

ALASKA BOARD OF GAME
Statewide Regulations, Cycle A
January 29 – February 1, 2010

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RECEIVED
JAN 11 2010
BOARDS

January 5, 2010

Re: Proposal Allowing Hunting of White Moose

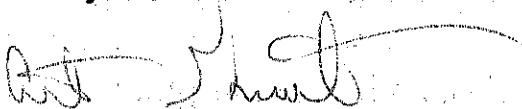
To: Board of Game

It is my understanding the Dept. of Fish and Game is requesting that hunting of white moose be allowed, a practice which to date has always been prohibited.

It is further my understanding this proposal has been put forth on the basis it will reduce regulatory resources being expended in continuing this prohibition.

Given the rarity of such a color phase and obvious advantage to tourism as well as residents' enjoyment of their presence I would request the prohibition remain in effect. The idea that somehow it requires a sudden and significant regulatory process to tell the average Alaskan hunter that a white moose is off limits is disingenuous at best and insulting at the very least. I think the average hunter can easily tell the difference and thereby continue to abide by this traditional prohibition.

Thank you,



Art Greenwalt
1620 Washington Dr., Apt. 79
Fairbanks, Ak. 99709

**ATTN: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526
Fax: 907-465-6094**

Art Greenwalt
1620 Washington Dr., Apt 79
Fairbanks, Ak. 99709

To: Board of Game
Re: Proposals 16, 17, 19

All of these deal with allowing exotic animals into Alaska, the first two being primates (monkeys) and the last being such things as sloths, kinkajous, et al.

I would urge you to strongly oppose such permissions for the following reasons:

1. The trade in exotic animals is brutal. Most are captured by killing the mother, after which they are given minimal (if that) care in being transported to their sale point. Often they are purchased by people on impulse who have no real idea of what they are getting into.

2. Many carry diseases and parasites transmissible to humans. What do kids love to do with animals? Hold them close and cuddle them, the latter being an excellent way of transporting microbes. Not many people, when taking a suddenly ailing child to the hospital, are going to think to mention they have a monkey in the house.

3. Most veterinarians in Alaska are not trained in treating exotics. They don't expect to encounter many and veterinary hospitals do not exactly emphasize the treatment and diagnosis of diseases and conditions in exotic animals.

4. It is incredibly cruel to the animals. No matter how loving and caring a human family may be they are no substitute for a troop of 30 or 40 monkeys. They cannot hope to offer the same socializations or interactions. They do not know how to react to a suddenly frantic or demanding monkey and, despite their usually small size, they can bite, scratch, and fear-defecate beyond all imaginings.

I speak from experience about the monkeys and kinkajous. While the latter was no great problem it was mainly nocturnal and that tends to prevent a lot of interaction with it. In the case of the monkeys, I had a spider monkey which was sold to me with a severe vitamin D deficiency which lead to a permanent malformation of the gums and consequent persistent dental problems. It could be a very loving animal and cute but if you tried to prevent it from doing what it wanted or eating something it would explode into a frenzy of brachiating around the room, knocking things over, trying to bite if caught, etc. Think of the worst 3-year-old tantrum you have ever seen, give it 5 hands (tails are prehensile), a good set of chompers, and speed and agility and you begin to see what an upset monkey can be like.

Exotic reptiles, non-venomous, for the most part, are not a big problem. They tend not to be terribly active if there is no need to be and readily settle down to captivity quite well. I've had several of those. But again, most vets are not going to know how to treat them for diseases and in the case of the larger snakes (boas, pythons, anacondas) and crocodilians as well as certain monitor lizards, the owner may soon find themselves in possession of a very large animal whose caging requirements are beyond them.

Thank you,

Art Greenwalt

1620 Washington Dr., Apt 79

Fairbanks, Ak. 99709



United States Department of the Interior

NATIONAL PARK SERVICE

Alaska Region

240 West 5th Avenue, Room 114
Anchorage, Alaska 99501

IN REPLY REFER TO:
L30 (AKRO-SUB)

JAN 15 2010

Mr. Cliff Judkins, Chairman
Alaska Board of Game
Board Support Section
Post Office Box 115526
Juneau, Alaska 99811-5526

Dear Chairman Judkins:

The National Park (NPS) appreciates the opportunity to comment on the statewide proposals being considered by the Alaska Board of Game at the Winter 2010 meeting. There are a number of proposals before the Board of Game that affect or have the potential to affect NPS areas in the state. We are providing you with comments on three proposals. We appreciate your consideration of our comments.

Our specific comments on proposals follow:

Proposal # 2: Do Not Adopt, the proposed changes to eliminate black bear harvest ticket requirements.

This statewide proposal would eliminate black bear harvest ticket requirements in NPS national preserve areas. Black bear harvest ticket requirements provide State and Federal wildlife managers with valuable information regarding resident and nonresident hunter effort and hunting patterns to support management decisions.

Proposal # 36: Do Not Adopt, the proposed changes to eliminate sealing requirements for certain furbearers.

This statewide proposal would eliminate sealing requirements for marten, beaver, otter, wolf, and wolverine except when specific biological data is needed by the Department of Fish and Game that cannot be collected by the trapper for the Department. The NPS does not support this proposal. Sealing requirements provide State and Federal wildlife managers with a method to measure and record biological data on specific species and populations. In addition, sealing data allow State and Federal wildlife managers to track the age and condition of harvested animals.

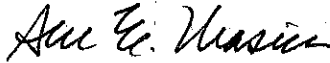
Proposal # 38: Do Not Adopt, the proposed changes to allow the sale of black bear gall bladders.

This statewide proposal would allow the sale of black bear gall bladders by non-profit organizations. The NPS recommends that sale of black bear gall bladders remain illegal under State regulations. Commercialization of black bear parts such as gall bladders is a nationwide and worldwide law enforcement problem. NPS regulations

prohibit the sale or commercial use of natural products taken from NPS areas (Title 36 Code of Federal Regulations, 2.1(c) (3) (v)).

Again, I appreciate the opportunity to provide you with comments from the National Park Service. Should you or your staff have any questions please contact Dave Mills at (907) 644-3508.

Sincerely,



Sue E. Masica
Regional Director

cc:

Denby Lloyd, Commissioner, ADF&G
Doug Larsen, Director, Wildlife Conservation, ADF&G
Greg Dudgeon, Superintendent, Yukon-Charley Rivers NPRes/Gates of the Arctic NP&P
Joel Hard, Superintendent, Lake Clark NP&P
Cherry Payne, Superintendent, Glacier Bay NP&P
Meg Jensen, Superintendent, Wrangell-St. Elias NP&P
Ralph Moore, Superintendent, Katmai NP&P
Paul Anderson, Superintendent, Denali NP&P
Deborah Cooper, Associate Regional Director, NPS, Alaska Region
Dave Mills, Subsistence Team Leader, NPS, Alaska Region
Sandy Rabinowitch, Subsistence Manager, NPS, Alaska Region
Chris Pergiel, Chief Law Enforcement Officer, NPS, Alaska Region

Tim L. Robertson

P.O. Box 146
Seldovia, AK 99663
907 399-3598

Alaska Board of Game Comments

ADF&G

P.O.Box 115526

Juneau, AK 99811-5526

via Fax:(907) 465-6094 1/12/10 @ 12:54

re: Opposed to Proposal 52 to Reduce Sea Duck Limit on Kachemak Bay

Board Members,

Respectfully, I am writing this letter in opposition to the proposal to limit the sea duck bag limit on Kachemak Bay to 2 birds per day. I am a 34 year resident hunter that has lived in Seldovia since 1985. I hunt and eat sea ducks in and around Seldovia Bay. I am lucky enough to watch ducks from my window most days in the winter and I am an advocate for non-consumptive uses of wildlife.

I would like to acknowledge that I have friends on both sides of this issue that I would like to keep. A fishery biologist by training, I am very much a wildlife conservationist that believes in sound management based on the best science. I will leave it to the Alaska Department of Fish and Game to speak to the need for conservation of sea ducks, but there seems to be good stocks for most species that we hunt for the pot.

First, which species are threatened? Surely there is not a need to limit the bag on all species of sea ducks. If the Department determines that a single species is depleted, then reduce the bag limit on that species alone.

Secondly, a low daily bag limit is not practical; as there is an effort and cost associated with going into the field for any hunter. Each trip requires gas and produces greenhouse gas. If there is a conservation issue, lowering the season limit is a much more practical, cost effective, and eco-friendly way to limit harvest.

Finally, an arbitrary reduction of the sea duck bag limit affects many local hunters, like myself, that enjoy the opportunity to harvest birds and consume them as a healthy part of our diet. The notion that this proposed change to the regulations will only affect "outside" trophy hunters is a misconception. I can name a dozen hunters in my community that will be adversely effected.

Please do not arbitrarily lower the sea duck limit without scientific evidence that the reduction is justified and consideration of the effect on resident hunters. Thank you for considering my comments.

Sincerely,



Tim Robertson



*Professional Alaskan Big Game Guide & Outfitter
Henry D. Tiffany, IV*

January 6, 2010

Board of Game Comments
Alaska Department of Fish & Game
Boards Support Section
P.O. Box 115526
Juneau, Alaska 99802-5526

RE: Proposals 10, 23, 28, 29, 30 and 48

Dear Alaska Board of Game,

I am a lifelong Alaskan, born in Fairbanks where I currently reside, and am an active licensed Master Guide and Outfitter.

Please accept the following comments regarding some of the proposals you are reviewing at your statewide meeting in Anchorage, which I am unfortunately not going to be able to attend.

Proposal #10: Support - with Considerations

While I have the utmost respect for our soldiers and veterans and the sacrifices they have made on behalf of us and our country I think this proposal, which encourages you to allow disabled veterans to take brown bear with the use of bait, should be given careful consideration, though I generally support this proposal provided the applicant is severely disabled (e.g. in a wheel chair with very limited mobility).

With regards to non-resident hunters they must be accompanied by a guide or someone within the second-degree of kindred and is it practical that a disabled hunter and their guide or relation can, or will, be in the same tree stand with them while they are hunting black bear and a brown bear / grizzly comes into the bait?

There should be concerns from a safety aspect as well since under normal brown bear / grizzly hunting conditions a hunter can usually retract themselves from the area if

they deem a brown bear / grizzly to be with cubs or too young or small and not a suitable animal for harvesting but in a baited situation that may not be a feasible option and I suspect a brown bear / grizzly could be more difficult to “scare away” from a bait that it has decided to claim (to allow the hunter(s) to leave the area) than a black bear might be.

I would also hope that steps would be taken to prevent any abuses of this proposed regulation change as I firmly believe in the concept of fair-chase hunting and personally do not consider hunting a brown bear / grizzly over a bait as fair chase; but I do realize that for a severely disabled person that might be one of the few options available for having the opportunity to harvest a brown bear / grizzly.

Proposal #23: OPPOSED

I am opposed to proposal #23 that would disallow guides and assistant guides from obtaining aerial permits for the taking of wolves.

To my understanding, these permits are generally only authorized for areas that the Board of Game and the Alaska Department of Fish & Game have deemed as Intensive Predator Control Management Areas and as such the intent is to help to reduce the predator population in that area to help increase and support the moose, caribou and sheep populations.

In many cases guides and assistant guides are some of the most experienced and qualified people, that are the most familiar with these areas and the predators in them, to help in an aerial control measure and they should given the same rights and opportunities to contribute to this management effort as others are as a reduction in the number of predators will be to the benefit of all users, resident and non-resident alike.

Proposals #28 through #30: OPPOSED

I am opposed to these three proposals, all of which work to continue to try to eliminate the hunting opportunities for non-resident hunters in the State of Alaska, in these three proposals veiled under the issue of Intensive Management Areas and competition for “subsistence” animals.

I have to wonder how many of the people that might support this actually would travel to some of the more remote parts of these areas, where the non-resident guided hunter might, to harvest an animal? If it's primarily an issue of providing food for subsistence users in these areas than perhaps they would, or could, accept the meat harvested by non-resident hunters in these areas to fulfill their needs? If need be perhaps it could be made a requirement that non-resident hunters in these areas be required to donate a portion of the meat they have harvested to the local communities for distribution.

If predator control is continued, and/or increased, in Intensive Management Areas than given time the prey species populations will increase but adopting regulations such as these will only reduce the non-resident hunters opportunities in those areas which in

turn will have a significant negative impact on the guides that operate in those areas and which are a part of an almost \$200 million dollar industry in the State of Alaska and those non-resident hunters will then just be driven to hunt in other areas of the State, which could increase the pressure in those other areas beyond what they can sustain.

There appears to be an overall effort by some to significantly reduce and/or eliminate non-resident hunting, and guiding operations, in Alaska and that would have enormous negative economic impacts on Alaska and its many residents, both guides and non-guides, our general State economy and the ADF&G annual budget.

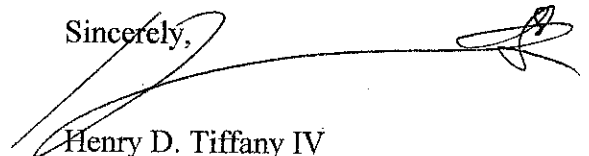
Proposal #48: SUPPORT

I support proposal #48, which would modify the definition of full curl ram to allow the straight-line or "stick" method as an additional method by hunters and State authorities to determine if a ram is considered full curl.

The "stick" method is a simpler, yet generally accurate, method for a hunter to determine in the field, before harvesting a ram, if it is full curl and they are not comfortable or experienced enough with the other methods to determine full curl. I believe this would also lend a consistent method of determining full curl that is easily understandable and agreeable to all wildlife enforcement agents and biologists.

In advance, I thank you for your time and consideration and commend your efforts to regulate our fish and wildlife opportunities here in Alaska. If you have any questions, or if I may be of any assistance, please feel free to contact me at either 907-223-3226 or 907-456-4868.

Sincerely,



Henry D. Tiffany IV
Master Guide & Outfitter

1/12/2010

Carl Swenson
1467 Neptune Ave.
Encinitas, CA 92024

Board of Game Comments
Alaska Department of Fish & Game
Board's Support Section
PO Box 115526
Juneau, AK 99811-5526

Proposal #53, Opposed

I am opposed to Proposal #53 repealing the prohibition of shooting white moose. These animals are extremely rare, and I would relish the opportunity to see one. Although I live in San Diego, I own a condo in Anchorage and get up there often to hike and see wildlife. The Board of Game did the right thing by establishing the prohibition, and I don't see any reason it should be changed.

Thank you,

A handwritten signature in black ink that reads "Carl Swenson". The signature is written in a cursive, flowing style.

Carl Swenson



CIRI

January 15, 2010

Attn: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
PO Box 115526
Juneau, AK 99811-5526
Fax: 907-465-6094

RE: Comments **opposing** proposed changes to the Statewide regulations,
Cycle A, Proposal 11 and Proposal 12, specifically as related to:
Permits for Taking Game for Ceremonial Harvest and Cultural Purposes

To whom it may concern:

CIRI appreciates the opportunity to share our comments and concerns opposing the proposed changes to the regulations as they relate to taking game for ceremonial harvest and cultural purposes.

CIRI is an Alaska Native Regional Corporation, originally established by the Alaska Native Claims Settlement Act to benefit the original 6,278 Alaska Natives who had ties to the Cook Inlet region, including Athabascan, Tlingit, Tsimshian, Eyak and Haida Indians; Inupiat and Yup'ik Eskimo; and Aleut and Alutiq peoples.

Today, CIRI is owned by approximately 7,772 shareholders, nearly 7,300 of whom are Alaska Native. CIRI also owns approximately 900,000 acres of surface land and 1.25 million acres of subsurface estate, primarily within Southcentral Alaska, Game Management Units (GMU) 15 and 16.

Having reviewed the text of the above-referenced proposals, CIRI is concerned and does not support any changes that would impede its ability to provide traditional food—namely, moose—to CIRI shareholders during the company's annual potlatches.

In particular, Proposal 11, as introduced by the Alaska Department of Fish and Game, proposes a change to section (c) of 5 AAC 92.019 wherein a letter of authorization must be obtained in person from a department area office for the taking of game in a non-subsistence area. This change is intended to protect those harvesting wildlife under the authorization, and to save time for law enforcement officers investigating complaints; however, CIRI believes the existing notification process is efficient and that this change would impose an unnecessary layer of bureaucracy.

In CIRI's case, the State of Alaska Department of Fish and Game is notified in advance of intended hunts, with each hunter carrying a copy of the notification letter. CIRI would be happy to provide concurrent notification to the Alaska Wildlife Troopers, and to have CIRI hunters also carry a copy of that notification letter.

CIRI-designated hunters harvest potlatch moose in accordance with 5 AAC 92.019(d)(2). To ensure compliance with this regulation:

- In July or August, CIRI personnel contact the designated hunters to ascertain which GMU area they plan to hunt in
- Once the GMU's have been identified, CIRI sends a notification letter to the State of Alaska Department of Fish and Game containing details of the intent to hunt
- To aid Alaska Wildlife Troopers in determining the legitimacy of the hunt, each CIRI-designated hunter is provided with and asked to carry a copy of both the letter of intent and a potlatch report form on them at all times while hunting (hunters are asked to hunt on CIRI lands and to limit the harvest to a bull moose, whenever possible)
- Within 72 hours of harvesting a moose, a potlatch form containing all of the required information is submitted to both the respective GMU office and to CIRI administration office
- After the potlatches have taken place, a copy of each potlatch program, which contains the names of those shareholders who have passed away since the last potlatch held in that area, is sent to the State of Alaska Department of Fish and Game

In Proposal 12, proposed by the Mat Valley Fish & Game Advisory Committee, CIRI is concerned with the lack of specificity regarding the phrase "populations that have been identified as cultural and traditional subsistence animals." The proposal does not specify who would identify the cultural and traditional subsistence animals, nor does it specify how they would be identified. In particular, we are concerned with the lack of standards offered in the proposed language and the fact that it would delegate determination of Alaska Native "culture" and "tradition" to State officials who likely share neither the traditions nor culture of Alaska's indigenous peoples.

In addition, CIRI does not agree that potlatch harvest will significantly reduce the numbers of harvestable animals given the small number taken by CIRI annually. Potlatches are social and ceremonial events practiced by indigenous peoples of the Pacific Northwest Coast, including Alaska. They may be held for many different reasons, such as the celebration of births, naming, rites of passage, weddings, successful hunting and fishing seasons, and funerals and honoring of the deceased. Although each nation, tribe and clan may have different ways of practicing its potlatches, the events usually involve a feast, music, dance and ceremonies. They

bring people together from many different places, and provide a means to reinforce the identity of a group and to renew and strengthen the bond of unity.

Traditionally, among the Athabascan Indians of Southcentral Alaska—where CIRI is headquartered—the potlatch was best known as a ceremony to honor a person who had passed away. It was a way in which the family and community remembered the passing and a part of the healing process from the loss.

Each year, approximately 100 CIRI shareholders pass away. Accordingly, CIRI hosts annual fall potlatches in several locations. Shareholders, shareholder descendants and their families are invited to attend, and each potlatch program includes cultural performances, prayer, a memorial ceremony to recognize fellow shareholders who have passed away since the last potlatch, a gift and award ceremony and lunch.

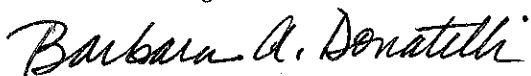
Unlike its business meetings, the lunch menu for CIRI shareholder potlatches includes traditional foods such as moose and fish, which are prepared specifically for these events. Depending on the location, anywhere from 150 to 950 shareholders and guests are served at each potlatch. Two moose are harvested annually to serve all of CIRI's potlatches, typically from CIRI-owned lands in GMU 15. CIRI owns approximately 93,000 acres in GMU 15.

Notably, although concerns spurring the proposed amendments have focused on "unexpected" increases in requests, CIRI's potlatches are regularly held, predictable and known in advance. At a minimum, the agency should make special allowance for longstanding, recurring Alaska Native functions such as CIRI's potlatch.

Given the number of shareholders and the amount of land owned by CIRI, we do not believe the harvesting of two moose per year to feed between 800 to 1,450 shareholders at traditional events is excessive. We respectfully request that any regulation changes and any new regulations adopted by the Board of Game continue to protect the rights of CIRI shareholders to enjoy traditional food at shareholder potlatches.

Sincerely,

Cook Inlet Region, Inc.



Barbara A. Donatelli
Senior Vice President

To: Board of Game members

From:
Edward Buyarski
PO Box 33077
Juneau, AK 99803
907-789-2299

Following are my comments on several of the proposals for your Winter 2010 Meeting regarding Statewide Regulations, Cycle A.

Prop 1. I oppose this as written. I would support Hunter Education for ALL hunters using ALL weapons in this state as is required in ALL of the other 49 states. Currently this is required only for restricted weapons hunts, those on the military bases and a few small areas such as the Mendenhall Wetlands and a few other drawing permit hunts.

We do have too many inadequately trained hunters in this state.

I am a Certified Hunter Education Instructor in Alaska and feel that Alaskans and the resource would benefit having better educated and trained hunters who would bring home better quality meat for their families and friends.

Those hunters unwilling to take a Hunter Education course signal an unwillingness to improve their ample harvesting opportunities which we are so fortunate to have in this state. If that is considered suffering-so be it.

Prop. 46. I support this proposal to create a regulatory definition for crossbow.

Prop. 4. I support this proposal. I believe that requiring hunters to submit harvest reports for deer would result in better information for the managers of the deer herd and a minimal increase in paperwork for hunters. We as hunters can only help ADF &G do their jobs if we give them the information they need regarding our harvest or lack thereof.

Thank you for the opportunity to comment.

Edward Buyarski

1-15-10





KENAITZE

INDIAN

TRIBE

WWW.KENAITZE.ORG

PHONE: (907) 283-3633 • FAX: (907) 283-3052

P.O. Box 988 • KENAI, AK 99611

January 15, 2010

Alaska Board of Fish and Game
Attn: Cliff Judkins, Chairman
P.O. Box 115525
Juneau, Alaska 99811-5525

Dear Chairman Judkins:

The purpose of this correspondence is to provide feedback on Proposal 11-5AAC-92.019 and to support an amended version, per the attached draft.

The Kenaitze Indian Tribe is federally recognized as a sovereign independent nation, under the Indian Reorganization Act of 1934, as amended for Alaska in 1936. The Tribe is responsible for the social welfare of its 1,311 Tribal Members and serves approximately 3,500 Alaska Native/American Indian residents of the Central Kenai Peninsula communities of Kenai, Soldotna, Nikiski, Kasilof, Sterling, and Cooper Landing, a geographical area stretching approximately 15,000 square miles.

The Kenaitze Indian Tribe has not, in recent memory, harvested more than 1 ceremonial or potlatch moose per year. We do request one educational permit per year to harvest an educational moose to allow our Elders to teach traditional hunting knowledge and how to utilize every part of the animal. The Kenaitze Indian Tribe is not aware of any other ceremonial harvests in our service area and we have not been consulted to approve requests for ceremonial hunts from tribal members or other Alaska Native individuals residing in our service area. In talking with other Cook Inlet Tribes regarding the perception of or potential for abuse under State Regulation 5AAC-92.019, as it is currently written, the Kenaitze Indian Tribe would like to assist in the process of harvesting potlatch moose to ensure that all harvests within our area are conducted with knowledge of the resource and are in line with customary and traditional practice and use.

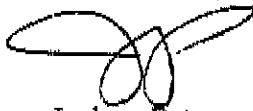
Proposals 11 - 14 all focus on Alaska Native practices regarding harvesting of ceremonial game, and are primarily focused on those areas that are considered non-subsistence. Kenaitze Indian Tribal members will be greatly affected by any change

to 5AAC-92.019. Instead, we would like to propose a different way to ensure customary and traditional harvesting of game by tribal members within our service area and request to be a part of the State's process to protect a most valuable game resource.

We believe that we can be a valuable part of managing the customary and traditional harvest of game in our area. We would like to enter into an agreement with the State of Alaska to help regulate and monitor any ceremonial harvests that take place in our area. I have attached a sample application for Ceremonial Harvests for game management units located in our service area.

Thank you for your consideration of this request. Please do not hesitate to call me at (907) 283-7574 if you need anything further.

Sincerely,



Jaylene Peterson-Nyren
Executive Director

Cc: Kenaitze Indian Tribal Council

- Draft -

PROPOSAL 11 - 5 AAC 92.019. Taking of big game for certain religious ceremonies.

Remove the reference requiring game taken for certain religious ceremonies to be defined as customarily and traditionally taken [OR USED FOR SUBSISTENCE, AND LIMIT THE TAKE TO MOOSE, DEER AND CARIBOU]. Involve the local tribal or village entity to help regulate and monitor this religious practice. In non-subsistence areas, a letter of authorization must be obtained from the department.

(a) The hunting and taking of game [CARIBOU, DEER OR MOOSE [BIG GAME, CUSTOMARILY AND TRADITIONALLY TAKEN OR USED FOR SUBSISTENCE AS IDENTIFIED IN 5 AAC 99.025,]] outside the seasons or bag limits established in 5 AAC 85 for use as food in customary and traditional Alaska Native funerary or mortuary religious ceremonies within 12 months preceding the ceremony is authorized if consistent with sustained yield principles.

(b) The department shall publicize a list of game [CARIBOU, DEER OR MOOSE [BIG GAME]] populations and areas, if any, for which the taking of [a CARIBOU, DEER OR MOOSE [BIG GAME ANIMAL]] would be inconsistent with sustained yield principles.

(c) A written permit from the department is not required for taking of game [CARIBOU, DEER OR [BIG GAME]] under this section except a letter of authorization must [MUCH] be obtained in person from a department area office for taking of game [[MOOSE, CARIBOU, AND DEER]] in a non-subsistence area.

(d) Before game [a CARIBOU, DEER OR MOOSE [BIG GAME]] is taken under this section;

(1) a tribal chief, village council president, or the chiefs or president's designee, for the village in which the religious ceremony will be held, notify the nearest office of the department that a hunt for game [a CARIBOU, DEER OR MOOSE [BIG GAME ANIMAL]] will take place; the notification must include the number of animals expected to be taken, and the location where the taking will occur; the tribal chief, village council president or designee must maintain records of the successful hunters and the decedents for the village or tribal ceremony, and make that information available to an authorized representative of the department upon request; the tribal chief, village council president, or designee must notify the department of the location of the kill, and the species, sex, and number of animals taken under this section as soon as practicable, but not more than 15 days after the taking of game [CARIBOU, DEER OR MOOSE [BIG GAME]].

(2) a hunter [OUTSIDE OF A VILLAGE OR TRIBAL ORGANIZED CEREMONY,] must notify the local tribal organization and the nearest office of the department that a game animal [CARIBOU, DEER OR MOOSE [BIG GAME ANIMAL]] will be harvested, the time frame when, and location where the harvest will occur, and the name of the decedent; the notification must include the hunter's name, address, and the species [OF BIG GAME ANIMAL] to be hunted; a successful hunter must notify the department of the location of the kill, and the species, sex, and number of animals taken under this section as soon as practicable, but not more than 15 days after the taking.

ISSUE: A new, spring 2009, interpretation of this regulation by the Department of Public Safety has prevented access to big game for use in ceremonial harvests, inadvertently restricting lawful religious practice without demonstrating a compelling state interest justifying curtailing a religiously based practice in areas with abundant big game populations.

WHAT WILL HAPPEN IF NOTHING IS DONE? Alaskans religious freedoms will be restricted. Alaskans who were allowed to harvest big game in non-subsistence areas for religious ceremonies will likely continue their religious practices unlawfully.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? No significant impact.

WHO IS LIKELY TO BENEFIT? Hunters, department staff, tribal organizations and law enforcement. Those who traditionally harvest big game for customary and traditional Alaska Native religious funeral and mortuary ceremonies. The letter of authorization for non-subsistence areas will protect those harvesting wildlife under this authorization and will save time for law enforcement officers investigating complaints.

WHO IS LIKELY TO SUFFER? No negative effects are anticipated.

OTHER SOLUTIONS CONSIDERED? Allow the take under an existing education permit. Do not allow ceremonial harvest in non-subsistence areas.

PROPOSED BY: The Alaska Department of Fish and Game (HQ-10W-G-024)

**Kenaitze Indian Tribe
Ceremonial Hunt Information Sheet
Game Management Unit 15**

1) Your taking of wildlife for ceremonial purposes is authorized, if the harvested wildlife will be used in for food in Alaska Native traditional religious ceremonies which are part of funerary or mortuary cycles, including memorial potlatches. You must be an Alaskan resident with sincere customary and traditional intent for use in game management unit 15 and have an Alaska Hunting License.

2) The hunt must take place on Federal, State, Tribal or Village lands, outside any townships, with the permission and/or legal right to use of the land.

3) Prior to attempting to take wildlife, you or your designee must contact the Alaska Department of Fish and Game or federal land management agency and the designated liaison: Kenaitze Indian Tribe, to provide the following information:

- Your Name, Residency and Alaska Hunting License Number
- Name of the Decedent(s) and Tribal affiliation
- Nature and Date of the Ceremony
- Species and Number of Wildlife to be taken.
- Conservation unit and harvest area in which harvest will occur

NOTE: Kenaitze Indian Tribe will act as the designated Federal or State agency liaison and will be contacted to assist with the monitoring and administration of this hunt. They may in turn contact other Tribes or tribal leader.

4) After you take wildlife, the hunter must submit a written report within 15 days to the appropriate Federal or State game management agency and Kenaitze Indian Tribe, who will ensure the agency receives it. A report form is enclosed for your convenience. The report must contain:

- Harvester's Name, Address and Alaska Hunting License Number
- Number, Sex and. Species of Wildlife Taken
- Date and Location of Harvest
- Name of the individual(s) and tribal affiliation for who the ceremony was/is being held.

**Kenaitze Indian Tribe
Ceremonial Hunt
Pre-Hunt Record Form**

Date: _____

Recorder: _____

Person or designee organizing ceremony, residency and AK hunting license #: _____

Name of designee: _____

Nature of the ceremony: _____

Species and number of wildlife to be taken: _____

Conservation Unit and Harvest Management Unit in which harvest will occur: _____

After above information is filled out, IMMEDIATELY FAX and notify by phone the Knik Tribal Council or Alaska Department of Fish and Game depending on point of initiation and location of hunt.

Designated officials will then sign below after monitoring is complete and IMMEDIATELY FAX it again to the agency and tribe.

Kenaitze Indian Tribe
Executive Director
907- 283-3052 fax

Alaska Department of Fish and Game
ADF&G/Wildlife Conservation
907-746-6305 fax

Tribal Official: _____ Date: _____

Agency Official: _____ Date: _____

Comments to Board of Game; Fall 2010 meeting; Statewide Regulations, Cycle A,

1/29 to 2/1/2010; Anchorage

Proposals #11 thru 14 - My general comments for 'Potlatch' game animals taken for religious ceremonies are:

Moose are the most sought-after big game animal in Alaska, probably half the families in Alaska would take one if given the chance, but only about 7,000 are taken each year. So a minor portion of the demand is satisfied. The 'Potlatch' problems these proposals address mostly deal with the take of moose (versus other game animals). None of us know for sure how many moose have been taken annually in the past, but it is most likely somewhere between several hundred and 1,000. With the publicity this item has and will get, I implore you to make the new regulations very well-defined and restrictive. Alaskans want moose meat, and I expect many to use the new 'Potlatch' regulations to take moose. Since it is a religious practice, and the traditional religious practices are not well-defined, there will be great latitude in how the courts will allow people to engage in this. The narrower you can define it, the fewer moose will be taken under your new regulations.

The Alaska Wildlife Troopers also need clearly defined criterion so they will be willing to cite offenders. As it is now, AWT pretty much avoid any interference once 'Potlatch' is claimed for out-of-season moose killing. Give them clear guidelines that are enforceable, and which the state will and can follow through on in the courts.

I also request that you direct the DOL and/or the ADF&G to write out clear, understandable guidelines and put them in the state hunting regulation books. Since all Alaskans (and perhaps non-residents) will be able to participate if they want to have a traditional funeral 'Potlatch,' we need to know how to do it legally. I would much prefer the state write these guidelines, rather than leave it to online forums, outdoor-oriented websites, small publishers, or just word-of-mouth instructions. If the state does not publish detailed instructions, it is almost a certainty that individuals will. Funeral 'Potlatches' may not technically be part of hunting, but since there is such an insatiable desire for moose meat, the general public will want to participate. The state has to make this information readily available so it is not available from a less-reliable source without legal expertise like the state has available.

Proposal #11 – 5 AAC 92.019. Taking of big game for certain religious ceremonies.

If you remove the reference requiring game taken for 'Potlatch' to be defined as 'customarily and traditionally taken or used for subsistence,' will non-residents then be eligible? If the game

can be taken in – for instance – Unit 14A which has a large harvestable surplus, there is no immediate concern about being consistent with sustained yield principles if several hundred ‘Potlatch’ moose are taken annually, so non-residents could take animals from this non-subsistence population without harming the population.

Finally, the section “Who is likely to suffer?” is answered with “NOONE”, which is not what will happen in reality. If the current Potlatch regulations are made more restrictive, past users will suffer. If you make the current Potlatch regulations less restrictive, the average moose hunter will have less moose to hunt, so they will suffer. If you leave it the same as it currently is, the average Alaska hunter will also suffer since the increase in Potlatch moose will continue and less moose will be available for the general seasons and permit hunts. I suggest that proposal 12 is much more realistic and fairer to all Alaskans, and more consistent from a traditional standpoint. There is no doubt you could get a much larger percentage hunters in Alaska to vote for 12 than you could for 11.

Tony Russ
574 Sarahs Way
Wasilla, AK 99654
907-376-6474
Cell during meetings, 355-6474



January 15, 2009

Alaska Dept. of Fish & Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526

To The Alaska Board of Game Directors:

Enclosed are the comments on the Statewide proposals by the Ahtna Tene Nene' Customary & Traditional Use Committee.

Please take them into consideration when deliberating on Statewide proposals.

Sincerely,

Gloria Stickwan
for
Eleanor Dementi

Eleanor Dementi,
Chair

P.O. Box 649 – Glennallen, Alaska 99588
Phone: (907) 822-3476 – Fax: (907) 822-3495

Ahtna Tene Nene' Customary & Traditional Use Committee's Comments
On Statewide Proposals.

Proposal 1 - 5 AAC92.003. Hunter education and orientation requirements.
By John Frost.

We support to require hunter education for using crossbows. Shooting big game without hunter education could wound and cause loss of big game animals.

Proposal 2 – 5 AAC 92.010 Harvest tickets and reports. By David McHoes.
We support to repeal the black bear harvest ticket requirements as follows:
No black bear harvest tickets are required, especially in areas where intensive management objectives for ungulates remain below objectives. There are too many black bears in Unit 11 and Unit13 that prey upon calves of caribou and moose, and anything that can be done to aide in the protection of calves of caribou and moose should be implemented.

Proposal 3 – 5 AAC 92.010. Harvest tickets and reports. By Alaska Department of Fish & Game.

We support to clarify and simply “reporting requirements, clarify possession of moose, sheep, and black bear harvest reports while hunting and uncouple the black bear harvest report/ticket requirement from black bear sealing”.

Proposal 5 – 5 AAC 92.010(d) Harvest tickets and reports. By Glen Marquis.

We oppose Proposal 4 to lower the age for a child to receive big game harvest tickets to 8 years of age. Even with an adult present when hunting, it is still too young of an age to receive big game harvest tickets. It is required that they take a hunter education course, and most youth at 8 years of cannot pay attention and cannot pass the course.

Proposal 6 - 5 AAC 92.012. Licenses and tags. By the Alaska Department of Fish and Game.

We support Proposal 6, which is a housekeeping proposal to clarify “that the permit, harvest ticket or tag that is required for a legal hunt is also required to be presented for inspection upon request”. This will make the language in the regulation clearer and easier to understand.

Proposal 7 – 5 AAC 92.11 Taking of game by proxy. By Donne Fleagle.

We support Proposal 7 to confirm disability only once, and that Proxy Permittees who have permanent disability do not need to fill out paperwork every year.

Proposal 9 – 5 AAC 92. 104. Authorization for methods and means disability exemptions; and 92.XXX. Special provisions for combat disabled veterans. By Michael Coots.

We oppose Proposal 9 to “provide special provisions for disabled veterans as follows:

Provide special hunting provisions for combat disabled veterans that might include the following: Using motorized vehicles for access; allowing same day fly and shoot; shooting from a motorized vehicle, extended hunt periods, changing bag limits, providing special hunt areas; and removing antler restrictions on moose”. This will allow abuse to occur, and they can have a Proxy hunter to hunt for them.

Proposal 11 – 5 AAC 92.019. Taking of big game for certain religious ceremony. By the Alaska Department of Fish and Game.

We support Proposal 11 and Proposal 14.

We support Proposal 11, with an amendment to delete (a) ‘within 12 months preceding the ceremony is authorized if consistent with sustained yield principles”, keep the Big Game wording in the regulation, and to allow take of Big Game only within traditional hunting areas.

We oppose “within 12 months preceding the ceremony if consistent with sustained yield principles”, because a potlatch may be held 2 or more years after the decedent has passed away. It is very expensive to hold a potlatch, and people have to save for a potlatch for more than 2 years.

We oppose Removing Big Game and adding caribou, deer or moose to the definitions. It would be limiting what Big Game is allowable to take for a potlatch.

Taking Big Game for a potlatch is distinct from what is commonly characterized as a “subsistence hunt” in Alaska. The potlatch hunt is for a religious ceremonial use. Alaska Native People should be able to take Big Game where they reside and within their traditional hunting areas.

Proposal 12 – 5 AAC 92.034. Permit to take game for cultural purposes. By Mat Valley Fish & Game Advisory Committee.

We oppose Proposal 12, which states that a “potlatch moose to be taken from those populations that have been identified as cultural and traditional subsistence animals”. See other comments under Proposal 11.

Proposal 13 – 5 AAC 92. 019. Taking of big game for certain religious ceremonies. By Mike Smith, Tanana Chiefs Conference.

See comments under Proposal 11 and Proposal 14.

Proposal 14 – 5 AAC 92. XXX. Create a new regulation regarding a traditional Potlatch. By Ahtna Tene Nene' Customary & Traditional Use Committee.

As the author of the Proposal, we support Proposal 14 and believe the adoption of both Proposal 11 and Proposal 14 will add necessary clarity to how the state potlatch provisions should be implemented. Potlatch hunts and hunters should be authorized by Ahtna, Inc. and conform to tribal customs and traditions. Potlatch hunting should have to occur in the tribe's traditional hunting area.

Ahtna will be providing the Board of Game with copy of Ahtna tribal laws, customs and traditions at the board meeting.

Proposal 15 – 5 AAC 92.029. Permit for possessing live game. By Alan Armbruster.

No comment on Proposal 15.

Proposal 16 – 5 AAC 92.029. Permit for possessing live game. By Laurie Silvertsen.

We oppose Proposal 16 to “add Capuchin monkeys to the “clean list”, and people should have to get a permit from the Department to own one. If they escape into the wild, they may pass on genes and disease to wild game in Alaska. And they may also pass on diseases on to people, too.

We oppose adding any reptiles, any “new” domesticated animals and birds to the “clean list” maintained by the Department. Any foreign reptiles, exotic animals and birds will bring disease(s) to people and wild game in Alaska.

Proposal 17 – 5 AAC 92.029. Permit for possessing live game. By Christy Paquette.

We oppose Proposal 17 to add “Black Capped capuchin monkeys to the “clean list”. See comments under Proposal 16.

Proposal 18 – 5 AAC 92.029. Permit for possessing live game. By The Alaska Department of Fish and Game and the Department of Environmental Conservation.

We support Proposal 18 “to remove chimpanzees from the list of animals allowed in Alaska without a permit”. Chimpanzees can pass on diseases on to people and is dangerous specie.

Proposal 19 – 5 AAC 92.029. Permit for possessing live game. By Jody Westover.

We oppose Proposal 19 to “ad sloths, kinkajous, wallaroos, savannah cats and surgically de-demonized (venomoid) reptiles” to the list of animals that may be possessed in Alaska without a permit”. See comments on Proposal 16.

Proposal 20 – 5 AAC 92.029. Permit for possessing live game. By Michelle Schwoch, Theresa Bauer, Linda Horn, Teri Livengood, Joann and Holly Odd.

We oppose Proposal 20 to “add hybrid cats to the “clean list”. See comments under Proposal 16.

Proposal 21 – 5 AAC 92.029. Permit for possessing live game. By Anna Johnson.

We oppose Proposal 21 to “add Bengal and Savannah cats to the list of animals that may be possessed in Alaska without a permit”. See comments under Proposal 16.

Proposal 22 – 5 AAC 92.029. Permit for possessing live game. By David and Janet Birky, Sandra Smallwood, and Ashley Sullivan.

We oppose Proposal 22 to “add Bengal and Savannah and Chausie cats to the list of animals that may be possessed in Alaska without a permit”. See comments under Proposal 16.

Proposal 23 - 5 AAC 92.039. Permit for taking wolves using aircraft. By Wade Willis.

We oppose Proposal 23 to “disallow guides and assistant guides from obtaining aerial permits for taking wolves”. It is the commercial guides, who get permits to take wolves in the Intensive Management Area; they have air planes and are successful in taking wolves.

Aerial wolf hunting is conducted during the winter months, when hunting is slowed down for the season, and helps to remove the abundance of wolves.

Proposal 25 – 5 AAC 92.044(5)(b). Permit for hunting black bear with the use of bait or scent lures. By Department of Public Safety, Alaska Wildlife Troopers.

We support Proposal 25 with an amendment, to “prohibit the use of bait or scent lures near **[businesses and schools]**.”

(B) One mile of a house or other permanent dwellings, businesses and schools.

It is dangerous to allow bear baiting or scent lures near businesses and schools.

Proposal 27 – 5 AAC 92.115. Control of predation by bears. By Wade Willis.

We oppose Proposal 27 to have only trained department employees’ snares bears with cable snares to capture bears. The Department has more than enough to do without having to snare bears with cable snares.

Proposal 29 – 5 AAC 92.116. Special provisions in predation control areas as follows: By Anchorage Fish & Game Advisory Committee.

We support Proposal 29 to “eliminate nonresident hunting for certain big game animals in predation control areas”, in areas where there is a positive C&T finding. Nonresidents should not be allowed to compete with subsistence uses over the resources, and especially during the hunting season.

Proposal 36 – 5 AAC 92.170. Sealing of marten, lynx, beaver, otter, wolf, and wolverine. By John Lamb.

We oppose Proposal 36 to “eliminate the sealing requirements for certain furbearers”. Biological data is needed on these furbearers. Population counts are not done and it is only through sealing requirements that the Department has any tracking method of harvest of furbearers by trappers.

Proposal 37 – 5 AAC 92.171. Sealing of Dall Sheep horns. By Allen Barrette.

We oppose Proposal 37 to add the language to 5 AAC 92.171. Sealing of Dall sheep horns. “A person may not possess, transport, or export from the state the horns **and skull (naturally attached)** of a Dall sheep ram taken in any hunt where there is a horn configuration bag limit, **or the skull and horns of a Dall sheep ram taken in Units 6-11 and Units 13-17, unless the skull has been sealed** by a department representative within 30 days after the taking, or a lesser time if designated by the department”....

Clarifying the definition of sealing and adding skulls (naturally attached) will only aide in hunters being able to transport Dall Sheep horns and skulls out of state, and provide trophy hunters to display Dall Sheep heads without plugs being visible on the Dall Sheep horns.

Proposal 38 – 5 AAC 92.031. Permit for selling skins, skulls and trophies. By David McHoes.

We oppose Proposal 38 to “allow the sale of black bear gall bladders by non-profit organizations”; because this will provide an opportunity for abuse of killing black bears just to sell gall bladders.

Proposal 40 – 5 AAC 92.200(b)(2) and (3). Purchase and sale of game. By Fairbanks Fish and game Advisory Committee.

We oppose Proposal 40 “to allow the sale or barter of big game trophies”. This will potentially allow abuse of big game animals being killed for trophy value and sale. More people will fluctuate to Unit 13 just to hunt and take big game so that they can sell it.

Proposal 41 – 5 AAC 92.990(17). Definitions. By Arctic Advisory Committee.

We oppose Proposal 41 to change the definition of edible meat under the salvage requirement. Salvage requirement regulation does not need to include “meat that is inedible because of disease in the harvested animal”.

Disease of edible meat or big game animals is not a common problem in the State of Alaska. If diseases were rampant in Alaska, then we should consider a change to the salvage requirement regulation. Additionally, if it known that diseases were in big game animals, then the Department would most likely conduct research studies to determine if big game animals have parasites, diseases, etc.

Additionally, this will allow abuse of Big Game left in the field, and adding the definition may cause wanton waste of meat, if an illegal big game animal were shot.

Proposal 43 – 5 AAC 92.220. Salvage of game meat, furs and hides. By James Johnson.

We oppose Proposal 43 to have “hunters must legally record all harvested big game animals; they can dispose of the meat according to their choosing”. This will encourage sport hunters to kill big game animals and leave it in the field, and waste meat.

Proposal 45 – 5 AAC 92.450. Description of Game Management Units. By the Alaska Department of Fish and Game.

We support Proposal 45, which is a housekeeping proposal to better define Game Management Unit Areas.

Proposal 46 – 5 AAC 92.990. Definitions. Create a regulatory definition for cross bow. By John Frost.

We support Proposal 46 to create a regulatory definition for cross bow. It will help to reduce the wounding of big game.

Proposal 49 – 5 AAC 92.047. Permit for using radio telemetry equipment. By Fairbanks Fish and Game Advisory Committee.

We oppose Proposal 49 “add “ Permittee shall report to the Division of wildlife Conservation if the wolves/wolf they come into contact have signs of dog lice or are infected with dog lice and 1.) Use the Division of Wildlife Conservation’s recommended method of treatment and treat wolf or wolves as prescribed in the division’s policy”.

Proposal 50 – 5 AAC 92.005. Policy for changing board agenda. By John Lamb.

We oppose Proposal 50 “to change the language in 5 AAC 92.005 that will allow the submittal and consideration of any Tier II or **subsistence issue** at any regular Board of Game meeting.

Unit 13 is a popular hunting area to many Alaska urban residents and the Ahtna people are Customary and Traditional users of Unit 13. We strongly oppose allowing the submittal and consideration of any Tier II or subsistence issue at any regular Board of Game meeting. This would put an undue hardship upon the Ahtna People since we would have to continually defend our position. Many of our elders travel to the meetings to testify, and it would place a financial and physical strain upon them if Unit 13 issues were discussed at every meeting.

Proposal 51 – 5 AAC 84.270. Furbearer trapping. By the Alaska Department of Fish and Game at the request of the Board of Game.

We support Proposal 51 to “extend all trapping season dates ending on February 28 to incorporate leap year, February 29.

We are requesting an addition to 5 AAC 92.029. Permit for Possessing Live Game, Paragraph (b). We would like the list to include capuchin monkeys, scientific name Cebus, spp.

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Addressing the question in Section (h), question (1) Is it capable of surviving in the wild of Alaska?

No. This is a 5 to 10 pound monkey that is natural to the equatorial zone of Central and South America. It has a high metabolism with low body fats. It needs a high energy diet of fruits (65%), nuts, insects and small animals, etc. It needs to feed often. It does not have a heavy fur so is incapable of surviving long term in temperatures below 50 degrees. "It can withstand brief cold temperatures down to about 35 degrees as long as they can alternately go inside and warm themselves up in a warmbox." -Monkey Matters 3rd Edition Complete Guide to Care & Behavior.

The capuchin is very family oriented, affectionate, and trainable. Because of it's nature, it would tend to be insecure away from it's family setting. Even in their own range, they don't survive except in large troops.

Addressing question (2) Is it capable of

causing a genetic alteration of a species indigenous to Alaska?

The capuchin does not even breed between the subspecies of capuchins so is NOT capable of breeding with any species indigenous to Alaska.

Addressing question (3) is it capable of causing a significant reduction in the population of a species indigenous to Alaska, (4) is it capable of transmitting a disease to a species that is indigenous to Alaska, and (5) does it otherwise present a threat to the health or population of a species that is indigenous to Alaska.

This is a monkey easily bred in captivity and is readily available in the United States. It can be and in many cases is already being screened for health purposes. Most states require a health certificate which would aid in disease control.

It would seem a capuchin would show the same health risk as a chimpanzee, which is on the approved list, yet would have fewer dangers because of it's size.

Capuchins are an indoor pet. I can't imagine how an indoor monkey in Alaska could pass a disease to wildlife indigenous to Alaska. It would be even less likely than for a dog or cat that has contact with rodents, birds, and

carrion.

People who love animals, or have had experience with monkeys already, or someone who just values and enjoys pets would benefit from capuchins. Much of their value lies in the fact that they are extremely interactive, intelligent, and affectionate.

There are benefits to people who own pets (capuchins, cats, dogs, etc.) that can't be measured easily. Children and adults have to learn consideration for something under their care, it teaches a gentleness toward another creature, they learn to treat animals with respect and kindness, they learn discipline to feed, groom, and just to love.

I personally have seen more cruelty in youngsters who have not had the experience of being raised with pets.

Monkeys are expensive (upwards of \$10,000) so most people who would consider having a monkey would also consider what's involved. The cost would also eliminate people who might fit the profile for abuse. Some people who would want a monkey will have already had a positive experience with a monkey at some time in their life.

My family had a capuchin when we were younger (1965 to the late 70's) and it was a positive experience for all of us. He was a part of

the family, was taught manners for table eating, and was generally very much a part of our daily routines. He lived with us in Auke Bay, moved to Sitka with us, and then came back to Auke Bay. In Sitka, we lived next door to the High School and he was never a problem to neighbors, friends, or anyone. He was a small animal who lived in the home and no one ever suffered from his being with us. He related well to other animals, even babysat the kittens whenever Mom Cat would leave. He liked hugs and kisses and learned not to bite or be too rough. He knew what was a "no". We used to have to tap Toto's toes when he would relax at dinner...no feet on the table. I would teach a child the same.

At this point, I would say another benefit of having a capuchin is when people come into your home, it presents an opportunity to teach about them. People were also very curious and asked many questions. It's a very good teaching time.

Toto was a joy to our family and we have many good stories and memories of him.

Sidney Nelson

References:

Monkey Matters 3rd Edition Complete Guide To
Care & Behavior

Kim Wyson 727-768-4865 deals with law and
has a sanctuary for monkeys

www.monkeymatters.com

www.monkeymadness.com

www.primatelaws.com

www.myfwc.com

Info@monkeymatters.com

Attn: Board of Game Comments
Alaska Dept. Fish & Game
Boards Support Section
PO Box 115526
Juneau, AK 99811-5526
Fax: 907-465-6094

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I am writing in response to the Department of Fish & Games' recommendation to not adopt Proposals 16 & 17, adding capuchin monkeys to the clean list.

At various times, my family has raised every kind of animal from horses and goats to ferrets and parrots. During the 1960's and 1970's, while living in Juneau and Sitka, we owned a white faced capuchin monkey.

What disturbs me about the Department recommendation is the lack of substantive information and misleading statements. To imply that a capuchin the size of a small to medium house cat could ever be as strong as even a human child is just not true. They are fast, and they are strong for their size but not even close to human strength.

I believe the risk of injury from biting is also exaggerated. I don't ever remember our monkey biting. A capuchin has a mighty jaw span of less than an 1" between the canines. If a capuchin was to bite it would most likely be a startle or defensive response. Their nature would say "quick bite and flee", not latch on and get caught. The more appropriate point to make here is that capuchins learn NOT to bite. People don't realize how affectionate capuchins are and how much they do bond with people.

Puppy's bite, and learn not to, as they mature. There are children killed by dogs in Alaska and throughout the country every year, but I don't think the answer for preventing that is to take dogs off of the clean list.

Is it possible for monkeys to transmit disease? Yes. Is one more likely to catch a disease from someone's domestic monkey than from a horse, pig, or other human? No. I would have a greater risk of catching a communicable disease at McDonalds than from a neighbors monkey (if they were legal). The worst case of bacterial pneumonia I ever had was contracted from a dying rabbit. Is the answer to take rabbit off the clean list?..no.

I raised 4 children, 3 of whom are married with children. I believe there is a positive, beneficial, & social well being that comes from interactivity with pets as a child. The responsibility, consideration, and affection I had for our pets helped prepare me for life and for my own children who now also love being parents. The very arguments against capuchin monkeys because they are long lived, interactive, and have social needs is why they make the best pets. They easily become part of the family and participate in every day life. The stimulation they get from simple human activities is fantastic. Putting a stamp on an envelope, even if it is a little crooked, is an extremely rewarding experience for a capuchin. Our capuchin watched my Dad put stamps on envelopes every day and copied his behavior.

I am 58 years old, and a young monkey might outlive me, but I have a 21 year old daughter who wants to have the experience of owning a monkey.

It would seem that the empirical information that the Department is using to base it's

recommendations on is a twenty year national trend toward greater restrictions on private ownership of primates in general. There have been many other socio-economic trends during the same time period, but that doesn't make them automatically correct or mean that the trend has to continue under all circumstances.

I recently watched a news item where upwards of 20 - 30 dogs were found in an abuse situation in Washington state. The dogs were rescued and the abusers were prosecuted. There should be laws on the books already to help prevent the abuse of any animal. The response from the Department of Fish & Game to be able to "ensure primates are appropriately cared for or responsibly handled in public and private settings" is to not allow any primates in public or private settings! Their only way to ensure the welfare of captive monkeys, is to not allow any captive monkeys. I am somewhat offended when someone who has never truly interacted with capuchins says that humans can't meet their special needs, and that being in a scientific or zoo setting is better for their welfare than being part of a family.

If you are a member of the Board of Fish & Game and you have honestly read this, I commend you and thank you. I would also appeal to you if you have been an Alaskan for some time and if you have ever had a family or pets. This issue seems to be one of politics and not of science. I know that you are politically appointed but that your purpose is to be a check-and-balance and bridge between government and the people. We asked the Fish & Game for a permit to own a capuchin and were told "no" under any circumstance because they weren't on the clean list. So we move to have them put on the clean list and they aren't allowed on the clean list because then people could own one without a

permit. What?

Even when monkeys were allowed, I don't recall many people owning them because of the care and expense. The Department's fear of a potential problem and obligation to prevent potential abuse while denying the possibility for any positive situation lacks a common sense. Please, all I ask is that you make an honest consideration before you just rubber-stamp. Thank you.

Sincerely,

Sidney Nelson

Received Fax : Jan 11 2010 3:06PM Fax Station : HP LASERJET FAX p. 2

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BOARDS
ANCHORAGE

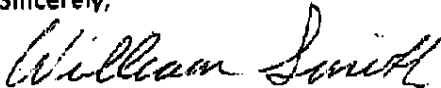
January 11, 2010

Dept. of Fish & Game:

The proposals I SUPPORT are: 4; 23; 25 - 30; 33; 47; and 49.

The proposals I DO NOT support are: 2; 24; 31; 32; 34; 36; and 38 - 40.

Sincerely,



William Smith

Attn: Scott

BOG Statute
(based on date of
receipt)

Public Comment

Dear Game Board members :

I believe that there is a misconception about the regulations banning hybrid cats from Alaska, which needs to be addressed before anything else is discussed. When the name 'Bengal' is used in connection with cats, a picture of a 200 pound Bengal tiger might come to mind, and we are NOT talking about full sized tigers and lions here. We are talking about domestic cats with the wild **look** of those huge cats - but the size and temperament of a standard house cat. Most people would not be able to tell the difference between one of these hybrid cats and an ordinary animal shelter kitty. DNA tests would have to be used, to prove they are a hybrid cat.

Hybrid cats include a number of recently developed breeds that some biologists say HELPS protect endangered cat species by satisfying the desire of many people to own an exotic cat. Hybrids allow them to HAVE an exotic-looking cat without actually purchasing an endangered species. There are currently more than 27 successful hybrid cat breeds and there will be more as time goes by. It will be virtually impossible for regulations to cover each of these hybrid species, and special training on the part of Fish & Game officers would be required, to identify them. ('A' attached)

Alaska Fish & Game needs regulations that are effective, enforceable, Constitutional and fair. Current regulations that ban some hybrid cats do not meet any of those standards.

Initially, describing these cats as "Hybrid GAME animals" leaves owners thinking that the regulations cannot and do not apply to their family PET.

1. **Effective**. The current regulations MUST NOT be effective, because there are already hundreds of hybrid cats in the state. Even the most well intentioned pet owner would not determine that their expensive, beloved house cat would be illegal to bring into the state or be owned here. Only when one cat managed to get loose and received coverage in the news, were most owners aware that their pet was here illegally.

2 **Enforceable**. To enforce existing regulations, it would require training F&G personnel to recognize any of these 27 hybrid cats, a door-to-door

1.

search to FIND them, a plan to legally seize them, the means to either export them or kill them, and the certainty that owners will resort to legal action at each of these steps.

Does the Dept of Fish & Game REALLY want to expend the time, money and effort to meet these enforcement steps when there is no danger from these animals? Wouldn't the Fish & Game budget be better used in other areas that DO present real dangers?

3. **Constitutional.** According to the 14th Amendment, laws are unconstitutional when they are over-inclusive and penalize responsible people. Laws are also unconstitutional when they violate equal protection rights. The issue of citizens being deprived of property without due process of law also comes into play here. Any law becomes unconstitutional when it fails to give adequate notice of what is prohibited, if it encourages arbitrary and erratic law enforcement, or if it is vague and violates due process.

Regulations must not arbitrarily burden a selected group of people, and may not classify individuals based on suspect categories . By singling out hybrid cats , current regulations raise at least two Constitutional issues:

Many of the animals listed on the 'clean' list have the potential to fall into the 5 areas required to be removed from the approved list, and there is no proof or evidence that hybrid cats offend those regulations any more than ALL dogs and cat breeds.

Fish & Game officials cannot sufficiently identify regular domestic house cats from hybrid cats, which makes the regulations constitutionally vague and violates procedural due process. There is no test, standard or procedure to determine the breed of hybrid cats.

4. **Fair.** It is unfair to make this class of family pets illegal to own in Alaska. There are already hundreds, if not thousands of them here already. These pets are quite expensive, and requiring them to be exported would cause the owners to pay hundreds of dollars to ship them out of the state - IF there was a place to ship them.

2.

The alternative seems to be to kill them. I do not think either solution would be acceptable to most owners, who would just conceal their pets, or if so ordered, take the State to court to resolve this issue. That could mean MANY expensive, unnecessary court actions and a lot of hard feelings.

I question the NEED of regulations against these animals when they do not present any danger.

The USDA, one of the foremost authorities on dangerous and/or endangered animals, and the top authority for enforcing the Animal Welfare Act, classifies exotic hybrid cats as DOMESTIC ANIMALS.

The International Cat Association classifies them as 'DOMESTIC SHORTHAIRES'. ('B' attached)

Recently Great Britain regulatory agencies have taken them off their list of prohibited animals, decreed them not to be any danger to their native species and they are not banned there any longer. They are shown in cat shows all over the world, and have even been shown here in Alaska, at the Rondo Cat show. ('C' attached)

Fish & Game has presented no facts or evidence that these cats have been, are, or could be a danger. There is no evidence that any of these cats have survived in the wild, brought in any diseases or harmed the native habitat. The one cat who escaped from its owner 3 was captured after several months, and was in very poor condition. The vet who treated him has stated that in his opinion, the cat would not have survived much longer in the wild. The only native species that these cats could possibly interbreed with - would be lynx, and it is beyond credibility to imagine one of these cats could breed with a lynx. ('D' attached)

Owners of hybrid cats normally pay \$500 and up to several thousand dollars for them, and have an interest in making sure they are healthy by regular visits to their veterinarian. Now, with the threat of losing their pet a possibility, many hybrid cat owners are afraid to take their pet to the veterinarian, for fear of having them confiscated. This presents far more danger than allowing them to be legal here.

3.

Both Iowa and New York have had some sort of ban on these hybrid cats, and both states are hearing new proposed laws that would return them to legal status, due to the lack of problems seen with these animals.
(‘E’ attached)

CURRENT REGULATIONS REGARDING ADDING ANIMALS TO THE 'CLEAN' LIST

h) Upon application, the board will add a species to the list in (b) of this section if there is clear and convincing evidence that the species
(1) is not capable of surviving in the wild in Alaska;

These hybrid cats were bred from WARM WEATHER CATS, typically from Africa or South America. They are NOT adapted to cold climates such as Alaska. There is no evidence that any of these cats have ever survived in the wild, in Alaska

As this current regulation is written, an owner would have to put their pet outside and not assist it in any way, for a year. If the pet survives it cannot stay in Alaska. If it DIES, it can. Obviously this needs to be changed.

(2) is not capable of causing a genetic alteration of a species that is indigenous to Alaska;

The only Alaskan species these cats could conceivably breed with would be a lynx, and that is obviously not very likely. They would more likely be considered a meal.

(3) is not capable of causing a significant reduction in the population of a species that is indigenous to Alaska;

These cats - like ANY cat of ANY breed - will eat birds and mice if they are outside. Considering the cost of these hybrid cats, most

owners do not allow them to ever go outside without a harness, for fear of losing them, so the likelihood of them eating a significant number of birds or mice is remote. Even so, there is no shortage of birds and mice that they might eat and ALL cats will eat birds and mice if they have the opportunity.

In addition, some experts conclude that cats can actually protect some species of birds because they prefer to catch mice, which eat bird eggs. By eating more mice, fewer bird eggs are eaten.

So the argument that hybrid cats will significantly reduce the population of Alaskan birds and mice is not a rational reason, because it applies to ALL cats.

(4) is not capable of transmitting a disease to a species that is indigenous to Alaska.

Again, considering the cost of these cats, owners are far more likely to make sure they are seen regularly by veterinarians, and are taken for care if they get sick. ('F' attached)

Since most owners do not allow their cats to be around other animals, the issue of transmitting disease to other species is minuscule.

The current regulations actually do more harm than good, because those owners who currently have hybrid pets in Alaska, will be far less likely to take them to a veterinarian for fear there will be a record made that could be used to find and deport (or euthanize) their pet.

Most pets much have a health certificate issued by a veterinarian when they are brought into the state, so transmitting any disease to other species is extremely unlikely.

(5) does not otherwise present a threat to the health or population of a species that is indigenous to Alaska.

These cats present no greater threat to the health or population of any indigenous species in Alaska than ANY other cat or dog.

I do not believe any evidence exists that shows that would be a problem.

Most hybrid cat breeders REQUIRE that these pets must be neutered or spayed before their registration papers are given to the buyer. Pedigreed paperwork is given after proof of neutering or spaying has been done, so there is little reason to consider that any interbreeding would be possible.

CONCLUSION

We are requesting that the current regulations which are being applied to 'hybrid cats', and which are being used to ban hybrid cats from Alaska, be changed.

There is NO factual evidence that any of the five issues that must be met to add a species to the 'clean' list, would pertain only to hybrid cats.

There is no evidence which would support banning hybrid cats from Alaska under current Fish and Game regulations.

On behalf of all owners of hybrid cats NOW in the state, and those who wish to own, breed or show these beautiful, harmless animals in Alaska, we are asking that the regulation being used to ban them be changed.

The easiest and most favorable change, would be to simply add these four words to section ALASKA ADMIN. CODE tit. 5. §92.029 , section (b) Felis Catus, and all hybrids thereof.

This change would avoid ongoing problems of adding new hybrid cat variations which are being created today and in the future.

If Fish & Game cannot present actual evidence that these cats have been a problem in Alaska, banning them is not justified.

We respectfully request that this change be made on behalf of all responsible owners of hybrid cats here now and those that might be brought into the state in the future. If there was not the threat of losing their beloved pets, some of these beautiful animals would have been brought to this meeting, so that you could see why they are wanted and loved.

Joann Odd
State coordinator for
SAVE ALASKAS CATS group



Joann

A

From: "Joann Odd" <joodd1@gmail.com>
To: <joodd1@gmail.com>
Sent: Friday, October 16, 2009 3:05 PM
Subject: hybrid cat breeds

In addition to the more common hybrid cat breeds featured on this site, there are many more rare and experimental hybrid cats that have been produced or are being attempted. Here is a more complete list of hybridisations and hybridisation attempts.

Breeds derived from Hybridisations between domestic Cats & wild Felids

- Bengal: domestic Cat / Asian Leopard Cat (*Prionailurus bengalensis*)
- Bristol: domestic Cat / Margay (*Leopardus wiedii*)
- Chausie aka Stone Cougar : domestic Cat / Jungle Cat aka swamp-lynx (*Felis chaus*)
- Cheetoh: Ocicat / Bengal
- Jungle-Bob: Pixie-bob / Jungle Cat aka swamp-lynx (*F. Chaus*)
- Jungle-Curl: Hemingway Curl aka American Curl / Jungle Cat aka swamp-lynx (*Felis chaus*)
- Layanese: Tonkinese / Himalayan
- Machabagal and/or Viverral: domestic Cat / Fishing Cat (*Prionailurus viverrinus*)
- Pantherette: Pixie-bob / Asian Leopard Cat (*Prionailurus bengalensis*)
- Punjabi: (domestic Cat with Indian Desert-Cat aka Asiatic Wildcat (*Felis s. ornata*))
- Safari: (domestic Cat with Geoffroy's Cat (*Leopardus geoffroyii*))
- Savannah and/or Ashera: (domestic Cat with Serval (*Leptailurus serval*))
- Serengeti: Oriental / Bengal
- Toyger: domestic Cat / Bengal
- Ussuri: domestic Cat / Amur Asian Leopard Cat (*Prionailurus b. euptailura*)
- Caracat: Domestic Cat / Caracal (accidental Hybridisation, Moscow Zoo, 1998)
- Oncicat: Domestic Cat / Oncilla (Little Spotted Cat/Tiger Cat)
- Domestic Cat / Black-footed Cat (*F. nigripes*)
- Domestic Cat / Rusty-spotted Cat (*Prionailurus rubiginosus*) (wild-occurring Hybrids, India)

Breeds derived from multiple Hybridisations between domestic Cats & Felids

- Afro-Chausie: Chausie / African Wildcat (*F. s. lybica*)
- Euro-Chausie: Chausie / European Wildcat (*F. s. silvestris*)
- Scottie-Chausie: Chausie / Scottish Wildcat (*F. s. grampia*)

Attempted or unconfirmed Hybridisation between domestic Cats & Felids

- Jaguarundi Curl (alleged name) aka Mandalan Jaguar (proposed name) : Domestic Cat / Jaguarundi
- Domestic Cat / Canada Lynx
- Domestic Cat / Bobcat (*Felis rufus*)
- Domestic Cat / Pallas Cat (*Otocolobus manula*)

A wise and frugal government, which shall leave men free to regulate their own pursuits of industry and improvement, and shall not take from the mouth of labor the bread it has earned - this is the sum of good government.
Thomas Jefferson

A

10/16/2009
PC 13



To Whom It May Concern:

RE: Alaska Fish & Wildlife's determination that hybrid-derived domestic breeds are illegal in Alaska

The International Cat Association (TICA) is the world's largest genetic registry of purebred and household pet cats and one of the world's largest sanctioning bodies for cat shows. Since 1979, TICA has encouraged its members to be caring, responsible owners and breeders of cats who work together to promote the preservation of pedigreed cats and the health and welfare of all domestic cats. We disseminate information to breeders, owners, exhibitors, and the general public concerning breeding, exhibition, improvement of breeds and the care and welfare of all cats. We also provide materials and information regarding feline issues of regional or national importance.

TICA recognizes Bengals, Savannahs and Chausies as domestic breeds. They compete at our shows, alongside all other domestic breeds of cat. Bengals are, in fact, the most registered and exhibited breed in TICA. Nearly 6,000 Bengals were registered last year alone. They accounted for nearly one third of all cats exhibited in TICA, worldwide. Bengal breeders represent the largest single breed section in TICA, with over 800 breeders active in TICA today.

Bengals, Savannahs and Chausies are beautiful cats that allow someone to own a cat with a wild look, but one that is truly a domestic cat. These three breeds are **totally domestic** in temperament, health, breeding and care. These cats are unsuited to life in Alaska without humans. Feral populations of purely domestic cats are more likely to survive than any of these breeds, derived from jungle or grassland wild felines. The cold weather of an Alaskan winter would eliminate any threat posed by any of these cats. These cats pose no disease threat not already posed by Alaska's other cat populations, both owned and unowned.

TICA sanctions a show each year in Anchorage in association with the Fur Rondy. Depriving that show of all of its Bengal, Savannah and Chausie exhibitors, many from the lower 48, would hurt that show economically. It would also deprive Alaska of many visitors each year, who would not otherwise visit your state.

TICA strongly requests Alaska Fish and Wildlife accord the Bengal, Savannah and Chausie their appropriate status as domestic felis catus.

Thank you,

A handwritten signature in black ink, appearing to read "Vickie Fisher", written over a circular stamp.

Vickie Fisher
President - The International Cat Association

A handwritten letter "B" enclosed within a hand-drawn circle.



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Dangerous Wild Animals Act: Hybrids

Hybrids of domestic animals

Bengal cats and the Dangerous Wild Animals Act 1976

The Act regulates the keeping of certain kinds of dangerous animals as pets. Licences are required for any animal which appears on a schedule to the Act.

The 'Bengal cat' is not a true species but rather a hybrid of the domestic cat crossed with the Asian leopard cat, several generations removed from the wild ancestor, and currently kept in their thousands in this country without serious problems arising. It was not specifically named on earlier versions of the Schedule to the Dangerous Wild Animals Act but it technically fell within the catch-all listing of all species of Felidae (i.e. the cat family) except *Felis catus*, the domestic cat. Its effective inclusion in the list of affected species partly arose as the Schedule pre-dated the breeding of these animals in this country. Other hybrids of Dangerous Wild Animal cat species with domestic cats also fell within the catch-all listing for Felidae.

Defra has been reviewing the Dangerous Wild Animals Act. In 2004 we published proposals to revise the legislation, including a proposal that the Act's Schedule be amended to make it explicit that Bengal cats do not require licensing. This was on the grounds that they are not considered to be sufficiently dangerous to warrant such regulation. We have refined the proposal slightly for Bengal cats, and similar cat hybrids descended from licensable cat species, as this required improved drafting to improve the clarity and enforceability of the proposal.

We have sought to clarify the position for domestic cat x wild cat hybrids generally within the revised Schedule (which came into force on 1 October 2007). Cat hybrids descended exclusively from excepted species (as shown on the Schedule), cat hybrids having a domestic cat as one parent and a first generation hybrid of a domestic cat and a non-excepted cat as the other parent, and cats which are descended exclusively from such excepted hybrids or from such excepted hybrids and a domestic cat, no longer require a licence.

Local authorities are responsible for licensing and enforcement under the Act. Many exercise their discretion in respect of Bengal cats (for example if the animals are many generations removed from the wild ancestor and are essentially indistinguishable from domestic animals) and regard them as domestic cats and therefore not in requirement of a licence under the Act. The revised Schedule now makes it much clearer as to what exceptions can now be made in respect of such hybrids.

If owners are still in doubt as to whether animals require licensing, then Defra advises them to contact their local authority for advice.

Wolf-dog hybrids and the Dangerous Wild Animals Act 1976

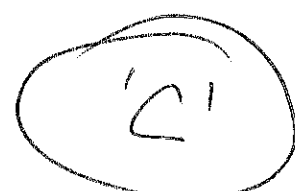
The Act regulates the keeping of certain kinds of dangerous animals, except animals kept in zoos, circuses or pet shops. Under the Act, licences are required for the keeping of any animal which appears in the schedule to the Act.

Wolf-dog hybrids are not a true species but rather a hybrid of the domestic dog crossed with the wolf. Such animals are required to be licensed under the Act. This is because the Schedule to the Act states that any hybrid of a kind of mammal specified in the Schedule must be licensed; a wolf is a

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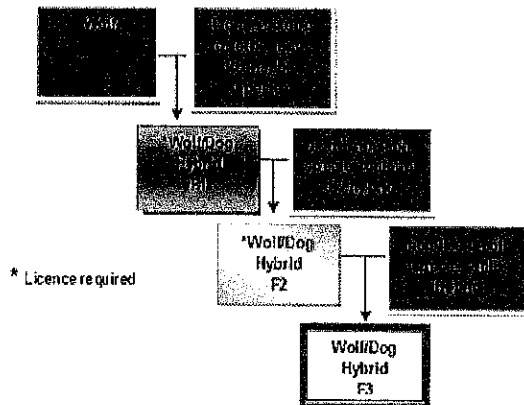
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mammal specified in the Schedule as it is included in the listing of all species of Canidae (i.e. the dog family) and does not fall within the specified exemptions to this listing, unlike the *Canis familiaris*, the domestic dog (but not the Dingo, *Canis familiaris dingo*), raccoon dogs and foxes.

In addition, under the Act any animal with at least one parent as such a hybrid requires a licence. However, the **second** generation following a wolf/domestic dog hybrid does not require a licence if neither of its parents are such a hybrid, as illustrated below.



Therefore, taking the example of Czechoslovakian Wolf Dogs, Sarloos or similar "wolf-dog hybrids", where an animal is third generation, or further removed from the original wolf content, a licence is not required under the Act.

If owners are in doubt as to whether animals require licensing, then Defra advises them to contact their local authority for advice.

The Department and the RSPCA jointly funded research into the keeping of wolf-dog hybrids and this was published in 2001.

The contractors found that very few wolf-hybrids were kept and that advertisements for wolf-dogs were generally misleading and had been embellished to attract public interest and justify high prices. The report also outlines some physical characteristics to help identify true wolf-dog hybrids, which local authorities may find useful. The full research report is available at [The Keeping of Wolf-Hybrids in Great Britain \[PDF\]](#) (556 KB)

The reference in the study to licences being required for breeds claiming any amount of wolf content, however diluted, should now be viewed in light of the information regarding hybrid generations detailed above.

Dangerous dogs are regulated under their own legislation. Further information on dangerous dogs can be found on the [animal welfare](#) pages.

Page last modified: 01 December 2008
Page published: 23 October 2008

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Defra Helpline
Mon-Fri: 8am to 6pm **08459 33 55 77**



DIAMOND ANIMAL HOSPITAL & EMERGENCY SERVICES

2545 E. Tudor Rd.

Anchorage, AK 99507

Telephone: (907) 562-8384

Fax: (907) 562-6737

Email: info@diamondanimal.com

June 10, 2009

Re: "Simon" owned by Sharon Gratrix

To Whom It May Concern:

This letter is to state that I examined Simon owned by Sharon Gratrix on November 8, 2008. Simon, the cat, was approximately a year old at that time. The history included Simon being lost from the owner for approximately six months. The pet was found the day previous to the examination.

Physical exam revealed a very thin, lethargic cat poorly aroused with stimulation. The distal three inches of its tail was necrotic and probably fractured. Lung sounds were harsh and tapeworm segments were evident on the pet's perineum. Treatment involved small frequent feedings and tape worming.

The pet represented on November 11, 2008 with a history of continued lethargy and vomiting. Blood work revealed no abnormalities. Treatment involved subcutaneous fluids, pepcid, metocloperamide, metronidazole, strongid, and amoxicillin. Subsequent follow-up appointments revealed the pet was improving.

In my opinion, this pet would not have survived much longer if not recovered by the owner.

Sincerely,

PC 13

Patient History Report

Sorted by Patient ID

Patient: 39346 Simon

Species: Feline

Breed: Shorthair, Domestic

Client: 9947 Sharon Gratrix

DOB: 10/31/2007

Sex: Male

Date	Type	Staff	History
12/18/2008	C	DAH	Scanned reference paperwork Additional comments: Estimate - Attachment(s)
11/12/2008	C	MAK	Tech TPR (exam) ATTITUDE: qar TEMPERATURE: 101.6 HEART RATE: 64 RESPIRATORY RATE: 40 MM/CRT: COMMENTS: Still lethargic and vomiting.
11/12/2008	C	3	Default Comments History: -See previous records--when they first found him he was given all kinds of different foods -Simon has been lethargic, he is eating and drinking well but is vomiting small amounts of mostly saliva, his stools are still loose but less loose than they were before PE: -Thin, the caudal 2 inches of the tail is very stiff and the hair is not growing--there is a small puncture wound present that has scabbed over, but otherwise PE shows NSF: Hydration is WNL, PLN are WNL, H and L auscult WNL, abdominal palpation is WNL, EENT are WNL (resistant to having her oral cavity examined) Assessment: -Gastritis/enteritis from dietary indiscretion, metabolic, parasitic, other Plan: -CBC=WNL -Chem 12 and electrolytes=WNL -SQ fluids 150ml LRS -Pepcid 6mg SQ -Metoclopramide 2.3mg SQ and then 2.5mg PO TID for 7 days -Metronidazole 125mg PO BID for 8 days -Strongid 3mg/lb PO now and repeat in 2 weeks -Amoxicillin 150mg PO BID for 14 days
11/8/2008	C	1	Default Comments displaced from the owner for 6 months; found yesterday. pe: thin; avascular tail end with palpable fracture approx 3 inches from tail tip. mildly depressed; passing flatus in the room. lungs sounds harsh but seem referred from the upper airway; owner relates cat has tapeworms. rx; vaccines given; advised small freq feedings; fvrpc and rabies vac given. recheck in two weeks: neuter; microchip; leukemia test and vaccinate; treat for tapeworms at that time. probably will need tail end removed surgically.

B-billing charges, C-medical notes, CB-call back, CK-check-in, D-diagnosis, DH-declined to history, E-examination, I-departing instruction, L-lab result, M-image cases, P-prescription, PA-PVL Accepted, PB-problems, PP-PVL Performed, PR-PVL Recommended, R-referral document, T-images, TC-tentative medical note, W-weight



Safeguarding public and animal health

You are here: [VLA Home Page](#) | [About VLA](#) | [Access to Information](#) | Information released 27/06/05

Information released on 27 June 2005

Summary of information requested

In how many instances, since 1995, have the VLA regional laboratories been involved in performing post mortem examinations on livestock or domestic animal carcasses submitted by the RDS or by other parties where involvement of exotic or big cat predation was suspected or alleged?

In how many instances was the involvement of exotic cats confirmed?

In how many cases since January 2003 to present (June 2005) were forensic samples taken by VLA staff during these post mortems and submitted to the Central Science Laboratory or to other laboratories such as the Wildlife DNA Services at Bangor University to seek confirmation of exotic cat predation on livestock?

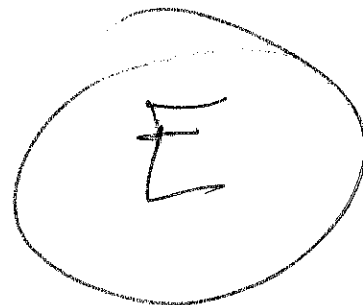
Information released

There has been 43 instances since 1995, where VLA have performed post mortem examinations where predation by exotic or big cat was suspected or alleged.

There were no instances where exotic cat involvement were confirmed.

There has been four cases since January 2003 to present (June 2005) where forensic samples taken during post mortem were sent to CSL or another laboratory.

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Last updated: 21 April, 2008



How much is the kitty in the window? **\$22,000**

Forget about Labradoodles, Puggles and Schnoodles. Costly crossbreed felines are the latest designer hybrid to hit the catwalk.

By Jessica Dickler, CNNMoney.com staff writer

November 2 2007: 3:07 PM EDT
NEW YORK (CNNMoney.com) — Goodbye Goldendoodle. Designer dogs are so last season. Now animal lovers are clamoring for cat crossbreeds — and they are sparing no expense on the latest "it" pet.

Hybrid house pets were originally developed to create well-behaved companions that don't shed. But with unmatched cuteness and likability, crossbreeds like Puggles, Labradoodles, Yorkipoos and Schnoodles drove demand among the dog-loving set.

Now mixed-breed cats, with their beauty and stature, are causing a craze for those with a fondness for felines.

And for some, no price is too high for a designer kitten.

"For our customers, money is no object," said breeder Simon Brodie.

Brodie used a "secret recipe," to mix an African Serval and Asian Leopard cat with a domestic cat, to create the world's most expensive feline hybrid.

More lavish loot

The Ashera, an exclusive product of Brodie's firm

Lifestyle Pets resembles a little leopard and can weigh up to 30 pounds. But it's more suited for lounging than stalking prey.

"They are very friendly, very affectionate," Brodie said.

Although an Ashera costs \$22,000 (plus \$6,000 for the premium placement option which will expedite kitten delivery by about six months) Lifestyle Pets has already sold several cats to customers around the world since the pricey pet was unveiled in May.

Once an order is placed, the Ashera is hand delivered (the cost of delivery is approximately \$1,500 within the U.S.) by a representative who remains on hand for a few days to answer questions and facilitate the transition. Asheras come fully vaccinated with a microchip identifier, a supply of kitty food and cat toys, access to an animal behaviorist and a year of veterinary insurance included.

There's even a certificate of authenticity that includes an image of each kitten's DNA "fingerprint." But what else would one expect for a cat that costs as much as a car?

Brodie says that his company will keep the supply small, developing less than 50 cats each year to


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To Whom It May Concern:

RE: Alaska Fish & Wildlife's determination that hybrid-derived domestic breeds are illegal in Alaska

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Thank you,

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Vickie Fisher
President - The International Cat Association

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NOV - 4 2009

BOARDS
ANCHORAGE

**REPLY TO RECOMMENDATION
OF DEPT. OF FISH AND GAME PROPOSALS
Regarding 5 AAC 92.029**

The question of creating a legal market for rare wild cats by allowing hybrids on the 'clean' list, is not supported by fact or evidence.

If anything, such hybrid cats **LESSEN** the likelihood of an individual trying to buy such an endangered species. Studies show that when people can have a domestic cat that **LOOKS** like a wild cat, the desire for owning wild animals is less. Hybrids allow those who want a 'wild' looking cat, to have one without buying a truly wild animal from the wild.

The cats used in breeding programs for hybrids are not taken from the wild.. Wild born or caught animals **WILL NOT BREED** with domestic cats. Foundation cats from zoos are bred specifically for breeding purposes from surplus zoo animals. Most zoos get a lot of interest from babies, but not all those babies have a place in a zoo, or in a zoo breeding program. Hybrid breeders create appropriate homes for unwanted or surplus cats from zoos. If a caught animal is going to go anywhere- it will go into a zoo breeding program.

The question of 'rewarding' people is in error, because it puts the Dept. of Fish & Game in the position of 'punishing' as well, and punishing those who brought their pet into the state unaware that they were regarded as 'hybrid game animals' is unfair. If the Dept does not condone violation of regulations, they should enforce it fairly and not arbitrarily pick which pets they forbid.

The Dept. disagrees with the assertion that hybrids are recognized breeds of domestic cats. The International Cat Association (TICA) the largest world-wide organization of cat breeders and owners, disagrees with their premise. This group is the largest genetic cat registry in the World, and they list Bengals, Savannahs and Chausies as '**DOMESTIC CATS**'. Another International organization, The International Bengal Cat Association, lists them as '**DOMESTIC**' cats and has members in virtually every country:

*Australia	Austria	Belgium	Brazil
Canada	Colombia	Czech Republic	*Denmark
Estonia	*Finland	France	Germany
*Iceland	Indonesia	Italy	Japan
Malaysia	Malta	Mexico	Netherlands
*New Zealand	*Norway	Oman	Poland
Portugal	Russia	Singapore	South Africa
Spain	*Sweden	Switzerland	Thailand
*United Kingdom	United States of America		

There are no facts or evidence that these cats present a danger due to 'behavioral traits'.

When considering this issue I point out that Alaska is number 1 in the U.S. for DOG bites and DOG killings of humans, but they are no records of hybrid cats biting or killing anyone. Comparing these hybrid cats to wolf hybrids is misleading and without any documentation whatsoever.

The Dept objects to adding 'ALL' hybrid cats and states "...such requirements would be difficult for the Dept. or other agencies to monitor or enforce". This raises the question of how they intend to 'monitor or enforce' this regulation now. Not even DNA tests prove the amount of 'wild' heritage in the vast majority of hybrid cats. THEY LOOK LIKE OTHER CATS.

