

Western Arctic Caribou Herd Working Group
Executive Summary

December 5-6, 2012

Egan Convention Center, Anchorage, AK

Approved by Working Group on December 5, 2012

The Western Arctic Caribou Herd (WACH) Working Group (WG) met in Anchorage on December 5-6, 2012, following a one-day Technical Committee meeting on December 4. Sixteen WG members attended (quorum met). The following is a short summary of discussion topics that are addressed in full in the full WG Meeting Summary. Attachment 1 of the full (draft) WG Meeting Summary presents the results of the Technical Committee meeting. Attachments 2 and 3 of the full (draft) WG Meeting Summary list all motions and assignments made at the WG meeting.

Membership / Committees – The WG took the following actions regarding membership and committees:

- Elected Vern Cleveland, Sr., as Vice-Chair of the WG, through 2015.
- Appointed Morris Nassuk as Chair 17 (Southern Seward Peninsula) and Leo Charles, Sr., as Chair 17 alternate.
- Confirmed Alfred Karmun as Chair 16 alternate (Reindeer Herders Association).
- Retained Wendy Loya, Chair 14 (Conservationists), as Chair of the Resource Development Committee.
- Approved the lists of villages represented by Chairs 9-11, 15, 17, 19.
- Clarified that the Executive Committee includes the WG Chair, Vice-Chair, three other WG members, and the WG agency representative.
- Clarified that the Technical Committee includes the WG Chair, Vice-Chair, and whichever WG members live near the meeting location (so no additional travel day is required, to save expenses).

Guest Elder – Mr. Johnson Stalker from Kotzebue described his lifelong experience with reindeer herding. Mr. Stalker's remarks are presented verbatim in the full WG Meeting Summary. (Note that Mr. Stalker's remarks are also featured in the 2013 edition of *Caribou Trails*.)

Caribou Roundtable – The WG met in four small regional groups for Caribou Roundtable discussions and then came back in a large group to share what they had discussed. Based on a recommendation made in 2010 by guest speaker Henry Huntington regarding documenting Traditional Ecological Knowledge (TEK), the groups responded to the same set of questions. The notes from each small group are included in Attachment 6 of the full WG Meeting Summary. The information shared each year through the Caribou Roundtable will be entered into a cumulative database by the US Fish and Wildlife Service (USFWS).

School Presentation – Students from the Kobuk and Kivalina Schools assisted the Alaska Department of Fish and Game (ADF&G) in caribou collaring at Onion Portage in September 2012 (collaring animals from the middle of the migration). The students from Kobuk School had interviewed their parents or others in the community about caribou (see full Working Group summary for interview responses). The Kivalina students shared a verbal presentation, followed by a video prepared by the Northwest Arctic Borough about students participating in collaring at Onion Portage.

WACH Information – Jim Dau, ADF&G, provided information about the herd's population status. The population was 325,000 in July 2011, having declined by 4-6% per year since its peak at 490,000 animals in 2003. The fall 2012 calf survival ratio was 36:100 and estimated bull:cow ratio was 42:100. Kyle Joly, National Park Service (NPS), addressed satellite collar monitoring of caribou movements.

Research Reports – Brief reports were presented regarding the following research projects:

- WACH Winter Range Habitat Modeling (Jennifer McMillan, Bureau of Land Management [BLM])
- Evaluating effects of changing habitats on nutrient cycling and availability of caribou forage (Dave Gustine, US Geological Survey [USGS])
- Traditional Knowledge Project – community of Noatak (Gabriela Halas, University of Alaska Fairbanks)
- Community Harvest Assessment – communities of Brevig Mission, Teller, Noatak, Deering and Selawik (Nikki Braem, ADF&G Division of Subsistence).

Committee and Agency Reports –

- Technical Committee – In 2011, the WG had asked that the following documents be developed and kept updated: (1) a list of management and research projects related to the WAH and its habitat, and (2) a selected bibliography of documents relevant to the herd. These two products were developed in 2012 by Merben Cebrian, BLM and Wendy Loya, WG member (respectively) and presented to the WG at its meeting.

The Technical Committee met on December 4, 2012, in Anchorage. Attachment 2 of the full (draft) WG Meeting Summary presents notes from this meeting. Following the presentation of these notes to the Working Group, members discussed the importance of providing information to the public (particularly in the region) about the declining WAH population, the possible need to change harvest management in the future, and what the WACH Cooperative Management Plan recommends with regard to future management (Table 1).

- Communication Committee – Meghan Nedwick, ADF&G, presented information about *Caribou Trails*, the WG's website, and education/outreach activities. The WG asked Meghan and the committee to consider how Facebook could be used to support the work of the WG, since it is now the primary way that communities and Advisory Committees communicate. There is also interest in the WG distributing a second (simpler) publication each year, to supplement *Caribou Trails*.
- Resource Development Committee – Committee chair Wendy Loya reported that in 2012 the Committee wrote comment letters on behalf of the WG regarding the State's Roads to Resources projects, BLM's planning process for the National Petroleum Reserve Alaska (NPR-A), and BLM's Habitat Management and Monitoring Plan.
- Agency Reports – Participating agencies ADF&G, BLM, NPS, and USFWS provided annual reports on topics of interest to the WG. Reports are included in Attachment 7 of the full (draft) WG Meeting Summary.

