000 additional animals from this herd. There has been growing concern over conflict between local and nonlocal hunters. Increasing numbers of wilderness travelers seek opportunities for viewing and photographing Western Arctic caribou. Many people are also concerned about the long-term effects of industrial development and environmental pollution on the Western Arctic herd. All of these people have a stake in management of the herd.

This cooperative management plan was written by the Western Arctic Caribou Herd Working Group. This Working Group is a broad spectrum of stakeholders with direct interest, knowledge and concern in the care and management of the Western Arctic Caribou Herd. Subsistence hunters from rural villages, sport hunters, conservationists, hunting guides, reindeer herders, and hunter transporters are represented.

The Working Group meets regularly to exchange traditional and Western scientific information; to reach consensus on recommendations for research, monitoring, regulation, allocation and enforcement; to support education about the herd; and to foster communication among all who use or value these caribou.

The purpose of the plan is to work together to ensure the long-term conservation of the Western Arctic Caribou Herd and the ecosystem on which it depends, to maintain traditional and other uses for the benefit of all people, now and in the future.

The scope of the Western Arctic Caribou Herd Cooperative Management Plan is comprehensive but general. The Working Group will use the plan as a guide to make specific recommendations or engage in projects based upon plan guidelines. It is also the task of the Working Group to develop detailed documents to address topics such as habitat protection concerns and caribou education programs.

The heart of the plan is seven plan elements. Each element consists of a goal statement, proposed strategies, and proposed management actions for reaching the goal. They include Cooperation, Population Management, Habitat, Regulations, Reindeer, Knowledge, and Education.

The plan authors recognize that the caribou herd normally fluctuates in numbers through time. The plan strategy is to be responsive to population conditions and maintain a healthy ecosystem upon which the herd depends. The plan does not attempt to stabilize caribou population size. Instead, the plan adjusts management strategies according to the current status or condition of the herd.

The plan emphasizes the coordinating role of the Working Group among state and federal regulatory systems, subsistence hunters, sport hunters, guides, outfitters, conservationists, and the resource management agencies themselves. Successful conservation of the Western Arctic Caribou Herd ecosystem depends upon coordinated and constructive efforts of these diverse stakeholders.

Both the State of Alaska and the US Department of Interior have expressed their commitment to sharing with stakeholders the representation, responsibility and power in the management of wildlife resources to the greatest extent possible by law. These government agencies recognize that local stakeholders who spend time in the field have the special knowledge of the resource that is so important to effective problem solving. The agencies endorse the Caribou Working Group and this Cooperative Management Plan for its proactive approach to managing the herd more effectively, to improving cooperation among stakeholders, and to reaching compromise and reducing conflict before it reaches the Board of Game and Federal Subsistence Board. These agencies work closely with the Working Group to fully consider their recommendations to ensure the conservation of the Western Arctic Caribou Herd. Resource agency representatives do not vote at Working Group meetings but otherwise participate.

WHY WE NEED A CARIBOU PLAN

In the words of Joseph Ballot, first Chairman of the Western Arctic Caribou Herd Working Group, "We can no longer take for granted that these caribou will always come through our communities!" Guides and transporters worry about being able to continue taking clients to this great herd. Many stakeholders are concerned about potential impacts of oil and mining industries on the Western Arctic herd.

As one hunter said, "We want to keep those caribou coming back." This management plan will help ensure that the caribou keep coming back by relying on the knowledge and active participation of all people who use or otherwise value this caribou herd. The planning process requires active collaboration between resource management agencies and all people who depend on and value the herd. It is also a cross-cultural process. Knowledge gained by local and traditional hunting experience, for example, is just as valuable as that which was collected more recently by biologists using satellites and laboratories.

PURPOSE OF THE PLAN

The purpose of the plan is to work together to ensure the long-term conservation of the Western Arctic Caribou Herd and the ecosystem on which it depends, to maintain traditional and other uses for the benefit of all people now and in the future.

GUIDING PRINCIPLES FOR PLANNING AND MANAGEMENT

The Working Group and its sponsoring agencies propose to follow these principles both in developing this plan and in managing the Western Arctic Caribou Herd:

1. Recognize the significant ecological role this caribou herd has in Northwestern Alaska. The herd is profoundly important to people, animals, and plants.

2. Recognize the centuries-old customs, traditions, and spiritual needs that have developed in communities within the range of the herd; also recognize that other people in Alaska and the rest of the world have interests in this herd.

3. Emphasize common interests among all users of the herd.

4. The Working Group will coordinate with both advisory committees and regional advisory councils on recommendations to state and federal regulation-making boards.

5. Promote simple and consistent regulations and policies that are easily understood by people who use and value the herd.

6. Base management decisions for the herd on scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users.

7. Recognize that predators of the Western Arctic herd are a natural part of the ecosystem and are necessary to the health of the herd and the entire ecosystem.

8. Educating people and sharing information about the biology, traditions, uses, and care of the herd are very important for a successful management program.

9. Each agency will assist in the implementation of the Western Arctic Caribou Herd Cooperative Management Plan by focusing on management actions consistent with their respective mandates and authorities, while at the same time coordinating with other agencies and the Caribou Working Group.