The recommendation mentions that some of these hybrids can weigh 35 lbs. I have a domestic shelter kitty that weighs more than 20 pounds, larger than most of the hybrids in question. Should the Dept. be more concerned with the behavioral traits and weights of Rottweilers, German Shepards, Dobermans and Mastiffs that weigh up to 120 lbs and HAVE attacked and injured children and adults as well as running moose to death and killing moose calves?

They can produce NO EVIDENCE that hybrid cats have caused any such problem.

Will more Fish & Game employees be hired to conduct house-to-house searches for banned CATS? Will the state be required to conduct DNA testing to prove their 'wild' heritage? Will the taxpayers enjoy having their tax dollars spent on legal battles over this issue? When there is NO facts or evidence that supports their unsubstantiated claims?

Depts. assertion that somehow allowing these pets is a potential threat to most species of small wild cats is in error. Again, there is NO EVIDENCE that this is the case. Their very argument that it would be difficult for airlines, the Alaska Ferry System or Border Patrol to enforce trade restrictions is far-fetched and nonsensical. Virtually ALL animals checked by those agencies already require a veterinary certificate, and every one I have seen states that these cats are 'DOMESTIC shorthairs'.

The issue of 'evaluating' hybrid cats against the criteria of adding them to the 'clean' list brings to light the ambiguous nature of the requirements.

1. Is the species capable of surviving in the wild, in Alaska?

Please ask yourself WHERE in Alaska? Nome? Southeast? Adak? Barrow? And for how long....a week? A month? A year? Ask HOW this can be proved? You put your pet outside for a year and if it survives - it can't stay here, if it dies it can, but it's DEAD? What kind of regulation is this?

Dept. IS IN ERROR when they state "one feral Savannah is know to have survived the winter in the Anchorage area". That cat was only outside for 5 months during the summer, and I have a letter from his vet that states he was in VERY poor condition and would be unlikely to have survived much longer.

2. Is the species capable of causing genetic alteration of a species indigenous to Alaska?

Dept. states this is unknown. That is disingenuous. The ONLY species that could possibly mate with a hybrid cat, is a lynx. Even the largest of these breeds at 35 lbs. would more likely become DINNER for a lynx, not a mate. No lynx/domestic cat hybrid has ever been successful.

3. Is the species capable of causing a significant reduction in the population of a species indigenous to Alaska?

Dept. says 'Unknown'. Again, this is not facing reality. ALL CATS WILL EAT MICE AND BIRDS. And considering the cost of these cats, they are seldom allowed to go outside.

Studies show that these cats actually help the bird population by eating more mice and voles who eat bird eggs.

Dept. continues to refer to the 'large size' of these hybrids, which is in error. The vast majority are the same size as any other cat. Few weigh more than 13 pounds. And again, can Dept. show any records, facts or evidence to sustain this viewpoint? No.

There is NO proof that hybrid cats eat more mice and birds than any other permitted cat.

4. Is the species capable of transmitting a disease to a species indigenous to Alaska?

Dept. is in error, again. There is NO PROOF or evidence that hybrid cats carry or spread more disease than ANY other cat.

They go into depth about the danger of rabies, but the FACT is that there has not been one case of rabies in ANY cat - including hybrid cats- since 1976. Hardly a huge problem. On the other hand, the most recent case of rabies in DOGS, was in 2009, but dogs are on the 'clean' list.

I have researched the current rabies vaccine used by veterinarians, called DEFENSOR 3 made by Pfizer pharmaceutical. When I talked with their animal division, they said that there were NO STUDIES that show this vaccine is not effective on hybrid cats. Since there have been no cases of rabies in cats for more than 40 years, Dept of Fish and Game seem overly concerned about this non-issue, to the point of saying this is the MAJOR REASON to not put these cats on the 'clean' list.

5. Does the species otherwise present a threat to the health or population of a species indigenous to Alaska?

Their recommendation paper says :“Dept opposes allowing hybrids of wild cats to be considered domestic or adding the proposed hybrids to the clean list because :1. The hybrids clearly fail two of the five criteria above, 2. As written the proposal would allow nearly pure non-indigenous wild cats to be owned, bred, and sold as pets without regulation 3.adding hybrids could contribute to a depletion of wild cat populations by creating a new market for exotic cats and 4. because hybrid cats represent a potential threat to the health and safety of Alaskans and Alaska’s wildlife.

The DEPT OF FISH AND GAME CANNOT PROVE BY FACT OR EVIDENCE THAT ANY OF THESE 4 OBJECTIONS ARE VALID.

Their two main objections are false.

No hybrid cat is known to have survived the winter in Alaska and NO hybrid cat or ANY cat has contracted or spread rabies in Alaska for more than 40 years.

Contributing to the depletion of wild cat populations is absolutely without truth or verifiable fact.

Their objection number. 4 is simply unsubstantiated because it is false. There is absolutely NO EVIDENCE or factual information that these cats do or could represent a possible threat to the health and safety of Alaskan’s or Alaskan wildlife.

The final paragraph in Depts. objections is simply unacceptable - asking the Board to punish responsible pet owners for the actions of the very few who are irresponsible. That is contrary to all accepted rules or law and reason. It would be like punishing all gun owners for the actions of a few irresponsible gun owners.

Ask yourself if someone who pays hundreds of dollars for a pet, is going to neglect it. Owners of hybrid cats are normally diligent in making sure they have the best of care and love.

The FACT is, that by refusing to allow these owners the right to keep their pet, the Department of Fish & Game causes a greater problem, when owners are reluctant to take their pet to a vet for treatment, for fear of having it confiscated.

The FACT is, Dept has no evidence that hybrid cats carry or transmit any diseases.

The FACT is that all five of the ‘clean ’list requirements apply more to DOGS than hybrid cats.

The FACT is, Department of Fish & Game has no facts, proof or evidence that ANY of

Hybrid cat owners have no representation on the Board and ask Board members to do some research for themselves, before they accept the misinformation in these recommendations as factual.

It is not the wish of these pet owners to initiate legal action to keep their pets, but they are willing to do so if it becomes necessary.

Hopefully, the Board will ask the Dept. of Fish & Game to work with those owners to find a way to compromise, rather than alienate many people, start a HUGE PR problem, and create a problem where it is unnecessary.

36 states and nearly all countries worldwide have no issues with these wonderful pets; in recent years England, which had some restrictions with hybrid cats, took away all restrictions on them because they had never had a problem. Surely Alaska should not be one of the few places where they cannot be part of our lives.

Joann Odd
P.O. Box 62
Clam Gulch, AK 99568

**DIAMOND ANIMAL HOSPITAL & EMERGENCY SERVICES**

2545 E. Tudor Rd.

Anchorage, AK 99507

Telephone: (907) 562-8384

Fax: (907) 562-6737

Email: info@diamondanimal.com

June 10, 2009

Re: "Simon" owned by Sharon Gratrix

To Whom It May Concern:

This letter is to state that I examined Simon owned by Sharon Gratrix on November 8, 2008. Simon, the cat, was approximately a year old at that time. The history included Simon being lost from the owner for approximately six month. The pet was found the day previous to the examination.

Physical exam revealed a very thin, lethargic cat poorly aroused with stimulation. The distal three inches of its tail was necrotic and probably fractured. Lung sounds were harsh and tapeworm segments were evident on the pet's perineum. Treatment involved small frequent feedings and tape worming.

The pet represented on November 11, 2008 with a history of continued lethargy and vomiting. Blood work revealed no abnormalities. Treatment involved subcutaneous fluids, pepcid, metocloperamide, metronidazole, strongid, and amoxicillin. Subsequent follow-up appointments revealed the pet was improving.

In my opinion, this pet would not have survived much longer if not recovered by the owner.

Sincerely,

[Print](#) | [Close Window](#)**Subject:** Rabies information**From:** "Gerlach, Robert F (DEC)" <bob.gerlach@alaska.gov>**Date:** Thu, Jan 07, 2010 5:26 pm**To:** Holly@eaglepointRV.com

Holly,

I have included the state web page that lists the articles (Epidemiology Bulletins) published on rabies from the Dept of Public Health:

<http://www.epi.hss.state.ak.us/bulletins/catlist.jsp?cattype=Rabies>

This should provide you with quite a bit of background information concerning rabies in the state. I do not have any recent record of rabies being diagnosed in a cat in Alaska. In the Rabies Prevention and Control Manual, <http://www.epi.alaska.gov/id/rabies/RabiesControlManual.pdf>, there is a reference (page 4) to two cases that were diagnosed in Alaska. One in 1976 the other in the 1960s. All mammals are susceptible to the infection and any unvaccinated pet dog or cat is at risk especially if they are exposed to a wildlife carrier.

The one issue of concern regarding hybrid or cross bred animals, i.e. domestic pets (either dog or cats) bred with wild animals, is that there are no vaccines that are licensed for use in these animals. This situation can present a problem, especially in areas where rabies is enzootic in wildlife populations, if the hybrid animal bites a person. The other issue associated with hybrid cats is that their behavior may be different from typical domestic cats. I could not find a position statement from the American Veterinary Medical Association concerning hybrid cats, but did find the following information from the American Association of Feline Practitioners issued in Nov 2009.

Hybrid Cat Statement AAEP November 2009. The web link below has an expanded version of the document.

<http://www.catvets.com/uploads/PDF/Nov2009HybridCatStatement.pdf>

The AAEP recognizes that hybrid cats are gaining in popularity. Commonly seen hybrid cats include the cross between the domestic cat and the Serval called the Savannah, the cross between the domestic cat and the Asian Leopard Cat known as the Bengal, as well as Geoffroy's cat and Jungle Cat crosses. The American Association of Feline Practitioners (AAFP) opposes the deliberate breeding of nondomestic cats to domestic cats with the purpose of producing exotic looking or novel hybrid cats.

I hope this information is useful, if you have any other questions please let me know.

Thank you,

Bob

Robert F Gerlach VMD
Alaska State Veterinarian

NEW ADDRESS:

5251 Doctor Martin Luther King Junior Avenue
(abbreviation "Dr MLK Jr Ave")
Anchorage, AK 99507

AMENDMENT TO MY PROPOSAL REGARDING 5 AAC 92.029

After researching regulations regarding hybrid cats in all 50 states, and in the interest of hoping to reach a compromise with the Dept. regarding putting these cats on the 'clean' list, I would like to amend my original proposal to be closer to those regulations on hybrids in several other states.

36 states have NO restrictions against hybrid cats at all, and they have not reported any problems with them. ONLY the following states have ANY restrictions on Hybrid cats:

CT- No hybrids other than Bengals registered with an International cat registry up to 4th generation. After that no restrictions.

D.C. - No cats descended from ocelots or margays.

GA - No restrictions on cats recognized by registration in a National or International cat registry, no restrictions after 4th generation.

ID - Only 1st generation hybrids are prohibited.

IN - Only 1st and 2nd generations prohibited.

KS - Small domestic hybrid cats are not prohibited.

MASS - No prohibition after 3rd generation.

MD - No hybrids over 30%.

NH - No prohibition on 4th generation and beyond.

NY - Any cat breed registered by T.I.C.A., A.F.C. or C.F.A. are not prohibited.

UT - Bans any hybrid not recognized by T.I.C.A.

VT - Cats F4 and beyond are considered domestic.

The International Cat Association (TICA) has strict rules regarding accepting different cat breeds. They are the world's largest genetic registry of pedigreed cats.

TICA is an international organization, which has members and clubs in Latin America, North America, Asia, Europe and Africa and continues to grow all around the world.

TICA recognizes fifty-five breeds of cats for championship competition . The Bengal cat breed section (those members of T.I.C.A. who breed, show or are interested in Bengal cats, and have voting rights in that breed) is the "largest" in TICA, over 800 TICA members participate in the Bengal breed section. For comparison, the next largest breed section is the Maine Coon, at 500.

Bengals are the most registered and exhibited breed in TICA. The Savannah is the fastest growing breed section in TICA.

From here we are talking about TIBCS, The International Bengal Cat Society - which has over 600 members worldwide. Founded in 1988 TIBCS is the oldest and largest Bengal or hybrid breed focused cat club of any kind, in the world. This is a volunteer based, non-profit organization dedicated to the Bengal cat. TIBCS has breeder members in the following countries. (Those with an * are RABIES FREE COUNTRIES)

*Australia	Austria	Belgium	Brazil
Canada	Colombia	Czech Republic	*Denmark
Estonia	*Finland	France	Germany
*Iceland	Indonesia	Italy	Japan
Malaysia	Malta	Mexico	Netherlands
*New Zealand	*Norway	Oman	Poland
Portugal	Russia	Singapore	South Africa
Spain	*Sweden	Switzerland	Thailand
*United Kingdom	United States of America		

My amendment would change the proposal at number 4 : *What solution do you prefer?*
In other words, if the Board adopted your solution, what would the new regulation say?

The change I propose is : **Felis Catus, and all hybrids recognized as domestic cats by The International Cat Association. (T.I.C.A.)**

This change would assure both Fish and Game and the Board of Game, that those hybrid cats have passed the rigorous requirements regarding ethical breeding practices and preservation of pure blood lines mandated by T.I.C.A.

Joann Odd
POB 62
CCAM GULCH, AK
99568

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Joann Oddo
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RECEIVED

JAN 15 2010

BOARDS

Laurie Sivertsen
P.O. Box 7692
Ketchikan, AK 99901
(907) 247-2823

ALASKA DEPARTMENT OF FISH AND GAME
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526
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Comments to The Board on Proposals 16 and 17

The Department has made several comments on proposals 16 and 17, to add capuchin monkeys to the Clean List. Here are my comments in regards to theirs.

It seems as though the Department is categorizing all primates and not commenting on just capuchin monkeys. Proposal 16 states only to add capuchin monkeys and no other species of primates. Yes, capuchin monkeys are very small and for this reason are not very strong at all. Unlike other species of primates, capuchins are unable to double their body weight in strength making them no more a danger physically than a small breed dog or cat. The Departments theory that capuchins could seriously injure a human is uneducated. Proposal 16 does not in any way represent a trade in primates. This is not what the proposal was intended for. Only private ownership and the use of the species as service animals was the goal of the proposal. The Clean List does not distinguish between the two uses of the animal nor does the proposal ask it to. In order for a resident to have this animal for private ownership or medical aide the animal must be on the Clean List. The Department also comments on the states in the U.S. that currently allow private ownership of the capuchin monkey. More than half the United States recognizes that this species is no threat to the health and safety of humans. That to me says a lot. The Departments comments on diseases that can be transmitted from the capuchin monkey to a human. All the diseases listed can be transmitted in various other ways. Humans transmit a majority of these diseases to each other with absolutely no help from a monkey. Herpes B Virus – Macaques monkeys were found to be the host of this virus and was found to kill capuchin monkeys in the same way as humans when the virus was injected into the species by humans. This is not a disease that the capuchin monkey has, unless we give it to them. HIV – Humans are the real transmitters of this disease not capuchins. Ebola – Is no longer any sort of threat in the United States and has not been since 1996. In 1996 was the last Ebola scare and no humans contracted the disease from monkeys. Measles – Not a concern at all. Influenza – Anyone who enters a grocery store, Walmart or any other public place is at risk of Influenza. Rabies – Dogs, rats, cats and almost every other mammal on earth can transmit rabies to a human. Thus my request for the regulation on health certificates. Giardia – At least 35% of Alaska's residents are living on well water. Giardia can be transmitted to humans merely by drinking infected water. Malaria – Mosquitos transmit this disease. Shigella – Not a problem in the U.S. comes from unsanitary habits, such as touching an infected persons stool and putting your hands in your mouth. Salmonella – This disease is

all too common in life. You can contract this disease from turtles, snakes, poultry, and many unsanitary habits as well. E. Coli – The last outbreak in the U.S. came from our spinach. Not a monkey. Vibrio – Is not contracted from monkeys. This disease is contracted from eating infected foods and drinking infected waters. The Department lists all these diseases in an effort to scare the Board of Game. None of these diseases is caused as a direct result of ownership or interaction with a capuchin. Rabies vaccinations for primates are the same used in humans and this method has no proof of failure yet. The same statement is true for measles. It is also not up to the Department to say whether the social needs of a monkey are unrealistic for owners to meet. This is an untrue and unfair comment for anyone to make about another individual. The Department is not in the position to make that call about anyone else's ability to care for an animal. The Department also makes a comment on ADA Americans With Disabilities Act and how they are currently trying to take capuchins off the list of service animals. The ADA fails to comment on the species great abilities as a service animal and only state that this is due to complaints made by certain individuals on health concerns. With proper care and health checks this species is a safe and comfortable choice for the Clean List. Proposal 16 is not interested in keeping a "decades-long trend". The purpose of the proposal is to give Alaska's residents the option of owning such a magnificent animal or using them to better their lives. This proposal in no way suggests any attempt to undermined the legislations efforts against trade in the breed or to harm any primates. This specific species is well-known for its abilities to give great care to individuals with mobility limiting disabilities and very well-known for its affectionate behavior towards all humans, big or small.

Please take all the above additional information into consideration when making your final decision. Even though choosing not to adopt this proposal, poses no specific threats to anyone in Alaska, it will certainly devastate those of us who find this species such an incredible addition to our home and limit the options for those who have disabilities to living in a facility. Just think about how you might feel if you were to get into an accident that left you paralyzed for life and no one was around to take care of you. You too, would have to live in a facility because of the lack of home care specialists in the state. Wouldn't you like to have at the very least, the option of alternative care from one of these amazing animals?

Sincerely

Laurie Sivertsen



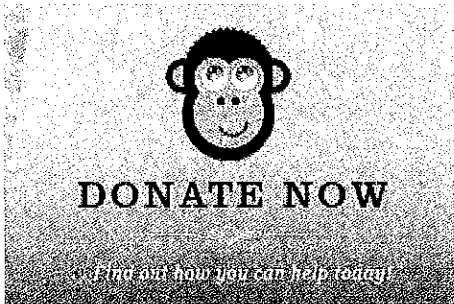
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MONKEY HELPERS FOR THE DISABLED

IN THE NEWS



"NBC TODAY show visits the Helping Hands' Monkey College"

Enjoy the story from the NBC's Today Show



Helping Hands: Monkey Helpers for the Disabled is a national nonprofit serving quadriplegic and other people with severe spinal cord injuries or mobility-impairments by providing highly trained monkeys to assist with daily activities.

We raise and train these monkeys to act as live-in companions who, over the course of 20-30 years, will provide the gifts of independence, companionship, dignity and hope to the people they help.

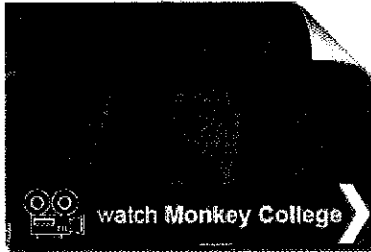
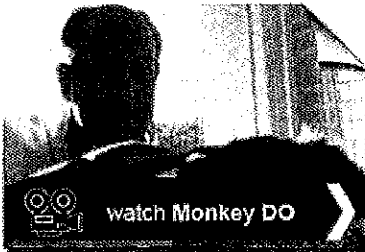
Helping Hands also educates thousands of young people annually through the Spinal Cord Injury Prevention Program (SCIPP). SCIPP teaches preventive measures for safety awareness, heightens sensitivity to the challenges of being disabled, and promotes understanding of the human-animal bond.

Through the generous support of donors and volunteers - just like you - our monkeys are placed at no cost with disabled people and their families.

RESOURCES

[Our Mailing List](#)

[Newsletter Archives](#)



Monkey Helpers for the Disabled Inc.

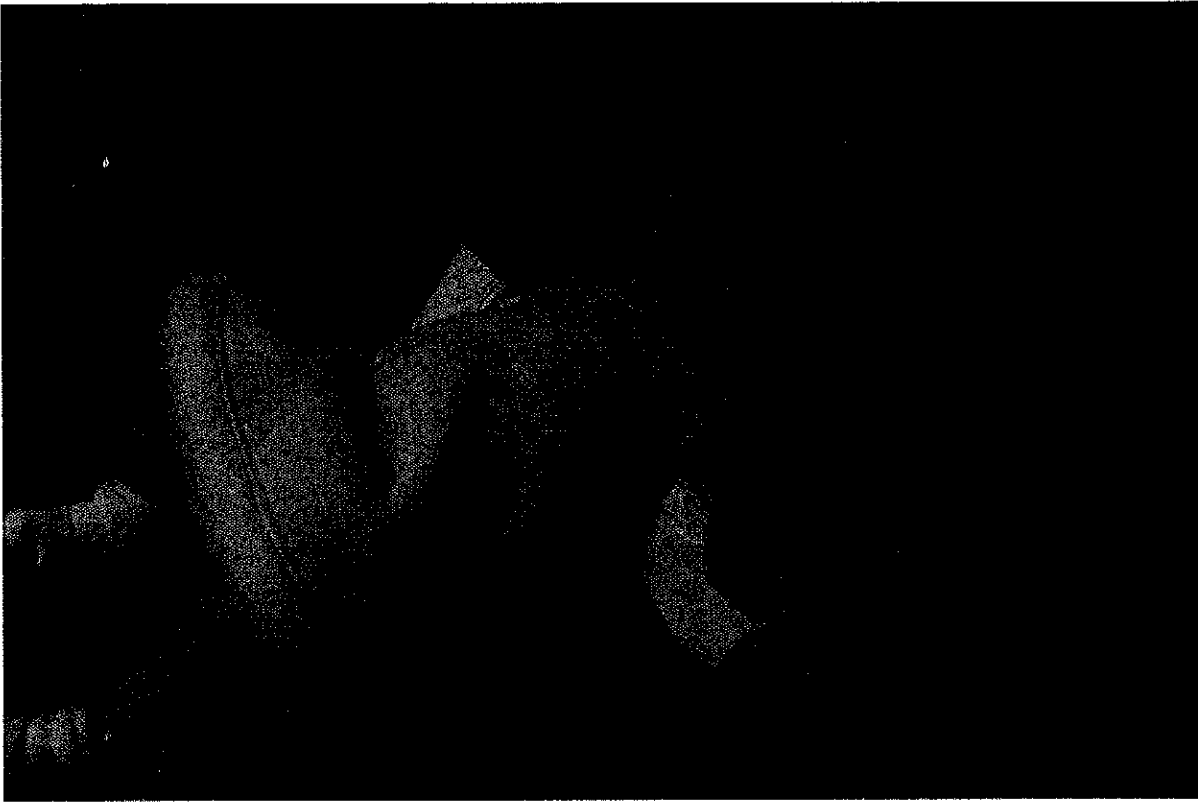
IF THE CD INCLUDED DOES NOT SHOW THESE MONKEYS ARE VERY UNIQUE + TALENTED THEN I ASK THAT YOU GO TO THE LINK HIGHLIGHTED AT THE TOP OF THIS PAGE AND WATCH THIS VIDE.

All rights reserved Copyright 2008



Just Some
Photos to Show
you how the rest
of the United States
lives with these
amazing animals

Capuchin with child



- Capuchin monkey with a baby.











2010年01月15日 (金) 13:27

KNIK TRIBAL COUNCIL

FAX番号: 1 907 373 2161

P. 002



KNIK TRIBAL COUNCIL

KNIK, THE OLDEST VILLAGE IN COOK INLET

Atta Scott

BOG Statewide
Public Comments

January 14, 2010

Alaska Department of Fish and Game
Board Support Section
P.O. Box 115526
Juneau, AK. 99811-5526

Dear Game Board Members:

The purpose of this letter is to provide insight and solutions for the management of harvesting ceremonial game for the State of Alaska Board of Game (BOG) to consider. First, I appreciate the opportunity the Board of Game has allotted on the BOG agenda to comment on the very important subject of harvesting ceremonial game. Second, I must also thank all of the members of the various Cook Inlet communities for providing their input, guidance, and proposals for our collective game management progress. With our state, tribal, and local input, service, and goals, we can build a strong continual relationship to serve all of Cook Inlet communities in the State of Alaska. Third, I must also state that Knik Tribal Council (KTC) supports an amended version of Proposal 11- 5AAC-92.019 (please see Appendix A).

To provide you with some background information; KTC is a federally recognized tribe, therefore recognized as sovereign nation within the boundaries of the United States. KTC serves Alaska Native/American Indian peoples residing in the Mat-Su area. Our service area includes the communities from Chickaloon to Trapper Creek, covering about 25,000 square miles: roughly the size of West Virginia. We serve over 5,000 Alaska Natives/American Indians, and we have a membership of approximately 1,200 people. We have three levels of membership:

1. Base/Voting Member (Dena'ina People originally from Mat-Su)
2. Associate Members (A.K.N./A.M.I. who live in our area and applied)
3. Resident Non Member A.K.N./A.M.I. who live in service area)

To my knowledge KTC has only been involved in one (1) ceremonial harvest under State Regulation 5AAC-92.019. The Mat-Su ceremonial harvest was done by Arthur Theodore who harvested a moose for a young family member who died in Hatcher's Pass. KTC has not been notified or aware of any other ceremonial harvests within our service area, and we have not been consulted to approve requests for ceremonial hunts from tribal members residing in our service area of Mat-Su. We understand that there is a possibility for abuses under State Regulation 5AAC-92.019 in its current form, and KTC would like to help ensure that all harvests within our service area are done so with conservation and reverence to the careful management of hunting and ceremonial practices. All other ceremonial harvests were done without our awareness or involvement.

2010年01月15日 (金) 13:28

KNIK TRIBAL COUNCIL

FAX番号: 1 907 373 2161

P. 003



KNIK TRIBAL COUNCIL

KNIK, THE OLDEST VILLAGE IN COOK INLET

Proposals 11-14 all focus on Alaska Native religious practices regarding the harvest of ceremonial game especially in non-subsistence areas. KTC tribal members will be heavily affected by any changes to regulation 5AAC-92.019; therefore, KTC would welcome an opportunity to ensure appropriate harvesting of ceremonial game by tribal members within our service area and requests to be part of the approval process to assist in the protection of our game.

If KTC is associated with a ceremonial harvest in any form, such as, if someone is to utilize any lands within our service area for a ceremonial harvest, or if one of our base tribal members applies; we believe we can facilitate the careful management of game by being part of the approval process. KTC would like to enter into an agreement with the State so that we may help with the conservation of our game and resources, and help regulate and monitor any ceremonial harvests within our service area. We have attached a sample application for Ceremonial Harvests within Game Management Units Fourteen (14) and Sixteen (16), which are within our service area (please see Appendix B).

Again, our shared goals as residents of Alaska and the Cook Inlet area, are to protect our valuable resources, namely our game. We can help clarify and facilitate this process of harvesting ceremonial game to ensure the game is plentiful and healthy in numbers for all.

Respectfully,

KNIK TRIBAL COUNCIL

Debra Call, President

2010年01月15日 (金) 13:28

DNE TRIBAL COUNCIL

FAX番号: 1 907 373 2161

P. 004

PROPOSAL 11 - 5 AAC 92.019. Taking of big game for certain religious ceremonies.
 Remove the reference requiring game taken for certain religious ceremonies to be defined as customarily and traditionally taken [OR USED FOR SUBSISTENCE, AND LIMIT THE TAKE TO MOOSE, DEER AND CARIBOU]. Involve the local tribal or village entity to help regulate and monitor this religious practice. In non-subsistence areas, a letter of authorization must be obtained from the department.

(a) The hunting and taking of game [CARIBOU, DEER OR MOOSE [BIG GAME, CUSTOMARILY AND TRADITIONALLY TAKEN OR USED FOR SUBSISTENCE AS IDENTIFIED IN 5 AAC 99.025,]] outside the seasons or bag limits established in 5 AAC 85 for use as food in customary and traditional Alaska Native funerary or mortuary religious ceremonies within 12 months preceding the ceremony is authorized if consistent with sustained yield principles.

(b) The department shall publicize a list of game [CARIBOU, DEER OR MOOSE [BIG GAME]] populations and areas, if any, for which the taking of [a CARIBOU, DEER OR MOOSE [BIG GAME ANIMAL]] would be inconsistent with sustained yield principles.

(c) A written permit from the department is not required for taking of game [CARIBOU, DEER OR [BIG GAME]] under this section except a letter of authorization must [MUCH] be obtained in person from a department area office for taking of game [[MOOSE, CARIBOU, AND DEER]] in a non-subsistence area.

(d) Before game [a CARIBOU, DEER OR MOOSE [BIG GAME]] is taken under this section;

(1) a tribal chief, village council president, or the chiefs or president's designee, for the village in which the religious ceremony will be held, notify the nearest office of the department that a hunt for game [a CARIBOU, DEER OR MOOSE [BIG GAME ANIMAL]] will take place; the notification must include the number of animals expected to be taken, and the location where the taking will occur; the tribal chief, village council president or designee must maintain records of the successful hunters and the decedents for the village or tribal ceremony, and make that information available to an authorized representative of the department upon request; the tribal chief, village council president, or designee must notify the department of the location of the kill, and the species, sex, and number of animals taken under this section as soon as practicable, but not more than 15 days after the taking of game [CARIBOU, DEER OR MOOSE [BIG GAME]].

(2) a hunter [OUTSIDE OF A VILLAGE OR TRIBAL ORGANIZED CEREMONY,] must notify the local tribal organization and the nearest office of the department that a game animal [CARIBOU, DEER OR MOOSE [BIG GAME ANIMAL]] will be harvested, the time frame when, and location where the harvest will occur, and the name of the decedent; the notification must include the hunter's name, address, and the species [OF BIG GAME ANIMAL] to be hunted; a successful hunter must notify the department of the location of the kill, and the species, sex, and number of animals taken under this section as soon as practicable, but not more than 15 days after the taking.

2010年01月15日 (金) 13:29

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P.005

ISSUE: A new, spring 2009, interpretation of this regulation by the Department of Public Safety has prevented access to big game for use in ceremonial harvests, inadvertently restricting lawful religious practice without demonstrating a compelling state interest justifying curtailing a religiously based practice in areas with abundant big game populations.

WHAT WILL HAPPEN IF NOTHING IS DONE? Alaskans religious freedoms will be restricted. Alaskans who were allowed to harvest big game in non-subsistence areas for religious ceremonies will likely continue their religious practices unlawfully.

WILL THE QUALITY OF THE RESOURCE HARVESTED OR PRODUCTS PRODUCED BE IMPROVED? No significant impact.

WHO IS LIKELY TO BENEFIT? Hunters, department staff, tribal organizations and law enforcement. Those who traditionally harvest big game for customary and traditional Alaska Native religious funeral and mortuary ceremonies. The letter of authorization for non-subsistence areas will protect those harvesting wildlife under this authorization and will save time for law enforcement officers investigating complaints.

WHO IS LIKELY TO SUFFER? No negative effects are anticipated.

OTHER SOLUTIONS CONSIDERED? Allow the take under an existing education permit. Do not allow ceremonial harvest in non-subsistence areas.

PROPOSED BY: The Alaska Department of Fish and Game (HQ-10W-G-024)

2010年01月15日 (金) 13:28

KNIK TRIBAL COUNCIL

FAX番号: 1 907 373 2161

P. 006

Knik Tribal Council Ceremonial Hunt Information Sheet Game Management Units 14 and 16

1) Your taking of wildlife for ceremonial purposes is authorized, if the harvested wildlife will be used in for food in Alaska Native traditional religious ceremonies which are part of funerary or mortuary cycles, including memorial potlatches. You must be an Alaskan resident with sincere customary and traditional intent for use in game management units 14 and 16 and have an Alaska Hunting License.

2) The hunt must take place on Federal, State, Tribal or Village lands, outside any townships.

3) Prior to attempting to take wildlife, you or your designee must contact the Alaska Department of Fish and Game or federal land management agency and the designated liaison: Knik Tribal Council, to provide the following information:

- Your Name, Residency and Alaska Hunting License Number
- Name of the Decedent(s) and Tribal affiliation
- Nature and Date of the Ceremony
- Species and Number of Wildlife to be taken.
- Conservation unit and harvest area in which harvest will occur

NOTE: Knik Tribal Council will act as the designated Federal or State agency liaison and will be contacted to assist with the monitoring and administration of this hunt. They may intern contact other Native Organizations or tribal leader.

4) After you take wildlife, the hunter must submit a written report within 15 days to the appropriate Federal or State game management agency and Knik Tribal Council who will ensure the agency receives it. A report form is enclosed for your convenience. The report must contain:

- Harvester's Name, Address and Alaska Hunting License Number
- Number, Sex and. Species of Wildlife Taken
- Date and Location of Harvest
- Name of the individual(s) and tribal affiliation for who the ceremony was/is being held.

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Jan 15 2010 12:50PM

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2010年01月15日 (金) 13:29

KNIK TRIBAL COUNCIL

FAX番号: 1 907 373 2161

P. 007

**Knik Tribal Council Ceremonial Hunt
Pre-Hunt Record Form**

Date: _____

Recorder: _____

Person or designee organizing ceremony, residency and AK hunting license #: _____

Name of designee: _____

Nature of the ceremony: _____

Species and number of wildlife to be taken: _____

Conservation Unit and Harvest Management Unit in which harvest will occur: _____

After above information is filled out, IMMEDIATELY FAX and notify by phone the Knik Tribal Council or Alaska Department of Fish and Game depending on point of initiation and location of hunt.

Designated officials will then sign below after monitoring is complete and IMMEDIATELY FAX it again to the agency and tribe.

Knik Tribal Council
Education and Cultural Director
907-373-2161 fax

Alaska Department of Fish and Game
ADF&G/Wildlife Conservation
907-746-6305 fax

Tribal Official: _____ Date: _____

Agency Official: _____ Date: _____

Received Fax : Jan 15 2010 1:33PM Fax Station : HP LASERJET FAX

JAN-15-2010 14:24 FROM:LAURA D'AMICO C.A.M. 650 583 3455

TO:19072672489

P.1
Page 1 of 4

Laura D'Amico

From: "Laura D'Amico" <crystalwolf@earthlink.net>
 To: "Laura D'Amico" <crystalwolf@earthlink.net>
 Sent: Friday, January 15, 2010 1:40 PM
 Subject: Wolf comments BOG

To: Sherry Wright
 333 Raspberry Road
 Anchorage, AK 99518-1599
 Fax: (907) 267-2489

Post-It® Fax Note	7671	Date	1/15/10	# of pages	4
To	Sherry Wright	From	LAURA D'AMICO		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #	907-267-2489	Fax #	650-583-2485		

Hello, My name is Laura D'Amico and I live in Ca, however I am a tourist and lover of Alaska, I would sure hate to see become a "non-tourist" b/c of how Alaska treats it most precious commodity, its WILDLIFE, badly!!! I did not visit Alaska until Sarah Palin left office specially to protest her use of Aerial wolf hunting and the Bogus excuses used by the BOG. Alaskans have voted this measure down so many times yet they are ignored? Why? I would like to add my comments, as a visitor to your beautiful state...hope to see you soon!

RECEIVED**JAN 15 2010****BOARDS
ANCHORAGE**

Proposal 4: Requires a harvest ticket for hunting deer. Submitted by John Frost. -I SUPPORT THIS MEASURE.

Proposal 23: Commercial hunting guides would not be allowed to obtain aerial wolf gunning permits. Submitted by Wade Willis. -I SUPPORT THIS MEASURE.

Proposal 25: Prohibit the use of bait or scent lures near businesses, schools or other facilities. Submitted by Alaska Wildlife Troopers. -I SUPPORT THIS MEASURE.

Proposal 26: Restricts the type of bear foot snares the public is allowed to use to kill black bears in a predator control program. Submitted by Wade Willis. -I SUPPORT THIS MEASURE.

Proposal 27: Restricts foot snaring of bears to only trained ADF&G employees. Submitted by Wade Willis. -I SUPPORT THIS MEASURE.

Proposal 28: Eliminate nonresident hunting for certain big game animals in all predation control areas. Submitted by the Alaska Center for the Environment. -I SUPPORT THIS MEASURE

Proposal 29: Nonresident hunters would not be allowed to hunt moose and caribou in predator control areas if the minimum population objectives for big game were not met. Submitted by the Anchorage Fish and Game Advisory Committee! -I SUPPORT THIS MEASURE

Proposal 30: Nonresident hunters would not be allowed to hunt moose and caribou in predator control areas if resident harvest need exceeded the amount of game available. Submitted by Wade Willis. I SUPPORT THIS MEASURE

□
 Proposal 33: Reduce the population management objective for the Northern Peninsula Caribou Herd. (A predator control program is being proposed for this herd). Submitted by the ADF&G. I SUPPORT THIS MEASURE!

Attn: Satt
 BOG Statewide
 Public Comments

1/15/2010

PC 16

Received Fax :

Jan 15 2010 1:33PM

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JAN-15-2010 14:24 FROM:LAURA D'AMICO C.A.M. 650 583 3455

TO:19072672489

P.2

Page 2 of 4

LAURA D'AMICO CONT**Proposal 47: Removes the hunting opportunity for Snowy Owls.****Submitted by Micheal Guglielmo. I SUPPORT THIS MEASURE!**

Proposal 49: This proposal attempts to address a serious lice infestation problem among Alaska's wolves. This dog "lice" is not native to Alaska and poses a significant risk to the health and integrity of Alaska's wolf packs, especially young pups. While this proposal is intended to promote better pelts for trappers, the conservation community can benefit extensively by obtaining more accurate data on where this problem exists and the level of impact it is having on Alaska's wolf populations.

Submitted by the Fairbanks Fish and Game Advisory Committee. I SUPPORT THIS MEASURE!

Proposal 38: Authorizes the legal sale of black bear gall bladders! I DO NOT SUPPORT THIS MEASURE!

- To promote the illegal black market for black bear gall bladders is truly unbelievable. Not only would it provide a market for poaching black bears it would condone such a practice.

Proposal 2: Repeal black bear harvest ticket requirements. I DO NOT SUPPORT THIS MEASURE!

- Black bear harvest rates statewide are very high. Currently the ADF&G has very few accurate black bear population estimates.

Harvest tickets are an essential tool for documenting black bear harvest which may be reaching maximum harvest statewide.

Proposal 24: Would allow a commercial hunting guide to register and bait up to 10 bait stations for his clients. The assistant guide could register up to 2 bait stations for clients. I DO NOT SUPPORT THIS MEASURE!

- This proposal attempts to liberalize commercial black bear baiting west of Anchorage in the Beluga area. Last year the BOG authorized the public to conduct an experimental bear foot snaring program in the same region using helicopters. Black bear harvest has increased from 197 bears in RY 2002/03 to over 500 bears in RY 2008/2009 in this region! Liberalizing commercial bear baiting is inappropriate and unjustified.

- The Anchorage AC is submitting an Agenda Change Request to make this legal STATEWIDE! Even in areas with overharvest concerns! The Anchorage AC chair is a commercial

1/15/2010

JAN-15-2010 14:24 FROM: LAURA D'AMICO C.A.M. 650 583 3455

TO: 19072672489

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Page 3 of 4*LAURA D'AMICO C.A.M.*

black bear hunting guide in GMU 16.

[1]

Proposal 31: Liberalize the dates that helicopters and snaring may be used in Unit 16 (Beluga Area) black bear predator control program.

- This proposal would allow helicopter use and snaring of bear until September 25. The expansion of the experimental bear program being conducted by public trappers after just one year is unjustified. Potential abuse of helicopter transport to hunt other big game species is significant. The Alaska Wildlife Troopers do not have a helicopter dedicated to enforcing hunting regulations in GMU 16. In the fall, residents are actively recreating, camping, hunting and berry picking. The risk to the public of encountering a snared bear is significant. Should a person encounter a bear cub in a snare, the mother would be extremely aggressive. **I DO NOT SUPPORT THIS MEASURE!**

Proposal 32: Establish a new predator control program on the Alaska Peninsula. **I DO NOT SUPPORT THIS MEASURE!**

- The region is marginal habitat for moose and caribou and the first area we assume could be affected by climate change. Caribou management reports identify a lack of winter food supplies as a significant factor limiting the caribou population. The majority of the region is federal refuge land as well. The proposed predator control program cannot be effective unless the USFWS authorizes the state to conduct predator control on refuge lands which is inappropriate without an environmental impact statement. In the past, the ADF&G has consistently not supported predator control proposals in areas with a majority of the land being federal refuges. Unfortunately, they are now trying to force the USFWS's into authorizing predator control on refuge lands with this proposal and another similar proposal on the Kenai Peninsula.

Proposal 34: Establish a new intensive management program on the Kenai Peninsula.

- Again, this program requires over 80% USFWS refuge land (Kenai National Wildlife Refuge). As noted, the ADF&G has traditionally not supported any proposals that require the use federal refuge lands to be successful. Unfortunately, with the appointment of two predator control advocates to the commissioner's office of the ADF&G in 2008, that is no longer the policy of the department. This is another aggressive attempt to force the USFWS to allow intensive management on federal refuge lands. Once again, the department notes that nutrition is a limiting factor for the moose population so they propose conducting controlled burns to potentially "enhance" moose

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JAN-15-2010 14:22 FROM: LAURA D'AMICO C.A.M. 650 583 3455

TD:19072672489

P.1/2

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Laura D'Amico cont.

habitat and artificially increase moose numbers with controlled burns. Significant fire risk due to beetle kill exists on the Kenai Peninsula. As well, the region is an important summer destination for Alaskan's and tourists alike.

I DO NOT SUPPORT THIS MEASURE!

Proposal 36: Would remove the sealing requirement for certain furbearers, including wolverine. **I DO NOT SUPPORT THIS MEASURE!**

Sealing of hides is an important management tool for area biologists with the ADF&G. This is the only time the department can document kill location, sex, age, and health of the animal. Wolverine, in particular, is extremely susceptible to overharvest. Indeed, no wolverine population in North America has been able to sustain any harvest without a natural "refugia" where there is no trapping. Other fur bearers such as Lynx need to be managed very closely as well. Sealing records are the main tool the department has to achieve those goals.

Proposal 39 and 40: Allows the sale or barter of big game animals and Trophy Mounts. **I DO NOT SUPPORT THIS MEASURE!**

This proposal attempts to commercialize the harvest of wild game. Turning hunting into a profit driven enterprise and promoting the poaching of game for legal sale as mounts. This proposal would provide incentive for poachers to kill wildlife for profit. Currently, the Alaska Wildlife Troopers lack the staff and regulatory authority to effectively manage and track the legal sale of wildlife. Scientific organizations nationwide strongly oppose the sale of big game animal parts. Authorizing a financial incentive to kill big game is not justifiable.

Thank you for taking my comments into consideration and please let me know by a email the results of the meeting.

Thank you,

Laura D'Amico

1/15/2010

PC 16

12 January 2010

RE: Proposal 47: 9 AAC 92.990(43). Definitions. Remove snowy owl from the unclassified game definition.

Dear Alaska Board of Game,

I am writing to you on behalf of the Alaska Raptor Group, a subcommittee of the Boreal Partners in Flight (BPIF) Working Group. The Alaska Raptor Group was formed as a subcommittee of BPIF in April 2008 to provide specific guidance on the study, management, and conservation of Alaska raptors and their habitats. BPIF is a coalition of individuals who work together to help conserve bird populations throughout the boreal regions of North America. BPIF is the official Alaska state working group of the international Partners in Flight program which addresses the conservation issues of all North American birds, particularly those that use terrestrial habitats. BPIF has over 100 members including representatives from all the major federal and state wildlife and land management agencies in Alaska, universities, Alaska Native corporations, non-governmental organizations, and local environmental consulting firms.

The Alaska Raptor Group supports Proposal 47: 9 AAC 92.990(43) to remove Snowy Owl from the unclassified game definition. Alaska provides the only nesting habitat for this species in the United States and the size, population trends, and status of this species is not well-documented. This action is likely to be beneficial for Snowy Owls and not detrimental to humans.

Sincerely,

A handwritten signature in black ink, appearing to read 'Carol L. McIntyre', with a stylized, cursive script.

Carol L. McIntyre

Chairperson for the Alaska Raptor Group steering committee



Miki & Julie Collins
ALASKAN FREELANCE WRITERS/PHOTOGRAPHERS
LAKE MINCHUMINA, ALASKA 99757

Alaska Board of Game
Alaska Depot. Of Fish & Game
Boards Support Section
PO Box 115526
Juneau
AK 99811-5526

January 5, 2010

Hi,

My Comments on the regulatory proposals for the Winter 2010 meeting:

Prop. 2. YES let's repeal this. I never heard about this until I picked up my moose tickets, and was quite surprised to be asked if I wanted one for black bear as well. Around here people don't generally hunt bear much, but will shoot one that starts hanging around. Without the ticket, they now have to decide whether to shoot it illegally, or wait until it poses a real threat to someone's life or property. Does strolling around on the front porch count? Then that leads to a hassle of turning it in instead of using the meat and pelt ourselves. If you want to decrease the number of black bears taken, and increase the number of illegal unreported bears taken, requiring tickets in advance is a good way to do it. The sealing requirement should be adequate for tracking numbers. This is the one proposal I have strong feelings about and is the one that has the biggest personal impact. If F&G doesn't receive my black bear harvest tickets next June, it's because 11 months after the fact, and never intending to actually hunt bear, I forgot all about them.

Prop. 15-22 I am personally rather opposed to the keeping of wild animals. However I don't have a big problem with it if they cannot significantly interbreed with, displace, compete with, or otherwise in any way harm our native species should they escape. With regards to using monkeys as helpers for the disabled, I think it should be allowed but with restrictions such as use of professionally-trained animals, and required training for those receiving them.

Prop. 23 This does seem to define a possible conflict of interest but really the laws and rules and regs are so mind-boggling now that the average person has a hard time learning and dealing with them already. I don't see the rules as they stand having a big impact especially if the whole purpose is to reduce predator populations anyway.

-Collins p.2-

Prop. 28-30 I do feel that allowing local people to feed their families takes precedence over out-of-state hunters, even if that means a loss of income to the guides who take them hunting.

Prop. 31 If the whole plan is to reduce bear populations, I believe same-day-airborne is a good way to go. However, I am opposed to the use of helicopters by any hunters/trappers for accessing hunting/trapping areas. I believe extremely remote, inaccessible areas are vital to the health and yields of game and fur animals. If an "emergency" situation of severely-depleted game calls for it, helicopter use for predator control should be allowed, but limited to, Fish & Game use.

Prop. 32 I am generally opposed to predator control except when the situation has been well-studied and prey animals are seriously depleted and not likely to recover without help. I think a good case has been made here for predator control, so I would back this proposal IF the locals, and especially the local elders and those who actually hunt and trap in this area, feel it is warranted.

Prop. 34. I don't feel this case is strong enough to go through the contentious and potentially-harmful predator control program. Predator control is often costly, doesn't always produce the expected results, reduces the number of wolves & bears available for hunting/trapping, can compete in the commercial market causing reduced prices received for pelts sold by trappers, often encourages taking these animals when the meat or pelts are less than ideal, and always leads to dissention, anger, hurt, and spite among the many people who disagree with it. Let's be darn sure before going ahead with it.

Prop. 38 I am all for use of every part that we can use, so far as possible. If this would not result in difficulties (inability to spot illegal vs. legal gall bladders etc), maybe something along these lines would work out. Perhaps gall bladders could be voluntarily turned over to Fish & Game and sold, with the proceeds going to habitat preservation.

Prop. 40. Wouldn't selling big game trophies encourage even more trophy hunting, which is already leading to genetic down-sizing of some animal populations? And encourage the taking of meat animals for profit instead of food? Let's not.

Prop. 41. This seems like a legitimate concern, but also a loophole for abandoning meat because it didn't look or smell right, especially with inexperienced or unethical hunters. I'd want to know more what other folks thought about this before saying yea or nope.

-Collins p.3-

One problem with these proposal booklets is that they only present one (often biased) side of an issue, and those of us not in the know are liable to say "Yeah! Sounds good to me!", influencing the Boards' actions when if we knew the whole story we might be saying "*Sounds* good, but really... NO WAY!"

Prop 43. I don't understand this one. It sounds like he's proposing that meat not be salvaged, because he wants to feed the scavengers and doesn't want law enforcement to get after him. Does that mean shoot a moose and not be required to salvage anything, just measure the antlers and walk away? If that's the case, he's confused about what excessive governmental regulations are and why we have game reg's at all. As a confirmed wild-meat eater I say BOO, HISS.

Finally, I find it disturbing that of the 7 BOG members, over half live within 100 miles of Anchorage, only one in the northern half of the State, and only two in communities inaccessible by road. That may be vaguely representative by population, but it leaves under-represented an awful lot of those most dependent upon fish & game for their living and livelihoods, from Kotzebue to Lake Clark to Chalkyitsik. I do additionally feel that it is appropriate that the BOG be made up of those who depend upon the *consumptive* (ie, *regulated*) use of fish & game.

As always, I appreciate the opportunity to influence your decisions, some of which really do impact my life.

Miki Collins

Alaska Department of Fish and Game
Boards Support Section
attn: Scott Crass
P.O. Box 115526
Juneau, AK 99811-5526
January 9, 2010

RE: Peer-reviewed journals, and other scientific papers supporting Proposal 47 – Removal of the Snowy Owl from the unclassified game list

Dear Honorable Board Members,

Thank you for your support with my proposal #47. The direct contact with your office has proven most valuable; the staff was professional, informative, helpful, kind and considerate. Enclosed please find supporting documents. Removing the snowy owl from the game list will benefit the entire State of Alaska as well as the other habitats that the snowy owl migrates to.

James Duncan's statement brings to light this fact:

Snowy Owls in Alaska travel and live and nest elsewhere, therefore Snowy Owls killed in Alaska impact a meta population shared with many other jurisdictions. This fact is supported by mark-recovery/recapture techniques including leg-banding, wing-marking and satellite telemetry research studies published in the scientific literature and summarized in the reference books including the Birds of North America Snowy Owl account.

Thank you for your consideration.

Sincerely,



Michael Guglielmo
PO Box 1104
East Hampton, NY 11937
(631) 324-2600

Michael Guglielmo

From: Duncan, James (CON) [James.Duncan@gov.mb.ca]
Sent: Tuesday, December 22, 2009 5:04 PM
To: Michael Guglielmo
Cc: djowl@aol.com; Duncan, James (CON)
Subject: RE: Alaska Board of Game statewide proposal to remove the Snowy Owl from the game list

In response to and in support for the Alaska Board of Game statewide proposal to remove the Snowy Owl from the game list I offer these facts in my capacity of an owl research biologist with over 25 years experience:

1. Owls in Canada fall under provincial jurisdiction. The Snowy Owl is a protected species under The Wildlife Act (Manitoba). It is an offense to kill or harm them in Manitoba. Further, personal use possession of dead snowy owls, or parts thereof, is only legal under provincial permit. Such permits are not issued if the specimen was either shot or trapped.
2. Snowy Owls in Alaska travel and live and nest elsewhere, therefore Snowy Owls killed in Alaska impact a meta population shared with many other jurisdictions. This fact is supported by mark-recovery/recapture techniques including leg-banding, wing-marking and satellite telemetry research studies published in the scientific literature and summarized in the reference books including the Birds of North America Snowy Owl account.

Respectively,

Dr. James R. Duncan

Digitally Signed Email

Wildlife & Ecosystem Protection Branch

Manitoba Conservation

Box 24, 200 Saulteaux Crescent

Winnipeg, MB R3J 3W3

Tel: (204) 945-7465

Fax: (204) 945-3077

Email: James.Duncan@gov.mb.ca

Wildlife Web Site www.manitoba.ca/conservation/wildlife

CDC Web Site <http://web2.gov.mb.ca/conservation/cdc/>

Proposal 47

A critically-relevant finding of a recent satellite telemetry study (Therrien et al. 2008), was that 7 of the 8 female snowy owls that they tracked were nesting in both 2007 and 2008 the average distance between their nests was 733 km (460 miles). The key point here is that the hunting of owls in one location can significantly impact the much broader, regional (and international) population. As a species, this owl is entirely an Arctic population, and while they may nest in one location in one year, they will nest in another part of the Arctic the following year. Thus, the owls that are seen in one location, are in fact, the very same individuals that can later be seen in a very distant part of the Arctic. **The hunting of this owl (especially breeding adults) thus undoubtedly has a negative cascade-effect throughout a much broader region. This is something this species can ill-afford, especially in this time when climate change is negatively affecting the cyclic peaks of its main (lemming) prey.**

David H. Johnson
Director - Global Owl Project
6504 Carriage Drive
Alexandria, VA 22310 USA

Therrien, J.F., G. Gauthier, J. Bêty & G. Mouland. 2008. Long-distance migratory movements and habitat selection of Snowy Owls in Nunavut. Unpublished report, Centre d'études nordiques, Université Laval, submitted to the Nunavut Wildlife Management Board, 47 pp.

Microhabitat For Foraging

In arctic, areas occupied by rodents, notably lemmings. Sites are conspicuous, pockmarked by the holes of lemming burrows which in summer are excavated in turf (often beneath rocks); in winter, through layers of snow. At openings where burrows come to the surface, lemmings are especially vulnerable to the owls. In desert tundra where turf is scarce, the vegetation with its lemming burrows is concentrated at hummocky or rocky prominences. Owls using these sites in turn fertilize the surrounding nitrogen-poor soil. In time these sites become luxuriant green spots in an otherwise austere landscape (Parmelee et al. 1967)—important microhabitats not only for plants, lemmings and owls, but also for weasels, foxes, and the natives who trap them.

Conservation and Management

The most meaningful conservation policy in recent years has been protective measures that prohibit the shooting and trapping of owls for food, sport, or trophies. Harvesting of owls for food, feathers, claws (ornaments) by northern native peoples may impact local populations, but probably does not have the continent-wide potential for destruction as in the highly populated regions farther south.

Parmelee, David F. 1992. Snowy Owl (*Bubo scandiacus*), The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/010>

doi:10.2173/bna.10

This Gunnhild Marthinsen, Liv Wennerberg, Roar Solheim, and Jan T. Lifjeld paper,

“No phylogeographic structure in the circumpolar snowy owl”

shows that there are no “separate” populations of Snowy Owls in the Arctic, but rather based on genetics, they are all one big population.

No phylogeographic structure in the circumpolar snowy owl (*Bubo scandiacus*)

Gunnhild Marthinsen · Liv Wennerberg ·
Roar Solheim · Jan T. Lifjeld

Received: 31 March 2007 / Accepted: 26 March 2008 / Published online: 9 April 2008
© Springer Science+Business Media B.V. 2008

Abstract The snowy owl (*Bubo scandiacus*) is a nomadic species with a circumpolar distribution. It has recently declined in the western Palearctic and may thus be worthy of special consideration for conservation. We investigated genetic structure in three well separated geographic regions within the snowy owls' breeding range. We sequenced two mitochondrial genes; the control region and cytochrome *b*, and two Z-chromosome introns; VLDLR-9 and BRM-15. We found no phylogeographic structure among the sampled regions, indicating high levels of gene flow in the recent past and possibly still today. Intra-population diversity did not vary between regions for the control region, but for Cyt *b*, North American birds had higher haplotype diversity than Scandinavian and eastern Siberian birds. Western Palearctic birds do not seem to be genetically deprived or inbred. Genetic diversity in the snowy owl was not lower than Scandinavian populations of three other owl species: tawny owls (*Strix aluco*), Tengmalm's owls (*Aegolius funereus*) and eagle owls (*Bubo bubo*).

Keywords Genetic structure · Gene flow · mtDNA control region · Phylogeography · Population genetics · Z-chromosome intron

Introduction

The snowy owl has a circumpolar distribution and breeds mainly on the arctic tundra (Cramp and Simmons 1994). It is a food specialist, preying on rodents with fluctuating population cycles, such as lemmings (*Lemmus* and *Dicrostonyx* spp.) and voles (*Microtus* and *Clethrionomys* spp.). Consequently, snowy owls migrate to places where there are peak densities of these rodents, and thus show large fluctuations in local breeding populations (Alerstam 1990; Cramp and Simmons 1994). Snowy owls have declined in numbers in the western Palearctic in the 20th century due to illegal hunting and possibly reduction in rodent densities (Portenko 1972; Solheim 1994, 2004). In Norway, the snowy owl is listed as Vulnerable (Kålås et al. 2006), in Finland as Endangered (Rassi et al. 2001), and in Sweden as Critically Endangered (Gärdenfors 2005). World-wide, the species is not threatened (IUCN 2006), and in North America there are no indications of reduction in population sizes (del Hoyo et al. 1996). The global population of snowy owls today is estimated to about 290,000 individuals, and is reported to be stable (BirdLife International 2004).

The snowy owls capacity for long distance dispersal was demonstrated by Fuller et al. (2003), who tracked post-breeding movements of six adult snowy owls with satellite telemetry techniques. Maximum travel distance found was about 1,300 km during 11 days. The tracked birds did not remain in the nesting area after the breeding season, and they did not return to the same nesting area the next year. The potential for movement thus appears to be considerable in the snowy owl. One would therefore expect little or no barriers to gene flow in this species and a rather homogeneous population genetic structure across the breeding range.

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Here we present the first analysis of the population genetic structure in snowy owls, using samples from three widely separated regions: Scandinavia, eastern Siberia and North America. We investigated whether there is genetic differentiation between these areas, and whether snowy owls in western Palearctic are less diverse than snowy owls in other areas. In addition, we compared the level of genetic diversity in snowy owls with three other owl species breeding in Scandinavia.

Methods

Samples and DNA extraction

Blood or tissue samples were taken from 14 snowy owl individuals from Scandinavia, 14 individuals from North America, and 12 individuals from eastern Siberia. Sample details are given in the Appendix. Most sampled birds were unrelated chicks or assumed breeding birds (i.e. at age 2Y+ and caught in the period May–August at breeding grounds). Exceptions were five Norwegian birds caught outside the breeding range or in a year of no recorded breeding, and the samples from North America, which were from wintering areas. We assume the latter ones belong to the breeding population in northern North America, an assumption supported by telemetry studies from Massachusetts where snowy owls caught during winter were tracked to Maine and Quebec during spring, apparently on their ways to breeding grounds (Smith 2005). Blood samples from 10 adult tawny owls (*Strix aluco*) and 10 adult Tengmalm's owls (*Aegolius funereus*), and down samples from 10 eagle owl chicks (*Bubo bubo*), were collected in Scandinavia (Appendix). Of these species, the eagle owl is the closest relative to the snowy owl, as the two species are now considered congeneric (Wink and Heidrich 2000; Sangster et al. 2004).

DNA was extracted from blood samples using QIA-amp® DNA Mini kit (QIAGEN), and from tissue and down samples using DNeasy® Tissue Kit (QIAGEN).

Sequencing

From the mitochondrial DNA (mtDNA) we sequenced a part of the control region corresponding to domain I and part of domain II (Marshall and Baker 1997), and the second half of the cytochrome *b* (Cyt *b*) gene. For the control region in the snowy owls, initial analyses with internal primers produced two sequences for each individual, differing in three sites. The occurrence of two copies of the control region in the mtDNA is known from other bird species, among them tawny owl (Brito 2005). We therefore assume the same is the case for snowy owls.

With the use of the primers D11 (Barrowclough et al. 1999) and BO24 (Haig et al. 2004), we did not obtain any ambiguous bases, and thus assume that we managed to amplify only one of the copies. Initial nested sequencing analyses with external PCR primers; N1, which is placed in a tRNA region, and D16 (Barrowclough et al. 1999), amplified the same unambiguous fragment. Tengmalm's owl individuals did not amplify with BO24; the use of D11 and D16 produced unambiguous sequences.

The 5' end of Cyt *b* was sequenced using modified versions of Sorenson et al.'s (1999) primer L15560 (5'-GCGACA AAATCCCATTCCACCC for snowy owl and eagle owl, 5'-GYGAYAARATCCCATTCCACCC for Tengmalm's owl and tawny owl), and H15646 (Sorenson et al. 1999).

We also sequenced the two introns BRM-15 and VLDLR-9, which are found on the Z-chromosome in a passerine bird (Hansson et al. 2005). In birds, Z-chromosomes are found in two copies in males, and one copy in females. In our study, individuals heterozygous for these loci were all males, and we thus assume the loci are located on the Z-chromosome in the analyzed species. We used the primers published by Hansson et al. (2005). Of the Z-introns, only VLDLR-9 displayed more than one polymorphic site; Tengmalm's owls were polymorphic at two sites (Table 1). No Tengmalm's owl males were polymorphic at both sites, and there were thus no ambiguities in any male genotype. For females of tawny owl and Tengmalm's owl, we obtained two different sequences for BRM-15, indicating that the primers also amplified a second sequence, most likely on the W-chromosome. We therefore used a specific internal forward primer (5'-AGTGTITSAACTCTCCCTG GT) for these species and obtained single sequences for the second half of the original sequence. The Z-introns did not amplify on the eagle owl samples, probably due to low concentration of DNA extracted from the down samples.

PCR reactions were performed according to Wennerberg (2001). The cycle-sequencing reactions were carried out using the ABI PRISM BigDye Terminator v1.1 Cycle Sequencing Kit, and run on an ABI PRISM 3100 Genetic Analyzer following the manufacturer's instructions (Applied Biosystems). The sequences were aligned in SEQUENCHER 4.1.4 (Gene Codes Corporation) and edited in BIOEDIT 5.0.9 (Hall 1999). All sequences are deposited in GenBank (Accession numbers: EU410971–EU411039, EU436175–EU436319; Appendix).

Data analyses

Number of haplotypes, haplotype diversity and nucleotide diversity were calculated in ARLEQUIN 3.01. Allelic (haplotype) richness was estimated by rarefaction according to El Mousadik and Petit (1996) using the program Contrib 1.02 (Petit et al. 1998). We used a rarefaction size of 10 for the snowy owl regions and eight for the Scandinavian

Table 1 Characteristics of two mtDNA genes and two nuclear introns in four owl species

Species	Population	Control region		Cytochrome <i>b</i>																
		<i>n</i>	#	Poly- morpho- sites	# Haplo- types	Allelic richness ^a	Haplo- type diversity	SE	Nucleotide diversity	SE	<i>n</i>	chromo- somes	Bases	Poly- morpho- sites	# Haplo- types	Allelic richness ^a	Haplo- type diversity	SE	Nucleotide diversity	SE
Snowy owl	All	40	510	37	33		0.99	±0.001	0.012	±0.0010	40	415	5	6			0.60	±0.009	0.0026	±0.00032
	Eastern	12	510	21	11	8.32	0.99	±0.012	0.011	±0.0019	12	415	3	3	1.83		0.59	±0.032	0.0027	±0.00064
	Siberia																			
	North	14	510	23	12	8.01	0.98	±0.009	0.012	±0.0018	14	415	4	5	3.35		0.73	±0.027	0.0028	±0.00056
Eagle owl	Scandinavia	14	510	28	14	9.00	1.00	±0.007	0.013	±0.0019	14	415	2	2	1.00		0.53	±0.017	0.0025	±0.00053
	Scandinavia	10	512	11	2	1.00	0.56	±0.024	0.012	±0.0022	10	415	0	1	0		0		0	
	Scandinavia	10	511	7	4	2.96	0.82	±0.022	0.006	±0.0012	10	415	0	1	0		0		0	
	Tengmalm's owl	Scandinavia	9	476	21	8	6.22	0.97	±0.021	0.014	±0.0028	10	415	5	6	4.98		0.91	±0.026	0.0041

Species	Population	BRM-15		VLDLR-9																		
		<i>n</i>	#	Poly- morpho- sites	# Haplo- types	Allelic richness ^a	Haplo- type diversity	SE	Nucleotide diversity	SE	<i>n</i>	ind	<i>n</i>	chromo- somes ^b	Bases	Poly- morpho- sites	# Haplo- types	Allelic richness ^a	Haplo- type diversity	SE	Nucleotide diversity	SE
Snowy owl	All	40	63	343	1	2	0.09	±0.008	0.00027	±0.00009	40	62	354	0	1	0			0			
	Eastern	12	20	343	1	1	0	0	0		12	20	354	0	1	0			0			
	North	14	23	343	1	2	0.17	±0.026	0.00048	±0.00020	14	23	354	0	1	0			0			
	Scandinavia	14	20	343	1	2	0.10	±0.024	0.00029	±0.00016	13	19	354	0	1	0			0			
Eagle owl	Scandinavia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tawny owl	Scandinavia	10	13	215	0	1	0	0	0		10	13	355	1	2	0.385		±0.042	0.00213		±0.00060	
Tengmalm's owl	Scandinavia	10	14	208	0	1	0	0	0		10	14	351	2	3	0.560		±0.040	0.00215		±0.00060	

^a Rarefaction size for allelic richness calculations was 10 for snowy owl regions and 8 for Scandinavian populations of four owl species. Scandinavian snowy owls had an allelic richness of 7.00 for the control region, and 1.00 for Cyt *b*, with a rarefaction size of 8

^b Number of chromosomes equals number of females (one chromosome) plus two times the number of males (two chromosomes)

populations of four owl species. Differences in nucleotide and haplotype diversity between regions and between Scandinavian populations of all four species were tested with *t*-tests, by hand, using mean and standard deviation values from ARLEQUIN (Table 1).

Median joining haplotype networks were constructed in NETWORK 4.1.1.2 (Fluxus Technology Ltd.).

We calculated both F_{ST} (Weir and Cockerham 1984) and Φ_{ST} (Excoffier et al. 1992) values among the snowy owl regions in ARLEQUIN 3.01 (Excoffier et al. 2005). For Φ_{ST} calculations we used Tamura and Nei's (1993) nucleotide substitution model for all loci, as this gave the lowest log likelihood scores in MODELTEST 3.7 (Posada and Crandall 1998) among the models available in ARLEQUIN. Tests for significance were performed with 3,000 permutations.

To test hypotheses about the phylogeographic pattern based on the control region in snowy owls statistically, we performed an automatic Nested Clade Phylogeographic Analysis (Templeton et al. 2005) using the program ANeCPA (Panchal 2007). This program incorporates TCS v1.18 (Clement et al. 2000) and GeoDis v2.2 (Posada et al. 2000).

We used the Bayesian version of LAMARC 2.1.2 (Kuhner 2006; Kuhner and Smith 2007), which assumes migration/drift equilibrium, to calculate relative estimates of gene flow between snowy owl regions (M) and population growth rates (G) based on the control region sequences. In addition, we estimated long-term effective population size for snowy owls from estimates of theta ($=2N_e\mu$, where N_e is the effective female population size and μ is the mutation rate per sequence per generation) based on the control region and Cyt *b* sequences. The obtained estimates of long-term effective population sizes are uncertain for several reasons. Divergence rate for the control region is unknown for Strigidae, and furthermore, the fact that divergence rates appear to be higher on short than on longer time scales obscure such calculations (Ho and Larson 2006). We used the minimum and maximum divergence rates found in other bird species for the control region; 4% and 14% per Myr (Wenink et al. 1996; Drovetski 2003). For Cyt *b* we used a rate of 1% per Myr (Krajewski and King 1996). We calculated μ as [divergence rate/ $2/10^6$ * number of base pairs * generation time (in years)]. A generation time of 4 years (the birds probably do not breed until at least two-years old, Portenko 1972) and our sequence lengths (Table 1) correspond to mutation rates of 4.08×10^{-5} mutations per sequence per generation (4% divergence rate) and 1.43×10^{-4} (14% divergence rate) for the control region, and 8.3×10^{-6} for Cyt *b* (1% divergence rate).

We ran three replicates for each run in LAMARC, with a burn-in of 1,000 steps, followed by one initial chain of 10,000 steps; sampling 500 trees every 20 steps, and one final chain of 200,000; sampling 10,000 trees per 20 steps. We performed three runs and used the median values for the final estimates.

Results

Marker characteristics

We amplified a 510 base pair long fragment of the control region for snowy owl, in which 37 sites were polymorphic. In eagle owl, 11 of 512 sites were polymorphic, in tawny owl, 7 of 511 sites were polymorphic, and in Tengmalm's owl, 21 of 276 sites were polymorphic. All variable sites represented transitions except one A/C transversion in snowy owl. The different primer sets used for snowy owl, as described in Sect. 'Methods', amplified identical sequences. All individuals of each investigated species were similar in the conserved F block (as defined in Baker and Marshall 1997), which occurs at the end of the fragments used in the analyses. The investigated species differed by 3.3–20% in the F block, which is in the lower range of differences between more distantly related bird species (e.g. 10–25%, Baker and Marshall 1997; 7–59%, Ruokonen and Kvist 2002).

Base composition in the snowy owl control region was similar to other investigated bird species (Baker and Marshall 1997; Ruokonen and Kvist 2002), except for an unexpected high ratio of A compared to C (33.9% A, 28.6% C, 11.4% G and 26.1% T). All variable sites were found within domain I in snowy owl, eagle owl and tawny owl. Tengmalm's owl had one variable site within the start of domain II.

From the 5' end of Cyt *b*, a 415 base pair fragment was amplified for all species. The sequences did not contain stop codons or indels. Snowy owl and Tengmalm's owl had five variable sites, all transitions in third codon position. There was no amino acid variation within the two species. Tawny owl and eagle owl were monomorphic. Snowy owl differed from eagle owl by nine (6.6%) amino acid substitutions, from tawny owl by 13 (9.4%) and from Tengmalm's owl by 18 (13.1%) amino acid substitutions, which is what we expect for species within the same order (Haring et al. 2001).

Based on these characteristics and comparisons, we are confident that the mitochondrial markers were of truly mitochondrial and not nuclear origin, and that the amplified fragments in the different species were homologous.

There were 33 control region haplotypes, six Cyt *b* haplotypes, two BRM-15 haplotypes and one VLDLR-9 haplotype among the 40 snowy owl individuals (Table 1).

Genetic structure

Median joining haplotype networks given in Fig. 1 for snowy owls for the three variable loci (the control region, Cyt *b* and BRM-15) revealed no phylogeographic structure. The nested clade analysis confirmed the result of no

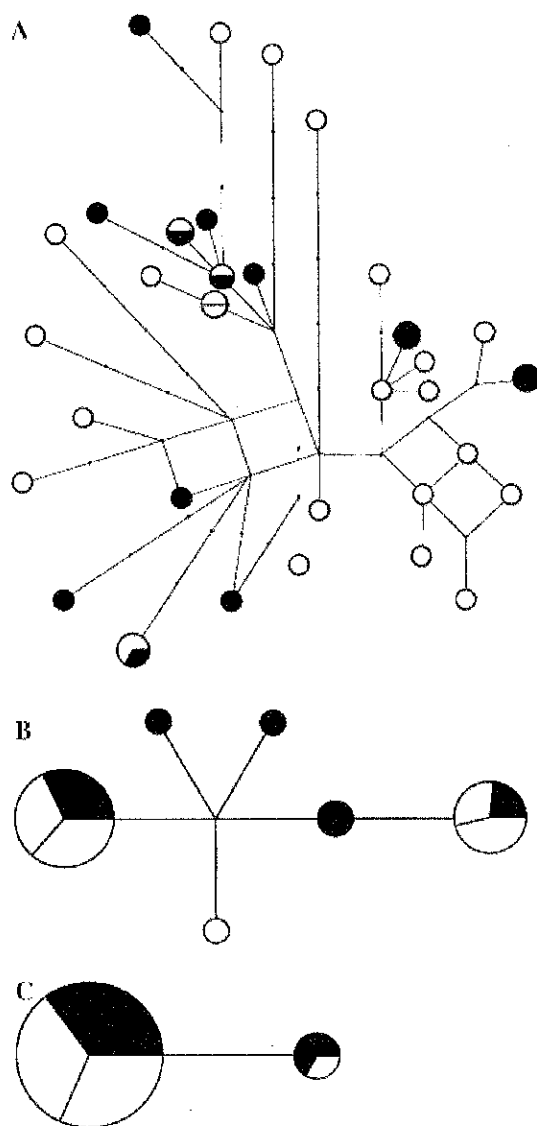


Fig. 1 Median joining haplotype networks for snowy owls revealing low levels of phylogeographic structure among three sampled regions (black = North America, grey = eastern Siberia and white = Scandinavia). (a) The mitochondrial DNA control region, (b) cytochrome *b* and (c) the Z-chromosome intron BRM-15. Sizes of pies indicate relative number of individuals with that haplotype. Black points on the branches in (a) represent hypothetical, non-sampled haplotypes. All lines in (b) and (c) represent single mutations

phylogeographic structure; there was no significant association between haplotype and geographic location in any clade, in any of altogether six nesting levels (all P -values > 0.20). The null hypothesis of no genetic structure could not be rejected, and there was no evidence of historical fragmentation, range expansion, long-range colonization or restricted gene flow.

Also F -statistics revealed low levels of phylogeographic structure. F_{ST} and Φ_{ST} values for all loci comparing the snowy owl regions were similar; only F_{ST} values are given. Overall F_{ST} values were low and non-significant (-0.001

for the control region, -0.033 for Cyt *b* and 0.002 for BRM-15). Pairwise F_{ST} values were also non-significant, and all were negative except for the values comparing North America with eastern Siberia for two loci ($F_{ST} = 0.020$ for the control region, 0.077 for BRM-15).

Gene flow and long term effective population size

Gene flow estimated by LAMARC varied between runs, but was consistently lowest across the Atlantic Ocean. Median values of the gene flow parameter M was 853 (Credibility Interval: 279–1,014) from Scandinavia to eastern Siberia, 361 (24–1,048) from eastern Siberia to Scandinavia, 218 (27–483) from Scandinavia to North America, 166 (20–360) from North America to Scandinavia, 732 (246–1016) from North America to eastern Siberia, and 433 (119–944) from eastern Siberia to North America. One should however bear in mind that estimates of migration rates from LAMARC may not be accurate if population genetic structure is weak (LAMARC documentation), as is the case in this study.

These high gene flow estimates indicate that snowy owl constituted one panmictic population in the recent past and possibly still today (see Discussion). Therefore, we estimated the long term effective population size for all samples pooled. Theta was estimated to 0.332 (CI: 0.137–1.147), corresponding to a long-term effective population size of about 4,100 (1,700–14,100) females with 4% divergence rate, and 1,200 (500–4,000) females with 14% divergence rate. Based on Cyt *b*, theta was estimated to 0.0044 (0.0011–0.022), corresponding to a long-term effective population size of about 270 (70–1,330) females. The high diversity of estimates highlights the uncertainty of these calculations.

Genetic diversity and population growth

There was no difference between the snowy owl sampling regions in nucleotide diversity for either mitochondrial marker, nor in haplotype diversity for the control region (all tests non-significant) (Table 1). North America had significantly higher Cyt *b* haplotype diversity than eastern Siberia and Scandinavia ($t = 3.40$, $df = 24$, $P < 0.01$ and $t = 6.3$, $df = 26$, $P < 0.01$, respectively). Allelic richness was highest for Scandinavia for the control region, whereas North America had higher allelic richness for Cyt *b* (Table 1).

The Scandinavian snowy owl population had higher control region nucleotide and haplotype diversity than tawny owl ($t = 2.78$, $df = 22$, $P < 0.01$, and $t = 8.71$, $df = 22$, $P < 0.01$, respectively), and higher control region haplotype diversity than eagle owl ($t = 20.33$, $df = 22$, $P < 0.01$). In Cyt *b*, eagle owl and tawny owl were not polymorphic. Tengmalm's owl did not differ significantly

from snowy owl in nucleotide or haplotype diversities for mitochondrial loci ($t = 0.30$, $df = 21$, $P > 0.05$, and $t = 1.57$, $df = 21$, $P > 0.05$, respectively). Allelic richness showed the same pattern; Tengmalm's owl and snowy owl had the highest values (Table 1). For the Z-introns, all species showed too little variation for any comparisons to be relevant (Table 1). In summary, snowy owls from the different regions did not differ much in genetic diversity, and the snowy owl seemed to be more diverse than eagle owl and tawny owl, but at the same level as Tengmalm's owl.

The growth rate parameter (G) estimated based on control region sequences for all snowy owl individuals pooled was positive and relatively large (630, CI: 357–972), which is a strong indication of population growth (LAMARC documentation: <http://evolution.gs.washington.edu/lamarc/>). Of the Scandinavian populations of four species, snowy owl and Tengmalm's owl showed indications of population growth ($G = 913$, CI: 413–1,000 and $G = 592$, CI: 197–968, respectively), whereas tawny owl and eagle owl showed indications of a stable population, and population decline, respectively ($G = 51$, CI: –455–911, for tawny owl, $G = -212$, CI: –487–142, for eagle owl).

Discussion

Analyses of two mitochondrial and two nuclear loci provided no evidence of phylogeographic structure among snowy owls from Scandinavia, eastern Siberia and North America as shown by minimum spanning networks, low F_{ST} values and a nested clade analysis. Furthermore, no reduction in genetic diversity was revealed in Scandinavia compared to the other two investigated regions. Snowy owls in western Palearctic, where the species has declined the last 100 years, do thus not seem to suffer from inbreeding or reduced genetic diversity.

LAMARC analyses indicated high levels of gene flow, especially across the Palearctic and the Bering Strait. This is not surprising, given the snowy owls high potential for long distance flights (Fuller et al. 2003), and the Atlantic Ocean probably being the greatest barrier to gene flow. It is however difficult to assess whether gene flow occurs at present, or whether the estimated levels mirror historical events. The LAMARC analyses indicated that the snowy owl regions have been exchanging individuals at least recently.

Our inclusion of samples from non-breeding individuals (Appendix) could potentially lead to erroneous results since these may have been breeding in other areas than assumed. However, analyses excluding samples from non-breeding birds in Scandinavia did not change the results (not shown), and it seems unlikely that the North-American samples did not belong to the Nearctic breeding population

(see Smith 2005). The fact that North American samples were from wintering birds, and so may represent a more widespread sample of the breeding population than the Palearctic samples, may explain why the North American population had the highest Cyt *b* haplotype diversity. However, this hypothesis assumes some level of genetic structure, which we did not detect in our study.

The long-term effective population size estimates were low; the maximum estimate was 14,000 snowy owl females (upper credible interval limit for 4% divergence rate for the control region dataset). Although this number excludes males, juveniles and not-reproducing adults, this is far lower than today's census size of 290,000 individuals. However, the result corresponds well with the population expansion indicated in the LAMARC analyses.

Genetic analyses of other species with Holarctic distributions have also revealed recent population expansions. Reindeer (*Rangifer rangifer*) and Arctic fox (*Alopex lagopus*), particularly the 'lemming ecotype', have both been hypothesised to have been restricted to several refugia during the last interglacial period, when their tundra habitat was restricted (Flagstad and Røed 2003; Dalén et al. 2005). When the last glacial period started, their habitat increased, and the populations expanded and spread, creating a pattern of low genetic structure and relatively high levels of genetic diversity seen today. The haplotype networks of both of these species lack, similar to the snowy owl control region network, a central haplotype, and have several clades (Flagstad and Røed 2003; Dalén et al. 2005). The history of the three species may thus be parallel. Particularly the lemming-ecotype of Arctic fox resembles the snowy owl in habitat and prey choice. The snowy owls higher potential for dispersal through flights may have taken the mixing process farther than for Arctic fox and reindeer, and our results of no phylogeographic structure support this hypothesis.

Despite the restricted number and spread of samples for the other investigated owl species, the differences between species in levels of genetic diversity fit well with differences in phylogeographic history and behaviour. Tawny owl and eagle owl, which had the lowest diversity levels, and low or negative growth parameter estimates, are both relatively resident (Cramp and Simmons 1994). In addition, the sampled populations probably originate from a range expansion from a Pleistocene refugium in the Balkan region, as was suggested for Norwegian tawny owls (Brito 2005). Founder events during the expansion would have lead to lower genetic diversity. The diversity level in Tengmalm's owl, on the other hand, was about the same as in snowy owl. Tengmalm's owls have, like snowy owls, a nomadic behaviour due to the cyclic abundance of their prey (Mysterud 1970; Cramp and Simmons 1994). In contrast to snowy owl, however, Tengmalm's owls in

North America and Eurasia are genetically differentiated (Koopman et al. 2005). The North Pacific may function as a larger barrier to gene flow between the continents in this species, than does the Bering Strait for the snowy owl.

In conclusion, our results indicate no phylogeographic structure across the entire circumpolar breeding range of the snowy owl. The decline in breeding numbers seen in western Palearctic is not associated with reduced genetic diversity. Given the species' potential for long-distance breeding dispersal and lack of phylogeographic structure, it

seems as if snowy owls can be considered as one global panmictic population from a genetic perspective.

Acknowledgements The study received financial support from the Norwegian Ornithological Society and the Research Council of Norway. We thank the Field Museum in Chicago, the Swedish Museum of Natural History, the Zoological Museum at the University of Oulu, Tromsø Museum, Lista Bird Observatory, the Swedish Polar Research Secretariat, colleagues at the Dept of Animal Ecology at Lund University, C. Steel and E. Dahl for samples, and D. Ehrlich, J. Johnson, four anonymous referees and colleagues at NHM, for valuable comments on the manuscript.