Resource Development Research and Reports –

The WG heard a brief update from the Alaska Department of Transportation and Public Facilities (ADOT&PF) about planning, engineering and environmental analysis, and public involvement efforts underway for proposed “Roads to Resources,” including a potential road to the Ambler Mining District and the Foothills West (Road to Umiat) project. (Note: Project management for the Ambler Access Project has since been transferred to the Alaska Industrial and Export Development Authority [AIDEA], which will provide updated information at the 2013 WG meeting.)

John Gaedeke from the non-government organization Brooks Range Council (BRC) spoke to the WG about concerns regarding proposed roads in the range of the WAH. The BRC intends to serve as a source of information about possible impacts from roads.

Jim Dau, ADF&G, presented slides showing mapped movements of satellite-collared WAH caribou in proximity to the Red Dog Road.

Lincoln Parrett, ADF&G, and Ryan Wilson, The Wilderness Society, presented information regarding methodology to quantify and analyze caribou responses to roads during migration, with preliminary results from the Teshekpuk Caribou Herd.

Dave Yokel from BLM provided an update on the Draft Integrated Activity Plan (AIP) and Environmental Impact Statement (EIS) for the NPR-A. (Note: The Final AIP/EIS was issued by BLM in February 2013.)

Business Meeting – During the Business Meeting, the WG provided direction on contents for the 2013 issue of *Caribou Trails* and took action to update membership and committees (see above). The WG also set the December 3-5, 2013 in Anchorage as the dates and location for the next WG meeting. The Working Group asked for a comparison of the cost of holding future meetings in Nome, Kotzebue, Anchorage and Fairbanks.

**Western Arctic Caribou Herd Working Group
2012 Meeting Summary**

December 5-6, 2012

Egan Convention Center, Anchorage, AK

Approved by Working Group on December 5, 2013

The Western Arctic Caribou Herd (WACH) Working Group (WG) met in Anchorage on December 5-6, 2012 (agenda, Attachment 1). The WG's Technical Committee met in Anchorage on December 4, 2012 (Attachment 2). The following is a summary of meeting discussion. Motions passed at the meeting are shaded in gray below and listed in Attachment 3. Assignments are highlighted in yellow below and listed in Attachment 4.

Wednesday, December 5, 2012

I. Call to Order – 8:50 a.m.

- a. Invocation: Raymond Hawley led the invocation.
- b. WACH WG Roll Call / Establish Quorum (p. 4 in WG Binder)

Working Group Seat	Voting Chair	Alternate
1. Anchorage Advisory Committee.....	Steve Flory.....	Grant Klotz
2. Buckland, Deering, Selawik.....	Ron Moto.....	Roger Clark
3. Anaktuvuk Pass, Nuiqsut.....	Isaac Kaigelak.....	Esther Hugo
4. Elim, Golovin, White Mountain.....	Charles Saccheus.....	Morris Nakaruk
5. Fairbanks Hunters.....	Larry Bartlett.....	Rod Arno / Dick Bishop
6. Hunting Guides.....	Phil Driver.....	Bob Hannon
7. Kivalina, Noatak.....	Raymond Hawley.....	Mike Adams
8. Kotzebue.....	Cyrus Harris.....	Willie Goodwin
9. Koyukuk River..... (Huslia, Hughes, Allakaket, Bettles, Wiseman)	Pollock Simon Sr.....	Jack Reakoff
10. Lower Kobuk River..... (Noorvik, Kiana)	Vern Cleveland Sr (<i>V Chair</i>).....	Robert Sampson, Jr.
11. Middle Yukon River..... (Galena, Koyukuk, Nulato, Kaltag)	Benedict Jones.....	vacant
12. Point Hope and Point Lay.....	Ted Frankson.....	Steve Oomituk
13. Nome.....	Roy Ashenfelter (Chair).....	Ralph Anungazuk
14. Conservationists.....	Wendy Loya.....	Darcie Warden
15. Northern Seward Peninsula..... (Teller, Brevig Mission, Wales, Shishmaref)	Elmer Seetot Jr.....	Christine Komanaseak
16. Reindeer Herders Association.....	Tom Gray.....	Alfred Karmun
17. Southern Seward Peninsula..... (Koyuk, Shaktoolik, Unalakleet, Stebbins, St. Michael, Kotlik)	Morris Nassuk.....	Leo Charles Sr
18. Transporters.....	Jared Cummings.....	Judy Jespersen
19. Upper Kobuk River..... (Ambler, Shungnak, Kobuk)	Sally Custer.....	William Bernhardt
20. Atqasuk, Barrow, Wainwright.....	Enoch Oktolik.....	Oliver Peetook

Italic print are members or officers confirmed at the 2012 meeting (see below); Blue text = vacancies; strike-out text = not present

Initial roll call showed 16 members present; quorum of >50% was met.

c. Introduction of others present at meeting (See Attachment 5 for cumulative list of all people who attended the meeting)

d. Membership (Nominations and Vacancies):

Nominations for a vacant seat (Seat 17, Southern Seward Peninsula) were presented to the WG. Motion to accept nominations and appoint Morris Nassuk as Chair 17 and Leo Charles, Sr., as Chair 17 alternate, by Tom Gray, second by Ron Moto. Motion carried unanimously.