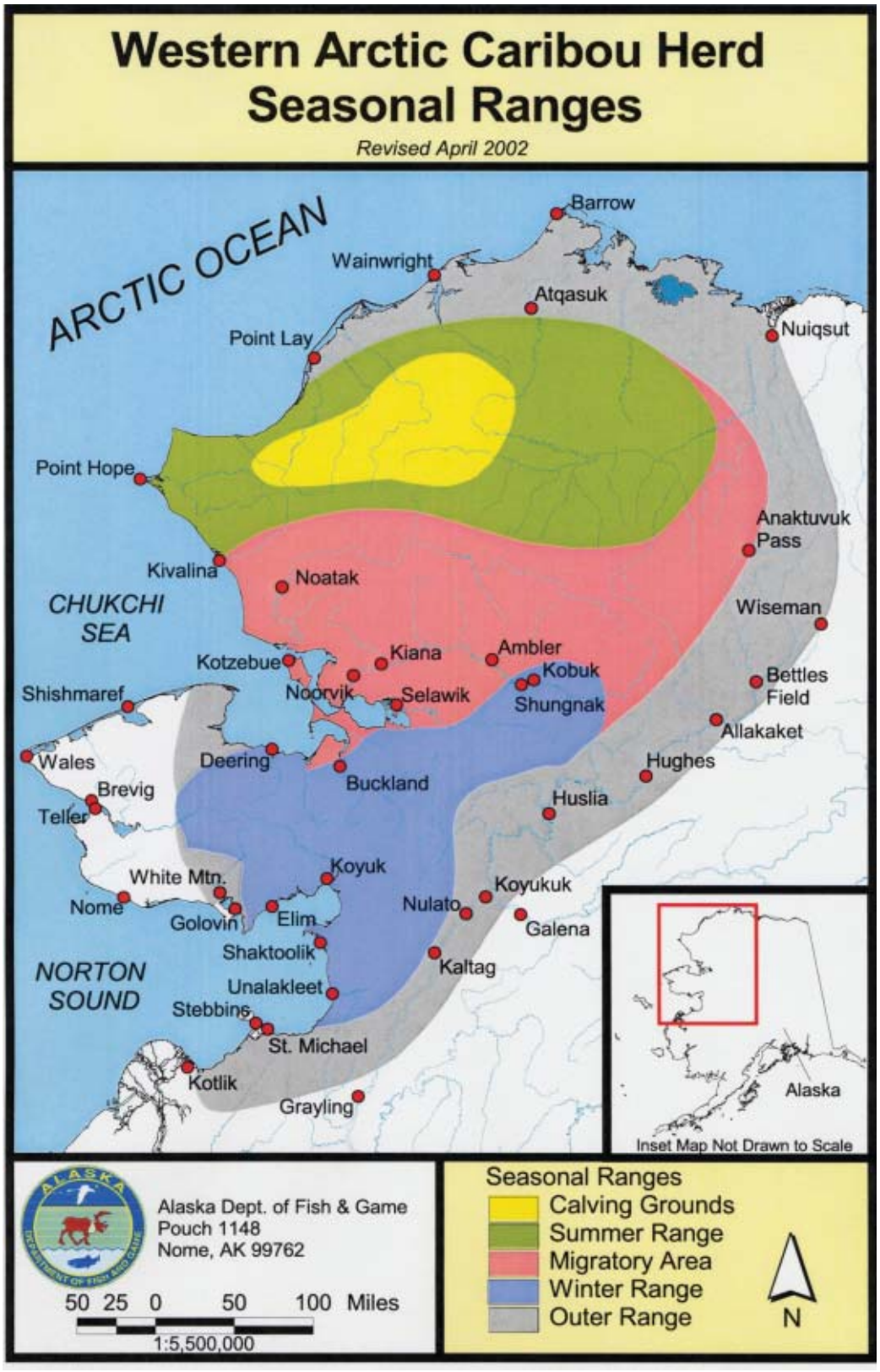


Figure 1 Western Arctic Caribou Herd range map

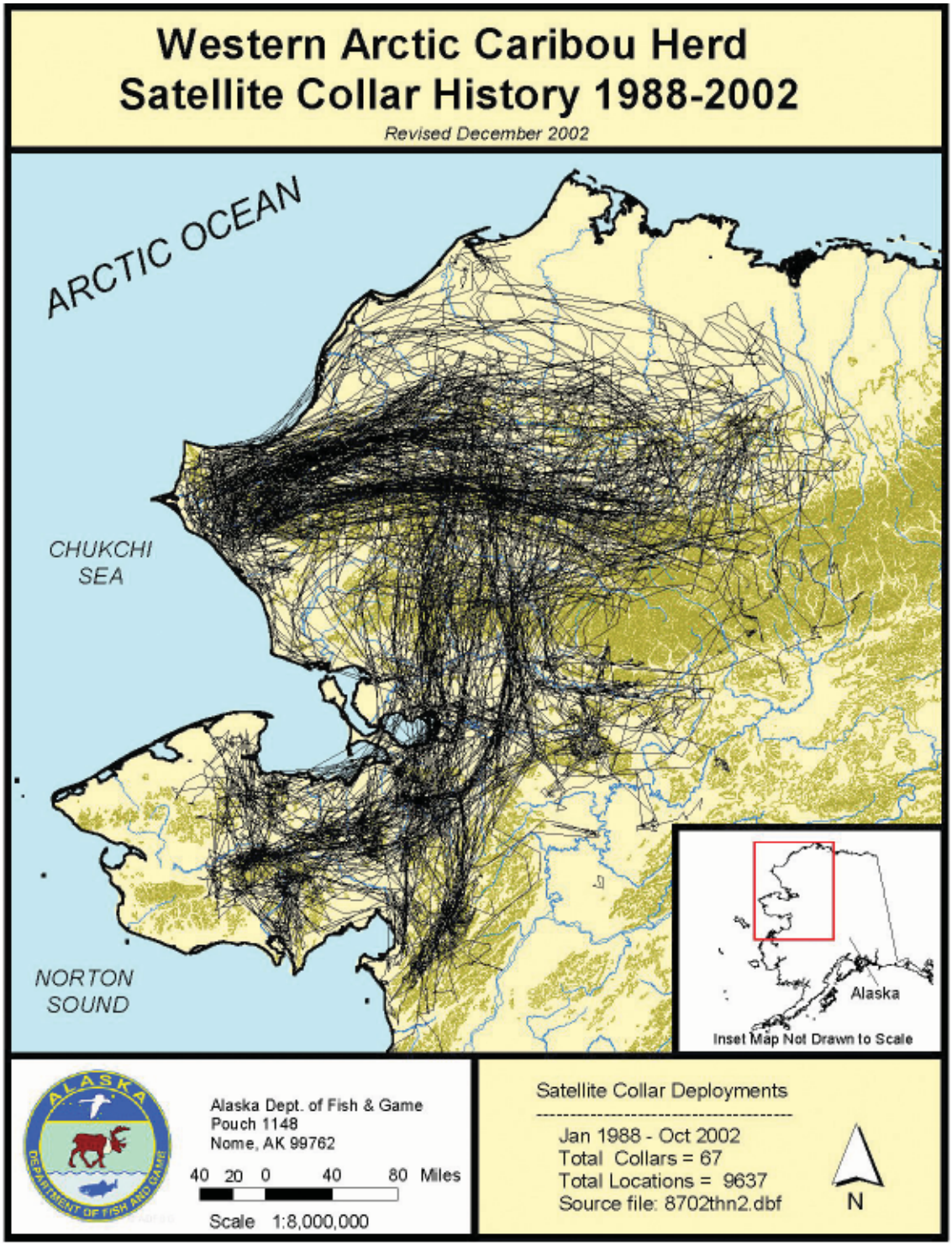


Figure 2 Movement patterns and range use of the Western Arctic Caribou Herd based on satellite collar locations from 1988-2002

BACKGROUND

WESTERN ARCTIC HERD

The Western Arctic herd is the largest caribou population in Alaska. It occupies the northwestern quarter of the state, an area of about 140,000 mi^2. The heritage and traditions of Native Alaskans residing in about 40 subsistence-based communities have been shaped to a large extent by the availability and abundance of these caribou.

The herd's summer range consists of the northern foothills and mountains of the Brooks Range west of the trans-Alaska pipeline. The calving grounds are located near the center of this summer range. Important insect relief areas are from Point Lay to Cape Lisburne and in the mountains. In their annual migrations between summer and winter ranges, Western Arctic caribou travel through a variety of Brooks Range passes and along the western coastal plain and foothills.

In most years since the mid-1980s, at least half of the herd wintered in the eastern third of the Seward Peninsula and in the Nulato Hills as far south as the Unalakleet River drainage. Since 1996 the Western Arctic herd expanded its winter range westward on the Seward Peninsula. Also, for several years in the late 1990s, many Western Arctic caribou wintered in upper Koyukuk River drainages and on the North Slope between Atqasuk, Wainwright, and Umiat.