Appendix: Information on samples from four owl species

Species	Region	Locality	Source ^a	Voucher no. ^b	Sex ^c	Age	Date	GenBank accession no.			
								Control region	Cyt b	BRM-15	VLDLR-9
Snowy owl	Scandinavia	Värmland, Sweden	NRM	966087	F	–	1 February 1996	EU411003	EU436207	EU436255	
		Värmland, Sweden	NRM	976241	M	–	1 May 1997	EU411004	EU436208	EU436256, EU436257	
		Dalarne, Sweden	NRM	996648	M	–	1 November 1999	EU411005	EU436209	EU436258, EU436259	
		Västernorrland, Sweden	NRM	20006286	F	–	1 June 2000	EU411006	EU436210	EU436260	
		Norrbottn, Sweden	NRM	20006304	M	–	1 July 2000	EU411007	EU436211	EU436261, EU436262	
		Finnmark, Norway	TM	TM6	F	2Y	17 April 2000	EU411010	EU436214	EU436265	
		Finnmark, Norway	TM	TM117	F	3Y+	14 July 2003	EU411009	EU436213	EU436264	
		Finnmark, Norway	ANM	1100 (17811) ^d	M	2Y	July 2001	EU410983	EU436187	EU436246, EU436247	
		Captive, Norway	ANM	1619 (17812) ^d	F	–	2003	EU410984	EU436188	EU436248	
		Norway	ANM	1085 (17813) ^d	M	1Y	1997	EU410985	EU436189	EU436249, EU436250	
		Hedmark, Norway	ANM	1101 (17814) ^d	F	–	2000	EU410986	EU436190	EU436251	EU436291 ^f
		Finnmark, Norway	ANM	1572 (17815) ^d	F	–	1 July 2000	EU411008	EU436212	EU436263	
		Lapland, Finland	ZUO	31500	M	–	14 June 2000	EU411001	EU436205	EU436252, EU436253	
		Lapland, Finland	ZUO	970509	–	–	9 May 1997	EU411002	EU436206	EU436254	
Snowy owl	Eastern Siberia	Lopatka peninsula	SRE	–	M	Pullus	15 July 1994	EU410971	EU436175	EU436226, EU436227	
		Wrangel Island	SRE	–	M	Pullus	25 July 1994	EU410972	EU436176	EU436228, EU436229	
		Wrangel Island	SRE	–	F	Pullus	25 July 1994	EU410973	EU436177	EU436230	
		Wrangel Island	SRE	–	M	Pullus	25 July 1994	EU410974	EU436178	EU436231, EU436232	
		Wrangel Island	SRE	–	M	Pullus	25 July 1994	EU410975	EU436179	EU436233, EU436234	
		Wrangel Island	SRE	–	M	Pullus	25 July 1994	EU410976	EU436180	EU436235, EU436236	
		Wrangel Island	SRE	–	M	Pullus	25 July 1994	EU410977	EU436181	EU436237, EU436238	

Appendix continued

Species	Region	Locality	Source ^a	Voucher no. ^b	Sex ^c	Age	Date	GenBank accession no.			
								Control region	Cyt <i>b</i>	BRM-15	VLDLR-9
Snowy owl	North America	Wrangel Island	SRE	—	M	Pullus	25 July 1994	EU410978	EU436182	EU436239, EU436240	
		Wrangel Island	SRE	—	F	Pullus	25 July 1994	EU410979	EU436183	EU436241	
		New Siberian Islands	SRE	—	F	Pullus	—	EU410980	EU436184	EU436242	
		New Siberian Islands	SRE	—	M	Pullus	1 August 1994	EU410981	EU436185	EU436243, EU436244	
		Wrangel Island	SRE	—	F	Pullus	25 July 1994	EU410982	EU436186	EU436245	
		Illinois, USA	FMNH	334760 ^e	F	—	10 December 1987	EU410987	EU436191	EU436266	
		Minnesota, USA	FMNH	356917 ^e	M	—	27 April 1992	EU410988	EU436192	EU436267, EU436268	
		Wisconsin, USA	FMNH	384651 ^e	F	—	30 November 1993	EU410989	EU436193	EU436269	
		Illinois, USA	FMNH	384661 ^e	M	—	29 November 1996	EU410990	EU436194	EU436270, EU436271	
		Minnesota, USA	FMNH	385467 ^e	M	—	24 April 1997	EU410991	EU436195	EU436272, EU436273	
		Illinois, USA	FMNH	386069 ^e	M	—	11 December 1996	EU410992	EU436196	EU436274, EU436275	
		Minnesota, USA	FMNH	396989 ^e	F	—	23 November 1999	EU410993	EU436197	EU436276	
		Minnesota, USA	FMNH	430331 ^e	M	—	29 November 2000	EU410994	EU436198	EU436277, EU436278	
		Minnesota, USA	FMNH	430332 ^e	F	—	3 November 2000	EU410995	EU436199	EU436279	
		Illinois, USA	FMNH	430528 ^e	M	—	28 October 2001	EU410996	EU436200	EU436280, EU436281	
		Minnesota, USA	FMNH	435689 ^e	M	—	—	EU410997	EU436201	EU436282, EU436283	
		Minnesota, USA	FMNH	436414 ^e	M	—	—	EU410998	EU436202	EU436284, EU436285	
		Captive, USA	FMNH	437421 ^e	M	—	—	EU410999	EU436203	EU436286, EU436287	
		Minnesota, USA	FMNH	438319 ^e	F	—	—	EU411000	EU436204	EU436288	
Eagle owl	Scandinavia	Nordland, Norway	NHMO	18681	—	Pullus	May/June 2005	EU411030			
		Nordland, Norway	NHMO	18682	—	Pullus	May/June 2005	EU411031			
		Nordland, Norway	NHMO	18684	—	Pullus	May/June 2005	EU411032			
		Nordland, Norway	NHMO	18685	—	Pullus	May/June 2005	EU411033			
		Nordland, Norway	NHMO	18687	—	Pullus	May/June 2005	EU411035			
		Nordland, Norway	NHMO	18689	—	Pullus	May/June 2005	EU411034			
		Nordland, Norway	NHMO	18690	—	Pullus	May/June 2005	EU411036			
		Nordland, Norway	NHMO	18693	—	Pullus	May/June 2005	EU411037			
		Nordland, Norway	NHMO	18696	—	Pullus	May/June 2005	EU411038	EU436215 ^f		
		Nordland, Norway	NHMO	18699	—	Pullus	May/June 2005	EU411039			

Appendix continued

Species	Region	Locality	Source ^a	Voucher no. ^b	Sex ^c	Age	Date	GenBank accession no.			
								Control region	Cyt <i>b</i>	BRM-15	VLDLR-9
Tengmalm's owl ^e	Scandinavia	Vest-Agder, Norway	NHMO	7531	F	2Y+	13 October 2003	EU411011	EU436217	EU436290 ^f	EU436306
		Vest-Agder, Norway	NHMO	7532	F	1Y	13 October 2003	EU411012			EU436307
		Vest-Agder, Norway	NHMO	7533	M	1Y	13 October 2003	EU411013	EU436219		EU436308, EU436309
		Vest-Agder, Norway	NHMO	7534	M	1Y	13 October 2003	EU411014	EU436220		EU436310, EU436311
		Vest-Agder, Norway	NHMO	7535	F	2Y+	13 October 2003	EU411015	EU436221		EU436312
		Vest-Agder, Norway	NHMO	7536	M	1Y	13 October 2003	EU411016	EU436222		EU436313, EU436314
		Vest-Agder, Norway	NHMO	7538	F	1Y	14 October 2003	EU411017	EU436223		EU436315
		Vest-Agder, Norway	NHMO	7539	F	1Y	14 October 2003		EU436224		EU436316
		Vest-Agder, Norway	NHMO	7540	F	1Y	14 October 2003	EU411018	EU436225		EU436317
		Vest-Agder, Norway	NHMO	7541	M	1Y	14 October 2003	EU411019	EU436218		EU436318, EU436319
Tawny owl	Scandinavia	Telemark, Norway	NHMO	6506	M	1Y+	5 November 1999	EU411023	EU436216 ^f	EU436289 ^f	EU436292, EU436293
		Akershus, Norway	NHMO	7017	F	Pullus	20 May 2004	EU411020			EU436294
		Akershus, Norway	NHMO	7018	F	Pullus	20 May 2004	EU411025			EU436295
		Akershus, Norway	NHMO	7019	M	Pullus	20 May 2004	EU411026			EU436296, EU436297
		Akershus, Norway	NHMO	9394	M	Pullus	22 May 2005	EU411027			EU436298, EU436299
		Akershus, Norway	NHMO	9395	F	Pullus	22 May 2005	EU411022			EU436300
		Akershus, Norway	NHMO	9396	F	Pullus	22 May 2005	EU411024			EU436301
		Aust-Agder, Norway	NHMO	19127	F	2Y	18 April 1994				EU436302
		Aust-Agder, Norway	NHMO	19128	F	3Y	18 April 1994	EU411028			EU436303
		Aust-Agder, Norway	NHMO	19129	F	3Y	18 April 1994	EU411021			EU436304
		Aust-Agder, Norway	NHMO	19130	F	3Y	18 April 1994	EU411029			EU436305

^a NRM: Swedish Museum of Natural History; TM: Museum of Tromsø, Norway; ANM: Agder Museum of Natural History, Norway; ZUO: Zoological Museum at the University of Oulu, Finland, SRE: Swedish-Russian tundra expedition 1994, FMNH: The Field Museum of Natural History, Chicago, NHMO: Natural History Museum of Oslo, Norway

^b Journal numbers from the DNA/tissue collection of NHM Oslo given in italic

^c Sex was determined genetically with the primers 2500F/2718R which has been shown to produce two bands for females (W + Z) and one for males (Z) on Tengmalm's owls (Fridolfson and Ellegren 1999). We tested snowy owl and tawny owl individuals with known sex (determined from morphological characters, Cramp and Simmons 1994) and found the expected pattern. We could not amplify any Z chromosome fragments for the eagle owl samples, probably due to low concentration of DNA extracted from the down samples, and could thus not determine their sex

^d Non-breeding bird (non-breeding year, or outside breeding season)

^e Birds caught on migration

^f All individuals of the species have the same haplotype

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**This Fuller, M., Holt, D.W., Schueck, L. 2003. paper,
“Snowy Owl movements: variation on the migration theme”
shows the movements of owls from Alaska to Russia and Canada.**

**The great circle distance from the Barrow nesting area
to the area where they spent the next breeding season
ranged from 628 to 1928 km.**

**These radio tracking results are similar to the banding data
that Parmelee (1972, 1992) used to conclude that snowy owls can
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Snowy Owl Movements: Variation on the Migration Theme

Mark Fuller,¹ Denver Holt² and Linda Schueck³

1 Introduction

Snowy owls (*Nyctea scandiaca*) have a Holarctic distribution. Our recent understanding of the movements of these birds was summarized by Holt et al. (1999): "Movements not predictable, related in way not fully understood to abundance of prey species; thought to vary considerably from region to region ... and intensity of movements fluctuates annually; ... populations periodically irruptive, ... when lemming numbers crash. Winters irregularly S [south] to ..." The spatial and temporal relationships among breeding, migration route, and wintering areas of snowy owls are essentially unknown.

Kerlinger et al. (1985) used Christmas Bird Count data to test for periodicity of snowy owl winter distributions in North America (NA) and of synchrony among regions. They concluded that snowy owls migrated regularly to the central region of Canada and the northern United States of America, but that their winter occurrences in the eastern and western sections of the continent varied dramatically from year to year and were not periodic. Snowy owls rarely winter in the western section. Pitelka et al. (1955) found that snowy owl abundance and nesting at Barrow, Alaska, USA, as in many other areas, were associated with changes in the numbers of lemmings (mostly *Lemmus* sp.). It is widely believed that snowy owls remain in northern breeding areas in winter only when lemmings are abundant; however, there are too few data to confirm how widespread this might be. Certainly, some snowy owl movements and migrations are associated with fluctuations of their prey (Parmelee 1992; Menyushina 1997).

D. Holt leads studies at Barrow, and found that from 1992–1998 there were 38 to 108 breeding owls during the 3 years that nests were found, and from 17 to 49 owls present during the 4 years when no breeding activity was detected (Peterson and Holt 1999). Based on 10 years of snowy owl and lemming surveys at Barrow, he predicted that many snowy owls would breed in 1999, and little or no breeding and few owls would be present in 2001, which was the case. Do owls that do not return to a nesting area survive, and if so where do

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they go; do they nest? Furthermore, we might expect the Barrow breeding area to be a source of snowy owls that could winter to the south, in the western section of NAM. If snowy owls do not migrate regularly to the eastern and western regions of NAM, do owls from the eastern and western regions of the nesting range "funnel" to the mid-continent regions? If they do not, do they remain in the breeding range? Information about the owls' movements is essential for understanding their ecology and more specifically, what strategy(ies) they exhibit for migration.

We conducted a pilot study to test satellite telemetry techniques for the following objectives: (1) describe postbreeding movements of adult snowy owls; (2) delineate migration timing and routes; (3) identify areas used during winter; and (4) identify areas used in successive breeding seasons. Satellite telemetry is suited to tracking owls in the remote regions, and under the circumstances when the owls' destinations are unknown.

We used the Argos satellite telemetry system, which comprises polar orbiting satellites, platform transmitter terminals (PTTs), ground receiving stations, and management and distribution of data (Argos 1996). Argos computes the location estimates of the PTTs using principles of the Doppler shift. Since the mid-1980s, tracking of wide ranging birds has been possible because of the development of small PTTs (Strikwerda et al. 1986; Gillespie 2001). Our goal was to obtain location estimates of snowy owls through at least one annual cycle.

2 Study Area and Methods

The study area in which we radio-marked snowy owls extends south from Point Barrow, Alaska, USA, encompassing 213 km² of the Arctic Coastal Plain. Located on the northernmost tip of Alaska, it is bordered by the Arctic Ocean with the Chuckchi Sea to the west and the Beaufort Sea to the east. Brown et al. (1980) and Peterson and Holt (1999) provide descriptions of our northern Alaska study area.

We received location estimates from the Argos satellite telemetry system once every 4 days and plotted them using ArcView PC-GIS (Environmental Systems Research Institute, Redlands, California, USA). Argos assigns each location estimate a nominal measure of accuracy (location class, LC): LC 3, ≤ 150 m linear error; LC 2, 150–350 m; LC 1, 350–1000 m; and LC 0, > 1000 m; LC A and B, no accuracy. We usually mapped only LC 1, LC 2, and LC 3. We used 31 g PTTs (PTT100, Microwave Telemetry Inc., Columbia, Maryland, USA) that were programmed to transmit on varying schedules during the year to extend their operation period. We attached the PTTs to the owls as a backpack, using about 5 g of Teflon ribbon (Bally Ribbon Mills, Bally Pennsylvania, USA) as the harness material (Snyder et al. 1989).

3 Results and Discussion

We PTT-marked six adult, nesting snowy owls. We lost the radio signal from the male marked in 1999 soon after it departed the Barrow study area. A female marked in 2000 was found dead along a road in the study area in August after her young fledged. Four other females nested successfully, and two were radio-tracked from July 1999 and two from July 2000 into the summer of 2001.

Female snowy owl 25157 (hereafter referred to as 57) departed the nesting area about August 20, 1999 and the other female, 25154 (54), remained until November 24, 1999 (Fig. 1a). In 2000, female 11980 (80) left the nest area about September 9, and 11981 (81), left October 24 (Fig. 2). Thus, unlike snowy owls from some previous studies (Pitelka et al. 1955; Portenko 1989), our birds did not remain on the nesting area after the breeding season. Owl 57 ultimately flew to the coast of Alaska, north over the Chuckchi Sea ice, then to the Alaskan coast again. Voous (1989) noted that snowy owls crossed oceans and used Arctic coastlines, ice flows, and leads in the ice far out at sea during invasion years. Our data reveal that they also use these features after successful breeding. Beginning in December, 57 traveled for 4 months, flying as far south as 59° N, remaining in no area more than 2 weeks. Also in December, female 54 traveled to an area where she remained for more than two and a half months (Fig. 1a). Wintering snowy owls have been reported throughout the region encompassing the Bering Strait and islands, St. Lawrence Island, and the Chukotskiy Peninsula (Fay and Cade 1959; Portenko 1989).

The snowy owls radio-marked in 2000 left the nesting area in different directions (Fig. 2). Owl 81 flew to the Chukotskiy Peninsula coast in December, then to the region that 54 had used the year before, then, for another month on the Chuckchi Sea ice. Female 80 left Barrow in September and wintered in southern Alaska at 60° N 146° W, south of snowy owl breeding range, but well within the wintering range (Holt et al. 1999; König et al. 1999).

In late February 2000 owl 54 moved, settled mid-March to early May, then proceeded 1322 km west to settle around 70° N 157° E from June 22 to late September. "Spring flight occurs in this region from early March to early June and egg-laying from mid May into June." (Portenko 1989). On Wrangle Island egg-laying begins from mid- to late May (Menyushina 1997). Thus, it is unlikely that 54 nested in 2000. Nonbreeding adults occur on Wrangel Island and the Chukchi Sea coast (Portenko 1989; Menyushina 1997). Owl 57 used Chuan Bay, where snowy owls can be "prevalent" (Portenko 1989), then flew to 71° N and 147° E until August, and possibly nested about 1928 km from where she had bred the previous year, in Barrow.

After moving in late September 2000, owl 54 stopped by Chuan Bay, before settling on the coast south of the Chukotskiy Peninsula for more than 2 months (Fig. 1b). In August, owl 57 generally reversed her westward spring flight. During October-November she again used Chuan Bay, then in mid-November settled at 67° N 174° E.

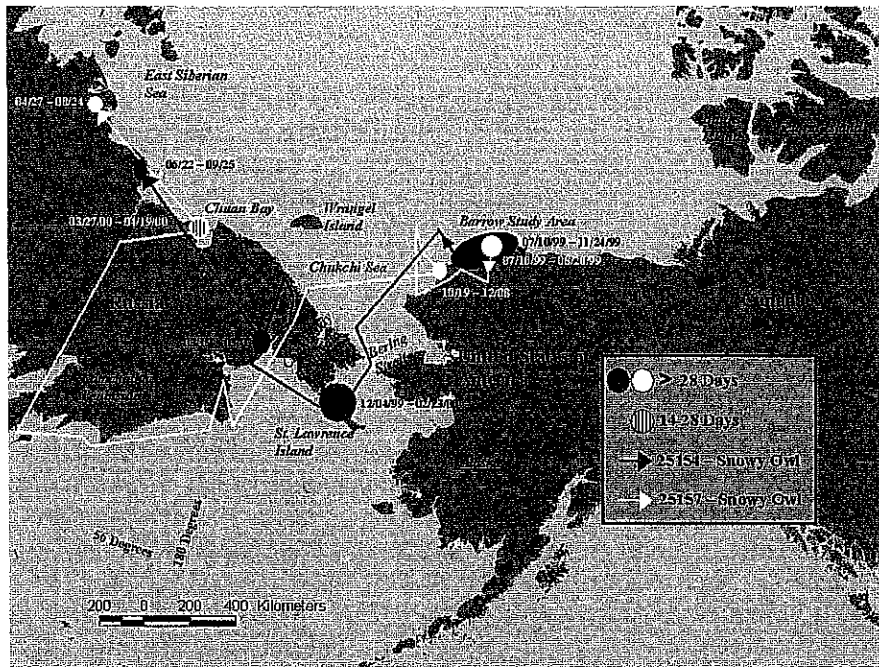


Fig. 1. a. Postnesting movements of two female snowy owls, 1999 - 2000.

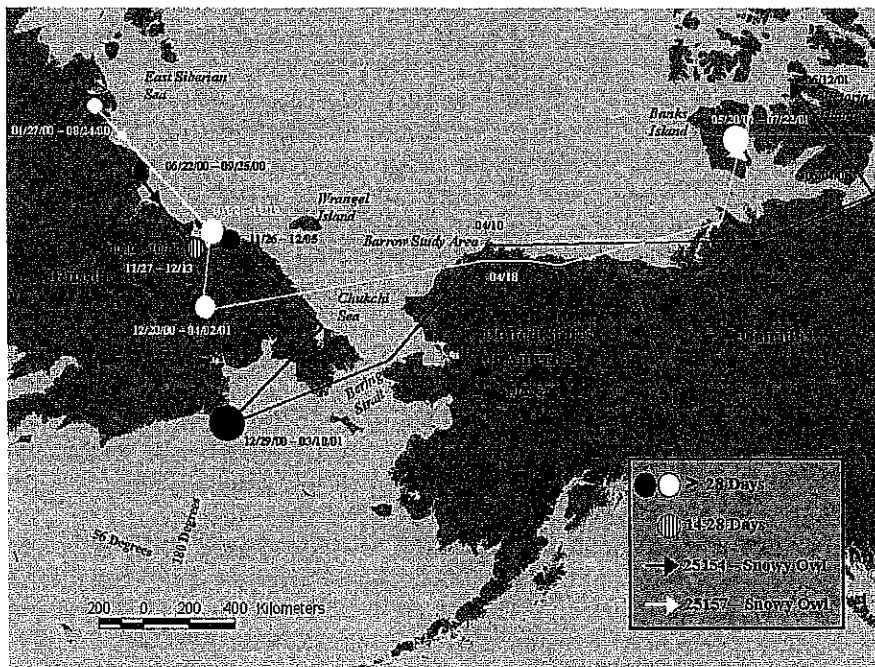


Fig. 1. b. Continued movements of the two adult female snowy owls, 2000-2001

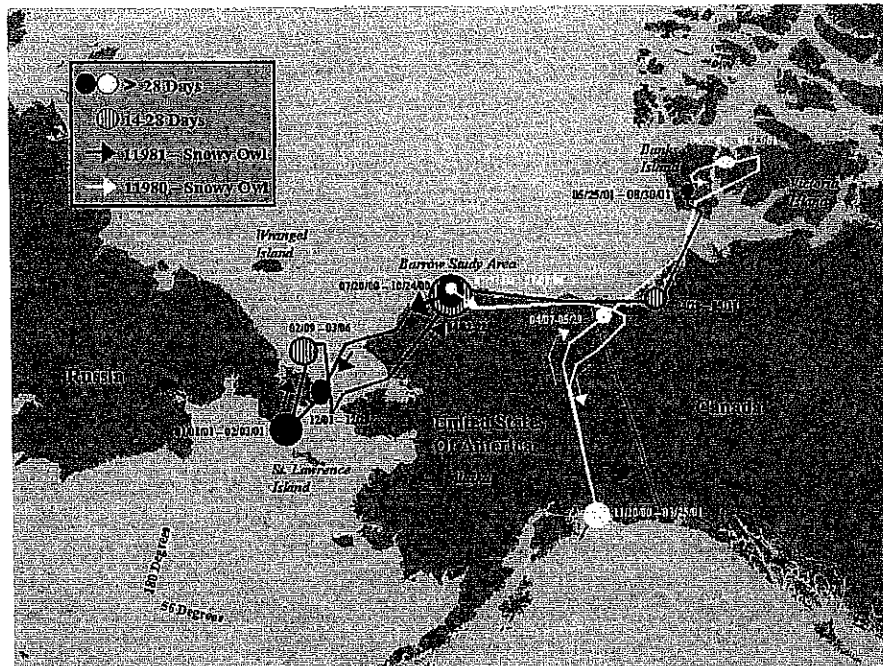


Fig. 2. Postnesting movements of two female snowy owls, 2000 - 2001

Female 54 left her 2001 winter area 4 weeks before 57 departed, but by April, within a week of each other, both passed through Barrow, where they had nested in 1999. They continued east along the north Alaska coastline, into Canada, where 54 crossed onto Victoria Island (May 28), and 57 went to Banks Island (May 20). Female 80 flew from her winter area in late March 2001 to the USA-Canada border and settled for about 7 weeks (Fig. 2). Then she flew east and crossed to Banks Island (June 12). Meanwhile, owl 81 left the Chukchi Sea in March and proceeded to the Barrow area where she had nested the previous spring (Fig. 2). She remained in Barrow in mid-April when 54 and 57 were there. Then, 81 continued into Canada and crossed to Banks Island (May 16). Thus, four females that had nested in Barrow, two in 1999 and two in 2000, had traveled up to 3159 km from different winter areas, and crossed to northwestern Canadian islands within 29 days of each other.

Banks Island and Victoria Island are nesting areas of snowy owls (Manning et al. 1956; Parmelee 1972, 1992). Egg-laying begins in May (Parmelee 1972, 1992). We lost the radio signal owl 54 (June 12), and owl 80 flew from Victoria Island to Banks Island in late August; it is unlikely that they nested successfully. By 20 May, female 57 had settled on Banks Island, and might have nested there, 1548 km from where she might have nested the previous year. Female 81 settled on Banks Island and could have nested there, 628 km from her Barrow nest of 2000.

These snowy owls' annual flights link disparate regions, encompassing nearly one third of the species' Holarctic distribution. These owls from the same nesting area did not winter in the same places. They usually settled in one or more locales for 2 weeks or longer during the winter. Their postnesting distribution reflects the patchiness in time and space that Kerlinger and Lein (1986) noted from winter counts, and supports the suggestion by Kerlinger and Lein (1988) that, prior to January, many snowy owls might be seeking suitable places to spend the nonbreeding season. None of the owls moved to the central zone of the North American Plains, where snowy owls regularly winter, nor did they go to the western zone, where immature birds constitute most of the counts (Kerlinger et al. 1985). Our radio-tracked snowy owls reflect the "inherent variability" and potential for movement among "populations" (Kerlinger and Lein 1986), but did not exhibit regular migration.

No owl returned to the nesting or winter area she had occupied the previous year. Thus, they did not demonstrate regular nesting or wintering area site fidelity. The owls did not travel together, but their paths did cross or join temporarily. Three returned to their former Barrow nesting area in 2001, but all continued eastward. The lemming index was low at Barrow in 2001 and no snowy owls nested in the study area (D. Holt, unpublished data). The great circle distance from their Barrow nesting area to the area where they spent the next breeding season ranged from 628 to 1928 km. These radio tracking results are similar to the banding data that Parmelee (1972, 1992) used to conclude that snowy owls can cover vast areas during their life cycle, and our results confirm they can fly long distances to alternative breeding sites (Holt et al. 1999).

Possibly, some females nested 2 years in a row, while others most likely did not. Referring to the relationships among snowy owl movements, breeding, and fluctuating lemming abundance, Parmelee (1992) wrote, "... the crux of the phenomena is a mobile breeding population of owls ... breeding where and when their prey is abundant." Our data hint at how this might occur. Snowy owls that inhabit regions within which prey abundance fluctuates greatly in time and space move through large areas from year to year, experiencing the area like other species experience their home range. All four owls frequented some areas that they had visited previously. This experience, with other adaptations, could allow them to locate areas of prey abundance sufficient to survive and reproduce successfully in the course of their lives.

Voous (1988) wrote: "Unless it is able to develop other means of surviving the arctic winter and of avoiding life-wasting migrations and irruptions, the snowy owl appears to have reached a terminal point in its evolution." We suggest that the travels of snowy owls are part of a strategy adapted to prey resources occurring in a patchy distribution for relatively short durations in a manner such that they are inadequate to meet a bird's requirements within an area typical of most large raptors' home ranges. We propose to sample snowy owls from several locales within their Holarctic range. By tracking

owls with satellite telemetry we can overcome some of the logistical problems that accompany the multisite approach needed to detect their broad movements and distribution (Kerlinger and Lein 1988). Owls tracked by satellite telemetry can lead us to the areas along their life path (Kenward et al. 2001) where we can study the associations among the owls' behavior and ecological characteristics, survival, and reproduction (e.g. Lundberg 1979) that will reveal the strategy of their unusual movements (Andersson 1980).

Acknowledgements. This chapter is dedicated to the memory of David F. Parmelee, a classical ornithologist, a polar biologist, an artist, and a teacher and mentor. We thank the Raptor Research Center, Boise State University (RRC-BSU), and the Center for Conservation Research and Technology, University of Maryland at Baltimore County, for support. Many colleagues in Barrow, Alaska, have contributed to this work, including those with Ukpeagvik Inupiat Corporation and the North Slope Borough Department of Wildlife Management. Owl Research Institute seasonal biologists contributed in many ways. David Douglas, USGS Alaska Biological Research Center, has helped with data interpretation and Karl Dehart, RRC-BSU, has managed data, derived many measurements, and prepared the maps for us.

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SNOWY OWL RESEARCH

Bubo scandiacus

Denver W. Holt

Begun in 1992 in Barrow, Alaska, the Snowy Owl project is focused on the owl's diet, habitat, and reproductive success. Thanks to the United Iñupiat Corporation and Barrow Environmental Observatory for permitting access to field sites.

Through our research, we have discovered that Snowy Owl nesting fluctuates with the population cycles of the Brown Lemming.

In tracking studies, in conjunction with the Raptor Center of Boise, Idaho, we found that Snowy Owls engage in east to west, high-latitude movements from Barrow to Russia, then from Barrow to Canada. These migrations underscore the fact that conservation of this species will require large-scale, international efforts to protect Arctic habitat.

Occasionally, Snowy Owl populations irrupt into more southern latitudes. In 2005-2006, we had first-hand experience of this phenomenon when a population of Snowy Owls overwintered in western Montana. During the event, we collected dietary data and determined that the owls were primarily eating voles (95%).

The irruption emphasizes the fact that Snowy Owls require large areas of open lands, beyond the Arctic, to accommodate their nomadic tendencies.

Long-distance migratory movements and habitat selection of Snowy Owls in Nunavut



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29 September 2008

Final report submitted to the Nunavut Wildlife Management Board

Project no: # 5-07-01

Project no: # 5-07-01

Final report: 30 September 2008

Title

Long-distance migratory movements and habitat selection of Snowy Owls in Nunavut.

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Cover picture: This picture of a Snowy Owl marked with a satellite transmitter on Bylot Island in July 2007 was taken in Abernethy, Saskatchewan, on 10 April 2008, 2750 km from the marking site.

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SUMMARY

Snowy Owls are a top predator of the Arctic tundra and one of the least known species of birds in Nunavut, in part due to their erratic migratory movements. The primary goals of this project were to study the long-distance migration of Snowy Owls breeding in Nunavut by tracking animals using satellite telemetry and to organize a workshop in the community of Pond Inlet to allow a two-way transfer of knowledge between scientists and northerners on the biology and movements of the species. During the summer 2007, 12 adult female snowy owls were marked with satellite transmitters on Bylot Island, Nunavut, and their movements were tracked since then. In summer 2008, the sites where most birds had settled were visited to resight them. Three transmitters became stationary during the winter but only one bird could be confirmed dead in summer 2008. Annual survival of radio-marked owls was thus at least 75% and perhaps as high as 92%. No negative effect of the marking was observed on the survival, movements or reproduction of the birds. Owls showed enormous variability in their migration patterns: although 2 birds moved to temperate areas for the winter (Newfoundland and North Dakota), most spent the winter at high latitudes (south Baffin Island and west Hudson Bay) and one even spent the winter further north, on Ellesmere Island. The average distance between the breeding and the wintering site was 1727 km (range: 410-3245 km). All birds wintering in the north but one ($n = 7$) spent a significant amount of time on the sea ice (from 1 to 2.5 months), suggesting that it is an important wintering habitat for owls in Nunavut. Birds started migrating north in late March and settled on a summer range in early May. Birds showed no breeding site fidelity between years as none returned to Bylot Island to breed. In summer 2008, marked birds settled throughout Baffin Island except for one that moved to Prince Patrick Island in the western Arctic. The mean distance between the summer range of birds in 2007 and 2008 was 733 km (range: 235-1228 km). All 8 birds that had settled throughout Baffin Island were resighted and we found nests for 7 of them, thus confirming for the first time that Snowy Owls can breed in two consecutive years in sites very far apart. Qualitative observations reported by participants from the community during the workshop confirmed some of the scientific results although it appears that people of Pond Inlet have very little information on the wintering ecology of owls. Overall, this project was highly successful and provided new and unique information on the long-distance movements and space use of Snowy Owls breeding in Nunavut.

1. INTRODUCTION

Observations reported by the Inuit people (Krupnik and Jolly 2002) and western science (ACIA 2005) both indicate that the Arctic environment is changing and in particular that climate is warming rapidly. These changes could have a considerable impact on Nunavut wildlife species in future years, most of which are well adapted to the cold and harsh environment of the arctic tundra. However, our understanding of the impact of these changes on wildlife species and on the functioning of the tundra ecosystem remains very limited because some basic information is still lacking for several species. This is especially true for top predators in arctic ecosystems because these animals usually roam over large areas, which increases the logistic challenges to study them.

Among these top predators, the Snowy Owl (Ookpik; *Bubo scandiaca*) is a mythic species and a powerful symbol of the Arctic. This species occupies a prominent place in the legends and culture of many Indigenous people, including the Inuit. At local scale, Inuit have long known the relationship between Snowy Owls and lemmings. However, and despite its symbolic value, Ookpik remains one of the least known species of birds in the Arctic, especially in Nunavut. A key reason for this is that the Snowy Owl is a highly nomadic species that can range over distances of several hundred kilometers to find its main prey, lemmings, in sufficiently large numbers. The extent of its migratory behaviour between its breeding and wintering areas is poorly known, as well as movements between breeding attempts in successive years (Fuller et al. 2003). For instance, at our long term study site of Bylot Island, Sirmilik National Park, owls breed in abundance in years of peak lemming abundance (every 3 or 4 years) but in between those years they have never been observed to breed there and are almost completely absent during the summer (Gauthier et al. 2004). These erratic movements, which are among the most spectacular of all terrestrial birds, explain in part why we know so little on the biology of this species.

The paucity of basic knowledge on Snowy Owls in Nunavut, and especially on their movements, is most unfortunate as it hinders the development of management plans for the species. For instance, we do not know the population structure of the species or its basic demographic parameters such as fecundity, survival or dispersal. This makes it impossible to

determine the conservation status of the species in Nunavut or to evaluate how the species may be impacted by current change taking place in the arctic ecosystem.

In the context of the International Polar Year (PY; 20007-2009), a circumpolar project called Arctic Wildlife Observatories Linking Vulnerable EcoSystems (ArcticWOLVES) was developed and funded by the Canadian IPY program. The aim of the project is to improve the understanding of the functioning of the Arctic terrestrial food webs and to assess the effect of climate change on the tundra ecosystem and its wildlife species over a large geographical range. Avian predators, including Snowy Owls, are high priority species in this project. Therefore, this provided an opportunity to launch a study on this little known species.

An important knowledge gap identified for Snowy Owls was the lack of specific information on its large-scale movements, distribution, and habitat use. Satellite tracking has proven to be a useful technique to document migratory routes of large bird species (Fuller et al. 1998, 2003, Trierweiler et al. 2007), including raptors. This technology is particularly appropriate to track large scale movements of birds over long distances in remote areas such as the Arctic (Britten et al. 1999). In many cases, satellite tracking can provide new information of major importance for the conservation of bird species, information that cannot be collected using alternative techniques. This is why this project focused primarily on the use of satellite telemetry to study Snowy Owls breeding in Nunavut.

1.1 Objectives

This project had two major objectives.

1. Study the long-distance migration of Snowy Owls breeding in Nunavut by tracking animals using satellite telemetry over a full year. This will allow us to answer some basic questions, such as: how far south do Nunavut owls go in winter? How far can Snowy Owls move between breeding attempts in consecutive years? Can they breed successfully in two years in different areas? What is the scale of owl's population in Nunavut?
2. Organize a workshop in the community of Pond Inlet during winter to allow a two-way exchange of knowledge between scientists and northern residents on the biology and movements of Snowy Owls.

In addition, the project also had two secondary aims:

3. Measure the impact of owl predation on lemming populations.
4. Provide training in wildlife management and conservation to northerners by hiring a field assistant from the community of Pond Inlet to assist in the capture snowy owls.

2. MATERIAL AND METHODS

2.1 Study area

The study took place in the south-west plain of Bylot Island, Sirmilik National Park, in summer 2007. The closest community to the study site is Pond Inlet (figure 1). This area is characterized by a low elevation plateau (ranging from 100 to 300 m above sea level) cut by numerous rivers flowing from the mountains and glaciers in the central portion of the island to the sea. These rivers create a diverse landscape ranging from small, narrow valleys to deep and wide glacial valleys. Most of the landscape is covered by lush tundra vegetation and is dominated by mesic tundra on the plateaus and slopes or wet polygon fens in the valley bottom (Gauthier et al. 1996). This area is a very important breeding ground for many bird species in Nunavut, including Snowy Owls, and is a Migratory Bird Sanctuary as well as a Canadian National Park. A large snow goose (*Chen caerulescens atlantica*) colony is also located in this area. Activities were conducted from two field camps located in this area (camp-1: 73° 08' N; 80° 00' W; camp-2: 72° 53' N, 79° 55' W).

2.2 Nest monitoring and lemming abundance

In June and early July 2007, a team surveyed on foot areas suitable for nesting owls over approximately 200 km² of the south plain of Bylot Island to locate their nests (Figure 2). The area searched for owl nests represent only about 15% of the south plain of Bylot Island, which extends over approximately 1,600 km² (Figure 1). All nests found were positioned with a GPS receiver and their content noted (number of eggs or chicks). Most nests were revisited at about 2-week intervals until successful departure of the last chick or until failure (i.e. all eggs or chicks disappear). A nest was considered successful when at least one chick fledged. At each visit, we also collected regurgitation pellets near the nest to study their diet. Pellets were brought back to the laboratory for analysis. Bones and hairs present in pellets were sorted and identified to the

species level. Clutch size was defined as the maximum number of eggs (or eggs and chicks) recorded in a nest. The laying date (defined as the date that the first egg was laid) was inferred from the nest content assuming that one egg was laid every other day.

We sampled the abundance of lemmings at two sites near Camp-1 (one in wet meadow habitat and one in mesic habitat) and one site at the Camp-2 (mixed habitat) in July 2007. At each site, we used 204 traps set at 15-m intervals along two to four parallel transect lines 100 m apart (51 to 102 traps/transect depending on the site) and left open for 4 days. We used Museum Special snap-traps baited with peanut butter and rolled oats. Similar data were available for the sites since 1993 (data from Gruyer et al. 2008).

2.3 Marking and tracking or radio-marked owls

We captured 12 adult breeding females on their nest using a bow-net trap (Figure 3a, b) and marked them with 30g satellite transmitters (Microwave Telemetry Inc., MD, USA; PTT-100) fixed on the birds with a Teflon ribbon harness (Bally Ribbons Mills, PA, USA) (Figure 3c, d). The size of the transmitter and the method of attachment were chosen following Steenhof et al. (2006) and after extensive consultation with experts that had previous experience in marking snowy owls or similar species with radio-transmitters (Mark Browning, Pittsburgh Zoo; Mark Fuller and Kirk Bates, Raptor Research Centre, Boise State University; Guy Fitzgerald, veterinary school, Université de Montréal). In addition, Jean-François Therrien, the PhD student responsible of the field component of the project, conducted extensive tests on captive owls at the birds of prey rehabilitation center of Ste-Hyacinthe, Quebec (UQROP), with the assistance of a veterinarian. During winter 2007, he marked snowy owls with dummy transmitters in a large outdoor aviary to ensure that the transmitter and harness did not cause any harm to the birds. All marking took place in late June and early July. The capture, manipulation and the transmitter itself can be a source of stress for an animal and we therefore reduced as much as possible all stress imposed to the birds. Captures were done quickly by experienced personnel. Jean-François Therrien received the assistance of Marten Stoffel, a technician from the University of Saskatchewan who has captured and banded several owl species during many years. Thanks to the experience acquired with the captive owls, Jean-François was able to attach the harnesses quickly (<10 minutes) and without the use of drugs. All birds were weighed to the nearest 10g using a 5kg PESOLA spring scale in order to assess general body condition. Following release of

the bird, activity was observed at the nest with a spotting scope from a hidden, distant vantage point (>300 m) for a few hours.

Transmitters were programmed to transmit continuously for about 6 hours and then turned off for a number of hours on a varying schedule. Rate of transmission ranged from one transmission bout every 5 days to one every 2 days depending of the season. Transmitters were programmed to last for at least 16 months, and potentially up to 24 months. Real time locations of marked owls have been received via internet since the installation. Each location estimate is associated with a measure of its accuracy determined by the Argos system. The estimated accuracy of location classes 0, 1, 2 and 3 are > 1 km, ≤ 1 km, ≤ 350 m and ≤ 150 m of the actual location, respectively. Location classes A, B, C and Z are considered to be of poor accuracy by the system and we therefore only used localisations with accuracy of ≥ 0 for all analyses. Given the good satellite coverage of polar regions, numerous localisations were received for each bird during each 6-h transmission bout. In order to avoid overestimation of the total distance moved, all localisations were averaged for a given bout.

The analysis of owl movements for this report covers a full year, from marking in early July 2007 until the end of June 2008. The data was divided into 2 periods: 1) the fall-winter period extends from July 2007 to 29 February 2008 and includes the fall migration and most of the wintering period; 2) the spring-early summer period extends from 1 March 2008 to the end of June 2008 and includes the spring migration and the period of settlement on a summer range. Total distance moved was evaluated by summing the length of all segments between successive transmission bouts during each migration. Net linear movement in the fall-winter period was measured as the distance between the nesting site (on Bylot Island) and the localisation at the end of February, and in spring as the distance between the localisation at the end of February and the localisation at the end of June. Migration speed was measured as the total distance moved divided by the number of days taken into account. General orientation of migration was roughly evaluated between the breeding and wintering areas according to the path followed during migration. Initiation of the fall and spring migration was defined as the date midway between the date of the first localisation beyond 5 km of the nest site (or the wintering site) and the previous date of localisation (Ganusevich et al. 2004). The end of the fall and spring migration was defined as the date midway between the first date when movements ranged for less than 5 km

from the last localisation and the previous date of localisation. Wintering sites were defined as the area where movements between successive localisations were less than 5 km. All movement parameters were analysed using ArcGIS 9.2 software (ESRI Inc., Redlands, CA, USA), and this software was also used to plot movement paths of the birds.

During summer 2008, attempts were made to revisit the sites where radio-marked owls had settled. Although these sites were outside our study area on Bylot Island, most of them were accessed with the help of a helicopter provided by the Polar Continental Shelf Project. At each of these sites, the helicopter circled briefly to observe for any signs of owls before landing. On the ground, 1 to 3 persons searched the site for a few hours and scanned the surrounding area with a spotting scope in order to find the marked bird and to determine if it was nesting. When a nest was found, its content was checked. For the 3 birds whose signal had stopped moving during the fall or winter (see results), we also attempted to visit the site from which the stationary signal was coming from in summer 2008. We conducted a thorough search on the ground for the transmitter and/or for any evidence of an owl carcass around the position provided by the satellite.

2.4 Workshop and local community participation

On 5 March 2008, a 1-day workshop was organized at the Nattinak Visitor Center of Pond Inlet, followed by a public presentation in the evening. The workshop and public presentation were centered on 2 themes, one of which was the Snowy Owl project. Jean-François Therrien, attended the workshop, as well as several members from the Parks Canada's staff in Iqaluit and Pond Inlet. People invited to the workshop included members from the Sirmilik National Park Joint Management Committee, the Hamlet of Pond Inlet, the Mittimatalik Hunters and Trappers Organization (HTO), the Government of Nunavut, Elders of Pond Inlet and the Inuit Knowledge Working Group of Pond Inlet. Official letters of invitation had been sent to all of these people approximately 2 months before the workshop, and were translated in Inuktitut. Jean-François Therrien made presentations and lead the discussion. A translator was hired to provide simultaneous translation during the workshop. All presentations were supported by visual material (Power Point presentations are available upon request). An English/Inuktitut leaflet presenting this project and preliminary results was presented to the community during this

workshop (this leaflet is included in appendix B of this report). Finally, Jean-François Therrien also made 2 presentations on the project at the Pond Inlet High School on 6 March 2008.

For the field work on Bylot Island, a field assistant was hired from Pond Inlet to assist the research team in summer 2007. The position was advertised locally (at the Parks Canada office and the COOP store) as well as on the community radio to recruit that person.

3. RESULTS

3.1. Satellite telemetry and long-distance movements

3.1.1 Reproductive success of radio-marked owls in 2007

A total of 17 owl nests were found on Bylot Island in 2007 over an area of approximately 200 km² (Figure 2). Nests were widely scattered throughout this area but mostly associated with rivers, often located on bluffs overlooking a stream. From 27 June to 11 July, 12 nesting females among these nests were captured and marked. Hatching had started at the time of capture and thus all nests had a mixture of eggs and chicks. Marked females were observed returning to their nest a few minutes to a few hours after marking, and all of them resumed normal activities, i.e. they incubated the eggs and brooded their chicks. Thus, no females deserted their nest following marking.

Average clutch size of all owl nests found in 2007 was 5.6 ± 1.8 and did not differ significantly between marked (6.1 ± 1.8) and unmarked ones (4.3 ± 0.8 ; t-test = -1.84, df = 13, $p = 0.09$). Overall, reproductive success was moderate (60%) as 9 nests out of 15 with known fate produced at least one fledgling (Table 1). Reproductive success did not differ between females that were caught and marked at the nest (64%) and those that were not caught (67%) (Fisher's exact test: $F = 0.77$, $n = 14$, $p = 0.79$; note that the comparison of reproductive success between marked and unmarked females exclude one nest that failed very early in the season and was therefore not available for marking). Among marked birds, the body mass of females who failed to fledge at least one young (2.17 ± 0.10 kg) was not different from females who fledged at least one young (2.17 ± 0.18 kg) (t-test: $t = 0.03$, $n = 11$, $p = 0.97$).

3.1.2 Survival of radio-marked owls

No owls were hurt during the capture and marking process. Among the 12 transmitters attached to owls, 3 became stationary at some point during the fall (13 August, 23 October and 26 November) and did not move afterward. Those 3 transmitters had nonetheless moved over distances ranging from 104 to 1072 km (Table 1) before becoming stationary and were transmitting properly both before and after stopping their movements. All transmitters are equipped with a temperature sensor and those 3 have been indicating a much lower temperature after they became stationary than the remaining 9 transmitters. The mean body mass of the birds wearing the transmitters that stopped moving (2.10 ± 0.02 kg) did not differ from that of the remaining birds (2.20 ± 0.17 kg) at the time of marking in July (t-test, $t = -1.56$; $df = 10$, $p = 0.16$). Movements of the remaining 9 transmitters have been normal until the end of June 2008.

In summer 2008, we were able to visit the site where one transmitter had been stationary since fall 2007. This site was located on Borden peninsula, Baffin Island, near Navy Board Inlet (Fig. 5). Within 31 m of the position provided by the satellite, we found the carcass of the owl with the transmitter attached to it. The harness was intact and well positioned on the bird, all body parts were still attached to the carcass and there was no sign of external injuries, although the carcass was partly decomposed. We recovered both the transmitter and the harness. There was no evidence that the transmitter or the harness had been damaged by the bird with its beak or claws. Visits to the two other sites with stationary transmitters were not possible because they were too far (>350 km) from the camp. Therefore, it is not possible to determine the reason for the stationary transmissions.

3.1.3 Movements during the fall-winter period

The radio-marked birds showed an enormous amount of individual variability in almost every aspect of their migratory pattern. Birds generally initiated their fall migration in early September although some birds (especially those whose nest failed) started in July or August (Table 2). South-east was the most common ($n = 6$) orientation taken by fall migratory owls although some took a south-west orientation and 2 birds even moved north (Figure 5; Table 2). Some birds followed a relatively linear path during the migration (e.g. #48837 and # 48839) whereas others followed a very tortuous path (e.g. #39097 and # 39103 Figure 5). Total distance

moved during the fall migration, net linear movement and migration speed also varied enormously among marked birds; total distance moved ranged from 2173 to 5253 km (excluding transmitters that became stationary during the fall), net linear movement ranged from 410 to 3245 km and migration speed ranged from 9 to 30 km/day (Table 2). The consequence of this large inter-individual variability in fall migration is that the wintering sites used by marked owls differed considerably in latitude and longitude (Figure 5). Some birds wintered as far south as the east coast of Newfoundland (48°N, 53°W) or North Dakota (44.5°N, 98°W), two sites separated from each other by 3562 km. The majority ($n = 6$) of owls spent the winter around southern Baffin Island and northern Quebec but, surprisingly, 2 others went north to Ellesmere Island (78.5°N, 84.5°W and 76.5°N, 81°W). The fall migration was relatively long because birds settled on a wintering area only in late January or early February. However, not all birds settled into a definite wintering area as some kept moving most of the winter, hence the absence of a date of end of fall migration for a few birds in Table 2.

The most surprising and unexpected result from the winter tracking of owls is that many individuals spent a considerable amount of time over the sea ice during the period extending from December to March (Figure 5). Among the 7 birds that wintered at high latitudes ($>55^\circ$ N), 6 of them used the sea ice (the only one that did not use it is the owl that wintered on Ellesmere Island), including 5 for extended periods of time (between 1 and 2.5 months; Table 2). Birds that used the sea ice were mostly in the eastern portion of Hudson Strait and north of the Labrador Sea although one was in west Hudson Bay near Belcher Islands (Figure 5). Considering the speed of movements of owls during migration (Table 2) and the length of time spent by these birds offshore, these birds were undoubtedly using the sea ice as a wintering habitat and were not merely passing over it while moving between islands or from islands to the continent.

3.1.4 Movements during the spring-early summer period

For birds that had settled at some point during the winter, the spring migration started over a narrow time window during the last week of March, and extended until early May for most birds (Figure 6, Table 3). Total distance moved during the spring migration again differed enormously among birds, ranging from 534 to 5162 km (Table 3). Similarly, linear movement varied greatly, from 204 to 3646 km, as well as migration speed, which ranged from 15 to 80 km per day. Migration speed was fastest for the two birds that wintered the furthest south, at

temperate latitudes. Despite the large inter-individual variability, migration speed of owls was faster in spring than in fall (33.7 km/d vs 20.2 km/day; paired t-test = 2.62, df = 8, $p = 0.03$).

Owls settled over a restricted area for the summer on average on 12 May. All the owls had settled by the third week of May except the one that settled only on 15 June (Table 3). It is noteworthy that this owl (#48839) had the longest migration in both fall and spring, and is the one that settled the farthest from Bylot Island in 2008 (Figures 5 & 6). None of the birds showed any fidelity to its previous year breeding site on Bylot Island. Although the bird that wintered on Ellesmere Island overflowed its previous year breeding site on Bylot Island in spring, it did not settle there (Figure 6). The distance between the site where the birds settled in 2008 and their nesting site in 2007 averaged 733 km, a very long distance, and ranged from 235 to 1228 km (Table 3). In 2008, most birds settled throughout Baffin Island (2 in North Baffin, 3 in Central Baffin and 3 in southern Baffin) but one bird settled on Prince Patrick Island in the Northwest Territories, the westernmost island in the Canadian High Arctic archipelago (Figure 6).

3.1.5 Breeding activity of radio-marked owl in 2008

All the owls (8) that settled throughout Baffin Island in late June-early July 2008 (Table 4) were visited. In all cases, the radio-marked females were resighted at close range (50 to 200 m) with a spotting scope, either on the ground or on flight. All the birds looked healthy and the transmitter was well positioned on the back of the bird. All of them were paired with a male, which was also observed. For 7 of these 8 birds, we found a nest well within the cloud of positions provided by the satellite since the bird had settled in May. Based on the nest content, we estimated that the average laying date of these birds was 18 May \pm 7 days in 2008, which is earlier than the laying date of these same individuals in 2007 on Bylot Island (28 May \pm 7 days; paired t-test = 2.65, df = 6, $p = 0.04$). The minimum clutch size of these birds also tended to be higher in 2008 (7.1 ± 2.0) than in (6.1 ± 1.7) although the difference was not significant (paired t-test = 1.87, df = 6, $p = 0.11$). Although we failed to find a nest for the 8th bird, we believe that it is likely that this bird also attempted to breed considering that 1) it settled in early May, 2) it was paired with a male and 3) it had a very restricted range afterward, like all the other owls for which we found a nest. It is possible that the nest of this bird was missed or that its nest failed before the site was visited. Finally, the bird that settled on Prince Patrick Island could not be visited but this bird settled there very late (12 June) in the season. Considering that the latest

laying date recorded for any owl was 12 June on Bylot Island in 2007 and that the radio-marked birds started laying about 10 days after settling in 2008, we believe that it is unlikely that this bird bred in 2008 due to its very late settling date.

3.2 Community workshop

Despite a flight cancellation by First Air on 4 March due to bad weather, which prevented the participation of some people from Iqaluit and Arctic Bay, the workshop on 5 March was very successful, with 17 participants. The list of participants is presented in appendix A of this report.

In the first part of the workshop, we presented the preliminary data obtained thus far on the tracking of radio-marked snowy Owls during the fall migration. A map of movements was presented and generated many comments and discussions. Participants had the chance to manipulate dummy transmitters identical to those used on owls as well as regurgitation pellets that were collected in the field to determine the diet of owls based on prey remains (hairs and bones). This hands-on material generated lots of comments and discussion.

In the second part of the workshop, Local participants were asked to share their knowledge about Snowy Owl movement and reproduction. Several people reported their observations and thoughts about owl's behaviours, feeding habits and general ecology as well as legends and myths related to that powerful symbol. A summary of those observations is presented here.

- Snowy Owls have been observed nesting around the community of Pond Inlet and elsewhere on the land and it is known that this does not occur on a regular basis, i.e. not every year. Some years there are many birds nesting, some years there are very few and birds do not show fidelity to a nest site from year to year.
- Snowy Owls are known to eat lemmings, but also birds, in a lower proportion.
- Snowy Owls move to follow animals and it has always been known that high densities of lemmings can occur very far from where it has occurred the year before.
- Local residents do not observe Snowy Owls spending time over the sea ice during the winter period (or at any other time). In fact, they do not observe Snowy Owls during the winter. They said that local people from Iqaluit or other more southern communities could have

observed that and could confirm the observations we have from satellite telemetry. They might also have cues about what they eat and what are the behaviours observed during that period.

- A suggestion was made that Inuit Traditional Knowledge should be incorporated in the Snowy Owl research. It would be helpful because they want to know more about them and some people might have information that could be shared among Inuit and western scientists. Snowy owls are mysterious to them, they said.
- A legend was told. The story is about a Snowy Owl who had married a goose; they were together and they went over the water. As the owl did not want (or like) to settle on free water, he stood on the back of his goose partner but made her sink and she died. According to the legend, this is why Snowy Owls tolerate goose nests around their own without attacking them and that the two species nest in association during the love period.

In addition, several questions were asked to the researchers and a few concerns were expressed. These are summarized below, along with the response provided by the researchers.

- There was an awareness that Snowy Owls only breed in a given area on an irregular basis but they were questioning if the global population was stable.

Response: we have no information on Snowy Owl populations in Nunavut

- Has any Snowy Owl telemetry research been done elsewhere before?

Response: Two other studies have marked Snowy Owls with radio-transmitters before in North America, one in Alaska and one in Massachusetts on wintering birds.

- Do the harnesses have an automatic release device? What is life expectancy of the batteries in the transmitters?

Response: The harness has no automatic release system. However, it will eventually wear out and fall off the bird. Batteries should last between 16 and 24 months.

- Comments were expressed that they are happy that studies are done on animals. However, there were also concerns expressed regarding the manipulation (capture of birds on the nest,

putting transmitters on them) of Snowy Owls. They were afraid that the birds will spook and that they will not come back to Bylot Island. They were most concerned about the fact that if Snowy Owls do not come back, would the geese also not return?

Response: The question of the potential effect of marking on the owls is addressed in the discussion below. However, even if Snow Geese do associate with Snowy Owls to nest when they are present, owls nest on Bylot Island only in peak lemming years, i.e. once every 3 or 4 years. Geese are nonetheless present on the island every year and therefore their numbers are independent of the presence or absence of owls. In years with owls, only the distribution of nesting geese changes (i.e. some move their nest site near owl nests).

3.3 Impact of owl predation on lemming populations

This objective is part of a long term investigation of the trophic dynamic on Bylot Island. The reciprocal interactions between predators such as raptors and foxes and their prey are being examined, primarily lemmings and migratory birds such as geese and shorebirds. During our lemming survey using snap traps, we accumulated 1567 trap-nights at our 2 trapping sites of the Base-camp Valley from 31 July to 3 August 2007, and 792 trap-nights at the Camp-2 from 11 to 14 July 2007. In the Base-camp sites, 9 Collared Lemmings (*Dicrostonyx groenlandicus*) were caught in the mesic site and none in the wet meadow site, and 1 Brown lemming (*Lemmus sibiricus*) was caught in the mesic site and 2 in the wet meadow site. This yielded a combined index of abundance of 0.80 lemmings/100 trap-nights in 2007, an intermediate value (Fig. 4). The abundance was similar in the Camp-2 area, as 3 Collared Lemmings and 4 Brown Lemmings were caught, for an index of 0.90 lemmings/100 trap-nights. Although our index suggests that lemming abundance had increased on Bylot Island compared to the previous year, it was only moderate (Fig. 5).

A total of 781 regurgitation pellets were collected during visits to 17 owl nests. Preliminary analysis of 255 pellets revealed that 95% of the food items are lemmings. Other prey identified in the pellets included Snow Geese (adult and young), Lapland Longspurs (*Calcarius lapponicus*), Snow buntings (*Plectrophenax nivalis*), sandpipers (*Calidris* sp.) and Stoat (*Mustela erminea*). Once analysis of all these pellets is completed, a comparison will be made with the pellets of owls that were collected in 2004, another year where owls were nesting on

Bylot Island. An assessment will then be made of the impact of owls on the local lemming predation by combining information on their diet, daily energetic requirements and density of breeding owls measured in those 2 years. These analyses are still underway.

3.4 Training of northerners

Initially M. Bernie Kilukishak was hired to assist the research team in finding owl nests and especially in capturing adult females on their nests to mark them. However, M. Kilukishak had to leave the field camp and return to Pond Inlet for personal reasons after a few days. M. Terry Killiktee was then hired as a replacement to finish the work. These 2 persons helped the team during the capture and marking of most Snowy Owls for this project. They thus receive valuable training in the study, capture and marking of an important avian species. These 2 persons also participated in the workshop that in Pond Inlet in March 2008 and thus could share the experience acquired while working with the research team with other participants to the workshop.

4. DISCUSSION AND MANAGEMENT IMPLICATIONS

4.1 Effects of the manipulation and radio-transmitters on Snowy Owls

Any studies involving the capture, handling and marking of animals should be concerned about potential negative effect on the studied animal, especially when using an invasive technique such as satellite transmitters (Steenhof et al. 2006). If these negative effects are severe, they cannot only be an undue source of stress for the animal but they can also lead to biased results. Potential negative effect fall into two categories: short term effects (in the days or weeks following marking) and long term effects (in the months or years following marking).

All the evidence suggests that short term effects of marking were negligible in our study. Distant observations of the owls immediately following marking did not reveal any abnormal behaviour as females preened lightly and perched quietly on the ground following release. All females quickly returned to their nest to brood their chick (within minutes to a few hours) and none abandoned their nest after marking. Overall, the reproductive success (defined as the probability to fledge at least one chick) of owls on Bylot Island in 2007 (60%) was moderately low compared to previous years (80 to 90%; Cadieux et al. 2008). However, the reproductive success did not differ between females that were captured and marked and females that were not

manipulated, and thus marking is unlikely to be the cause of the low overall success. This may be due to the relatively low abundance of lemmings, their primary prey, because our index of lemming abundance was fairly low compared to some previous peak of abundance (e.g. 1996 or 2000; Fig. 4). Lemming abundance is a strong determinant of the reproductive success of Snowy Owls (Parmelee 1992, Gauthier et al. 2004). We believe that the experience of the team in capturing and handling owls and the fact that they trained on captive owls in winter 2007 with the method used to fix the transmitter on the bird are key reasons for the absence of short term effects of marking owls.

The evaluation of long term effects of marking owls is more difficult because we cannot compare our sample of marked birds to a control sample of unmarked ones. Over the 12 months period that we have monitored the radio-marked birds, we had one confirmed death (approximately 6 weeks after marking). This yields a maximum annual survival rate of 92% for these 12 birds, which is close to what we would expect for such a species. Indeed, although there are no previous estimate of survival rate for Snowy Owls, annual survival of other Strigidae is usually in the range 80-90% (Great-horned Owl (*Bubo bubo*): 90.5% in Yukon, Rohner 1996; from 81 to 88% in Saskatchewan, Houston and Francis 1995). However, 2 other transmitters became stationary over the winter but we were not able to confirm if the birds died or if they lost their transmitter. Harnesses used to attach transmitters are made of resistant material (Teflon ribbon) but they still need to be smooth and flexible to prevent any harm to the bird. It has been previously observed in raptors that some individuals can cut such harness with their powerful beak and drop the transmitter (Dr Guy Fitzgerald, veterinarian school, Université de Montréal, personal communication). Moreover, these 2 birds had moved over a much longer distance (over 1000 km each) than the one confirmed dead (100 km) and for periods of 3 to 4 months. Nonetheless, the 3 birds with transmitters that became stationary tended to be slightly lighter than the others when weighed at the nest, which suggests that they may have been in poorer body condition. If we assume, under the worse case scenario, that all of these birds died, this would bring the annual survival of our marked owls to 75%, a value slightly lower than what would be expected for a bird like the Snowy Owl. However, we must stress that we have no evidence to substantiate this hypothesis. In the only case of confirmed mortality, the transmitter did not appear to be a direct cause: the harness was still well positioned on the bird and there was no evidence that the bird tried to get rid of the transmitter (e.g. there was no mark on either the

transmitter or the harness). We therefore tentatively conclude that transmitters did not impair the survival of owls.

Even though we failed to detect an effect on the survival of the bird, it is still possible that the transmitters had more subtle effects, either by affecting the migration or subsequent reproduction of the owls. Despite the large individual variability in migratory behaviour that we observed, the 9 birds tracked over a full year moved over distances ranging from 3,000 to >10,000 km, which is considerable. When animals are disturbed or weakened (e.g. due to carrying a transmitters), one of the first activities that curtailed is breeding. Negative impacts could include a reduced clutch size, a delayed laying or in the worse case they could completely forego breeding. However, at least 7, and possibly 8, of our 9 radio-marked birds bred in the following year. Moreover, our radio-marked birds started laying about 10 days earlier in 2008 than the year before, and their clutch size tended to be higher. These results therefore strongly suggest that the radio-transmitters had no long term effects on the birds.

In 2008, lemming abundance was still high on Bylot Island and owls bred there again (20 owl nests were found, Therrien and Gauthier, unpubl. data). Considering that breeding conditions were apparently adequate for owls again in 2008, could the fact that none of the radio-marked birds returned to Bylot Island to breed be a consequence of disturbance experienced during marking in 2007? In many bird species, dispersal distance between consecutive breeding attempts is dependent on previous reproductive success: individuals successful in raising chicks tend to return at (or near) the same site the following year (because they associate their previous success to the site) whereas those that failed in raising chicks move farther away for the opposite reason (Newton and Marquiss 1982, Gavin and Bollinger 1988, Part and Gustafsson 1989, Gauthier 1990, Serrano et al. 2001). Among radio-marked owls, distance between the breeding site used in 2007 and in 2008 was similar for birds that were successful compared to those that failed in 2007 (769 km vs 723 km, respectively; t -test = 0.14, df = 6, p = 0.89). This suggests that movements of the owls between consecutive years are independent of conditions experienced in the previous year. Moreover, if disturbance caused by handling was the primary reason for owls to change nesting site in 2008, then why move over several hundred kilometres? Much shorter movements would have been sufficient to avoid the potential disturbance they experienced in the previous year. We thus believe that it is unlikely that handling can explain the low site fidelity

shown by radio-marked owls between 2007 and 2008 and we suggest that other factors are involved (see section 4.4).

Although the size of the Snowy Owl population is unknown for any part of the Arctic, the 12 adult females marked in 2007 certainly represents a small fraction of that population, even at the local scale. Even though we found only 17 owl nests over a 200 km² area on Bylot Island, less than 25% of the potential breeding habitat for the species on the south plain of the island was searched for owls. Thus, the total breeding population that year was undoubtedly higher, possibly 3 to 4 times higher if we extrapolate the density of nests found in our study area to the rest of the south plain of the island. Moreover, in 2008 we found 20 owl nests on Bylot Island over a smaller area, which suggests that the population of Snowy Owls at the regional scale is at least in the hundreds.

4.2 Quality of the radio signal

We experienced no technical failures with the transmitters and after 1 year all of them were still functioning properly. We consistently received locations at all times according to the duty cycle programmed on the transmitter, even in the middle of the Arctic winter. The quality of the locations provided by the ARGOS system was impressive. The filters used to convert the transmissions received only selected the high quality localisations (precision ≤ 1 km). In some instance, we were able to confirm the quality of the localisations on the ground. All birds resighted during the summer 2008 at their breeding sites were within a few hundred meters from the average localisation provided by the satellite over the preceding weeks. In April 2008, Martin Stoffel was also able to find on the ground the radio-marked bird that was passing through Saskatchewan at that time (see picture on the cover of this report); the bird was about 1 km from the localisation that we provided to him 3 days earlier. Finally, using the localisations of highest precision (class 3), we found the carcass of the dead owl at 31 m from the average localisation provided by the satellite. Therefore, we are confident that the data obtained by our radio-tracking are of high quality.

4.3 Fall migration and wintering strategy

Our study shows an enormous variability among individuals in many aspects of the migration strategy, including its timing, travel path, duration, distance travelled and final

destination. This confirms the erratic nature of movements previously described for the species. The prevalent view in the literature was that many (and perhaps most) Snowy Owls were migrating to temperate areas of southern Canada in winter (Parmelee 1992). Our results do not support this hypothesis. Although most individuals generally moved south during the winter, only 2 went to southern Canada/northern United States during the winter, the other birds remaining at fairly high latitudes (i.e. above the tree line). Moreover, 2 actually moved further north to Ellesmere Island, thus confirming that Snowy Owls can winter at very high latitudes. This suggests that the primary strategy of adult females is to winter at high latitudes. Based on our results and other analyses relating the abundance of wintering Snowy Owls in eastern North America to lemming abundance in the Arctic (Bêty and Gauthier, unpubl. data), we further suggest that owls wintering at southern latitudes may be mainly young of the year and immature birds. The only other study that followed the migratory movement of breeding Snowy Owls is the one of Fuller et al. (2003) who tracked 4 adult birds marked in northern Alaska. In their study, all 4 birds also remained at high latitude during the winter, either moving east (to north-western Canada) or west (to eastern Siberia and Bering Sea), thus supporting the hypothesis that adult birds may primarily winter at high latitudes.

Adult birds may be better able to withstand the harsh arctic winter conditions (cold, darkness and low prey availability) than young birds due to their experience. Moreover, it may be beneficial for these birds to stay at high latitudes in winter because this shortens the spring migration and may allow them to time their migration more accurately and hence move to the breeding site at the optimal time. By remaining at high latitudes, they may also be able to assess the abundance of prey (especially lemmings) in late winter and early spring more effectively, which would assist them in selecting a high quality breeding site. Several individuals did not settle on a fixed, small wintering area, as commonly observed in other species of migratory birds, but they kept moving. Constant movements of owls during the winter have been reported before (Kerlinger and Lein 1988, Fuller et al. 2003).

One of the most exciting results has been the observation that most owls wintering at high latitudes spent a significant amount of time over the sea ice, as far as 160 km from the nearest coast. We hypothesize that these birds may be concentrating at polynias, which are common around south Baffin Island and west Hudson Bay in winter. Many sea ducks and especially

eiders concentrate at polynias in the eastern Arctic during winter (Gilchrist and Robertson 2000) and Snowy Owls have been previously observed preying on these birds (Parmelee 1992, Gilchrist and Robertson 2000). Therefore, use of the marine environment may be a major strategy used by wintering adult Snowy Owls in Nunavut. However, with only one year of data, it is too early to tell if this is a regular strategy used in all years or if it is only used when feeding conditions on the mainland are poor (e.g. in low lemming year). It is noteworthy that the only arctic wintering individual that did not use the sea ice is the one that spent most of the winter on Ellesmere Island. This island is known for its abundance of Arctic Hare (*Lepus arcticus*) and it is possible that this large animal is a high quality prey for owls and may have allowed them to survive during the complete darkness.

4.4 Spring migration and selection of breeding site

The northward spring migration of owls started relatively late during the winter and was generally rapid. Indeed, migratory speed of owls was faster in spring than in fall, possibly because owls were in a hurry to get to the breeding site on time. Settlement of most owls occurred quickly and over a relatively short time period in late April and early May. Owls are known to be nomadic and to exhibit low breeding site fidelity (Parmelee 1992). This fact was further confirmed by observations reported by local participants to the Pond Inlet workshop. However, our study is the first one to show that owls can breed successfully in two consecutive years and to precisely document the distance moved between successive breeding sites. If we exclude the owl that moved to Prince Patrick Island because it may not have bred in 2008, the average distance between nesting sites in consecutive years was 671 km for 8 individuals, a truly impressive distance for experienced breeders. To our knowledge, this is the greatest average breeding dispersal distance reported for any bird species in the world. Indeed, the vast majority of birds generally show high breeding site fidelity and, although long distance dispersal are occasionally reported for some individuals, the average distance is usually less than a kilometre (Koenig et al. 1996).

Site fidelity is considered to be an advantageous strategy in migrating birds because individuals returning to the same site to breed in subsequent years can benefit from being familiar with the site. On the contrary, individuals moving to a new, distant site incur the cost of acquiring new knowledge about the site (e.g. suitable nesting site, good feeding sites, etc).

Because of the cyclic nature of the primary food of owls in summer, lemmings, the benefit of moving to a new site where lemming are abundant presumably outweigh the costs of finding such sites every year. Participants to the workshop in Pond Inlet also believe that year-to-year movements of owls were primarily associated with the local abundance of lemmings. How owls decide where to settle in spring remains unknown. Given the difficulty of predicting the abundance of lemmings at a given site based on the situation experienced in the previous year (lemming populations rarely remain high at a given site for two consecutive years, Gauthier et al. 2004), owls should rely more on information on local food abundance acquired during their northward spring migration. Therefore, one possibility for owls would be to settle in the first area encountered in spring where breeding conditions (i.e. lemming abundance, availability of nesting site, vacant breeding territory) are adequate regardless of where they bred the year before. In 2008, we have evidence that lemmings were abundant throughout most of Baffin Island (Therrien and Gauthier, unpubl. data). Therefore, as owls were moving north in spring, they may have rapidly encountered suitable conditions for breeding, thereby triggering their decision to settle there. This hypothesis may explain why no marked owls returned to Bylot Island in 2008, even though lemming abundance was still high that year, and why they all bred further south.

4.5 Conclusions and future work

Our study has so far yielded exciting new knowledge on the biology of owls and provided information relevant for their conservation. They include:

- We showed that satellite transmitters, when properly applied, can yield high quality data on movements and reproduction of Snowy Owls with little, if any, negative effects on the animals.
- Snowy owls have erratic movements in Nunavut although their primary migratory movement is oriented north south.
- The movement of owls documented in this study suggests that there are no distinct owl populations in different parts of Nunavut and that all the owls of the territory belong to the same population.

- Adult female Snowy Owls apparently winter primarily at high latitude, in South Baffin and northern Quebec. However, those that winter in southern Canada can use very distant sites, from the Atlantic coast to the Great Plains.
- The sea ice may be an important wintering habitat of Snowy Owls in southern Nunavut. Therefore, owls may be another species vulnerable to the rapid melting of the sea ice due to climate warming.
- Variation in lemming abundance, the primary prey of Snowy Owls in summer, is likely the most important factor explaining the low breeding site fidelity of owls. Owls appear well adapted to the cyclic fluctuations in lemming abundance as we showed that individuals can breed successfully in consecutive years by moving over considerable distance (700 km on average)

Even though our project was highly successful, some questions remained unanswered while others have emerged from our work. For instance, it is still unclear what are the exact mechanisms used by owls to select a suitable breeding site in spring considering their total absence of site fidelity. The use of the sea ice by wintering owls needs to be further explored to determine if this is a regular strategy used in all years and what resources are used by the owl there. Considering that our conclusions are based on a study that lasted a single year, it is difficult to know if the patterns observed are normal or due to unusual conditions that may have prevailed during the study. We believe that further marking and radio-tracking of owls in the future would be useful and would address these questions. We therefore recommend pursuing these studies.

Information gathered during the workshop with the community was also highly valuable. Several of the qualitative observations made by participants confirmed some of the scientific results. However it appears that people of Pond Inlet also have very little information on the wintering ecology of owls, one of the least known period of their life cycle in the North and the most difficult period to study them. Considering that our study has identified South Baffin as a significant wintering area for owls, the suggestion made at the workshop to conduct a Traditional Knowledge Study on the wintering ecology of owls in communities of this region should be pursued in the future. This could yield highly relevant information on Snowy Owls.

5. REPORTING TO COMMUNITIES/RESOURCE USERS

The workshop held in Pond Inlet in March 2008 was the most important event in reporting results of this project to the community. The evening public talk and the talks presented at the Pond Inlet high school were other useful activities. The leaflet produced on initial results of the project and distributed to the community at the workshop was another means to report information to local residents. On 27 June, Gilles Gauthier also attended a meeting with the Mittimatalik Hunter and Trapper Organization in Pond Inlet. He presented an update of the results on radio-tracking of the owls and discussed the concerns expressed by some HTO members on the marking of owls with radio-transmitters.

Copies of this report will be sent to the community. Furthermore, now that we have completed the study, we intend to produce a new, updated leaflet based on the results presented in this report. As with the previous one, the leaflet will be translated in Inuktitut.

Tracking of the radio-marked Snowy Owls continues as the transmitter batteries could last up to 2 years (thus until summer 2009). Results obtained from the tracking of these birds until the end of the battery life will be analysed by Jean-François Therrien in his PhD thesis. A copy of all scientific publications eventually arising from this work will be sent to the NWMB, as well as the community.

6. ACKNOWLEDGEMENTS

We thank the many people and agencies that helped us conducting this study. They include the Bylot Island field crews of 2007 and 2008 and especially Marten Stoffel, Julie Tremblay, Terry Killiktee, Bernie Kilukishak, Monty Yank, Sarah Chisholm and our outstanding helicopter pilots (Fred and John Innes). We thank Marie-Christine Cadieux for her assistance in managing the long-term data from the Bylot Island project, in organizing the workshop in Pond Inlet and for preparing the leaflet. We are also grateful to the community of Pond Inlet, the Hunters and Trappers Organisation of Pond Inlet, the Joint Park Management Committee of Sirmilik National Park, the Parks Canada's staff in Pond Inlet, Iqaluit and Pangnirtung, the Union Québécoise de Réhabilitation des Oiseaux de Proie and the Baffinland Iron Mines Corporation for their assistance. Financial partners include the Nunavut Wildlife Management Board, the International Polar Year program from the Department of Indian and Northern Affairs Canada, the Natural

Sciences and Engineering Research Council of Canada, the Fond Québécois de Recherche sur la Nature et les Technologies (FQRNT), the Centre d'Études Nordiques, Université Laval, Université du Québec à Rimouski, University of Saskatchewan and the network of Center of Excellence ArcticNet. Finally, this study could not have been conducted without the financial assistance and outstanding support of the Polar Continental Shelf Project.

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Table 1. Transmitter number, body mass upon capture in July, and reproductive success of the 17 Snowy Owl nests found on Bylot Island in summer 2007. Gray lines represent transmitters that became stationary during the fall period (see results). The dash (-) indicates unmarked owls.

Nest #	Transmitter #	Body mass (kg)	Clutch size	Laying date*	Reproductive success
SNOW01	39075	2.08	7	20 May	Failed
SNOW02	-	na	2	na	Failed
SNOW03	39103	na	7	24 May	Unknown
SNOW04	38610	1.88	7	25 May	Successful
SNOW05	38602	2.18	6	2 June	Failed
SNOW06	-	na	5	18 May	Failed
SNOW07	39100	2.03	8	26 May	Successful
SNOW08	38596	2.45	5	25 May	Successful
SNOW09	-	na	4	25 May	Unknown
SNOW10	39097	2.33	9	4 June	Failed
SNOW11	39061	2.10	5	30 May	Successful
SNOW12	39078	2.33	3	23 May	Successful
SNOW13	48837	2.18	7	12 June	Successful
SNOW14	39093	2.11	4	29 May	Failed
SNOW15	-	na	5	5 June	Successful
SNOW16	-	na	2	na	Successful
SNOW17	48839	2.23	6	7 June	Successful
Mean		2.17	5.6	29 May	
SD		0.15	1.8	7.1	

* Date on which the first egg was laid

Table 2. Movement parameters during fall 2007 and winter 2008 of the 12 Snowy Owls marked on Bylot Island in summer 2007. Gray lines represent transmitters that became stationary during the fall period (see results). These individuals are excluded from the calculation of the mean and standard deviation (na = not applicable).

Transmitter #	Color on map	Total distance moved (km)	Net linear movement (km)	Migration speed (km/day)	Initiation of fall migration	End of fall migration	General orientation	Time spent over sea during the whole winter (days)
38596	Light blue	2200	1170	13.4	7 Sept 2007	18 Feb 2008	SE	6
38602	Dark green	3116	1665	18.7	15 Sept 2007	na	S	57
38610	Light green	2325	1297	18.6	15 Sept 2007	18 Jan 2008	SE	33
39061	Dark gray	104	30	13.0	5 Aug 2007	13 Aug 2007*	W	na
39075	Light gray	1001	652	9.1	5 July 2007	23 Aug 2007*	NW	na
39078	Yellow	2173	410	10.8	11 Aug 2007	na	N	0
39093	Dark blue	1072	367	13.7	9 Sept 2007	26 Nov 2007*	SE	na
39097	Orange	4300	1577	19.7	26 July 2007	na	S	27
39100	Black	2749	1503	16.9	12 Sept 2007	22 Feb 2008	SE	65
39103	White	3923	1569	22.8	10 Sept 2007	na	SE	71
48837	Pink	3932	3107	30.2	7 Sept 2007	15 Jan 2008	SE	0
48839	Red	5253	3245	30.4	9 Sept 2007	Na	SW	0
Mean		3330	1727	20.2	2 Sept 2007	2 Feb 2008		28.8
SD		1020	852	6.3	16.8	17.3		27.7

* For these individuals, the date corresponds to the date that the transmitter stopped moving

Table 3. Movement parameters during spring and early summer 2008 of 9 snowy owls marked on Bylot Island in summer 2007. Transmitters that became stationary during the fall are excluded (na = not applicable).

Transmitter #	Color on map	Total distance moved (km)	Net linear movement (km)	Migration speed (km/day)	Initiation of migration	Date of settlement	General orientation	Settlement distance from last year (km)
38596	Light blue	778	222	24.3	23 Mar 2008	24 Apr 2008	NW	861
38602	Dark green	2519	1254	30.0	na	24 May 2008	N	471
38610	Light green	1743	1099	37.9	29 Mar 2008	14 May 2008	NW	262
39078	Yellow	1091	204	17.3	na	3 May 2008	S	235
39097	Orange	1270	439	19.2	na	6 May 2008	NW	975
39100	Black	534	363	15.3	25 Mar 2008	29 Apr 2008	NW	985
39103	White	2050	1234	28.5	na	12 May 2008	NW	539
48837	Pink	3667	2161	79.7	30 Mar 2008	15 May 2008	NW	1041
48839	Red	5162	3646	51.1	na	12 June 2008	N	1228
Mean		2090	1180	33.7	26 Mar 2008	12 May 2008		733
SD		1416	1062	19.4	2.9	13.9		342

Table 4. Fate of the 12 snowy owls radio-marked on Bylot Island in 2007 determines during ground checks of the position provided by the satellite during the summer 2008. Gray lines represent transmitters that became stationary during the fall period (see results).

Transmitter #	Date of the visit	Sighting of the radio-marked bird	Presence of a male	Nest found	Nest content	Approximate laying date*	Comments
38596	4 July	Yes	Yes	Yes	5 chicks	8 May 2008	
38602	7 July	Yes	Yes	Yes	6 eggs, 4 chicks	29 May 2008	
38610	4 July	Yes	Yes	Yes	7 chicks	19 May 2008	
39061	14 July	(Yes)					Carcass found with transmitter attached
39075	None						
39078	5 July	Yes	Yes	Yes	4 chicks	23 May 2008	
39093	None						
39097	25 June	Yes	Yes	No			
39100	25 June	Yes	Yes	Yes	2 eggs, 7 chicks	11 May 2008	
39103	6 July	Yes	Yes	Yes	7 chicks	21 May 2008	
48837	25 June	Yes	Yes	Yes	5 eggs, 3 chicks	19 May 2008	
48839	None						
Mean					7.1	19 May 2008	
SD					2.0	7	

* Date on which the first egg was laid

Trophic Interaction Cycles in Tundra Ecosystems and the Impact of Climate Change

ROLF A. IMS AND EVA FUGLEI

While population cycles are geographically widespread, it is on arctic tundra that such cycles appear to be most influential for the functioning of the whole ecosystem. We give an overview of tundra species that exhibit population cycles and describe what are currently believed to be the causal mechanisms. Population cycles most likely originate from trophic interactions within the plant-based tundra food web, where lemmings, either as prey for carnivores or as consumers of plants, play the key role. The predominance of trophic interaction cycles at northern latitudes is ultimately related to climate, and such cycles should therefore be vulnerable to climate change. Recent evidence indicates that changes have already taken place in the dynamics of some key herbivores and their predators, consistent with the expected impacts of climate change. There is a strong need for large-scale integrated monitoring and research efforts to further document such changes and their ecosystem consequences.

Keywords: arctic tundra, climate change, ecosystem functioning, food web dynamics, lemmings

Life on the arctic tundra is subject to dramatic year-to-year variation in terms of bioproduction. In some years wildlife populations flourish, while in others the tundra appears remarkably devoid of wildlife. Although indigenous people and early explorers have always been aware of the violent booms and busts in arctic wildlife, it was not until the English ecologist Charles Elton (1924) started to examine statistics on fur-bearing animals that these multiannual fluctuations were found to follow a cyclic pattern. Elton recognized that there were conspicuous peaks in the number of arctic fox skins exported from arctic Canada every 4 years, and he found a similar cyclicity in the Norwegian zoologist Robert Collett's compilation of records on "lemming years" in Norway (Lindström et al. 2001). Today, the literature is considerably broader: Many thousands of scientific papers on population cycles have been published in the 80 years after Elton's discovery. The phenomenon is not restricted to arctic species, although it is definitely most common in northern areas (Kendall et al. 1998). Moreover, it is on the arctic tundra that population cycles seem to be most intertwined with the functioning of the whole ecosystem. The important ecosystem consequences of population cycles were highlighted three decades ago during the International Biological Program (e.g., Batzli et al. 1980), but in recent years this perspective has drawn less attention. The recent realization that climate change will affect arctic ecosystems severely, and that altered cyclic dynamics in tundra species are likely to be involved (Callaghan et al. 2004), calls for a renewed focus on the role of such cycles in the Arctic.

In this article we provide an overview of what is known about cyclic dynamics in terrestrial arctic ecosystems (i.e., tundra). First, we take a species-oriented view and describe tundra species exhibiting population cycles. Second, we place these species in an ecosystem context by outlining the basic architecture of the plant-based tundra food web and the types of interactions taking place within this web. We then show how cycles can be a product of trophic interactions by reviewing the most plausible theories and recent empirical evidence. Finally, we examine the role of arctic climate in these interaction cycles and end with a discussion of how climate change may act to alter them and what the wider consequences of such changes may be.

Arctic species with cyclic population dynamics

For laypeople, population cycles are perhaps most conspicuous in the two species treated in Elton (1924): the arctic fox and the lemming. The cycles in the population of the arctic fox—the most valuable furbearer on the tundra—were, and to some extent still are, influential in the economy of arctic communities. The lemming cycle, on the other hand, represents the most pronounced fluctuations in terms of biomass.

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Multiannual population cycles, however, are not limited to these two species; they can be observed in many tundra organisms.

Plants. Vascular tundra plants (sedges, forbs, and dwarf shrubs) exhibit pronounced between-year differences in production measures such as the number of vegetative shoots and flowers, with apparent peak production at intervals of approximately 4 years (Laine and Henttonen 1983). However, time series of plant production indices from the arctic region are generally shorter than population time series for many animals, and for this reason, formal statistical evidence for multiannual plant cycles is currently missing. We will return to plant production cycles when discussing food web dynamics and how cycles may be generated.

Invertebrates. Population cycles of herbivorous insects are commonplace and ecologically important in forest ecosystems (Berryman 1996). This contrasts with the situation on arctic tundra, where herbivorous insects are relatively unimportant in terms of abundance and ecosystem impact (MacLean 1981). The bulk of terrestrial arctic invertebrates are found in the soil, where they play a crucial role as decomposers (detritivores) of dead organic material (detritus). To our knowledge, there are no population time series of sufficient length to examine whether there are multiannual population cycles present in arctic soil invertebrates. We suspect, however, that such population cycles exist, because cyclic lemmings' burrowing activity, disposal of dead plant material, and excreta have a great impact on soils.

Small rodents: Lemmings and voles. Lemmings and voles are disproportionately common on the tundra relative to other ecosystems. Voles are represented mainly by species of the genus *Microtus* in the low-arctic tundra subzone. Two genera, *Lemmus* and *Dicrostonyx*, represent the lemmings, with five and two species, respectively. There is never more than one lemming species of each genus present at the same location (Stenseth and Ims 1993). *Lemmus* species are distributed mainly in the low- to middle-arctic tundra subzones, whereas *Dicrostonyx* can be found all over the tundra and as far north as vascular plants exist.

Voles and lemmings are small herbivores (the adult body size is 40 to 120 grams) that subsist on a diet of grasses, sedges, and herbs (*Microtus*); sedges and mosses (*Lemmus*); or herbs and dwarf shrubs (*Dicrostonyx*) (Batzli et al. 1980). Their digestive efficiency is generally low, ranging from 30% of ingested food for *Lemmus* to 50% for *Dicrostonyx* (Batzli et al. 1980). Arctic lemmings and voles are active year-round (under the snow in winter) and have a very high metabolic rate (Batzli et al. 1980). The combination of high metabolic rate and low digestive efficiency requires a high rate of food intake. A Norwegian lemming (*Lemmus lemmus*) may consume eight times its own body weight per day (Stenseth and Ims 1993).

The maximum reproductive rate of voles and lemmings is impressive: A female Norwegian lemming can become pregnant as soon as she is weaned (16 days old). Pregnancy lasts 20 days, and each litter normally contains 5 to 7 young (with a maximum of 16). Only a few hours after a female has delivered a litter, she often mates again. The breeding season can commence under the snow in the middle of the winter and last until the next fall. It is thus conceivable that a lemming population could increase from less than one individual to several hundred individuals per hectare (ha) in 2 years (Stenseth and Ims 1993). The maximum reproductive potential is rarely attained in the field, however, and there are large differences in the realized reproductive rate between seasons, years, and species.

Lemming cycles usually exhibit a statistical periodicity (mean interval between peak years) of around 4 years (figure 1; Stenseth 1999). However, the cycle period can be shorter (3 years for Siberian lemmings at Taymyr Peninsula; Summers and Underhill 1987) or longer (more than 4 years for Norwegian lemmings in northern Norway; Angerbjörn et al. 2001). At locations with more than one species of lemming or vole, the different species cycle in synchrony (Stenseth and Ims 1993). Within the same species, population cycles can be synchronized over large areas (Krebs et al. 2002). Vole species with a wide geographic distribution tend to exhibit their most pronounced population cycles at northern latitudes (boreal forest, northern alpine areas, and tundra) (Hansson and Henttonen 1988). To our knowledge, noncyclic lemming populations in the Arctic have so far been found at only one location, in arctic Canada (Reid et al. 1995).