Alfred Karmun was presented as the Chair 16 Reindeer Herders Association (RHA) alternate by Tom Gray.

Approval of Agenda: Motion to approve agenda as presented, by Tom Gray, seconded by Vern Cleveland. Motion carried unanimously.

II. **Guest Elder – Johnson Stalker, Kotzebue** (verbatim, *editors notes in italics*)

Chair Roy Ashenfelter – We'll have our guest speaker. I really appreciate him coming, sharing what he has with us today. And welcome to the Working Group, Johnson. Thanks so much for coming.

Johnson Stalker – Thanks for welcoming me here. This is the first time I didn't even sleep once. I'm nervous or something.

What I'm supposed to talk about is reindeer and caribou. Something that I know about. The first thing I want to say, all my life, ever since I was a young boy with my dad and my uncle I have to be with the reindeer. I didn't even go to school at all. All my life was about reindeer. All my life mostly, in a camp, in a tent with the reindeer.

It was 1940s when I first see caribou in the reindeer. I went to check on the reindeer and I see two different, maybe there was about a thousand reindeer, but there was two of them a lot different. First time I see. And one looked like it had a mark on its ear. I was so scared and I wondered 'cause this is the first time I ever see a caribou in the reindeer. You could notice them though, they are bigger. And after I saw it I was scared of my uncle, I didn't know what to say. Finally I told him. This one had just like ear marks; that was a frozen ear. Sometimes they're born in this cold and the ears freeze and come off, even on a reindeer. That's the first time I see a caribou. It was 1949, I think; two caribou.

My dad tried to get me books so I could learn how to read. But the principal didn't give my dad a book. So they just told my dad, show him how to be a carpenter or something. They just teach me how to be a reindeer herder, and I was a reindeer herder for all my life. And I learned to train sled deer and use them for moving camp, that kind of stuff.

When I first tried making sled deer it was a fawn because I was young, young boy. If I could do it, I'd try. I'd start trying and taught it to wear a halter. From there, they showed me how to castrate the bulls. I learned from my uncle Ross Stalker and my dad.

Reindeer herding is a life, you know. I could recognize them when they first made the horns, when they first make the horns, they always make the same way until they get big you know. Some of them were made like this, and they still grow the same way.

When they teach me how to do it. I walked [while herding]. I'm 77 years old now. Sometimes they laugh, they say, 'Johnson you don't look like you're 77 years old'.

I always think that was my life, the walking, the staying with the reindeer. Sometimes I sleep with the reindeer. When you have the reindeer you have to take care of them. You've got other people 24 hours and then they take over. Reindeer when they sleep, even caribou, when they lay down, the most they'll sleep, two and a half hours. That's all. And they get up and start eating and sometimes I'll sleep with them right on the ground.

How many bulls can take care of a female? They told me one bull can take care of maybe 15 females. And you tally them. And then they showed me how to castrate, they showed me how to do it. That's a really important thing you got to know about. You have to know how to cut it. Make sure you cut it right. It's not a bull no more. If it goes through the castrating, that's a steer. In the tally book, that's a steer. It's not a bull no more. It's for dog meat or for butchering for sale.

They showed me how to make a sled deer. My hands used to be blistered right here. Rope, rope, all the time you have a rope. Carry ropes. Even when you check on the reindeer they want you to take a rope. Sometimes they'll tangle up and you know they can't just come off. [Reindeer] could even die from being stuck with their horns. And that's why they used to call me Dr. Stalker because I castrated in the Nome area and I travel to the other herders. They used me as a castrator.

I could recognize some reindeer. You study them when you drive reindeer. When you drive, long, long, long ways, you make sure you look at that way over there. You don't have to go like this you know because reindeer, they can tire real easy. When I have a herder train them, when we driving, you push them a little bit, push them. Sometimes they push them a little too much and then you know, sometimes there's a bad winter when it's rain and your reindeers can't dig through the snow you know and they get weak.

I was teaching at Nome, young boys how to be a reindeer herder. One from Wales. I think they still got few reindeers at Wales. Six months you have to go to school to be a reindeer herder. I showed him how to work on the reindeer. And then he took 500 reindeer to Wales.

Let me tell you how I made a sled deer. You pull the rope short so you won't break its neck. That reindeer don't know what's going on. He's tired and he won't eat all night. He'll be mad while he's tied and grumpy. And when they get mad they put their nose up and down. But my dad and them said, "Don't let them win. You have to win." Get light reindeer if you're gonna make a sled deer. Don't get heavy ones. Get yearling or something and train it.

When you train a sled deer you save those two good ones for an emergency. I used an emergency one time to go Kotzebue because my wife was pregnant and we were in a camp, just me and my wife, and another guy. And so, we have emergency sled deers. We don't use them to go get wood, to get ice, or anything. You just save them for emergency. And I did use these two of them – their names was Monday and Honeycomb. You know your sled deers have names, you name them – Honeycomb, Hopper-ho, Sweetheart. And when you are reindeer herders when you want your sled deer you say the name and we'll know, and we'll rope it.