The size of this caribou herd can change rapidly. In 1970 the herd numbered about 243,000. By 1976 it had declined to about 75,000. From 1976 to 1990, the herd grew about 13% per year. The growth slowed to only 1–3% annually between 1990 and 1996. The herd may have peaked in 1996 at 463,000 caribou. A census in 1999 showed 430,000 caribou, suggesting a decline in herd size of about 2% annually. However, the 1999 census number may have been too low due to undercounting. Herd size may have remained stable between 1996 and 1999.

Not everyone who lives in the North agrees with these numbers. However, few would argue that caribou abundance varies over time in most of Northwestern Alaska.

HUMAN USE

Until the last half century, the only human use of caribou in this area was for subsistence. Legal definitions of subsistence currently differ between state and federal agencies. Caribou, along with fish and marine mammals, have historically been a staple in the diet of many local residents. Presently an estimated 15,000–20,000 Western Arctic caribou are killed each year for subsistence within the range of the herd. Nonresident and nonlocal hunters kill about 1000 additional animals from this herd. Thus the total annual harvest by humans of Western Arctic caribou is estimated to be 16,000–21,000 caribou.

In some areas, especially near Kotzebue and on the upper Kobuk River, there has been a growing history of conflict between local and nonlocal hunters. Increasing numbers of wilderness travelers seek opportunities for viewing and photographing Western Arctic caribou. Many people are also concerned about the long-term effects of industrial development and environmental pollution on the Western Arctic herd. In an increasingly crowded world, many have come to think of caribou as symbols of undeveloped wild lands in the Alaskan North. All of these people have a stake in management of the herd.

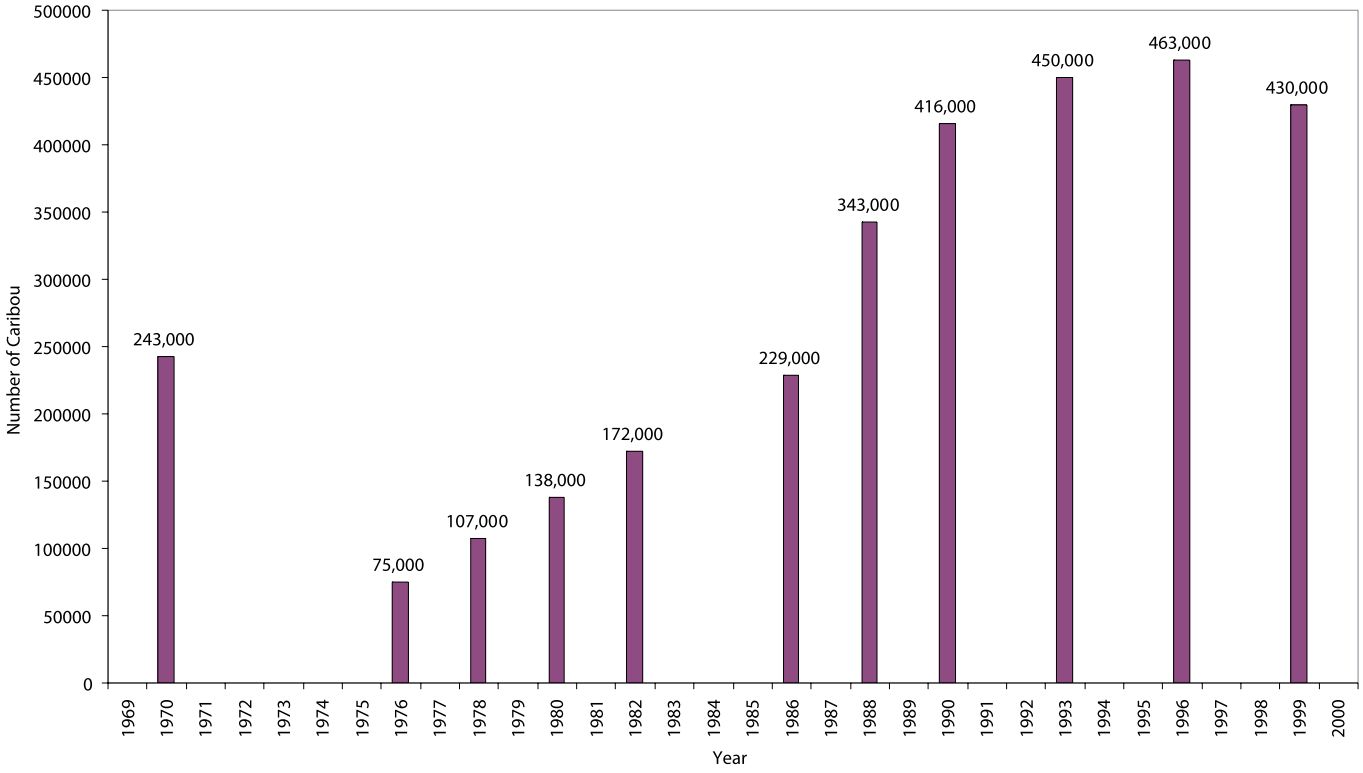


FIGURE 3 Western Arctic Caribou Herd photocensus population estimates, 1970–1999

OTHER MANAGEMENT CONSIDERATIONS

Reindeer

Reindeer are a privately owned, domesticated European stock of caribou. Caribou had been absent from the Seward Peninsula for at least 50 years when reindeer were introduced to Alaska near Teller in 1892. Reoccupation of the eastern half of the Seward Peninsula by caribou has proven disastrous for the reindeer industry. As of 2002 more than half of all reindeer on the Seward Peninsula joined migrating elements of the Western Arctic herd and did not return to their home ranges.

Resource Developments

Outside of residential communities, there has been little lasting human development close to the Western Arctic herd. The Red Dog lead and zinc mine with its associated port site and 70-mile-long road is currently the largest development complex within the range of this herd. The westward expansion of petroleum development from Prudhoe Bay into the National Petroleum Reserve-Alaska (NPR-A) is now penetrating well into the eastern range of the Western Arctic herd. Several transportation corridors that would bisect the range of this herd are being considered for future development, as are production of coal and natural gas. These activities could affect movements and distribution of the Western Arctic herd. They are also likely to change patterns of human use in Northwestern Alaska.