Predatory mammals: Arctic foxes, weasels, and ermine.

Three circumpolar predatory mammals exhibit cyclic population dynamics on arctic tundra: the arctic fox (*Alopex lagopus*), the ermine (*Mustela erminea*), and the weasel (*Mustela nivalis*). The arctic fox is among the vertebrates that are best adapted to a life at high latitudes (Fuglei and Øritsland 1999). In inland tundra regions, the arctic fox belongs to the terrestrial ecosystem, preying mainly on lemmings (Elton 1924). In lemming peak years, the arctic fox responds with high pregnancy rates and large litter sizes. Consequently, populations of "lemming foxes" exhibit cycles of approximately 4 years (figure 2). This contrasts with the populations of "coastal foxes" on arctic islands without lemmings, which are more stable and exhibit no signs of cyclicity (Fuglei et al. 2003). In coastal habitats, arctic foxes prey opportunistically on the much more stable components of the marine ecosystem, such as seabirds and carrion from sea mammals. Coastal foxes have lower pregnancy rates, and smaller and less variable litter sizes, than inland lemming foxes, which leads to more stable population dynamics. In coastal habitats with cyclic lemming populations, arctic foxes are "ecosystem switchers" that alternate between exploiting mainly terrestrial productivity in lemming peak years and marine productivity in lemming low years (Roth 2003).

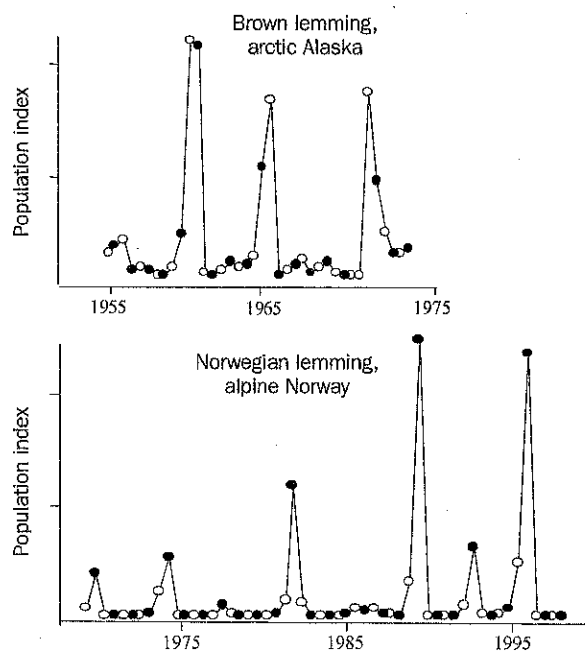


Figure 1. Time series of population indices of brown lemmings in arctic Alaska (top) and Norwegian lemmings in alpine Norway (bottom), based on the number caught in snap traps. Open circles represent spring samples; filled circles represent fall samples. Note that peak densities are reached during different seasons in the series (cf. figure 10). Modified from Stenseth (1999).

The small mustelids of the tundra, the ermine and the weasel, are not much larger than their rodent prey. In fact, least weasels in Fennoscandia are considerably smaller than adult Norwegian lemmings. As a result of their small size, weasels and ermines can hunt in the burrows of small rodents year-round, and for that reason they are supposed to be the most efficient of all predators on lemmings and voles (Oksanen et al. 1985). Owing to a high reproductive rate, the population levels of weasels and ermine—more than any other predators of lemming—follow those of their prey, although with a time delay due to a less rapid growth and decline phase than that of the prey population (Korpimäki and Krebs 1996). A weakness of our present knowledge of the role of small mustelids in arctic ecosystems is that no quantitative population data (e.g., population density and demographic rates) are available.

Predatory birds: Owls, raptors, and jaegers. A species-rich guild of arctic avian predators preys on lemmings and voles (Wiklund et al. 1999). The guild includes two owls, the snowy owl (*Nyctea scandiaca*) and the short-eared owl (*Asio flammeus*), and one raptor, the rough-legged buzzard (*Buteo lagopus*); all three species depend heavily on small rodents. The diet is more flexible in the jaegers, which are represented by three species: the long-tailed jaeger (*Stercorarius longicaudus*), the parasitic jaeger (*Stercorarius parasiticus*), and the poma-

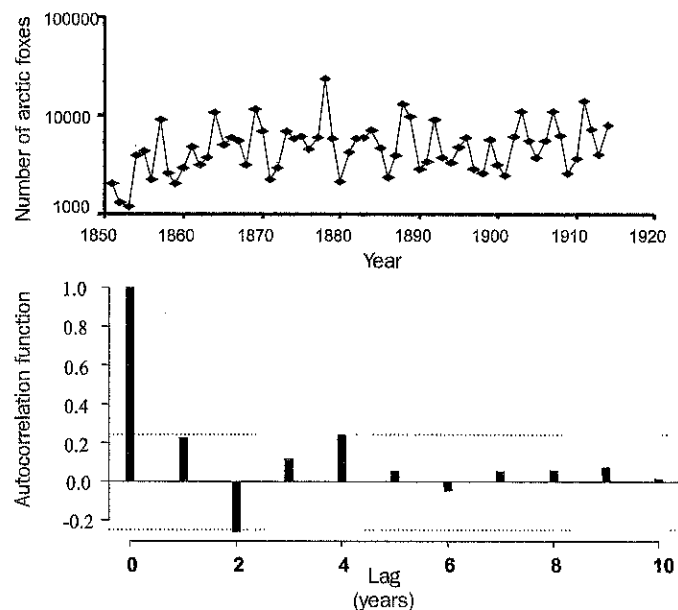


Figure 2. Upper panel: Population fluctuations for the arctic fox in arctic Canada, reflected in the number of fox skins obtained annually by the Hudson Bay Company. Data were obtained from Elton (1924). Lower panel: Autocorrelation function based on log-transformed data, indicating significant positive autocorrelation ($p < 0.05$, indicated by bars that meet or cross the broken horizontal line) with a lag of 4 years, thus indicating a 4-year cycle.

rine jaeger (*Stercorarius pomarinus*). The jaegers live a dual life. In the winter they are marine birds at more southern latitudes, whereas in spring they migrate north to become a part of the tundra food web during the summer breeding season. The owls and the rough-legged buzzard prey on small mammals year-round, but only the snowy owl may stay in the Arctic during the winter.

The lemming cycle is reflected in the breeding density and success of these birds. During the low phase of the lemming cycle, very few predatory birds appear on their breeding ground. Snowy owls, short-eared owls, and rough-legged buzzards may not appear at all (Batzli et al. 1980). However, in lemming peak years, breeding pairs of predatory birds with large clutches abound on the tundra. Thus, the numerical response is to some extent due to high production of young. However, the main reason for the rapid numerical response (e.g., in the snowy owl) is that the birds are nomadic; they may move over vast areas in search of regions with peak-phase lemming populations (Gauthier et al. 2003).

Ptarmigan, geese, and shorebirds. Ptarmigan (*Lagopus* spp.) are among the species with best documented and most thoroughly studied population cycles (Moss and Watson 2001). The cycle period and amplitude for ptarmigan vary widely between geographic regions. Most studies of ptarmigan population cycles are from alpine areas and moorlands south of the

Arctic, and unfortunately, long time series of ptarmigan abundances are missing for the tundra region. In northern Fennoscandia, populations of willow ptarmigan cycle with a period of approximately 4 years, apparently linked to the cycles of voles and lemmings in this region (Moss and Watson 2001). An intimate link to the arctic lemming cycle has also been documented for arctic waders and geese, which exhibit “demographic cycles” due to a recurrent high proportion of juveniles in the wintering flock every 3 to 4 years (figure 3).

Reindeer and caribou. The long generation time of ungulates requires longer time series for proper statistical detection of population cycles than are presently available from census data. However, midden deposits from the Thule culture in western Greenland seem to reflect periodic fluctuations in caribou population peak size every 60 to 100 years (Born and Böcher 2001). Dendrochronological analyses of damage caused by caribou trampling on tree roots also indicate long-term fluctuations in arctic Canada (Morneau and Payette 2000). However, the empirical evidence for true population cycles in caribou and reindeer is too weak to warrant a discussion of their causes and consequences.

Food webs, types of interaction, and key species

Food chains describe how matter and energy is passed on between trophic levels in the ecosystems, from plants (the pro-

ducers) at the bottom of the chain to apex predators (consumers) at the top. In between these two ends of the food chain, there may be consumers at various intermediate trophic levels (herbivores and intermediate predators). The length of food chains (i.e., the numbers of trophic levels or links) varies widely among ecosystems. The plant-based food chain in tundra ecosystems is relatively short, usually consisting of three trophic levels (plants, herbivores, and carnivores), a number that has been theoretically predicted in terrestrial ecosystems that are dominated by mammals (Post 2002). However, describing ecosystems as linear food chains by lumping species into trophic levels is a gross simplification that conceals how the ecosystem is actually functioning. There are crucial interactions among individual species, both within and between trophic levels, that may determine the structure and dynamics of the entire ecosystem (Paine 1980). The web of pathways that outline the flow of energy and matter between species at different trophic levels represents the food web. Food webs are complex constructs, although the plant-based food web on arctic tundra is simple (figure 4) compared with the equivalent food web in a forest ecosystem. Moreover, outlines of food webs, such as the one in figure 4, depict only interactions that involve consumption (i.e., plant–herbivore and predator–prey interactions) and not other types of interactions, such as competition or facilitation, that can take place within each trophic level (figure 5). The interplay among

different types of interactions may lead to unexpected indirect effects that influence the dynamics and structure of the entire web (Abrams et al. 1998).

There have been many attempts to establish general principles for food web structure and dynamics, but there are few that seem to hold. In particular, there has been considerable controversy over whether terrestrial food webs are under top-down or bottom-up control (e.g., Meserve et al. 2003). Top-down control implies that predators indirectly control the abundance and dynamics of plants through regulation of their herbivore prey, while bottom-up control means that primary productivity by plants controls the dynamics and structure of the food web. The question of how population cycles in the tundra ecosystem are generated revolves around this dichotomy of bottom-up versus top-down control of ecosystem functioning (Oksanen and Oksanen 2000). However, it does not have to be one or the other exclusively, as cycles may result jointly from both bottom-up and top-down processes (Gauthier et al. 2003).

Untangling determinants of food web dynamics benefits from identification of key species and key interactions among species (Murdoch et al. 2002). It is clear that lem-

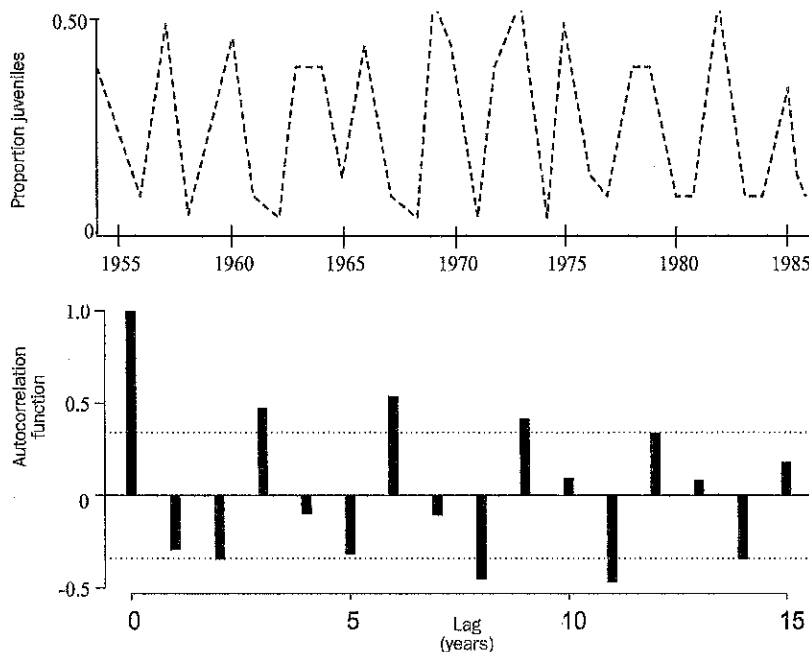


Figure 3. Upper panel: Demographic 3-year cycles in brent geese (*Branta bernicla*) breeding at the Taymyr Peninsula in Siberia, expressed as the proportion of juveniles (first-year birds) in populations at wintering sites in Europe. Data were obtained from Summers and Underhill (1987). Lower panel: Autocorrelation function based on logit-transformed data indicating significant positive autocorrelation ($p < 0.05$, indicated by bars that meet or cross the broken horizontal line) with a lag of 3 years, thus indicating a 3-year cycle.

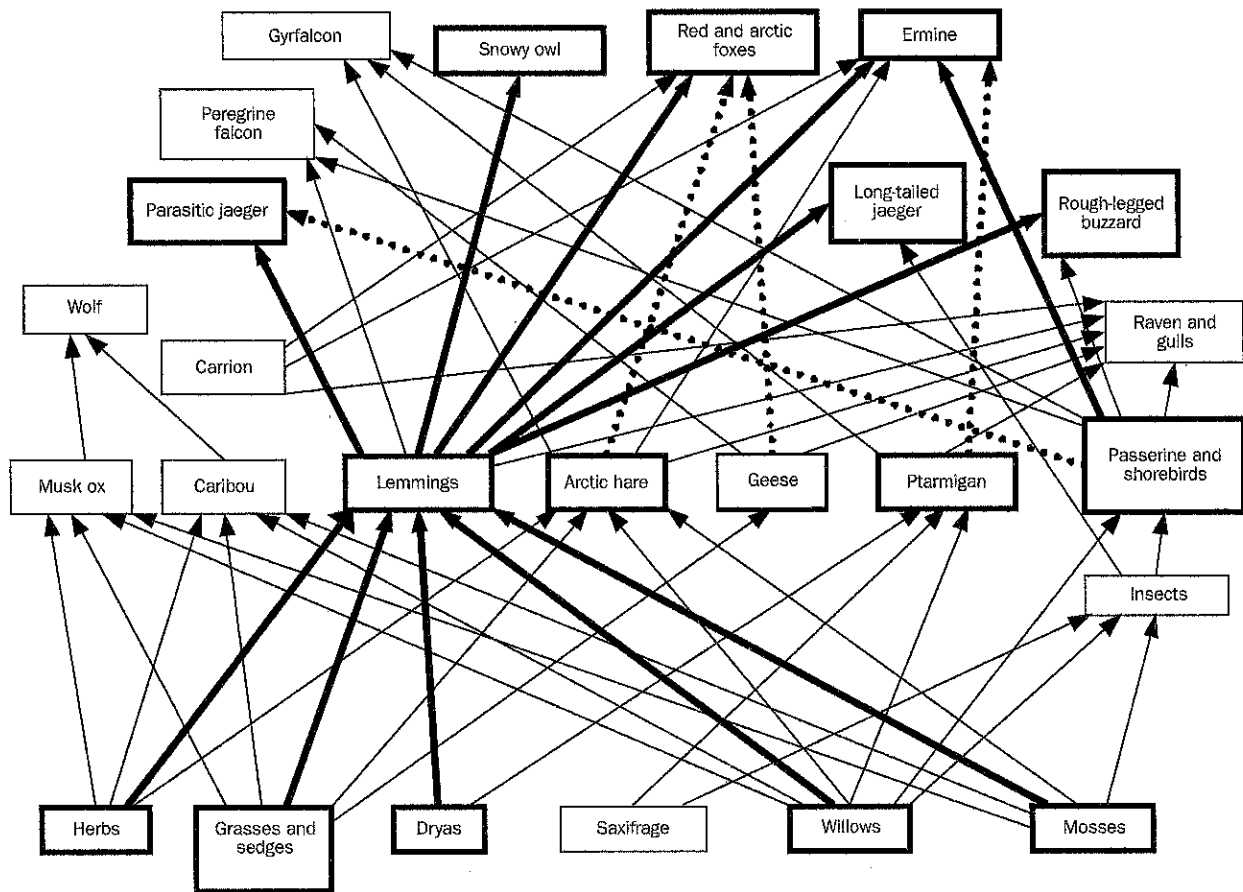


Figure 4. Outline of a typical high-arctic plant-based food web. Components of the food web involved in lemming population or production cycles are in bold frames and linked with thick arrows. Thick, solid lines indicate direct relationships with lemming cycles, while dashed lines indicate indirect relationships (i.e., alternative prey mechanisms). Modified from Krebs and colleagues (2003).

mings possess key species attributes (i.e., they are likely to interact strongly and dynamically with many components of the food web; figure 4). For this reason, we center our discussion of possible cycle-generating mechanisms on lemmings and their trophic interactions with plants and predators.

How are interaction cycles generated?

The origin of lemming and vole population cycles has been sought ever since Elton's 1924 paper, and some 30 to 40 hypotheses have been put forward. Several general overviews of this research on population cycles in small mammals are available (e.g., Stenseth and Ims 1993, Korpimäki and Krebs 1996, Turchin 2003, Korpimäki et al. 2004). Here we restrict our focus to mechanisms that may underlie lemming and vole cycles in the context of arctic food webs. Indeed, the current view is that such population cycles cannot be understood unless they are viewed as an integral part of the food web (Berryman 2002, Turchin 2003).

Plant production cycles and plant-herbivore interactions.

There are three ways by which plants may be involved in the generation of interaction cycles. There may be an internally

driven plant production cycle, which is simply converted into herbivore population cycles. Alternatively, the cycles may be the outcome of plant-herbivore interactions involving grazing-induced changes in plant quality, or they may result from changes in plant quantity.

Internally driven plant production cycles. The idea of an internally driven plant production cycle stemmed from the observation that good production years in tundra plants coincided with lemming peak years even when plants were protected within exclosures (and thus were not subject to grazing) (Laine and Henttonen 1983). Production cycles in perennial plants can be generated if energy reserves must be accumulated over several years to attain thresholds for successful seed production. Synchronization within and between different plant species will then be brought about by climatic variation (Laine and Henttonen 1983). This mechanism has been mathematically validated and is now thought to underlie the general phenomenon of mast production in many perennial plants (e.g., Satake and Iwasa 2002). Even though plant production cycles can be expected on theoretical grounds, empirical evidence for them in arctic plants is poor and partly contradictory (e.g., Oksanen and Ericson

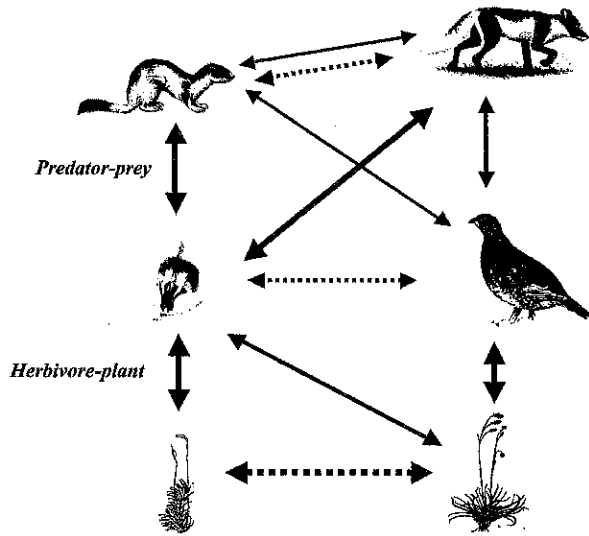


Figure 5. Examples of different types of interaction among tundra species in food webs. Solid lines represent food web interactions that involve consumption between trophic levels (predation or herbivory), while dotted lines depict interactions between species within trophic levels (competition or facilitation).

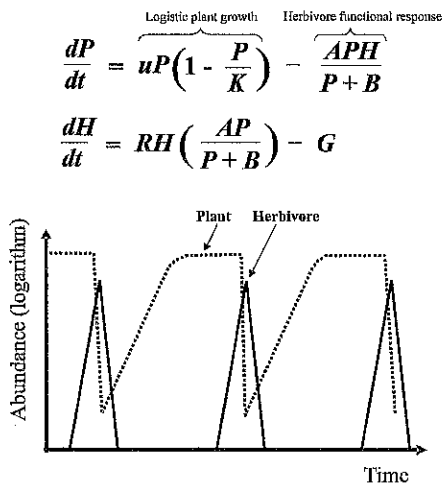


Figure 6. Cyclic dynamics in a simple trophic system consisting of plants and herbivores, according to the classical model of Rosenzweig and MacArthur (see Turchin and Batzli 2001). The graph depicts the biomass dynamics on a logarithmic scale (thus, linear sections of the curves represent exponential increase). The herbivore biomass is too small to be shown in the low phase of the cycle. Parameters in the model are as follows: A, maximum consumption rate by herbivores; B, half-saturation constant of herbivore functional response; G, death rate of herbivores; H, herbivore density; K, carrying capacity of plants (maximum plant biomass in the absence of predators); P, plant biomass; R, reproductive rate of herbivores; u, growth rate of plants.

1987). Long time series of plant production data from the Arctic and their relation to the lemming cycle would be very welcome.

Grazing-induced plant quality cycles. Grazing-induced plant quality cycles may involve changed levels of nutrients and chemical defense compounds (Karban and Baldwin 1997). Both types of compounds, at least in theory, can create multiannual population cycles in herbivore populations, if the induced response in plants operates with a time delay (Turchin and Batzli 2001). However, experimental evidence to date contradicts this hypothesis for arctic voles (Ekerholm et al. 2005). Similar experiments remain to be done on arctic lemmings.

Grazing-induced plant quantity cycles. The existence of plant quantity cycles due to periodical overgrazing is one of the oldest hypotheses to explain lemming cycles (Lindström et al. 2001). This idea was fueled by observations of severely damaged vegetation after peak years in *Lemmus* species. *Lemmus* may remove or destroy as much as 90% to 100% of the aboveground biomass in their winter habitats (Stenseth and Ims 1993). Their winter food consists mainly of mosses, which recover very slowly after grazing (Turchin and Batzli 2001). This induces a delay in the trophic interaction, which is necessary to create cycles. Mathematical models developed to mimic a simple bitrophic system, with an interaction between a fast-growing consumer population (lemmings) and a slowly recovering resource (plants) (figure 6), easily give rise to cycles in which the lemmings exert a top-down control on the plants. A characteristic feature of some of these models is that they generate cycles with different shapes for the consumer and the resource. The consumer typically has sharp, angular peaks, while the resource has rounded peaks (figure 6). Consequently, Turchin and colleagues (2000) claimed that the "saw-shaped" dynamics of Norwegian lemmings in alpine and low-arctic habitats in Norway (figure 1) was consistent with lemmings as a consumer in a cyclic consumer–resource interaction. There are, however, some caveats to this interpretation. First, population time series of the Norwegian lemming are based on the number of animals trapped in ordinary snap mousetraps. Such a population index probably overestimates peaks, because peak-year animals show increased movement activity. Second, the trapping series may be dominated by captures in nonoptimal habitats, which are ruled by invasion–extinction dynamics. This suspicion arises because no Norwegian lemmings are usually trapped during the low years of the cycle. *Lemmus* time series from optimal habitats in Alaska (Batzli et al. 1980) seem to be characterized by less erratic dynamics. It may be that the Norwegian lemming is a special case, being a species at the climatic border of the Arctic and probably having a different migration pattern than other lemming species (Stenseth and Ims 1993). Also, the seasonal aspect of the population dynamics seems to differ between the Norwegian lemming and more arctic lemming species (see below).

A few more words of caution are warranted with respect to the practice of comparing expectations from theoretical

models with data. Models are crude simplifications, which may or may not capture the essential aspects of reality. An endless array of models can be constructed that vary in their degree of realism, ranging from the simple one depicted in figure 6 to much more complex models. For example, Klemola and colleagues (2003) have recently developed a fairly complex and realistic model incorporating details such as three-level trophic interactions (i.e., plant–lemming–predator), several resource types (e.g., mosses and vascular plants), different predator types, varying season length, and the age structure of the lemming population. Their model did not produce the saw-shaped dynamics predicted by much simpler models. The drawback of complex models, however, is that they include many parameters that cannot be estimated from the empirical data that are currently available.

Top-down controlled cycles: Predator–herbivore interactions.

It is obvious that predators may play an important role in the dynamics of the plant-based arctic food web. In particular, the high number of avian predators in barren tundra habitat, which does not provide much protection for the prey in terms of vegetation cover, may prevent peak-year lemming populations from increasing over the summer after the protective snow cover has disappeared (Batzli et al. 1980). However, that predators can retard the growth of lemming populations does not necessarily imply that cyclic dynamics are generated by predator–prey interactions (Korpimäki and Krebs 1996).

Mathematical models of predator–prey interactions have taught us what are the most plausible cycle-generating features of such interactions (Hanski et al. 2001, Turchin 2003). Critical features include the species of predators that are present at any given locality and their types of functional and numerical response to changes in prey abundance. In particular, the predominance in tundra food webs of specialized rodent predators that exhibit delayed numerical responses to increased prey availability is thought to be important for the commonness of population cycles in the Arctic. But predator–prey models are also sensitive to many other features, such as the intrinsic demographic rates in both predators and prey, and the ways that these rates change with population density (Korpimäki et al. 2004). A serious problem with the many sensitive parameters of predator–prey models is that there are many degrees of freedom for subjective model adjustments when precise empirical data are lacking.

The most serious attempt to parameterize a mathematical model with relevant data obtained from a lemming–predator system is that of Gilg and colleagues (2003). Their simple study system in eastern Greenland consisted of lemmings (the collared lemming, *Dicrostonyx groenlandicus*) and four predator species. Among the predators, there are two year-round resident mammals (the ermine and the arctic fox) and two migrant birds (the snowy owl and the long-tailed jaeger). Population dynamics of the lemming and their predators were monitored over three full 4-year cycles, and consumption rates (i.e., predator functional response curves)

were estimated to parameterize a fairly detailed mathematical model. The resemblance between the observed population trajectories and those predicted from the model was good, especially in respect to the period of the cycle and the time lag between peaks of the lemming and ermine populations (figure 7). A sensitivity analysis of the model showed that the occurrence of cycles appears to be jointly dependent on avian predators limiting lemming summer growth at peak densities and on the delayed numerical response by ermine. Although most parameters in this model were empirically based, critical details about the ermine's functional and numerical response were nevertheless based on untested assumptions. Moreover, it is questionable whether this case study from Greenland is representative of trophic interactions in more complex and productive continental tundra systems, where *Lemmus* species usually dominate.

The best evidence for predator-controlled cycles would be provided by experimental studies in which the density of predators is manipulated. Wilson and colleagues (1999) excluded all predators from an 11-ha plot in the Northwest Territories in arctic Canada during the decline phase of the population cycle of the collared lemming. Nonmanipulated plots served as controls. The decline of the lemming population in the predator enclosure plot was significantly reduced compared to that in the control plots, and it was concluded that predators depressed lemming populations at both peak and minimum densities during the cycle. Thus, this experiment, together with the combined observational and modeling study from eastern Greenland, suggests that at least the interaction cycles involving *Dicrostonyx* may be predator controlled.

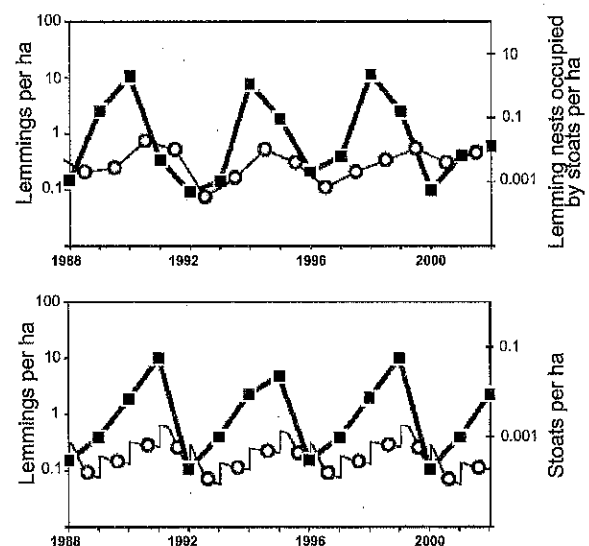


Figure 7. Observed (upper panel) and model-generated (lower panel) population fluctuations in the collared lemming (thick lines, squares) and the stoat (thin lines, circles) at eastern Greenland. Modified from Gilg and colleagues (2003).

Indirect effects of lemming cycles on food webs. As we noted earlier, several arctic bird species that do not prey on lemmings nonetheless exhibit population cycles synchronized with those of the lemmings. Geese and waders are among the best examples (figure 3). For some time it has been hypothesized that predators could link the dynamics of these birds and those of lemmings (Summers and Underhill 1987). An alternative hypothesis could be that cycles in both lemmings and, for instance, geese populations are regulated by cycles in shared food plants (see above).

Recent field studies have revealed the intimate relationship between lemmings, predators, and geese and given support to the so-called "alternative prey hypothesis" (e.g., Bêty et al. 2001, Gauthier et al. 2003). According to this hypothesis, predators switch from lemmings to alternative prey in lemming crash years. Indeed, the large population of arctic fox opportunistically turns to the eggs and young of breeding birds following lemming peak years, and this ultimately gives rise to the demographic cycles in geese that can be observed in wintering flocks (figure 3). The snowy owl may be a third actor in this ecological play between predators and geese, acting in a manner that reinforces the cycles (Bêty et al. 2001). Snowy owls are large and powerful birds that fiercely defend their breeding territories against foxes. Other ground-breeding birds, such as geese and sandpipers, nest close to snowy owl nests as protection against nest predators. This protection effect is clearly reflected in the decreasing breeding success of geese with increasing distance from owl nests (figure 8). As snowy owls normally are not present on the tundra when there are few lemmings, they provide protection only in peak years of the lemming cycle. Thus, the temporally variable protection caused by snowy owls acts to strengthen the fluctuation in goose and sandpiper breeding success during the lemming cycle.

Indirect effects in food webs are probably more common and influential than is usually assumed. The "apparent mutualisms or competition" (Abrams et al. 1998) resulting from shared predators among prey species at the same trophic level (e.g., geese and lemmings) are only one of several possible ways by which lemming cycles may lead to other cyclic phenomena. Another example is diseases that are shared among species. Human settlements in the Arctic often have direct or indirect contact with wildlife through hunting, gathering, and keeping dogs, and certain wildlife diseases (zoonoses) may spill over to populations of humans and domestic animals. Tularemia (transmitted from rodents) varies cyclically in the human population as a result of the cycles in lemmings and voles in Fennoscandia (Hörnfeldt 1978). Rabies exhibits cyclic epidemics in arctic fox populations, and these spill over to sled dogs (Elton 1931).

Ecosystem productivity and interaction cycles. Plant primary productivity is low on arctic tundra because of low temperatures, a short snow-free season, and low concentrations of nutrients in the soil (Callaghan et al. 2004). Low primary productivity may restrict food chain length (Post

2002), and it has been suggested that the northernmost high-arctic tundra may not be productive enough to provide subsistence for any herbivores (Oksanen and Oksanen 2000). Other, slightly more productive systems may harbor some herbivores, but at densities too low to sustain populations of resident predators. In this latter situation, one may expect that such simple, bitrophic-level food webs (i.e., consisting only of plants and herbivores) would be ruled by consumer-resource interactions involving overgrazing, with violent cycles as a result. As noted above, the erratic dynamics of Norwegian lemmings in high-alpine habitats (equivalent to high-arctic environments) have been proposed as an example of such kinds of cycle (Turchin et al. 2000). On the other hand, in low-arctic and low-alpine regions, where productivity is high enough to sustain predators on a year-round basis, these predators may limit the herbivore populations so that plants are not overgrazed (Ekerholm et al. 2005). In this case, cycles may originate from an interaction between herbivores and predators (e.g., Gilg et al. 2003).

Whether these conjectures regarding ecosystem productivity and food web structure and function match reality is uncertain. Indeed, some of the northernmost islands of the high Arctic lack lemmings and other mammalian herbivores. However, this may be because the open sea and sea ice have acted as a barrier against colonization since the last ice age. Other extreme high-arctic environments, such as the northern tip of Greenland and some of the northernmost large islands in the Canadian Arctic, have both lemmings and resident predators despite very low terrestrial primary productivity (Gauthier et al. 2003). Moreover, even in these unproductive environments, the predators seem to be able to consume most of the secondary production (i.e., herbivores), which suggests that the system is top-down controlled even there (Krebs et al. 2003). It is possible that predators are resident in these high-arctic environments only because they are subsidized by the nearby marine food webs (Roth 2003). Truly inland high-arctic areas with no ecological connectivity to the marine food web are often polar deserts at high altitudes with hardly any bioproduction. Some low-elevation, inland high-arctic areas do exist, however, and could provide valuable test beds for the role of terrestrial primary productivity on food chain length and trophic dynamics in the Arctic. To the best of our knowledge, lemmings exist nowhere in the absence of year-round resident predators. If exceptions could be identified and studied, they would provide a crucial test of some influential ideas on the function of arctic ecosystems.

Interaction cycles in the Arctic and climatic change

The extreme climate in the Arctic underlies most characteristics of the tundra ecosystem (Callaghan et al. 2004). Although trophic interaction cycles are also found south of the tundra biome (e.g., Kendall et al. 1998), such cycles appear to be most pronounced in the Arctic because of the very short plant growth season, low primary productivity, and simple food web structure (Oksanen and Oksanen 2000). Recent evidence from more southern terrestrial biomes has shown that the

effect of climate change on ecosystem functioning may be amplified through altered trophic interactions involving plants, herbivores, and predators (Schmitz et al. 2003). We suspect that such amplifier effects resulting from climate-induced "trophic dysfunctioning" may be even more profound in tundra ecosystems, where the trophic interactions are already delicately balanced in a realm of strong seasonal and multiannual cycles.

Most ecological field studies in the Arctic have been conducted in the summer season, when plants are productive and when reproduction and population growth take place in most Arctic animals. Yet the Arctic winter (defined here as the months when the ground is covered with snow) makes up more than half of the year. Hence, the climatic conditions during the winter may be more important for the ecological dynamics than the summer conditions. How Arctic winters

affect plant and animal population dynamics has received relatively little attention until recently, since the impacts of climatic change have come into focus.

Although a thick snow carpet poses a problem for large herbivores such as reindeer, by increasing the costs of movements and foraging (Schmitz et al. 2003), it is rather beneficial for small herbivores such as lemmings and voles. For small mammals, deep snow offers protections both from low ambient temperatures and from many predators. Indeed, for voles in Fennoscandia, there is a correlation between the length and strength of the winter (the number of months with snow and the snow cover thickness), on the one hand, and the amplitude of population fluctuations, on the other (Hansson and Henttonen 1988). In areas with short winters and a shallow snow cover, it seems that voles always decline to very low population densities in the spring. In particular, short episodes with mild weather (and especially rain-on-snow events leading to ice crust formation that "locks" the vegetation) can lead to population crashes (figure 9). A moderate climatic change scenario predicts that the region of the Arctic in which such events will occur frequently will increase by 40% by the year 2090 (Putkonen and Roe 2003).

Even though both arctic lemmings and boreal voles exhibit multiannual cycles, the seasonal characteristics of their population curves seem to differ, especially in the population peak years (figure 10). Intense winter breeding, leading to rapid population growth under the snow, precedes peak years in arctic lemmings (Batzli et al. 1980). Seasonal peak densities are then reached in the spring. In contrast, boreal vole populations typically decline through the winter, because winter breeding is less common, and population growth first resumes in the summer, giving rise to peak densities in the fall. Also, alpine populations of the Norwegian lemming currently seem to exhibit seasonal dynamics, with yearly peaks in the fall (which contrast with the spring peaks in truly arctic lemming populations; compare the population curves for alpine Norwegian and arctic brown lemmings in figure 1).

The ecosystem consequences of these two different types of seasonal population dynamics may be considerable. One

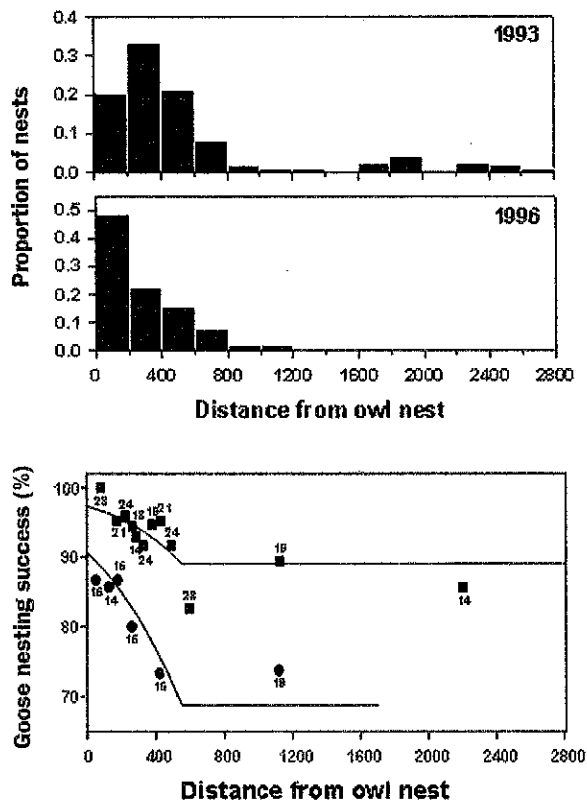


Figure 8. Protection of snow goose breeding success provided by snowy owls on Banks Island in arctic Canada. Upper panel: Distribution of snow goose nests in relation to distance (in meters) from the nearest snowy owl nest in 1993 (a large lemming peak year) and in 1996 (a smaller peak year). Lower panel: Relationship between goose nesting success and distance from nearest owl nests during the same two lemming peak years (1993, squares; 1996, circles). The regression curves (solid lines) were obtained with the best-fit logistic model with an inflection point of 550 m. Reprinted from Bêty and colleagues (2001).

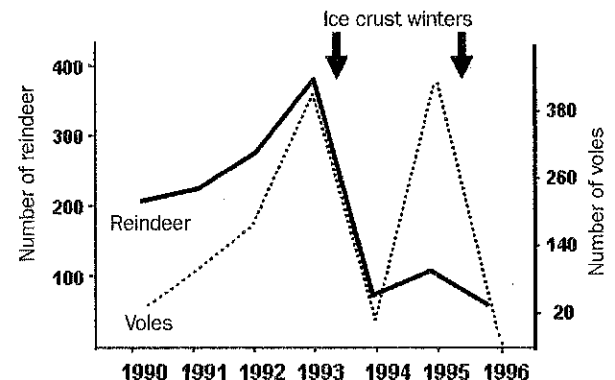


Figure 9. Population dynamics of Svalbard reindeer at Brøggerhalvøya (solid line) and of sibling voles at Fuglefjella (broken line) in Svalbard, Norway. Modified from Callaghan et al. (2004).

aspect is the effect of different seasonal grazing pressures on vegetation. A high herbivore population (and grazing impact) at the start of the growing season in the spring is likely to have impacts different from those of the same population in the fall. Another aspect is the consequences of differential seasonal availability of small rodent prey on the community of predators. Notably, specialist predators depend on a high density of prey in the spring to breed successfully. Nomadic predators such as the snowy owl will not settle and breed at all if the lemming density is below a certain threshold in the spring (e.g., approximately 2 lemmings per ha in Greenland; Gilg et al. 2003). Also, for resident specialists, breeding success is strongly dependent on rodent density in spring. For instance, where arctic foxes do not have access to other major food sources, such as seabirds, they do not usually breed unless the spring density of lemmings is high (Angerbjörn et al. 1999). If lemming dynamics on Arctic tundra were to shift from a seasonal pattern with peak densities in the spring to population peaks in the fall (figure 10), it would clearly affect spe-

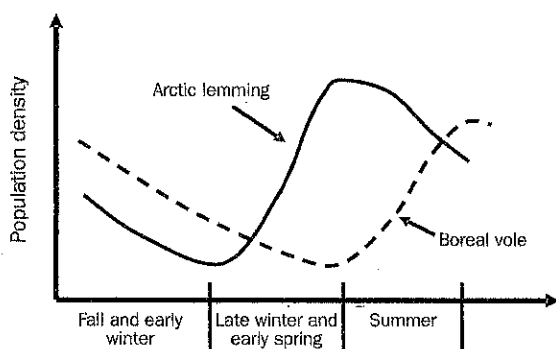


Figure 10. A depiction of some principal differences in the seasonal dynamics during cyclic peak years for arctic lemmings and boreal voles.

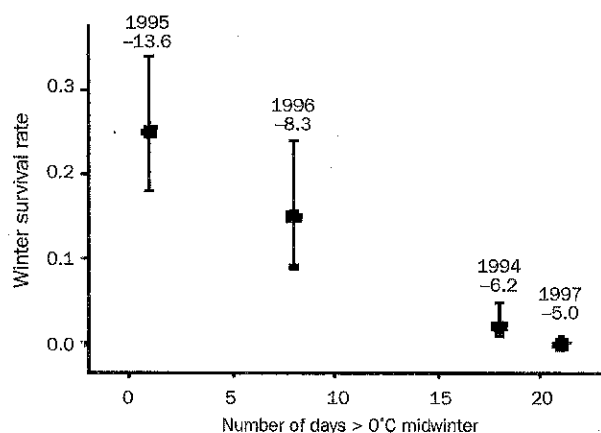


Figure 11. Yearly winter survival rate (with 95% confidence intervals) of several local tundra vole (*Microtus oeconomus*) populations plotted against the number of days with temperatures above 0 degrees Celsius (°C) during the middle of winter (December–February). Mean winter temperature and year are denoted above the survival rate estimates. Reprinted from Aars and Ims (2002).

cialist lemming predators negatively. The effect of such a change on tundra vegetation is harder to predict, but may still be considerable.

Models of climate change predict that winters in the Arctic will become considerably warmer and more variable (Callaghan et al. 2004). In fact, some arctic and subarctic regions seem to have warmed already. Given that the seasonal characteristics of arctic lemming population dynamics, and thus their trophic interaction cycles, are dependent on a long and cold winter, we may expect that the dynamics and structure of the tundra ecosystem will change quite dramatically. In fact, climate may not need to change much to have a large effect. It has been shown that just a few more days with above-zero temperatures during the winter may dramatically lower the survival rate of voles and disrupt the dynamics of local populations (figure 11; Aars and Ims 2002). Moreover, climatic anomalies taking place at a large scale may act to synchronize distant lemming populations (Korpimäki et al. 2004) that otherwise would fluctuate asynchronously. Such large-scale synchrony could have negative impacts on nomadic predators of lemming, as a nomadic strategy would not work in such a situation (Ims and Steen 1990).

Considering that climate has become warmer at northern latitudes during the last century (Callaghan et al. 2004), a pertinent question is whether the ecological dynamics of the Arctic have changed along the lines we have suggested above. Unfortunately, there are no long-term monitoring programs from arctic tundra proper that can provide definitive answers. However, time series of vole populations at the border of the Arctic in Fennoscandia are sufficiently long to provide indications of recent changes. Such data do suggest that the expected changes have taken place. At Kilpisjärvi in northern Finland, where more than 50 years of vole trapping have been conducted in subarctic birch forest, the population cycle was clearly dampened during the 1990s and exhibited mainly seasonal fluctuations (figure 12; Henttonen and Wallgren 2001). Similar changes took place in northern coniferous taiga in the 1980s (Hörnfeldt 2004). In low-arctic tundra in Finnmarksvidda, northern Norway, winter declines seem to have become more pronounced in voles (Ekerholm et al. 2005). These changes in the population dynamics of small rodents have been accompanied by changes in the community of predators. The arctic fox and the snowy owl have been declining through the last decade (figure 12), and both species are now on the verge of extinction in Fennoscandia (SEFALO 2004). The rough-legged buzzard has also shown a declining trend during the last two decades (Kjellén and Roos 2000). While specialist predators are declining, generalist predators such as the red fox seem to be spreading northward (Hersteinsson and Macdonald 1992). Although there may be many potential causes for the northward expansion of generalist predators, it matches the general trend that many southern species seem to be rapidly moving northward because of climatic warming (Parmesan and Yohe 2003). Invasion of new predators may dramatically alter the dynamics and structure of food webs (Roemer et al. 2002), and this applies

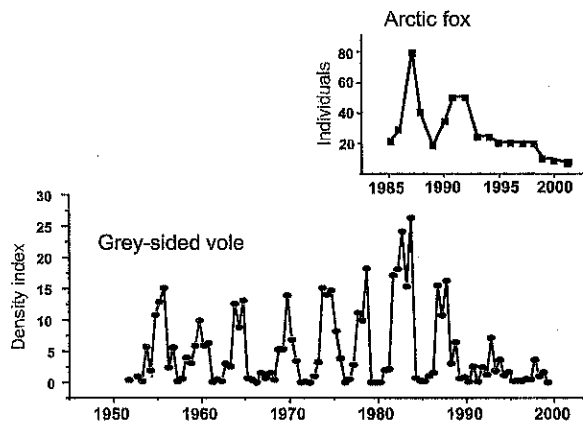


Figure 12. Changed dynamics of the grey-sided vole in Kilpisjärvi, Finland (Henttonen and Wallgren 2001) and population trend for the arctic fox in northern Finland (SEFALO 2004).

perhaps especially to arctic food webs, which, because of their simplicity, may be more easily invaded (i.e., less resistant) and more affected by invasive species (i.e., less resilient) (Kennedy et al. 2002). As population trends in predators often reflect and determine major changes in the ecosystem (Schmitz et al. 2003), it may be prudent for monitoring programs to concentrate on upper-trophic-level predators.

Perspectives for future research and monitoring

Owing to their simplicity, tundra ecosystems are valuable model systems for elucidating fundamental principles of how trophic interactions shape the structure and function of food webs. Moreover, tundra ecosystems are among the most exposed and vulnerable to climate change, and there is an urgent need for predicting and eventually documenting how such changes affect key processes such as the trophic interaction cycles we have described in this article. However, except for some recent instructive field campaigns (e.g., Krebs et al. 2003) and case studies (e.g., Gauthier et al. 2003, Gilg et al. 2003), there are at present few ongoing arctic research projects with a genuine ecosystem perspective (but see Oksanen and Oksanen 2000). There is a particular need for ecosystem-based research protocols with good geographic representation, covering, for example, prevailing climate gradients. Moreover, such projects should have a time horizon long enough to include temporal variability in climate and the time lags in ecosystem responses to such variability (which may be markedly delayed in the Arctic), as well as several normal interaction cycles within the system. There is a striking lack of high-quality, long-term time series for important variables such as plant primary production at tundra sites. Moreover, there is an urgent need for studies conducted during the critical winter season. Much can be achieved by setting up targeted monitoring programs with a standardized protocol at many sites in the Arctic. Such monitoring programs should include quantitative measurements of species that

are likely to be the main players in the interaction cycles we have described.

Acknowledgments

We thank the conveners and participants in the workshop "Arctic Life" at Kongvoll, Norway, in August 2002 for stimulating comments and discussion. We are also grateful to Allan Berryman, Erkki Korpimäki, and an anonymous reviewer for their constructive comments. This article was facilitated by the research project "Ecosystem Finnmark," financed by the Resource Council of Norway.

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Migration:

Mostly nomadic and unpredictable migrants; some remain on breeding range year-round if conditions allow (Holt et al. 1999). Disperse from breeding grounds to areas where weather and food permit overwintering. Two radio-tracked females moved three successive summers from Barrow, AK, to the north-central Russian coast, and then to northwest Canada (Fuller et al. 2003). Some authors correlate southward movements with lemming population cycles. For certain regions (e.g. northern Great Plains) dispersal probably does relate to variable local abundance of primary prey, i.e. lemming mosaics (Parmelee 1992). However, in eastern and western North America, this species shows geographically synchronous winter irruptions too large to be attributed to lemming mosaics. Other factors such as snow cover, crust characteristics and winter temperatures may be more influential (Kerlinger et al. 1985, Parmelee 1992, Elphick et al. 2001). Kerlinger et al. (1985) consider winter dynamics of coastal populations to be irruptive, whereas central Great Plains populations are regular migrants. Larger adult females winter farther north than males and immatures (Elphick et al. 2001).

It was very surprising, said Therrien, how far the individual birds migrated from where they were banded on their nesting grounds on Bylot Island, north of Baffin Island.

"The satellite data showed just how dramatic the owl movements are. They flew huge distances. One owl went to Ellesmere Island, another flew straight to North Dakota and a third ended up on the eastern point of Newfoundland,"

Natural Sciences and Engineering Research Council (2008, December 24). Snowy Owl -- A Marine Species?. *ScienceDaily*. Retrieved

Dependence upon lemming population ecology, which may be impacted by global climate change, is of concern; Kerr and Packer (1998) predict the collared lemming (*Dicrostonyx groenlandicus*), a keystone species, will lose approximately 60 percent of its habitat in Canada due to global warming. Low lemming abundance could result in high mortality of young owls due to starvation.

Rapid climate change can result in the world losing its biodiversity," says Professor Ims. "The Arctic tundra can be particularly vulnerable. There is a relatively narrow strip between the northern forest and the Arctic sea areas. If the scenarios for climate change are correct, the forest can in time stretch right out to the coast and completely consume this unique ecosystem."

As a result of a warmer climate, the living conditions of the Arctic fox's toughest competitor, the red fox, will improve markedly.

Professor Yoccoz says other Arctic specialties among predators such as the long-tailed skua and the snowy owl can disappear and be replaced by species including the golden eagle.

University of Troms (2007, May 28). How Will Climate Change Affect Arctic Predators?. *ScienceDaily*. Retrieved January 8, 2010, from

Polar species such as Snowy Owls, and particularly their prey species the Brown Lemming, could be drastically affected by climate change. (Holt, D.)

From: Magdanz, James S (DFG) [james.magdanz@alaska.gov]
Sent: Thursday, February 19, 2009 2:50 PM
To: musictherapist@optonline.net
Subject: Snowy Owl Harvest Data - Selected Arctic Alaska Communities

Dear Michael Guglielmo,

In response to your request, below is a data table summarizing subsistence harvest information from selected Arctic communities in Alaska. Snowy owls are customarily and traditionally used for subsistence in many Arctic Alaska communities. Harvests are relatively small, compared to other birds such as geese, ducks, and ptarmigan.

These data come with a number of caveats. We do not routinely survey Alaska communities to estimate snowy owl harvests. Most of our surveys do not ask specifically about snowy owl. Snowy owls were reported in response to a follow-up prompt such as: "Did you harvest any other kinds of birds last year?"

A number in the table below indicates that a survey was administered in that community in that year, and produced the estimate shown. A blank cell in the table, years missing from the table, and communities missing from the table signify *only* that we have no information about snowy owl harvest for that community and year. I think the amounts reported here are typical. If we had survey data for the blank cells, they likely would be similar numbers.

If there is a pattern here, it is that snowy owls are more commonly taken in coastal communities like Kivalina, Shishmaref, Stebbins, and Wales. Although Noatak is located 30 miles from the coast, many residents live seasonally on the coast at Sisaulik, near Kotzebue.

The Kivalina surveys in 1982 and 1983 were among the most thorough we have ever conducted (a local crew of seven people filing weekly harvest reports for every household for two years), which may explain why the estimates for those years were slightly higher than for other years. Less common species harvested in small amounts are more likely to be reported in such a survey. If we had used that method in the other communities, estimates might be higher.

Jim Magdanz
 Subsistence Resource Specialist III

Estimated Harvests of Snowy Owl in Selected Arctic Alaska communities

	1982	1983	1993	1994	1995	1996	1997	2002	2003	2006	2007
Ambler					0						
Buckland					0		0				
Deering			0		0						
Elim		0									
Kiana		0		0			0				
Kivalina	15	26			0				2		
Kobuk				0							
Kotzebue						0					
Noatak			0		5			0			
Noorvik				0							
Nuiqsut		0									
Selawik		0			0						
Shaktolik			0								
Shishmaref				9							
Shungnak			1				0				
Stebbins			5								
Wales		5									

January 07, 2010
Attn: Board Review: Alaska Fish and Game

RECEIVED
JAN 11 2010
BOARDS

In Support of
Proposals 20-22

I would like to add my request to those already submitted; requesting that the Board of Fish and Game consider reversing its position regarding the Savannah Cat as an illegal species.

It is my belief that the nature of the savannah cat may be misunderstood. I believe, perhaps with the exception of the first generation, it should in fact, be recognized as a domestic feline.

Toward that end, I would argue the following points:

- 1) The wild progenitor is NOT taken from feral populations. The cats are part of breeding programs already in place within the U.S. and Europe.
- 2) Breeding programs BENEFIT an endangered species; as we have learned, too late for many animals.
- 3) The hybrid cats show INCREASED resistance to common feline diseases.
- 4) Servals, though weighing up to 30 pounds are not as robust a feline as the lynx to which the State has compared it. As a native of the African savannah; it lacks the dense winter coat of the lynx, and could NOT survive an Alaskan winter.
- 5) Each succeeding generation diminishes in size. An f3 may weigh 14 lbs, an f6 approximately 6-7 lbs.
- 6) The f1 generation is the only generation that has any characteristics which resemble the African serval.
- 7) The f1 and f2 generations are bottle raised and DO NOT have the ability to survive in the wilds of Alaska.
- 8) The f1 and f2 cats cost between \$4500-15,000 and thus would not be allowed to roam free. By contrast, the common domestic cat poses a greater threat to birds and other small animals as they are frequently allowed out of doors.
- 9) The savannah males are infertile to the 5th generation. Should a cat accidentally be loosed it would be unable to breed with local domestics.
- 10) Breeders require the owners to spay or neuter all pets as a condition of ownership.
- 11) Each potential owner must complete a detailed questionnaire including, but not limited to; income, home ownership, other pets in the home, veterinary services, and in one case; submit to a home inspection and pay airfare for the breeder toward that end.
- 12) Once a savannah is beyond the f3 generation there are no characteristics that would distinguish them from the ordinary domestic cat other than the pattern of its coat, which is purely cosmetic.

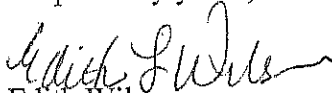
It is also my opinion that these arguments could be made for many of the new breeds being developed; including, but not limited to the Bengal, chausie, and oiccat.

Thank you for allowing me to contribute my opinion as you reconsider the State's position regarding our beloved savannah cats. Ownership of a savannah, as with any of the new breeds, is a costly endeavor; no owner would intentionally be careless with one. Having spent a great deal of money and perhaps having waited months for a kitten once being approved, savannah owners are likely to be some of the most responsible owners of all.

I cannot speak for all, but when I purchased my pet several years ago, I was completely unaware that Alaska did not view a late generation savannah as a domestic cat, and it would certainly be a traumatic experience to have to surrender my friend due to that ignorance.

I am convinced that those of you who have not had the opportunity to experience time with a savannah would soon be convinced of their gentle domestic natures. Once you've held one of these big eared, wide eyed spotted cats, you would find yourselves true believers.

Respectfully yours,

A handwritten signature in cursive script, appearing to read "Edith Wilson", with a long, sweeping horizontal flourish extending to the right.

Edith Wilson

Anchorage Alaska

Erich Schaal
3952 Julep St.
Juneau, AK 99801
January 8, 2010

ATTN: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526
Fax: 907-465-6094

Dear Board of Game Members:

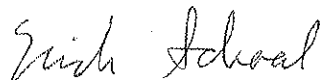
As an Alaskan resident and avid waterfowl hunter, I am writing to express my opposition to Proposal 52 – 5 AAC 85.045. This proposal is poorly written, aims to directly marginalize the waterfowl guides in the area, and does not submit any quantifiable data or research to support the proposal writers' assertions and the negative impacts to waterfowl hunters.

Furthermore the proposal writer's accusation that "most of these ducks are not eaten or utilized" is completely inappropriate for such a proposal. If there was waste of game animals occurring, that is a criminal matter to be investigated by the Alaska State Police. Secondly, this proposal intends to reduce the bag limit for all hunters, not just those on guided hunts, which directly contradicts the proposal writers' justifications for the change.

This entire proposal lacks a basis in field research and sound game management practices and appears to have ulterior motives for reducing the bag limits on all sea duck hunters in Unit 15C.

I hope this board agrees that this proposal should be rejected because it would negatively impact all waterfowl hunters in unit 15C, guided or not, and due to its lack of sound research.

Sincerely,



Erich Schaal

Support Proposals 23, 28. Oppose Proposals 2, 5, 24, 32, 29, 40

1

Gillian Kirby
5901 Greece Circle
Anchorage
AK 99516
gillian.kirby@gmail.com

Attn: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526
Fax: 907-465-6094

7 January 2010

Statewide Regulations Cycle A

Support Proposals 23, 28 Oppose Proposals 2, 5, 24, 32, 29, 40

To all members of the Alaska Board of Game,

I urge you to carefully consider the comments below regarding the upcoming Statewide Proposals and to act accordingly in the best interests of all of the people of Alaska:-

Support Proposal 23: 5 AAC 92.039

Permit for taking wolves using aircraft

Disallow guides and assistant guides from obtaining aerial permits for taking wolves

There is a clear conflict of interest in allowing the very same guides who benefit from hunting game in a unit to participate in the aerial gunning of wolves in that unit. With no means of verifying the number of wolves killed by guides, there is strong incentive for them to over-kill and under-report, promoting their own business by increasing moose or caribou hunting opportunity.

There is no clear science to support the presumption that a transparent, well regulated predator control program is effective in its stated goals. Allowing individuals with clear motivation for breaking control limits to participate in the program is extremely dangerous to the long-term integrity of our ecosystems.

Support Proposal 28: 5 AAC 92.116

Special provisions in predation control areas

Eliminate nonresident hunting for certain big game animals in predation control areas

Support Proposals 23, 28. Oppose Proposals 2, 5, 24, 32, 29, 40

1

Support Proposals 23, 28. Oppose Proposals 2, 5, 24, 32, 29, 40

2

The stated goal of predator control programs is to increase populations of moose and caribou as a needed food source of Alaskans.

Allowing nonresidents to take this needed food source just doesn't make sense.

Either the moose and caribou populations are large enough to provide an adequate and sustained harvest for Alaskans, in which case there is no need to control predators, or the moose and caribou populations aren't large enough to sustain Alaskans' needs, in which case we should keep them for Alaskans.

Remember why nonresidents have to come to Alaska to hunt in the first place; it's because their ancestors hunted big game and their predators to extinction throughout the rest of the United States. Do we really want to allow the same thing to happen here?

Oppose Proposal 2: 5 AAC 92.010

Harvest tickets and reports.

Repeal the black bear harvest ticket requirement

Eliminating the framework for hunting black bears will relinquish any control the ADF&G has over their management. The number of black bears killed per year is already very high. Black bears reproduce at a low rate and allowing their numbers to be decimated further through lack of control could seriously impact their long-term population.

Oppose Proposal 5: 5 AAC 92.101(d)

Harvest tickets and reports.

Lower the age for youth hunters to receive big game harvest tickets

Lowering the age to eight years is irresponsible. An eight year old child cannot be expected to fully comprehend the suite of issues associated with hunting big game, let alone operate guns safely in the wild. This proposal is a shield for increasing parents' take.

Oppose Proposal 24: 5 AAC 92.044

Permit for hunting black bear with the use of bait or scent lures

Change the number of bait stations that a licensed guide-outfitter and his assistant guides may register in the Unit 16 Predation Control Area

Justification for this proposal is based entirely on the premise that greater numbers of bait stations are allowed in other Game Units. Surely each Unit should be assessed on its own merits? Because something is allowed elsewhere doesn't make it the right thing to do everywhere.

Support Proposals 23, 28. Oppose Proposals 2, 5, 24, 32, 29, 40

2

Black bears in this area are also subject to a foot snaring program using helicopters. The number of bears killed in these programs has almost tripled from 197 bears in RY 2002-3 to over 500 bears in RY 2008-9 in this region. When is enough enough?

Oppose Proposal 32: 5 AAC 92.125

Predation Control Areas Implementation Plans

Establish a predation control plan for Units 9C and 9E

There is insufficient data to support the premise wolves are the primary driver for declining caribou populations on the Alaska Peninsula. Detailed work by Patrick Walsh (US Fish and Wildlife Service) and James Woolington (Alaska Dept of Fish and Game) on the Nushagak Peninsula concludes that wolf predation on the Peninsula is not the principal driver for this caribou population. In fact, most of the incursions of wolves into the caribou area occurred during the fall (October-December), while there was little overlap during the caribou calving season.

Before any predator control program is started in Units 9C and 9E a similar study should be conducted to establish whether there is significant wolf presence in the caribou areas during calving. Unless it can be demonstrated that wolves are the primary cause of poor calf recruitment, the program will be ineffective and a waste of resource.

Oppose Proposal 39: 5 AAC 92.200(b)(1)

Purchase and sale of game

Allow the sale or barter of tanned bear hides

Providing this kind of financial motivation for killing wildlife introduces a high risk of illegal poaching. There is no way of regulating a market in wildlife parts: legalizing any part of the market will create a much larger illegal market. And without any kind of enforcement framework, this will certainly result in an increase in illegal poaching and trafficking of bears both within and outside Alaska.

In addition, North American bears (both black and brown) are listed in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), a global treaty aimed at controlling trade in endangered and threatened species.

Oppose Proposal 40: 5 AAC 92.200(b)(2) and (3)

Purchase and sale of game

Allow the sale or barter of big game trophies

Arguments as for Proposal 39 above.

Authorizing a financial incentive to kill big game is simply not justifiable.

RECEIVED
JAN 26 2010
BOARDS



Alaska Department of Fish and Game
Boards Support Section
attn: Scott Crass
P.O. Box 115526
Juneau, AK 99811-5526

RE: Scientific literature supporting Proposal 47 – Removal of the Snowy Owl from the unclassified game list

Dear Honorable Board Members,

My name is David H. Johnson, and I am the
Project is a scientific and conservation effort.
As part of this effort, a *Snowy Owl Working Group*
undertaken by the Group involves the assembly
(globally). More specifically, this literature
that the Snowy Owl was described to science
the subsequent acquisition and scanning of
effort is ongoing, we are far enough along that
Proposal 47 – removal of the Snowy Owl from

Enclosed please find a CD labeled "Snowy Owl"
database file (Snowy Owl bibliography 12-3
that deal with Snowy Owls. Also, on the CD
still a work in progress, I am sure that this is
Snowy Owl anywhere in the world. I am submitting this compilation of literature to you, in support of
Proposal 47.

I have worked with owls for 33 years, and have been Director of the Global Owl Project since its inception in 2002. Thank you for your kind consideration of this substantial body of literature and its integration into the important conservation and management issue now in front of you.

Sincerely,

David H. Johnson
Director – Global Owl Project
6504 Carriage Drive
Alexandria, VA 22310
djowl@aol.com
202-360-0313 cell

Handwritten notes:
Contacted 1/6/10
CD is passed to Dale Rebe
Will email comments and new letters to board.

The Global Owl Project is in 64 countries. Subjects being Snowy Owl since 1758 (the year of citations, and file this literature supportive of,

find one Excel 50 publications are itself. While literature on the

Tim Schmiede

From: Tim Schmiede
Sent: Wednesday, January 06, 2010 9:26 AM
To: Tim Schmiede
Subject: Use of Crossbows

I just want to get my opinion in on the use of crossbows for hunting. I know a lot of states are allowing them during there archery seasons and I am dead set against it. They are in no way archery equipment. They are a mechanical device that requires no skill. For the most part they are no different than sticking a arrow down your shot gun barrel and shooting it. I am not advising this but you know what I mean. Please consider not allowing them to be used during the archery season.

Tim Schmiede
PO Box 520382
Big Lake Ak. 99652
242-9371

RECEIVED
JAN 16 2010
BOARDS



Alaska Department of Fish and Game
Boards Support Section
attn: Scott Crass
P.O. Box 115526
Juneau, AK 99811-5526

RE: Scientific literature supporting Proposal 47 – Removal of the Snowy Owl from the unclassified game list

Dear Honorable Board Members,

My name is David H. Johnson, and I am the Director of the Global Owl Project (GLOW). The Global Owl Project is a scientific and conservation effort, currently with some 450 researchers working in 64 countries. As part of this effort, a *Snowy Owl Working Group* has been established, and one of the projects being undertaken by the Group involves the assemblage of all of the scientific publications on the Snowy Owl (globally). More specifically, this literature effort reflects the acquisition of publications since 1758 (the year that the Snowy Owl was described to science by Linneaus), and involves the organization of citations, and the subsequent acquisition and scanning of the actual documents into digital .pdf format. While this literature effort is ongoing, we are far enough along that we can submit materials relevant to, and supportive of, Proposal 47 – removal of the Snowy Owl from the Alaska unclassified game list.

Enclosed please find a CD labeled “**Snowy Owl Literature, 12-31-09.**” On this CD you will find one Excel database file (Snowy Owl bibliography 12-31-09.xls), which contains our current listing of 750 publications that deal with Snowy Owls. Also, on the CD you will find 460 .pdfs of the Snowy Owl literature itself. While still a work in progress, I am sure that this is the most rigorous compilation of scientific literature on the Snowy Owl anywhere in the world. I am submitting this compilation of literature to you, in support of Proposal 47.

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Tim Schmiede
PO Box 520382
Big Lake Ak. 99652
242-9371

Attn: Scott
Public Comments
Steward BOB

[REDACTED]

Proposal 4: Requires a harvest ticket for hunting deer. Submitted by John Frost. -I SUPPORT THIS MEASURE.

Proposal 23: Commercial hunting guides would not be allowed to obtain aerial wolf gunning permits. Submitted by Wade Willis. -I SUPPORT THIS MEASURE.

Proposal 25: Prohibit the use of bait or scent lures near businesses, schools or other facilities. Submitted by Alaska Wildlife Troopers. -I SUPPORT THIS MEASURE.

Proposal 26: Restricts the type of bear foot snares the public is allowed to use to kill black bears in a predator control program. Submitted by Wade Willis. -I SUPPORT THIS MEASURE.

Proposal 27: Restricts foot snaring of bears to only trained ADF&G employees. Submitted by Wade Willis. -I SUPPORT THIS MEASURE.

Proposal 28: Eliminate nonresident hunting for certain big game animals in all predation control areas. Submitted by the Alaska Center for the Environment. -I SUPPORT THIS MEASURE

Proposal 29: Nonresident hunters would not be allowed to hunt moose and caribou in predator control areas if the minimum population objectives for big game were not met. Submitted by the Anchorage Fish and Game Advisory Committee! -I SUPPORT THIS MEASURE

Proposal 30: Nonresident hunters would not be allowed to hunt moose and caribou in predator control areas if resident harvest need exceeded the amount of game available. Submitted by Wade Willis. I SUPPORT THIS MEASURE

[
Proposal 33: Reduce the population management objective for the Northern Peninsula Caribou Herd. (A predator control program is being proposed for this herd). Submitted by the ADF&G. I SUPPORT THIS MEASURE!

Proposal 47: Removes the hunting opportunity for snowy owls. Submitted by Micheal Guglielmo. I SUPPORT THIS MEASURE!

Proposal 49: This proposal attempts to address a serious lice infestation problem among Alaska's wolves. This dog "lice" is not native to Alaska and poses a significant risk to the health and integrity of Alaska's wolf packs, especially young pups. While this proposal is intended to promote better pelts for trappers, the conservation community can benefit extensively by obtaining more accurate data on where this problem exists and the level of impact it is having on Alaska's wolf populations. Submitted by the Fairbanks Fish and Game Advisory Committee. I SUPPORT THIS MEASURE!

[REDACTED]

Attn: Scott
Public Comments
Steward BOG

[REDACTED]

Proposal 4: Requires a harvest ticket for hunting deer. Submitted by John Frost. -I SUPPORT THIS MEASURE.

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Proposal 30: Nonresident hunters would not be allowed to hunt moose and caribou in predator control areas if resident harvest need exceeded the amount of game available. Submitted by Wade Willis. I SUPPORT THIS MEASURE

□
Proposal 33: Reduce the population management objective for the Northern Peninsula Caribou Herd. (A predator control program is being proposed for this herd). Submitted by the ADF&G. I SUPPORT THIS MEASURE!

Proposal 47: Removes the hunting opportunity for Snowy Owls. Submitted by Micheal Guglielmo. I SUPPORT THIS MEASURE!

Proposal 49: This proposal attempts to address a serious lice infestation problem among Alaska's wolves. This dog "lice" is not native to Alaska and poses a significant risk to the health and integrity of Alaska's wolf packs, especially young pups. While this proposal is intended to promote better pelts for trappers, the conservation community can benefit extensively by obtaining more accurate data on where this problem exists and the level of impact it is having on Alaska's wolf populations. Submitted by the Fairbanks Fish and Game Advisory Committee. I SUPPORT THIS MEASURE!

[REDACTED]

[REDACTED]

Proposal 38: Authorizes the legal sale of black bear gall bladders! I DO NOT SUPPORT THIS MEASURE!

- To promote the illegal black market for black bear gall bladders is truly unbelievable. Not only would it provide a market for poaching black bears it would condone such a practice.

Proposal 2: Repeal black bear harvest ticket requirements. I DO NOT SUPPORT THIS MEASURE!

- Black bear harvest rates statewide are very high. Currently the ADF&G has very few accurate black bear population estimates. Harvest tickets are an essential tool for documenting black bear harvest which may be reaching maximum harvest statewide.

Proposal 24: would allow a commercial hunting guide to register and bait up to 10 bait stations for his clients. The assistant guide could register up to 2 bait stations for clients. I DO NOT SUPPORT THIS MEASURE!

- This proposal attempts to liberalize commercial black bear baiting west of Anchorage in the Beluga area. Last year the BOG authorized the public to conduct an experimental bear foot snaring program in the same region using helicopters. Black bear harvest has increased from 197 bears in RY 2002/03 to over 500 bears in RY 2008/2009 in this region! Liberalizing commercial bear baiting is inappropriate and unjustified.

- The Anchorage AC is submitting an Agenda Change Request to make this legal STATEWIDE! Even in areas with overharvest concerns! The Anchorage AC chair is a commercial black bear hunting guide in GMU 16.

□

Proposal 31: Liberalize the dates that helicopters and snaring may be used in Unit 16 (Beluga Area) black bear predator control program.

- This proposal would allow helicopter use and snaring of bear until September 25. The expansion of the experimental bear program being conducted by public trappers after just one year is unjustified. Potential abuse of helicopter transport to hunt other big game species is significant. The Alaska wildlife Troopers do not have a helicopter dedicated to enforcing hunting regulations in GMU 16. In the fall, residents are actively recreating, camping, hunting and berry picking. The risk to the public of encountering a snared bear is significant. Should a person encounter a bear cub in a snare, the mother would be extremely aggressive. I DO NOT SUPPORT THIS MEASURE!

Proposal 32: Establish a new predator control program on the Alaska Peninsula. I DO NOT SUPPORT THIS MEASURE!

• The region is marginal habitat for moose and caribou and the first area we assume could be affected by climate change. Caribou management reports identify a lack of winter food supplies as a significant factor limiting the caribou population. The majority of the region is federal refuge land as well. The proposed predator control program cannot be effective unless the USFWS authorizes the state to conduct predator control on refuge lands which is inappropriate without an environmental impact statement. In the past, the ADF&G has consistently not supported predator control proposals in areas with a majority of the land being federal refuges. Unfortunately, they are now trying to force the USFWS's into authorizing predator control

□ on refuge lands with this proposal and another similar proposal on the Kenai Peninsula.

Proposal 34: Establish a new intensive management program on the Kenai Peninsula.

No! Do Not Support!

• Again, this program requires over 80% USFWS refuge land (Kenai National Wildlife Refuge). As noted, the ADF&G has traditionally not supported any proposals that require the use of federal refuge lands to be successful. Unfortunately, with the appointment of two predator control advocates to the commissioner's office of the ADF&G in 2008, that is no longer the policy of the department. This is another aggressive attempt to force the USFWS to allow intensive management on federal refuge lands. Once again, the department notes that nutrition is a limiting factor for the moose population so they propose conducting controlled burns to potentially "enhance" moose habitat and artificially increase moose numbers with controlled burns. Significant fire risk due to beetle kill exists on the Kenai Peninsula. As well, the region is an important summer destination for Alaskan's and tourists alike.

Proposal 36: Would remove the sealing requirement for certain furbearers, including wolverine. I DO NOT SUPPORT THIS MEASURE!

• Sealing of hides is an important management tool for area biologists with the ADF&G. This is the only time the department can document kill location, sex, age, and health of the animal. Wolverine, in particular, is extremely susceptible to overharvest. Indeed, no wolverine population in North

□ America has been able to sustain any harvest without a natural "refugia" where there is no trapping. Other fur bearers such as Lynx need to be managed very closely as well. Sealing records are the main tool the department has to achieve those goals.

Proposal 39 and 40: Allows the sale or barter of big game animals and Trophy Mounts. I DO NOT SUPPORT THIS MEASURE!

Page 3

[REDACTED]

• This proposal attempts to commercialize the harvest of wild game. Turning hunting into a profit driven enterprise and promoting the poaching of game for legal sale as mounts. This proposal would provide incentive for poachers to kill wildlife for profit. Currently, the Alaska Wildlife Troopers lack the staff and regulatory authority to effectively manage and track the legal sale of wildlife. Scientific organizations nationwide strongly oppose the sale of big game animal parts. Authorizing a financial incentive to kill big game is not justifiable.

Public comments of support and opposition are needed for the Statewide Board of Game meeting in January. No form is needed. The public must fax, mail or hand deliver written comments by January 15 to:

Sherry Wright
333 Raspberry Road
Anchorage, AK 99518-1599
Fax: (907) 267-2489

Comments must be received by the close of business on January 15, 2010. No emails are accepted. Be sure to identify the specific proposal number you are commenting on.

□

*These are my votes and I
support the talking points as my
reasons.*

*Barbara N. Kelly
1800 Parkside Dr
Anchorage AK
99501*

12/19/09

December 31, 2009

ATTN: Board of Game Comments ADFG
Board's Support Section
P. O. Box 115526
Juneau, AK 99811-5526
FAX: 907.465.6094

Subject: DO NOT Repeal ADFG Proposal #53 at the March
2010 Board Meeting

Specific Concern: Shoot of of White (Albino) Moose in 20C

These are very special animals that all Alaskans enjoy seeing in the wild. If you repeal #53, they will all end up on some rich hunter's wall and nobody will ever enjoy them again.

Let's take the high road in Alaska and preserve some things in nature that people can enjoy. Policies should not be directed by the hunting guide business or rogue Alaskan hunters out to get one of the rare beauties of nature to hang on a wall where nobody else can enjoy it.

My fear is that Alaska will go the way of the lower 48 where many species have been shot out to near extinction.

I urge you not to allow the shooting these white moose.

Thank you for your consideration.

Jerri Roberts
P. O. Box 158
Denali Park, AK 99755
907.683.0723

**Regarding Proposal No. 16 and 17
Support -**

Submitted by: Mary Lynn Campbell
USDA License Number -63-C-0185
Florida Fish and Wildlife License Number 403-53671

Hello, I have been entertaining and educating with capuchin monkeys for now 22 years. I support the adding of capuchin monkeys to the clean list for the state of Alaska. So many people have not only learned such wonderful things about them but they have also gained much respect for these wonderful animals as I have been sharing them with the public.

Adding these captive primates to the state of Alaska can only be a positive thing as I know the caregivers, of these animals will be wonderful teachers about the responsibility of owning a captive primate. Monkeys do not make good pets but they do make good additions, as members of a family. People that spend thousands of dollars to purchase these animals are eager to be successful in owning them.

I have never become sick from any of my monkeys during these 22 years nor has any of the thousands and thousands of children and adults that I have entertained and educated.

Please remember when asking people to respond to the following question that these captive primates of course could never survive outside of their man-made homes, because of their tropical temperature needs. Thank you- Mary Lynn

1. If a primate escaped would it/they survive in Alaska?; Tropical animals can not survive in Alaska's climate.
2. Is it capable of causing a genetic alteration of a species that is indigenous to Alaska?; No - monkeys are not interested in other animals. They will stay away from all other animals out of fear.
3. Is it capable of causing a significant reduction in the population of a species that is indigenous to Alaska?; This would not pertain to capuchin monkeys.
4. Is it capable of transmitting a disease to a species that is indigenous to Alaska? This would not pertain to capuchin monkeys.
5. Does it present a threat to the health or population of a species that is indigenous to Alaska? This does not pertain to capuchin monkeys.

1/4/2010

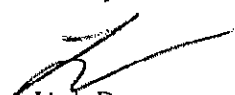
Linda Donegan
PO Box 220427
Anchorage, AK 99522

Board of Game Comments
Alaska Department of Fish & Game
Board's Support Section
PO Box 115526
Juneau, AK 99811-5526

Proposal #53, Opposed

I am opposed to Proposal #53 repealing the prohibition of shooting white moose. Because of the extreme rarity of these animals I believe they should be protected to preserve their genes. I think the benefits of wildlife viewers seeing these animals over the years are worth the regulatory diligence required. When I was in Healy this fall the innkeepers spoke of a part-white moose that frequented the area. Even though I didn't see it, I would like to see it preserved so others can. I appreciate that the Board of Game has had this prohibition in place for some time and don't think that it should be changed.

Thank you,



Linda Donegan

Dec. 29, 2009

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JAN 05 2010

Board of Game

BOARDS

The purpose of this letter is urge the Alaska Board of Game to adopt Proposals 23, 25, 27, 28, 29 and 30 at its upcoming meeting.

23 I support Proposal 23 as a way to eliminate an obvious financial conflict of interest when a commercial hunting guide or assistant guide is also permitted to obtain an aerial permit for shooting wolves in the same intensive management area. Prohibiting guides from getting a permit will eliminate any ability, or temptation, to manipulate their wolf kill data in order to further their commercial guiding business.


25 I support Proposal # 25 for its obvious safety benefits while imposing, at best, minor inconveniences.

27 I support Proposal # 27 in the belief that experimental programs for the taking or capture of any wild animal should be conducted by trained professionals from the agency authorizing the experiment. Without biologists using scientific methods to evaluate the experiment, there is no way anyone can conclude that the experiment is a failure, needs tweaking or should be considered an approved method for the capture of this animal.

28, 29 and 30 I support Proposals #28, #29 and #30 for the exact same reasons: allowing non-resident sport or trophy hunters to hunt in predator control areas puts them in direct competition with resident subsistence hunters for whose benefit the predator control area was primarily created. By definition in the regulations, and as a matter of statute, resident hunters have priority in the taking of big game in areas where there is insufficient game to meet the needs for residential harvest. Accordingly, nonresident sports and trophy hunters must be barred from such areas.

Thank you for this opportunity to comment.

Sincerely yours,



Susan Olsen

8601 Sultana Drive

Anchorage, AK 99516

ALASKA FISH AND GAME
Board Support Section
Juneau, Alaska 99811

Joni & Thomas Swanson
2696 Volco Road
Edgewater, Florida 32141

Re: Proposal No. 16 and 17
Alaska Monkeys "on the clean list"

I want to thank you for taking the time in giving the capuchin monkey a chance to be reviewed for the clean list! We have Friends and Family that lives in Alaska and we SUPPORT THIS proposal! We have had our Fish and Game permits in The state of Florida since 1987 with the capuchin monkey. We have had this permit and have researched your questions concerning them to be permitting them in the state of Alaska.
Comments on the five questions in question!

1. The capuchin monkey would not service live after 3 days of freezing & weather!
2. This animal is very human like and causes no threat to anything in Alaska
3. No threat whatsoever this animal is only six to 8 pounds.
4. This is a primate that has been born in captivity, and can not carry any disease and to any indigenous to Alaska.
5. This animal will not have any threat to the health or population of any species that is indigenous to Alaska.

WE SUPPORT THIS PROPOSAL

P.S. The capuchin monkey's has been helping disabled people for over 26 years!

Thank you! Fish and Game holder Class 1 Class 2 Class 3 # 401-57452

ATTN: Board of Game Comments
Alaska Department of Fish and Game
Board's Support Section
PO Box 115526
Juneau, AK 99811-5526

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DEC 1 2009

BOARDS

29 December 2009

To whom it may concern:

I am writing on behalf of the rare white moose in Alaska. There are records of white (or partially white) moose in and near Denali National Park going back to the 1930s. From 1984 to 1990, there was a totally white female moose at the east end of Denali. She was seen as far north as the Stampede Trail and near the Parks Highway north of Healy. Everyone who saw her marveled at the experience.

In the past, the Board of Game has prohibited shooting of white moose in Unit 20C to protect these rare animals. The Board also passed similar prohibitions on taking white bears near Juneau.

Now, I understand that the Department of Fish and Game has proposed repealing this regulation (ADFG Proposal #53 for the March 2010 Board meeting). Their "justification" for this proposal is to simplify the regulations.

It seems pretty simple to me as it is. It's illegal to shoot white moose. Period.

Given the extreme rarity of white moose as well as the joy people experience when seeing them, we should do whatever is necessary to preserve the genes of such animals. I would consider myself extremely fortunate to see one of these wonders of nature. I am opposed to the idea of one bullet taking that opportunity from me and all the others who might see such a marvel.

For these reasons, I urge you to **reject Proposal #53**.

Thank you for your time.

Sincerely,



NJ Gates
PO Box 43
Denali Park, AK 99755

Rebecca King
8610 Rebel Ridge Dr.
Anchorage, AK 99504

December 22, 2009

Dear Board of Game members,

Thank you for providing the proposals for public comment and for reading my comments. I am a thirty year resident of Alaska who currently resides in Anchorage. My interactions and interests in wildlife are primarily non-consumptive.

Proposal 23 – Support

The methods used for wolf control make an already contentious issue more difficult. If the harvest of wolves could be made in a humane manner (or as humane a manner as is possible) then those who disagree with the intensive management approach might have less opposition to these plans. Documented, professional, and accountable harvest done by government employees eliminates the suspicion of harassment or inaccurate counts.

Proposal 25 – Support

Any type of hunting near human use areas is a safety issue. This seems like a common sense addition to the current regulation.

Proposal 28 (29 & 30; they seem approximately the same to me) – Support

Again, for those opposed to the intensive management approach, it seems counterproductive to allow non-resident hunting when predators, a vital part of every ecosystem and a resource in and of themselves for non-consumptive and consumptive interactions alike, are being eliminated in large numbers. Predator control should be a last resort to support subsistence use for Alaskans who rely on ungulate species for food and/or cultural preservation.

Proposal 32 – Comments to consider on the regulation as written

As someone who is generally opposed to predator control plans, I appreciate the stipulations for annual reevaluation of the program to ensure that the plan is discontinued if it is not working, that the plan is discontinued if the objectives have been met, and that it is discontinued if the regulation is not being followed.

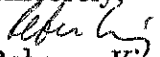
The “authorized methods and means used to take wolves” outlined in section F are broad and include methods that could lead to inhumane harvest of the wolves. It seems too risky to allow non-governmental employees to hunt and shoot wolves either by land-and-shoot method or aerial hunting, or to allow the hunting of wolves by snow machine. For those of us who believe in the intrinsic value of individual wolves, the potential for wolves to be harassed or killed inhumane in these large numbers is very difficult to

stomach. Methods for predator control deemed necessary by the state should attempt to make that "control" as humane as possible. Open-ended trapping and any control by the general public is suspect. Please choose methods and agents that can be held accountable, documented, and will cause the least amount of suffering to these intelligent wild animals.

Proposal 38 – Oppose

The sale of organs of predator species is leading to conservation issues with many types of unique species around the world. Despite the high population numbers of black bears, this type of market should not be supported for the sake of other animals, like the Asiatic black bear, that are facing extinction for similar types of harvest.

Thank you for considering my comments. Please remember that you represent both consumptive and non-consumptive values for Alaskans.

Sincerely,

Rebecca King

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BOARDS

DEC 3 9 2009

BOARDS

Comments on statewide proposals

Proposal 2

Support

There is no reason for black bear harvest tickets. They are especially counter productive in intensive management areas where a greatest black bear harvest is needed.