When for my first wife, I have to go Kotzebue with those two sled deers, emergency, they didn't want to go across the bay for a while, but you have to use your rope, hit 'em once in a while. But when I get to Kotzebue I tie them on top the bank and run to town, and get a plane, Super Cub, Nelson Walker's plane and pickup my wife. And that other guy said, "Oh you go Kotzebue." "Yeh, look you see me, I'm here."

If you do reindeer herding you have to take...that's how I was trained. Not just me there's other herders up north like Raymond Brown, but he's gone, and those guys.

When you train 'em, they'll pull have, they'll just go like this, but don't let 'em win. You have to gently, calmly go forward. Pretty soon the tail will start going up like this. That means he's hurting. And some of them they won't even get up, they'll just lay down. And when the tail starts going up, that's how my uncle and dad showed me how when I was young boy. And when the tail goes up like this now it's hurting. Pretty soon it will start follow that, you know. And then pet 'em, pet 'em, just pet 'em all over. He'll be difficult, he may want to fight you and everything. And make it [*the rope*] a little longer, next day make it a little longer. Finally in three days it'll start eating. Pretty soon you will put on harness, just harness, and just let it run. After that you got a sled deer and you will want to name it. Some other guys will name their's you know some (*name unclear*) or anything like that you know (*name unclear*), you know some of them.

When the caribou start coming, I made a sled deer with caribou. Over at Buckland. And I put harness on it and there was another guy watching me. That was Jimmy Deering. He watched me put harness and I take off and he would say, "I wonder how he goes, now he comes back, now he goes"?

When you make a sled deer you have to work it from one side, always from one side.

There at Buckland, we don't have dog teams, just separate dogs you know, and a sled deer to move the tent, move firewood, get ice.

When I start going to Nome, I drive reindeer all the way from Kotzebue to Nome with two other guys. Me and Raymond Lee mostly walked. We have dog team you know. Drive all the way to Nome when they want to start model herd reindeer. I couldn't understand. They keep asking me for one year or so, they want to have model herd reindeer at Nome. BIA. So that's how we drive the reindeer by foot and dog team all the way from Kotzebue to Nome.

Sometimes you will go and there's no moss. Sometimes you have to. They're not like the dogs, they got lots of appetite, reindeer.

Any questions?

Q. How long did it take from Kotzebue to Nome?

A. It take, we have to stop at [*Cape*] Espenberg to get more deer. When we start out from Kotzebue we have to get to Espenberg to get more deer. It take us almost a month because we try to get two weeks you know to try to get more deer, Point Good Hope reindeer paid back to Golovin. Drive 'em. Take us about a month.

Q. What made your father and uncle interested in reindeer herding?

A. I am adopted to Stalkers. John Stalker is my dad and uncle Ross Stalker. At Noatak he had a corral there and he got a loan from the government in the 1940s and he brought them [*reindeer*] to Noatak. And they trained me how to be a reindeer herder. And sometimes wintertime...we didn't have caribou then, just reindeer you know. We usually put light on our reindeer. Do you know why we put the light up? (*can't hear response or next question*)

Dog team. Raymond Brown and Jacob Stalker were the dog team drivers. They made us breakfast in the morning. They would give us coffee and breakfast. We would just go out and drive reindeer. And they would take the tent and stuff. And then they catch us when it's time for

reindeer for lunch and give them lunch, put our little tent. Let them rest when we find a good feed, let them eat there, let them rest and then go again.

Long ago we don't have no snow machines so my uncle Ross put a red lantern inside something and put a stick way up. That's for the wolf. Sometimes wolf come around you know. They see that big red thing. I think it works. And then you go turn it off in the morning and go put it on nighttime.

One time we had a wolf, real smart, they go when it gets stormy, they will hunt the reindeer. Sometimes they just eat their [*reindeer*] tongues.

One time I went to Fairbanks getting my reindeer rights. 1962. Flight was on Wien Airlines. I stayed two weeks there getting my reindeer rights. When we fly, when they put [*reindeer*] in the jet plane they were standing, and I stayed by the pilot and looked at them once in a while. We didn't tie them or anything you know. Not even cage or anything. All they do is just standing. And I was there with them. And then when we land to Fairbanks, we put them in a pickup truck and I stand with them, while we bring them to Griffin Park. And I had reindeer moss from Kotzebue.

Q. Have you noticed any changes in the weather?

A. Yeh, bad weather sometimes too, you know. (*unclear sentence*) Yeh, the weather, sometimes it will be bad. We don't have big herd. We have maybe up to 800, up to a thousand, and we use them, butcher for sale. Not try to grow them or anything, just use them. And they were real tame. They were tame you know.

Q. What was the biggest group of caribou you saw and what happened, did you have a problem?

A. Thousands and thousands. One time when we had a meeting at Nome they asked me, "Johnson, would you recognize if one caribou got in with the reindeer?" I think that was one of the herders from Teller. He said, "we never seen a caribou live before." That's what they tell me you know. Even if he had 1,000 reindeer, or more than that, "Yes I could tell one caribou."