Recreation

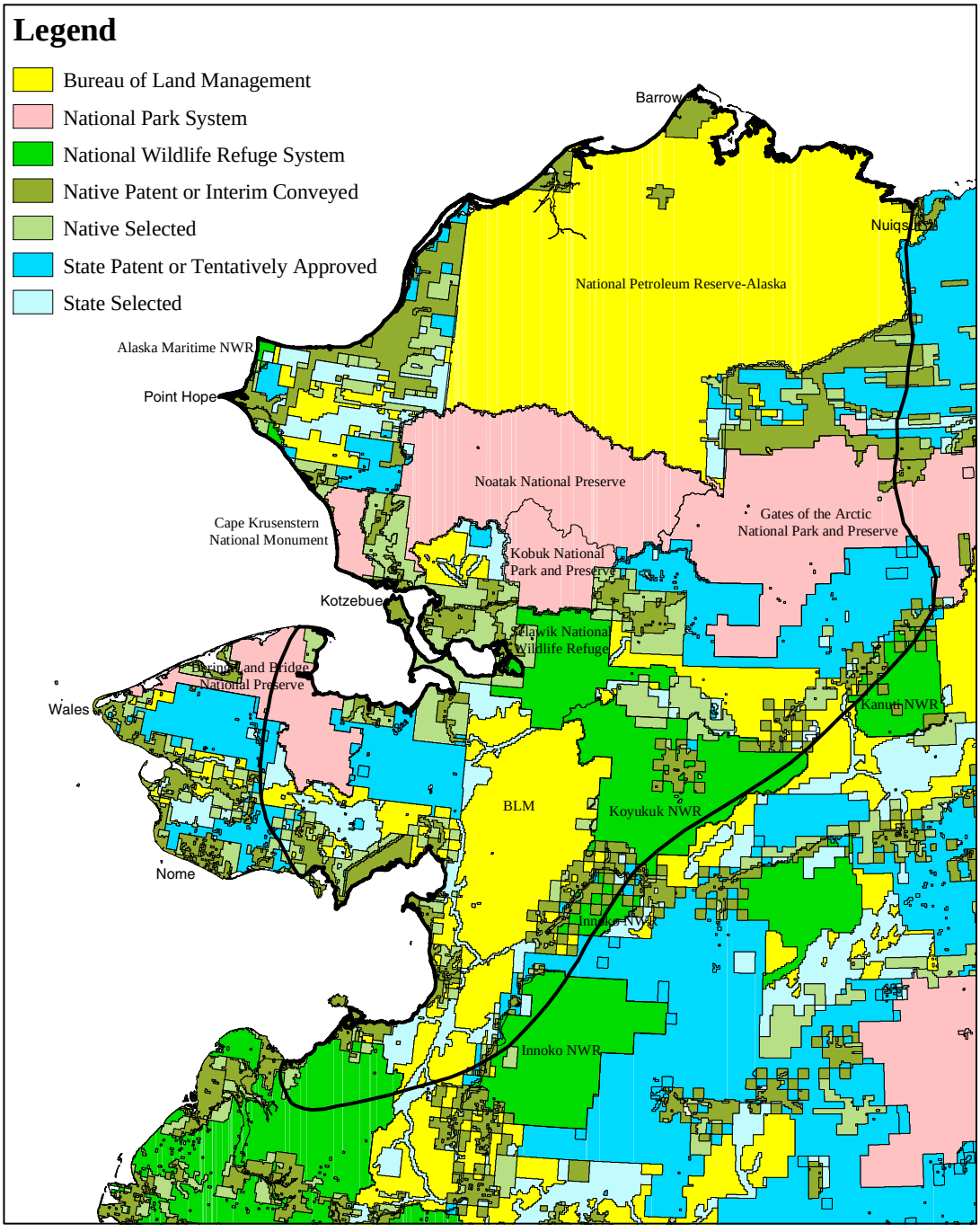
People who come to see and photograph caribou may also affect the herd. Western Arctic caribou, driven by insect harassment in midsummer, gather into huge masses of animals called aggregations. Excessive aircraft overflights of visitors and photographers could potentially add to stress and energy loss for the animals at a time of year when they should be feeding and gaining fat reserves for the winter months. Regulation of nonconsumptive activities like these may be required in the future.

Environmental Contamination

Local residents are concerned about the effects of environmental contamination on caribou and human health. Concerns about contaminants include heavy metals from the Red Dog Mine, radionuclides from Project Chariot near Cape Thompson, global warming and radioactive fallout from atmospheric testing of nuclear warheads, as well as the Chernobyl power plant. Examinations of dead animals and further laboratory tests have shown that, so far, neither heavy metals nor radionuclides have affected the health of caribou or contaminated their meat for human consumption.

LAND STATUS

The range of the Western Arctic herd is a patchwork of landownership. Federal resource and land management agencies, the state of Alaska, and Alaska Native corporations are all major landholders. Private individuals own land as well. The Alaska Board of Game and the Federal Subsistence Board, as well as state and federal agencies, have different mandates for managing wildlife, including the Western Arctic herd. The variety of land status and management authorities creates a complex situation for managing this herd as Caribou do not recognize political boundaries. Resource agency mandates are listed in the Appendix.



Source: BLM Northern Field Office, Fairbanks, AK

FIGURE 4 General Land Status Map: The black line shows the approximate range of the Western Arctic Caribou Herd

PLAN ELEMENTS

The plan consists of seven Plan Elements: Cooperation, Population Management, Habitat, Regulations, Reindeer, Knowledge and Education. Each of these subjects includes a goal statement, one or more strategies for attaining the goal and a list of management actions or similar activities. The management actions are not an exhaustive or all-inclusive list. However they are intended to be the first steps needed to achieve the strategies and goal in question. Management actions will be refined or replaced as work on the plan progresses.

1. COOPERATION

Goal: Encourage cooperative management of the herd and its habitats among state, federal and local entities and all users of the herd.

Strategies:

A. Use the Western Arctic Caribou Herd Working Group to improve communication and cooperation.

B. The Working Group will serve as a forum to facilitate communication and coordination among advisory committees, regional councils, and others concerned with management of the herd and will promote broad public participation in management decisions.

Management Actions:

1. Conduct two meetings of the Working Group each year in a variety of locations.
2. Publish and distribute two issues of the *Western Arctic Caribou Trails* newsletter each year.
3. Both resource agencies and members of the Working Group will collect and share information and recommendations with federally recognized tribal councils, city councils, advisory committees, regional advisory councils, other organizations, and state and federal regulatory boards.
4. Review of this management plan will be done by the Working Group every 5 years or as needed. The Caribou Working Group will appoint a Plan Review Committee for this task.
5. Encourage interagency cooperation through an annual review by a Technical Committee of resource agencies to review studies and surveys being conducted on the herd and evaluate progress toward meeting information gaps identified by the working group.

2. POPULATION MANAGEMENT

The Working Group recognizes population management as a critical element for continued conservation of the Western Arctic Caribou Herd. A key concept is that numbers and conditions in this herd normally do change over time. Thus, management strategies must change with changing conditions of the herd.

This plan describes management strategies for high, medium and low populations of Western Arctic herd caribou. In a high population condition, management will be liberal, including liberal bag limits for hunters. Biological surveillance of the herd will continue on a regular basis. In medium population conditions, management will be adjusted to be precautionary. Harvest may be more limited and biological surveillance will increase. In low population conditions, the management strategy will be restrictive. Harvest may be limited to subsistence use only and biological surveillance of the herd will be at a maximum.

Deciding the degree to which any of these population conditions exists requires ongoing evaluation of a variety of information sources including population trend, population size, sex ratios, recruitment rates, mortality rates and habitat considerations.

Each year, or as needed, the Working Group will consider the population status of the herd at one of its semi-annual meetings. Agency biologists will evaluate all biological parameters indicating herd status and will develop an initial recommendation on herd population management level to the Working Group. The Working Group and biologists from cooperating agencies will review this recommendation, consider traditional ecological knowledge and knowledge of all users, and seek consensus on the appropriate management strategy at that time. If the management strategy changes and there is a need to revise management actions or harvest regulations, the Working Group will develop recommendations for specific actions including regulatory changes. Regulatory proposals will follow the normal state and federal board processes where advisory committees, regional councils, and the public have opportunities to review and comment on the proposals before board action is taken.