Proposal 5

Support

It will be especially beneficial to families who depend on a game resource for food.

Proposal 11

Oppose

I don't feel the C&T langue should be removed. This will open to much opportunity for abuse.

Proposal 23

Oppose

The purpose of IM and predator control areas is to reduce predator numbers. What better way to accomplish this goal than by free market and individual enterprise. The better the profit motive the more incentive individual trappers & hunters will be motivated to take predators. The more individuals taking wolves the less the state will have to spend tax dollars on something that could be done at no cost to the state. The state should encourage the use of profit motives to promote taking predators especially in areas with high predator populations.

Proposal 24

Support.

It will open more opportunity for the taking of black bears in an area that has an over abundant population of them. I would even support extending this not only to guides/outfitters but also the general hunting population.

Proposal 25

Support

I guess some people just have to have common sense spelled out to them.

Proposal 26

Oppose

This will severely limit any experimenting could that lead to more effective and selective sets. Snaring black bears is new to Alaska experimenting with snare sets should be encouraged not restricted. Anyone who has trapped knows that no one set will cover all conditions or individual animals.

Proposal 27

Oppose

I support the training of any resident to snare black bears. Snaring is another tool giving more opportunity for residents to harvest black bears.

Proposal 28

Support

If the prey animal to predator ratio is such that predator control is needed then the prey animal (ungulates) should be reserved for Alaska residents who need them to feed their families.

Proposal 29

Support

For the same reasons as Proposal 28 and those listed by the Anchorage AC.

Proposal 31

Oppose

I am opposed to all helicopters use related to hunting. This seems to me like you are setting a precedent that could create abuse in the future.

Proposal 35

Support

Sealing bear hides by the ADFG does not accomplish anything that cannot be done by the harvester. ADFG can get needed harvest data through online or mail in report cards.

Proposal 36

Support

Again sealing pelts by the ADFG does not accomplish anything that cannot be done by the harvester. ADFG can get needed harvest data through online or mail in report cards. Sealing creates a burden and expense on both the harvester and ADFG.

Proposal 38

Support with change

Allow the harvester *and (pel)* nonprofits to sell black bear galls to licensed buyers. The private sale of black bear galls could easily be monitored by the ADFG. I do not believe their sale would contribute to poaching or other illegal taking of black bear.

Proposal 39

Support with change

I support the sale of all black bear hides tanned and untanned. Black bear hides could be another source of income to many Alaskan. It would be an added resource to both crafters and tanneries. If hunters were allowed to sell black bear hides it will encourage taking more bears in predator control areas and IM areas where black bears are a problem.

Proposal 40

Support

The A/C is correct in their logic why shouldn't someone be allowed to sell their personal property? Should an antler carver's work be considered art but not the taxidermist? There should be no restriction selling or bartering animal parts. If there is a problem with poaching then it is a judicial and enforcement issue. Don't punish a legitimate group because of a few lowlifes who could care less about the law or their impact on an animal population.

Proposal 41

Oppose

Current wanton waste laws are more than adequate if anything they are an enforcement and judicial issue.

Proposal 43

Oppose

To ambiguous it also is open to wanton waste. Let the scavengers get their own food.

Proposal 47

Oppose

Proposal 49

Support

This is just common sense if an animal is infected or diseased steps should be taken to protect the rest of the population.

Proposal 50

Support

Subsistence is too important an issue to be looked at every four years.

Proposal 51

Support

I'm not sure why it just seems like a good idea.

Chuck Lamb
c/o Regal Air
4506 Lake Shore Dr.
Anchorage, AK
99502

Proposal #52

I am opposed to proposal #52

Studies have shown that certain sea ducks do frequent the same general area every year. Areas such as, Kodiak Island, Prince William Sound, and Kachemak Bay to Gore Point, using an area **no more specific** than these rather large areas. A sea duck in Tutka bay may be in Port Dick tomorrow. I have hunted Kachemak Bay since 1976, there are as many sea duck today as then, and not many more hunters. The late fall weather conditions probably dictates the number of sea ducks taken, more than the number of hunters guided or non-guided. The population of sea duck in Kackemak bay area is sufficient to provide for all user needs. Sea ducks do not have to be micro managed. The seasons and bag limits should remain as is.

Richard Dykema
34040 Forest Lane
Soldotna, AK 99669

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BOARDS

Tibbles, Kristy R (DFG)

From: John Tronrud [johntronrud@gmail.com]
Sent: Wednesday, November 18, 2009 8:04 AM
To: Crass, Scott W (DFG)
Subject: board of game changes

Dear Scott,

As a member of the Northern Lynn Canal Advisory Board, I approve of the suggested changes to cycles for proposals. It seems to me it would be more efficient and adendas would flow smoother over time, making better use of everyone input. I see real benefits to the Department as well.

Thank you,
John Tronrud

--

John R Tronrud
PO Box 41 Skagway, AK 99840
(907)983-9000 Home (907)973-2993Cell

December 21, 2009

RECEIVED

DEC 24 2009

BOARDS

Alaska Department of Fish and Game
Attn: Board of Game Comments
Boards Support Section
PO Box 115526
Juneau, AK 99811

Dear Board:

I'd like to add my support to the following proposals that are up for review:

Proposal 25: This seems like a sane and sensible safety measure.

Proposal 28: Incredible that out-of-state game hunters are still being allowed to hunt in predation control areas. That certainly undermines the argument that we need to kill wolves and bears so that local hunters and subsistent hunters won't have to go without meat.

Proposal 29: Similar to Proposal 28, but perhaps harder to collect data for, and may allow more loopholes. 28 would be preferable.

Now I'd like to object to the following proposals:

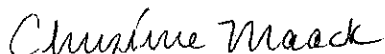
Proposals 38: the market for bear gall bladders is already a serious threat to black bear populations (possibly brown bear also) and ranks right up there with rhinoceros horns and tiger oosiks as an unnecessary exploitation of wildlife to satisfy human superstitions. Barbaric.

Proposal 2: the harvest tickets are needed to give us information on black bear populations, information that is already hard to get.

Proposal 24: Don't know how many bait stations are currently allowed, but ten seems excessive, twelve if you count the assistant guide's. Why isn't there a fair chase requirement for hunting black bear anyway?

Proposals 32 and 34: No more predator control areas. Certainly not as long as we're catering to the trophy hunters (see Proposal 28).

Thanks for your consideration,



Christine Maack
3522 Alexander Ave
Anchorage, AK 99508

Support of proposal 15

1/13/2010

To whom it may concern,

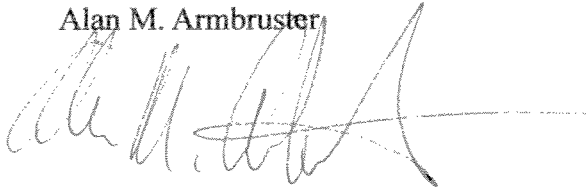
I am the person who proposed (#15) placing the Finch birds on the Clean List.

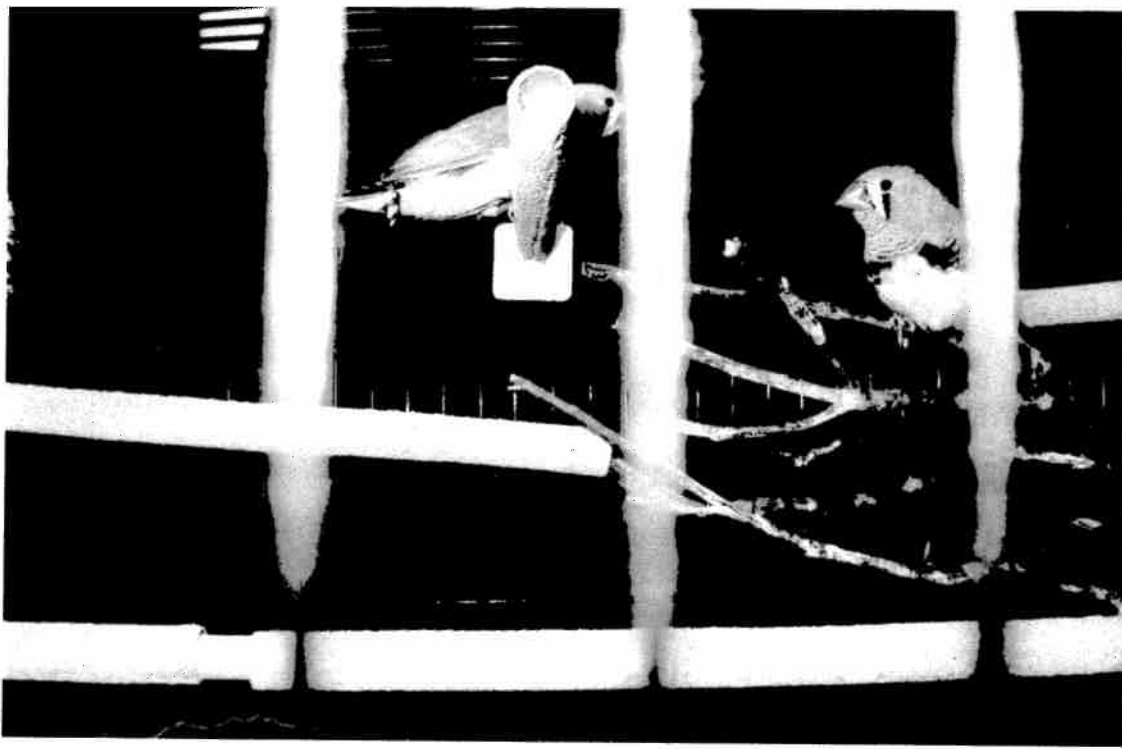
I am in total support of these excellent wonderful domestic birds that make wonderful pets.

If you would like to talk with me about this, please call me on this cell phone #
907-378-3074.

Sincerely,

Alan M. Armbruster

A handwritten signature in black ink, appearing to read 'Alan M. Armbruster', with a long horizontal line extending to the right.



Support of proposal 15
typical domestic
Zebra Finch birds

December 17, 2009

ATTN: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526
Fax: 907-465-6094

Dear Sir or Madam:

Comments on Proposal(s) for the Winter 2010 Meeting (Statewide Regulations, Cycle A):

Proposal #14 - 5 AAC 92.XXX Create a new regulation regarding traditional Potlatch. (Establish an Ahtna Traditional Potlatch Religious Ceremonies Use of Big Game as follows:.....):

Comment - I OPPOSE the proposal in its entirety for the following reasons:

- **Proposal Inconsistent with Stated Intent** - The proposal's stated intent is to 'Assist in deterring abuse of the potlatch moose (or big game)...'. However, the proposal does not contain any provisions that would provide such deterrent. The proposal appears to merely provide for the special recognition of Ahtna Traditional Potlatch Ceremonies. This appears to be an attempt to establish a greater degree of legitimacy for Ahtna's ceremonial use of the game population over others. Having said that, if the intent is to eliminate, or set the stage for elimination of, all other Traditional Potlatch Religious Ceremonial Use of big game and solely limit such use to Ahtna 'Tene Nene', then it should be stated more clearly and I would then oppose the proposal for other reasons, some of which are alluded to below.
- **Special Privileges Discriminatory in Nature** - The proposal also gives Ahtna special administrative privileges and freedoms others would not enjoy. Namely, the requirement to obtain a written permit from the Department would be waived for Ahtna under this section if passed. Again, if the proposal is also aimed at eliminating all other Traditional Potlatch Religious Ceremonies Use of big game in the stated GMU's, then the proposal represents a degree of discrimination and provincialism that should not be tolerated by Society, much less considered by this Board.
- **Stated Intent of Proposal is Arrogant and Presumptive** - Under the proposal section "WHAT WILL HAPPEN IF NOTHING IS DONE?" - the proposal suggests that over-harvesting might be done by 'people *claiming* to have a religious ceremony'. Moreover, it goes on to state "...and people from *urban areas* may take big game animals for a *supposed religious ceremony and abuse may occur*". This is an unbelievable stance to take from a person and/or group that already enjoys special big game harvesting privileges solely based upon Society's respect for *their* religious freedoms. Laws have been passed in an effort to respect and accommodate Ahtna's and other's religious freedoms. It is fair to say that the lawmakers who passed these

- 2 -

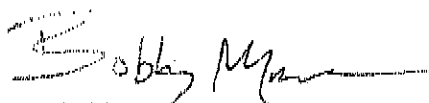
December 17, 2009

laws (Indian Religious Freedom Act and the Religious Freedom Restoration Act) were not necessarily members of, nor subscribers to, the religions they were trying to protect. Regardless, they believed that respecting other's religious beliefs and their right to practice those beliefs was necessary and proper. For Ms. Dementi/Ahtna to enjoy these freedoms, then assert that *only* Ahtna has a legitimate religion or religious ceremony related to the harvest of big game is arrogant, presumptive, and quite frankly, offensive. This outright challenge of the legitimacy of others' religious ceremonies *in the context of public policy* is appalling. The assertion here is that anyone other than Ahtna, especially anyone who has chosen to live in an urban area, is not entitled to the same level of respect and recognition of their religious beliefs and customs. The Board should either respect all people's religions equally, or eliminate any harvest based on religious ceremonies altogether, but do not consider this proposal which is discriminatory to its very core.

- **Proposal's Statements on 'Who will Benefit?' and 'Who will Suffer?' are erroneous** – The assertion that 'Everyone will benefit and no-one will suffer' is false. It is my conclusion that anyone who is an Ahtna member will benefit, anyone who is not an Ahtna member will suffer. I think this conclusion is fairly obvious to anyone but the author(s). As far as the statements that 'an Ahtna traditional potlatch ceremonies proposal will make the regulations more definable...' and '...would eliminate the abuse of taking big game animals out of season.' – I beg to offer a slightly different perspective – the regulations would be more definable (i.e. simpler) because we would only allow such use by Ahtna. Simple indeed. Fair? I think not. As far as eliminating abuse, we would not be eliminating it, but rather simply limiting the potential for such abuse to Ahtna and its members. Simple indeed. Fair or Just? I think not.

In summary, I empathize with the proposal's authors to attempt to limit use of big game by those who have no traditional, customary, or religious origins related to the taking of such game. Being a lifelong Alaskan also, I share similar sentiments. However, I must, in the strongest sense possible, assert that Ahtna and its members are not in sole possession of such cultural origins or the right to practice such religious activity. Their financial and organizational strength allows them to participate in these public processes, including legal processes, to a degree not attainable by smaller groups. However, please do not let their prominent presence detract from doing what is right and just. Ahtna and its members already enjoy special privileges, and recent changes to the Tier II Unit 13 Caribou permitting system have further expanded such preferential benefits. Please do not exacerbate this growing state of disparity by adopting Proposal 14.

Sincerely,



Bobby Munchen
Wasilla

Support as proposed 13
January 12, 2010

Re: Finches restored to 'Clean list'

To whom it may concern,
I have had pet finch birds ever
since moving to Alaska 7 years
ago. They continue to bring
enjoyment to each person that
visits; hears their voices. I
would love to buy other varieties
but they are no longer available
in the local pet stores due to their
classification. Please consider
restoring them to Alaska's Clean List
since they do no apparent harm
to anyone. Thank you Peggy Santane

Thomas C. Rothe
11828 Broadwater Drive
Anchorage, Alaska 99518-1599

Telephone: (907) 694-9068
Facsimile: (907) 694-9069
E-mail: tom.halcyon@gmail.com

FAX Transmittal Sheet

TO: Alaska Board of Game
ADFG Boards Support, Juneau
Fax: (907) 465-6094

DATE: 1/15/10
TOTAL PAGES: 4

FROM: Tom Rothe
11828 Broadwater Drive
Eagle River, Alaska

Message:

Boards Support Section:

Attached are my written comments on Proposal 52 for the upcoming meeting of the Alaska Board of Game in Anchorage. I have provided copies of this letter to Sherrie Wright in Anchorage and to the Division of Wildlife Conservation.

Please advise if you need more information. My cell number is (907) 240-1717.

Thomas C. Rothe
11828 Broadwater Drive
Eagle River, Alaska 99577
Tel: (907) 694-9068 Fax: (907) 694-9069
E-mail: tom.halcyon@gmail.com

January 15, 2010

Alaska Board of Game
c/o ADF&G Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526

Advance by Fax

Chairman and Members, Alaska Board of Game;

This letter is to provide written comments on Proposal 52 regarding bag limits for sea ducks in Kachemak Bay, on the agenda for your January meeting in Anchorage. I oppose new restrictions on sea duck hunting in Kachemak Bay and urge the Board to rescind the amendment adopted in March.

For the record, I am a 32-year resident of Eagle River, Alaska. I have hunted waterfowl in Alaska for at least 28 years. In addition, I recently retired from a 30-year federal and state career as a professional waterfowl biologist and migratory game bird manager—I have extensive knowledge of sea duck biology and management, as well as information on sea duck hunters and harvest in Alaska.

My wife and I have hunted sea ducks in Kachemak Bay for at least 16 years. We highly value this unique opportunity to hunt ducks in November and December when most migrant ducks are gone, and to maintain a special seasonal social and economic tradition of these hunts. We have invested in special hunting equipment for sea duck hunting, including clothing and decoys, and my wife has made a tremendous investment in raising and training a Chesapeake Bay retriever specifically for sea duck hunting. Our hunts also contribute income to businesses in Homer and Seldovia.

Procedural Concerns—My opposition to Proposal 52 (and March Proposal 117) is based on several procedural concerns, as well as technical issues. First, I believe the proponent's primary motivation for over 10 years has been to eliminate duck hunting in Sadie Cove where she has a cabin. As such, her efforts to restrict sea duck hunting regulations are a misguided means to address a user conflict with hunters and an inappropriate tool for a local zoning issue. I don't know if the Board has latitude to develop hunting regulations to resolve such a problem; a more traditional zoning solution seems hindered by the lack of a borough government or jurisdiction from Homer or village governments in Kachemak Bay.

The second procedural concern I have is that the original Proposal 117 did not recommend a specific regulatory change (e.g., bag limits or seasons) to address the claims of high exploitation rates and potential depletion. Yet the Board adopted a regulation reducing the resident sea duck bag limit in Kachemak Bay from 10 daily, 20 in possession to 2 daily, 4 in

possession (current Proposal 52). This arbitrary action was not based on a close examination of available data on sea duck stocks in the bay, local or regional harvest levels, conservation concerns for any particular species, or the impacts of hunting restrictions on local residents or visitors. The reduction in bag limit adopted by the Board is unjustifiably drastic and is likely to eliminate waterfowl guiding in the bay, as well as taking nearly all the public value out of this traditional hunt.

Third, the Board's excessive bag limit restriction for sea ducks, in essence, removes any reasonable provision for traditional subsistence waterfowl hunting by residents of Kachemak Bay. In the mid-1990s, the state and federal government negotiated amendments to the Migratory Bird Treaty with Canada to legalize and regulate subsistence hunting in Alaska. Based on federal direction, the U.S. negotiating team developed guiding principles for preferential spring and summer subsistence hunting by rural residents under federal rules, but they did not support creation of preferential subsistence regulations during the fall and winter season. There was no desire to expand the concept of "dual management" to migratory birds when state regulations adopted by the Board of Game (under federal frameworks in 50 CFR 20) were deemed to provide reasonable subsistence harvest opportunity in fall and winter. Implementation of Proposal 52 would largely eliminate sea duck harvest for all hunters and rightly be perceived as taking away subsistence opportunity.

Technical Concerns—I won't go into extensive detail on my concerns that calls for restricting sea duck regulations in Kachemak Bay are based on lots of inaccurate statements and faulty rationalizations. However, I encourage the Board to thoroughly consider all of the relevant data available from Alaska Department of Fish and Game (ADFG) and the U.S. Fish and Wildlife Service (USFWS) on the status of sea ducks wintering in Kachemak Bay, current harvest levels, and the impacts of hunting regulations on traditional harvests and the local economy. Here, in brief, are my assessments of the key technical issues, based on the best available science:

- Sea duck stocks wintering in Kachemak Bay can sustain current levels of harvest without becoming depleted. On average, 20-30,000 ducks winter in Kachemak Bay. In general, state and federal survey data do not indicate declines in sea ducks since the early 1990s. State and federal harvest data indicate that relatively few sea duck hunters take low numbers of sea ducks annually.
- All sea duck species have not declined in Alaska. Although continental indices of some sea duck species (e.g., eiders, scoters, long-tailed ducks) declined from the 1960s through the 1980s, their abundance has been relatively stable for the past 20 years. Also, some species, including mergansers, goldeneyes and bufflehead, have shown long-term significant increases over the past 40 years. It is important not to generalize continental trends to Alaska or to the Kachemak Bay region. Winter duck surveys in Kachemak Bay by ADFG during 1999-2003 did not indicate declines in total ducks or most individual species. However, as a precautionary measure for harlequin and long-tailed ducks, the Board substantially reduced bag limits statewide for these species for residents and non-residents in 2001.
- Sea duck populations are not structured in discrete localized units that can be depleted. Proponents of restrictions claim that wintering sea ducks occur in discrete units (closed populations) that are strictly faithful to specific wintering sites and are vulnerable to extirpation. Although sea ducks exhibit site fidelity, it is not absolute, and there is sufficient evidence that there are annual shifts in distribution and interchange among

areas within regions. Thus, wildlife agencies appropriately manage waterfowl at the broad scale of populations—in practical terms, it is not feasible or necessary to monitor ducks or regulate harvest at the fine scale of local marshes, bays, and coves.

- Sea duck hunting is not primarily an activity of outside trophy hunters. Alaska has a unique array of wildlife resources that attract viewers and hunters from across the country. The number of licensed non-resident waterfowl hunters, however, is very small—well below 100 annually. Because sea duck harvest is low in Alaska and mostly by residents, there is no need to exclude visitors from hunting. In 1999 and 2001, the Board restricted sea duck species and seasonal limits for non-resident hunters. In terms of what non-residents do with their ducks, they are subject to standard state and federal regulations on the legal uses of game. These include documentation of transfer, prohibition of wanton waste, and taxidermy of legally taken birds.
- Sea ducks represent an important seasonal resource that is highly valued for hunting activity and fare for the table. There is a widespread misconception that sea ducks are not very palatable and that hunting them is not warranted. In fact, many Alaskans, especially subsistence hunters, enjoy the taste and nutrition from sea ducks. Personally, I eat every duck I harvest—I enjoy the diversity of tastes and creativity of developing complimentary recipes for each bird. I do not think the Board should regulate wildlife based on perceived palatability or the personal tastes of hunters—otherwise regulations for goats should be changed!
- Sea duck hunting is not easy and entails special challenges (local knowledge of habitats and distribution, special gear, poor weather). As with all hunting, there are some hunters who try to skirt these challenges and cheat the system by violating regulations. These are problems best addressed through public education and law enforcement—not by penalizing legal hunters that practice their skills well and value birds in the bag.

In summary, I urge the Board to rescind the sea duck bag limit restriction for Kachemak Bay as adopted in March and described in Proposal 52. I believe that the best available information on sea duck status and harvest provides a strong justification for retaining the regulations as they have been since 2001. In the absence of a definable wildlife resource problem, and with no evidence that harvest is detrimental, I ask the Board to maintain the sea duck hunting opportunities that are currently sustainable and are valuable to me and many other Alaskans.

Thank you for the opportunity to comment on Proposal 52. I would be pleased to provide more information on request. I plan to provide personal testimony at your meeting in Anchorage.

Sincerely,



Thomas C. Rothe

Support of proposal 1)

To Whom It May Concern:

January 6, 2010

As a volunteer at Denali Center, I always enjoyed the finches. I used to take care of the finches and I can't tell you how many times residents, family members, volunteers, friends & staff enjoyed watching the finches and what a way to meet new friends because we would talk about what kind they were or talk about their birds they had when they were young. I always enjoyed caring for these beautiful creatures and I know for a fact the residents enjoyed them the most and this brought a lot of joy to see the residents watching them as I was feeding them. Please put them back on the "clean list"

Thank you for taking the time to read this.

Sincerely,
Linda Bruemmer
Oreo

Proposal 34 – Statewide BOG Meeting

Public Comment - Wade Willis

I ***do not support*** proposal 34 -- the intensive management plan for GMU 15A .

This intensive management plan is politically motivated and has the potential for significant financial and social impacts to the region.

The proposal suggests controlled burns to enhance moose habitat. An intensive management plan is not necessary to promote controlled burns. The regional fire management plan is the appropriate method for adjusting natural fire control and conducting controlled burns

The proposal extends the IM plan to an unprecedented 10 years.

The proposal does not restrict the subsequent use of predator control in GMU 15A.

The proposal does not address the potential for financial and social impacts from large controlled burns. Prevailing winds typically flow directly from GMU 15A to the Anchorage bowl.

This IM plan should not be approved without a thorough cost/benefits analysis.

I think it is very important to recognize that the BOG, not the ADF&G, requested this proposal. Historically the department has never supported an intensive management plan that requires federal refuge lands to be successful. ***The ADF&G did not make the request for this IM plan.***

Proposal 29

Public Comment
Wade Willis

I **support** Proposal 29 and urge the board to adopt.

I suggest amending to read:

- If the moose or caribou population objective or bull/cow ratio is below the minimum objective of an intensive management plan:
 1. Nonresident harvest for moose and/or caribou populations below the minimum objective will not be allowed within an intensive management area as defined by the intensive management plan.

This amended proposal only limits nonresident hunting for moose and caribou when the populations are at the lowest levels – ***all other species are open to nonresident hunting.*** Nonresident opportunity for moose or caribou is not affected for the upper 2/3's of an intensive management plan. As noted, in times of depleted moose and caribou populations, resident harvest is the priority – mandated by Alaska Statute and confirmed in Alaska Court Record – *citations in proposal.*

Nonresidents have significantly impacted the resident harvest opportunity and success rates in the UYTPCA and GMU 13 predator control programs in my opinion. (*specific data noted below*).

The expansion of nonresident hunting opportunity for moose in GMU 13 for 2010 is unjustifiable. If the moose population in GMU 13 has increased to the point that liberalization of the moose harvest is warranted, ***the liberalizing of the harvest for resident hunters should be the first priority.*** Hunter success rate with the current 4 brow line restriction is low. ***Residents should receive a specific number of 3 brow line draw permits instead of allowing nonresident hunting.***

The commercial guiding industry is an important component of the states predator control programs. It is often stated that upwards of 90% of the aerial gunning of wolves is conducted by commercial guides.

I suggest the BOG focus on promoting guided predator hunts to replace the lost opportunity for guided moose or caribou hunts. Coke Wallace has been very successful promoting guided predator hunts. The guide community may not like the lower wages earned – but that's the way it goes. At least they have a way to stay in business while at the same time helping the state manage predators and increase the prey populations beyond the minimum management goals of the IM plan.

Nonresident impact on local resident harvest in UYTPCA

The Fortymile Caribou Herd is below the minimum population objective and has been relatively stable in population since regulatory year (RY) 01. Estimated population growth between RY 01 to RY 07 is only 1200 caribou.

Proposal 29

Public Comment
Wade Willis

Hunting harvest has exceeded the harvestable surplus quota for the Fortymile Caribou Herd (FCB) every year from RY 06 to RY 09. Cow harvest has exceeded the harvestable surplus for the last three reporting periods available RY 06 to RY08.

In 2009, the FCH fall harvest quota was exceeded in just 24 hours by 36 percent and the entire year's harvest quota was exceeded in the following two days. The latest hunt records detailing hunter residency indicate nonresidents harvested 11 percent of the FCH caribou for *2007/2008* season. Local residents harvested just 12 percent of the caribou that year. Nonresidents had a 53 percent success rate for caribou while local residents had a 31 percent success rate that year. Nonresident hunters, many of whom are guided, have a clear advantage over local subsistence FCH hunters and are negatively impacting local resident harvest through competition for preferred hunting dates and/or locations. Harvest success rate success rate for all Alaskan residents hunting the FCH in R Y 07 was 30 percent, significantly lower than the success rate for nonresidents.

Moose Harvest Game Management Unit 20E: Moose harvest is significantly below the minimum harvest objective of 500 moose. During RY 05 - R Y 06 moose harvest averaged only 133 moose per year.

The latest moose harvest data for Unit 20E for RY 03 - RY 06; indicated nonresidents harvested 19 percent of the moose while local resident hunters also harvested 19 percent of the total harvest. Nonresidents harvest is significant. Nonresident success rate though averaged 27 percent compared to a local resident success rate of only 16 percent. Again, nonresident hunters, many of whom are guided, have a clear advantage over local subsistence hunters and are negatively impacting local resident harvest through competition for preferred date's and/or locations. Harvest success rate for all Alaskan residents hunting in Unit 20E during these regulatory years is only 17 percent success rate, lower than the success rate for nonresidents. The latest Department of Fish and Game moose management report states "our greatest concern is increasing numbers of hunters".

The state and board of game have long contended that predator control is being conducted to protect the rural subsistence harvest. Clearly in the UYTPCA, the state is not meeting that claim. Allowing nonresident harvest in the UYTPCA for moose and caribou at this time is unjustified.

I ***support*** proposal 11, 13, &14 amending the potlatch regulations to improve compliance and the stated intent of the regulation to allow Native Alaskan religious freedoms.

I ***do not support*** proposal 12 submitted by the Mat/Su AC.

I think it is very important to recognize the significant effort the Native Alaska community has invested in revising the potlatch regulations. They are the group that is affected by these regulations and they deserve to be given ***deference*** regarding the best methods to improve the situation.

The most important aspect is that the BOG ***includes all the suggestions made by the Native Alaska community unless you have a clear and concise reason not to support them.***

I ***do not support*** proposal 12 for the following reason. The proposal is nothing more than an attempt to “exclude” religious freedoms for the Native community in the Palmer / Wasilla region - its and “us vs. them” proposal - a “not in my backyard” proposal. It does not improve the potlatch regulations nor respect the wisdom and preferences of the Alaska Native community.

I ***do not support*** proposal 32 -- the intensive management plan for GMU 9C and 9E for the Northern Alaska Peninsula Caribou Herd (NAPCH) submitted by the ADF&G at the request of the BOG.

I think it is very important to recognize that the BOG, not the ADF&G, requested this proposal. Historically the department has never supported an intensive management plan that requires federal refuge lands to be successful. ***The ADF&G did not make the request for this IM plan.***

This intensive management plan is politically motivated and has significant scientific justification to oppose the intensive management plan.

GMU 9C and 9E is marginal caribou habitat to begin with. It is a region that is most susceptible to the effects of climate change.

Recent migration shifts of the Mulchatna herd into the NAPCH winter grounds may have negatively impacted the carrying capacity of the region.

Quotes from the ADF&G 2007 Northern Alaska Peninsula Caribou Herd (NAPCH) Management Plan:

- However, up to 50,000 Mulchatna caribou also began using this area at about the same time, as the herds intermingled near Naknek and King Salmon. Given this change in winter distribution of both herds, and the increasing competition for winter forage, by the late 1980s it was decided that the NAPCH should be maintained at the lower end of the management objective;
- Since 1999, the herd has continued to decline, and ***indications of nutritional limitations are still evident;***
- Current ***vital rates*** suggest that the herd will continue to decline over the next few years;
- Since 2004 calving has been increasingly dispersed with ***decreased use of traditional calving grounds***. A greater portion of the herd calves in mountainous terrain between the Meshik River and Katmai National Park;
- ***disease apparently was an important mortality factor in calves >3 weeks old;***
- Between 1995 and 1998 we captured female calves and collected female calves every October to further assess body condition, looking for differences over time and to make comparisons with other herds. Weights and percent bone marrow fat of female calves collected in October were also intermediate, but ***a high percentage of these caribou showed lesions from lungworms;***

- During the 2005-2006 [*calf mortality –sic*]study ***the cause of the late calf mortality is unknown***. Evidence that large predators were present at mortality sites was found, but ***scavenging could not be distinguished from predation*** due to the large time interval between calf mortality and site investigation (typically ≥ 1 month);
- Little quantitative data are available to assess range conditions;
- Age-specific productivity has also been monitored since 1997. ***Overall pregnancy rates were low at 60% for cows over 2 years of age;***
- In 2005 a herd health assessment identified heavy parasite loads, the presence of bovine respiratory disease complex, poor immune response, low levels of micronutrients, and chronic dehydration in animals examined;
- ***Biologists reevaluated intensive management options for this population in 2004 and concluded that no viable solutions existed to alter the status of this herd. Since 2004 surveys have continued to indicate a declining population suffering from low productivity, low survival and low calf recruitment.*** Fieldwork scheduled for the summer of 2007 includes conclusion of a parasite treatment study that should provide insight into factors currently limiting population growth.

I *do not support* proposal 34 -- the intensive management plan for GMU 15A .

*This intensive management plan is politically motivated and has the potential for **significant financial and social impacts to the region.***

The proposal suggests controlled burns to enhance moose habitat. An intensive management plan is not necessary to promote controlled burns. The regional fire management plan is the appropriate method for adjusting natural fire control and conducting controlled burns

The proposal extends the IM plan to an unprecedented 10 years.

The proposal does not restrict the subsequent use of predator control in GMU 15A.

The proposal does not address the potential for financial and social impacts from large controlled burns. Prevailing winds typically flow directly from GMU 15A to the Anchorage bowl.

This IM plan should not be approved without a thorough cost/benefits analysis.

I think it is very important to recognize that the BOG, not the ADF&G, requested this proposal. Historically the department has never supported an intensive management plan that requires federal refuge lands to be successful. *The ADF&G did not make the request for this IM plan.*

Proposal 32 – Statewide BOG Meeting

Public Comment - Wade Willis

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- Since 1999, the herd has continued to decline, and ***indications of nutritional limitations are still evident;***
- Current ***vital rates*** suggest that the herd will continue to decline over the next few years;
- Since 2004 calving has been increasingly dispersed with ***decreased use of traditional calving grounds***. A greater portion of the herd calves in mountainous terrain between the Meshik River and Katmai National Park;
- ***disease apparently was an important mortality factor in calves >3 weeks old;***
- Between 1995 and 1998 we captured female calves and collected female calves every October to further assess body condition, looking for differences over time and to make comparisons with other herds. Weights and percent bone marrow fat of female calves collected in October were also intermediate, but ***a high percentage of these caribou showed lesions from lungworms;***

Proposal 32 – Statewide BOG Meeting

Public Comment - Wade Willis

- During the 2005-2006 *[calf mortality –sic]* study *the cause of the late calf mortality is unknown*. Evidence that large predators were present at mortality sites was found, but *scavenging could not be distinguished from predation* due to the large time interval between calf mortality and site investigation (typically ≥ 1 month);
- Little quantitative data are available to assess range conditions;
- Age-specific productivity has also been monitored since 1997. *Overall pregnancy rates were low at 60% for cows over 2 years of age;*
- In 2005 a herd health assessment identified heavy parasite loads, the presence of bovine respiratory disease complex, poor immune response, low levels of micronutrients, and chronic dehydration in animals examined;
- *Biologists reevaluated intensive management options for this population in 2004 and concluded that no viable solutions existed to alter the status of this herd. Since 2004 surveys have continued to indicate a declining population suffering from low productivity, low survival and low calf recruitment.* Fieldwork scheduled for the summer of 2007 includes conclusion of a parasite treatment study that should provide insight into factors currently limiting population growth.

1-12-10

To Whom it may concern:

my name is Jim Lounsbury
I am writing to you about The legal
aspect of Importing finch birds
To Alaska. I am a bird watcher. I
have my own bird feeders. I
enjoy the sounds that come from
the birds. I've been visiting the
Fairbanks pioneer home over the years
and have always enjoyed the
finches that they have in the lobby.
They are a beautiful bird with a
very fresh sound that brings a smile
to the old timers faces including mine
I would like to see it legal to import
finches to Alaska.

yours truly

Jim Lounsbury

479-3213

Support of Proposal 1)

January 12, 2010

To whom it may concern:

Re: Small animal ban/Clean list

I am a retired teacher who taught in several states for a total of 27 years. I worked with hundreds of students in the elementary grades. During that time I had gerbils and finches in my classrooms for 10 of those years. I am happy to report that I never had a problem with my pets infecting any of the students with diseases or harming anyone in the schools.

On the positive side, however, the benefits of me having those animals in my classroom were infinite. I have taught in schools that were socially and economically under privileged and also middle class America. I have never had a complaint from any student, parent, or school administrator about the pets.

Many of the students had never experienced the owning of a pet. In my classroom, everyone shared the responsibility of caring for the pets. Cleaning and feeding the pets was a daily routine in the classroom. Most students did their responsibility with great enthusiasm and enjoyed watching the animals while they completed their duties.

On weekends and school vacations, students would get permission from their parents to bring the gerbils or birds home for a few days. Imagine the excitement that the parents had when they could let their children bring a pet home for a few days, being able to enjoy the pets together, then returning them to the classroom and smiling as their child boasted to the rest of the class about such a great time they had.

Children experienced the excitement of the beginning of life with the animals. One morning I heard some strange sound from the finch cage and told the students to be quiet because of that. I had never heard such silence from them. I discovered, and then the students found, baby finches and they could not have been more excited. Watching the babies' beaks getting food, and then little babies flying was awesome. All the students shared the news with the rest of the school, their families, or anyone who would listen. Many of the students took home the babies to become their pets at home.

On the other hand, the students experienced the death of the pets, also a great lesson for the future. When one of our pets died, we discussed it in class and grieved together. Students prepared for a process that they would have to deal with the rest of their lives.

When I was told to take my pets out of the classroom, many hearts were broken. I still have my finches, and when children come to visit they are constantly fascinated with them. It brings back memories of the experiences I had with my former students and pets.

Please take this information in consideration of your decision to put finches and gerbils on the Clean List. I would be more than happy to answer any questions. Please consider this decision seriously.

Sincerely,
Patricia Warner
5447 Chena Hot Springs Road
Fairbanks, AK 99712



Support of Proposal 15

Please add the Finch to the
"clean list" of birds to bring
to Alaska. Thank you

Lorna Lounsbury

P.O. Box 29

Ester 99725

Support of profase 15

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Thursday, January 7, 2010

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To: "Armbruster, Al" <[a.armbruster@att.net](#)>,
Subject: Letter from Diana Lecorchick
Date: Wednesday, January 6, 2010 10:06:38 PM [[View Source](#)]

To Whom It May Concern:

I hope you will reconsider putting domestic Finches on the "clean list". I am a volunteer at the Fairbanks Community Center (nursing and rehabilitation) and also the Pioneers Home in Fairbanks. I have found that these little creatures bring to the folks who are confined in these facilities. They provide a source of entertainment and interaction more important than you can imagine. I hate to not see them there anymore. Thank you for your consideration.

Sincerely,

Diana Lecorchick

Fairbanks, Alaska

Alaska Professional Hunters Association Inc.
HC 60 Box 299C Copper Center, Alaska 99573
(907) 822-3755

January 14, 2010

Alaska Department of Fish and Game
Boards Support Section
PO Box 115526
Juneau, Alaska 99811-5526

SPRING 2010 BOARD OF GAME WRITTEN COMMENTS

PROPOSALS THAT APHA OPPOSES: 9, 10, 23, 28, 29, 30, 37, 38, 42, 43, 48,

PROPOSALS THAT APHA SUPPORTS: 24, 32, 33, 34, 46

**PROPOSALS THAT APHA HAS COMMENTS ON BUT DEFERS TO THE
CONSIDERATION OF THE BOARD: 44**

Dear Alaska Board of Game Members,

Please find the following comments for your consideration regarding proposals you will be addressing at your Spring 2010 meeting in Anchorage. The professional guide industry represents a significant and important rural economy in Alaska which is dependant upon prudent stewardship and conservation of Alaska's wildlife. Most importantly, wildlife conservation measures that support harvestable surpluses of wildlife also contribute the most enhanced lifespan and care for all species and all persons who enjoy and depend on Alaska's wildlife.

As a State, Alaska has begun the long-needed recovery of rebuilding and re-establishing our stewardship mandates regarding our precious wildlife populations. This momentum has been achieved primarily because of a number of like-minded conservation organizations involved with public policy making, helping to establish the tools to help you respond to biological concerns. APHA has been a significant part of this effort. Please know that your programs are working and are generating the much needed relief and better stewardship for Alaska's wildlife.

APHA feels that it is very important that you consider the whole of the achievements that have been made and what the benefits have been to our wildlife in these regions as well as what we can do to assist with these type of efforts in other needed regions. It is important to note that there have been numerous dynamics that have been implemented on this *road to*

recovery so to speak regarding our wildlife conservation enhancement and Intensive/Predator Management programs.

What we do know is that these dynamics are working and have stood the test of legal challenge and public acceptance. APHA therefore urges caution to you regarding initiating new methodology that may disrupt the public acceptance of the ongoing programs.

As Alaska's wildland habitats vary substantially in relation to flora characteristics it is important to note that naturally, some regions will respond faster to management initiatives than others. Canopied regions will naturally respond slower than sparser habitats. APHA urges caution in going too far too fast in initiating methodologies that may jeopardize the whole of the existing programs.

APHA asks for your support in developing expansion of management programs intended to grant relief to predator and prey imbalances. We urge your support for these initiatives where and when possible in keeping with maintaining the whole of the programs statewide. The predator management programs provide for optimum sustained yield management which provides for the best interest of the wildlife, and all people who depend on and enjoy prudent management.

Several of the proposals you will be considering at this meeting seek to eliminate or restrict existing non-resident hunter opportunity in some manner. Once again, there are numerous reasons for APHA to urge caution and restraint in regards to support of these proposals related to balance for the whole considerations.

Please consider the following factors when addressing these proposals:

- 1. Annual Non-Resident Harvest percentage of moose, caribou and sheep is low in comparison with the wildlife conservation funding they provide. When you eliminate non-resident opportunity, you eliminate the vital funding needed to enhance and conserve wildlife for the best interest of the whole.**
- 4. When non-resident hunting is eliminated, a substantial part of the annual predator harvest which occurs during the ungulate hunts is also eliminated. When you eliminate this non-resident harvest, you eliminate in most cases, the most significant annual predator harvest as well.**
- 5. Moose harvest restrictions of 50 inch or certain brow tine requirement for moose hunters is biologically designed to not affect the reproduction of the moose population. Thus, the limited amount of current non-resident harvest is not affecting the overall moose population.**

PROPOSAL COMMENTS

Proposal 9, 10: Oppose. APHA strongly supports and respects the contribution and service of our Veterans and disabled individuals. We have a strong history of providing special provisions for these user groups within existing regulation. Establishment of special hunts is an ever occurring theme and we feel existing regulation provides ample opportunity for all user groups.

Proposal 23: Oppose. In many cases tenured professional guide-outfitters have the most knowledge of weather, terrain, and wildlife movements in these regions. They are able to provide these services with the competency gained from this knowledge and experience, which is a great benefit to the overall goal of these programs. This proposal is discriminatory because it would ban someone's ability to participate in activities that they have the best qualified training for. APHA strongly disagrees with the profit based incentive concepts suggested by this proposal.

Proposal 24: Support. Based on its given merits.

Proposals 28, 29, 30: Oppose. APHA does not believe that all non-resident allocation must be eliminated to facilitate intensive management goals. Intensive management increases costs to achieve prudent wildlife conservation goals that provide for the best interest of our wildlife and all people who enjoy or depend on them. Whenever harvestable surpluses are opportune within these programs non-resident allocation should be facilitated to help provide revenue generation for these programs. There are serious economic needs within many of the communities that these where these programs are established. The non-resident allocation helps support community need. Additionally, the meat harvest by the non-resident hunters within these programs is most often distributed to needy people in these regions who do not generally have access to these resources.

Proposal 32: Support. APHA asks for your support in developing expansion of management programs intended to grant relief to predator and prey imbalances. We urge your support for these initiatives where and when possible in keeping with maintaining the whole of the programs statewide. The predator management programs facilitate for optimum sustained yield management which provides for the best interest of the wildlife, and all people who depend on and enjoy prudent management.

The habitat and caribou populations within this region have the biological dynamics to respond favorably to the results of this proposal and APHA urges the Board to help provide for these caribou and the people who are dependent upon them.

Proposal 33: Support. Based on its given merits.

Proposal 34: Support. Based on its given merits.

Proposal 37: Oppose. We prefer status quo statewide.

Proposal 38: Oppose. This proposal will result in illegal harvest of wildlife and conservation concerns for this species.

Proposal 42, 43: Oppose. We prefer status quo.

Proposal 44: APHA encourages the Board to look carefully at the proposal for conservation based support or concern as well as definitive interpretation by the public.

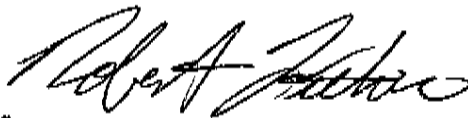
Proposal 46: Support. Based on its given merits.

Proposal 48: Oppose. It is more likely for rams to be harvested illegally under this regulation due to the general public's inability to effectively judge rams in the field within the scope of this proposal. APHA will provide oral testimony regarding this proposal.

Submitted By:

Robert Fithian
Executive Director

Alaska Professional Hunters Association





BACKCOUNTRY HUNTERS AND ANGLERS ALASKA CHAPTER



AK BHA

www.alaskabackcountryhunters.org

January 13, 2010

Comments to the Alaska Board of Game 2010 Cycle A Statewide Regulations

[Proposals we support: 1, 25, 31, 33, 46]

[Proposals we oppose: 34, 38, 41]

Proposal 1 – 5AAC 92.003. Hunter education and orientation requirements.

SUPPORT

If crossbows are to be legal for harvesting big game, and especially if crossbows will be allowed to be used in archery-only hunts, regulations should at least require the same type of education and proficiency testing as is done for bow-and-arrow hunters.

The Board should also consider implementing specific crossbow and arrow regulations as is done with bow-and-arrow regulations that govern a minimum draw weight and arrow/broadhead weight and type (see Proposal 46 comments).

Proposal 25 – 5AAC 92.044(5)(b). Permit for hunting black bear with the use of bait or scent lures.

SUPPORT

We support what is essentially a legal house-cleaning proposal from Alaska Wildlife Troopers that will better define the intent of the regulation governing how close bait stations can be placed to dwellings.

Proposal 31 – 5AAC 92.125. Predation Control Areas Implementation Plans.

SUPPORT

AK BHA strongly opposed the allowance of the use of helicopters for transport of hunters, their gear, and game meat and trophies, under new Unit 16 predator control permit regulations that were passed last year. We still strongly oppose the use of helicopters by members of the public for any facet of hunting activities, including those done under the guise of “control” efforts. And we would still like to see this new allowance rescinded.

This summer we expressed concern to ADFG leadership about possible abuses of the allowed use of helicopter transport for bear hunters in Unit 16 during other hunting seasons for different species. We still have those same concerns and strongly support this proposal to at least prevent the use of helicopters for hunter transport during other hunting seasons.

Proposal 33 – 5AAC 92.108. Identified big game prey populations and objectives.

SUPPORT

We support the principle of this proposal to more closely tie IM population objectives of the Northern Alaska Peninsula Caribou Herd to actual habitat availability and carrying capacity concerns.

Proposal 34 – 5AAC 92.125. Predation Control Areas Implementation Plans.

OPPOSE

AK BHA strongly supports any move to improve moose habitat in GMU 15A. But we cannot support a predator control implementation plan for this Unit, for the following reasons:

Since the vast majority of Unit 15A is federal lands within the Kenai National Wildlife Refuge (KNWR), and given the lack of mutual management objectives between federal agencies and ADFG, it seems highly unlikely that any controlled burns to improve moose habitat will take place anytime in the foreseeable future, nor does it seem likely that federal managers are prone to letting natural fires burn, even in areas that are devoid of cabins or other development.

The issue of public support for controlled burns for habitat improvement in Unit 15A is further complicated by the proximity of the towns of Sterling and Soldotna, and the health and air quality problems that would likely occur given the nature of the prevailing winds.

Furthermore, since 80% of Unit 15A lands fall under federal jurisdiction where predator control activities currently can't take place, those methods of intensive management in the remaining state-managed lands would not provide any real efficacy in boosting overall Unit 15A moose numbers.

Given these facts, it seems that unit 15A is a poor choice for any intensive management plan, and consideration should be given to removing it from the list of IM areas.

Proposal 38 – 5AAC 92.031. Permit for selling skins, skulls, and trophies.

OPPOSE

We strongly oppose legalizing the sale of bear gall bladders in Alaska, whether it is done by private individuals or galls are donated to non-profit conservation organizations to then sell.

Neither the Alaska Wildlife Troopers, nor the Alaska Department of Fish and Game, have the funding or staff to oversee and adequately regulate and enforce the sale of bear gall bladders in Alaska.

Proposal 41 – 5AAC 92.990 (17) Modify the definition of edible meat.

OPPOSE

(Note: AK BHA sent in detailed comments on this proposal when it came up at the last Nome meeting. We include those same comments below, that apply even more to statewide consideration of this proposal.)

We **strongly oppose** passage of this proposal.

It would allow unethical resident and non-resident hunters to skirt the intent of Alaska's wanton waste law and incompletely salvage the meat of a big game animal by falsely claiming it was somehow diseased.

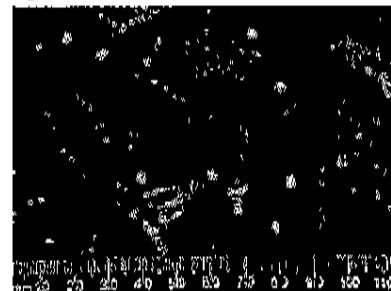
It would prevent adequate enforcement of Alaska's wanton waste law. Alaska Wildlife Troopers does not have the enforcement personnel or funding to investigate and prove claims of animals not harvested due to disease.

Ethical hunters, who indeed would normally salvage all the edible meat according to the current definition, could be confused (if this proposal were to pass) as to what is truly a disease that would make an animal inedible or pose a risk to humans, resulting in an increase of wanton waste of game meat.

AK BHA understands that there are instances where diseased game animals are taken, and that there are some diseases that, while not prevalent, can and do pose a risk to humans. However, most diseases found in game animals don't pose a risk to humans, and for most of those that do, humans can prevent or eliminate that risk using simple protections like wearing gloves when butchering, and thoroughly cooking the meat.

The taenia krabbei muscle cysts pictured in this ADFG photo can be common in caribou and moose populations. They do not pose a risk to humans, and the meat from animals with this "disease" can be eaten dried or uncooked.

Sometimes, hunters who see these muscle tapeworm cysts incorrectly deem the meat unfit



for human consumption, and if this proposal were to pass it would essentially legalize wanton waste of meat that commonly contains the taenia krabbei cysts.

Where there are genuine cases of wildlife with a disease such as brucellosis, that can indeed pose a risk to humans, the solution doesn't lie in a blanket allowance to leave all the meat in the field; the solution lies in educating hunters how to gauge if an animal may be diseased before shooting, and how to protect themselves and their families after the fact if they do shoot a diseased animal.

AK BHA is frankly skeptical with the wording of this proposal by the Arctic Advisory Committee that alludes that common-sense protections from a wide array of wildlife diseases (such as Trichinella and Tularemia), such as wearing protective gloves or cooking meat thoroughly, are not real options among the subsistence hunters in northwest Alaska.

Bear meat is known to commonly have the trichinella spiralis roundworm, and thanks to education efforts most all hunters know that bear meat must be thoroughly cooked to render it completely safe for human consumption. This proposal, if passed, would make it legal to just leave all bear meat because it is "diseased," based not on the premise that some hunters can't protect themselves, but because those hunters won't take adequate precautions when cooking bear meat.

Finally, we want to also address the issue brought up in this proposal of shooting animals because they are believed to be diseased, under the premise of either a "mercy" killing or to prevent spread of that disease. It seems there are contrary arguments within this proposal. On the one hand, this proposal seems to argue that it is difficult if not impossible to always tell if a caribou is diseased, and such a thing is only determined upon butchering. On the other hand, this proposal argues that it is often easy to determine diseased caribou and that tradition dictates those animals should be killed and left there completely unsalvaged. What is the real truth here?

This proposal from the Arctic Advisory Committee goes against everything we believe hunting should stand for, and if passed would not only lead to all the negative consequences listed earlier, but would further divide within Alaska among groups of hunters. In the words of Selawik elder Daniel Sipahk Foster Sr., *"You don't play with any of the animals. You don't kill them and leave them. You must get only what you need."*

We all must support and adhere to the basic credo of what hunting is really about, and our laws regarding wanton waste must apply equally to all hunters statewide.

Proposal 46 – 5AAC 92.990. Create a regulatory definition for crossbow.

SUPPORT

If crossbows are to be legally allowed to hunt big game in Alaska, then it only makes sense that we should have the same type of regulations as we have for bow-and-arrow that define minimum pull weight, and arrow and broadhead weight/type.

Alaska Backcountry Hunters & Anglers (AK BHA)
alaskabha@starband.net

Support of Proposal 15

January 6, 2010
Denali Center
1510 19th Ave
Fairbanks, AK 99701

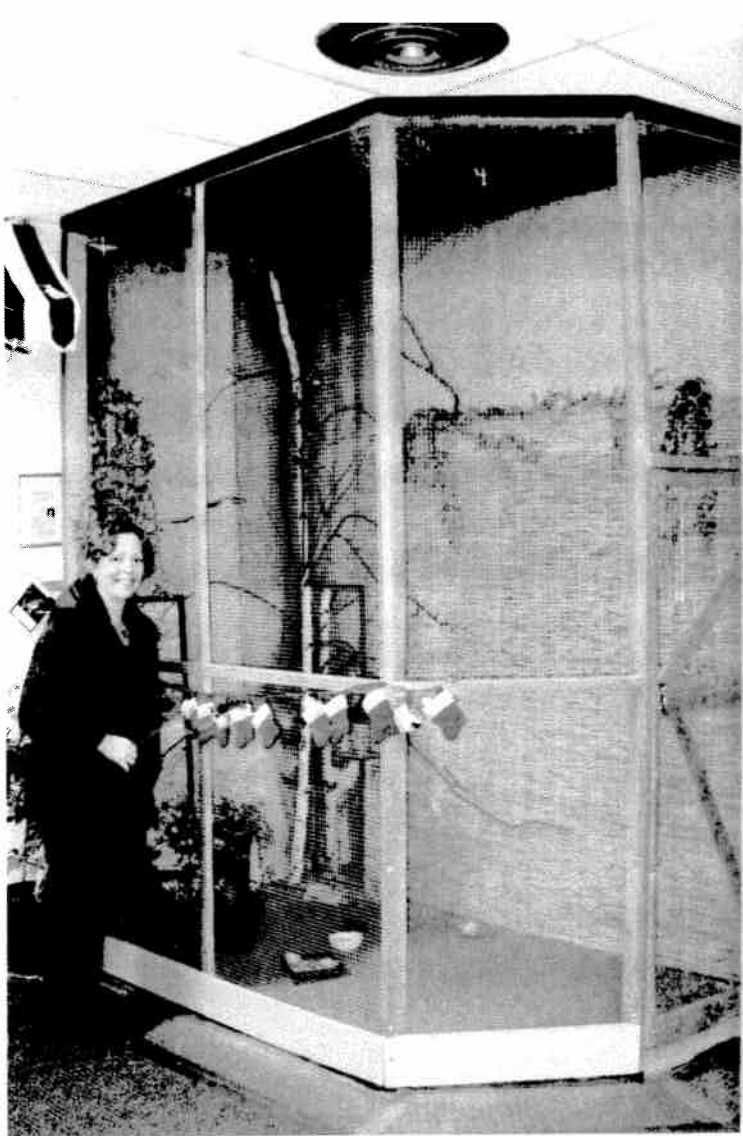
To Whom It May Concern,

This letter is written on behalf of the Denali Center Nursing Home Resident Council in Fairbanks, Alaska. At their meeting today they voted unanimously to voice the following request.

Please consider placing the domestic finch on the clean list so they will be available for sale again. We have enjoyed owning and raising finches in our nursing home.

Thank you,

Members of the
Denali Center Resident Council



Support of proposal 15
Small bird Aviary at the
Pioneer Home Fairbanks, Alaska

FAX: 907-465-6094

Attn: Board of Game Comments

Dear Chair Judkins and members of the Board of Game.

I appreciate the opportunity to submit these written comments on statewide proposals that will be considered at the January 29-February 1 meeting in Anchorage, Alaska.

I support Proposal 28, eliminating nonresident hunting for certain big game animals in all predation control areas. We should prohibit non-resident hunters from outside Alaska from taking big game from a district that is currently being managed as a predator control area. I support this proposal for the following reasons:

- The Board has created tens of thousands of acres of predator control areas in which wolf and bear populations are to be reduced 60-80% through aerial and same day airborne hunting and other liberalized methods and means. The Board has created these areas ostensibly because the moose and caribou populations are inadequate for the needs of Alaskan hunters.
- Alaska residents who rely on wild meat to feed their families should not have to compete with out-of-state hunters. Hunting by out-of-state hunters and commercial guiding in predator control areas should cease.
- Nearly all of the areas in which intensive management programs and predator control implementation plans apply, non-Alaskans are now allowed to compete with Alaskans for moose and/or caribou. Alaskans should have the exclusive use of the moose and caribou populations in these areas unless and until there is adequate surplus for non-Alaskans.
- The Legislature has expressly given the Board authority to restrict non-resident hunting so that the maximum benefit and common use clauses of the Alaska Constitution are satisfied.
- Predator control programs are currently deployed in six specific areas in Alaska, covering approximately 10% of the state's land mass. These programs are designed to reduce predation by wolves or bears and increase depressed moose or caribou populations that are a needed food source of Alaskans.

If the Board decides not to restrict non-resident hunting in predator control areas and in other areas where only a limited number of permits are granted to Alaskans to hunt, it must explain why it is making that decision so that the public can assess whether the Constitutional and statutory mandates have been met.

Thank you for your consideration.

Sincerely, Kimbrough Mauney, Anchorage, AK, (907)-227-3727



ATTN: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
PO Box 115526
Juneau, AK 99811-5526
FAX: 907-465-6094

RE: Proposals #28, 29 & 30

I support proposals 28, 29 & 30 because if the reason for predator control in certain game management units is to provide food for the human residents of those areas as advertised by the ADF&G, there is an assumption that without predator control there would be insufficient numbers of moose or caribou available for the needs of those residents. If this is the case, then it makes no sense to allow nonresidents, who are obviously not in need of such subsidies, to share in the bounty provided by those subsidies. The Board of Game should close those management units where predators are killed to nonresident hunters each year at least until the needs of the residents are met.

Thank you for considering these proposals.



Duane Howe
41640 Gladys Ct
Homer, AK 99603
907-235-9477 Ph&Fax

January 14, 2010

FAX: 907-465-6094

Board of Game Comments
333 Raspberry Road
Alaska Department of Fish & Game
Board Support Section

Dear Board of Game:

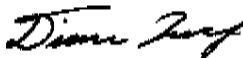
These written comments concern Proposals 28 and 29, which will be considered at the January 29 - February 1 meeting in Anchorage, Alaska.

We support Proposal 28. This proposal asks the Board of Game to adopt a regulation that would prohibit non-resident hunters from outside Alaska from taking big game from a district that is currently being managed as a predator control area. I support this proposal.

The Board has created predator control areas ostensibly because the moose and caribou populations are inadequate for the needs of Alaskan hunters. Thus, in these areas Alaska residents should not have to compete with out-of-state hunters. Alaskans should have the exclusive use of the moose and caribou populations in these areas unless and until there is adequate surplus for non-Alaskans. In no circumstances should the Board allow non-residents to hunt moose and caribou in these areas when the population goal for either of those species is not being met.

Thank you for your consideration.

Sincerely,



Mike and Diane Frank
2224 Turnagain Pkwy.
Anchorage, Alaska 99517

RECEIVED

James R. Jackson

15301 Elmore Rd

Anchorage, AK 99516

907-345-1248

jimmyrhett@gmail.com

FAX: 907-465-6094

Attn: Board of Game Comments

Dear Chair Judkins and members of the Board of Game.

I support Proposal 28, which would eliminate nonresident hunting for certain big game animals in all predation control areas. This proposal asks the Board of Game to adopt a regulation that prohibits non-resident hunters from outside Alaska from taking big game from a district that is currently being managed as a predator control area.

I support this proposal because predator control should be used only sparingly, as a last resort, when game populations are not sufficient to meet the needs of Alaskans. It is totally inappropriate to use predator control to benefit out-of-state hunters. Alaskans who rely on meat to feed their families are now forced to compete with these out-of-state hunters in areas of low prey population.

In the event that Proposal 28 is not passed, I also support Proposal 29. While I believe that Proposal 28 represents a better and more comprehensive approach to the issue, Proposal 29 would also address the same problem.

Thank you for your consideration.

Sincerely,



James R Jackson

Jan. 15, 2010

From: Brian Okonek
P.O. Box 583
Talkeetna, AK 99676

To:
Attention Board of Game Comments
ADFG
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526

FAX: 907 465 6094

Reference: Proposal 28

Dear Board of Game,

I am in support of Proposal 28: Eliminate nonresident hunting for certain big game animals in all predation control areas. Submitted by the Alaska Center for the Environment.

The very idea of predator control is to enhance moose and caribou populations for Alaskan hunters. Non - residents should not be permitted to hunt in areas where ADFG has initiated predator control.

Sincerely,


Brian Okonek

January 10, 2010

Karen Biljetina
900 Lighthouse Court
Anchorage, AK 99515

RECEIVED

JAN 19 2010

**BOARDS
ANCHORAGE**

Hello:

I was born and raised in Alaska; my life is here. You have some very good proposals this year and some very bad ones.

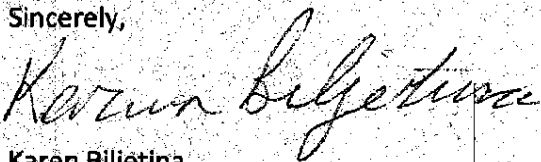
The proposals I SUPPORT are:

Proposal 4
Proposal 23
Proposal 25 - 30
Proposal 33
Proposal 47
Proposal 49

The proposals I DO NOT support are:

Proposal 2
Proposal 24
Proposal 31
Proposal 32
Proposal 34
Proposal 36
Proposal 38 - 40

Sincerely,



Karen Biljetina

*BOG Statewide
Public Comment*



441 West Fifth Avenue, Suite 300
Anchorage, AK 99501
Tel: 907-276-7034
Fax: 907-276-5069

ALASKA DEPARTMENT OF FISH AND GAME
Boards Support Section attn: Scott Crass
P.O. Box 115526
Juneau, AK 99811-5526
(907) 465-4110
(907) 465-6094 FAX

Comments on proposal 47: removal of the Snowy Owl from the unclassified game list.

Dear Game Board,

Audubon Alaska is a bird conservation organization, based in Anchorage, with a membership of approximately 2,000. We support science-based conservation of wildlife and the habitats they depend on.

We wish to speak in FAVOR of the proposal to remove the Snowy Owl from the unclassified game list. Under current regulations, residents may shoot this large owl indiscriminately, without season or bag limit.

The Snowy Owl has a relatively small global population, numbering about 300,000 birds. Half of those breed in North America. Based on an analysis of Breeding Bird Survey data, and Christmas Bird Count data, the species is declining at a rate of 1.8% per year (National Audubon). Because of this trend, and Alaska's high stewardship responsibility for this species, it is a "red list" species of conservation concern on Audubon Alaska's 2010 WatchList.

We understand there is little or no hunting of the Snowy Owl presently. As such, the proposed regulation change will have no impact on hunters. On the contrary, NOT changing this regulation could spark a backlash against hunters, and the Department, based on perception.

The Snowy Owl is a widely recognized and admired icon of the north. Changing this regulation makes good sense for everyone. We hope it passes by unanimous consent, and doesn't occupy an undue amount of the Board's time.

Thank you for considering these comments. If you have any questions, please don't hesitate to call.

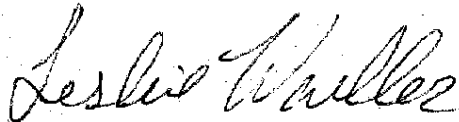
Sincerely,

Matthew Kirchhoff
Director of Bird Conservation

January 12, 2010

I SUPPORT THESE: Proposal 4; Proposal 23; Proposal 25 – 30; Proposal 33; Proposal 47; and Proposal 49.

I DO NOT SUPPORT THESE: Proposal 2; Proposal 24; Proposal 31; Proposal 32, Proposal 34; Proposal 36; and Proposals 38 – 40.



Leslie Waller
Anchorage, AK

RECEIVED

JAN 19 2010

**BOARDS
ANCHORAGE**

BOG Statewide
Public Comment

January 15, 2010

Via Facsimile: 907-465-6094

ATTN: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526

To Whom It May Concern:

Alaska Center for the Environment (ACE), Alaska Wildlife Alliance (AWA), and Defenders of Wildlife ("Defenders") appreciate the opportunity to submit these written comments on proposals that will be considered at the January 29—February 1, 2010 meeting in Anchorage, Alaska.

Organizations Submitting Comments

Founded in 1971, the Alaska Center for the Environment (ACE) is a non-profit, tax-exempt, public interest organization which depends on its active board, members, interns and volunteers. ACE is Alaska's largest home-grown citizen's group working for the sensible stewardship of Alaska's natural environment. With 7,000 dues-paying members from around the state, Alaska Center for the Environment is your voice for public lands conservation, clean air, clean water and livable places.

Founded in 1978, the Alaska Wildlife Alliance (AWA) is the only group in Alaska solely dedicated to the protection of Alaska's wildlife. Our mission is the protection of Alaska's natural wildlife for its intrinsic value as well as for the benefit of present and future generations. AWA is your voice for promoting an ecosystem approach to wildlife management that represents the non-consumptive values of wildlife. AWA was founded by Alaskans and depends on the grassroots support and activism of its members.

Established in 1947, Defenders is a non-profit membership based organization dedicated to the protection of all native wild animals and plants in their natural communities. Defenders focus on the accelerating rate of species extinction and associated loss of biological diversity and habitat alteration and destruction. Defenders also advocates for new approaches to wildlife conservation that will help prevent species from becoming endangered. We have field offices around the country, including in Alaska where we work on issues affecting wolves, black bears, brown bears, wolverines, Cook Inlet beluga whales, sea otters, polar bears and impacts from climate change. Our Alaska programs seek to increase recognition of the importance of, and need for the protection of, entire ecosystems and interconnected habitats while protecting predators that serve as indicator species for ecosystem health. Defenders represent more than 3,115 members, activists and subscribers in Alaska and more than one million nationwide.

Comments on the Alaska Board of Game Proposals

January 29-February 1, 2010 Meeting

Proposal #23—5 AAC 92.039 Permit for taking wolves using aircraft: Disallow guides and assistant guides from obtaining aerial permits for taking wolves.

We **support** this proposal.

Registered big game guides and assistant guides have an inherent conflict of interest in participating in aerial shooting programs designed to reduce wolves and increase ungulates. Their sole focus is to sell guided hunts to non-resident trophy hunters. As such, they support programs to manage certain species like moose and caribou at the expense of others like wolves. Guiding operations often operate on federal lands where single species management or managing some species at the expense of others is not a management priority. The Alaska guides' lobby acting through the Alaska Professional Hunters Association has been one of the most strident organizations supporting predator control in recent years. To lobby the legislature and the Game Board for predator control programs that they themselves will conduct within the areas where they guide constitutes an inherent conflict of interest that should be unlawful. It also risks excessive shooting of wolves and under-reporting by overly zealous guides who often view wolves as only good when dead. Proposal #23 would solve these problems if adopted and we urge the Board to act favorably on it.

Proposal #24—5 AAC 92.044 Permit for hunting black bear with the use of bait or scent lures. Change the number of bait stations that a licensed guide-outfitter and his assistant guides may register in the Unit 16 Predation Control Area as described in 5 AAC 92.125(d).

We **oppose** this proposal.

The Game Board in recent years has declared war on black bears in Unit 16B with a predator control program designed to severely reduce bears (and also wolves) in order to increase moose for hunters. Methods and means of taking bears, and seasons and bag limits have all been greatly expanded to achieve higher harvests. These include things never before legal in Alaska such as shooting sows with cubs and cubs themselves, baiting bears all summer long, helicopter transport of hunters and snaring bears. Regulations were crafted to allow bear baiting and snaring camps capable of cycling through scores of hunters each year. Guides and their assistants were allowed to establish bait stations and charge clients for guided hunts. All this was done absent reliable field data on black bear density, or on the actual extent of bear predation on neonatal moose. Accordingly, we think that the current regulations allow for excessive taking of black bears in Unit 16B and we oppose any further efforts to increase the take. Guides and their assistants have ample opportunity to establish bait stations under the current regulations and Proposal #24 which would further increase the number of stations is unwarranted. We urge the Board to reject it.

Proposal #25— 5 AAC 92.044(5)(b). Permit for hunting black bear with the use of bait or scent lures. Prohibit the use of bait or scent lures near businesses, schools or other facilities as described below.

We **support** this proposal.

Part of the war on black bears declared by the Game Board in Unit 16B includes an attempt to greatly increase the extent of baiting bears, and to extend the baiting season through the summer months. This is fraught with danger as fishers, hikers, berry pickers and others using the outdoors at that time are at risk of accidentally encountering bait stations with bears nearby that may attack humans. Worse yet, people may encounter a bear snaring site where cubs may be captured with an angry sow nearby ready to defend her young. This includes grizzly bears that may be snared in addition to black bears. We support Proposal #25 that would further prohibit bait stations near human developments (including schools) in an effort to reduce the risk of human injuries caused by bears lured in with artificial foods. Furthermore, we contend that the current one-mile prohibition on bait stations from houses is insufficient and would support increasing it to two miles.

Proposal #28— 5 AAC 92.116 Special provisions in predation control areas. Eliminate nonresident hunting for certain big game animals in predation control areas.

We **support** this proposal.

Alaska's predator control programs now include more than 65,000 square miles of land—an area larger than many states. Since 2003, about 1,000 wolves have been shot by aerial hunters granted permits as part of the control programs. In addition, hundreds of additional wolves have been shot or trapped under de facto control whereby the Game Board extended wolf hunting and trapping season lengths and increased bag limits over virtually the entire state. This was done with the untested belief that fewer wolves would result in more ungulates. We contend that these are highly controversial, extreme, drastic measures that many Alaskans oppose. We also support the concept that if predator control programs are approved to re-build reduced ungulate populations, then hunting should be suspended during the duration of control to allow ungulates to increase at maximum rates. Certainly, if limited hunting continues during predator control, non-resident Alaskans should be excluded. This proposal would, if adopted, accomplish that aim and we urge the Board to adopt it.

Proposal #29—5 AAC 92.116 Special provisions in predator control areas as follows: Eliminate nonresident hunting for certain big game animals in predation control areas.

We **support** this proposal.

This proposal is similar to Proposal #28 but would further restrict non-resident hunting when intensive management ungulate population objectives are unmet based on current population estimates. For some ungulate populations, the Game Board set unrealistically high population and harvest objectives. Limited information was available on habitat quality for these populations and it was doubtful that the established objectives could be met; i.e., objectives were probably unattainable and likely unsustainable. One of the triggers for a predator control program is unmet population and harvest objectives. In the cases where objectives were set too high, the net result is perpetual predator control that chases population objectives that are unattainable. To the extent that this proposal, if adopted,

would encourage the Board to re-assess previously adopted intensive management objectives, we support this measure.

Proposal #31— 5 AAC 92.125 Predation Control Areas Implementation Plans. Amend to change the dates that helicopters and snaring may be used in Unit 16 black bear management.

We **oppose** this proposal.

Until last spring, when the Game Board adopted highly controversial, extreme regulation changes to reduce black bears in Unit 16 such as allowing helicopter transport of hunters and the snaring of bears, such practices had never before been legal in Alaska. In Defenders' original comments submitted on February 13, 2009, summarized below, Defenders strongly opposed these practices. Defenders, along with ACE and AWA, continue to oppose the Unit 16 program and therefore do not support the Department's proposed minor modifications to the program and clearly do not support the proposed changes aimed at expanding the program.

Use of Helicopters:

The biological risk to the wildlife populations is so excessive and the enforcement challenges are so significant that it does not warrant their use. Helicopters allow unlimited access to any location in the region and to 100% of the wildlife resources. In addition, helicopter use allows an individual to land and shoot black bears, encouraging the illegal chasing and harassing of black bears, especially the highly coveted "trophy" bears. Using helicopters to fly in people and equipment would promote illegal landing strip "improvements" for fixed-wing aircraft in remote, previously inaccessible, regions as well, allowing even further degradations to the wilderness ecosystems.

Trapping and Snaring Of Bears

Using traps or snares to kill black bears raises serious ethical and humane issues as well as safety concerns for humans. Catching and holding large powerful and potentially dangerous animals presents a situation where wounded or injured bears can escape, resulting in prolonged suffering to the bear. Further, the risk to the public of encountering a snared or an escaped injured bear is significant at a time when the people are actively recreating, camping, hunting and berry picking in the summer and fall. A person encountering a bear cub in a snare is also in danger of encountering a nearby aggressive mother.

The expansion of the experimental bear program in this Game Management Unit is unjustified. Modifications to this program outlined in this proposal do not warrant our approval. Therefore, we request the Board of Game oppose this proposal.

Proposal #32— 5 AAC 92.125 Predation Control Areas Implementation Plans. Establish a predator control program for Units 9C and 9E.

We **oppose** this proposal.

This proposal is a draft implementation plan for a new predator control program to reduce wolves in Units 9C and 9E with the goal of increasing a caribou herd that resides in this area.

The plan is seriously deficient in several respects, notably the lack of a reliable wolf population estimate based on field data, and the lack of a wolf population objective representing the number of wolves to be left alive annually to ensure that wolves will persist as a viable part of the local fauna.

Part (B)(ii) of the proposal contains a wolf density estimate (7 wolves per 1000 square kilometers), a population estimate (200-300 wolves) and a pack estimate (30-50 packs) for the sub-population of wolves inhabiting the "Wolf Management Area." But none of these estimates is based on field data resulting from a valid census using generally recognized aerial survey methods. Instead, the source of the estimates is identified as "...based on habitat type and prey base." These extremely crude indicators are very unlikely to produce an accurate estimate of wolf numbers and are no substitute for field data gathered by standard wolf census methods. Worse yet, Part (D)(vi) of the proposal fails to provide the number of wolves to be removed but instead identifies the wolf population objective as only "...to reduce wolf numbers in control areas within Units 9(C) and 9(E)." Lacking accurate pre-control wolf estimates, and failure to identify how many wolves and what percentage of the wolf population will be targeted sets the stage for eliminating wolves from at least part of the area, an outcome unnecessary to meet the objective of increasing the caribou herd.

Reference is also made in Part (D)(vi) of the plan to the fact that logistic limitations prohibiting public access to certain lands will limit the number of wolves removed. Is this because much of the land in the Wolf Management Area is federal land not subject to wolf control? If so, the plan should explicitly state that wolves will not be shot on such lands. There should also be restrictions on shooting wolves with territories on federal land that may venture onto other lands for brief periods, similar to the state-federal agreement for Yukon-Charley Preserve wolves subject to state helicopter shooting in March 2009.

Nowhere in the plan is there mention of killing young wolf pups in dens with poison gas, a method approved by the Board after a highly controversial "denning" operation by ADFG personnel on the calving ground of the Southern Alaska Peninsula Herd in 2008. If this practice is contemplated for use in this plan it should be mentioned. If not, it should be explicitly prohibited.

We strongly urge the Board to reject this proposal based mainly on the lack of an accurate wolf population estimate, failure to provide estimates of the degree to which wolves will be reduced, and the inability to ensure that wolves will persist as viable components of the local fauna.

Proposal #33— 5 AAC 92.108 Identified big game prey populations and objectives. Modify the population management objective for the Northern Peninsula Caribou Herd (NAP) in Units 9C and 9E.

We support this proposal.

The intensive management population objective originally set by the Board for the Northern Alaska Peninsula Caribou Herd (NAPCH) (15,000-20,000) was one of several such objectives for ungulate populations that were beyond sustainable levels that the habitat could support. In its zeal to "manage for abundance" the Board set unrealistically high objectives

for certain populations in the absence of reliable data on habitat carrying capacity. Subsequent events for the NAPCH follow the classic pattern for an ungulate population that overshoots its carrying capacity. Per capita food shortage initiates density-dependent population responses including lower birth rates, lower survival of young, lower growth rates of young, etc. These lead to population declines or, in some cases, crashes. This occurred in the NAPCH when the herd declined from 20,000 in the 1980s to 2,000-2,500 in 2009. Field studies confirmed that the caribou population exceeded carrying capacity of the habitat. The sharp decline occurred despite Board action to reduce the herd's population objective to 12,000-15,000.

Now, the Department proposes to set the population objective at 6,000-15,000. We support this proposal and strongly urge the Board to review all of its previously established ungulate population objectives to see which ones are likely unattainable or unsustainable based on field studies of habitat carrying capacity. When field data are weak or absent, we encourage the Board to set prudent population objectives rather than those based mainly on historically high, estimated numbers that were sometimes gross over-estimates and virtually always unsustainable.

**Proposal #34— 5 AAC 92.125 Predation Control Areas Implementation Plans.
Establish a new intensive management plan in Unit 15A.**

We oppose this proposal.

Proposal #34 if adopted would establish a new intensive management plan on the northern Kenai Peninsula. About 80% of this area is Kenai National Wildlife Refuge land.

The proposal outlines the history of the moose population from 1947 when a large wildfire created vast areas of high-quality moose habitat and moose numbers increased greatly. By the early 1970s, forest succession greatly reduced habitat quality and moose declined sharply following a series of severe winters. From 1991 to 2008, further declines reduced the moose population from 2931 to 1670 animals. The intensive management population objective is 3000-3500.

During the late 1970s and early 1980s, a moose habitat enhancement program was conducted by state and federal agencies in this area. Large areas of black spruce forest (re-growth from the 1947 burn) were treated by crushing trees using large machines. This ended when federal management guidelines discouraged single-species management on National Wildlife Refuge lands.

Now, a state sponsored intensive management program is proposed to increase moose in Unit 15A by enhancing habitat, but details outlining where and how this would be done are absent. Reference is made to controlled burns (and the resulting smoke problems) but no specifics are provided. Lacking specifics concerning the methods, extent, and land ownership mosaic affected by the program, we cannot endorse it despite the encouraging fact that predator control for this intensive management program is not proposed at this time. We also generally cannot endorse intensive management programs on National Wildlife Refuge lands where ecosystem values, as opposed to single-species management or management of one species at the expense of another is the main focus.

Proposal #38— 5 AAC 92.031 Permit for selling skins, skulls and trophies. Allow the sale of black bear gall bladders by non-profit organizations.

We oppose this proposal

This proposal would allow the sale of black bear gall bladders by non-profit organizations.

We oppose the sale of all bear parts, especially gall bladders. High priced gall bladders have led to documented cases of illegally taking bears only to salvage the gall bladder for sale to Asian markets. Allowing the sale of bladders by anyone, including non-profits, creates a market that will be exploited by those wishing to profit from the loophole in the regulations. Enforcement of the prohibition against gall bladder sales by other than non-profits would be difficult if not impossible once a legal market is created.

We strongly encourage the Board to reject this proposal.

Proposal #39— 5 AAC 92.200(b)(1) Purchase and sale of game. Allow the sale or barter of tanned bear hides.

We oppose this proposal.

This proposal would further expand the sale (trade or barter) of bear parts to include tanned hides.

In Alaska, sale of all bear parts, especially bear gall bladders, was prohibited for decades until the Game Board declared war on bears in certain areas and legalized sale of skulls and raw hides by private parties. State agencies sold illegally taken, confiscated untanned hides prior to this in public auctions, but private party sales were illegal.

We oppose the sale of any and all bear parts and therefore oppose this proposal which would add to the type of parts that could be sold. There are documented cases in Alaska where bears were taken illegally for sale of high priced parts. Some of these cases occurred on federal land. Illegal sale of parts of various species throughout the world has created conservation concerns and, in some cases, drove species to threatened or endangered levels. We see no need to take such risks with large carnivore species in Alaska.

Proposal #40— 5 AAC 92.200(b)(2) and (3) Purchase and sale of game. Allow the sale or barter of big game trophies.

We oppose this proposal.

This proposal would allow the legal private party sale (trade or barter) of big game trophy mounts.

For decades, private party sales of mounted big game heads, horns or antlers have been illegal in Alaska. This prohibition predates statehood. The original intent of the prohibition was to prevent illegal shooting of trophy animals just for the horns or antlers with associated

wanton waste of meat. Documented cases of these events have occurred. Trophy heads, especially of species like Dall's sheep, can be worth several thousand dollars.

Creating a market for legal sale of trophies would open the door to large-scale abuses of poaching, out of season hunting, and illegal use of airplanes or other motorized vehicles in order to obtain trophies for sale. We strongly encourage the Board to retain the prohibition on sale of big game trophies, a regulation that was originally adopted with sound reasons that are even more applicable today.

Thank you for considering our comments.

Sincerely,

Valerie Conner
Conservation Director
Alaska Center for the Environment

John Toppenberg
Director
Alaska Wildlife Alliance

Karla Dutton
Alaska Director
Defenders of Wildlife

Joe Klutsch
PO Box 313
King Salmon, Alaska 99613

January 14, 2010

ATTN: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
PO Box 115526
Juneau, AK 99811-5526

PROPOSAL #23:

The author of this proposal contends that allowing guides and assistant guides to participate by permit in aerial taking of wolves in predator control programs has and will result in "biased reporting". He states that "anecdotal information provided by commercial guides is subsequently used by the BOG & ADF&G to estimate populations and to justify continuing a particular predator control program".
There is absolutely no evidence to support this charge.

Most guides do spend considerable time in the field and have done so for many years in the same general areas. They also readily share their field observations with ADF&G staff and they participate in the BOG process. The information they provide has been and should continue to be weighed and evaluated for its accuracy and may be used appropriately just as information, "anecdotal" or otherwise is when provided by any interest group whether it be subsistence oriented or even when provided by anti predator control or anti hunting interest groups.

Guides can provide valuable knowledge and assets which make control programs more effective and less costly, and they certainly can be held accountable for their actions.

This is a divide to conquer proposal. The author is opposed to predator control in general, but pretends to champion general resident and subsistence hunting.

Recommendation – REJECT

PROPOSAL #28:

The authors of this proposal do not favor predator control in general and have fought legally and politically to prevent it. This is another divide to conquer effort.

No one denies that wild game is an important food source including guided or unguided nonresidents. It is mentioned in this proposal for the purpose of implying that "competition" with general residents and subsistence hunters reduces their opportunity to harvest game. In most areas of the state this is simply not the case. Back country wilderness hunting is logistically an expensive proposition and much of it occurs in areas not accessed by the general public. Here is where the majority of nonresident hunting occurs.

The perception that eliminating nonresident hunting, whether real or contrived, will not in most cases result in greater abundance or opportunity to harvest game. The BOG has and should continue to carefully scrutinize any closure proposals on a case by case, area by area basis.

The proposal also ignores the fact that the revenues from the sale of NR hunting licenses and tags provide the primary source of funding for ADF&G DWC. Additionally they ignore the meat that is donated or shared with resident Alaskans.

Recommend: REJECT

PROPOSAL #29:

This proposal appears to mandate the closure of NR hunting in areas where predator control has been implemented.

Game populations are generally censused on a GMU and GMU subunit basis and by harvest data. In many areas of the state, portions or segments of game populations are not accessed by general residents or subsistence hunters. Here again logistical and cost considerations make it prohibitive. In those areas “competition” is not an issue. Additionally, NR seasons are generally very short while resident and particularly subsistence seasons are very long providing much greater opportunity to harvest game. Arbitrarily closing all NR hunting will not reduce “competition” where there isn't any or provide more opportunity or help recovery of an identified game population.

There are areas where predator control would benefit depressed Caribou populations and temporary closure of nonresident hunting for that species is warranted (GMU9). However, Moose populations in GMU9 are stable with good bull to cow ratios, calf mortality is high, but always has been and there is ample opportunity for general resident and subsistence users to harvest an animal if they access the right areas and work hard. There is no biological justification to close nonresident moose hunting in GMU and this is also the conclusion of the Office of Subsistence Management in their staff analysis of RAC closure proposals.