He said, "How?" "Just like Eskimo and white people." [*Laughter*]. Reindeer act just like Eskimos. Shorter, you know. They didn't want to believe me for a while. Because you can know it, because they [*caribou*] are bigger. Yeh, long legs, long tail, even from the reindeer. But right now they are half-breeds. They are all mixed up with all the other reindeer herds, mixed up with caribou.

Q. [*Weather*]?

A. Long time ago you asked how the weather used to be. It would always be real cold too you know but I really don't know, I can't answer that question. Maybe somebody know about that.

But in the summertime when it gets hot, real hot, the bugs bother reindeer. They try to go against the wind or go down a mountain or on a snow bank or when you're down on the beach in the ocean side. In the morning when I wake up they told me, put your finger outside and go like this [*wet a finger*], see which way the wind's blowing, then you go back to sleep and in the morning the reindeers will come down themselves. Sometimes it never works and I have to have an extra walk you know [*to get the stray reindeer*]. But sometimes it works.

Just long ago reindeer herders say they even before my time they race with their reindeer.

When I was up north we had sled deer at Christmas right in town you know, Christmas tree(?)
Two of them. [*Ended thought.*]

They're good when you train 'em right. They know their names too, just like a dog. When you name them. They're smart. They're real smart. When you try to drive them into a corral, they know. They know the leaders are... You have to know what you are doing when you drive them with the people. Sometimes you have lots of people to drive the reindeer in the corral. And reindeer go around one way. They go around this way [*gestures counter-clockwise*]. You have them in a tight pocket they go around one way. And when I go to Nunivak Island – they sent me down to Nunivak Island – they couldn't get their reindeer into a corral. And they sent me down there with my dog, because the North Star was there and they have to butcher. They sent me down there and I found out those reindeer was opposite. They go around the other way [*clockwise*]. I think it's the weather or something.

When you are around this area they go around one way. And when they get tight, the farther they go in the corral, they get real tight. That means you're gonna get 'em. They're ready to go in.

When I go to Nunivak Island they said, "Johnson, do it the way you do it," the BIA boss.

- "I don't know the people there. They might don't like what I'm gonna do. I don't know their reindeer."

- "They tried it enough. You do it the way you do it."

So they had a little meeting and they listened to me. We brought about 800 reindeer in a corral and the corral is all the way to town, slaughterhouse. They start butchering. They even cancelled Sunday church because they have to butcher for the North Star. And after I did that [*they said*], "Johnson you did it." It was my dog. The [*reindeer*] never see a dog before. I had reindeer dog. They said, "Gee, you got good dog." It wasn't good dog; they were so scared of that dog that they start going around. And I know when they do that we're gonna get 'em. We're gonna get 'em in. After you get them in there you can push them all the way in to the slaughterhouse, where they slaughter them.

Q. Any experience or stories about bears and wolves? How did you protect your reindeer?

A. Yes. We have problems with bears and wolves. We do. We have problems with them. But we have to really take turns and take care of them – fawning time especially. We take care of the reindeer. Females sometimes they drop a little dead fawn too and we will try to save the mother. And we will save the mother with rope you know. Not all the time. We have problem with bears when they first go out, baby fawns you know. But we always will try to take the bulls off from the females when they have fawns, keep them away. You know when they first have fawns it will be, one might be one week I had one fawn, when you stare at the deer all the time. And pretty soon they'll start to get black, right there. (*unclear*) from the foxes, even crows too. Those crows when their mamas is trying to eat babies are not happy, they make a hole on the baby fawns [*side*], and the foxes, so we take turns and take care of them. They all kill quite a few. And we look for the hawks.

You know when you gonna go drive across a river after they have fawns, they mill around and lots of fawns will get left behind, you know how they find their fawns, when they look all same? Would you guess how they find their fawns? [*Pause, no answer*]. I'll explain it. You know when they holler, make lots of noise looking for their fawns, they just smell it, smell it from the rear. And they smell it – "oh that's not right" – and they go to the fawn at other place. And they smell

it – “Oh, that’s mine right here.” That’s how they find their fawns. Cause they all look the same, but through the smell.

Q. (*Question can't be heard*)

One time at Nome there’s reindeers up in the mountains, in a snow bank I try to gather the missing so I followed them up there. While I was walking, there was a bear, mosquitoes around his ears, stomach going up and down, sleeping. And I go backwards, go backwards; he didn’t know that I was a little ways. Sometimes it’s scary.

I walk with Jim Dau when I first met him in Nome. [Dau – “He was a good walker.”]

Right now, I don’t know how much reindeer is right now. They’re around the area. Nome area someplace.

Up north they see some reindeer in the caribou. Sometimes, once in a while, you know many caribous mixed up to reindeer and then they usually try to go home. When I first bring reindeer to Nome from Kotzebue, two years they try to go home. And they really get smart. Maybe 20, 30, a bunch of them try to go up north. Pretty tough. They want to go home. They know which way to go home to. And after I was at Nome for eleven years, I brought those reindeer back to Kotzebue. That was for NANA. And I never walked; used snow machines.

At Nome there were a lot of herd reindeer, experimental reindeer, I took care of as a chief herder. I would take care of them alone, but there was other guys too you know, and I was a chief herder.

I went to Birmingham, Alabama for being outstanding young farmer. One time they send me down there; I met all kinds of farmers.