Goal: Recognizing that caribou herds naturally fluctuate in numbers, manage for a healthy population using strategies adapted to population levels and trends.

Strategies:

Identify population conditions to help guide decisions about management actions and caribou harvest. Three management strategies are described, depending on population level and trend. These high medium and low population categories are based on historical records from the herd. Population condition should not be viewed as a threshold to trigger specific management actions, but as general guidelines for decision-making. Specific population levels or trends may not clearly fall into high, medium, or low categories. On these occasions a combination of management actions and harvest recommendations outlined below or not yet considered may be appropriate.

A: High Population Management

Population size exceeds 300,000 caribou and other indicators suggest the herd is relatively stable or increasing.

Management Actions:

1. Census the herd at least once every 3 years.
2. Monitor caribou recruitment, adult mortality, and incidence of disease annually.
3. Monitor sex and age composition seasonally.
4. Monitor harvest.
5. Investigate environmental contaminants as necessary.
6. Investigate caribou die-offs to assess magnitude and cause.
7. Monitor change in habitat conditions

Caribou Harvest recommendations may include:

1. Allow liberal harvest.
2. Cows and calves may be taken except during calving.
3. Bag limits will reflect the high population condition.

B: Medium Population Management

Population size is 200,000–300,000 caribou and other indicators suggest the herd is relatively stable.

Management Actions:

1. Census the herd every 2 years.
2. Continue annual monitoring of recruitment, adult mortality, and incidence of disease.
3. Continue to monitor sex and age composition seasonally.
4. Intensify efforts to monitor harvests.
5. Increase monitoring of caribou health and possible environmental contamination.
6. Conduct thorough and timely investigations of local caribou die-offs.
7. Monitor predator populations and, if appropriate, liberalize hunting and trapping regulations.
8. Continue to monitor change in habitat conditions.

Caribou Harvest recommendations may include:

1. No cow harvest by nonresidents.
2. Reduce harvest of cows by residents according to population levels and trends.
3. Reduce harvest of bulls by nonresidents according to population levels and trends.
4. No restriction of bull harvest by resident hunters unless bull:cow ratios fall below a minimum number agreed upon by the Working Group Technical Committee.

C: Low Population Management

Population is less than 200,000 and other indicators suggest the herd is decreasing, stable, or slowly increasing.

Management Actions:

1. Census the herd annually.
2. Monitor caribou recruitment, adult mortality, and incidence of disease to the maximum possible.
3. Continue to monitor sex and age composition seasonally.
4. Maximize efforts to monitor harvests.
5. Maximize monitoring of caribou health and possible environmental contamination.
6. Continue thorough and timely investigations of caribou die-offs.
7. Monitor predator populations and, if appropriate, further liberalize hunting and trapping regulations and consider additional actions as necessary.
8. Continue to monitor change in habitat conditions.

Caribou Harvest recommendations may include:

1. No harvest of cows or calves.
2. Harvest restricted to residents only, according to state and federal law.
3. Limit the subsistence harvest of bulls to maintain a minimum bull:cow ratio agreed upon by the Working Group Technical Committee.

3. HABITAT

Maintaining adequate high quality habitat is essential for the long-term conservation of Alaska's largest caribou herd. Caribou habitat identification and conservation will require a high level of coordination between landowners, land management agencies, resource specialists, and all who use or value the herd. Habitat needs of the herd are not completely understood, and long-term research and monitoring by the appropriate agencies will certainly be required. Publication and mapping of this information is also essential and will involve interagency cooperation.

Goal: Assess and protect important habitats of the Western Arctic herd.

Strategies:

The Working Group will encourage resource management agencies to:

A. Identify, describe and monitor habitats used by the herd.

B. Consider the habitat needs of the herd and inform managers of concerns about potential habitat impacts.

C. Further understand how wildfire affects range conditions and thus management of the Western Arctic herd.

Management Actions:

Habitat Description

1. Improve understanding of habitat use and needs of the Western Arctic herd, including:

   a. Describe the entire range that the herd uses over many years.

   b. Identify and describe important habitats used by the herd in relation to the total range, including concentrated calving areas, main migration routes, and insect relief areas.

   c. Collect and preserve traditional and local knowledge about migrations and other habitat uses by the Western Arctic herd.

2. Encourage management agencies and other organizations to develop a Geographical Information System (GIS) database of lands, resources and uses within the range of the herd. Desired information includes seasonal ranges of the herd, vegetative cover maps, landownership, community use areas, transportation corridors, and extractable resources.

3. Expand monitoring of range conditions.

Habitat Protection

1. Identify and monitor potential impacts to habitat and populations from resource extraction and transportation activities.
2. Assess/monitor impacts from pollutants, such as toxic substances and nuclear radiation, on the herd and its habitat.
4. Review existing and or standard mitigation measures for various land use activities of concern to the Caribou Working Group
5. Recommend project-specific mitigation to land managers as projects are proposed within the range of the herd.

Fire Management

1. Evaluate the effects of fire on caribou habitat, and as knowledge is gained, recommend fire management strategies to landowners and agencies.
2. Recognize that old-growth lichen ranges are an important resource for caribou and manage for various-aged lichen stands in caribou winter ranges.

4. REGULATIONS

The Working Group is neither a regulation-making nor an enforcement body. However it recognizes the necessity for having regulations in order to protect the Western Arctic herd and treat all people fairly. The Working Group also recognizes that as conditions change for both the caribou herd and hunters, regulations need to be reviewed and changed by the appropriate bodies.

For a summary of regulations affecting hunters of the Western Arctic herd, consult Subsistence Management Regulations for the Harvest of Wildlife on Federal Public Lands in Alaska and Alaska Hunting Regulations. Both are published annually.

Goal: Promote consistent, understandable and effective state and federal regulations for the conservation of the Western Arctic herd.

Strategies:

A. Support the existing regulatory process of advisory committees and regional advisory councils, the Alaska Board of Game, and the Federal Subsistence Board before management decisions are made. Also, work through existing state and federal processes to assure proposals and regulations are consistent with this plan.

B. Acknowledge and provide for local caribou hunting and use patterns as well as opportunities for other users.

C. Recommend hunting regulations according to three proposed herd management strategies for high, medium, and low population conditions.

D. Simplify caribou hunting regulations.

Management Actions:

1. Promote consistency between state and federal regulations by encouraging a representative from the Working Group to attend both state and federal advisory meetings to help inform participants of regulation discrepancies as they arise.

2. Encourage more efficient, effective and consistent enforcement of regulations affecting caribou.

3. Support efforts to develop better state and federal regulations for guiding and transporting sport hunters.

4. Recommend that the regulatory bodies periodically reevaluate the amount of caribou reasonably necessary for subsistence uses.

5. Normally, when there is not an urgent need for action, recommendations will be submitted to advisory committees and regional councils for their review and comments before formal proposals are submitted by those respective groups to their regulatory boards.