Adopting this proposal would result in an arbitrary and unjustified closure of moose hunting in an area where a wolf control program would benefit primarily caribou but also moose.

Recommendation – REJECT

PROPOSAL #33:

This proposal would modify the population objectives of the NAPCH in GMU 9C and 9E. The proposal is well crafted and the objectives make sense. The 6,000 to 15,000 population objective can help prevent the scenario that brought about the decline of the herd in the first place.

Managers will not be required to achieve population objectives that exceed carrying capacity of the range resulting in a cyclical decline.

Recommendation: ADOPT

Thank You for your hard work and dedication.

Respectfully,

A handwritten signature in black ink, appearing to read "Joe Klutsch", with a long horizontal flourish extending to the right.

Joe Klutsch

PROPOSAL #30:

The author of this proposal does not favor predator control. *This is another divide to conquer proposal.* His rationale to support blanket or arbitrary closures of nonresident hunting for the purpose of benefiting general resident and subsistence hunting is disingenuous.

The argument that “the number of resident hunters trying to harvest” game in predator control areas “exceeds the number of animals available as defined by the most current upper harvestable surplus estimate...” is erroneous. The level of effort on most game populations exceeds this level on and out of predator management areas. Success in hunting is never a guarantee. This proposal implies that effort will always result in over harvest. This is simply not true.

Recommendation: REJECT

PROPOSAL #32:

The proposal would establish a predation control plan for GMU 9C and 9E. The proposal is carefully crafted and explains the history of the NAPCH. I have twenty-five years experience hunting Caribou in these units prior to closure. The analysis of the history of this herds dynamics appears accurate to me after being involved with both the management and allocation process since 1974.

The objective of increasing calf survival is necessary if this herd is to recover. I would urge that any predator control effort be wolf specific. The Brown Bear management plan has been very successful although Bears must be recognized as a known predator of Caribou calves. Having lived and hunted in the area in question for many years prior to the elimination of aerial wolf hunting and witnessing first hand what has transpired since, there is absolutely no doubt in my mind that a measured and sustained wolf control effort is essential to the recovery of the NAPCH.

This effort can be accomplish without jeopardizing the current Brown Bear management plan. Although the Bear population may have increased somewhat in the last twenty years, harvest levels have increased as well. Many culprit Moose and Caribou killers are being harvested particularly in the Spring.

Moose populations are stable and as stated in previous proposal comments, not at a level which warrants a nonresident closure. Moose populations will benefit from this program.

Recommendation: ADOPT

Caveat: No closure of nonresident Moose Hunting.

Erich Schaal
3952 Julep St.
Juneau, AK 99801
January 8, 2010

ATTN: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526
Fax: 907-465-6094

Dear Board of Game Members:

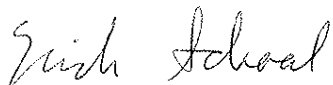
As an Alaskan resident and avid waterfowl hunter, I am writing to express my opposition to Proposal 52 – 5 AAC 85.045. This proposal is poorly written, aims to directly marginalize the waterfowl guides in the area, and does not submit any quantifiable data or research to support the proposal writers' assertions and the negative impacts to waterfowl hunters.

Furthermore the proposal writer's accusation that "most of these ducks are not eaten or utilized" is completely inappropriate for such a proposal. If there was waste of game animals occurring, that is a criminal matter to be investigated by the Alaska State Police. Secondly, this proposal intends to reduce the bag limit for all hunters, not just those on guided hunts, which directly contradicts the proposal writers' justifications for the change.

This entire proposal lacks a basis in field research and sound game management practices and appears to have ulterior motives for reducing the bag limits on all sea duck hunters in Unit 15C.

I hope this board agrees that this proposal should be rejected because it would negatively impact all waterfowl hunters in unit 15C, guided or not, and due to its lack of sound research.

Sincerely,



Erich Schaal

Alaska Department of Fish and Game Boards Support Section

My name is Theresa Bauer and I am writing concerning the proposition that is before the Board allowing Hybred cats such as the Bengal, Savannah etc...I belong to a Serval/Caracal group that have these wonderful cats down in the lower 48, there has never been a case of Rabies in any Hybred, and these owners keep their cats vaccinated yearly! To own one of these magnificent cats runs around \$1,000 and up to \$25,000 I know for a fact when a person pays this much for a kitten they are going to do everything in their power to keep this cat safe and very well taken care of.

I have had the pleasure of meeting two Bengal cats that were born up here in Alaska, the first one is 4 years old and she weighs 6.5 lbs and is a house cat. The other Bengal I was introduced to is a 1 year old and will probably weigh 8 lbs as an adult so not all Hybrids are large cats, these cats have been vaccinated for Rabies of course as all household and domesticated animals should be.

Please pass the law allowing these wonderful cats in Alaska, have the owners microchip them, register them whatever it takes for these owners to be able to have and keep their "family members" home and safe and not worry about having them ripped away from the only safe home's they have!

Sincerely,



Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, Ak 99811-5526
Fax:907-465-6094

I would like to comment on the following proposals for the Winter 2010 Board of Game meeting.

Proposal # 1: support this proposal. People are familiar with gun safety (although they do not always practice it) People are not familiar with crossbow safety. This should be required much the same as bow hunter education is required for many hunts. This helps the hunter and provides the public with some safety as people going afield will have the required education to make them more knowledgeable about their weapon.

Proposal #3: support this proposal. It is not necessary to carry a harvest report with you in the field, as you have the harvest ticket in your possession.

Proposal #4: support this proposal. It would be helpful in managing the deer populations to have harvest reports filed so the information on the number and sex of deer harvested would be available.

Proposal #5: against this proposal. Age 8 is too young for hunters to be on their own. Currently they can hunt with their adult supervision and any harvest can be counted as the adult's harvest. If parents want to get their children involved in hunting at this early age it is sufficient to be on their harvest ticket.

Proposal #8: against this proposal. The current proxy system is sufficient. Although I believe it is often abused. There is no need to expand the system.

Proposal #9: against this proposal. We should not be creating more special interest groups nor changing the means of hunting (i.e. allowing hunting from vehicles or same day airborne) to benefit a few individuals.

Proposal #10: against this proposal. If we are going to allow brown bear hunting over bait for some, then we should allow it for all. Other hunters of black bear over bait also have brown bears coming in to their bait station.

Proposal #11: against this proposal. Game taken for religious ceremonies should be considered subsistence. If it is not considered subsistence then harvest should follow the current regulations.

Proposal #12: support this proposal. Game taken for religious ceremonies should be considered subsistence. If it is not considered subsistence then harvest should follow the current regulations.

Proposal #13: against this proposal. Game taken for religious ceremonies should be considered subsistence. If it is not considered subsistence then harvest should follow the current regulations.

Proposal #14: against this proposal. This creates discrimination against all non-Ahtna people. The State of Alaska should not support discrimination.

Proposal #24: against this proposal. Only licensed guides should be allowed to register bait stations for use with clients. Assistant guides should not be allowed to register bait stations for use with clients. Additionally, guides should only be allowed two bait stations per guide.

Proposal #28: support this proposal. If the harvestable population is depressed and a predator control program is in place to restore the population, then non-resident hunters should also be prevented from hunting in that area until the population recovers.

Proposal #29: support this proposal. If the harvestable population is depressed and a predator control program is in place to restore the population, then non-resident hunters should also be prevented from hunting in that area until the population recovers.

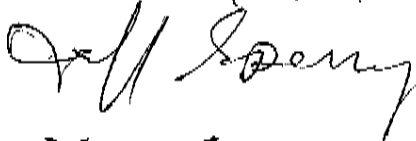
Proposal #32: support this proposal. I have hunted unit 9E in the 1980s and there were thousands of caribou. Predators have contributed to the decimation of this herd. Control of the predators will help this caribou herd rebound.

Proposal #35: against this proposal. It is not that difficult for hunters to take a bear hide to the Department of Fish and Game to have it sealed. People hunting bears should take this time factor into account prior to going hunting.

Proposal #41: against this proposal. All meat that is considered edible by the current definition should be harvested. If there is any question about whether it is diseased then the harvester should take the meat to the department of fish and game or the Alaska State Troopers to have them determine whether the meat is edible. Passing this proposal would open the door for many hunters to not harvest the edible meat and say that it was diseased. I believe that passing this proposal would lead to abuse of the nonharvesting of edible meat.

Proposal #43: against this proposal. Allowing hunters to dispose of the meat in any manner they choose would be extremely wasteful and disrespectful to the resource. If they do not want to use the meat, then they can donate it to many organizations who will use it to feed people in need.

Proposal #44: against this proposal. The current game management units and subunits are clearly defined. If people read the regulations and look at the maps they can determine the boundaries of the units.

Thank-you for this opportunity

JEFF SPERRY
EAGLE RIVER, AK.

Attn: Board of Game Comments
Alaska Department of Fish and Game
Boards Support Section
P.O. Box 115526
Juneau, AK 99811-5526
January 15, 2010

To Whom it May Concern:

I am writing to express a few comments regarding upcoming proposals.

As an Alaskan mother, I am **opposed to Proposal 5**, please do not adopt. Many 8 year olds do not have the physical stamina to properly hold any sort of loaded weapon. The risk is not worth it.

Please **consider adopting Proposals 23, 28, and 29**. After the Knowles administration, predator control was reintroduced to the Alaskan people to help subsistence hunters. Nonresidents do not fit this description.

I am **against Proposal 32**.. There is economic gain from all wildlife viewing, including predators. Many Alaskans do not feel one species is more valuable than another, and appreciate intact, untouched ecosystems.

I support the recommendation **not to adopt Proposal 38 and 40**. Adopting these proposals would encourage uncouth practices.

Thank you for your time,

A. Silgailis
Palmer, Alaska

RUSSIAN MISSION NATIVE CORPORATION

P.O. BOX 48

RUSSIAN MISSION, AK. 99657

Phone: 907-584-5885 / Fax: 907-584-5311

1-15-10

State of Alaska
Department of Fish & Game
Fax: ~~842-8814~~, 465-6094

Re: Emergency Moose Hunting Extension on Unit 18.

To whom it may concern:

Hello. We are writing this letter for the Russian Mission Native Corporation, to request that our winter moose-hunting season in Unit 18 be extended due to no snow. Only a few of our residents have been lucky enough to go out hunting. They had to use 4-wheelers because there isn't enough snow on the ground to use snow machines. Most of us here have snow machines, and that's what we use to do our winter moose hunting. And that is how it is all through out unit 18. No snow, means no snow machines, and that means no hunting!

Our community is small with approximately 400 residents, no available jobs during this time of year and even if there were jobs available it would only be for a lucky few, or even one. Everyone else must depend on public assistance and subsistence. This last summer our subsistence fishing was so bad that some families didn't even get to fish. Our whole community depends on the subsistence fishing and hunting, and when the fishing is as bad as it was last year, it makes getting a moose in this season a "must" for the majority of our community. Almost everyone is saying that they "need to get a moose but can't go out because of no snow!" We can all see that this community depends on subsistence fishing and hunting. You are the only agency that can help us. So, we are asking, with so much hope, that you may be able to get this moose hunting season extended. (Another alternative may be, to include the harvest of cow moose, since there are so much more of them it is harder to harvest a Bull.)

So, with all the information we have provided, we are asking, and hoping so much, that you can grant our request for this moose-hunting season to be extended, or, altered to include cows.


Thank you so much for your time. We hope you can help.

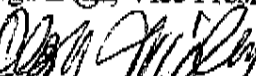
Sincerely:


Cecelia Housler, President


James Changsak, Sec./Treas.


Theresa Vaska, Member


Olga Evan, Vice President


Olga Wigley, Member



National Parks Conservation Association ♦ Alaska Regional Office
750 W. 2nd Ave. Suite 205, Anchorage, AK 99503 (907) 277-6722
Protecting Our National Parks for Future Generations

15 January 2010

Cliff Judkins
Chairman
Alaska Board of Game
P.O. Box 25526
Juneau, AK 99802-5526

Re: Statewide 2010 Board of Game Proposals

Dear Chairman Judkins,

The National Parks Conservation Association (NPCA) appreciates the opportunity to comment on Statewide 2010 Board of Game Proposals. The National Parks Conservation Association (NPCA) is America's only private, nonprofit advocacy organization dedicated solely to protecting, preserving, and enhancing the National Park System. NPCA was founded in 1919 and today has 340,000 members of more than 1,100 are in Alaska.

Management of wildlife in Alaska often lacks the best and most up-to-date science from which to make solid management decisions. As this issue relates to the National Park Service, NPCA detailed the lack of harvest data in a report published in August 2006 titled "Who's Counting? How Insufficient Support for Science is Hindering National Park Wildlife Management in Alaska." The report recommends that more resources be invested into securing wildlife harvest information. One of the best and least expensive mechanisms for ensuring detailed and viable harvest data are sealing records. As such, **we oppose Proposal 36** and ask that all sealing records for marten, beaver, otter, wolf and wolverine stay in place. Should any change be considered, we would encourage the Board to work with the National Park Service to ensure that their needs are included and met in any change in current sealing requirements.

National Park Service management philosophy is fundamentally different than that of the state of Alaska. Proposals regularly come before this board requesting that the state institute wildlife management regulations that are contrary to and conflict with the purposes of Alaska's national parks as recognized by Congress in the Park Service

Organic Act and the Alaska National Interest Lands Conservation Act (ANILCA). NPCA strongly feels that the Board of Game is NOT the appropriate forum for determining wildlife management policy in Alaska's National Parks, Monuments and Preserves, especially programs that manipulate the populations of predators. Population manipulation and predator control are fundamentally at odds with the purposes for which units of the National Park System in Alaska were created. Implementation of this management direction is detailed in section 4.4.3 of its Management Policies:

The Service does not engage in activities to reduce the numbers of native species for the purpose of increasing the numbers of harvested species (i.e. predator control), nor does the Service permit others to do so on lands managed by the National Park Service.

There are two proposals before the board that, if applied to lands managed by the National Park Service, would encourage activities meant to reduce black bear populations for the purpose of reducing predation on ungulates. Proposal 38 allows for the sale of black bear gall bladders by non-profit organizations and Proposal 2 would repeal the need for black bear harvest tickets.

Proposal 38 would encourage an increase in the harvest of black bears by making their gall bladders a viable and valuable commodity. Our opposition to this proposal is not to be interpreted as being against the work of non-profit organizations in Alaska. But rather it is a concern that with a dollar value added to the gall bladder, the pressure will be increased to harvest more bears, a tactic we see as furthering the overall goal of Intensive Management – the reduction of predators. **We oppose Proposal 38.**

Similarly, **Proposal 2** is all about making it easier to kill black bears for the purpose of reducing predator populations, especially in areas where “intensive management objective for ungulates remain below objectives.” **We oppose Proposal 2.**

Please adopt Proposal 29. Predator Control Areas cannot be applied to lands managed by the National Park Service unless they give permission. And while that protects park wildlife while they remain within park boundaries, those animals that stray beyond park boundaries become fair game for official predator control activities. As such, we are concerned about how Predator Control Areas are established and what activities can occur within those areas.

Wildlife belongs to everyone in Alaska, regardless of whether they hunt or not. And wildlife is a big draw for the visitor industry. We support Proposal 29, proposed by the Anchorage AC, which “eliminates non-resident hunting for certain big game in predation control areas.” If there are concerns about the population levels of certain big game species, like moose or caribou, and before predator control is instituted, we should first be eliminating non-resident hunting. Given the choice of natural and healthy levels of wolves and bears or someone from Iowa getting a moose, NPCA strongly supports Alaska's wolves and bears. Case in point is Yukon-Charley National Preserve which is bounded on three sides by Predator Control Areas. Wolves that leave the preserve are

subject to state sanctioned predator control as soon as they cross the preserve boundary. We see wolves in this area, including those that live in Yukon-Charley, as way more valuable to the state of Alaska than some non-resident getting a moose or caribou. Please adopt Proposal 29.

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jim Stratton', with a long horizontal line extending to the right.

Jim Stratton
Alaska Regional Director

cc: Sue Masica, NPS Alaska Regional Director
Deb Cooper, NPS Associate Regional Director
Joel Hard, Lake Clark National Park & Preserve
Greg Dudgeon, Gates of the Arctic NP&P/Yukon-Charley Rivers National Preserve

Jack Lentfer
PO Box 2617
Homer, AK 99603

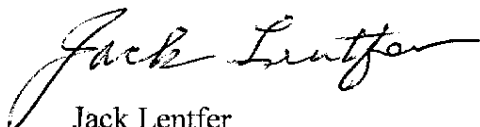
Jan. 15, 2010

ATTN: Board of Game comments

Alaska Department of Fish and Game
Board Support Section

Re: Support of Proposal 29

As a retired State wildlife biologist and former Game Board member, I support Proposal 29. Subsistence and sport hunters should not have to compete with nonresident hunters in areas where game populations are so low that predators are being controlled.

A handwritten signature in cursive script that reads "Jack Lentfer". The signature is written in black ink and is positioned above the printed name.

Jack Lentfer

January 15, 2010

To the Alaska Board of Game:

Alaska has been my home for 31 years. Wild Alaska and all the wild creatures living there are what matter the most to me, and I can honestly say management of wildlife is the worst I have ever seen it in this state. Politics and those that yell the loudest are what dictate policy here. It is in that climate that we now have the use of helicopters in predator control programs, snaring of black and brown bears, killing wolf pups in dens with poison gas, killing black and brown bears and their cubs over bait, and totally unrealistic population and harvest objectives for moose, caribou, and other prey species. It is indeed a very sad state of affairs.

Here are my comments concerning the Winter 2010 Statewide Regulations Proposals, Cycle A:

Proposal 23: I SUPPORT this proposal. There is too much financial incentive for guides and assistant guides to expect them to accurately report the number of wolves they killed as part of the aerial wolf control program. Their pockets benefit from more moose and caribou. They should not be allowed to aerially gun down wolves.

Proposal 24: I OPPOSE this proposal. Killing black bears over bait should never have been legalized in the first place. Now there are guided "hunts" over bait – what an absurd concept. It makes no sense to increase the overall death toll of black bears, especially since DF&G biologists don't have reliable data on black bear populations.

Proposal 25: I SUPPORT this proposal. Submitted by the Department of Public Safety, Alaska Wildlife Troopers, it just makes sense to clarify the existing regulation that the use of bait or scent lures near buildings and schools is also prohibited as a matter of public safety.

Proposal 28: I SUPPORT this proposal. It makes sense that non-resident hunters be prohibited from hunting moose or caribou in areas of the state where an intensive management program exists or a predator control implementation plan has been adopted. The Alaska Constitution does not speak to providing sport or trophies for people who live outside of the state.

Proposal 29: I SUPPORT this proposal. Again, non-resident sport and trophy hunters should not be allowed to hunt in areas where there are predation control programs and resident Alaskan subsistence needs are not being met.

Proposal 31: I OPPOSE this proposal. The use of helicopters and foot snares in GMU 16 to kill black bears should never have been approved in the first place, and I oppose the tweaking of the regulation. It doesn't make it any more palatable.

Proposal 32: I OPPOSE this proposal. DF&G simply does not have reliable population data on wolves to justify yet another wolf control program in another GMU. It is absurd that a program with so little scientific basis would be in place for TEN YEARS.

Proposal 33: I SUPPORT this proposal by DF&G which reduces the population objective for the Northern Alaska Peninsula Caribou Herd in Unit 9C and 9E to a more realistic number. Studies in 2005 – 2007 identified poor nutrition as a factor in limiting herd growth and that the herd size had exceeded the habitat's carrying capacity. Yet proposal 32 also submitted by DF&G seeks to establish a wolf control in these very same units. It is clear DF&G really doesn't have a clue what is going on in 9C and 9E.

Proposal 34: I OPPOSE this proposal. Almost 80% of the area in Unit 15A is Kenai National Wildlife Refuge and I do not support management of one species (moose) at the expense of another species (wolves) in a national wildlife refuge.

Proposal 38: I OPPOSE this proposal. There is a huge problem with the illegal sale of black bear gall bladders on the international market, and it is simply unacceptable that Alaska enter that market, even when trying to "sweeten the pot" by specifying proceed go to groups like Sportsmen for Fish and Wildlife or the Alaska Outdoors Council.

Sincerely,

Marilyn Houser
Anchorage, AK

January 11, 2010

Dept. of Fish & Game
Sherry Wright
333 Raspberry Road
Anchorage, AK 99518-1599
Fax: (907) 267-2489

April Warwick
5716 Kennyhill Drive
Anchorage, AK 99504
Phone: (907) 338-7777

RECEIVED

JAN 19 2010

BOARDS
ANCHORAGE

BOG Statewide
Public Comment

Hello:

I am an Alaskan; who has spent my entire life here. I am writing to let you know which proposals I support and which ones I do not support.

I SUPPORT Proposal 4: Requires a harvest ticket for hunting deer.

I SUPPORT Proposal 23: Commercial hunting guides would not be allowed to obtain aerial wolf gunning permits.

I SUPPORT Proposal 25: Prohibit the use of bait or scent lures near businesses, schools or other facilities.

I SUPPORT Proposal 26: Restricts the type of bear foot snares the public is allowed to use to kill black bears in a predator control program.

I SUPPORT Proposal 27: Restricts foot snaring of bears to only trained ADF&G employees.

I SUPPORT Proposal 28: Eliminate nonresident hunting for certain big game animals in all predation control areas.

I SUPPORT Proposal 29: Nonresident hunters would not be allowed to hunt moose and caribou in predator control areas if the minimum population objectives for big game were not met.

I SUPPORT Proposal 30: Nonresident hunters would not be allowed to hunt moose and caribou in predator control areas if resident harvest need exceeded the amount of game available.

I SUPPORT Proposal 33: Reduce the population management objective for the Northern Peninsula Caribou Herd.

I SUPPORT Proposal 47: Removes the hunting opportunity for Snowy Owls.

I SUPPORT Proposal 49: Addresses a serious lice infestation problem among Alaska's wolves. This dog "lice" is not native to Alaska and poses a significant risk to the health and integrity of Alaska's wolf packs, especially young pups.

The following proposals I do not support because they encourage the senseless killing of more animals and do nothing to regulate humans. HUMANS are the biggest predators and they need to be MANAGED &

PC 681 of 2

REGULATED. Mother Nature does the management of the natural world and keeps a perfect balance and does not need interference from humans. If we want to keep Alaska a wild and natural place we need to focus on limiting humans; not killing animals.

I DO NOT support Proposal 38: Authorizes the legal sale of black bear gall bladders.

- This proposal would be promoting black bear gall bladders to the black market; which is illegal and would encourage & condone poaching.

I DO NOT support Proposal 2: Repeal black bear harvest ticket requirements.

- The state needs to keep its tools for documenting the harvest of black bears; not lose them.

I DO NOT support Proposal 24: Would allow a commercial hunting guide to register and bait up to 10 bait stations for his clients. The assistant guide could register up to 2 bait stations for clients.

- This proposal would liberalize commercial black bear baiting; we need to conserve.

I DO NOT support Proposal 31: Extend the dates that helicopters and snaring may be used in Unit 16 (Beluga Area) black bear predator control program.

- This proposal is wrong on so many levels and encourages these problems; increases opportunity and likelihood of people hunting other big game species, via helicopter. The Alaska Wildlife Troopers would need to dedicate a helicopter to enforce the hunting regulations in GMU 16; too expensive. This proposal would also put the public at risk of encountering a snared bear; not a good idea.

I DO NOT support Proposal 32: Establish a new predator control program on the Alaska Peninsula.

- The region is marginal habitat for moose and caribou and the first area that could be affected by climate change. Caribou management reports identify a lack of winter food supplies as a significant factor limiting the caribou population. The majority of the region is federal refuge land; would need environmental impact statements; and should be left alone.

I DO NOT support Proposal 34: Establish a new intensive management program on the Kenai Peninsula.

- The Kenai National Wildlife Refuge is not territory the Alaska Dept of Fish & Game should manage.

I DO NOT support Proposal 36: Would remove the sealing requirement for certain furbearers, including wolverine.

- Sealing of hides is an important management tool for ADF&G biologists. It does not make sense to reduce or limit the State's ability to collect data such as: kill location, sex, age, and health of the animal.



I DO NOT support Proposals 39 and 40: Allows the sale or barter of big game animals and Trophy Mounts.

- This proposal would commercialize the harvest of wild game. Turning hunting into a profit driven enterprise and promoting the poaching of game for legal sale as mounts. It would be creating a problem for the State that would require expensive management.


PC 68
p2 of 2

To: The Alaska Department of Fish and Game
Attention: Alaskan, Board of Game
Juneau, Alaska

Fax: 907-465-6094

From: Andrea Veach 
PO Box 90534
Anchorage, Alaska 99509-0534


Re: Statewide BOG Proposal - Comments in response to Statewide, Cycle A

The following is submitted in response to the State of Alaska, Department of Fish and Game's request for comments:

I will begin by explaining my general positions with regard to wildlife and will then apply the appropriate position to the specific proposals in your index. Paragraphs are numbered. I will cite the number of the paragraph or paragraphs which coincide with my position on a specific proposal.

Paragraph 1 - Humans now dominate the planet, and our current numbers, 6-1/2 billion, represent 1/6 of all the humans who have ever lived. In the year 2050, our worldwide population is expected to increase to about nine or 10 billion. We are living during a human population explosion.

Paragraph 2 - In the midst of this population explosion, we are also experiencing the Sixth Extinction, a mass extinction caused by man. In The Sixth Extinction, Richard Leakey and Roger Lewin, predict "as much as 50 per cent of the Earth's species may disappear by the end of the next century."

Paragraph 3 - I acknowledge that humans, particularly males, possess a deep instinctive urge to hunt. The human acumen in this area is one of the factors which had led to our success as a species. However, the gross dominance of our species, at the expense of so many others and the eroding of wild habitat, leads me to conclude that the hunting and territorial expansion instincts of humans need to be severely curtailed. Instead, our instinct to protect what is extraordinarily vulnerable, our wildlife and wildlife habitat, must rise to the fore and override the hunting instinct and our instinct to claim territory.

Paragraph 4 - And if killing must be done, it must be as merciful and as quick and painless as possible. To do otherwise is immoral. Wildlife, whether wolves, bears, sheep, moose or caribou

are sentient animals that feel pain when injured – just as we do.

Paragraph 5 - And if killing must be done, there should be a need – not just a want. That is best exemplified by the Alaska Native and rural population. I agree with Alaska Natives who hold the view that trophy hunting is abhorrent.

Paragraph 6 - There are those who use the media to tout the health benefits of wild game. True. However, it's preposterous to suppose that a vast human population can realistically partake of those benefits. There are simply too many people and too few wild animals.

Paragraph 7 - It is time for humans to let wildlife be, leave it alone, revere it, sacrifice for it. Give Nature the time and space to work its wonders, sans the human hubris that we must "manage" wildlife. What we humans really need to do is manage ourselves. We must manage our tendency to exploit other animals and suck the life out of our planet.

Paragraph 8 – Wildlife is not just for consumption. Alaska could lead the rest of the world in protecting and preserving its wildlife. We have an opportunity so much of the rest of the world has lost.

Hunter Education:

1. Require hunter education for using crossbows. **Oppose**

Paragraphs 4, 8

HARVEST TICKETS AND REPORTS

2. Repeal the black bear harvest ticket requirement. – **Oppose**

Paragraph 1, 2, 3, 5, 7, 8

3. Clarify the inspection requirements for licenses, harvest tickets, and permits.
Support

4. Require hunters to submit harvest reports for deer. - **Support**

5. Issue big game harvest tickets to eight years olds and older. - **Oppose**

Paragraphs 1, 2, 3, 4, 5, 7, & 8

6. Clarify the types of harvest reporting allowed.

Support

PROXY HUNTING

7. Modify the proxy authorization process.

Oppose – Paragraphs 1, 2, 3, 5, 7, and 8

8. Expand proxy hunting to include immediate family members.

Oppose – Paragraphs 1, 2, 3, 5, 7 & 8

EXEMPTIONS FOR INDIVIDUALS WITH DISABILITIES

9. Provide special provisions for disabled veterans. **Oppose**

Paragraphs 1, 2, 3, 6, 7, & 8

10. Provide a special permit to disabled individuals for taking brown bear with the use of bait. - **Oppose**

Paragraphs 1, 2, 3, 6, 7, & 8

PERMITS FOR TAKING GAME FOR CEREMONIAL HARVEST AND CULTURAL PURPOSES

11. Modify the permit requirements for taking game for certain religious ceremonies.

Oppose – Paragraph 7 & 8

12. Modify the permit requirements for taking potlatch moose.

Oppose – Paragraph 7 & 8

13. Modify the language that allows for the taking of big game for religious ceremonies.

Oppose – Paragraph 7 & 8

14. Create a new regulation for an Ahtna Traditional Potlatch Religious Ceremony.

Oppose – Paragraph 7 & 8

CLEAN LIST

15. Add domestic finches to the list of animals that may be possessed in Alaska.

Support

16. Add Capuchin monkeys to the list of animals that may be possessed in Alaska.

Support

17. Add primates! Capuchin monkeys to the list of animals that may be possessed in Alaska. - **Support**

18. Remove chimpanzees from the list of animals allowed in Alaska.

Support

19. Add sloths, kinkajous, wallaroos, savannah cats, and surgically de-venomized (venomoid) reptiles to the list of animals that may be possessed in Alaska.

Support

20. Modify the definition of Felis Catus to include hybrid cats. **Support**

21. Add Bengal and Savannah cats to the list of animals that may be possessed in Alaska. **Support**

22. Add Bengal, Savannah and Chausie cats to the list of animals that may be possessed in Alaska. - **Support**

INTENSIVE MANAGEMENT

23. Disallow guides and assistant guides from obtaining aerial permits for taking wolves. - **Support**

24. Modify the number of bait stations that a licensed guide-outfitter and his assistant guides may register in the Unit 16 Predation Control Area. - **Oppose** – Paragraphs 1, 2, 3, 5

25. Prohibit the use of bait or scent lures near businesses, schools or other facilities. - **Support**

26. Clarify the usage of cable snares in predator control areas. - **Support**

27. Clarify the usage of cable snares in predator control areas. - **Support**

28. Eliminate nonresident hunting in predation control areas. - **Support**

29. Eliminate nonresident hunting in predation control areas. - **Support**

30. Eliminate nonresident hunting in predation control areas. - **Support**

31. Change the dates that helicopters and snaring may be used in Unit 16 Predation Control - **Support**

Area.

32. Establish a predation control plan for Units 9C and 9E. - **Oppose**

Paragraphs 1, 2, 3, 5, 6, 7, & 8

33. Modify the population objectives for the Northern Alaska Peninsula Caribou Herd in Unit 9C and 9E.

Oppose – Paragraphs 1, 2, 3, 6, 7, & 8.

34. Establish a new intensive management plan in Unit 15A, Northern Kenai.

Oppose – Paragraphs 1, 2, 3, 6, 7, & 8

SEALING REQUIREMENTS AND SALE OF GAME

35. Provide hunters the option for sealing hides. – **Oppose**

Paragraph 7 and 8

36. Eliminate the sealing requirements for certain furbearers. – Oppose – Paragraphs 7 & 8

37. Modify the Dall sheep sealing requirement. – **Oppose** – Paragraphs 7 & 8

38. Allow the sale of black bear gall bladders by non-profit organizations. **Oppose**
Paragraphs 7 & 8

39. Allow the sale or barter of tanned bear hides. - **Oppose**
Paragraphs 7 & 8

40. Allow the sale or barter of big game trophies. – **Oppose** –
Paragraphs 5, 7, & 8

SALVAGE REQUIREMENTS

41. Modify the definition of edible meat under the salvage requirement.
Oppose – Observe the animal to determine if it is healthy or not.

42. Modify the salvage requirement. - **Support**

43. Modify the salvage requirement for big game. - **Support**

GAME MANAGEMENT UNITS

44. Modify the boundaries for Units 18, 19 and 20. – **Oppose** – Paragraphs 1, 2, 3, 7 & 8

45. Modifications to boundaries for Units 6, 11, 13, 14, 16 and 25. – **Support**

DEFINITIONS

46. Create a regulatory definition for crossbow. - **Support**

47. Remove snowy owl from the unclassified game definition. - **Support**

48. Modify the definition of full curl ram. - **Support**

MISCELLANEOUS

49. Add a permit condition when using radio-telemetry equipment. – **Support**

50. Modify the agenda change request policy. - **Support**

5 I. Extend all trapping season dates. – **Oppose**

Paragraphs 1, 2, 3, 4, 5, 6, 7, & 8.

52. Modify the bag limit for sea ducks in Unit 15. – **Support**

①

Alaska Wild Sheep Foundation

Comments on Proposals #37 and # 48 January 12, 2010

Submitted by Wayne E. Heimer, President Alaska Wild Sheep Foundation (aka Alaska FNAWS) and approved by the Foundation's Executive Committee January 14, 2010

The Alaska Wild Sheep Foundation (formerly FNAWS) supports the concepts in Proposal #37. The Foundation agrees that the "plugging/sealing" program for Dall ram horns harvested from areas with horn size restrictions is a mess. We identify several causes of the confusion and difficulties the proposal addresses.

First, the origin of the "plugging concept" has never addressed an Alaskan need. The "permanent plugging" process was first implemented in bighorn sheep jurisdictions to limit illegal traffic in bighorn ram horns. It was assumed that illegal traffic in sheep horns would be reduced if all horns had to be plugged to be transferred. Since nobody ever knew the real extent of this traffic, nobody really knows whether it achieved its original objective. However, managers in bighorn jurisdictions (where cross-state or cross-province trafficking was assumed to represent a conservation problem—a questionable assumption in retrospect) agreed the plugging of sheep horns should be implemented across state and provincial bighorn jurisdictions. As the practice spread, bighorn biologists (who dealt with very small numbers of harvested rams—all of which were by permit) found they liked it because they got more information from hunters than they had been getting without it. Eventually, "plugging" became "the thing to do."

An earlier Foundation Board looked at the declining number of rams harvested in Alaska and the presumed decline in quality of the hunting experience in the late 1990s, and began to recommend Alaska institute "plugging" on the assumption it would do something positive. It appears the Foundation wanted "SOMETHING!" done to protect sheep hunting in Alaska during a period where ADF&G was "in eclipse" with respect to interest in Dall sheep management. Proposing "plugging" was what they selected. Alaska has never had any indication of significant illegal traffic in Dall ram horns, and Alaska has always harvested more rams in a year than the rest of the continent combined. In those days, Alaska wasn't embarrassed to be the only jurisdiction not "plugging." Consequently, the Department of Fish and Game opposed the "plugging" program for years.

The Department was still opposing "plugging" when the Foundation eventually got the Board to pass the regulation. The confusion we see with the program at present probably reflects the fact that the Department (which had successfully resisted plugging for years) did not expect to be thrust into the "plugging" business. It had made no plans for the implementation of the regulation, and the program has been undergoing an evolutionary process ever since. Early ram horns were "sealed" with plastic fish tags before "plugging" ever happened. The annoying differences attending the "plugging program" (things like individual office variations in determining whether a ram was full-curl or not, precautionary confiscation by Wildlife Troopers, and differing criteria among Fish and Game offices about what a full-curl horn is) apparently resulted from a lack of coordination of the program in the Division of Wildlife Conservation. These variations have been a source of annoyance to sheep hunters ever since. They have occasioned many regulation proposals (like #48 which we oppose), but the problems have never been adequately addressed.

(2)

Most recently, the Foundation (thinking the Department was still resistant to "plugging," because it had never standardized the process or training for it, and didn't seem to know what to do with the information gathered, and because there was no apparent benefit to sheep populations or sheep hunters—only inconvenience to the hunters) reversed its position on the "plugging program." *The Foundation has opposed it for three years now, and has unsuccessfully offered the Board the opportunity to remove it. We still hold this position.*

Surprisingly, to us, Department biologists changed their minds without telling us, and now "the Department" embraces the program. The Foundation is willing to give the Division of Wildlife Conservation the benefit of the doubt at this point to see if they can find some biological rationale for the continued inconveniencing of hunters and use of sportsmen's dollars for an undefined benefit. We're resigned to the program persisting for a while longer. That said, if Alaska's sheep hunters are going to have to put up with this inconvenience, we'd like to see it improved.

Since the "plugging program" was similar to "sealing" in that hunters had to comply with the requirement, the terms, "plugging" and "sealing" became somewhat synonymous. The Foundation suggests that much of what Proposal #37 offers is the opportunity to define whether the "plugging program" is unique to Dall sheep, or whether it is really a "sealing program." The Foundation supports refinement of the horn "plugging/sealing" program (since we can't seem to get rid of it) in the hope that something beneficial for sheep and hunters will eventually result. We wish the Board well in making improvements via Proposal #37.

The Alaska Chapter of the Wild Sheep Foundation (formerly FNAWS) opposes Proposal #48. With all due respect to our friends on the Upper Tanana Fortymile Advisory Committee, the Foundation acknowledges there are inconsistencies in the understanding and application of the present definition of full curl, and that these inconsistencies work a hardship on hunters and compromise the joy of sheep hunting. However, we do not agree the problems logically result from a flawed definition. The Foundation argues the proposed change offers no improvement, is unnecessary, is inconsistent with the existing definition it alleges to augment and is inconsistent with the biological rationale which drove adoption of the full-curl regulation.

No improvement: The proposal alleges to be simpler and "legally tighter" than the present definition. It is neither. Both the present and the proposed new definition require the hunter be in a unique viewing position to judge whether a ram's horn development makes him legal for harvest. The unique viewing position is simply changed with proposal #48. Instead of viewing the horn down the center of the cylinder described by the curling horn, the hunter must be exactly in front of the ram, on the same level as the ram, and the ram's head must be held in a specific, but undefined attitude with respect to the observer. Additionally, the Foundation argues that having a set of horns on a skull plate (at sealing or in court) virtually precludes any practical relevance to what the hunter saw in the field. Simply "rolling" the horns of a half-curl away from you as viewed from the front will eventually make the line connecting the tips meet the bases by essentially "raising the line" till the bases and the tips are on the same line. In court, this could prove highly problematic for prosecutions. The presently existing definition is not flawed; it is only compromised by inadequate training of biologists who train enforcement personnel and hunters. Hence, the change is unnecessary;

3

and the retraining, should #48 be adopted, will require much more effort than upgrading the standards of training under the present system.

The proposed definition is inconsistent with the present definition, and hence is detrimental to management:

Before the Board implemented the full-curl statewide in 1989, it made a FINDING stating there was a biological need for maintaining mature rams (above 7/8 of a curl) in Dall sheep populations to produce maximum harvests of rams. The Foundation argues this FINDING remains valid (as the Board must until it finds contrary biological information upon which to reverse itself). In the Foundation's judgment, the proposed redefinition of full-curl would allow the harvest of smaller rams because our experiences have been that when we "do it this way," smaller rams become "legal." The effect would be a return to the "7/8 curl" regulation. The Foundation holds this would, in accord with the Board's Finding of 1989, be detrimental to sound biological management. The existing definition is incompatible with the proposed definition.

Additionally, we assert the present definition has been adequate for management for two decades, and suggest standardized, geometrically-accountable training in horn judging is the better solution to the existing problems. The Foundation acknowledges that judging a full-curl ram in the field requires training, skill, and patience. We celebrate these challenges as traditional components of the sheep hunting experience. Since these traditions have served protection of sheep populations from overharvesting and preserved the hunting experience well over time, the Foundation opposes efforts that would compromise these virtues.

What about in court? We appreciate the desire of Wildlife Protection to have a simple "go or no-go" test which could be applied in court prosecutions, but argue the purpose of the full curl regulation is conservation-based rather than prosecution-based. The purpose of the legal size limit is to assure the presence of sufficient mature rams for lamb production and ram survival in Dall sheep populations open to unrestricted hunter participation. The existing definition is superior in this respect, and we assert, more "provable" in court.

In Summary: The Foundation is appalled by the subjective variations which have crept into evaluating full curl horns required by the sealing/plugging regulations, and sympathetic to the Upper Tanana Fortymile Advisory Committee's frustration with the program. We don't think Proposal #48 is the answer. In an effort to assist in establishing objective and uniform standards of judgment for horns, the Foundation has offered an objective, standardized protocol and volunteered to fund its implementation. This protocol would result in objective measurement from computerized scanning of digital photography to define the actual number of degrees of horn curl for each horn presented for plugging. The Department and Wildlife Troopers have shown no interest in this approach to standardization. The Foundation suggests it is the responsibility of the managers and their enforcement partners to come to an acceptable uniform standard rather than allowing confusion to reign until affected users propose solutions.

FAX: 907-465-6094

Attn: Board of Game Comments

Dear Chair Judkins and members of the Board of Game.

I appreciate the opportunity to submit these written comments on statewide proposals that will be considered at the January 29-February 1 meeting in Anchorage, Alaska.

I support Proposal 28, which would eliminate nonresident hunting for certain big game animals in all predation control areas. This proposal asks the Board of Game to adopt a regulation that would prohibit non-resident hunters from outside Alaska from taking big game from a district that is currently being managed as a predator control area.

I support this proposal because nearly all of the areas in which intensive management programs and predator control implementation plans apply, non-Alaskans are now allowed to compete with Alaskans for moose and/or caribou. Alaskans should have the exclusive use of the moose and caribou populations in these areas unless and until there is adequate surplus for non-Alaskans. Alaska residents who rely on wild meat to feed their families should not have to compete with out-of-state hunters. Hunting by out-of-state hunters and commercial guiding in predator control areas should cease. Furthermore, the Legislature has expressly given the Board authority to restrict non-resident hunting so that the maximum benefit and common use clauses of the Alaska Constitution are satisfied.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Jessica M. Cler", followed by a long horizontal line.

Jessica M. Cler

907-841-0092



THE ALASKA WILDLIFE ALLIANCE

"LETTING NATURE RUN WILD"

January 15, 2010

Department of Fish and Game, Board of Game

Re: Late January, 2010 Board of Game Meeting

Dear Board of Game:

The following are the Comments of the Board of the Alaska Wildlife Alliance:

Proposal Number 1: (Hunter Education and Orientation Requirements)

The AWA supports this proposal.

Proposal Number 2: (Black Bear Harvest Tickets and Reports)

The AWA opposes this proposal. Elimination of the requirement that black bear harvests require harvest tickets invites abuse and a cavalier approach to hunting.

Black bear harvest rates statewide are very high. Currently the ADF&G has very few accurate black bear population estimates. Harvest tickets are an essential tool for documenting black bear harvests which may be reaching maximum harvests statewide.

Proposal Number 3: (Harvest Tickets and Reports, DF&G)

The AWA supports this proposal.

Proposal Number 4: (Deer Harvest Tickets and Reporting)

The AWA supports this proposal.

Proposal Number 5: (Youth Harvest Tickets and Reporting)

The AWA opposes this proposal.

Proposal Number 6: (Licenses and Tags, DF&G)

The AWA supports this proposal.

Proposal Number 7: (5 AAC 92.011 Taking of Game By Proxy-Disabled Persons)

The AWA offers no comment on this proposal.

Proposal Number 8: (Taking of Game By Proxy)

The AWA strongly opposes this proposal. Turning the clock back and taking away what will seem to be an entitlement, will prove politically impossible.

Proposal Number 9: (Disabled Veterans)

The AWA supports this proposal, if the definition of disabled veteran is used, and the hunt does not, in actuality, constitute a proxy hunt.

Proposal Number 10: (Disabled Persons, Brown Bears)

The AWA opposes this proposal.

Proposal Number 11: (Big Game, Religious Purposes)

The AWA supports this proposal.

Proposal Number 12: (Game, Cultural Purposes)

The AWA expresses no opinion or comment on this proposal.

Proposal Number 13: (Game, Religious Ceremonies)

The AWA supports this proposal.

Proposal Number 14: (New Regulation, Traditional Potlatch)

The AWA supports this proposal.

Proposal Number 15: (Domestic Finches)

The AWA supports this proposal.

Proposal Numbers 16-19: (Exotic Animals)

All of these deal with allowing exotic animals into Alaska, the first two being primates (monkeys) and the last being such things as sloths, kinkajous, et al.

The AWA strongly opposes expansion of permitting for the following reasons:

1. The trade in exotic animals is brutal. Most are captured by killing the mother, after which

they are given minimal (if that) care in being transported to their sale point. Often they are purchased by people on impulse who have no real idea of what they are getting into.

2. Many carry diseases and parasites transmissible to humans. What do kids love to do with animals? Hold them close and kiss them, the latter being an excellent way of transporting microbes. Not many people, when taking a suddenly ailing child to the hospital, are going to think to mention they have a monkey in the house.

3. Most veterinarians in Alaska are not trained in treating exotics. They don't expect to encounter many and veterinary hospitals do not exactly emphasize the treatment and diagnosis of diseases and conditions in exotic animals.

4. It is incredibly cruel to the animals. No matter how loving and caring a human family may be they are no substitute for a troop of 30 or 40 monkeys. They cannot hope to offer the same socializations or interactions. They do not know how to react to a suddenly frantic or demanding monkey and, despite their usually small size, they can bite, scratch, and fear-defecate beyond all imaginings.

Proposal Number 20: (Hybrid Cats)

The AWA opposes this proposal.

Proposal Number 21: (Cats)

The AWA opposes this proposal.

Proposal Number 22: (Cats)

The AWA opposes this proposal.

Proposal Number 23: (Wolves, Aircraft)

The AWA supports this proposal for the reasons outlined in the Comments of the Defenders of Wildlife.

Proposal Number 24: (Black Bears, Bait, Scent Lures)

The AWA opposes this proposal for the reasons outlined in the Comments of the Defenders of Wildlife.

This proposal attempts to liberalize commercial black bear baiting west of Anchorage in the Beluga area. Last year the BOG authorized the public to conduct an experimental bear foot snaring program in the same region using helicopters. Black bear harvest has increased from 197 bears in RY 2002/03 to over 500 bears in RY 2008/2009 in this region! Liberalizing commercial bear baiting is inappropriate and unjustified.

Proposal Number 25: (Black Bears, Bait, Lures)

The AWA supports this proposal for the reasons noted in the Comments of Defenders of Wildlife.

Proposal Number 26: (Predation Bears)

The AWA strongly supports this proposal.

Proposal Number 27: (Predation Bears)

The AWA strongly supports this proposal.

Proposal Number 28: (Special Provisions, Predation Control Areas)

The AWA supports this proposal for the reasons noted in the Comments of Defenders of Wildlife.

Proposal Number 29: (Special Provisions, Predator Control Areas)

The AWA supports this proposal for the reasons noted in the Comments of Defenders of Wildlife.

Proposal Number 30: (Special Provisions, Predator Control Areas)

The AWA supports this proposal.

Proposal Number 31: (Predation Control Areas, Implementation Plans)

The AWA supports this proposal for the reasons noted in the Comments of Defenders of Wildlife.

This proposal would prohibit helicopter use and snaring of bear until September 25. The expansion of the experimental bear program being conducted by public trappers after just one year is unjustified. Potential abuse of helicopter transport to hunt other big game species is significant. The Alaska Wildlife Troopers do not have a helicopter dedicated to enforcing hunting regulations in GMU 16. In the fall, residents are actively recreating, camping, hunting and berry picking. The risk to the public of encountering a snared bear is significant. Should a person encounter a bear cub in a snare, the mother would be extremely aggressive.

Proposal Number 32: (Predation Control Areas, Implementation Plans)

The AWA opposes this proposal for the reasons noted in the Comments submitted by Defenders of Wildlife.

The region is marginal habitat for moose and caribou and the first area we assume could be affected by climate change. Caribou management reports identify a lack of winter food supplies as a significant factor limiting the caribou population. The majority of the region is federal refuge land as well. The proposed predator control program cannot be effective unless the USFWS authorizes the state to conduct predator control on refuge lands which is inappropriate without an environmental impact statement. In the past, the ADF&G has consistently not supported predator control proposals in areas with a majority of the land being federal refuges.

Proposal Number 33: (Big Game Prey Populations/Objectives; Northern AK Peninsula Herd)

The AWA supports this proposal for the reasons noted in the Comments of Defenders of Wildlife.

Proposal Number 34: (Predation Control Implementation Plans)

The AWA opposes this proposal for the reasons noted in the Comments of Defenders of Wildlife.

Again, this program requires application over 80% USFWS refuge land (Kenai National Wildlife Refuge). As noted, the ADF&G has traditionally not supported any proposals that require the use of federal refuge lands to be successful.

This is another aggressive attempt to force the USFWS to allow intensive management on federal refuge lands. Once again, the department notes that nutrition is a limiting factor for the moose population so they propose conducting controlled burns to potentially "enhance" moose habitat and artificially increase moose numbers with controlled burns. Significant fire risk due to beetle kill exists on the Kenai Peninsula. As well, the region is an important summer destination for Alaskans and tourists alike.

Proposal Number 35: (Sealing, Bear Skins/Skulls)

The AWA opposes this proposal.

It removes necessary oversight from F&G and the troopers and essentially allows hunters to regulate themselves in this area. Illegally-taken animals could be sealed (and thereby made "legal") by the very people taking them illegally.

Proposal Number 36: (Sealing Marten, Lynx, Beaver, Otter, Wolf, Wolverine)

The AWA opposes this proposal.

It removes necessary oversight from F&G and the troopers and essentially allows hunters to regulate themselves in this area. Illegally-taken animals could be sealed (and thereby made "legal") by the very people taking them illegally.

Sealing of hides is an important management tool for area biologists with the ADF&G. This is the only time the department can document kill location, sex, age, and health of the animal. Wolverine, in particular, is extremely susceptible to overharvest. Indeed, no wolverine population in North America has been able to sustain any harvest without a natural "refugia" where there is no trapping. Other fur bearers such as lynx need to be managed very closely as well. Sealing records are the main tool the department has to achieve those goals.

Proposal Number 37: (Sealing, Dall Sheep Horns)

The AWA opposes this proposal.

Proposal Number 38: (Permits for Selling Skins, Skulls, and Trophies; Black Bear Gall Bladders)

The AWA opposes this proposal for the reasons noted in the Comments of Defenders of Wildlife. This proposal is fairly described as abhorrent.

To promote the illegal black market for black bear gall bladders is truly unbelievable. Not only would it provide a market for poaching black bears it would condone such a practice.

Proposal Number 39: (Purchase and Sale of Game)

The AWA opposes this proposal for the reasons noted in the Comments of Defenders of Wildlife.

This proposal attempts to commercialize the harvest of wild game. Turning hunting into a profit driven enterprise and promoting the poaching of game for legal sale as mounts. This proposal would provide incentive for poachers to kill wildlife for profit. Currently, the Alaska Wildlife Troopers lack the staff and regulatory authority to effectively manage and track the legal sale of wildlife. Scientific organizations nationwide strongly oppose the sale of big game animal parts. Authorizing a financial incentive to kill big game is not justifiable.

Proposal Number 40: (Purchase and Sale of Game)

The AWA opposes this proposal for the reasons noted in the Comments submitted by Defenders of Wildlife.

No, if it makes it easier to waste meat by relaxing the description of what is salvageable. This is probably being done to allow guides to leave their clients out in the field longer without having to worry about meat spoilage, which is a considerable problem. Though meat from guided hunts is often donated to rural residents the AWA is aware of many comments about how inedible the meat is due to spoilage. The letter of the law is thus upheld but the intent is allowed to fall by the wayside.

Proposal Number 41: (Definitions)

The AWA opposes this proposal.

No, if it makes it easier to waste meat by relaxing the description of what is salvageable. This is probably being done to allow guides to leave their clients out in the field longer without having to worry about meat spoilage, which is a considerable problem. Though meat from guided hunts is often donated to rural residents the AWA is aware of many comments about how inedible the meat is due to spoilage. The letter of the law is thus upheld but the intent is allowed to fall by the wayside

Proposal Number 42: (Salvage of Meat, Furs, Hides)

The AWA opposes this proposal.

No, if it makes it easier to waste meat by relaxing the description of what is salvageable. This is probably being done to allow guides to leave their clients out in the field longer without having to worry about meat spoilage, which is a considerable problem. Though meat from guided hunts is often donated to rural residents the AWA is aware of many comments about how inedible the meat is due to spoilage. The letter of the law is thus upheld but the intent is allowed to fall by the wayside

Proposal Number 43: (Salvage of Meat, Fur, Hides)

The AWA opposes this proposal.

No, if it makes it easier to waste meat by relaxing the description of what is salvageable. This is probably being done to allow guides to leave their clients out in the field longer without having to worry about meat spoilage, which is a considerable problem. Though meat from guided hunts is often donated to rural residents the AWA is aware of many comments about how inedible the meat is due to spoilage. The letter of the law is thus upheld but the intent is allowed to fall by the wayside

Proposal Number 44: (Game Management Units)

The AWA offers no comment on this proposal.

Proposal Number 45: (Game Management Units)

The AWA offers no comment on this proposal.

Proposal Number 46: (Definitions)

The AWA supports this proposal.

Proposal Number 48: (Definitions)

The AWA opposes this proposal.

No, if it reduces the size of legal curls for that indicates a population no longer able to support hunting when such measures are instituted. (I.e. rather than acknowledge the older rams are being hunting out, allow younger rams to be taken which cuts into the breeding population).

Proposal Number 49: (Radio Telemetry Equipment)

The AWA supports this proposal.

Proposal Number 50: (Board Agenda)

The AWA offers no comment on this proposal.

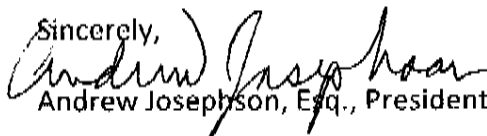
Proposal Number 51: (Furbearer Trapping)

The AWA opposes this proposal.

Proposal Number 52: (Hunting Seasons, Bag Limits, Small Game)

The AWA supports this proposal.

Thank you in advance for your consideration of these Comments.

Sincerely,

Andrew Josephson, Esq., President, Alaska Wildlife Alliance

Nancy Hillstrand
P.O Box 170
Homer, Alaska 99603
May 17, 2009

Cliff Judkins, Chair
Alaska Board of Game
Box 115526
Juneau, Alaska 99811-5526
RE: Kachemak Bay Seaduck Proposal 52

Greetings Board Members

Thank-you for your consideration on this conservation issue.

The present Board of Game members seem to wisely understand, that there is a complexity in this Tribe of birds called Mergini.

Substantial uncertainty remains about the impacts of management on seaduck populations. This can be dangerous and warrants more discussion, biological information and a more comprehensive management strategy.

Harvest data is recognized in the literature as being unreliable. Information on individual species is almost nonexistent. State harvest data dates back before the bloom of Halibut Charter operations that grew from 1994 to the present.

As my proposal stated my main concern is commercialized guided hunting on these K-selected sensitive divers. Guides get very efficient at taking the biomass out of these narrow bays and lagoons. Clients expect to get the full legal bag limit.

The Halibut Charter industry has just been put on limited entry which knocks 1/4 of the skippers out of that fishery. This along with the one halibut limit means that multiple well rigged charter boats will be searching for other species to guide. Salmon, Lingcod, rockfish and yes Sea ducks are at risk of increased exploitation. The halibut regulatory zones mesh very closely with the Migratory Bird Zones. (see maps)

I ask that proposal 117 stand at 2 per day for guided hunters in the special seaduck bag limit. This still allows 10 ducks per day to be taken. 8 dabblers in the regular duck limit only two of which can be goldeneyes to eat, and 2 seaducks in the special seaduck bag limit for trophies.

Ten ducks per day is still very liberal.

I have used the BOG process to bring attention to declining scaduck populations since 1983. I deeply appreciate and respect this public process and the Board members. It is exhausting but an honor to participate.

We need a comprehensive **Seaduck Management Plan** that includes meaningful population dynamics, exploitation rates, biology, behavior, and physiological data of each species.

I am willing to do whatever it takes to help create and refine a concise Plan. I would be happy to work with affected parties, knowledgeable biologists, and local managers to bring meaningful biological information before you for consideration at the 2010 meeting.

The department is extremely busy with geese and dabblers so the focus has not been on scaducks. Because of this, two species have been listed on the endangered species list while many of the remaining 13 have shown trends of decline from 40 to 70 %. It is unacceptable to not have flexible state regs that promote the conservation of these birds while in a declined trend.

I ask that I be given the opportunity to express the vital information I have learned over the past 26 years of studying the biology and behavior of these animals. Three minutes testimony or this rushed response makes it difficult. **We are managing in deep uncertainty of harvest of exploitation rate with species in a shaky state of various declines in an area of easy access.** This is unacceptable.

We have many questions to answer. The State needs to be involved and proactive. Status quo has the potential to continue additive mortality leading to more localized depletions.

We need unbiased, open-minded and concerned biologists who will look at the data with fresh eyes and help create a management plan that considers all the complexity of this relatively unknown tribe of birds. Please let's give it a chance and join the rest of the Pacific flyway to be proactive.

With Kind Regards

Thank-you for your time in this issue

Nancy Hillstrand

5AAC XX.XXX KACHEMAK BAY MERGINI MANAGEMENT PLAN **DRAFT**

(a) The Board of Game (board) is concerned that inadequate information exists regarding the basic understanding of harvest, habitat requirements, basic wintering, breeding and post nesting ecology, population dynamics and statistically valid population monitoring on individual species; thus, most management decisions are based on little or no information regarding the consequences of management actions in the Kachemak Bay Critical Habitat Areas (AS 16.20.590).

(b) Therefore, to ensure that Sea duck harvest can be conducted in a sustainable manner and to maintain and enhance sea duck populations and their habitats, harvest for Sea ducks shall be set at a bag limit of 2 per day 4 in possession with Common Eider closed until the board has approved a management plan that considers the following factors:

1. A minimum acceptable population level of each individual species
2. Maximum sustainable exploitation rates on each species;
3. Minimum thresholds for implementation of commercial and non-commercial hunts;
4. Age and gender composition information;
5. Protocol that acknowledges biologically sensitive periods and wintering and nesting areas;
6. A regular schedule and mechanism for species population assessment;
7. Area-specific limits on species with strong site fidelity, including any considerations for gender and size of rafts of these species, if appropriate;
8. Reporting requirements, including log books or permits for guided hunting;
9. Full accountability of crippling including deadloss;
10. Potential user group conflicts;
11. Annual recognition of Fishing Charter regulations
12. The ecosystem function of each individual species and the species they prey on;
13. To enhance and maintain the geographic distribution of the resource; and
14. An analysis of customary and traditional subsistence use patterns

RECOMMENDATION: HUNTING SEASONS AND BAG LIMITS WATERFOWL GAME. Amend the bag limit for Tribe Mergini (Seaducks) to 1-5

OPTIONS FOR CONSIDERATION:

- Include all species of Seaducks in the general duck bag limit, (7 per day), no more than 3 of which may be Seaducks
- Implement a Comprehensive plan for Tribe Mergini which considers climatic & oceanic oscillations and all critical annual life stages. Fall/Winter time period in particular.
- Designate no take refugia in critical wintering areas to minimize localized depletion and disturbance of sub-populations with strong site fidelity especially near urban areas.
- Execute Emergency closure of declined Seaducks like oldsquaw
- Lower bag limit to one or close sensitive species like harlequin.
- Design an automatic closure mechanism if a chemical spill occurs
- Recognize Barrow's Goldeneye range, lower bag to two as in BC

This conservative management will biologically:

1. reflect K-selected reproductive strategies
2. recognize high latitude often harsh oceanic/ice environment
3. indicate declining status not "perceived" harvest
4. define fidelity to critical wintering areas
5. reflect fall-to-spring behaviour
6. acknowledge uncertainty of climatic oscillation interaction
7. recognize previous bag reductions put pressure on remaining species.
8. recognize the 50% cripple and loss rate from open water hunting
9. educate harvesters, by regulatory example
10. consider larger class of boats
11. consider superior boat, firearm, and marketing technology
12. take into account the increased human populations
13. remove mallards as the model for Seaduck biology
14. realize failed breeding behaviour (K-selected reproductive strategy)
15. utilize the system of BC WFS instead of broad waterfowl classification
16. reduce weapon where as many are not retrieved or eaten.
17. clarify and complete regulation in line with Pacific Flyway

ISSUE: Several species of North American Seaducks have declined significantly at regional or continental levels since 1977. Regulations have remained relatively rigid and inflexible during this time of climatic regime shifts and the gained knowledge of sensitive reproductive strategy. Sustainability of these species requires conservative biological management, which reduces additive mortality.

Knowledge of population status, winter philopatry, the critical nature of moulting and wintering life stages, reproductive strategy, and climatic interaction, is advancing in literature showing that caution is needed on these animals. Harvest rate, 30 % crippling rate and disturbance factors in the critical wintering life stage plays an additive role to mortality, which has not been adequately considered.

This proposal seeks to open the issue of Seaduck regulations as well as create a conservative Mergim Management Plan. This would biologically distinguish diverse characteristics, behaviour and unique ecological aspects of the eight genus included in this tribe of ducks.

WHAT WILL HAPPEN IF NOTHING IS DONE?

The cumulative effect of localized depletions from relatively few harvesters targeting possible sub-populations. These species have strong site fidelity and K-selected reproductive strategies. Once keyed into, rafts of Seaducks are easily decimated over a short time.

WHO IS LIKELY TO BENEFIT? Everyone. Conservative management aids sustainability to serve all Alaskans. Regulation, is the essential educator. It alerts the public of unperceived wildlife problems.

WHO IS LIKELY TO SUFFER? Those who do not understand the significant biological impact we are having on K-selected species while tremendous uncertainty surrounds estimates, oceanic/ice processes, and climatic shifts, the harsh environment of Tribe Mergim.

OTHER SOLUTIONS CONSIDERED? Treat Seaduck species as Seabirds and remove the additive mortality of harvest until populations stabilize.

PROPOSED BY: Pioneer Alaska Fisheries Inc.

Comments to the Board of Game

57

Proposal 117 - 5AAC 85.065 Seaducks - SUPPORT AS AMENDED

The intent of this proposal is to request the Board of Game to begin the process of allowing the State of Alaska the opportunity to create a Seaduck Management Plan Framework to augment Federal Management.

A list of considerations in this Plan can include:

1. Estimated population Densities of each species within Each GMU
2. Minimum acceptable biomass level of each Species in each GMU;
3. Maximum allowable exploitation rate of each species in each GMU;
4. Maintenance of geographic distribution of each species in each GMU
5. Minimum thresholds for implementation of commercial guided and non commercial hunting;
6. Age and sex composition;
7. Sensitive K - selected reproductive strategies
8. Winter ice minimizing wintering areas hunted;
9. Methods and means;
10. Guided hunting;
11. Full accountability of crippling mortality (60% crippling loss);
12. Trophy hunting;
13. Wanton waste - palatability;
14. Habitat alteration;
15. Potential user group conflicts;
16. The ecosystem function of target species and their prey;
17. Individual Species behaviour; (tight rafting, site fidelity, low flight, difficulty in take off, tame;
18. Individual Species food preference;
19. Geographic characteristics, (narrow bays, open ocean etc);
20. Segregation of species within bays;
21. Meteorological patterns impacting wintering survival
22. Meteorological patterns impacting nesting survival
23. Climate change - ice pack concerns
24. Interactions of users
25. Reporting requirements for guided hunting
26. Presence of endangered Seaduck species in specific GMU's
27. Areas of Refuge
28. Ballistics
29. Gender based bag limits
30. Disturbance



Other states in the Pacific Flyway embrace this opportunity to participate in specialized State management of their waterfowl species. This safeguards sustainability for special circumstances pertaining to localized areas and regional idiosyncrasies.

An Alaskan Seaduck Management Plan would bring State oversight to our little understood local populations. It can be used as a tool to fill the present void of information, to educate, guide and alert local managers in coastal GMU's. Potential problems such as localized depletions can be averted in our unique harsh upper latitudes.

Thank-you for your consideration to upgrade the quality of management of our diverse Alaskan Waterfowl.

Nancy Hillstrand
P.O. Box 674
Homer Alaska 99603

Nancy Hillstrand
907-399-7777

THANK - YOU FOR GIVING
ME THE CHANCE TO
GET THIS INFO TO YOU.

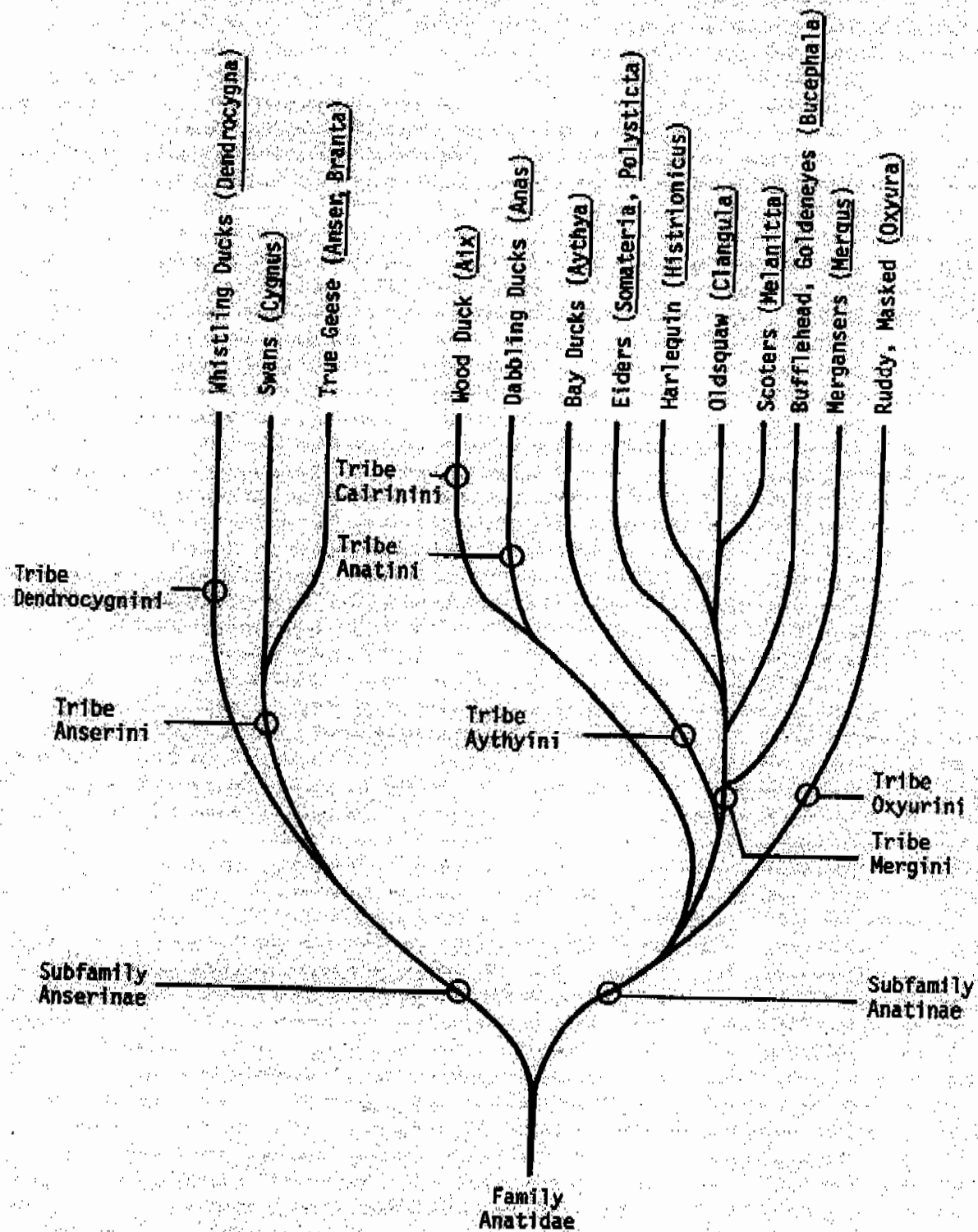


Figure 2-1. The family tree of North American waterfowl

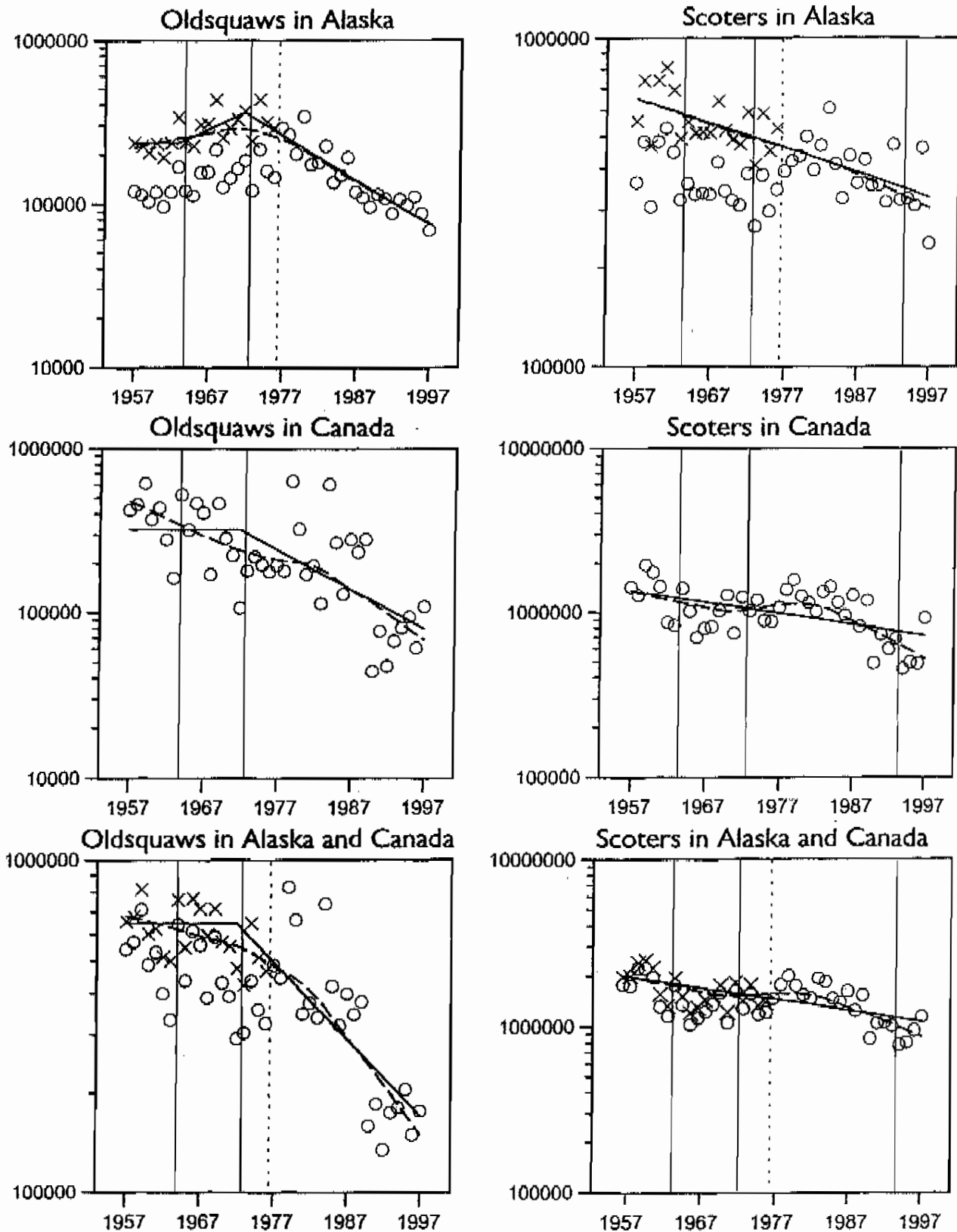


Fig. 13. Breeding population estimates of oldsquaws and scoters, 1957-1997 (X = estimate adjusted for change in aircraft type, O = unadjusted estimate, — = regression estimate, - - = lowess estimate). Solid vertical lines mark periods with major differences in hunting regulations in the Atlantic Flyway; dashed vertical lines mark change in aircraft type.

EXPLOITATION RATES BY EACH INDIVIDUAL SPECIES

MAY 15 2009

BOARE

Now lets break this down by percent exploitation rate by species:

Surf Scoters 1578 @ 5% = 79 birds
 @ 10% = 159 birds

Harlequin 1332 @ 5% = 67 birds
 @ 10% = 133 birds

Barrows Goldeneye 1028 @ 5% = 51 birds*
 @ 10% = 103 birds

Common Eider 300 @ 5% = 15 birds to remain sustainable
 @ 10% = 30

It would not take many hunter days to slide one of these species over the threshold into an unsustainable situation. Look at the common Eider. Three hunters in one day could cross the threshold. We wouldn't even know it happened. The extreme site fidelity of some of these species has already caused localized depletions. Unfortunately one of these bays was the one I live in. It has not grown back since 1996 when 100 seaducks a day were removed by one charter operator.

*The Barrows Goldeneye is a sensitive seaduck species that shows strong site fidelity and is prone to localized depletion. They are mistakenly categorized in with the general dabbling duck bag limit. Their range is a very narrow band only on the North West coastal areas. It is estimated there are only 2500-3000 left on a narrow band of the eastern seaboard. They are listed as a species of conservation concern.

Nancy Hillstrand

COMMON EIDER IN DANGER
1 GUIDE WITH A 6 PACK BOAT
CAN HARVEST LEGALLY 108 / DAY
SEADUCKS PER DAY, 11,556 / SEASON
SEADUCKS PER SEASON

RECEIVED TIME MAY. 18. 11:49AM

PC 73

LEGAL BAG LIMIT ON SEADUCKS PER DAY

18

10 IN SPECIAL

8 GOLDENEYES + BUFFLEHEAD
IN GENERAL

SOUTHEAST Units 1-4

Sept. 16-Dec. 31

Ducks ¹	7 per day, 21 in possession
Sea Ducks ² Residents	10 per day, 20 in possession
Nonresidents	7 per day, 20 per season
Dark Geese	4 per day, 8 in possession
White Geese	4 per day, 8 in possession
Brant	2 per day, 4 in possession
Emperor Geese	NO OPEN SEASON
Tundra Swans	NO OPEN SEASON
Common Snipe	8 per day, 16 in possession
Sandhill Cranes	2 per day, 4 in possession

Gulf Coast Units 5-7, 9, 10 (Unimak Is. only) 14-16

Sept. 1-Dec. 16

Ducks ¹	8 per day, 24 in possession
Sea Ducks ² Residents	10 per day, 20 in possession
Nonresidents	8 per day, 20 per season
Dark Geese ^{3, 4, 5}	4 per day, 8 in possession
White Geese	4 per day, 8 in possession
Brant	2 per day, 4 in possession
Emperor Geese	NO OPEN SEASON
Tundra Swans	NO OPEN SEASON
Common Snipe	8 per day, 16 in possession
Sandhill Cranes	2 per day, 4 in possession

EXCEPT FOR SPECIES LISTED ON
NEXT PAGE
FOR NON-RESIDENTS: THIS
CHART SHOWS THEY MAY
TAKE 16 SEADUCKS PER
DAY. BUCEPHALA SPECIES IN
GENERAL BAG

NON-RESIDENTS CAN TAKE
8 GOLDENEYE SPP
10 MERGANSERS SPP

STEEL IS ROUNDER...USE A MORE OPEN CHOKE

Soft lead shot is deformed during firing and passage through the barrel, forming longer and wider shot strings of irregular pellets. Steel shot manufacturing produces pellets that are more round than lead. The iron used in "steel" shot is about three times harder than lead pellets (but softer than gun barrels), so it does not deform when fired or when it strikes birds. Steel's more aerodynamic shape delivers better pattern density and penetration, but shot strings are shorter and narrower than with lead loads. More open chokes such as Improved Cylinder and Modified will enlarge patterns and lengthen shot strings to provide more margin of error in elevation aim and trigger timing.

FOR MORE INFORMATION

For information on shotshell performance and shotgun skills clinics, contact Alaska Dept. of Fish and Game, Hunter Information and Training at (907) 267-2187.

Special Restrictions

- ¹ **DUCKS (except sea ducks):** General duck limits may include no more than 1 canvasback per day, 3 in possession.
- ² **SEA DUCKS:** Includes harlequin, long-tailed duck (oldsquaw), eiders, scoters and mergansers. Limits for residents may include no more than 6 per day, 12 in possession each of harlequin or long-tailed ducks. **Nonresidents** may not take or possess more than 20 sea ducks per season, including no more than 4 each of harlequin, long-tailed duck, black scoter, surf scoter, white-winged scoter, common eider, or king eider per season. Steller's and spectacled eiders are closed statewide.

VERY CONFUSING REGS

BAG AND POSSESSION LIMITS IN BRITISH COLUMBIA

Limits	Ducks	Geese	Coots	Snipe	Band-tailed Pigeons	Mourning Doves
Daily bags	8(a)(c)(e)(k)	5(g)(i), 10(m)	10	10	5	5
Possession	16(b)(d)(f)(l)	10(h)(j), 20(m)	20	20	10	10

(a) Not more than four may be Northern Pintails.

(b) Not more than eight may be Northern Pintails.

(c) Not more than four may be Canvasbacks.

(d) Not more than eight may be Canvasbacks.

(e) Not more than two may be goldeneyes.

(f) Not more than four may be goldeneyes.

(g) Not more than two may be Brant in Provincial Management Unit 2-4.

(h) Not more than four may be Brant in Provincial Management Unit 2-4.

(i) In Provincial Management Units 2-2 to 2-4 inclusive, 2-8, 2-18, and 2-19 only, a total of five Canada Geese or Cackling Geese, or any combination of these, can be taken daily.

(j) In Provincial Management Units 2-2 to 2-4 inclusive, 2-8, 2-18, and 2-19 only, a total of 10 Canada Geese or Cackling Geese, or any combination of these, may be had in possession.

(k) Not more than two may be Harlequin Ducks.

(l) Not more than four may be Harlequin Ducks.

(m) For Snow Geese only and in Provincial Management Unit 2-4 only.



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cider SEA DUCK taxidermy HUNT decoy hunting trip trips

Item condition: **New**

Time left: 7 days 16 hours (Jan 20, 2010 10:28:20 PST)

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Starting bid: **US \$300.00**Your max bid: **US \$**

(Enter US \$300.00 or more)

Place bid

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Seller info

rally62272 (48 ☆)

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Other item info

Item number: 280449579898

Item location: Pelham, NH, United States

Ships to: Local pick-up only

Payments: PayPal
See details

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See shipping below

Returns: No Returns Accepted

Coverage: Pay with **PayPal** and your full purchase price is covered | See terms

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Description Shipping and payments

Item specifics

Condition: **New**

**GUIDED
SEA DUCK HUNTING
ON E-BAY.**

How'd all you duck hunters! I am now booking hunts between November 15th 2009 and January 30th 2010. The hunts take place on the coast of Northern Massachusetts. We specialize in collecting all the unique species that migrate down the coast to winter in Northern New England. This season we shot 20 different species!!!

Please e-mail me **ONLY** if you are serious about putting a trip together and **PLEASE LEAVE ME YOUR PHONE NUMBER.**

Thanks!

Reilly

**I DO NOT THINK THE
MIGRATORY BIRD ACT
WOULD CONDONE COMMERCIAL**

00062

Seller assumes all responsibility for this listing.

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eBay official time

SURVEYS OCCURRED AFTER DECLINES. A "SHIFTED BASELINE." SURVEYS NEED

Small Boat and Aerial Surveys of Waterfowl
in Kachemak Bay, Alaska During Winter 1999-2003

CONTINUED.

DRAFT



DRAFT

Michael J. Petrula, Daniel H. Rosenberg, Douglas D. Hill
Alaska Department of Fish and Game
Waterfowl Program
Division of Wildlife Conservation
525 West 67th Ave
Anchorage, Alaska 99518

and

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January 19, 2006

INTRODUCTION

Waterfowl comprise a substantial portion of the total marine bird population inhabiting Kachemak Bay, Alaska in winter (Agler et al. 1995). Within the waterfowl population, sea ducks are the most abundant species group (Erikson 1977, Agler et al. 1995). The status of sea duck populations is a concern of waterfowl managers throughout North America. Available evidence indicates that some species have declined drastically over the last 30 years, while for others a decline is suspected (Goudie et al. 1994, Canadian Wildlife Service Waterfowl Committee 1999, U.S. Fish and Wildlife Service 1999). Inadequate quantitative information on sea duck abundance, breeding ecology, migration routes, and harvest has limited the ability of waterfowl managers to accurately assess current trends for most sea ducks. As a result, research and monitoring projects have been initiated in areas throughout North America where sea ducks nest, molt, and spend the winter.

To monitor sea duck populations at the local level, the Alaska Department of Fish and Game Waterfowl Program conducted annual winter surveys in Kachemak Bay (KB) during a five-year period beginning in 1999. The surveys were conducted during late February and early March because 1) waterfowl numbers are relatively stable in winter compared to periods of migration (spring and fall), 2) more waterfowl are present during the winter, 3) numbers and composition reflect waterfowl occurrence during and after the hunting season, 4) little daylight and winter storms that occur from November through February makes it impractical to conduct surveys during this time.

Our goal was to obtain estimates of abundance for waterfowl species utilizing KB during winter. Trends in abundance during the five-year period were evaluated for most ducks encountered. Distribution maps were prepared to illustrate selection of broad scale habitats. Information derived from these surveys, combined with other ongoing research and monitoring activities, will be a valuable addition to our understanding of sea duck populations and management needs in Alaska.

STUDY AREA AND METHODS

Waterfowl surveys were conducted in Kachemak Bay (KB), located on the eastern shore of lower Cook Inlet (LCI), Alaska (Fig. 1). We divided KB into 2 strata; shoreline and offshore. The shoreline stratum was defined as all waters within 200m of land from Anchor Point to Point Pogibshi (Fig. 2). Land included the mainland, islands, spits, and exposed rocks. The shoreline stratum was surveyed from 2 open skiffs (ca. 6 m long) traveling 5-10 km/hr. Two to 3 observers per skiff continuously scanned for waterfowl using 10 X 40 binoculars. Only waterfowl on shore and within the 200m-buffer were included in the shoreline stratum. We ignored the 200m-buffer in several small bays, coves and lagoons because it was possible to obtain complete counts (Fig. 2). Waterfowl and survey area (km²; Table 1) in these locations were included in the shoreline stratum.

Shoreline surveys were conducted throughout the day during all phases of the tide cycle, weather permitting. Weather conditions during surveys in 2001, 2002 and 2003 were favorable for skiff

Appendix A. Ducks observed during a small boat and aerial survey of Kachemak Bay, Alaska during winter in 1999 - 2003.

Common name	Species name	Species code
American green-winged teal	Anas crecca carolinensis	AGWT DABBLER
American wigeon	Anas americana	AMWI DABBLER
Barrow's goldeneye	Bucephala islandica	BAGO
Black scoter	Melanitta nigra	BLSC
Bufflehead	Bucephala albeola	BUFF
Common eider	Somateria mollissima	COEI
Common goldeneye	Bucephala clangula	COGO
Common merganser	Mergus merganser	COME
Scup	Aythya spp.	USCA BAY DUCK
Harlequin duck	Histrionicus histrionicus	HARD
King eider	Somateria spectabilis	KIEI
Mallard	Anas platyrhynchos	MALL DABBLER
Northern pintail	Anas acuta	NOPI DABBLER
Long-tailed duck (oldsquaw)	Clangula hyemalis	LTDU
Red-breasted merganser	Mergus serrator	RBME
Steller's eider	Polysticta stelleri	STEI
Surf scoter	Melanitta perspicillata	SUSC
Unknown goldeneye	Bucephala spp.	GOLD
Unknown merganser	Mergus spp.	MERG
Unknown scup	Aythya spp.	SCAP BAY DUCK
Unknown scoter	Melanitta spp.	SCOT
White-winged scoter	Melanitta fusca	WWSC

REGS DO NOT REFLECT
TAXONOMY. OR SPECIES.
SURVEY NUMBERS MUST
BE SEPARATED OUT TO
REFLECT WHICH SPECIES
IN WHICH BAGS
SPECIAL SEA DUCK? OR GENERAL?

SUBTRACTED FROM SPECIAL SEADUCK SPECIES

Appendix B. Number and composition (%) of ducks observed during skiff surveys of the shoreline stratum in Kachemak Bay, Alaska during winter in 1999-2003.