Q. How long have you been a reindeer herder?

A. Long time [*laughter*]. I tried to get mad at my dad and my uncle one time ‘cause they didn’t let me go to school. But now I understand. They teach me right way to be a reindeer herder. And I could recognize the reindeer. When I had reindeer herds and there were reindeer herders there – Nathan, (*unclear name*) and those guys, they called themselves a reindeer herder, they found out they were not reindeer herders when I go there. They never take care of them when they fawn, you know, fawning time. That’s the main reason to take care of them when they are having fawns. From those bears, and wolves, and fox.

Q. (*Question can't be heard*)

A. Yeh. When you have a reindeer dog you have to train that dog in the house, “move, move”, and when you drive reindeer you run them good. And when he learn you’ll say “left side, right side”, he’ll keep the reindeers together. Even when you try to rope a sled deer and you couldn’t get it, and my reindeer dog, he knows that when I try to get it, he will start going after it. Nobody won’t touch if I butcher(?) stranger. That dog will. And they will take care of you from bears too. One time bear tried to go after me at Nome and I had a dog, the dog would chase ‘em , chase ‘em away. It’s good to have reindeer dog. And you train ‘em.

When you try to get the reindeer out from the caribou, they will get left behind. You might be lucky and get them back; sometimes, not all the time. There’s lots of herders lose their [*stock*] mixed up with the caribou. (*Name unclear*), long ago, those guys. Lars Gray. Everybody up north.

Chair Ashenfelter - Okay thank you very much. Really a great presentation by elder speaker Johnson Stalker. Thank you very much.

III. Caribou Roundtable (p. 17 in WG Binder)

The WG divided into four small regional groups for Caribou Roundtable discussions and then came back in a large group to share what they had discussed. The notes from each small group are included in Attachment 6 and were summarized in presentations to the full group. The roundtable notes are also entered into a database each year by the US Fish and Wildlife Service (USFWS) to document this shared knowledge.

IV. School Presentation – Kobuk and Kivalina

Student from Kobuk School and Kivalina School participated in caribou collaring at Onion Portage in September 2012, collaring animals from the middle of the migration. The students from Kobuk School had interviewed their parents or others in the community about caribou. The Kivalina students shared a verbal presentation, followed by a video prepared by the Northwest Arctic Borough about students participating in collaring at Onion Portage.

Eva Horner (Kobuk, 11th grade) interviewed her father Henry Horner, Sr:

1. *What is your earliest memory regarding caribou?* 1953
2. *How much, and in what ways does your family use caribou as a resource?* Whatever father can get with dog team. Nothing was wasted. Use meat for food. Skins and the leggings were used for clothing.
3. *What does your family think about the road proposed to be built from the Dalton Highway through to Bornite and how it might affect the caribou?* “Bring it on”. After working at Prudhoe Bay, I’ve seen caribou cross the road without any problems.
4. *In what ways do you think you and your family might use the caribou as a resource in the future?* Stores don’t stock native food. Beef, just microwave items.
5. *How does your family cope with a lack of caribou meat on the years that the caribou don’t travel close to Kobuk?* Would need to just live with that, would travel farther to look for the caribou.

Dustin Harvey (Kobuk, 7th) interviewed his mother Eva Cleveland (questions 1-3):

1. *What is your earliest memory regarding caribou?* She was 4 or 5 and her father shot a caribou at camp.
2. *How much, and in what ways does your family use caribou as a resource?* As much as we can get, when I was young. As a resource, it is our livelihood. We eat it, wear it, a caribou can be used in many different ways!
3. *What does your family think about the road proposed to be built from the Dalton Highway through to Bornite and how it might affect the caribou?* Of course it will dramatically make a difference, good and bad. What we are worried about is how will it affect their migration. Will it let them migrate farther away, where we will have to go farther to hunt? It might totally shift their migration path and it could make it impossible to get caribou. Scary thought!

Angeline Gooden (Kobuk, 11th) also interviewed Eva Cleveland (questions 4-5):

4. *In what ways do you think you and your family might use the caribou as a resource in the future?* I hope and pray my children use caribou the way I did when I was young. I grew up on it and had my children also. I hope the knowledge of our reliance on caribou doesn’t dramatically change.

5. *How does your family cope with a lack of caribou meat on the years that the caribou don't travel close to Kobuk?* Caribou means food for all families in Kobuk one way or another. If we can get the whole town hurts. If they aren't close, we do whatever we can to get it if by boat, or by snow machine. I don't think we have ever run out of caribou meat. Couple years we had to save but we always had meat and it was always caribou meat.

Peter Garfield (Kobuk, 7th) interviewed his mother Loretta Garfield:

1. *What is your earliest memory regarding caribou?* As a little girl, trying to learn how to skin and cut up the meat.
2. *How much, and in what ways does your family use caribou as a resource?* Pretty much the entire caribou for food and skin.
3. *What does your family think about the road proposed to be built from the Dalton Highway through to Bornite and how it might affect the caribou?* Won't be the same.
4. *In what ways do you think you and your family might use the caribou as a resource in the future?* Use meat and skin. Meat feeds the families, skin used for mukluks or something else.
5. *How does your family cope with a lack of caribou meat on the years that the caribou don't travel close to Kobuk?* Trying our best. There is also relatives in other villages who will help when you need food – caribou meat.