5. REINDEER

Goal: Seek to minimize conflict between reindeer herders and the Western Arctic herd.

Strategy:

Use the caribou Working Group and agencies to share information and find solutions to issues concerning caribou and reindeer.

Management Actions:

1. Provide herders with available information about movements and distribution of both caribou and reindeer on reindeer ranges in a timely manner.

2. Work cooperatively with the Reindeer Herder Association to take measures to reduce intermingling of reindeer with caribou, and to reduce conflict between hunters and herders.

3. Review and evaluate the procedure for distinguishing differences between reindeer and caribou.

6. KNOWLEDGE

Goal: Integrate scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all users into management of the Western Arctic herd.

Strategies:

A. Identify information gaps and prioritize research needs.

B. Seek out and preserve traditional ecological and local knowledge about caribou within the range of the herd.

C. Promote and facilitate interchange between Working Group members and researchers who are collecting or plan to collect information on the Western Arctic herd.

Management Actions:

1. Contact elders' councils and individual elders for traditional knowledge about the Western Arctic Caribou Herd.

2. Seek knowledge from consumptive and nonconsumptive users about the Western Arctic Caribou Herd

3. Develop an information database on traditional knowledge of caribou in Northwest Alaska.

4. Obtain funding for members to participate in the Working Group as well as caribou conferences like the North American Caribou Workshop.

5. Encourage agencies and outside investigators to discuss their current or proposed work at Working Group meetings.

6. Work cooperatively to seek funding to document traditional knowledge of caribou and compile sources of information on knowledge of caribou.

7. To the maximum extent possible, incorporate user knowledge on caribou abundance, distribution, condition, disease, weather, and habitat when making management recommendations concerning high, medium and low population conditions.

Scientific Information Needs

1. Develop an annotated bibliography of past scientific and cultural studies on the Western Arctic herd which will be updated prior to the review of the plan and made available on a dedicated web site and in an electronic format.

2. The Working Group Technical Committee, consisting of resource agency staff, will develop a priority list of information needs concerning conservation of the Western Arctic herd.

7. EDUCATION

Goal: Increase understanding and appreciation of the Western Arctic herd through use of scientific information, traditional ecological knowledge of Alaska Native users, and knowledge of all other users.

Strategy:

Develop information and education programs to share traditional ecological and scientific knowledge about the herd.

Management Actions:

1. Work with local school districts to develop curriculum-based caribou lessons, activities and kits (include traditional and scientific information with a multicultural approach.).
2. Continue to involve local school children and community members with caribou radio-collaring, census photography, and other activities.
3. Establish an educational website with links to other caribou sites.
4. Continue publication of the *Western Arctic Caribou Trails* newsletter.
5. Develop or expand information and outreach to different user groups such as subsistence hunters, sport hunters, wilderness travelers, and wildlife viewers.
6. Support distribution of information about access policies concerning private land, including Native allotments and corporation land, and state and federal access policies.
7. Develop informational materials intended to prevent waste of caribou meat.
8. Develop and maintain a general reading list about the Western Arctic Caribou Herd.
9. Implement education outreach efforts based on the management strategy appropriate for a high, medium and low population levels, respectively, and encourage public discussion.

HOW WE WROTE THE PLAN

The first management plan for the Western Arctic Caribou Herd was written in 1984 by biologists in the Alaska Department of Fish and Game. Since then, the herd has grown larger, resource development has continued in Northwestern Alaska, and economic conditions have changed for many Alaskans.

The Working Group began this plan in 1999. People who use and value the herd wrote the plan together with biologists and land managers. National Parks Superintendent Dave Spirtes developed some key ideas in the first draft. A Planning Committee then met many times to develop further drafts for extensive public review. The Planning Committee reported progress and received further direction from the Working Group at regular twice-yearly meetings.

The Planning Committee consisted of Roy Ashenfelter; Lee Anne Ayres; Jeanie Cole; Phil Driver; Don Frederick; Joanna Fox; Earl Kingik; Sverre Pedersen; John Schoen (Committee Chair); Elmer Seetot, Jr; Dave Spirtes; Raymond Stoney; John Trent; and Pius Washington. Joseph Ballot and John Coady attended many of the meetings. Randy Rogers proposed the collaborative planning process and facilitated most of our meetings. Biologists Peter Bente, John Coady, Jim Dau and many others also contributed ideas, edits, and hard work toward the development of this plan.

IMPLEMENTATION: PUTTING THE PLAN TO WORK

This section summarizes how the Western Arctic Caribou Herd Cooperative Management Plan will be translated into activities.

Working Group Activities

The Caribou Working Group is an organization of stakeholders that meets twice annually to reach consensus concerning the conservation and management of the Western Arctic Caribou Herd. It works in collaboration with state and federal resource agencies to implement this plan. Improving communication and sharing information among stakeholders and resource agencies is an important function of the Working Group. The Working Group will identify policy concerns and recommend actions to agencies and others who may influence the welfare of the herd.

Resource Agency Activities

Resource agency staff working with the herd or its habitat will meet annually in a technical meeting. The purpose of this meeting will be to review information reflecting herd and habitat status, plan and coordinate management activities, and prepare a brief annual status report, including recommendations, to the Working Group. Representatives from the Working Group may attend this meeting. Additionally, with participation by qualified biologists not directly working with the herd, a review of the status of the herd and its habitat, inventory and monitoring protocols, and management information needs and priorities will be undertaken at approximately 5-year intervals. State and federal agencies will develop written cooperative agreements to share information, resources, and technical support concerning the plan.

Plan Review

The Caribou Working Group will review and revise this plan every 5 years, or more frequently as needed.

SIGNATORIES FOR THE WESTERN ARCTIC CARIBOU HERD WORKING GROUP:

1 Anchorage Fish and Game Advisory Committee

Don Frederiek /Representative — Date: 3 MAR 2003

2 Buckland, Deering, and Selawik

Ron Moto — Date: 3-25-03

3 City of Anaktuvuk Pass

Charlie Hugo — Date: 3/25/2003

4 Elim, Golovin, and White Mountain

Luther Nagaruk — Date: 3-25-03

5 Fairbanks Hunters

Oliver E. Burris — Date: 3/25/03

6 Hunting Guides

Phillip Driver — Date: 3/25/2003

7 Kivalina, Noatak

Raymond Hawley — 3-25-03

Raymond Hawley — Date

8 Kotzebue

3-25-03

Enoch Shiedt, Sr — Date

9 Koyukuk River

Pollock Simon Sr. — 3-25-03

Pollock Simon, Sr — Date

10 Lower Kobuk River

Raymond Stoney — 3-25-03

Raymond Stoney, Chairman — Date

11 Middle Yukon River

Benedict Jones — 3-25-03

Benedict Jones — Date

12 Native Village of Point Hope

3/25/2003

Earl Kingik — Date

13 Nome

Roy Ashenfelter, Vice Chairman — 3-25-03 Date

14 Conservationists

John Schoen — 3-25-03 Date

15 Northern Seward Peninsula

Elmer Seetot, Jr — 3/27/2003 Date

16 Reindeer Herders Association

Pius Washington — 3-25-03 Date

17 Southern Seward Peninsula

Frank Kavairlook — 03-25-03 Date

18 Transporters

Colin Brown — 3/25/2003 Date

19 Upper Kobuk River

Sally Custer — 3-25-03

Sally Custer — Date

20 Wainwright

Enoch Oktollik — 04-09-03

Enoch Oktollik — Date

SIGNATORIES FOR THE RESOURCE MANAGEMENT AGENCIES:

1 Alaska Department of Fish and Game

April 21, 2003

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2 US Bureau of Land Management

3/25/03

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GLOSSARY

The following definitions are not legal descriptions but are intended to assist a reader's understanding of this plan.