Species	1999 ^a	2000 ^b	2001	2002	2003
Mallard	4297 (27.2)	2913 (25.6)	3124 (24.5)	4715 (26.8)	5129 (30.5)
Northern pintail	40 (0.3)	43 (0.4)	0 (0.0)	75 (0.4)	15 (0.1)
American green-winged teal	0 (0.0)	12 (0.1)	0 (0.0)	4 (<0.1)	30 (0.2)
Black scoter	2068 (13.1)	612 (5.4)	212 (1.7)	815 (4.6)	734 (4.4)
Surf scoter	1596 (10.1)	739 (6.5)	721 (5.7)	1551 (8.8)	1501 (8.9)
White-winged scoter	309 (2.0)	109 (1.0)	23 (0.2)	78 (0.4)	216 (1.3)
Unknown scoter	56 (0.4)	5 (<0.1)	0 (0.0)	0 (0.0)	50 (0.3)
Barrow's goldeneye	1174 (7.4)	2986 (26.2)	2906 (22.8)	4117 (23.4)	3396 (20.2)
Common goldeneye	508 (3.2)	257 (2.3)	346 (2.7)	537 (3.1)	321 (1.9)
Unknown goldeneye	1887 (12.0)	484 (4.3)	964 (7.6)	700 (4.0)	353 (2.1)
Harlequin duck	1628 (10.3)	1872 (16.4)	1784 (14.0)	1702 (9.7)	1854 (11.0)
Seaup	1044 (6.6)	203 (1.8)	1482 (11.6)	1456 (8.3)	1722 (10.2)
Bufflehead	446 (2.8)	755 (6.6)	597 (4.7)	790 (4.5)	569 (3.4)
Long-tailed duck	219 (1.4)	101 (0.9)	127 (1.1)	124 (0.7)	229 (1.4)
Steller's eider	161 (1.0)	16 (0.1)	17 (0.1)	85 (0.5)	37 (0.2)
Common eider	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	16 (0.1)
Common merganser	156 (1.0)	152 (1.3)	191 (1.5)	501 (2.9)	445 (2.6)
Red breasted merganser	197 (1.3)	91 (0.8)	157 (1.2)	271 (1.5)	195 (1.2)
Unknown merganser	8 (<0.1)	35 (0.3)	110 (0.9)	45 (0.3)	1 (<0.1)
Unknown duck	0 (0.0)	1 (<0.1)	0 (0.0)	0 (0.0)	0 (0.0)
All Ducks	15794 (100)	11386 (100)	12761 (100)	17566 (100)	16813 (100)

6398 3733 3342 5172 5278

^a In 1999, shoreline sections (28 and 29) were not surveyed, and most of shoreline section 21 was covered in ice making it unavailable to ducks. Consequently, 77.3 % of the total shoreline stratum and 88% of the available (ice free) shoreline was surveyed in 1999. Counts from surveys in 2000, 2001, 2002 and 2003 for shoreline sections 28 and 29 were averaged to obtain a count for those shoreline sections in 1999.

^b In 2000, shoreline section 6 was not surveyed, consequently 96.9% of the total shoreline stratum was surveyed in 2000. Counts from surveys in 1999, 2001, 2002 and 2003 for shoreline section 6 were averaged to obtain a count for this shoreline section in 2000.

AVERAGE NUMBER OF SEADUCKS
ALONG SHORELINE STRATUM
CONSIDERED IN SPECIAL SEADUCK
BAG LIMIT
10/DAY

4785

Appendix B. Number and composition (%) of ducks observed during skiff surveys of the shoreline stratum in Kachemak Bay, Alaska during winter in 1999-2003.

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TAXONOMIC SEA DUCKS 10413 8215 8155 11316 9917

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^b In 2000, shoreline section 6 was not surveyed, consequently 96.9% of the total shoreline stratum was surveyed in 2000. Counts from surveys in 1999, 2001, 2002 and 2003 for shoreline section 6 were averaged to obtain a count for this shoreline section in 2000.

SHORELINE STRATUM ONLY

AVERAGE NUMBER OF TAXONOMICAL
CATEGORIZED SEA DUCKS

BAG LIMIT 18/DAY

9603

10-15 MINUTES TRANSPORT

Parks Boating Safety Hist./Archaeology Grants Design Trails Volunteers Index

Natural Resources

find

TO MOST ANYWHERE IN K-BAY
Division of Parks and Outdoor Recreation

Alaska Department of Natural Resources

#40

State of Alaska > Natural Resources > Parks and Outdoor Recreation

Taxi Services to Kachemak Bay State Park

This is a current list of authorized commercial operators in Kachemak Bay State Park. For trip information, such as rates and destination, contact the service provider.

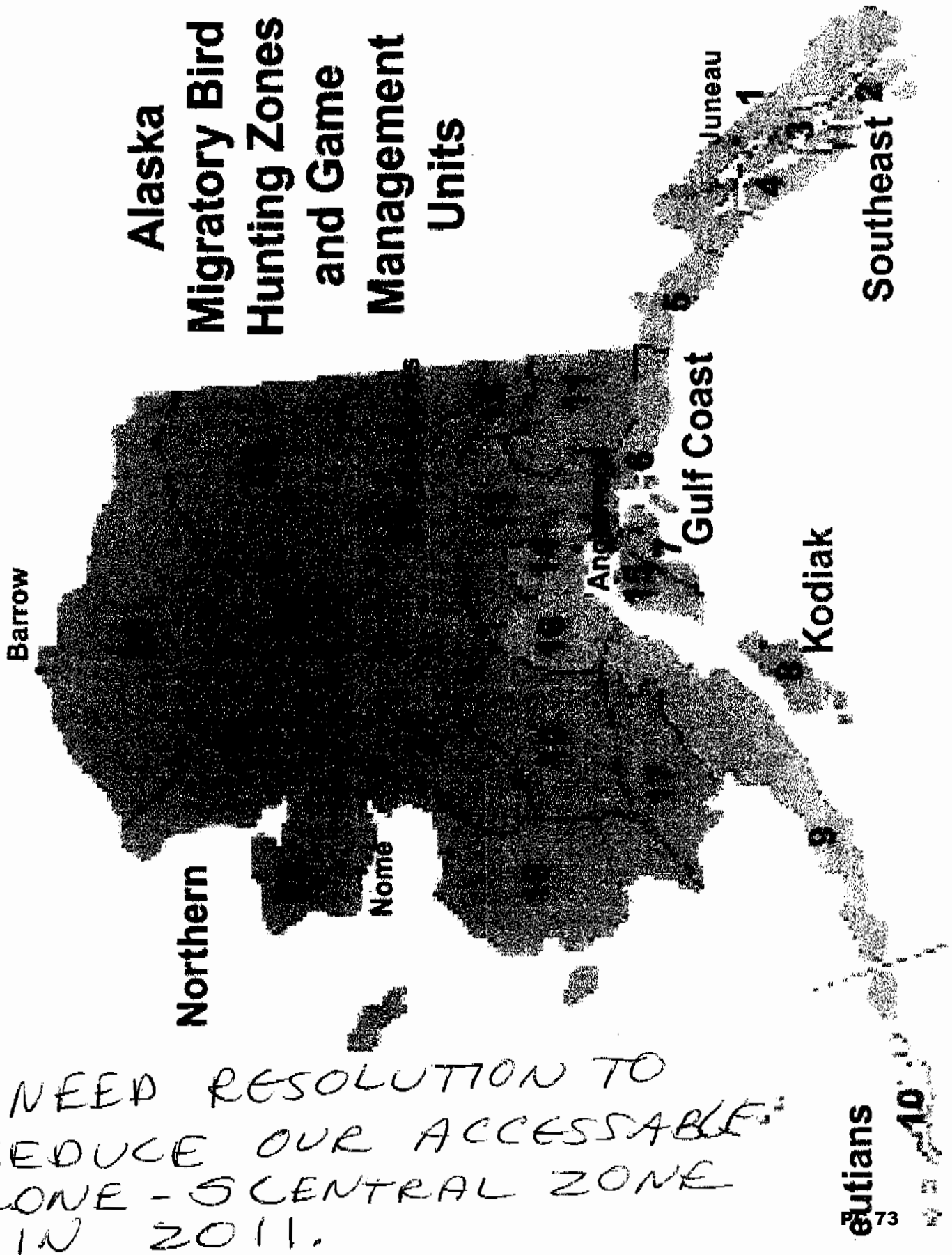
Water Taxis

Name	Phone/Email	Address
Alaska Coastal Marine Tim Cashman	(907) 262-4359	PO Box 3141 Soldotna, AK 99669
Red Mountain Marine Tom Hopkins	(907) 399-8234	PO Box 1146 Homer, AK 99603
Homer Ocean Charters Richard Swenson	(907) 235-6212 hoc@xyz.net	PO Box 2543 Homer, AK 99603
Mako's Water Taxi Mako Haggerty	(907) 235-9055 (907) 399-4133 Mako@xyz.net	PO Box 2001 Homer, AK 99603
Smoke Wagon Water Taxi Todd Scanlon	(907) 235-2947 smokewagon@homerwatertaxi.com	PO Box 2885 Homer, AK 99603-2885
Bay Roamers Chelsea Jones	(907) 399-6200 (907) 235-6374	PO Box 1103 Homer, AK 99603
Ashore Water Taxi Dave Lyon	(907) 235-9408	PO Box 47 Homer, AK 99603
The Ridgewood Lodge Kevin Sidelinger	(907) 296-2217	PO Box 659 Homer, AK 99603
Blue Too Water Taxi Gartly Curtis	(907) 299-1943	PO Box 244 Homer, AK 99603
Within the Wild Adventure Co Carl Dixon	(907) 235-7230	PO Box 91419 Homer, AK 99609
Captain B's Alaskan Adventure Bryan Bondiolo	(907) 235-4114	PO Box 66 Homer, AK 99603
Seaman's Adventures Glenn Seaman	(907) 235-2157	1435 Bay Avenue Homer, AK 99603

Air Taxis

Name	Phone/Email	Address
Emerald Air Service, Inc Ken Day	(907) 235-6993	PO Box 635 Homer, AK 99603
Maritime Helicopters Donald Fell	(907) 235-7771	3520 FAA Road Homer, AK 99603
Northwind Aviation Joseph Decreet	(907) 235-7482	PO Box 646 Homer, AK 99603-0646
Pathfinder Aviation Robert Fell	(907) 299-2800	PO Box 375 Homer, AK 99603
Beluga Lake Float Plane Service Jon Berryman	(907) 235-8256	PO Box 2072 Homer, AK 99603
Alaska Excursion Adventures	(907) 235-2553	1500 Cottonwood Lane

MOST ACCESSIBLE AREA -
"LOST" IN HUGE GULF COAST
ZONE.



1/4 OF OUTFITTERS WILL
REMOVED FROM HALIBUT
WILL GO TO OTHER SPECIES
Alaska Regional Office

NOAA Fisheries News Releases

ADD

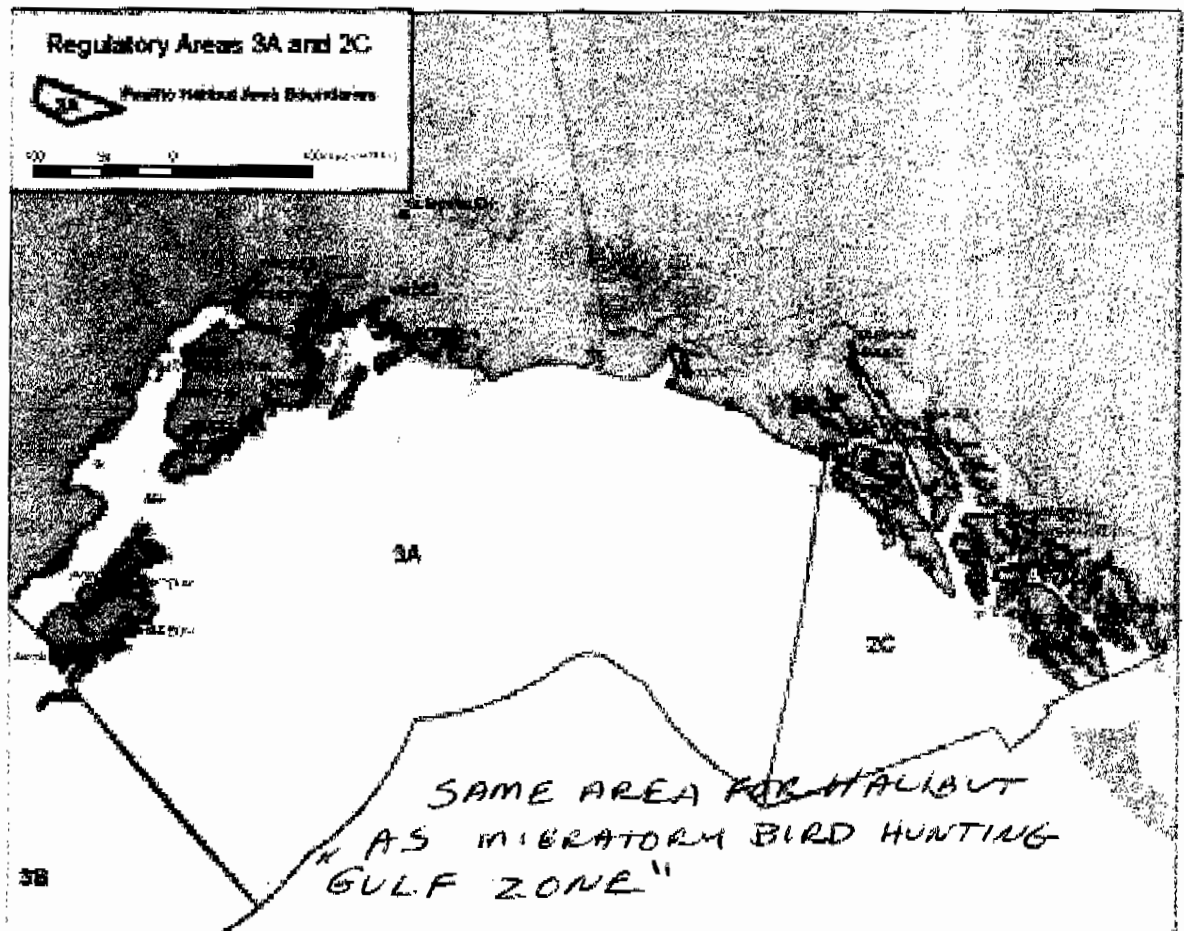
NEWS RELEASE

January 4, 2010

Sheela McLean, Public Affairs
(907) 586-7032

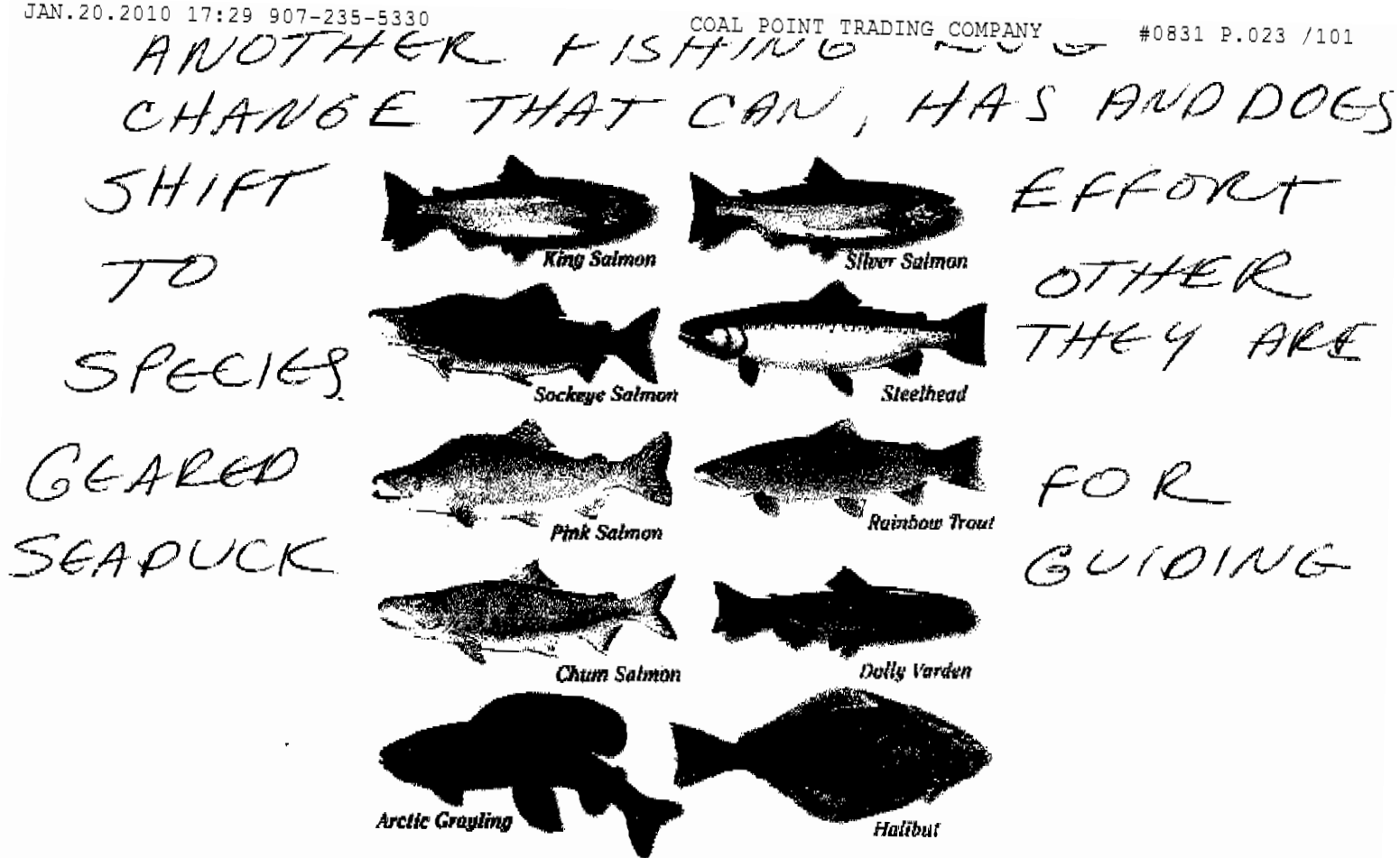
OUTFITTERS ~~WILL BE~~
ARE GEARED FOR
SEADUCK HUNTING

NOAA ANNOUNCES LIMITED ACCESS PROGRAM FOR SPORT CHARTER HALIBUT FISHING IN ALASKA



Pacific Halibut Area Boundaries. Regulatory Areas 3A and 2C. [Click](#) for larger version.

HALIBUT FISHING AREAS
SIMILAR TO WATERFOWL
ZONES



Summary of new rules for Area 2C Halibut charter anglers

- Anglers fishing from a charter vessel are limited to one halibut per calendar day.
- A charter vessel angler may use only one fishing line. No more than six lines are allowed on a charter vessel fishing for halibut.
- Charter operators, guides and crew may not catch and retain halibut during a charter fishing trip.
- Anglers' names and fishing license numbers are recorded in the trip log book.
- Anglers retaining halibut must sign the log at the end of the charter vessel fishing trip.
- A halibut on a charter vessel may be cut into no more than two ventral (bottom side) pieces, two dorsal (top side) pieces and two cheeks, all with the skin on.

There are several programs in place in North Pacific fisheries that fit the description of 'limited access privilege programs', or LAPPs, Halibut Charter Boat – potential inclusion in IFQ program.

ONE HALIBUT LIMIT IN SE
MAY COME TO SOUTH CENTRAL
BOATS OUTFITTED

Mary E. Hogan, U.S. Fish and Wildlife Service, Migratory Bird Management, 1011 East Tudor Road,
Anchorage, AK 99503

Abstract: Seaducks (Tribe Mergini) are a diverse group of birds. In North America, many species nest in boreal or arctic habitats in Canada and Alaska and winter in ice-free coastal, marine, and freshwater habitats. Data from long-term surveys, population studies, and local knowledge suggest that some populations and species of seaducks have declined over the past decades. In most cases, the trend data are sufficient to document population problems, although the precise historic population and number of remaining birds are frequently unknown. As various state, provincial, and federal agencies attempt to address this problem, the need for additional information becomes clear. In the U.S., funding for work on seaducks generally has not been available until a species has been listed or proposed for listing under the Endangered Species Act. It is also clear that the funding sources for waterfowl in general are inadequate to address all of the management needs for both seaducks and more heavily hunted species. However, this is not a satisfactory justification of the general neglect of seaducks. Here we discuss the problems of identifying and prioritizing studies and research of this diverse group and propose a plan of action.

Seaducks (Tribe Mergini) are frequently ignored by waterfowl managers. The perception for many years has been that there were plenty of seaducks, harvest pressure was low, and we did not have to worry about them. This in part was reflected by the very liberal season and take throughout their range. Much of the resources available for waterfowl management has focused on declining geese and duck populations (Anatini and Aythyini) and the major changes in their habitats. As a result of this effort, many duck and goose populations have increased (Anonymous 1994).

In Europe, seaducks are considered seabirds. As such, they receive protection and resources for their management with that available for seabirds. In North America, funding for seabirds became available with increased environmental awareness and interest in nongame species. As work on seabirds has increased dramatically over the past 20 years, work on seaducks has remained comparatively static. As waterfowl, they were rarely included in funding initiatives for seabirds. They were rarely included in funding initiatives for waterfowl because of the perception of more pressing needs of popular game species such as geese and dabbling ducks. This negligence of seaducks has come back to haunt us. As managers, we were more concerned with the species most in demand by hunters (Anonymous 1986). This focus prevented us from responding to trends in data with regard to seaduck populations. Data from long-term surveys

population studies, and local knowledge show that some populations and species of seabirds have declined over past decades (Kerrell 1991, Stehn et al. 1993, Hodges et al. 1996). In most cases, trend data are sufficient to document population problems, although the precise historic population and number of remaining birds are frequently unknown. In many species, population trends are not clear. With others, however, populations have declined such that spectacled eiders (*Somateria fischeri*) were listed as threatened on 10 May 1993 (*Federal Register* 58(88): 24474-27480), the eastern North American population of harlequin ducks (*Histrionicus histrionicus*) was listed as endangered by the Committee on the Status of Endangered Wildlife in Canada (Montevecchi et al. 1995), and the North American nesting population of Steller's eiders (*Polysticora stelleri*) was proposed for listing as threatened in the U.S. on 14 July 1994 (*Federal Register* 59(134):35896-35900) and the worldwide population proposed for listing as vulnerable (Green 1995).

The need for further information about sea ducks was recognized by Canada, the U.S., and Mexico in the 1994 update of the North American Waterfowl Management Plan (Anonymous 1994): "There is an immediate need to supplement current knowledge of sea ducks with reliable information on population status, production, harvest, and factors affecting mortality and survival." However, work on sea ducks continues to be of low priority to most agencies and is generally underfunded.

EAGLE FEEDING STOPPED 2010
 NOW EAGLE PREDATION IS
 RAMPAANT THEY HAVE COME
 FOR THEIR HAND OUT AND ARE
 DECIMATING K-BAGS SEA DUCKS
 AND SEA BIRDS

Eagles return to Spit with food assured

by J. Michael Lyons

Staff Writer

There are only a few things you can count on in the winter. A broiling community issue is usually one, as is at least one car repair. Another are eagles returning to the Homer Spit. Despite concerns that the Icelite Seafoods fire might have destroyed their food supply, the "Eagle Lady" says the dignified scavengers are already on their way and she's ready for them.

The eagles that return to the Spit, sometimes 200 or 300 of them, have become a winter tradition — and an off-season tourist attraction — since Jean Keene's daily winter feedings began attracting them in large numbers 20 years ago.

Some wondered whether she would

continue without fish scraps from Icelite Seafoods. But she has found other sources of food in recent years to keep the sometimes controversial practice going as usual.

"I haven't gotten any food from them in two years," she said, tossing golf ball size chunks of beef fat to a few of the eagles and their entourage of crows and seagulls.

In recent years, she has relied on donations from some of the smaller seafood processors on the Spit and from Homer residents who have to get rid of freezer-burnt meat. She has even connected with an area taxidermist for leftovers.

Eagles aren't particularly picky eaters. They'll fight over chicken, beef, salmon,

See SPIT, Page 3

WINTER
 CHRISTMAS
 BIRD COUNT
 SHOWS FEW
 SEA DUCKS
 THIS YEAR

COAL POINT TRADING COMPANY #0831 P.026 /101
MAINTAIN PROTECT ENHANCE
IN K-BAY 16.20.500

GOALS

Activities that occur within the Kachemak Bay and Fox River Flats critical habitat areas will reflect the following goals in accordance with the purpose for which the areas were established (AS 16.20.500). All department management decisions in the Kachemak Bay and Fox River Flats critical habitat areas, whether affecting activities undertaken by the department, other agencies or the public, will be in accordance with these goals.

- I. Fish and Wildlife Populations and Their Habitat - Manage the critical habitat areas to maintain and enhance fish and wildlife populations and their habitat. Minimize the degradation and loss of habitat values due to habitat fragmentation. Recognize cumulative impacts when considering effects of small incremental developments and action affecting critical habitat area resources.

A. Wildlife

1. Protect important wildlife habitat including water quality.
2. Minimize harmful disturbance to wildlife, especially to marine mammals and nesting, rearing, staging and wintering waterfowl, shorebirds, and seabirds.
3. Maintain, protect, and if appropriate, enhance the quality and quantity of nesting, rearing, feeding, staging and wintering habitat for resident and migrant waterfowl, shorebirds, and seabirds.
4. Protect bald eagle nesting, perching, roosting, and feeding habitat.

B. Fish

1. Protect natural substrate, aquatic vegetation, water quality and circulation patterns to maintain aquatic habitats.
2. Maintain water quality sufficient for the growth and propagation of fish, shellfish, and other aquatic life in fresh, estuarine and marine waters.
3. Maintain water quality at a level that would allow for harvest of raw mollusks or other raw aquatic life for human consumption.

- II. Public Use - Manage the critical habitat areas to maintain and enhance public use of fish, wildlife and critical habitat areas and water consistent with the other goals of the management plan.

10,000 WHITE WINGED SCOTERS
IN 1976 NOW 2000?

Tellina or Macoma) and euphausiids are important for buffleheads. Harlequins eat blue mussels, nestling clams, snails, euphausiids, and algae.

In winter, the open water and abundant food sources of Kachemak Bay become even more important to waterfowl. The upper end of Kachemak Bay supports 100,000 wintering waterfowl (Lensink 1980). A large flock of white-winged scoters, estimated to be 10,000 in 1976, is believed to overwinter in the outer bay (Erikson 1977). Large numbers of scoters and eiders, including Steller's, king, and common eiders, congregate along the coast between Anchor Point and Homer Spit, especially in the vicinity of Bluff Point in winter (G. West, pers. commun.). The most important winter foods for marine waterfowl as a group in the Gulf of Alaska include blue mussels, clams (Protothaca staminea, Spisula polynyma, Macoma spp., and Mya spp.) (Sanger 1983). During a period of heavy ice conditions, only Fox River Flats and China Poot Bay provided nearshore waterfowl habitat (Havens 1972). Over 5,000 mallards and 7,000 black, surf and white winged scoters overwinter in China Poot Bay. Flocks of Steller's eiders, mallards, and scoters traditionally use the mouth of China Poot Bay in winter. Resident mallards, large numbers of greater scaup, mew gulls, and glaucous-winged gulls are the most abundant birds wintering in Mud Bay. Almost twice as many mallards use Mud Bay in winter than in fall (Lees et al. 1981).

Oldsquaw ducks and white-winged scoters are common overwintering diving ducks in Kachemak Bay. Oldsquaws are found mainly in the northern inner bay over mud-sand substrates, feeding even in moderate amounts of pan and brash ice that build up behind Homer Spit. They have extremely diverse diets (minimum of 61 prey species). The single-most dominant prey item is Pacific sandlance; about 40% of the total prey volume, including sandlances, is buried in the substrate (Sanger and Jones 1984). White-winged scoters feed almost exclusively in areas with shell debris and boulder-cobble substrates, found along the northern outer bay. Their diets are also diverse. The two major prey species are common Pacific littleneck clams (Protothaca staminea) and blue mussels (Sanger and Jones 1984).

Trumpeter swans are common on the Fox River Flats, primarily near the confluence of Bradley River and Sheep Creek, during spring and fall migration (ENTRIX and Stone & Webster 1985). Swans begin to stage in the Fox River Valley in mid-August. Densities during spring and fall average 2.6 swans/mi². Swans are only occasionally observed in summer and winter. The only area where nesting has been observed is on a pond near Clearwater Slough (Lensink 1980, Krasnow 1981).

Shorebirds - A brief pulse of millions of migrating shorebirds each spring provides Kachemak Bay with its largest influx of shorebirds. Several sites in Kachemak Bay provide critical rest stops for migrating shorebirds. Fox River Flats attracts the most migrating

Now (1980?)

Now half that in entire bay?

Goose Duck Joint Venture Strategic Plan 2008-2012

**Plan Conjunt dos Canards de Mer
Plan Strategique 2008 - 2012**

December 2008



**A North American Waterfowl Management Plan
Conservation Partnership**

Black Scoter

(*Melanitta nigra*)

Population Size and Trends: Recent satellite telemetry studies suggest that the western and eastern breeding and wintering populations are allopatric and should be surveyed independently. On the west coast, a survey to provide relatively precise estimates of the Pacific breeding population was developed from 2004 to 2006. The visibility-corrected estimate of Pacific breeding population from 2004 to 2005 was 108,100 Black Scoter (SE = 13,300). Total population, including non-breeding birds, may approach 200,000. Compared to similar surveys flown 15 to 7 years ago, the population has declined with an average annual change at -3.1%. The less intensive Waterfowl Breeding Population and Habitat Survey suggests a decline of about 50% over much of the same area from 1956 to 2006.

In eastern North America, the total population probably numbers 200-300,000 birds, but there is little reliable information available to assess trends. Surveys of molting birds along the western James Bay coast of Ontario indicate that about 140,000 Black Scoters molt there, nearly all males. Migration counts at Avalon, NJ and Point LePreau, NB from 1995 to 2004 produced average (probably minimum) counts of 142,000 and 127,000, respectively.

1. Continue the breeding survey of Pacific Black Scoters.
2. Determine breeding distribution and develop surveys to provide reliable population estimates in eastern North America.
3. Develop or refine techniques to estimate detection rates during aerial surveys.
4. Develop protocol for identifying scoters to species during aerial breeding surveys.

Population Definition and Delineation: There appear to be two geographic populations of Black Scoters that are separated by their breeding and wintering distribution; satellite telemetry of birds on both coasts has not revealed any interchange between Atlantic and Pacific Black Scoter populations, although the sample size from the east coast is particularly small. The breeding range for Black Scoters wintering on the Atlantic coast extends farther west into the boreal forest than previously believed. Genetics and stable isotope analyses may provide further insights into population definition.

1. Determine the breeding and molting areas of ducks associated with various wintering areas range-wide, with emphasis on the eastern population
2. Determine the migration corridors used between breeding, molting and wintering areas.
3. Determine seasonal movements of non-breeding Black Scoters.
4. Collect tissue samples necessary for genetic analyses for Black Scoters.
5. Collect tissue and food samples necessary for stable isotope analyses to help determine seasonal habitat use at a broad geographic scale.

Population Dynamics: There are few data available on population dynamics for this species. Only one breeding population, on the Yukon-Kuskokwim Delta, Alaska, has been studied from

Black Scoter

(Melanitta nigra)

Population Size and Trends: Recent satellite telemetry studies suggest that the western and eastern breeding and wintering populations are allopatric and should be surveyed independently. On the west coast, a survey to provide relatively precise estimates of the Pacific breeding population was developed from 2004 to 2006. The visibility-corrected estimate of Pacific breeding population from 2004 to 2005 was 108,100 Black Scoter (SE = 13,300). Total population, including non-breeding birds, may approach 200,000. Compared to similar surveys flown 15 to 7 years ago, the population has declined with an average annual change at -3.1%. The less intensive Waterfowl Breeding Population and Habitat Survey suggests a decline of about 50% over much of the same area from 1956 to 2006.

In eastern North America, the total population probably numbers 200-300,000 birds, but there is little reliable information available to assess trends. Surveys of molting birds along the western James Bay coast of Ontario indicate that about 140,000 Black Scoters molt there, nearly all males. Migration counts at Avalon, NJ and Point LePreau, NB from 1995 to 2004 produced average (probably minimum) counts of 142,000 and 127,000, respectively.

1. Continue the breeding survey of Pacific Black Scoters.
2. Determine breeding distribution and develop surveys to provide reliable population estimates in eastern North America.
3. Develop or refine techniques to estimate detection rates during aerial surveys.
4. Develop protocol for identifying scoters to species during aerial breeding surveys.

Population Definition and Delineation: There appear to be two geographic populations of Black Scoters that are separated by their breeding and wintering distribution; satellite telemetry of birds on both coasts has not revealed any interchange between Atlantic and Pacific Black Scoter populations, although the sample size from the east coast is particularly small. The breeding range for Black Scoters wintering on the Atlantic coast extends farther west into the boreal forest than previously believed. Genetics and stable isotope analyses may provide further insights into population definition.

1. Determine the breeding and molting areas of ducks associated with various wintering areas range-wide, with emphasis on the eastern population
2. Determine the migration corridors used between breeding, molting and wintering areas.
3. Determine seasonal movements of non-breeding Black Scoters.
4. Collect tissue samples necessary for genetic analyses for Black Scoters.
5. Collect tissue and food samples necessary for stable isotope analyses to help determine seasonal habitat use at a broad geographic scale.

Population Dynamics: There are few data available on population dynamics for this species. Only one breeding population, on the Yukon-Kuskokwim Delta, Alaska, has been studied from

Surf Scoter

(*Melanitta perspicillata*)

Population Size and Trends: The continental population seems to number in the hundreds of thousands for this species, but there is little quantitative information available to assess population size and trends. Numbers of Surf Scoters breeding in western Canada and perhaps Alaska appear to be declining. Similarly, the population wintering in the Atlantic Flyway appears to be declining. Eastern and western populations likely can be monitored separately as they appear to have distinct wintering areas that are subject to different harvest pressures.

1. Inventory and monitor numbers of breeding Surf Scoters in the western and eastern populations.
2. Inventory and monitor numbers of wintering Surf Scoters on the east and west coasts.
3. Develop or refine techniques to estimate detection rates during aerial surveys.

Population Definition and Delineation: Surf Scoters breed throughout the boreal forest, but appear to have higher densities in western Canada, Alaska, Ontario and Québec. Based on available evidence from telemetry and banding studies, it is likely that the population can be divided into eastern and western subpopulations with very low rates of dispersal between them. Information on molt areas, migration corridors and winter areas associated with breeding populations is increasing but is still incomplete for both the eastern and western populations.

1. Determine relative densities of Surf Scoters throughout their breeding range.
2. Describe the linkages, including migration corridors, between specific breeding areas, molt and winter areas using satellite telemetry, with emphasis on birds wintering in the Atlantic.
3. Determine seasonal movements of non-breeding Surf Scoters originating from specific breeding areas.
4. Conduct genetic analyses to better discriminate Surf Scoter populations or management units throughout the continent.

Population Dynamics: There are few data on the population dynamics of this species.

1. Determine factors affecting the reproductive success of birds from breeding areas throughout its range (e.g., food, predators, weather, etc.).
2. Determine variation in survival rates for birds from specific wintering areas.
3. Determine the age (eg., juvenile male to adult male) and sex ratios for specific wintering areas.
4. Examine continental scale annual variation in recruitment based on age ratios on wintering areas.
5. Develop a demographic model for the species.

White-winged Scoter

(*Melanitta fusca deglandi*)

Population Size and Trends: There is little quantitative information available to assess population size and trends. Numbers of White-winged Scoters breeding in western Canada and Alaska appear to be declining, as suggested by declines in total scoter numbers where White-winged Scoters predominate. Similarly, populations wintering in the Atlantic Flyway seem to be declining. Trends for birds wintering in the Pacific Flyway are uncertain over the entire range, but localized surveys (Puget Sound, San Francisco Bay) suggest significant declines.

1. Develop population estimates and monitoring surveys for the eastern and western wintering populations.
2. Develop standardized surveys to estimate numbers and trends of breeding White-winged Scoters in eastern and western North America.
3. Develop protocol for identifying scoters to species during aerial surveys on breeding grounds.

Population Definition and Delineation: White-winged Scoters breed throughout the boreal forest, but appear to have larger nesting populations in western Canada, Alaska and Québec. Small and declining breeding populations occur in the mid-continent prairie region.

1. Determine linkages among populations at specific breeding, molting, staging and wintering areas.
2. Determine migration corridors and timing of migration between breeding, molting and wintering areas.
3. Determine seasonal movements of non-breeding White-winged Scoters affiliated with various breeding areas.
4. Assess the presence of subpopulations, as well as geographic variation in demography, migratory patterns and winter site fidelity, through a combination of surveys, intensive studies of breeding biology from several areas, isotopic and genetic analyses, long-term banding and satellite telemetry.

Population Dynamics: There are few data on demographic rates for this species, and those available come from small populations at the southern edge of their breeding range in the mid-continent prairies. Studies are currently underway in boreal breeding areas.

1. Estimate seasonal and annual survival rates of birds from different populations, or subpopulations, should they exist.
2. Determine recruitment rates from across the breeding range.
3. Determine the age structure of populations at various breeding and wintering sites.
4. Develop a demographic model for the species.

STATE THREATENED IN
MAINE 2007

Barrow's Goldeneye, Eastern Population

(*Bucephala islandica*)

Population Size and Trends: The eastern population of Barrow's Goldeneye was listed in Canada as a species of Special Concern in 2000 and as state-threatened in Maine in 2007. Information on population size suggests only about 2,000 adult breeding females in the population. It is imperative to closely monitor that population as it could easily be up listed to Threatened in Canada. Wintering Barrow's Goldeneye are monitored roughly every three years by helicopter in Quebec and most important wintering areas in New Brunswick.

1. Develop standardized census methodologies for monitoring wintering populations and refine existing techniques.
2. Develop standardized census methodologies for monitoring breeding populations.
3. Develop annual measures of productivity on important wintering areas (i.e. age ratios).

Population Definition/Delineation: The winter range of the eastern population is fairly well known. However, links to breeding areas have only been established for the birds wintering in the St. Lawrence estuary. Whether birds wintering in Québec, along the Gulf of St. Lawrence, the Maritimes and the eastern U.S. breed in the same area is unknown. Preliminary genetic studies are not conclusive and more detailed studies are needed. The general breeding area has been identified, but the exact boundaries, especially in the north, have yet to be determined.

1. Characterize the genetic and morphologic structure of the three major populations of Barrow's Goldeneye.
2. Determine the northern boundary of the Québec/Labrador breeding area.
3. Determine affiliations among breeding, molting, and wintering areas for birds wintering along the Gulf of St. Lawrence (Québec), in the Maritimes and the U.S.

Population Dynamics: Little is known of the dynamics of the eastern population of Barrow's Goldeneye. The breeding area was just discovered in 1998 and to date there has been only one preliminary study on nest box use.

1. Determine the reproductive success of the population, both hatching and fledging success.
2. Determine the survival rate of various age-sex cohorts of the population.
3. Conduct regular winter surveys to provide information on age and sex ratios in the population.

Population Ecology: Little is known of the ecology of the eastern population of Barrow's Goldeneye. Studies are limited. Recent work indicates that natural nest sites are located in large decaying snags, for which availability is probably greatly affected by substantial logging pressure in breeding habitats. The feeding ecology of pairs and broods has not been documented on the breeding areas. Growth rates of ducklings and the factors affecting them are unknown. Although some molting sites of males are known, the location of female molting sites is still unknown.

Barrow's Goldeneye, Western Population

(*Bucephala islandica*)

UNCERTAIN⁷² AT
BEST

Population Size and Trends: Population size and trends are uncertain at best. The western population has been crudely estimated at 200,000-250,000 birds. Long-term surveys have been conducted in selected breeding areas of the B.C. interior but this information has yet to be extrapolated into a breeding population estimate. The situation is similar for wintering populations, where only a handful of (inconsistent) surveys have been conducted at wintering sites (eg., Baynes Sound and Stanley Park in BC, Prince William Sound and southeast Alaska). The assessment of trends in the BC breeding population is confounded by the fact that Riske Creek (one of the key survey areas supporting a relatively high density of birds) has been subjected to a variety of population manipulations (e.g., numbers of breeding birds have been either artificially increased by deploying nest boxes 4-5 different times over the last 25 years or decreased by a collection program (e.g., 100 females were shot in one year for research purposes)). Audubon Christmas Bird Count data suggest stable or increasing numbers along the coast in winter, but this survey is not rigorous enough to detect relatively small changes, especially for sub-populations.

1. Develop standardized surveys to estimate abundance levels and population trends across the breeding range.
2. Develop standardized surveys to estimate abundance levels and population trends across the wintering range.

Population Definition/Delineation: Breeding and wintering ranges of western Barrow's Goldeneyes are fairly well described, although its breeding range and relative densities in Alaska are less well known. However, the linkages between these (i.e., the breeding origin of birds from specific winter sites and vice versa) are poorly known. This hampers conservation efforts, as there is no measure of appropriate management units, nor any way to consider geographic limits to cross-seasonal effects. Molting adult males are suspected to concentrate in large groups after they leave the breeding grounds. One of the best known molt sites, Old Crow Flats in the Yukon, supports thousands of males in late summer. A recent satellite telemetry project in south-central B.C. indicates that most males migrate north to molt. Preliminary analyses of these data indicate that: 1) most males disperse over a large geographic area, from northern Alberta and central Northwest Territories, 2) some lakes consistently support a large number of marked birds across years (e.g., 3-5 tagged birds per year molted on Cardinal Lake in northern Alberta in 2006 and 2007), and 3) birds with transmitters that lasted > 2 years (n=2) show the same migration patterns and use the same molt/winter sites across years. Preliminary surveys suggest that females molt in small groups away from breeding areas but the geographic extent of this molt is unknown. The identification of molt sites is a potentially important concern at the population level should habitat degradation or disturbance lead to reduced use or abandonment of these sites. Currently, the best way to determine the linkage between breeding/wintering grounds and key molting sites is through the use of satellite telemetry.

Common Goldeneye

(*Bucephala clangula*)

Population Size and Trends: The Waterfowl Breeding Population and Habitat Survey indicates stable populations throughout surveyed areas of North America. However, goldeneye are not differentiated to species during this survey, which may compound interpretation of trends, particularly in western North America where Common and Barrow's breeding ranges overlap. In Eastern Canada, quite good size and trend data come from the Eastern Breeding Waterfowl Survey (CWS in Ontario, Québec and the Atlantic Provinces): breeding population estimate was of 112,900 pairs in 2003 and the 1990-2003 trend shows a statistically significant increase of 3.0% per year. Audubon Christmas Bird Count data suggest stable to increasing Common Goldeneye populations on wintering areas. The population has been crudely estimated at 1.25 million birds based on partial counts during the breeding season.

1. Improve population monitoring techniques (geographic coverage, survey timing, estimate detection rates), particularly in its western range, as needed to manage this species more effectively.
2. Determine species composition in breeding and wintering areas where Barrow's and Common Goldeneyes overlap in western North America.

Population Definition and Delineation: Common Goldeneye breed across forested areas of Alaska, across the wooded parts of northern Canada to the Maritime Provinces, and south to northern Washington, northern North Dakota, northern New York state and Maine. Goldeneye winter from the southern limits of its breeding range to the Gulf States. Banding data show a general pattern of eastern breeding birds wintering on the Atlantic coast or Great Lakes, and western breeding birds wintering on the Pacific coast or western states, with an overlap area in the western Rocky mountain provinces.

1. Better survey techniques on breeding and wintering areas would help to understand the possible factors impacting this species on the breeding grounds of western North America.
2. Radio telemetry should be considered to delineate more accurately the breeding and molting areas and links to wintering areas.
3. Comprehensive genetic analyses should be completed to examine relationships among North American populations.

Population Dynamics: Most studies of breeding biology have focused on populations nesting in nest boxes. There is insufficient information to build population models.

1. Breeding biology studies of birds using natural cavities for nesting are needed.
2. Estimate survival rates for all age and sex classes throughout range.

Population Ecology: Increased acidification of wetlands has been considered a favorable factor to the survival of broods, due to a decrease of fish as a competitor for invertebrate foods. On eastern wintering areas, especially Chesapeake Bay, there is some concern that hunting guides are putting greater pressure on sea ducks.

Long-tailed Duck

(*Clangula hyemalis*)

Population Size and Trends: The North American population may number between one and two million birds, but survey coverage is incomplete and there is little information to reliably quantify population size and trends. The North American Breeding Populations Survey indicates substantial declines from the 1950's to early 1990's, but stable population over the past 15 years.

This survey does not cover the majority of Long-tailed Duck breeding range in Canada and Alaska. Through a cooperative effort by SDJV and AGJV, aerial surveys are being developed to obtain indices of breeding population size in western and central arctic Canada.

1. Continue to develop waterfowl breeding population surveys for arctic Canada in cooperation with Arctic Goose Joint Venture, as a means of monitoring population trends of Long-tailed Ducks in Canada.
2. Initiate and expand winter sea duck surveys into areas of known concentrations to sample a greater proportion of the population (e.g., Chesapeake Bay, Nantucket Island Shoals, Great Lakes, Gulf of St. Lawrence, and Pacific Coast).

Population Definition and Delineation: Satellite telemetry studies suggest considerable interchange among breeding, molting, and wintering populations throughout North America, although sample sizes are small.

1. Compare genetic material of Long-tailed Ducks that winter on the Atlantic and Pacific Coasts, and on the Great Lakes, to determine whether there is more than one distinct population in North America.
2. Determine affiliations between breeding, molting and wintering areas (satellite telemetry, banding, stable isotopes).
3. Determine migration corridors between breeding and wintering areas (satellite telemetry).

Population Dynamics: There are few data on population dynamics for this species. The most important limiting factors are unknown.

1. Estimate survival rates of birds from various breeding areas.
2. Collect productivity data for breeding areas.
3. Determine the age structure of birds from various breeding areas.
4. Once necessary demographic parameters have been estimated, develop a demographic model for the species.

Harlequin Duck, Eastern Population

(*Histrionicus histrionicus*)

Population Size and Trends: Information on the size and trend of the eastern seaboard wintering population needs to be refined. Little is known of the size and trends of the Greenland wintering population.

1. Establish a monitoring program and determine the size and trend of the eastern seaboard wintering population, including Greenland birds.

Population Definition/Delineation: There seem to be two populations in eastern North America, one that winters on the eastern seaboard and one that winters in Greenland. Preliminary genetic studies support this division, but better genetic studies are needed to establish the degree of genetic differentiation of the two populations.

1. Determine the breeding boundaries between birds wintering Greenland and along the eastern seaboard.
2. Complete a comprehensive genetic analysis of the various populations of Harlequin Ducks.
3. Determine affiliations of birds among breeding, molting and wintering areas; locate breeding areas of birds wintering in Nova Scotia and in Newfoundland

Population Dynamics: Basic population parameters are needed for the two eastern populations. There are no reliable data on survival rates of young and adults. The mechanisms of selection of molting areas and even wintering areas are not known.

1. Conduct studies of survival rates of adults and young.
2. Study reproductive success on various rivers and across years.
3. Obtain more accurate sex and age ratios for the various wintering areas (Maine, Nova Scotia, Newfoundland and other peripheral wintering areas).

Population Ecology: Breeding ecology of the two eastern populations is poorly documented. Little is known of the effects of weather, food availability and spring runoff on reproductive success.

1. Study factors affecting reproductive success.
2. Study dispersal behavior of young.

Habitat Requirements: Rivers important for breeding remain to be located and characterized. Few staging areas have been identified and well characterized to date.

1. Identify and characterize rivers that are heavily used by Harlequin Ducks and evaluate the impact of recreational activities on these streams, if any.
2. Identify and characterize spring staging areas.
3. Identify and characterize molting sites.

~~NO RELIABLE INDEX~~

Harlequin Duck, Western Population

(*Histrionicus histrionicus*)

Population Size and Trends: There is no reliable index of population size or trend for Harlequin Ducks in western North America. Numbers of breeding birds have been estimated in some small portions of their range over the short term. Single or short-term winter indices are available for a few areas. Winter survey efforts have been most consistent in Prince William Sound, Alaska (since 1989), southern British Columbia; and Puget Sound, Washington.

1. Establish a comprehensive survey program to annually estimate the number of Harlequin Ducks on all major wintering areas in the west, in conjunction with surveys to estimate age ratios
2. Establish monitoring surveys in selected key breeding areas to detect changes in bird densities at local or regional scales.

Population Definition/Delineation: Preliminary studies suggest some genetic differences between Eastern and Western populations and among breeding areas in western North America. Also, direct measures of movement (banding, telemetry) indicate low degrees of exchange at all stages of the annual cycle.

1. More completely describe the degree of genetic similarity/difference between breeding birds from Rocky Mountain/Pacific Northwest component and the Alaska/Bering Sea component.
2. Investigate genetic relationships of breeding birds in northeastern Russia to those in North America.
3. Expand marking studies (banding, satellite and VHF radios) to strengthen knowledge of connections between breeding birds and their molting and wintering grounds across the geographic range.

Population Dynamics: There has been substantial progress on describing basic parameters of population dynamics in western North America. Focused work on the British Columbia Coast and in Alaska (related to the *Exxon Valdez* Oil Spill) has accumulated information on productivity, survival rates of young and adults, and age structure of the population. In other parts of the range, similar information has not been gathered.

1. Expand studies of productivity factors in representative ecological regions across the breeding range (e.g. Rocky Mountain, interior subarctic, Pacific Coast, Bering Sea river basins).
2. Expand studies of seasonal and annual survival rates of juveniles, subadults and adults.
3. Expand studies of sex ratios and age ratios (productivity indices) for major wintering areas.
4. Expand studies of immigration, emigration, and dispersal rates among wintering areas.
5. Increase development of population models that integrate productivity, survival, and harvest components to assess the importance of factors affecting population growth.

King Eider

(*Somateria spectabilis*)

Population Size and Trends: Aerial surveys that provide indices of breeding population size are currently operational in northern Alaska. Similar surveys in western and central arctic Canada are in development through a cooperative effort by the Sea Duck Joint Venture and Arctic Goose Joint Venture. The aerial surveys indicate King Eiders have declined in number since the early 1990's in parts of western arctic Canada, but remained stable in central arctic Canada and northern Alaska. Counts at Point Barrow, Alaska during spring migration indicate that overall, the western arctic population has been stable since the mid 1990's. There is no up-to-date information on the population status of King Eiders nesting in eastern arctic Canada. However, surveys of King Eiders molting off central west Greenland suggest present numbers are only half of what they were in the 1950's. Roughly 400,000 King Eiders nest in western arctic Canada and northern Alaska. An additional 100,000 or more of the eiders that winter in the Bering Sea and North Pacific nest in Russia. There is no reliable estimate of the number of King Eiders nesting in eastern arctic Canada.

1. Continue breeding population surveys timed specifically for eiders on the Alaska arctic coastal plain, as a means of monitoring population trends in Alaska.
2. Continue to develop waterfowl breeding population surveys for western and central arctic Canada in cooperation with Arctic Goose Joint Venture, as a means of monitoring population trends of King Eiders in Canada.
3. Repeat eider count at Point Barrow during spring migration every 5-10 years.
4. Determine whether the migratory pathway of eiders past Point Barrow varies among years, to assess whether the spring migration counts are a valid means of measuring population size and trends.
5. Survey molting or wintering birds in western and southern Greenland. Although interpretation of surveys would be confounded because it is unknown whether birds come from Canada or Greenland, these surveys may be the most efficient means of monitoring population trends of Atlantic King Eiders.

Population Definition/Delineation: Satellite telemetry, banding and stable isotope studies in Alaska and Canada indicate that over much of the breeding range there are two distinct populations of King Eiders wintering in two geographically distinct areas. However, in at least one location in central arctic Canada (i.e. Queen Maud Migratory Bird Sanctuary), the breeding range of eiders that winter west of the continent overlaps with that of eiders wintering to the east. Not only is there overlap, but also some females within the area of overlap switch wintering areas among years (stable isotope analysis indicated about 20% of the females likely switched wintering areas between two years). Furthermore, a recent genetics study indicates that there is no genetic distinction between King Eiders wintering in the Atlantic versus those wintering in the Bering Sea and North Pacific. Although not genetically distinct, it may still be best to manage King Eiders in arctic Canada as two populations. To do that, more information is needed on location and extent of overlap of the two breeding ranges in arctic Canada.

CURRENT ESTIMATES REMAIN
WELL BELOW Common Eider, Pacific Race MID 70's
(*Somateria mollissima v-nigra*)

Population Size and Trends: Surveys that provide abundance indices of breeding populations are currently operational or in development in parts of their range, including the western Canadian arctic, Alaska arctic coastal plain, and Yukon-Kuskokwim Delta (YKD). The Pacific race is roughly estimated to number 170,000 birds. Surveys of migrating birds at Point Barrow, Alaska during spring suggest significant declines from 1976 to 1996, but possible increases since then; current estimates remain well below those obtained in the mid 1970s. Surveys in northwest Alaska, Aleutian Islands, and northwest Canada are still too recent to detect trends.

1. Continue and further develop surveys for YKD, Alaska arctic coastal plain, and western Canadian arctic.
2. Repeat spring migration counts at Point Barrow every 5-10 years.
3. Develop long-term monitoring plan for western arctic Canada, northwest Alaska and Aleutian Islands.
4. Conduct exploratory breeding surveys of St. Lawrence Island, St. Matthew Island, and Nunivak Island.
5. Conduct periodic breeding pair survey of Russia breeding habitats.

Population Definition/Delineation: Satellite telemetry studies of Pacific Common Eider suggest geographic structuring within the population. Specifically, those breeding in the western Canadian Arctic and Alaska arctic coastal plain seem similar in regard to wintering areas (i.e., eastern Russia). Common Eiders marked on the YKD exhibited different migratory patterns and used different wintering areas. Initial satellite telemetry results support the assumption that the Aleutian birds are resident; however, further study is needed to ascertain whether the Aleutians, which represent an immense area, contain subpopulations of Common Eiders. Preliminary satellite telemetry data for eiders breeding on the Seward Peninsula, Alaska, suggest wintering areas in both eastern Russia and western coastal Alaska.

1. Identify links among breeding, molting, wintering, and staging areas of Common Eiders breeding on the Seward Peninsula.
2. Identify links among breeding, molting, wintering, and staging areas of Common Eiders breeding in the Aleutian Islands.

Population Dynamics: Detailed studies on breeding biology and estimates of vital rates exist only for a few local breeding areas, most notably YKD, Alaska north coast, and central arctic Canada. A generic population model has been developed for YKD Pacific Common Eiders, but some key population model parameters are missing or lack estimates of variation.

1. Determine reproductive success for this race in all major nesting areas.
2. Determine age-specific survival rates throughout range.

THREATENED Steller's Eider

(*Polysticta stelleri*)

Population Size and Trends: In Russia, the Steller's Eider is considered rare and recorded in the Red Book, although an extensive survey of the Russian Far East indicated over 100,000 birds in the Pacific population. A smaller Atlantic population from western Siberia numbers 30-50,000. The Alaska breeding population is listed as a threatened species in 1997 under authority of the Endangered Species Act based on a substantial decrease in the species range and vulnerability of the remaining Alaska breeding population to extirpation. Steller's Eiders have essentially disappeared as a breeding species from the Yukon-Kuskokwim Delta where they were once numerous. The breeding population on the Arctic Coastal Plain is highly variable, with highest densities around the Barrow area. Although several hundred probably occur there in most years, there is little reliable quantitative information available to assess trends. A spring aerial survey provides an annual index to population size of birds migrating northward in coastal habitats in southwest Alaska.

1. Continue intensive aerial surveys near Barrow.
2. Continue standardized ground-based breeding pair surveys at Barrow.
3. Continue spring Pacific population aerial survey.
4. Explore possibility of counting birds in the ice leads of the Chukchi Sea in spring before they arrive on the North Slope.
5. Develop visibility correction factor for aerial surveys of Steller's Eiders on the breeding grounds.

Population Definition/Delineation: There are two geographical populations of Steller's Eiders with separate breeding and winter distributions. The Atlantic population nests in western Siberia and winters in the Barents and Baltic Seas. Most of the Pacific breeding population inhabits the maritime tundra of northeast Siberia, and a smaller population breeds at low densities across the Arctic Coastal Plain of Alaska. The Pacific population winters primarily in Alaska in the Bering Sea, although specific wintering areas of the threatened Alaska breeding population are less certain. Genetic analyses of the disparate breeding populations in Russia and North America have not been conducted. A captive flock of Steller's Eiders has been established at the Alaska Sea Life Center (ASLC).

1. Maintain captive flocks, develop techniques for artificial propagation, and investigate development of a second captive flock.
2. Develop a plan for re-introduction, including fully establishing a known-geographic origin flock of Steller's Eiders At ASLC.
3. Opportunistically collect eggs on the Yukon-Kuskokwim Delta and North Slope to establish a flock of known-geographic origin Steller's Eiders at ASLC.
4. Conduct satellite telemetry study to link breeding, molting, wintering and staging areas.

THREATENED
Spectacled Eider
(*Somateria fischeri*)

Population Size and Trends: All Spectacled Eider breeding populations were listed as threatened on May 10, 1993 because of documented population declines. The Yukon-Kuskokwim Delta population declined by >90% between the 1970s and early 1990s. Anecdotal information indicated that populations in the other two primary breeding areas, the Russian and Alaskan Arctic Coastal Plains, also declined, along with the much smaller breeding population on St. Lawrence Island in the Bering Sea. Annual aerial surveys for breeding population trend have been developed for the two North American breeding subpopulations. A ground-based nest survey is used in conjunction with aerial survey indices to provide an annual estimate of the Yukon-Kuskokwim Delta population; recent estimates are about 9,400 breeding birds with a slightly increasing population trend. A fixed-wing survey is flown annually to estimate numbers on Alaska's Arctic Coastal Plain; an estimated 13,000 birds breed there with a stable population trend. A single aerial survey, conducted over a 4-year period, provided a population index for the Arctic Russia breeding population. Winter surveys of the only known wintering area of this species (presumed to represent the world population) provided a total species estimate of about 363,000 in 1996-1997.

1. Continue the *Yukon-Kuskokwim Delta Nest Plot Survey* and *Aerial Breeding Pair Survey* used together to provide a nest population estimate.
2. Repeat the survey of the wintering area (last conducted in 1998).
3. Continue the *Arctic Coastal Plain Survey*.
4. Conduct periodic breeding pair surveys of Russia breeding habitats.

Population Definition/Delineation: Genetic analysis indicates the presence of 3 distinct breeding subpopulations: Yukon-Kuskokwim Delta, Alaska Arctic coastal plain, and Russia.

1. Determine whether Ledyard Bay is a staging and molting area for North Slope or Arctic Russia breeding populations.

Population Dynamics: Current survival data are derived from site-specific studies of the Yukon-Kuskokwim Delta breeding population and may not be representative of the entire region. Similar information is not available for the North Slope of Alaska or Russia.

1. Capture and mark adult female Spectacled Eiders nesting on Kigigak Island, Yukon Delta NWR to estimate annual survival.
2. Evaluate the feasibility and efficacy of predator (fox, gull) control on the Yukon Kuskokwim Delta where gulls may be affecting Spectacled Eiders.
3. Monitor productivity and recruitment of Spectacled Eiders on Kigigak Island, Yukon Delta NWR.
4. Estimate annual survival of Spectacled Eiders on the North Slope.

Sea Duck Joint Venture

Strategic Plan 2008 - 2012

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SIZE + TRENDS NOT RELIABLE**Red-breasted Merganser***(Mergus serrator)*

Population Size and Trends: Size and trends of populations in North America are not reliably known because aerial surveys do not differentiate between Red-breasted and Common Mergansers, and because large portions of their range are not surveyed. Also, this is a late-breeding species, which implies that most of the regular waterfowl surveys occur too early to provide adequate estimates of population size. For example, in the St. Lawrence estuary, they initiate their nests well after the Common Eiders have hatched. The North American population probably numbers about 300,000 to 400,000.

1. Obtain more reliable estimates of population size in major wintering areas.
2. Determine optimal time for surveys of breeding birds.
3. Obtain more reliable estimates of population size in important breeding areas.
4. Evaluate the potential of surveys at key molting sites as a tool to monitor trends.

Population Definition/Delineation: Little is known about the various populations, but initial genetic data suggest little if any population differentiation across North American breeding areas. Red-breasted Mergansers breed and winter along the Atlantic, Pacific and Arctic coastlines as well as inland. It is not known whether there are subpopulations. It is possible that some of the birds wintering in Greenland breed in Canada, as do Harlequin Ducks and King Eiders.

1. Determine relationships between breeding and wintering areas.
2. Continue analysis on whether there are morphometric and genetic differences between east and west coast birds, between birds breeding in the north versus the south and between Canadian and Greenland birds.
3. Determine whether birds breeding in salt waters differ from those breeding on fresh waters.

Population Dynamics: Little is known about the dynamics of Red-breasted Merganser populations. Only one study has been done on reproductive success in North America, in Lake Michigan. Reproductive success in salt waters and in the north is unknown.

1. Measure reproductive success in different settings, especially in salt and brackish waters.
2. Determine survival rates of males, females and young in different breeding areas.
3. Obtain better estimates of age and sex ratios in various staging and wintering areas.
4. Determine survival rates of sub-adults.

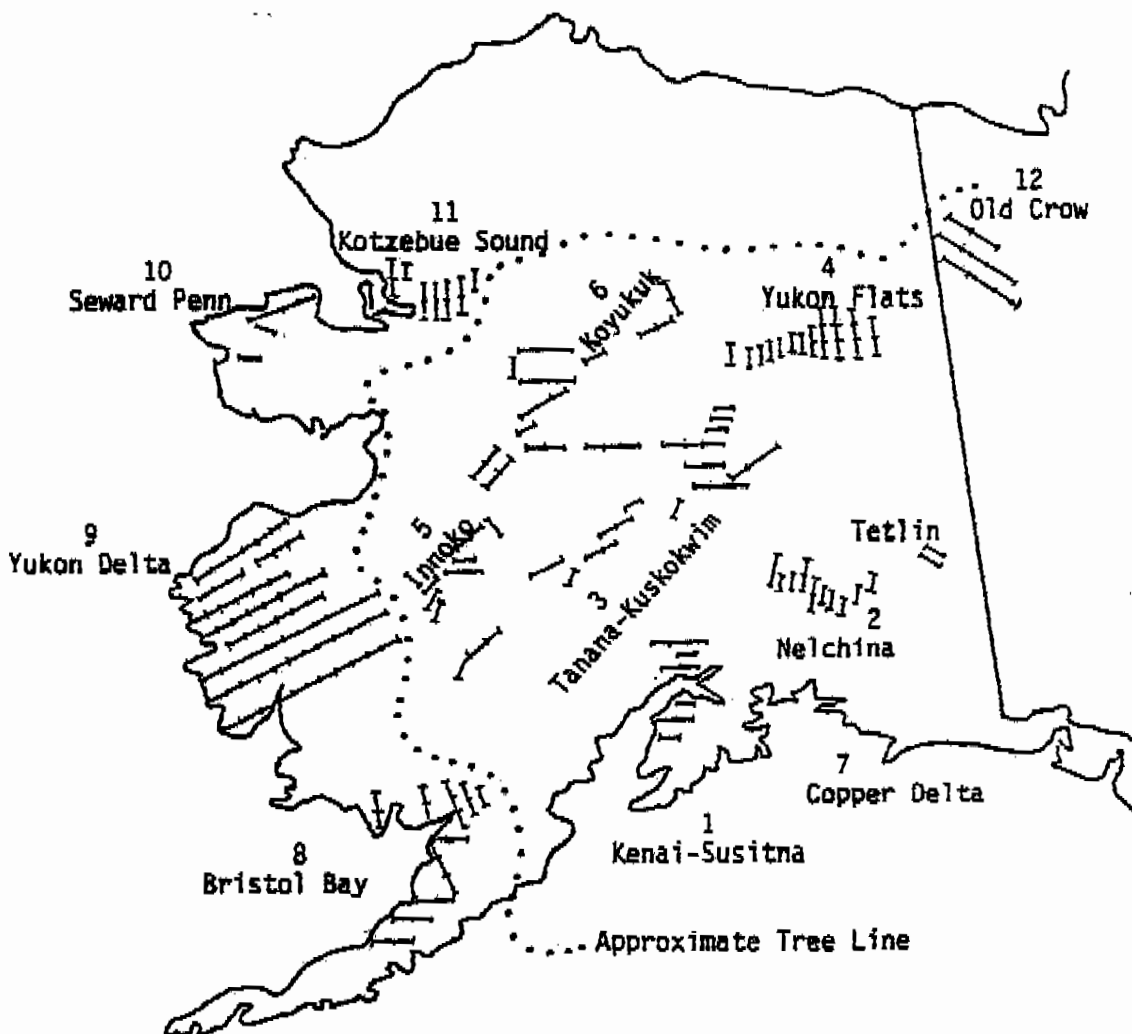
Population Ecology: Only a few studies have been done on the breeding and wintering ecology of the species. Brood amalgamation is frequent in this species. The causes and function of this behavior are unknown, but it likely affects survival of young. There is a need for a few comprehensive breeding biology studies in North America. Winter diet is not well known for most wintering areas.

SURVEYS SINCE 195 +

ALASKA - YUKON

WATERFOWL BREEDING POPULATION SURVEY

May 14 to June 5, 2007



By

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Fairbanks¹ and Juneau², Alaska

LONG TERM DECLINES BE MORE SIGNIFICANT THAN DEPICTED

awareness and recorded observations through a microphone (sound files) that are linked to coordinates from the aircraft GPS (latitude and longitude). We then used a second computer program on the ground to transcribe the linked sound files and produce a text file. The text files contained all relevant data for each observation and were used for analyses and production of stratum summaries and tables. All data and summaries were provided to the Division of Migratory Bird Management (DMBM) in Laurel, MD upon completion of the survey.

The survey design consisted of 12 strata and a total of 232 segments. The Alaska portion of the survey consisted of 214 segments each 16 miles in length and 10 segments each 8 miles in length. The Yukon portion of the survey (Old Crow Flats) consisted of 8 segments each 18 miles in length. All segments were flown in 2007.

We incorporated visibility correction factors (VCFs) in the estimates of ducks. The VCFs were obtained from a six-year (1986-1991) helicopter/fixed-wing comparison study in Alaska. The VCFs were species and habitat specific; boreal forest (strata 1-7), tundra (strata 8-11), and Old Crow Flats in Canada (stratum 12). These VCFs have been used since 1992 and all data previous to 1992 have been corrected as well.

In 2002, the Waterfowl Management Branch in Alaska (following DMBM) decided to double all observations of single geese when calculating indicated total geese. The rationale for this decision was based on the premise that a single goose indicates a pair of geese with the unobserved goose on a nest. All historical data have been updated to reflect this change in analyses. Furthermore, we do not apply a VCF to Canada geese while the DMBM does apply a VCF of 2.89 for Canada geese. Finally, starting in 2002, the DMBM started deleting all flock sightings greater than 45 from the calculations of continental population indices while the results reported here include all flocked observations regardless of size.

WEATHER AND HABITAT CONDITIONS

This year spring breakup occurred early throughout the survey area with exceptions on the Seward Peninsula and Old Crow Flats which were normal to slightly late. Ice melt and vegetation green-up appeared early in all areas with the exceptions of those listed above. The interior of Alaska received little snow fall during the winter and early spring runoff resulted in very low river levels and no flooding.

BREEDING POPULATION ESTIMATES

Caution should be used when interpreting the graphs that include data previous to 1977. The specially modified turbine beaver (N754) has been used on this survey from 1977 to present. This aircraft has increased visibility when compared to aircraft used prior to 1977 on this survey. This suggests that any long term declines may be more significant than depicted on the graphs and any long term increases may be less significant than depicted on the graphs (depending on the span of years in question). Likewise, long-term averages that include pre-1977 data could be somewhat misleading. Historical data from this survey (1957-1994) have been analyzed and are available in a report (Hodges et al 1996).

NEED EXPLOITATION STRATEGY

Can Ducks be Managed by Regulation?

R-K
CONTINUUM

Experiences in Canada

James H. Patterson

#Prairie Migratory Bird Research Center

Canadian Wildlife Service, Saskatoon, Saskatchewan

Introduction

I would suggest that the panel topic "Can ducks be managed by regulation?" is composed of two separate questions: (1) "Can the annual kill of ducks be affected by regulations?", and (2) "Can the size of the annual kill influence, or manage, duck population size?"

The first question is relatively straightforward. Restrictive hunting regulations in the Prairie Provinces in recent years have demonstrated that the Canadian waterfowl kill can be reduced by lower bag limits. The second question has traditionally been more complex. This complexity has been augmented by the concepts of compensatory mortality and threshold levels put forth by Anderson and Burnham (1976).

I intend to discuss the influence of sport harvest on a number of prairie-nesting duck species in a somewhat speculative manner. This approach will be based on broadly stated hypotheses and a generalized application of existing data. To proceed in this manner may be considered scientifically rash. However, I feel that we must work towards a predictive strategy for the multi-species exploitation of waterfowl. These efforts are essential if we are to avoid a supply and demand impasse in waterfowl management. I will be speaking primarily from the point-of-view of prairie Canada.

Methods

Data sources were primarily from annual surveys of (a) breeding populations conducted by the U. S. Fish and Wildlife Service (USFWS) and the Canadian Wildlife Service (CWS), and (b) sport hunting kill surveys in Canada by CWS (Cooch et al. 1978) and in the United States by USFWS (Greenwalt 1975).

Species harvest rate indexes used in this paper are simply the ratio of the total kill in the United States and the three Prairie Provinces, over the North American fall flight expressed as a percentage. North American fall flights were calculated by summing the breeding population, and the product of the breeding population and the adjusted immature to adult ratio.

The Requirement for an Exploitation Strategy

Breeding duck populations which inhabit the prairie-parkland region of North America exist in an extremely dynamic and unpredictable set of environments. Climatic cycles produce wide annual variations in the quantity and quality of wetland habitat. For example, the number of ponds estimated from the annual breeding-ground survey has varied for a high of 7.3 million to a low of 1.6 million in

the period 1955-1978. Numbers of all prairie-nesting duck species fluctuate in response to this habitat availability, but not to the same extent. This is to be expected, as each duck species would evolve a somewhat unique set of reproductive and survival strategies in response to environmental conditions.

Superimposed on the natural variability in the quantity and quality of breeding habitats are the impacts of man's industrial, urban and agricultural developments on breeding, migration and wintering habitats. All information indicates that environmental factors used by prairie-nesting waterfowl are being lost or degraded at a substantial rate throughout North America. There is widespread concern that the reproductive potential of prairie-nesting ducks has declined over the past three decades in response to habitat degradation. Stimulation modelling exercises such as that conducted on the mallard by Hochbaum and Caswell (1978) indicate that only small population gains could be expected by harvest reductions, but substantial increases in breeding populations could be expected from management programs that improved recruitment.

Conversely, Trauger and Stoult (1978) presented the case that reproductive performance of prairie-parkland dabbling ducks has not declined over the past several decades. They suggested that declines in dabbling duck populations were caused by factors affecting the densities of breeding adults. While habitat quality and quantity have declined in the prairie-parkland area, it has not progressed to the extent where it could be responsible for the present state of waterfowl populations. Trauger and Stoult concluded that these populations are being over-harvested in North America.

In this complex and dynamic situation, the waterfowl biologist is charged with managing the exploitation of a multi-species assemblage of ducks in a manner that will ensure both the long-term preservation of stocks and optimum levels of sport harvest. In comparison to other natural resource management disciplines, I would submit that we do not have a comprehensive theory of exploitation as a basis for this task. The craft of managing duck populations through harvest regulation has traditionally been based on empirical considerations of population status and harvest, with the majority of effort being directed to the mallard (*Anas platyrhynchos*). While this approach may have worked in the past, it is my opinion that conditions affecting waterfowl are changing to the point where we must endeavour to develop a multi-species exploitation strategy that is based on sound ecological principles.

A notable exception to this generalization is the landmark paper by Anderson and Burnham (1976). To quickly summarize their findings, Anderson and Burnham concluded that up to an unidentified threshold level, hunting and nonhunting mortality were largely compensatory forms of mortality for the mallard. To address the topic of this panel, the Anderson and Burnham hypothesis would suggest that if hunting mortality is below the threshold point, a restriction in harvest would not produce more ducks in the population. In other words, ducks cannot be managed (or stockpiled) by regulations if hunting mortality is below the threshold point.

As the most numerous and widely distributed duck species in North America, the mallard is generally considered to be a very opportunistic species that can sustain a relatively high rate of hunting mortality. Conversely, a long-lived species, such as the canvasback, would be expected to have a lower threshold

Table 1. Relative grouping of 10 major duck species in an r - K continuum.

	Mallard	Blue-winged teal	Pintail	Shoveler	Wigeon	Gadwall	Green-winged teal	Redhead	Canvasback	Scaup
r-STRATEGY N_t vs P_t ($P < 0.01$) *($P < 0.05$)	No*	Yes	Yes	Yes	No*	No	No	No*	No	No
K-STRATEGY $N_{t+1} - N_t$ vs N_t ($P < 0.05$)	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	← DABLERS			X	K-DABLERS			X	K-DIVERS →	

On the basis of these two simple tests for r and K attributes I would suggest that mallard, blue-winged teal, pintail and shoveler could be considered r strategists. The remaining dabbling species, wigeon, gadwall (*Anas strepera*), and green-winged teal (*Anas crecca carolinensis*) could be considered as K strategists. I have grouped the diving ducks, redhead, canvasback and scaup into a separate K category on the basis of delayed breeding, which would lower the rate of natural increase in comparison to the dabbling ducks.

Considering the a priori assumption that the mallard is a very opportunistic species, it is surprising that the mallard was not as strongly related to pond numbers as the other r dabblers. If an r species was to exhibit this positive relationship with habitat, we would be assuming that other factors were not exerting a major influence on the population. Figure 1 indicates that this may not be the case for mallards. In the upper graph, breeding mallard populations in the prairie-parkland area of Canada are plotted against year, in the period 1970-1978, which follows the Anderson and Burnham analyses. Although the breeding population varies in a nonlinear manner, the general rate of decline during this period is described by a negative linear regression at the 5-percent level of significance. The lower graph plots mallard harvest rate index for the period 1969 to 1977. This plot is described by a positive linear regression at the 1-percent level of significance.

I am not implying that these data prove that the mallard harvest has exceeded the threshold point. I would suggest, however, that current harvest measures could be impairing habitat utilization by mallards in the prairie-parkland region. This suggestion is consistent with the conclusions of Trauger and Stowd (1978).

Having proposed that prairie-nesting ducks can be separated into three groups on an r - K continuum, is it possible to identify ranges where the group threshold levels might be? The r - K concept indicates that mortality rates should be highest in the r -dabblers, intermediate in the K -dabblers and lowest in the K -divers, but beyond this point ecological theory does not help.

Anderson and Burnham (1976) indicated that we may have exceeded the threshold point for the mallard on a continental basis in 1964 and 1970. As noted previously in Figure 1, mallard harvest rates have increased since 1970, coincident with declining breeding populations in the prairie-parkland region. I would suggest that we are at, or near, the threshold level for mallards now. The threshold level for r -dabblers then should be in the area of 40 percent, in terms of the harvest rate index used here.

In Figure 2, changes in May breeding populations in the prairie-parkland area of Canada and harvest rate indexes are shown for redhead and canvasback, examples of K -divers, and wigeon and green-winged teal, examples of K -dabblers.

The abrupt drop in the harvest rate index for canvasback and redhead in the early 1970s was in response to severe restrictions in the U. S. harvest brought in by area closures. Breeding populations of both species increased substantially after this restriction. Since that time the harvest rates have increased again and breeding populations have declined. From this information I would suggest that the threshold level for K -diving ducks is likely in the area of a 10 percent harvest rate index.

Harvest rate indexes for the wigeon and the green-winged teal have risen sharply in recent years, with a coincident decline in prairie-parkland breeding populations. Boyd et al. (1978) identified the fact that sport hunting in North

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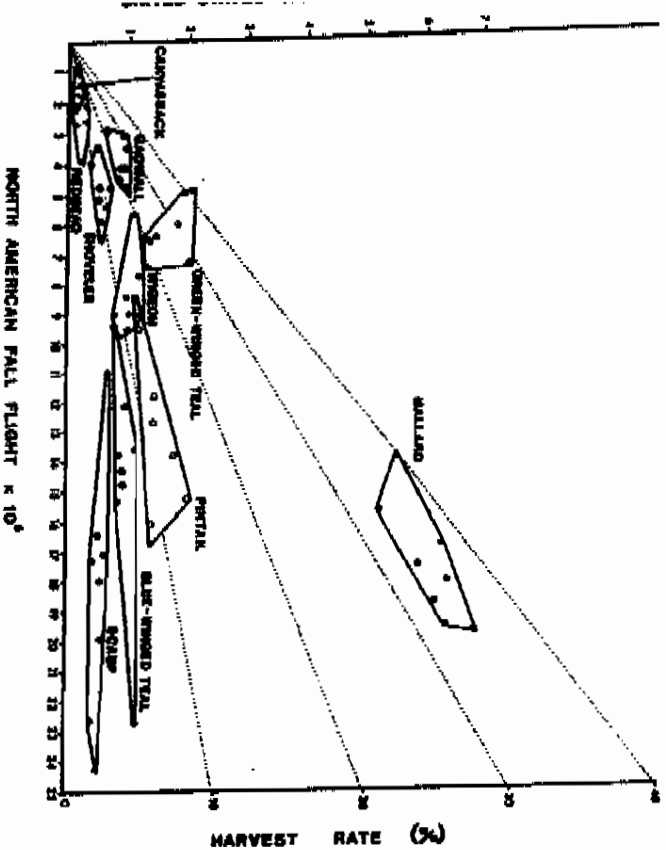


Figure 3. Harvest rate indexes for 10 duck species during the period 1970-1977. Polygraphs encompass calculated indexes for the 5-year period.

Conclusion

In conclusion, I would like to make three main points. First, it would seem that biological concepts, such as r - K theory, have promise in contributing to the development of a multi-species exploitation strategy for ducks. The analyses in its presentation are quite superficial, however, the Canadian Wildlife Service will be continuing this work in a more detailed way.

Second, harvest pressures on a number of the so-called minor species are not insignificant. To evaluate the numerical kill of various species of ducks against the size of the mallard is wrong. The proportion of the fall flight that is harvested may be substantial for these species, and be related to lower threshold levels. In the case of the mallard, the annual kill could vary in the order of a million, and depending on the size of the fall flight, not change the harvest rate. However, with species such as the canvasback, even a minor numerical increase in the kill could have a marked impact on harvest rates.

The final point I wish to make is that waterfowl management in North America as tended to focus primarily on the mallard. We should endeavour to develop a more balanced waterfowl management and

ABSTRACTS FOR SESSION 3: WINTER ECOLOGY

3.1 Multi-scale Winter Habitat Discrimination Between Barrow's and Common Goldeneyes in the St. Lawrence Marine System

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Barrow's and Common Goldeneyes (*Bucephala islandica*, *B. clangula*) are closely related species that appear very much similar in several aspects. Both species have similar body mass, feed on benthic invertebrates and winter in equal numbers in the St. Lawrence marine system, which is the core of the winter range of Barrow's Goldeneyes in Eastern North America. The results presented here are part of a comparative study addressing the role of competition and body mass on winter resource selection by goldeneyes. We analyzed winter distribution data collected on both species of goldeneyes in the St. Lawrence marine system: 1) large-scale synoptic views provided by helicopter-borne surveys and 2) fine-scale localizations recorded through in-site observation using laser binoculars. Habitat description was obtained through spatial analyses, remote-sensing and benthic sampling. Distribution patterns were compared across species on the basis of patchiness and habitat use. A multi-scale analysis showed a decreasing level of sympatry as spatial resolution was refined. Barrow's Goldeneye distribution appeared more clustered than that of Common Goldeneye. Both species showed strong and equal preference for the tidal zone. Barrow's Goldeneye was more tolerant to ice cover and more closely associated with rocky substrate and dense fucacea cover. Common Goldeneye was more closely associated with river mouths and soft bottom. We conclude that resource partitioning occurred among the two species when a fine scale resolution is considered.

Site fidelity and the demographic implications of winter movements by a migratory bird, the harlequin duck *Histrionicus histrionicus*

Samuel A. Iverson and Daniel Esler

Iverson, S. A., and Esler, D. 2006. Site fidelity and the demographic implication of winter movements by a migratory bird, the harlequin duck *Histrionicus histrionicus*. – J. Avian Biol. 37: 219–228.

Understanding the degree of demographic connectivity among population segments is increasingly recognized as central to the fields of population ecology and conservation biology. However, delineating discrete population units has proven challenging, particularly for migratory birds as they move through their annual cycle. In this study, radio telemetry was used to assess movement rates among habitats by harlequin ducks *Histrionicus histrionicus* during the non-breeding season in Prince William Sound, Alaska. A total of 434 females were outfitted with radio transmitters over six years of data collection, and their signals tracked by aircraft. Using a spatially nested design, it was determined that 75% of radioed females remained in the bay or coastline area where they were originally trapped, 94% remained on the same island or mainland region of Prince William Sound where they began the winter period, and 98% remained within the 4500 km² study area as a whole. Home range analyses corroborated these findings, indicating that the scale of individual movements was small, with 95% kernel home range estimates averaging only 11.5 ± 2.2 km². A simple demographic model, which incorporated estimates for population size, survival, and movement rates, was used to infer the degree of independence among population segments. Immigrant females were found to contribute little to population numbers in most areas, accounting for only 4% of the adult female population at a scale of approximately 100 km². These results have important implications for the scale of conservation action for the species and demonstrate that winter movements can have a strong influence local population dynamics.

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Movement and site fidelity patterns of individuals have important implications for the structure and dynamics of wildlife populations. High rates of movement promote gene flow and genetic homogenization, whereas site fidelity increases population genetic structure (Slatkin 1987). Rates of movement and site fidelity also determine the extent to which population segments are maintained by internal, or *in situ*, production, and what extent by immigration (Nichols and Pollock 1990). The exchange of individuals can link demographic rates across areas, whereas site fidelity produces regions wherein subpopulations have independent demographic processes (Ranta et al. 1997, Stacey et al. 1997). By

determining the geographic origin of individuals and estimating the frequency of exchange between population segments, inferences can be drawn about the degree to which individuals in different locations are genetically and/or demographically connected. This knowledge is critical for delineating discrete subpopulations and managing them for sustainability (Dizon et al. 1992, Moritz 1994).

Migration poses additional challenges for understanding population structure because migratory species use a variety of geographically disparate habitats throughout their annual cycle. Migratory movements often confound efforts to delineate distinct population

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The Condor 106:711-715
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WINTER PHILOPATRY OF HARLEQUIN DUCKS IN PRINCE WILLIAM SOUND, ALASKA

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Abstract. We used capture-mark-recapture data to assess winter philopatry by Harlequin Ducks (*Histrionicus histrionicus*) in Prince William Sound, Alaska, during winters 1995-1997 and 2000-2001. Philopatry was quantified using homing rates, which were estimated as the proportion of birds recaptured at their original site out of all recaptured birds. Between-year homing rates of 0.95 (95% CI: 0.87-1.00) and 1.00 (0.92-1.00) were estimated for females and males, respectively, at three locations on Montague Island. Similar homing rates were measured in western Prince William Sound, where estimates were 0.92 (0.80-0.98) for females and 0.96 (0.79-1.00) for males, with a scale of detected movements for all recapture birds ranging from 3-52 km. Our results indicate that wintering aggregations may be demographically independent at a much finer spatial scale than genetic data indicate, and that conservation efforts should recognize this degree of demographic separation among population segments.