Samantha Horner (Kobuk, 7th) interviewed her mother Johnetta (questions 1-3):

1. *What is your earliest memory regarding caribou?* Watching my Aana and Tatta skin it and cut it up, and we would chew on that chewy part from the legs.
2. *How much, and in what ways does your family use caribou as a resource?* We need four caribou stored, which will last through the winter months, 'til spring time, we have caribou as part of our diet.
3. *What does your family think about the road proposed to be built from the Dalton Highway through to Bornite and how it might affect the caribou?* I'm all for the road, in hopes that prices will go down, and am hoping that our caribou will be protected.

Angie (last name unknown) (Kobuk, 8th) also interviewed Samantha's mother (questions 4-5):

4. *In what ways do you think you and your family might use the caribou as a resource in the future?* It will always be the same as we were taught.
5. *How does your family cope with a lack of caribou meat on the years that the caribou don't travel close to Kobuk?* Felt like we were starving, but were lucky to have family that lives in Ambler so they sent us some.

The Kivalina School presentation was given by Rita Raymoth (12th grade), Clintonette Knox (8th), Cheryl Adams (10th), Lloyd Koonook (11th), with teacher Dana Greenwood. The students noted that the trip to Onion Portage was fun and important. They took eye swabs and blood samples; centrifuge for blood separation. Group had to identify the sex of caribou. The students also learned more about their heritage, 5,000-10,000 years ago. Learned how to use birch-skin to start fire. (One student noted that he didn't know this skill because he is from the coast and would use seal fat to start fire.)

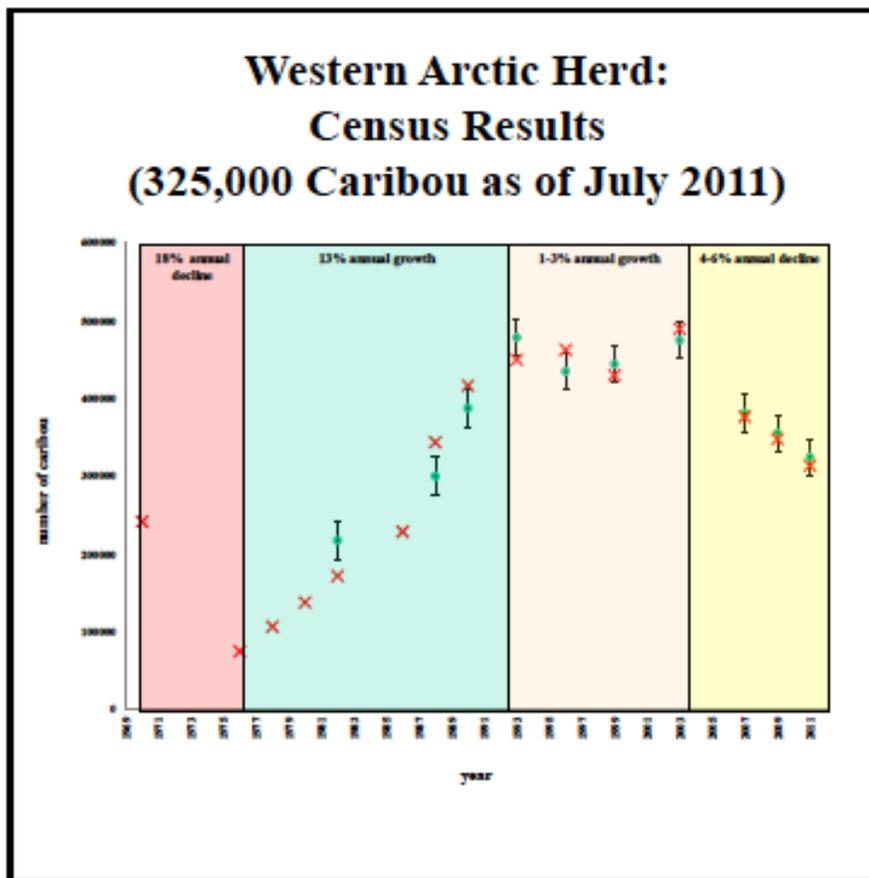
Students commented that success in hunting is a major part in success in self and with the family. (Inupiat) joy, pride, gratitude and amazement. They mentioned that climate change could affect caribou survival, since the animals had evolved to be successful on the tundra (eat lichen, moss, willow and have special stomachs to digest the food). If didn't have caribou, would be more

dependent on non-native food. Need subsistence foods to maintain Inupiaq identify, since language has been pretty much lost in this generation.

V. Herd Information (p. 25 in WG Binder)

Western Arctic Herd (WAH) Overview: Report by Jim Dau, Alaska Department of Fish and Game (ADF&G), Division of Wildlife Conservation. Key points in presentation included:

- Seasonal distribution and movements – Satellite tracking of collared caribou show they are widely distributed within their range.
- Population size – The WAH peaked at 490,000 in 2003 and has since declined by 4-6% per year, to 325,000 in July 2011. Previously, there had been 13% annual population growth in the 1980's, followed by 1-3% annual growth from 1990-2003. The population will be re-censused in July 2013, with the new count available by April 2014.