Advisory committee — Elected citizen committees that advise the Alaska Boards of Fish and Game in the State of Alaska's regulatory process. There are eight advisory committees located within the range of the Western Arctic Caribou Herd: Southern Norton Sound, Northern Norton Sound, Kotzebue Sound, Noatak-Kivalina, Lower Kobuk, Upper Kobuk, Koyukuk, and Middle Yukon.

Alaska Board of Game — The regulatory body that makes the State of Alaska hunting and trapping regulations.

Bull:cow and calf:cow ratios — This is a way of expressing population sex and age composition in relation to numbers of female (cow) caribou. For example in the 1998 fall composition counts of the Western Arctic herd, 45 calves were counted per 100 cows (45:100) and 54 bulls counted per 100 cows (54:100).

Carrying capacity — The concept that there is a maximum population size an ecosystem can sustain without causing long-term habitat damage and a reduction in the population size.

Conservation—Managed use of a resource to ensure long-term sustainability.

Controlled use area — A geographic area where the Alaska Board of Game limits certain types of transportation used for hunting. For example, some controlled use areas are closed to the use of aircraft for big game hunting during specified time periods.

Database — A collection of measurements or descriptions used for analyses and decision making.

Ecosystem — An ecological community together with its physical environment, considered as a unit. The Western Arctic Caribou Herd is a visible part of the Northwest Arctic ecosystem.

Environment — The complete surroundings or circumstances in which an organism lives. The Western Arctic herd lives in arctic and subarctic terrestrial (land) environments in Northwestern Alaska.

Fire management — Refers to a variety of responses to wildfire from total suppression to controlled burns by management agencies.

Fall and spring composition — Composition counts are flown in the fall to determine calf survival during the summer and the proportion of bulls in the Western Arctic herd. Spring composition counts measure recruitment—the proportion of last year's calves joining the herd as young adults. Both are important measures of population condition.

Federal Subsistence Board — The regulatory body that makes subsistence hunting, fishing, and trapping regulations on federal public lands in Alaska.

Geographic Information System (GIS) data — Data about the location and types of lands, resources, and uses within a specific area that is used to make computer-generated maps. Figure 2 in this plan uses GIS data. Another use may be a map of the calving grounds of the Western Arctic herd.

Guides — Licensed Alaska big game guides unless stated otherwise.

Habitat — The physical and biological resources required by caribou in the Western Arctic herd for survival and reproduction. Calving grounds and migration corridors are examples of certain habitats used by the Western Arctic herd.

Harvestable surplus — The number of caribou that can be killed by hunters and still keep a healthy population.

Healthy — Possessing good health. In management of the Western Arctic herd, the term refers to the population's capability for both survival and reproduction.

Herd — Used as a synonym for the term "population" in this plan.

Important habitats — The geographic and political descriptions of types of habitat thought to be essential for the survival of a population like the Western Arctic herd. Important habitats can describe calving grounds, insect relief areas, winter and summer feeding areas and migration corridors.

Mitigation measures — Legally mandated activities required to compensate for loss of habitat, or to prevent degradation of habitat or habitat damage, usually caused by development or other permitted activities.

Nonconsumptive uses/user — Usually refers to outdoor recreationists who do not hunt or fish. Wildlife viewing and photography, river rafting, and canoeing are nonconsumptive uses.

Outfitters — Commercial operators who provides services and or equipment for hunters and others.

Photocensus — The method used to count all the animals in the Western Arctic herd with the aid of a large camera mounted in an aircraft.

Population — Any group of animals belonging to the same species at the same time and place. The Western Arctic Caribou Herd is a population.

Population trend — The increase or decrease in population size between at least two points in time. From 1976 to 1990 the Western Arctic herd grew larger, showing an increasing population trend.

Productivity — The ability of an individual or a population to reproduce itself. Productivity often varies from location to location and year to year. Productivity for the Western Arctic herd is measured

by annual spring composition counts. The resulting calf:cow ratios are also referred to as "recruitment."

Range condition — The physical condition of the vegetation, including the types and proportions of certain plants in the plant community, within a certain area. This condition is compared to what is natural for the area and the ability of the vegetation to provide food for caribou.

Recruitment — The number or proportion of caribou calves who survive to be yearlings and thus become more or less permanent additions to the population.

Regional Advisory Council (RAC) — A federal advisory committee of local residents appointed by the Secretaries of Interior and Agriculture. Federal Subsistence Regional Advisory Councils develop proposals to change federal subsistence regulations and review proposals submitted by others. These proposals are then submitted to the Federal Subsistence Board. There are four RACs that have authority within the range of the Western Arctic herd. They are the North Slope, Western Interior, Seward Peninsula, and Northwest Arctic RACs.

Reproduction — The amount or proportion of calves born into a caribou population.

Resident/Nonresident Hunter—Refers to Alaska residency as defined by statute.

Resource management agencies — Government organizations charged with caring for publicly owned natural resources like the Western Arctic Caribou Herd.

Scientific method — A way of figuring out how nature works by making observations and testing ideas so that different people get the same result when they follow the same procedures.

Seasonal habitat — Habitat used only during certain seasons or time of year. Insect relief areas where the caribou go to get away from flies and mosquitoes are seasonal habitat.

Stakeholder group — A group of like-minded individuals who have a specific interest in an enterprise or process. Subsistence hunters, sport hunters, and outfitters are all different stakeholder groups with respect to the Western Arctic herd.

Stable population — A population (herd) that does not significantly change in size between at least two points in time. Between 1996 and 1999 the Western Arctic herd may have had a stable population condition.

Stewardship — Management of a natural resource like caribou that allows for use while keeping the resource healthy for future generations to use as well.

Subsistence — Food gathering, clothing/handicraft making and related activities variously defined by State of Alaska and Federal statutes.

Sustainable harvest level — Generally thought of as the maximum number of caribou that can be killed by people without long-term harm to the caribou population or the habitat.

Sustained use — Management that ensures human uses can be maintained indefinitely without long-term harm to the caribou population or the habitat.

The herd — Refers to the Western Arctic Caribou Herd unless specified otherwise.

Traditional ecological knowledge (TEK) — Knowledge gained about caribou and their ecosystem that has been collected and transmitted through succeeding generations of observers.

Transporter — A commercial operator who provides transportation services to hunters and others.

Travel corridor — A tract of land forming a passageway, such as a caribou migration corridor.

Wildlife conservation — Planned management of wildlife resources to prevent exploitation, destruction, or neglect.