Key words: demographic independence, Harlequin Duck, *Histrionicus histrionicus*, homing rate, seaduck, site fidelity, winter philopatry.

Filopatría Invernal de *Histrionicus histrionicus* en Prince William Sound, Alaska

Resumen. Utilizamos datos de marcaje y recaptura para determinar la filopatría de *Histrionicus histrionicus* en Prince William Sound, Alaska, durante los inviernos de 1995-1997 y 2000-2001. La filopatría fue

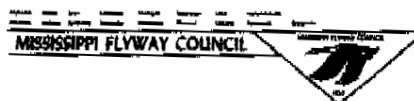
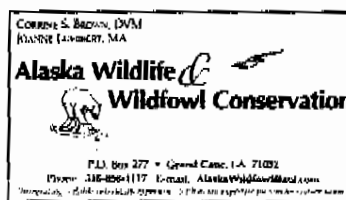
cuantificada utilizando la tasa de retorno, estimada a partir de la proporción del total de aves capturadas que se recapturaron en su sitio original. Las tasas de retorno entre años, estimadas en tres localidades en la isla Montague, fueron de 0.95 (95% IC: 0.87-1.00) y 1.00 (0.92-1.00) para hembras y machos, respectivamente. En Prince William Sound se midieron tasas de retorno similares, donde las estimaciones fueron 0.92 (0.80-0.98) para las hembras y 0.96 (0.79-1.00) para los machos, y para todas las aves recapturadas se detectó una escala de movimiento entre 3 y 52 km. Nuestros resultados indican que las agrupaciones de invierno pueden ser demográficamente independientes a una escala espacial mucho más fina de lo que los datos genéticos indican, y que los esfuerzos de conservación deberían reconocer este grado de separación demográfica entre segmentos de poblaciones.

Breeding philopatry among North American waterfowl is typically female biased, and much attention has focused on the social and genetic consequences of this particular sex-biased dispersal pattern (Greenwood 1980, Rockwell and Barrowclough 1987, Ruhwer and Anderson 1988). To date, comparatively little attention has been given to the consequences of philopatric behavior during other stages of the annual cycle. However, for most species the winter period encompasses a majority of the annual cycle and can be a considerable source of annual mortality. Furthermore, because most migratory waterfowl form pair bonds on wintering areas, the strength of individual affiliations to specific wintering grounds plays an important role in determining the genetic and demographic structure of populations (Robertson and Cooke 1999).

For example, geese and swans (tribe Anserini) typically exhibit high levels of philopatry to both breeding

Manuscript received 17 October 2003; accepted 23 April 2004.

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SEADUCK PAPERS 2008

2008 North American Sea Duck Conference - Programme for Tuesday

7:00 - 8:30 Complimentary Breakfast (Abraham-Martin)

8:30 - 9:00

9:00 - 10:00

Barbara Goldeneye foraging responses to spatial and temporal variation in food resources

10:00 - 10:30 Break (Foyer des Plaines)

10:30 - 12:00

Chair: Dr. Dirk V. Botsen

10:30 1.1 Moulting, Staging and Wintering Locations of Common Eiders Breeding in the Gyrfalcon Archipelago, Ungava Bay

Jean-Pierre L. Savard, Louis Lesage, Scott G. Gilliland, H. Grant Gilchrist and Jean-François Giroux

10:45 1.2 The Migration Patterns of Northern Common Eiders and King Eiders in the Eastern Canadian Arctic and West Greenland

Anders Mosbech, Flemming R. Merkel, Christian Sonne and H. Grant Gilchrist

11:00 1.3 Characterization of Annual Movements, Distribution and Habitat Use of Pacific Black Scoters

Timothy D. Bowman, Jason L. Schamber, W. Sean Boyd, Dan H. Rosenberg, Daniel Esler, Mike J. Petrula and Paul L. Flint

11:15 1.4 Migrational Routes and Timing of Black Scoters, Surf Scoters and Long-tailed Ducks Along the Atlantic Flyway After Being Instrumented with Satellite Transmitters

Matthew C. Perry, Keith McAlony, Taber D. Alison, Simon Perkins, Scott G. Gilliland, Alicia M. Berlin and Glenn H. Olsen

11:30 1.5 Importance of Eastern Chukchi Sea and Southeastern Beaufort Sea as Spring Staging Areas for King and Common Eiders

Lynne Dickson, Steffen Oppel, Garnet Raven, Abby N. Powell and Timothy D. Bowman

11:45 1.6 Evolutionary Ecologies of North American Merganser Species: Inferences from Genetic, Mark-recapture and Satellite Telemetry Data

John M. Pearce

12:00 - 13:45 Lunch (not provided)

13:45 - 15:30

Chair: Dr. W. Sean Boyd

13:45 2.1 Survey Design for Wintering Eiders: The Effect of Sampling Intensity

Scott G. Gilliland and H. Grant Gilchrist

14:00 2.2 Fixed-wing Aerial Surveys of Sea Ducks in Alaska: Issues and Improvements for Estimating Population Abundance and Trends

Heather M. Wilson, Robert M. Platte and Julian B. Fischer

14:15 2.3 Radar Observations at Avalon Seawatch to Address SDJV Monitoring Prerequisites

Doug Forsell, David Mizrahi, Bob Smith, Glenn Davis, Ken Behrens and Chris Brown

14:30 2.4 OBIS-SEAMAP as a Toolbox for Managing Sea Duck Tracking Data

Ramunas Zydulis, Patrick N. Halpin, Andrew J. Read, Benjamin D. Best, Ei Fujioka, Lucie J. Hazen, and Connie Kot

14:45 2.5 Plasma Yolk Precursor Concentrations and Egg Laying in Captive Spectacled Eiders: Can Yolk Precursors be Used to Estimate Breeding Propensity in Free Ranging Eiders?

David E. Safine, Tuula E. Hollmén, Ann E. Riddle, Daniel Esler and Tony D. Williams

15:00 2.6 Using Fatty Acids to Estimate Diets of Threatened Spectacled and Steller's Eiders

Shiway Wang, Tuula E. Hollmén and Sara Iverson

15:15 2.7 Stable Isotope Fractionation Factors for Quantifying Spectacled Eider Nutrient Allocation to Egg Production

Rebekka Federer, Tuula E. Hollmén, Daniel Esler and Matthew Wooller

15:30 - 16:00 Break (Foyer des Plaines)

North American Sea Duck Conference – Programme for Tuesday

16:00 - 17:30 **Chair: Dr. Daniel Estler**

- 16:00 3.1 Multi-scale Winter Habitat Discrimination Between Barrow's and Common Goldeneyes in the St. Lawrence Marine System
Jean-François Ouellet, Magella Guillemette and Michel Robert
- 16:15 3.2 The situation for the Long-tailed Duck in the Baltic Sea
Leif Nilsson
- 16:30 3.3 Habitat and Foraging Ecology of Surf Scoters Wintering in the Mesohaline Chesapeake Bay
David M. Kidwell and Matthew C. Perry
- 16:45 3.4 Spatial Modelling of Common Elder using Distance Sampling and Generalised Additive Models (GAMs)
Ib Krag Petersen
- 17:00 3.5 Does Choice of Winter Region Affect Nesting Success of King Elders in Northern Alaska?
Steffen Oppel and Abby N. Powell
- 17:15 3.6 Overwintering Distributions of Sea Ducks in the Nearshore Habitat of the Eastern US and Canada from 1991-2002
Elise Zipkin and Emily D. Silverman

17:30 - 18:30 Free time

18:30 - 22:00 **Chair: Dr. Abraham Martin**

The Poster Reception will be held at Hôtel Château Laurier and will include two drinks as well as hot and cold food; a cash bar will also be available.

We encourage each delegate to attend the Poster Reception, as it will be a great occasion to interact with authors. Posters will be available for viewing throughout the meeting.

All poster presentations and authors are listed at the end of this schedule.

2010 International Sea Duck Conference - Programme for Wednesday

7:00 - 8:30 Complimentary Breakfast (Abraham-Martin)

8:30 - 9:30

The Common Eiders of the St. Lawrence Estuary: past, present and future

9:30 - 10:00 Break (Foyer des Plaines)

10:00 - 12:00

Chair: Dr. John M. Pearce

10:00 4.1 Population Biology of King Eiders at Karrak Lake, Nunavut

Ray T. Allsauskas, Dana K. Kelleff and Katherine R. Mehl

10:15 4.2 Harlequin Duck Population Dynamics Following the 1989 Exxon Valdez Oil Spill: Assessing Injury and Projecting a Timeline to Recovery

Samuel A. Iverson and Daniel Esler

10:30 4.3 Apparent Annual Survival of Lesser Scaup and White-Winged Scoter Females from the Canadian Western Boreal Forest

Stuart Slattery and Bob Clark

10:45 4.4 Applying Demographic Modelling Techniques to Support Sea Duck Conservation: the Continuing Case of the Northern Common Eider

Scott G. Gilliland, Gregory J. Robertson, H. Grant Gilchrist, Sébastien Descamps, Robert F. Rockwell, Jean-Pierre L. Savard, Anders Mosbech and Flemming R. Merkel

11:00 4.5 Influence of the Greenland Eider Harvest on the Population Dynamics of Common Eiders Breeding at East Bay, Southampton Island, Nunavut

H. Grant Gilchrist, Sébastien Descamps, Eric Reed and Gregory J. Robertson

11:15 4.6 Adult Survival of Common Eiders in Newfoundland and Labrador – Results from Ducks Unlimited Canada's Eider Initiative

Katherine R. Mehl, Mark Gloutney, Regina Wells and Alain Lusignan

11:30 4.7 Survival and Recovery Rates of Common Eiders Banded on Maine Coastal Islands

Daniel G. McAuley, R. Bradford Allen, Patrick O. Corr, Linda Welch, Brian Benedict, and James E. Hines

11:45 4.8 Female Biased Mortality at Different Life Stages Contributes to the Male Biased Sex Ratio in Eider Duck

Aleksi Lehtikoinen, Markus Öst, Mikael Kilpi and Tuula E. Hollmén

12:00 - 13:45 Lunch (not provided)

13:45 - 15:30

Chair: Dr. Anders Mosbech

13:45 5.1 Delineating Marine Protected Areas for Threatened Eiders in a Climatically Changing Bering Sea

James R. Lovvorn, Jacqueline M. Grebmeler, Lee W. Cooper, Joseph K. Bump, and Samantha E. Richman

14:00 5.2 Involving Rural Communities in the Conservation of the Common Eider in Northern Québec and Southern Labrador, Canada

Patricia A. Nash

14:15 5.3 Spectacled Eiders in a New Oilfield on the Colville River Delta, Alaska

Charles B. (Rick) Johnson, Julie P. Parrett, Pamela E. Seiser and Caryn L. Rea

14:30 5.4 Origin and Availability of Large Cavities for Barrow's Goldeneyes in Eastern North America

Marie-Andrée Vaillancourt, Pierre Drapaau, Michel Robert and Sylvie Gauthier

14:45 5.5 Effects of Chronic Oil Spills on Wintering Long-tailed Ducks in the Baltic Sea

Kjell Larsson

15:00 5.6 Selenium Accumulation and Implications for Surf Scoters Wintering in the San Francisco Bay Estuary

Susan W. De La Cruz, John Y. Takekawa, A. Keith Miles, John M. Eadie, Eric C. Palm, and Matthew T. Wilson

15:15 5.7 Impact of Re-established White-tailed Sea Eagles (*Haliaeetus albicilla*) on Breeding Common Eiders

Mikael Kilpi, Aleksi Lehtikoinen and Markus Öst

15:30 - 16:00 Break (Foyer des Plaines)

2009 International Sea Duck Conference - Programme for Wednesday

16:00 - 17:30 **Chair: Dr. Robert Rockwell**

- 16:00** 6.1 A Comparison of Surf Scoter Behaviour During the Spring Staging and Wing Moulting Periods
Mark O'Connor, Jean-Pierre L. Savard, Rodger D. Titman and Scott G. Gilliland
- 16:15** 6.2 Dive Performance of Common Eiders Implanted with Satellite Transmitters
Christopher J. Latty, Tuula E. Hollmén, Margaret R. Petersen, Abby N. Powell and Russel D. Andrews
- 16:30** 6.3 Nutrient and Energy Acquisition by Harlequin Ducks Foraging for an Exotic Crab, *Carcinus maenas*, and a Native Crab, *Hemigrapsus oregonensis*
Allegra M. Schafer, Alicia M. Wells-Berlin, Mary Ann Ottinger and Matthew C. Perry
- 16:45** 6.4 Exogenous Resources Contribute to Egg Formation in Arctic-Nesting Common Eiders: Evidence from Stable Isotopes
Édith Sénéchal, Joël Bêty, H. Grant Gilchrist, Keith A. Hobson and Sarah E. Jamieson
- 17:00** 6.5 Foraging Values of *Mulinia lateralis* and *Ischadium recurvum*: Energetics Effects on Surf Scoters Wintering in the Chesapeake Bay
Alicia M. Wells-Berlin, Matthew C. Perry and Mary Ann Ottinger
- 17:15** 6.6 Common Goldeneye on the Great Salt Lake, Utah: Abundance, Nutrient Reserve and Food Habit Dynamics in Winter
Josh L. Vest, Michael R. Conover, John Luft and Clay Perschon

17:30 - 19:00 Dinner (not provided)

19:00 - 21:30 **Workshop 2 (Salle de la Colline)**

Common Elder Conservation

Organized by Dr. Jean-Pierre L. Savard
(Environment Canada)
and Dr. Jean-François Giroux
(Université du Québec à Montréal
and La Société Duvetnor Ltée)

During this workshop, we will review Common Eider conservation issues and management initiatives in Europe, focus on Eastern North America's important management issues and discuss the possibility of writing a Common Eider management plan for Eastern North America.

Speakers will include:

- Dr. Flemming R. Merkel (Greenland)
- Dr. Jón Einar Jónsson (Iceland)
- Dr. Markus Öst & Dr. Mikael Kilpi (Finland)
- Dr. Ib Krag Petersen (Denmark)

Human Energy Needs vs. Sea Duck Needs: Industry, Conservation and Government Perspectives

Organized by Dr. Matthew C. Perry
(USGS-Patuxent Wildlife Research Center)

This workshop will provide objective review from leaders in the energy industry and major conservation organizations in regard to the positive and negative factors affecting sea ducks from energy development. Increasing human populations, especially in the East, have placed more pressure on the breeding, moulting, staging and wintering habitats used by North American sea duck populations. Oil platforms, hydro power reservoirs and wind turbines have usurped habitats that are important to sea ducks, but there is a possibility that these changes have not affected populations and in some cases could be providing improved habitat. Direct mortality from oil spills and wind turbines have concerned waterfowl managers, but little is known how this mortality affects populations. The discussion in this workshop will attempt to provide current information on energy and sea duck needs with a goal to narrow the divide so we can seek solutions to satisfy human needs while minimizing impact to sea ducks.

2010 International Sea Duck Conference – Programme for Thursday

7:00 - 8:30 Complimentary Breakfast (Abraham-Martin)

8:30 - 9:30

Ecology of alternative reproductive tactics in goldeneyes

9:30 - 10:00 Break (Foyer des Plaines)

10:00 - 12:00

Chair: Dr. James R. Lovvorn

10:00 7.1 Migrating with Common Eiders: Why Is Flight Time so Short?

Magella Guillemette, David Pelletier, Jean-Marc Grandbois and Mélyssa Giroux

10:15 7.2 Adaptive Variation in Diving and Foraging Patterns of Common Eiders Wintering in Sea Ice Habitats

Joel P. Heath, H. Grant Gilchrist and Ronald C. Ydenberg

10:30 7.3 To Fly or not to Fly: High Flight Costs in a Large Sea Duck do not Imply an Expensive Life Style

David Pelletier, Magella Gullemette, Jean-Marc Grandbois and Patrick J. Butler

10:45 7.4 Effects of Body Size on the Carrying Capacity of Habitat for Sea Ducks: Does a Common Prey Base Support Fewer Large Animals?

Samantha E. Richman and James R. Lovvorn

11:00 7.5 The Effect of Body Mass on Swimming Speed While Diving in Common Eiders

Catherine Ayotte and Magella Guillemette

11:15 7.6 Cyclic Mortality Events In Common Eider in Massachusetts: Current Diagnostic Findings and Protocol for Systematic Disease Investigation and Population Health Assessment

Sarah J. Courchesne and Julie C. Ellis

11:30 7.7 Exposure of Wintering Sea Ducks to Microbial Pollution in Near-Shore Industrialized Sites in Southwest Alaska: Is Eutrophication Creating an Ecological Trap?

Tuula E. Hollmén, Paul L. Flint, Kimberly A. Trust and Chitrita DebRoy

11:45 7.8 Avian Cholera among Common Eiders Nesting in the Canadian Arctic: Emergence of an Old Disease in a New Environment?

Isabel Buttler, H. Grant Gilchrist, Catherine Soos and André Dallaire

12:00 - 13:45 Lunch (not provided)

13:45 - 15:30

Chair: Dr. Katherine R. Mehl

13:45 8.1 Recent Population Trends of Common Eiders Breeding in Northwest Greenland as Derived from a Community-Based Monitoring Program

Flemming R. Merkel, Anders Mosbech, H. Grant Gilchrist and Sébastien Descamps

14:00 8.2 Population Trends of Common Eider in Iceland 1906-2007: Time-Series Analyses of Trends and Impacts of Weather

Jón Einar Jónsson, Ampór Garðarsson, Jenny A. Gill, Ævar Petersen and Tómas G. Gunnarsson

14:15 8.3 Status and Trends of North American Sea Ducks

Timothy D. Bowman, Emily D. Silverman and Scott G. Gilliland

14:30 8.4 Nest Predation and Frequencies of Conspecific Nest Parasitism in Common Eiders

Alain Lusignan, Katherine R. Mehl, Mark Gloutney and Ian Jones

14:45 8.5 Differential Partial Clutch Predation Explaining Habitat-specific Clutch Size in Eiders

Markus Öst, Mikael Wickman, Edward Matulionis and Benjamin Steele

15:00 8.6 Post-hatching Improvement of Body Condition in Female Common Eiders: What Comes First, Heart Mass, Digestive Organs or Locomotion Muscles?

Mylène Delorme and Magella Guillemette

15:15 8.7 The Effect of Relatedness on Conspecific Brood Parasitism in Barrow's Goldeneyes: Behaviour of Hosts and Parasites

Kim Jaatinen, Sonja Jaari, Robert B. O'Hara, Markus Öst and Juha Merilä

15:30 - 16:00 Break (Foyer des Plaines)

2010 International Seabird Conference - Programme for Thursday

16:00 - 17:30 **Chair: Kathryn Dickson**

- 16:00** 9.1 Nest-site Selection and Nest Success of Colonial Red-breasted Mergansers in Eastern New Brunswick
Shawn R. Craik and Rodger D. Titman
- 16:15** 9.2 Breeding Population Size, Production and Nesting Chronology of Spectacled Eiders on the Yukon-Kuskokwim Delta, Alaska: A Quarter-Century of Change
Julian B. Fischer, Robert A. Stehn, Timothy D. Bowman and Robert M. Platte
- 16:30** 9.3 Breeding Ecology of Spectacled and King Eiders on the Arctic Coastal Plain of Alaska, 1993-2008
Betty A. Anderson, Alice A. Stickney, Pamela E. Seiser and Caryn L. Rea
- 16:45** 9.4 Selection of Diverse Nest Sites by Common Eiders
Benjamin Steele and Markus Öst
- 17:00** 9.5 Breeding Habitat Preferences of 15 Bird Species on South-western Finnish Archipelago Coast: Applicability of Digital Spatial Data Archives to Habitat Assessment
Mia Rönkä, Harri Tolvanen, Esa Lehtikoinen, Mikael von Numers and Mauri Rautkari
- 17:15** 9.6 Breeding Synchrony, Sympatry and Nestling Areas of Pacific Coast Surf Scoters in the Northern Boreal Forest
John Y. Takekawa, Susan W. De La Cruz, Matthew T. Wilson, Eric C. Palm, Julie Yee, David R. Nysewander, Joseph R. Evenson, John M. Eadie, Daniel Ester, W. Sean Boyd, and David H. Ward

17:30 - 19:30 Free time

19:30 - 22:00 **Conference Banquet**

The Conference Banquet will include an aperitif and a high-quality 4-service dinner, including 375 ml of wine (half a bottle; per person) and a state-of-the-art show. Paper and poster awards, as well as various participation prizes will also be presented in the course of the evening banquet.

We encourage every delegate to attend the Conference Banquet, as it should be a festive, memorable evening.

Third North American Sea Duck Conference - Programme for Friday

7:00 - 8:30 Complimentary Breakfast (Abraham-Martin)

8:30 - 9:30 **Evolution and migration of sea ducks as determined through satellite telemetry: from species to populations to individual strategies**

9:30 - 10:00 Break (Foyer des Plaines)

10:00 - 11:30 **Sea Duck Biology** **Chair: Dr. H. Grant Gochrist**

10:00 10.1 Movements and Survival of First-year King Elders

Abby N. Powell and Steffen Oppel

10:15 10.2 Nonbreeding Movements and Site Use of Male Barrow's Goldeneyes

W. Sean Boyd and Daniel Esler

10:30 10.3 Site Use and Spring Migration of Pacific Surf Scoters: Do They Ride a "Silver Wave" of Herring Spawn North?

Erika Lok, Daniel Esler, John Y. Takekawa, Susan W. De La Cruz, W. Sean Boyd, David R. Nysewander, Joseph R. Evenson and David H. Ward

10:45 10.4 Population Delineation, Habitat Use and Diet of Surf Scoters from the Southern Portion of their Winter Range

David H. Ward, Sharon Herzka, Kathy Brodhead and Daniel Esler

11:00 10.5 Wing Moults Chronology, Duration and Synchronicity in Captive Harlequin Ducks, Surf Scoters, White-winged Scoters and Long-tailed Ducks

Jean-Pierre L. Savard, Matthew C. Perry, Jean-François Savard, Alicia M. Wells-Berlin and Scott G. Gilliland

11:15 - 12:00

The Organizing Committee will arrange
a tour for delegates interested in visiting
Old-Québec on Friday afternoon

POSTER PRESENTATIONS

Atlantic Coast

- 1 Relationships Between Breeding, Moulting and Wintering Locations of Common Eiders Breeding in the St. Lawrence
Jean-Pierre L. Savard, Jean-François Giroux and Louis Lesage
- 2 Variability in Wing Molt Chronology and Nutrient Dynamics in Male Surf Scoters near Nain, Labrador, from 2004 to 2006
Scott G. Gilliland and Jean-Pierre L. Savard
- 3 Prebasic Molt by Male Red-breasted Mergansers at Anticosti Island, Québec
Shawn R. Craik, Jean-Pierre L. Savard and Rodger D. Titman
- 4 Home Range and Movements of Moulting Surf Scoters (*Melanitta perspicillata*) as Documented by Satellite Telemetry
Mark O'Connor, Scott G. Gilliland, Jean-Pierre L. Savard and Rodger D. Titman
- 5 Winter Distribution and Abundance of Common Eiders in the Northwest Atlantic and Hudson Bay
Scott G. Gilliland, H. Grant Gilchrist, Daniel Bordage, Christine Lepage, Flemming R. Merkel, Anders Mosbech, Bruno Letourneau and Jean-Pierre L. Savard
- 6 Blood Lead Levels of Common Eiders (*Somateria mollissima*) from the St. Lawrence Estuary and Ungava Bay, Québec, Canada
Stéphane Lair, Guylaine Séguin and Jean-Pierre L. Savard
- 7 Surgical Implantation of Two Models of Satellite Transmitters in Common Eiders (*Somateria mollissima*) and Surf Scoters (*Melanitta perspicillata*)
Guylaine Séguin, Stéphane Lair, Jean-Pierre L. Savard and Louis Lesage
- 8 Abundance and Distribution of Harlequin Duck in the Hudson Bay and James Bay Area
François Morneau, Michel Robert, Jean-Pierre L. Savard, Pierre Lamothe, Marcel Laperle, Nathalie D'Astous, Serge Brodeur, Robert Décarie and Isabelle Chartier
- 9 Hydro-Québec Studies on Scoters
François Morneau and Isabelle Chartier
- 10 Long-tailed Duck Nesting Ecology in the Churchill, Manitoba, Area
Matthew C. Perry and Robert Alison
- 11 Development of a Sea Duck Captive Colony and Dive Tank Facility for Behavioural and Energetics Research
Matthew C. Perry and Alicia M. Wells-Berlin
- 12 Effects of Surgically Implanted Transmitters with Percutaneous Antennae on Breeding Behaviour of Captive Sea Ducks and Lesser Scaups Used as Surrogates for Wild Sea Ducks
Matthew C. Perry, Glenn H. Olsen and Alicia M. Wells-Berlin
- 13 Techniques Used for Food Habits of Atlantic Coast Sea Ducks, 1999-2008
Peter C. Osenton, Matthew C. Perry, Alicia M. Wells-Berlin and David M. Kidwell
- 14 Behavioural and Physiological Observations of White-winged Scoters with Surgically Implanted Transmitters
Glenn H. Olsen and Matthew C. Perry
- 15 Surgical Implantation of Satellite Transmitters: Techniques for Improving Results Based on Captive Diving Duck Studies
Glenn H. Olsen and Matthew C. Perry
- 16 Natural Infection Rate of West Nile Virus in a Colony of Captive Diving Ducks: Monitoring WNV in the Tribe *Mergini* and the Genus *Aythya*
Linda C. Lyon, Matthew C. Perry, Glenn H. Olsen, Erik K. Hofmeister, Benedict B. Pagac, Jr., Peter C. Osenton, and Jennifer A. Godhardt-Cooper
- 17 A Seasonal Survey of Haematological Values for Some Captive Diving Ducks in the Tribe *Mergini* and the Genus *Aythya*
Linda C. Lyon, Matthew C. Perry and Glenn H. Olsen
- 18 Sea Duck Distributions off the Eastern United States: Results from the 2008 Atlantic Coast Wintering Sea Duck Survey
Emily D. Silverman, Kathy Fleming, Mark Koneff and J. Andy Royle
- 19 Spatial and Temporal Variation of Foraging Long-tailed Ducks Wintering on the Nantucket Shoals
Timothy White and Richard Veit

- 20 Contaminants in Common Eiders (*Somateria mollissima*) Compared to 22 Other Species of Birds, Maine U.S.A.
Wing Goodale, David Evers, Steve Mierzykowski, R. Bradford Allen, Charlie Todd, Linda Welch Scott Hall, Julie C. Ellis and Kurunthachalam Kannan
- 21 Resistance to Human Disturbance Increases with Incubation in Breeding Common Eiders
Stéphanie Walter, Yves Rigou and Magella Guillemette
- 22 The Use of Beaver Ponds Habitat by Sea Ducks in Boreal Forests of Québec
Marie-Helene Ouellet D'Amours, Julie Labbe, Louis Imbeau, Marcel Darveau and Daniel Bordage
- 23 Breeding Distribution of Sea Ducks in the Québec Northern Interior (51–58° N)
Louis-Vincent Lemelin, Emille Berthiaume, Alisa Guerette-Montminy, Marcel Darveau, Steve Cumming, Daniel Bordage and Stéphane Lapointe

South America and Europe

- 24 Chubut Steamer-Duck (*Tachyeres leucocephalus*): Breeding Habitat Requirements and Selection in Patagonia, Argentina
María Laura Agüero and Pablo García Borboroglu
- 25 Population Size and Distribution of Chubut Steamer-Duck (*Tachyeres leucocephalus*) in Patagonia, Argentina
María Laura Agüero, Pablo García Borboroglu and Daniel Estler
- 26 Does Weather Influence Breeding Numbers and Spring Arrival Date in Common Eiders in North-West Iceland?
Jón Einar Jónsson, Ampór Garðarsson, Jenny A. Gill, Ævar Petersen and Tómas G. Gunnarsson
- 27 Changes in Numbers and Distribution of Sea Ducks Along the Swedish Coast – a Possible Effect of Global Warming?
Leif Nilsson
- 28 Migration Patterns, Breeding- and Moulting Locations of King Eiders Wintering on the Coast of Norway as Determined from Satellite Telemetry
Jan Ove Bustnes, Anders Mosbech, Christian Sonne and Geir Helge Systad

North

- 29 Physiological Mechanisms Linking Body Condition, Climate Change and the Timing of Reproduction in Common Eiders
Oliver P. Love, Joël Bêty, John P. McMurtry and H. Grant Gilchrist
- 30 Integration of Inuit Traditional Knowledge and Western Science in Wildlife Management: The Case of Avian Cholera among Common Elder Ducks
Dominique Henri and H. Grant Gilchrist
- 31 Research Handling Time Increases the Probability of Death among Breeding Common Eiders (*Somateria mollissima*) During an Avian Cholera Epidemic
E. Isabel Buttler and H. Grant Gilchrist
- 32 Can Innate Immunity Predict Survivorship to Avian Cholera in Female Common Elder (*Somateria mollissima*) Ducks?
Lisha L. Berzins, H. Grant Gilchrist and Gary Burness
- 33 Long-tailed Duck Recovered in Russia from an Eastern Canadian Banding
Stephen Wendt, Dale Caswell and Kathryn Dickson

Pacific Coast and Prairies

- 34 Variation In Breeding Season Survival of Adult Female Harlequin Ducks
Jeanine C. Bond, Samuel A. Iverson, N. Beth MacCallum, Cyndi M. Smith, Howard J. Bruner and Daniel Estler
- 35 Trace Element Concentrations and Body Condition Relationships in Wintering Common Goldeneyes from the Great Salt Lake, Utah
Josh L. Vest, Michael R. Conover, Clay Perschon and John Luft
- 36 Incubation Behaviour of White-winged Scoters at Redberry Lake, Saskatchewan
Joshua J. Traylor, Dana K. Kellett and Ray T. Alisauskas
- 37 Breeding Biology and Population Dynamics of White-winged Scoters at Redberry Lake, Saskatchewan
Joshua J. Traylor, Ray T. Alisauskas and F. Patrick Kehoe

Alaska

- 38 Preliminary Assessment of Mortality of Sea Ducks with Implanted Transmitters
Margaret R. Petersen, Daniel H. Rosenberg and Daniel M. Mulcahy
- 39 Biochemical and Clinical Responses of Common Eiders to Implanted Satellite Transmitters
Christopher J. Latty, Tuula E. Hollmén, Margaret R. Petersen, Abby N. Powell and Russel D. Andrews
- 40 Prevalence of Avian Influenza Viruses in Sea Ducks Sampled in Alaska, 2006-2008
J. Christian Franson, Paul L. Flint, Margaret R. Petersen, Deborah A. Rocque, Kimberly A. Trust, Timothy D. Bowman and Hon S. Ip
- 41 Mercury Concentrations in Blood of Moulting and Wintering Harlequin Ducks from Alaska
Lucas Savoy, Paul L. Flint, Jason L. Schamber, Denny Zwiefelhofer, Bart Hoskins, Heather Brant, Christopher Perkins, Robert Taylor, Oksana Lane and Kimberly A. Trust
- 42 How important are Body Reserves for King Eider Egg Formation in Northern Alaska?
Steffen Oppel and Abby N. Powell
- 43 Assigning Sea Ducks to Wintering Regions in the Bering Sea Using Stable Isotopes of Feathers
Steffen Oppel and Abby N. Powell
- 44 Occurrence of Sea Ducks on Major Estuaries – A Good Reason for Aggressive Monitoring and Protection of Boreal Watersheds
William W. Larned
- 45 Occurrence and Characteristics of Adenoviruses in Sea Ducks (*Mergini*) in Alaska
Ann E. Riddle and Tuula E. Hollmén
- 46 Using Time-Lapse Cameras to Document Nest Predators and Behavioural Interactions at Spectacled Eider Nests
Julie P. Parrett, Charles (Rick) Johnson, Pamela E. Seiser and Caryn L. Rea
- 47 Aerial Population Surveys of Common Eiders in Near Shore Waters and Along Barrier Islands of Western and Northern Alaska
Karen S. Bollinger and Christian P. Dau
- 48 Feather Abnormalities of Spectacled Eiders: Possible Indicators of Age Related Stress and Body Condition
Christian P. Dau

MORE SCIENCE ON SEA DUCKS

Bond, J. C., **D. Esler**, and T. D. Williams. 2008. Breeding propensity of female harlequin ducks. Journal of Wildlife Management 72:1388-1393. *I HAVE SOME OF THESE PAPERS*

Lok, E. K., M. Kirk, **D. Esler**, and W. S. Boyd. 2008. Movements of pre-migratory surf and white-winged scoters in response to Pacific herring spawn. Waterbirds 31:385-393.

Kirk, M., **D. Esler**, S. A. Iverson, and W. S. Boyd. 2008. Movements of wintering surf scoters: predator responses to different prey landscapes. Oecologia 155: 859-867.

Nilsson, P., T. Hollmén, S. Atkinson, K. Mashburn, P. Tuomi, **D. Esler**, D. Mulcahy, and D. Rizzolo. 2008. Effects of ACTH, capture, and short term confinement on glucocorticoid concentrations in harlequin ducks (*Histrionicus histrionicus*). Comparative Biochemistry and Physiology 149:275-283.

Bond, J. C., and **D. Esler**. 2008. Bill entanglement in subcutaneously-anchored radio transmitters on harlequin ducks. Wilson Journal of Ornithology 120:599-602.

Heard, D. J., D. M. Mulcahy, S. A. Iverson, D. J. Rizzolo, E. C. Greiner, J. Hall, H. Ip, and **D. Esler**. 2008. A blood survey of elements, viral antibodies, and hemoparasites in wintering harlequin ducks (*Histrionicus histrionicus*) and Barrow's Goldeneyes (*Bucephala islandica*). Journal of Wildlife Diseases 44:486-493.

Gorman, K. B., **D. Esler**, P. L. Flint, and T. D. Williams. 2008. Nutrient reserve dynamics during egg production by female Greater Scaup (*Aythya marila*): relationships with timing of reproduction. Auk 125:384-394.

Lewis, T. L., **D. Esler**, and W. S. Boyd. 2008. Foraging behaviors of Surf and White-winged Scoters in relation to clam density: inferring food availability and habitat quality. Auk 125:149-157.

Kirk, M., **D. Esler**, and W. S. Boyd. 2007. Foraging effort of surf scoters (*Melanitta perspicillata*) wintering in a spatially and temporally variable prey landscape. Canadian Journal of Zoology 85:1207-1215.

Kirk, M., **D. Esler**, and W. S. Boyd. 2007. Morphology and density of mussels on natural and aquaculture structure habitats: implications for sea duck predators. Marine Ecology Progress Series 346:179-187.

Bond, J. C., **D. Esler**, and K. A. Hobson. 2007. Isotopic evidence for sources of nutrients allocated to clutch formation by harlequin ducks. Condor 109:698-704.

Iverson, S. A., and **D. Esler**. 2007. Survival of female harlequin ducks during wing molt. Journal of Wildlife Management 71:1220-1224.

Mulcahy, D. M., K. A. Burek, and **D. Esler**. 2007. Inflammatory reaction to fabric collars from percutaneous antennas attached to intracoelomic radio transmitters implanted in harlequin ducks (*Histrionicus histrionicus*). Journal of Avian Medicine and Surgery 21:13-21.

Lewis, T. L., **D. Esler**, and W. S. Boyd. 2007. Foraging behaviors of surf scoters and white-winged scoters at spawning sites of Pacific herring. Condor 109:216-222

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- Ball, J. R., **D. Esler**, and J. A. Schmutz. 2007. Proximate composition, energetic value, and relative abundance of prey fish from the inshore eastern Bering Sea: implications for piscivorous predators. Polar Biology 30:699-708.
- Lewis, T. L., **D. Esler**, and W. S. Boyd. 2007. Effects of predation by sea ducks on clam abundance in soft-bottom intertidal habitats. Marine Ecology Progress Series 329:131-144.
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- Rizzolo, D. J., **D. Esler**, D. D. Roby, and R. L. Jarvis. 2005. Do wintering Harlequin Ducks forage nocturnally at high latitudes? Condor 107:173-177.
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Reproductive Failure of Harlequin Ducks

by Sam Patten

The reproductive failure of harlequin ducks in the oil spill area is postulated to be a chronic effect of petroleum exposure through contaminated intertidal food. Blue mussels appear to be the most likely source of contamination. Blue mussels concentrate and hold pollutants in their tissues. Restoration studies have documented high concentrations of petroleum compounds known as polynuclear aromatic hydrocarbons (PAHs) remaining in mussels, in the byssal thread mats which anchor the mussels to the bottom, and in the underlying substrates in western Prince William Sound in 1991. Because harlequin ducks consume entire mussels, they ingest petroleum hydrocarbons in mussel tissue, on the shell surface, and in attached byssal threads and sediments. Harlequin ducks collected in 1989-1990 in western Prince William Sound and Southwest Kodiak contained oiled food items in their gullets as well as petroleum residues in liver tissue and bile. Experimental studies have demonstrated that even small doses of petroleum can cause reproductive failure in some seabirds. Searches of U.S. Coast Guard files revealed that approximately 90 blue mussel beds may retain *Exxon Valdez* oil in western Prince William Sound. Field checks indicate additional previously unreported oiled mussel beds in the Sound and along the Kenai coast. Oil also remains associated with dispersed blue mussels in a number of sheltered locations currently under investigation. Extensive oiling of Kenai Fjords National Park is also well documented, and it is reasonable to suspect that there has been some degree of injury to harlequin ducks there.

Restoration

The ultimate goal of current research is the restoration of breeding harlequin ducks to the oil spill area. To achieve this, scientists should determine the geographic extent of the reproductive failure, define the breeding habitat requirements of harlequins, and determine whether hydrocarbon residues are currently present in harlequins in order to clarify the link to persistent oil contamination. If the observed failure of reproduction is related to the contaminated food chain, removing oil pollution should be removed before restoration can take place, otherwise measures to increase productivity will be fruitless. In some cases these mussel beds remain grossly contaminated. Knowledge of habitat requirements of breeding harlequin ducks prove valuable for restoration actions such as habitat acquisition and mitigation measures, protection of non-federal lands, and development of marine sanctuaries.

A proposed restoration project would continue to monitor harlequin reproduction success and document the characteristics of harlequin duck nesting habitat. Biologists would conduct

surveys to locate harlequin pairs at stream mouths in late spring. This would be followed by trapping in selected stream estuaries. Harlequin females flying to streamside nest sites in early summer would be mist-netted and radio-tagged. Nest sites, broods, and feeding areas will be located by following the radio-tagged hens through the summer nesting and brood-rearing period. Brood count surveys would be conducted in shoreline habitats in late summer in western Prince William Sound and selected areas of the Kenai coast and Afognak. If nests are located in the Sound, Afognak or Kenai areas, researchers would note harlequin nesting habit characteristics in these areas. Results from the oil spill areas would be compared to unoiled control areas on Afognak Island.

Blood samples would also be collected from breeding harlequins in unoiled areas and from molting harlequins in oiled areas. Blood and tissue samples may also be taken from collected ducks. These samples would be analyzed for normal blood parameters and presence of elevated levels of haptoglobins and interleukins, blood proteins indicating stress and suppressed immune systems. Tissue samples (i.e. fat, liver, and bile) would be analyzed for presence of petroleum hydrocarbons. Feather samples would be examined for presence of vanadium, a trace metal indicating petroleum exposure. Fecal samples from flightless birds trapped during the molt would be collected to determine presence or absence of petroleum exposure by means of fluorescence testing. The proportion of mussels in the harlequin diet would be investigated by dissection of set-aside harlequin carcasses from the "spill bird morgue" in Anchorage and examination of their gullet contents. The information gathered in this study could be used in developing measures to restore breeding harlequin ducks to the oil spill area.

The contaminated food chain remains a significant concern. Because of anoxic conditions created by the dense byssal thread mat in mussel beds, crude oil is trapped and remains unweathered. Thus it retains toxic components. Harlequins eating oiled mussels will remain exposed to contaminated food unless some action is taken to clean oiled mussel beds. If this exposure is sufficient to cause reproductive impairment in these ducks for many years, local extinction may result in spill areas. Continuing to explore the relationship between the consumption of oiled foods by harlequin ducks and reproductive impairment should be considered.

Sam Patten is a Wildlife Biologist with the Division of Wildlife Conservation, ADF&G, in Anchorage.

BIRL

monitoring, biologists found no differences in survival between eagles from oiled and unoiled areas. It seems that the lethal effects of the spill occurred immediately after the spill, before transmitters had been attached to eagles. The continued high survival noted after 1989 suggests that there were no long-term effects of the spill on eagle survival.

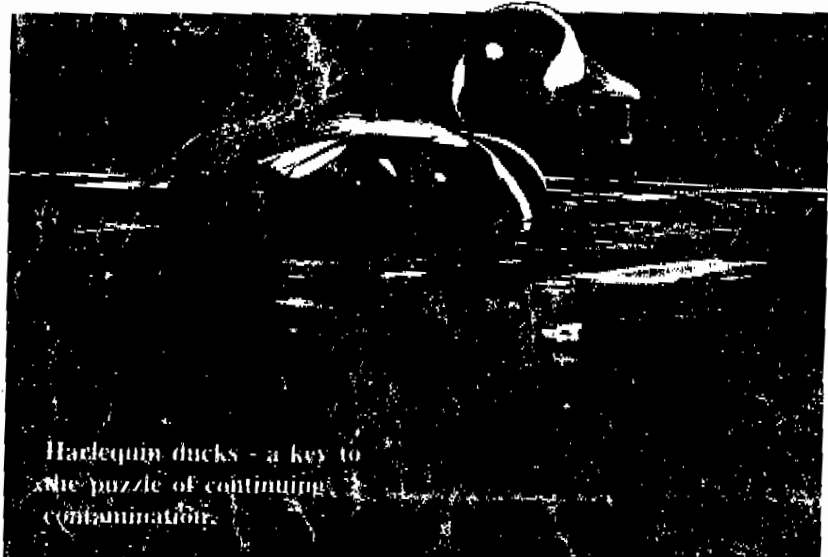
The bald eagle seems to be a fairly resilient bird, at least at the population level. Densities of eagles in Alaska are higher than anywhere else and are thought to be at saturation levels in many areas. Because of their high densities and the abundance of productive nesting and feeding habitat in Alaska, bald eagle populations were apparently able to endure the effects of the oil spill with only a short-term negative impact.

A population model of bald eagles in Prince William Sound indicates that the population was increasing before the spill at a rate of about 2% per year. The cumulative effects of the direct mortality and reduced productivity in 1989 will probably set the population in Prince William Sound back by about five years, but population growth should continue.

Restoration

Land management that incorporates an awareness of the habitat needs of bald eagles is essential to the maintenance of bald eagle populations. However, eagle habitats within coastal Southcentral Alaska have been identified in development plans. One way to enhance the recovery of bald eagle populations is to protect the old growth forests, particularly beach fringe and streamside habitats which are important to eagles for nesting and feeding, and to protect salmon spawning areas, a key food resource.

Timothy D. Bowman is a Wildlife Biologist with the U.S. Fish and Wildlife Service, Raptor Management Studies Program, Cordova.



Johan Hyde
by

Harlequin ducks - a key to the puzzle of continuing contamination.

...in oiled areas, there was not only direct mortality of at least 400 harlequins, there was also a nearly complete reproductive failure from 1990 to 1992.

Harlequin ducks are small, colorful seaducks that feed in intertidal areas. When we began research into the effects of the oil spill on harlequin ducks in September 1989, we knew many had been killed, but little did we know that our studies would lead us to the discovery that the effects are much more significant and long-term than we expected. Injury assessment studies of harlequin ducks through 1992 related to the *Exxon Valdez* oil spill have been focused on Prince William Sound. Harlequin ducks reproduced normally in unoiled areas of Prince William Sound, but in the oiled areas, there was not only direct mortality of at least 400 harlequins, there was also a nearly complete reproductive failure from 1990 to 1992.

The harlequin population in the Prince William Sound, Kenai, and Afognak areas contains both resident and wintering individuals. The residents molt in secluded bays and lagoons, roost on offshore rocks, and breed along forested streams within a few kilometers of salt water. Broods are found with hens on salt water in late summer. Non-resident harlequin ducks, which winter on the south coast of Alaska, breed elsewhere on mountain streams, arrive in the south coastal area in October, and depart in May. Harlequin ducks return to the same breeding and wintering areas year after year. Before the oil spill, harlequin ducks were distributed throughout Prince William Sound, with broods commonly observed in shoreline habitats. Because some harlequins spend their entire lives in the oil spill area where they breed, feed, and overwinter, it is possible to detect and study the impact of the spill on resident harlequins and other seaducks that overwinter in oiled areas and are similarly affected, but because they breed in areas remote from the spill, it is impractical to study them.

Biological Conservation

Volume 110, Issue 1, March 2003, Pages 77-83

**Human disturbance and nesting success of
Common Eiders: interaction between visitors and
gulls**

Québec, Canada H9X 3V9

Received 17 August 2001;

revised 11 February 2002;

accepted 10 May 2002. ;

Available online 16 September 2002.

Abstract Common Eider colonies often are subjected to human visitors, such as down collectors, recreationists and researchers. However, the effects of frequency and timing of disturbance, and the abundance of nearby avian predators on eider nesting success have been studied only partly. We used three experimental treatments and six eider colonies over 3 years (1993–1995) to test the effects of these factors on eider nesting success, while controlling results for associated gull nest density. Treatments consisted of (1) high frequency visits (once every 3 days) starting early in the incubation period (HFE), (2) low frequency visits (once every 15 days) starting early in the incubation period (LFE), and (3) high frequency visits starting late in the incubation period (HFL). Analysis of covariance indicated that both disturbance treatments and associated gull nest density had a significant effect on eider nesting success probability. Nesting success probabilities were similar for eiders under HFE and LFE treatments (means= 0.317 ± 0.166 [SE] and 0.434 ± 0.172 respectively), indicating that changes in frequency of visits had little impact on nesting success. In contrast, timing of visits had a major influence on nesting success, as the HFL treatment resulted in a significant higher nesting success probability (mean= 0.981 ± 0.191) than the HFE treatment. Most nest failures occurred after the first visit in all treatments, although the impact of the first visit was lowest in the HFL treatment. Researchers and wildlife managers should visit eider colonies as late as possible, and avoid visiting colonies associated with high densities of eider egg predators.

Author Keywords: Colonial birds; Egg predators; Disturbance; Harvesting; Recreation; Common Eider

780 SIGNATURES TO
CREATE A REFUGE/
SANCTUARY FOR SEADUCKS
IN KACHEMAK BAY.
I WILL BRING THEM TO MEETING

WE THE UNDERSIGNED CITIZENS

FORMALLY REQUEST THE CREATION OF A KACHEMAK BAY SEADUCK SANCTUARY, OR SPECIAL
EAST OF A LINE FROM BLUFF POINT TO BARABARA POINT WITHIN GMU 15C TO PROMOTE SUSTAINABLE
PROVIDE REFUGE FROM HARVEST OF THE DECLINING TRIBE MERGINI (SEADUCKS). TO INCLUDE
KING, COMMON, SPECTACLED, AND STELLERS, EIDER; OLDSQUAW; HARLEQUIN; SURF, WHITE-W
SCOTER; BARROWS AND COMMON GOLDENEYE; BUFFLEHEAD; COMMON, RED BREASTED, AND B

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ELIZABETH BURCK	Box 3031 KENAI AK 99611	262-7496	
Susan Larned	30410 Staplefield Dr. Sg	262-6389	
Dale Deal	PO Box 2804 Homer AK	235-0712	
Leann Dayton	184 Cityville Homer AK	235-4832	
Sharon Bayer	PO Box 2802 Homer	235-3496	
Marilyn Morris	9531 Hillside Dr. Anch 99516	346-1799 morris@chugach.net	
TITA NILES	3990 Beluga Cir #4, 99603	235-2635	
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Debra Cant	PO Box 2773 Homer	235-5626	
Pamela A. Miller	PO Box 10181 Anch AK 99502	272-1909	
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Martha Leverette	1921 Sunrise Dr. Anch AK 99502		
Don McLean	8835 Jewel Terrace Anch.	243-8269	
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Paula C. Chreston	605 Maines, (Kenai AK 99611)	283-9400	
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Bill Grober	PO Box 15295 Fritz Creek AK 99611	907 235-1338	
Pecky Soutman	4444 Beaver Lp Rd. Kenai AK 99611	907 235-3701	
Claire S. Caldes	4444 Beaver Lp Rd. Kenai AK 99611	907-283-3701	
Bill Norman	PO Box 2719 Homer AK	907-235-9189	
Pamela Young	P.O. Box 15242 Fritz Creek AK 99611	235-8469	
Jane Little	602 East 1st St Durango, CO 81301	pryong@bwn.net	
	65701 Bayline, Alaska	(907) 235-0550	

Kevin Fraley
3858 Lake Street - Homer Alaska 99603
Board of Game Comments

To whom it may concern,
I'm writing this to express my concern for the sea
ducks in Alaska.

First let me say that I love to hunt and fish. I enjoy the right and
privilege it is. I believe also that we have a responsibility to only
take from the land what we need.

A few years ago I was asked by a friend to go sea duck hunting. Having never
been before I was up to a new experience. like I said before, I enjoy hunting, and
I was looking forward to getting out in this beautiful place and doing a little of it.
Having never shot sea ducks before I wasn't sure what to expect. When we
arrived across the bay I was taken back by the beauty of these wonderful birds.
I'm not much of a trophy hunter, not that I'm completely against trophy hunting,
I just don't see much in it. I was told that eating these ducks was not to bad. So I
gave it a go.

As the day went on I found that we were taking far more ducks than we needed,
but at the same time we were not even close to our bag limit. Each time we came
upon a raft of ducks I thought it would be quite a challenge to stalk and
successfully shoot a bird. What ended up happening was when we would get
close enough it became a shooting frenzy, guns going off as fast as we could
reload. At the time it seemed fun, I was caught up in it. When it was all over and
the day was done we stood back and thought about how much fun we had, how
successful we were. But as time has went on I have realized some things;

First, we took far more than we needed, not more than we were allowed, but far
more than we needed. Second, these birds look better than they taste. I was
frustrated with myself for taking ducks that I don't even want to eat. Third we hit
many birds we couldn't salvage.

What are we doing? I think we are destroying the very things we love! I know
that the same day that I experienced is happening day after day! And soon we
won't have any of these beautiful ducks around. I know that most of the hunters
out there are hunting these ducks for trophies. Why are the bag limits so high?
How many of the same duck does one person need?

The hunters I talk to are not eating them.. So what are they doing with them?
Let's not waste this resource. Let's protect it so it will be here for future
generations. I am a business owner in Homer and have children and I'm very
concerned for the future of this beautiful place. I feel it is warranted to place
Kachemak Bay as a sanctuary from harvest because it such an easy place to get
to. and lower the bag limits in outer areas to reduce the problems I have stated
sincerely, Kevin S. Fraley

Board of Game Support
Juneau Alaska

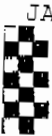
Thank-you for lowering the sea duck bag limit in Kachemak Bay to two sea ducks. This is good. These ducks need to grow back. They are way down from where they used to be.

I have seen the same birds off the Homer Spit in the same spot for over twenty years. Black Scoters. They are most always predictably there. Must be good food there. I can see how easy it would be to wipe them out. The spit birds can't be hunted because they are in city limits.

The Center for Alaskan Coastal Studies explained what this was all about. These ducks are really something else. We are really lucky to have them here.

Thank-you for your help

*Bill Blaine
5247 Lee Street
Homer Alaska
99603*



Dear Board of Game Members

Keep it two per day. This makes sense. Ten birds a day can't be sustainable. Especially with the steel shot. This adds to the deadloss. It makes for a bad day. Sea ducks bunch up together for safety but it works against them cause when you shoot it gets a bunch of them.

Two per day will make people stop and think instead of just shoot with out barely a look at where they are shooting, knowing its legal to do so

5/18/09

Bob Struts
~~Bob Struts~~
PO Box 1184
Homer AK 99603

RECEIVED
MAY 18 2009
BOARDS

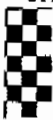
To the Board of Game Department
Juneau Alaska 99802
907-465-4190 fax

5-17-09

RE; Emergency Petition Keep it at 2 seaducks per day

Seaduck hunting is the low life style of hunting. Its like watching a bunch of kids in a shooting gallery. What kind of fun is that, blasting birds out of the air. Duck hunting used to be a sport that we could be proud of. You get your birds to eat, have a great day out on the flats and go home and eat them. If seaduck hunting were ever filmed it would give all duck hunters a bad name. Thank-you for getting this yahoo style of hunting under control. Hunting a duck means stalking it and killing it not blaring away like a damn fool then picking the choice birds to mount.

Kathleen Kelly Feb 15, Homer, AK



SEA DUCK KOCHENAK BAY

RECEIVED**MAY 18 2009****BOARDS****BOG Members**

Keep the two sea duck bag in place. This is great. The general duck bag is still set at seven so we can still take nine ducks. That is reasonable. I always thought the 17 ducks a day was excessive. How can you eat seventeen birds in a day. Or even in a week. Thanks for cleaning up this outdated regulation.

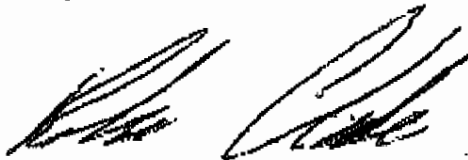
Sincerely

Jeff Clarken
39570 Brenmark Ave.
Homer Alaska 99603

Hello Board of Game

Lets see what happens with the two a day. This makes sense. I thought commercial hunting was illegal? Ten a day is wasteful it definitely needs to be much lower. These birds are so easy to kill. They are always in the same place so a commercial guide will know where to get what species. This will and has caused bays to get systematically wiped out. Two per day is enough for mounts

May 17th 2009



Robert Clarke

P.O. Box 3038

Homer, AK 99603

907-279-1890

Two a day is more than enough!

Kristy Tibble
Board Support
Juneau Alaska 99802
5/17/09

Kachemak Bay Seaducks

How many sea ducks does a person need anyway? We eat what we kill. Eating ten seaducks per day would be almost impossible so the waste is tremendous

Seaduck hunting at 2 per day lets a hunter get a mount if he wants to but I sure hope they eat them. I don't know many people who do. The Dabbler duck limit is still at 7 per day so people will still have a bag of 9 ducks per day. Thank-you BOG this is logical management that supports the resource.

Sincerely,

James B. Warren
589 H Allen Way
Homer,
Alaska 99603

*A teal is a much better
eating bird;*


5/18/02
BOG Members
Cliff Judkins Chair

RE: Seaducks in Kachemak Bay

To the Board:

Nice Job!

Thanks for getting our bag limit for seaducks down to where it is reasonable. Having a total duck bag limit of 17 ducks is way way overkill. 7 in the general bag with two in the special sea duck makes 9 ducks. That is enough. No other state on the Pacific Flyway has a special seaduck bag limit. 10 per day 20 in possession for seaducks begs for abuse. It is a cast and blast ordeal. Crippled birds. wanton waste. Everything we don't want in a hunt. Glad you cleaned it up.



Scott Stacey
Homer Spit
Homer AK 99603

We were happy to hear that you stopped the slaughter type hunting and got the bag limit set at 2 seaducks per day. Keep this in place. Pass shooting kills a lot more birds than is aimed at. Lots of cripples. It is a very messy wasteful kind of duck hunting. Seaduck hunting gives the rest of us a bad name.

Thanks for your work

Michael Gail

436 Bonanza Ave
Homer, AK 99603



Sea Ducks KC Bay

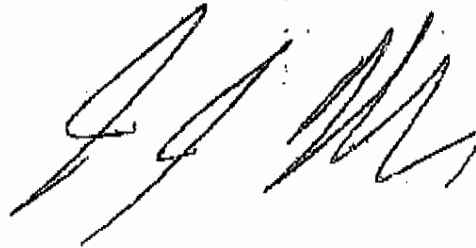
Board of Game

Two sea ducks a day is more than enough. They taste terrible. Finally some sense. We can still get nine ducks total. That's more than enough. If people want a mount they can be more careful getting them without blasting the whole flock up. What we have here in Kachemak Bay is rare. So many kinds of seaducks in one of the most Northerly ice free areas. Plus you can drive here. I don't see the sea ducks like in the 50's and the 60's.

Jim Navckelli

PO Box 6416

Halibut Cove AK



Board of Game Support
Kristy Tibbles
Cliff Judkins
Juncau Alaska


May 17 2009

Re: Emergency petition Kachemak Bay Sea Ducks

Dear Board Members,

I just heard you are reconsidering the seaduck proposal 117. I think it is a great idea that you lowered the bag limit to two birds. Good Job! This kind of "sport" is nasty for the resource. It wings birds, they dive and you can't retrieve them. It make them so skitterish after hunting season you can't even chop wood and they fly around in a frenzy. Plus you can't even eat them. We have tried everything from marinate to milk. Stinks up the whole house. Keep up the good work.

Sincerely, JOHN ERICSON

 Linda Ericson
P.O. Box 3475
HOMER, AK 99603

Keep the Seaduck Bag limit at two per day

Dear Board of Game Committee,

This kind of sound management keeps the slob hunter out of Alaska. We used to have rafts of seaducks in front of our home in Kasitna Bay. Now we count them in the teens. They shoot near our homes.

Seaduck hunting is a slaughter. Plain and simple. Its almost like people take their aggressions out on the ducks. We watched some of these jokers spinning around in their boat shooting and reloading as fast as they could. It sounded like a war. It looked like a war afterwards ducks floating everywhere. Crippled birds trying to get away. They even shot a loon in the mix.

They can't tell the difference and they don't even try. They are just shooting at whatever moves. What kind of a hunt is this? It made us sick as we ran for cover. Thank-you for making a sound decision. Two birds will let these guys hunt consciously and they still have seven dabblers to have for dinner. This will help this bay to grow back the birds. Thanks

Hans Beider

POB 1570

Homer, AK

Nice Job Board of Game

May 18, 2009

I just heard about this emergency petition for seaducks in Kachemak Bay

Keep the regulation at 2 seaducks. Who needs more than 2 unless they are selling skins like that French guy who got caught a number of years ago. Plus he was legal cause he could take 10 per day 20 in possession. This is outrageous. This will help this problem of selling skins and wasting these ducks as if they were clay pigeons.

Yours Truly,

Olevis Jose Worst → Homer Spit RD 4306

From: Alaska's Sadie Cove Wilderness Lodge - Timeless Beauty in Alaska [randi@acsalaska.net]
Sent: Monday, May 18, 2009 11:16 AM
To: Crass, Scott W (DFG)
Subject: Fw: Proposal 117

To the Alaska Department of Fish and Game

Dear Christie Tibbles,

I am writing to ask the Department of Fish and Game to enact proposal #117 which would change the limit of sea ducks taken in Kachemak Bay to 2 ducks per hunter. I have lived in Sadie Cove since 1996 and have seen the rafts of ducks decline from rafts of 80 or 90 to rafts of 10 to 30. I also see how they are hunted by commercial operations and weekend hunters. Basically the ducks are chased from one end of the cove to the next, from one group of hunters to another until there are very few left. At that point the hunters go on to another area where the same techniques are used to capture as many ducks as is possible. As you well know, sea ducks are site specific and once a population is hunted out in one bay or cove it takes a very long time for them to come back in the numbers that used to be. Sadie Cove has not yet come back from overharvesting and I strongly believe that proposal 117 will be the solution to this unfortunate decline. Proposal 117 is a good decision and it is wise of the Department of Fish and Game to finally take action to curtail the over-harvesting and commercialized hunting that has been taking place for so long. I fully support proposal 117 and I look forward to seeing the ducks return as a sustainable resource one day in the future as a result of proposal 117.

Thank you for your time

Sincerely,

Randi Iverson

907-235-2350

Crass, Scott W (DFG)

From: Alaska's Sadie Cove Wilderness Lodge - Timeless Beauty in Alaska [randi@acsalaska.net]
Sent: Monday, May 18, 2009 11:17 AM
To: Crass, Scott W (DFG)
Subject: To Fish and Game

To the Alaska Department of Fish and Game

Dear Christie Tibbles,

I am writing to commend the Department of Fish and Game for enacting proposal #117 changing the limit of sea ducks taken in Kachemak Bay to 2 ducks per hunter. I have lived in Sadie Cove since 1971 and was a moderate duck hunter in the past. In the "old days" I would see rafts of hundreds sea ducks in the cove. Now the rafts are small in number from 10 to 30 ducks - a vast difference from the way it used to be. I can only explain this decline by my observations on how the ducks have been over hunted by hunters and guides in fast boats who drive the ducks to fellow hunters who proceed to shoot as many as is possible. Since the sea ducks live in specific bays and coves, once a population has been over hunted in one area, it takes many many years for the ducks to recover. Sadie Cove has yet to recover from over harvesting and I believe that if the limit were for 2 sea ducks, they would have the chance they need to become the sustainable resource that they used to be. Proposal 117 is a good decision and it is wise of the Department of Fish and Game to finally take action to curtail the over-harvesting and commercialized hunting that has ben taking place for so long. Because of their sharp decline, I no longer hunt sea ducks myself.

Thank you for your consideration. This letter comes from a man who has lived year-round in Sadie Cove and has seen many changes in his 38 years of residency there.

Sincerely,

Keith Iverson

PC 73



S.W. Tyler
PO Box 1281
Homer, AK 99603

Board of Game
PO Box 25526
Juneau, AK 99802

5/18/09

Dear Members:

I am a full supporter of proposal #117 which will cut down on the number of sea ducks used as target practice - a practice of which I do not approve at all. As a 45 year resident of Alaska I can see that many species of sea ducks (and others) are dropping drastically and that this practice is obviously partly to blame.

Particularly Harlequin and Old Squaw plus Eiders and Redpolls are approaching endangered classification!

The present state proposal is not restrictive enough under these circumstances and in Homer where so many people have access to them.

Thank You -
R.W. Tyler

They are not that good to eat. And they
shoot them to sharpen their hunting eye for
puddle ducks and to give their dogs practice!
And if their dog misses them the tide takes
them away. I haven't seen an Ider in 20 years.

Dore Bruce

May 18 2009

Neptune Bay

Box RDO - Alaska 99603-
9999

SEADUCK K-BAY

The Alaska Board of Game - Support 172&132

2/15/01

Dear Board Members.

We respectfully ask for your help and attention in the Cook Inlet area for the Sea Duck Bag Limits to be reduced for conservation of winter residents.

This is the second time we have written to you asking for assistance.

This ocean area has proven to show declines in many other species.

We have lived in one of the narrow fjords of Kachemak Bay 27 years. We witness the illegal and excessive take of seaducks each year in these sheltered bays. With the increase in high speed boats people from the Homer Harbor can be into these bays within 10 minutes. Enforcement is spread too thin and numbers of seaducks have dwindled dramatically. The stress on these birds during and after the season is substantial. To even split wood after the hunt sends them off in a panic.

This is not quality hunting it is an efficient slaughter. Different methods are used. Three boats, strings of decoys, and four people on each of the back decks, work their way up this narrow bay driving and herding these birds. These birds are very tame so they are easy targets. They seem to frequent certain specific areas within the bay. The crippling and lost must be high. We have found them on the beach.

Another method places the people on the shore as the guide herds the ducks with a skiff into their range. We have questioned this behavior and are told they are just "taking coffee to their clients". The shotguns do not sound as if they are plugged. More than three shots are heard during each round. The beaches are littered with the plastic casings. Our seaducks have not sustained this activity in these little bays.

We have notified wildlife protection but silver salmon, moose and duck hunts overlap. Two troopers patrol over sixty square miles of land. They are seriously over extended. They do not even have a boat in the water.

Twenty-five years ago it was hard to come into this bay without skirting grand rafts of harlequin, goldeneye, scoters, oldsquaw and eider. The noise and ruckus they made woke us up in the mornings. Our bay is now silent. It has been widdled down to a mere shadow of the rafts we past enjoyed. Eider or oldsquaw have been absent for over ten years. This is a crime to allow this demise. How can this be legal?

A guide brought over two hundred sea ducks to our beach to ask if we wanted them as they did not. We declined and it made us sick to realize how many of these birds are destroyed and wasted. We used to enjoy a duck or two each season for dinner. Now we feel their numbers are too low to even warrant a meal. Seldovia residents have found seaduck carcasses in their dumpster. The wanton waste is perpetuated by these excessive and unacceptable bag limits. It gives the impression of a limitless resource.

Please, we ask your assistance for conservative realistic management of seaducks. This is a disgrace to our Fish and Game department.

Sincerely,

Torrance and Josie Standar
RDO Red Mountain
Via Homer, Alaska 99603

We support the Sea Duck sanctuary proposal 172 for BOG 2001.

We have been year round residents on MacDonald Spit, Kasitsna Bay, since 1986 and have noted a marked decline in sea ducks particularly Harlequin, Goldeneye, Oldsquaw and Mergansers.

They do not seem to be growing back. The little groups just get smaller.

We have also noted that hunters do not discriminate between species, shooting whatever flies over as fast as they can load.

For instance this fall the remaining six harlequin which lived in the corner of this bay were whittled down to two after a boatload finished shooting. What does this do to the reproductive capacity.

There is no management in this. These birds are not taken for food. Our communities in these small bays need relief from these encounters. It is dangerous.

This small sanctuary will provide residents and visitors the opportunity and the pleasure of viewing diverse seabirds in this Kachemak Bay Critical Habitat Area and hopefully stop the area's decline in some species.

Will H. Tomlinson
Courtney A. Tomlinson
Box 216
Seldovia Alaska 99663

RDO Red Mountain

Kasitsna Bay, Alaska 99603

To the Board of Game Members,

I am in support of Proposal 172 to set up a sanctuary for Seaducks

I have lived in Alaska since 1955. I obtained my bachelors degree in Game management from Humboldt State. I have been a commercial fisherman in Kachemak Bay since the early 60's. My permanent home is on McDonald Spit in Kasitsna Bay within this proposed Seaduck Sanctuary of Proposal 172.

I have observed the declines of Seaducks over the years as well as the increase of guided hunting effort. There are very few harlequin left. The rafts of oldsquaw are gone and the scoter flocks are measurably smaller. In contrast mallards appear stable.

When observing the Seaduck hunting in this area it becomes obvious that these people are not concerned with procuring sustenance for personal use. These hunts appear to focus on collection for mounts. I have heard from my neighbors of many cases of wanton waste.

Since the mid fifties I have hunted trapped and fished. I have hesitated to write this because I do not like the idea of closing areas to hunting, but in this instance I see no other alternative than to create refuge in Kachemak Bay. These ice free bays and passes at sixty degrees North latitude are of critical importance as wintering areas for these birds especially when ice conditions are severe. Whether cyclic or not declines merit action. It is time to do something before we lose the timely opportunity to salvage some of these waning species in this area.

I have thought that enforcement would help but the state of Alaska has so few officers available over a huge expanse of land that this is not the answer. There is simply too many birds taken with too much waste of the resource, which removes the pleasure and opportunity of why we live in this backcountry. With such easy access from both Seldovia and Homer our ducks in these bays between are getting hit hard.

A refuge from harvest during a declining trend will allow this area to become a control to monitor health of populations. I see no other manageable answer.

Thank-you for your assistance.

Sincerely,

Sera Baxter

BOG COMMENTS

**Alaska Department of Fish and Game
Boards Support Section
P.O. Box 25526
Juneau, Alaska 99802-5526**

To whom it may concern,

I feel so blessed when I am able to hear the haunting sound of the old squaw. The squeak of the harlequin, the bubble popping sound of the scoters and the various sounds of the sea ducks here in our Bay. There are only four oldsquaw where there used to be hundreds. I would hear and watch them from the Homer side along Kachemak Bay and the Spit as well as from my home in Neptune Bay.

The common sounds and sights of these birds were the very special part of living here in Kachemak Bay. It is not common now. A winter sanctuary would raise awareness for these birds and these important wintering areas and will protect the remaining small flocks that grace our waters and give us so much pleasure.

We take all of our seabird populations very seriously. The shorebird festival is a large honor for the myriad of waterbirds on their migration. The entire town bursts with activity during this festival. It brings people from all over the nation as well as international guests to our town.

In recognition of the sea ducks inherent beauty we have included them in this festival. They have been caught between a Waterbird and a sought after gamebird and deserve a special sanctuary in this Northern most ice-free area. What better place then in the beauty of Homer where so many people gain the opportunity to view their behavior and hear their calls located in our Kachemak Bay Critical Habitat Area?

The Board needs to regulate the people who add to the decline of the already small rafts of ducks. These rafts are diminishing and many fail to exist anymore. There are too few birds of each separate kind of sea duck to allow a hunt in this small accessible bay.

How can these separate kinds of ducks be regulated? How can you know which species will be hit the hardest and by how many people? These animals are going fast and you don't have time on some of these to wait any longer.

The residents of this area, on both sides of the bay, support a sea duck sanctuary to raise awareness. We support protecting declining and threatened birds who live in the sea. It is in your hands.

Thank-you for your help.

Anne Wieland

Dear Board of Game Members

Welcome to the new members. I am in full support of the sustainable management opportunity of Proposal 172 to set up a reserved area to monitor Seaducks, as well as 132 133 to provide conservative bags during declining trends.

We do not have the basic critical information required on harvest, biology, or behavior to adequately manage sea ducks on the sustained yield principle. These birds have been in a declining situation for fifteen twenty years? How long before the Department makes a meaningful move to assist these birds by regulation?

Instead of individual separate species Sea ducks are now managed as if they are just but one. Is this the same mistaken management reminiscent of the way geese were managed before certain types fell into decline? Take all these species in one bag as if they are only one and trust in the intelligence of the hunter to self regulate right? We know this won't work. It has proved not to work.

In the small geographic area of Kachemak Bay there is no oversight on who is guiding. Local managers are too busy with moose and have not been down here long enough to have seen declines. The sound of Long tailed ducks is no longer heard.

Do the guides need a permit? Why not? How many people in each party? Who is hunting? How many birds are taken? What species is targeted year by year? How many birds are crippled and lost? Are these birds eaten? What happens to the remainder of birds not mounted? Is this wanton waste? Is this causing an unknown disturbance consequence making them move too less favorable sites? Which species can sustain concentrated effort in individual bays? For how long? Do we know genetic consequence of local depletion? Are these hunts occurring near people's homes? How do those people feel about that? Can the department answer these questions?

Winner take all aggregate species in one bag tactics of wildlife management does not look at individual species. It misses some. It loses. In this small area localized over harvest of certain species is unacceptable.

I find it hard to believe we are managing this group of ducks in the same failed oversight way that leads to the same failed result. Lets take action for conservative sustainability of these birds we all enjoy in our bay, not for the people we "think" "might" "possibly" be hunting in a sustainable manner. To Guess when declining does not help these birds.

Thank you for taking my testimony
Yours Truly,

Mike LeMay - Homer Alaska 99603

**Brad Kruger
4306 Homer Spit
Homer Alaska 99603**

**BOG COMMENTS
ADFG- Boards Support Section
P.O. Box 25526
Juneau, Alaska 99802-5526**

To Alaska Board of Game Members

**I Support sea duck proposal 172 132 and 133
I am an avid hunter fisherman, bird watcher and outdoorsman. However there is a time to step back. If we even think sea ducks are having a hard time and don't know why? Then lets take a breath now, not wait for the regret later.**

**Seaducks are not meat and potato birds. If I don't eat it, I don't shoot it or hook it. The mounted bird industry is growing and needs a handle ASAP.
I have seen local depletions just in traveling across the bay to Seldovia in the winter. The huge rafts are not evident as they were.**

The guided fishing charter industry gears up for hunting in the Fall. This is a large mobile force with ten minute access anywhere in Kachemak Bay, an hour to the outside coast and 4-6 hours to Shuyak Afognak and Kodiak Island's deer and sea duck populations.

In observing these birds over the years I have noticed the "site fidelity". I never knew the word for that behavior but the obvious trait of seeing one group, of one type of bird, in one area, day after day, week after week, month after month and year after year makes it plain that from a hunter point of view, I could easily take these rafts out without any problem whatsoever. It's like creek robbing.

I am in the fishing industry and the most important part of my job is to please my customers. Customer service. If I were a duck hunting guide, I would do everything in my power to get my client his full bag limit. Most everyone wants to fill the quota allotted.

Restricting hunting of these birds does not inconvenience hunters or subsistence users, as other more plentiful and palatable game-bird opportunities are available.

It is the role of the wildlife agencies and the Game Board to set biologically certain and savvy bag limits which anticipate into the future the strategies of a hunter whether in guided mode or as an individual. Self regulation is rare. Human nature dictates the compulsion to fill the bag you set for us to follow.

The average duck hunter is not aware of problems. They do not understand the concepts of why. That is the reason for the Boards. To anticipate and regulate.

A sanctuary in this area where so many different kinds of birds winter is the answer for Kachemak Bay. The reduced bag limits in the rest of the areas will minimize the wanton waste of these declining birds hunted for mounts.

I feel strongly about this because the bad publicity of hunting for mounts a tremendous cripple rate ruins the name of hunter. We need to take a breath here. The warning bells are ringing. We regulate for other waterfowl. Protection of local populations must be the prime priority. Thank-you for considering my comments.

P.O. Box 1223
Homer Alaska 99603
1/2/01

Support 132 133 172

Board of Game

Thank-you for taking our testimony

Our property is at the head of Kachemak Bay on a ridge overlooking the Fox River Flats. When we needed a duck for dinner we could get one. After trying sea ducks we steered clear of the pretty but fishy tasting little birds. Not enough meat on them anyway. Why? When we could get a mallard or better yet raise chickens or a turkey or two.

Times have changed when we first carved our home here 25 years ago. We now have guided hunts coming from every direction. There are over 1000 stalls in the harbor holding boats that go 25knots instead of the slow but sure 5knots. Even Jet boats actually can go all the way up the river. They've even been known to kill domesticated cattle.

They can make it to the head of the bay in minutes now instead of hours. They hunt as if in frenzy half starved to shoot something. But not to fill their belly. These people don't hunt to get a meal otherwise they wouldn't stop and get dinner at Lands End before paying the guide fees. They would row out like we do and stick that duck in a pot before it had time to cool. It is sad to watch. And even sadder to see the important people who set up regulations that stand up for people like this, rather than the animals when they are down.

For better or worse times have changed. The Homer area is like a suburb playground of Anchorage Soldotna and Kenai. Regulations have to change too. We have never seen a game guy out at the head of the bay so there is no one of authority taking tally. It is in your hands to understand and act.

We are all for setting up Kachemak Bay for a sea duck sanctuary for these ducks. The number of people who get sport from hearing watching and enjoying them, far outnumber those who kill simply for sport not food. The flocks are gone from what they were and they need to grow back regardless of what has taken them down. Imagine what happens in the outer coast where no homes overlook what is going on. Those bags need lowered.

The winter sounds of these birds that filled the bay aren't there any more. We need to watch closely to make sure they do grow back. They don't need to be shot at from people who aren't hungry and there are plenty of mallards for those who are.

Don't stand up for the hunters that don't care about the resource. Lack of fair chase ruins the very name of hunter. Sincerely

2/10/01

Board of Game

Greetings,

Suits me to have a Kachemak Sea Duck Sanctuary (**Proposal 172**). This Critical Habitat Area policy states: "**Priority should be given to encouraging rehabilitation of depleted indigenous fish and wildlife populations**". We have Seaducks who are declining and listed as threatened. What better purpose then to aid these birds we know so little about.

To fulfill the "**Information and Education**" policy section of the Critical Habitat Area, Homer has many educational organizations like the Center for Alaskan Coastal Studies and the National Estuarine Reserve and our schools who are willing to set up monitoring and educational programs. This bay is a good control to assess local growth back in areas previously shot out by the guides.

Since I came into town in 1955, I haven't shot a single sea duck in that time. Seaducks are like an Alcid. Seaduck Guiding wasn't the rage it is now. Seaducks are a better bird to look at then to eat. Lower bags in the outer coast Kodiak and Aleutians. (**Proposal 132 &133**) There are plenty of increasing numbers of game ducks to eat and it will lower the mount hunting consequence of wanton waste of these more fishy -cousins.

Best Regards

Richard W. Tyler
60775 Paradise Place
Homer Alaska 99603

Annette and Marvin Bellamy
Halibut Cove, Alaska

Dear Board of Game Members.

Where are the Old squaw?

The sound of oldsquaw is the sound of winter. Was... the sound of winter. It is pretty quiet in here now. What a loss.

And the beautiful harlequin where are they?

These birds inspired me to do artwork. I used to do drawings of them when they would build up in the cove, eating mussels off our floating docks lightening the load. Now it's hard to see enough to use as a model.

They always hung out in the same place and didn't seem much disturbed by our local boats passing by. Rafts of 50 -100 are now rafts in the single digits. To see twelve in a raft is exciting now. They act more nervous.

The sound of winter isn't here any more.

Why hasn't something been done a long time ago to protect these birds from the shooting and disturbance they go through that's been going on in the Fall nicking away slow but sure at these rafts of ducks that make out lives so full out here.

We need a sanctuary. The birds need a sanctuary. They have it rough enough in the icy cold of winter out to sea. They don't need the disturbance and we need out ducks to keep the mussels off our docks and the inspiration they bring.

Sincerely,

Diana Conway
Box 6461 - Halibut Cove 99603

To the Board of Game,

Because this is a sheltered Bay this is a place you can see large rafts of Sea ducks.

Goldeneyes, Oldsquaw, Harlequin and some Bufflehead. Large numbers of 50-100 in each raft were common.

This year we are just seeing pairs or threes and fours. Oldsquaw I have seen only a couple.

This has definitely been a topic of conversation on the weekly mail boat when many of us take a run to town.

How few sea ducks we are seeing.

Please lets support a sanctuary so these birds can be undisturbed from hunting and monitored to find out what has happenedso we do not take whats left of the remaining birds.

I appreciate your concern.

Nancy Hillstrand
Box 170
Homer Alaska 99603
January 23, 2001

Dear Board of Game,

Support Sea duck Proposals 132, 133, 172

My home is in Sadie Cove. I along with my husband and neighbours, have witnessed the excessive seaduck hunting in this narrow bay over the past ten years. Guided hunting sometimes with the use of two large Delta 42 footers with four to five people on each boat. We have counted over 80 shots fired in one hour. We dread the Fall in our own homes now. And I mean that sincerely.

Rafts of three hundred Barrows Goldeneye each were entered in my journal in the late 80's and early ninties. Now these rafts are counted in the teens. We watched these rafts be removed before our eyes. We watch the small pockets of harlequin that frequent small bights be systematically removed. They are so tame this is not a hunt it is a slaughter from a boat.

The sound of the Long-tailed Duck was the common sound of all these bays. We have not heard this bird in over twelve years.

I cannot take more of this "legal hunting". It consumes me. It is so utterly wrong.

Extinction, whether localized, regional or worldwide must be guarded against at all costs. To allow declined trends projected at an annual 5% decline per year up to a possible 70% as is the case with the oldsquaw or 50% possible of the King and Common Eider, is unacceptable. These trends are telling us something.

How did the drastic declines up into the 90 percent range for the steller's or spectacled eiders slip unpreceived by our state department of Wildlife Conservation? Doesn't this run contrary to the sustained yield principle?

The precautionary principle. I would much rather be prudent than careless from lack of knowledge. These birds are at risk from so little oversight from so few people not only within the state and the Pacific Flyway but also federally in the Service Regulations Committee because the information is all coming from the same narrow knowledge base.

Present management strategy focuses on reproduction... Yet Seaducks are K-selected failed breeders.

It focuses on rainfall... yet Seaducks rely on timing of ice pack break up.

It compares swans, which escaped the mists of extinction by being fed grain in farmers' fields... when Seaduck species rely almost exclusively on marine invertebrates.

It fails to differentiate between genus. A harlequin is not a scoter. Nor is an Eider a merganser.

It looks at overall population while not considering consequences of localized depletions, individual species, or local resident preference.

If, as stated by specialized international Seaduck experts, that 3% is the sustainable exploitation rate of increasing populations modeled for their unique life stage requirements, than in Kachemak Bay the allowable harvest would be:

Black Scoter	315
Surf Scoter	50
White-wings	102
Barrows Goldeneye	48
Common Goldeneye	14
Harlequin	50
Long-tail	69
Stellers Eider	49
Common Eider	9
Common Merganser	4

This does not include the 60% crippling rate. This does not take into consideration that a massive arctic storm occurred on the Breeding grounds last August when the chicks were only 25 days old wiping out nests. Or that the late pack ice didn't allow time for full incubation, hatching and fledging of some species.

These birds do not annually recruit like dabblers. Climate simply does not allow this.

Also, the above numbers are probably high because they are based on populations surveyed during the 1999 heavy ice pack conditions in Cook Inlet which would move birds into Kachemak Bay's ice free waters. These numbers also do not include the critically important value of localized depletions from concentrated efforts in suburban bays where people live and enjoy these ducks in their watery "yards".

Is it really worth it to crop these bird so close to an unknown threshold Is it fair to the residents who enjoy the sights and sounds of these birds for so few to take so much?

Are we alert to the call for caution of international Seaduck experts who focus on distinct species? Or do we take the chance with generic waterfowl management which omits the fine details of distinct species behaviour ecology and biology.

The Federal Service Regulations Committee sets up the Flyway Frameworks. It is the responsibility of the Alaska Board of Game to geographically by GMU fine tune these frameworks to minimize depletions. Please help us retain our local resident populations.

With Kind Regards

Nancy Hillstrand

P.S. You may find it interesting to hear comments stated in the 1800s. They remind me of comments I hear today. We can never be certain which way the cycles will turn when declining trends are perceived.

"No one anticipated that they might become extinct," wrote one observer in 1891, of the Labrador Duck, a species of Seaduck, *Camptorhynchus labradorius*

Collector George Boardman wrote in 1890

"The Labrador Duck I procured without much trouble and if I had any duplicates sent to me I did not save them any more than I should have saved duplicates of Scoters of Old Squaws... Anything...that I already had mounted generally went to the manure heap..."

One hundred ten years later a local Advisory Committee member exhumes his Harlequin mount out of the Seldovia dumpster. Does human nature change?

Labrador Duck Comments (1888):

"It seemed very strange that such a bird should become extinct as it was a good flier."

"It was surely not through man's agency."

We excel in denial of our responsibility once we have made a boo boo.

The Labrador Duck had an odd flexible bill, which resembled the Steller's Eider; their wings whistled like a Goldeneye or Scoters. Hunters called them "Fool Bird" or "Fool Duck" because they were

"so tame and confiding that it was not difficult to shoot."

Just like our Seaducks today so tame you can almost pet them.

"The passenger pigeon needs no protection," the Ohio Senate asserted in 1857, rejecting a conservation bill for this bird estimated at over 2.2 billion animals. In 1914 the lone last bird, died into extinction in the Cincinnati zoo.

Management has changed since then but just as ominous as the market hunters of the late nineteenth century we have other major seen and unseen mortality factors cumulatively affecting these birds. Especially birds who spend their life in arctic seas.

Concerning Labrador Duck Habitat,

"This habitat is susceptible to periodic epizootic crashes which can have a drastic effects.." Similar crashes in the very small Labrador Duck population could [have been] catastrophic...especially if coupled with human predation."

Cumulative effects of a North Pacific Regime Shift with human predation topped off with a nice oil spill? A perfect recipe for depletion.

Of Carolina Parakeets Audubon 1844

" are very rapidly diminishing in number; and in some districts where twenty five years ago they were plentiful, scarcely any are now to be seen..."

"Certainly clearing of forests for fuel, building supplies and access to waterways took a serious toll

The Kenai Peninsula five-year timber harvest plan calls for the sale of trees altering 25,000 acres. Goldeneye are cavity nesters.

"There is little doubt but that their total extermination is only a matter of years" wrote three distinguished ornithologists in 1874. "The extinction might even be consummated within the lifetime of persons now living"

"Even as scientists roundly critisized sport and plume hunters, ornithologists continued collecting in order to obtain those valuable final specimens"

Museums scientists and research laboratories are in collection mode. Hunters are paid for panic collecting