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APPENDIX
MANDATES OF PARTICIPATING ALASKA RESOURCE AGENCIES

A Alaska Department of Fish and Game (ADF&G)

The responsibilities of ADF&G are described in Title XVI of the Alaska Statutes. Alaska's renewable fish and wildlife resources and their habitats are to be conserved and managed on the sustained yield principle. The use and development of these resources must be in the best interest of the economy and the well-being of the people of the state.

In the Division of Wildlife Conservation, the mission is to conserve and enhance Alaska's wildlife and habitats and provide for a wide range of public uses and benefits. The Division of Subsistence is the research branch in ADF&G responsible for providing comprehensive information on the customary and traditional use of wild resources in Alaska.

Biologists in the Division of Wildlife Conservation have primary responsibility for population management of the Western Arctic Caribou Herd, along with the Alaska Board of Game, which makes policy. Subsistence Resource Specialists in the Division of Subsistence collect information on subsistence use of caribou through cooperative community harvest surveys. Both divisions cooperate with other organizations including Federal resource management agencies and the Federal Subsistence Board.

B Alaska Department of Natural Resources (DNR)

The DNR manages a significant amount of habitat in the range of the Western Arctic herd. The following fish and wildlife habitat goals are identified in the Northwest Area Plan published by the DNR Division of Mining Land and Water.

Maintain and Protect Publicly Owned Habitat Base: Maintain in public ownership and protect the habitat values of sufficient suitable lands and waters to provide for the habitat needs of fish and wildlife resources necessary to maintain or enhance public use and economic benefits.

Ensure Access to Public Lands and Waters: Ensure access to public lands and waters, and where appropriate, promote or enhance public use and enjoyment of fish and wildlife resources. Access improvements should be designed to match the public use objectives for the area under consideration.

Mitigate Habitat Loss: When resource development projects occur, avoid or minimize reduction in the quality and quantity of fish and wildlife habitat.

Contribute to Economic Diversity: Protect and enhance fish and wildlife resources and habitats to contribute directly or indirectly to local, regional, and state economies through commercial, subsistence, sport, and nonconsumptive uses, while working to achieve the economic development of other resources.

C US Bureau of Land Management (BLM)

The Federal Land Policy and Management Act of 1976 (FLPMA) is called the BLM Organic Act because it describes BLM's management responsibilities. The Federal Land Policy and Management Act requires that BLM manage for multiple use, sustained yield, and environmental protection. The term "multiple use" management is defined as "management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people."

The Federal Land Policy and Management Act also specifies that "…the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use…" The Bureau of Land Management's management responsibilities are further defined by the Alaska National Interest Lands Conservation Act (ANILCA) and the Code of Federal Regulations, Title 43, Chapter II.

The BLM State Office oversees management at the state level while Field Offices have regional responsibilities. The Northern Field Office located in Fairbanks is responsible for the management of the northern half of Alaska including most of the range of the Western Arctic herd.

The BLM is primarily a land management agency. The main responsibility for Field Office biologists is the management of wildlife habitat on BLM lands. They coordinate closely with ADF&G, Division of Wildlife Conservation and with the US Fish and Wildlife Service, Office of Subsistence Management.

The Northern Field Office also manages the National Petroleum Reserve-Alaska (NPR-A). The NPR-A was created in 1923 to ensure a future supply of oil for National needs. The BLM is mandated to conduct a program of competitive oil and gas leasing and at the same time, protect significant subsistence, environmental, fish and wildlife, and historic or scenic values in NPR-A.

D US Fish and Wildlife Service, Selawik National Wildlife Refuge (FWS)

The mission of the US Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. More than 500 refuges and hundreds of waterfowl production areas are managed by experts in wildlife and habitat management and restoration. Fish and Wildlife Service personnel also cooperate with and provide expert biological advice to other federal agencies, states, industry, Native American tribes, and members of the public concerning the conservation of fish, wildlife, and plant habitat that may be affected by development activities requiring federal funding or permits.

Operation and management of national wildlife refuges is influenced by a wide array of laws, treaties, and executive orders pertaining to the conservation and protection of natural and cultural resources. The most important of these for Alaska refuges are the National Wildlife Refuge System Administration Act, the Refuge Recreation Act, the Endangered Species Act, Fish and Wildlife Act of 1956, the Alaska National Interest Lands Conservation Act (ANILCA), and the Alaska Native Claim Settlement Act.

The National Wildlife Refuge System Administration Act, as amended, serves as the "organic act" for the National Wildlife Refuge System. The Act states first and foremost that the mission of the National Wildlife Refuge System be focused singularly on wildlife conservation, and the Secretary of the Interior maintain the biological integrity, diversity, and environmental health of the refuge system. The Act also established a process for determining compatible uses of refuges, a requirement for preparing comprehensive conservation plans, and established that compatible wildlife-dependent recreation is a legitimate and appropriate general public use. Most importantly, this Act honors the requirements of ANILCA that traditional access and uses be continued under reasonable regulation, and that the responsibilities and authorities of the state of Alaska for management of fish and wildlife on public lands are undiminished except as may be provided for in Title VIII for subsistence management and use.

Selawik National Wildlife Refuge was established under the Alaska National Interest Lands Conservation Act of 1980 to conserve fish and wildlife populations in their natural diversity, but not limited to the Western Arctic Caribou Herd (including participation in coordinated ecological studies and management of these caribou), to fulfill international treaty obligations, to provide the opportunity for continued subsistence use by local residents, and to ensure water quality and necessary water quantity within the refuge.

E US National Park Service (NPS)

The National Park Service is guardian of 387 areas in 49 states covering more than 83 million acres that represent our nation's natural, cultural and recreation heritage. The mission of the NPS is to preserve unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world**.**

The overall natural resource management objective of the National Park Service is to maintain natural and wilderness conditions, environmental integrity, and the dynamics of natural processes operating within the park and preserve. The National Park system requires implementation of management policies that strive to maintain the natural abundance, behavior, diversity, and ecological integrity of native animals as part of their ecosystem. Habitat manipulation or control of other species for the purposes of maintaining subsistence uses within National Park system units is not allowed.

Sverre Pedersen

Western Arctic caribou are an important subsistence food resource throughout the range of the herd.

Peter Bente ADF&G

This Plan was Written by the Western Arctic Caribou Herd Working Group

Pictured here are members and guests of the Western Arctic Caribou Herd Working Group working on the caribou plan at Anaktuvuk Pass in August 2000. This Working Group was created in 1997. It consists of 20 voting chairs representing communities and user groups dependent on the Western Arctic Caribou Herd. Subsistence hunters from rural villages, sport hunters, conservationists, hunting guides, reindeer herders, and hunter transporters are represented. All have a stake in the conservation and management of the herd, and all share in decision-making.

The Working Group is not a management or regulatory body. It is a permanent forum for sharing information and making regulatory or policy recommendations to the appropriate organizations. The purpose of the Working Group is to ensure conservation of the Western Arctic Caribou Herd, safeguard the spiritual and cultural well-being of Alaska Natives and the interests of all users of the herd and to integrate indigenous knowledge with Western science.