- The fall 2012 calf survival ratio was 36:100, very close to the lowest ever seen. Four of the highest calf mortality rates have occurred in the last six to seven years. If these trends continue, the population will decline more rapidly.
- The fall 2012 estimated bull:cow ratio was 42:100. The 2011 WAH Cooperative Management Plan indicates that a ratio of 40:100 is the lowest we want to go, before considering making a change in management. However, Jim noted that there are other caribou herds with bull:cow ratios of less than 40:100.

- Overall, seeing fewer skinny caribou. Does not think that range degradation is a cause of population decline. Veterinarians have found the caribou to be very healthy.
- There is little data about numbers of wolves and brown bears within the range of this herd. Jim's observations and numerous reports from the public suggest predator numbers are higher now than 20-30 years ago. Predation by wolves and brown bears has probably caused caribou mortality to increase, especially in recent years.

Caribou Vital Sign Annual Report for the Arctic Inventory and Monitoring Network –September 2011-August 2012: Report by Kyle Joly, National Park Service (NPS). See also “Caribou Vital Sign Annual Report for the Arctic Network Inventory and Monitoring Program, September 2011-August 2012, in Attachment 8). Key points in presentation included:

- Collars deployed:
 - 2009 - 39 collars initially
 - 2010 - 15 additional collars
 - 2011 – 14 additional collars
 - 2012 – 12 additional collars
- Noted that 2012 was a tough winter; approximately 20% of the collared caribou died in January-March 2012
- Caribou crossed the main rivers two to three weeks later in 2012
- Less lichen in caribou diets in 2011; more shrubs, forbs and moss

The following questions and points were raised in WG discussion:

- In response to a question, Jim Dau responded that ADF&G looked at bone marrow of caribou following 1994-1995 and 2000 caribou die-offs and the marrow indicated classic signs of starvation.
- Benedict Jones commented that climate change is affecting brown bear. 100 years ago there was no brown bear on the Koyukuk River. In past, elders hunted with bow and arrow and it took five people to kill brown bear. Habitat has changed (used to have wild onions and ground squirrels, now live off of fish and now turning to caribou).
- Tom Gray requested a meeting with ADF&G regarding caribou that are straying onto the Seward Peninsula. The reindeer industry is concerned, particularly about calving on the Seward Peninsula. ADF&G noted that they are trying to set up a meeting with the RHA and NPS in Nome in early 2013.
- Pollock Simon noted that caribou stop halfway across the Seward peninsula. Does that prove that they are afraid of the road? Kyle Joly replied that both ADF&G and NPS are looking at the potential impact of roads and will make a presentation on the second day of the WG meeting. He and Jim Dau noted that they do not think the road is stopping the caribou, but the agencies will be looking at that area. Jim Dau noted that caribou stop migrating down to Wales – there is no road stopping them, yet they don't go.
- Morris Nassuk asked if agencies study lichen throughout the range of the caribou? Kyle Joly responded that lichen is looked at in the range, and is declining. BLM will provide a report on this topic to the WG later at this meeting.
- Lee Anne Ayres noted that the caribou were quite dispersed in the winter of 2012. Was this due to light snow? Jim Dau responded that there was not light snow in 2012. Caribou make decisions about where to winter even before the snow falls; once they stop moving, they stay the winter.

- Vern Cleveland asked if the agencies had observed any conflicts between hunters at Onion Portage. Jim Dau replied that there was no trouble with boat congestion and he didn't see any airplanes cruising along the river corridor.
- Benedict Jones noted that in late March/early April, a hunter from Kaltag spotted a bear in its den in the evening; at daylight, it had killed seven moose before they caught up with it. Wondering if there is more bear predation in spring. Jim Dau replied that bears are actively killing moose and caribou, but uncertain if there are differences by season.
- In response to a question about the bull:cow ratio, Jim Dau noted that bulls have a higher mortality rate and rarely live past 10 years, while he has seen a lot of cows in their teens and early 20's.

VI. Herd Habitat Reports (p. 52 in WG Binder)

WACH Winter Range Habitat Modeling: Report by Jennifer McMillan, Bureau of Land Management (BLM). Key points in presentation included:

- The BLM, assisted by other agency staff, have been doing long-term habitat monitoring in the WAH winter range. The initial purpose of the study was to monitor effects of caribou grazing on winter range condition. The information is also being used to investigate impacts of fire and climate on range condition.
- Monitoring locations – Buckland River Valley (1981, 1995-96, 2005-06, 2012) and McCarthy's Marsh (2005-06, 2013).
- All of this long-term data is being compiled and presented in a consistent format in a single database.
- Monitoring conclusions to date:
 - Observed declines in lichens are a major concern.
 - Factors other than high caribou numbers and fire, such as climate warming, are affecting vegetative cover in tundra ecosystems.
 - These factors are forcing vegetation communities to shift from lichen to shrub/tussock dominated.
 - As a result, declining winter range condition is expected to be detrimental to WAH fitness. Other factors will contribute to WAH fitness decline including predation, insect harassment, summer range condition, and snow condition.
- BLM is also preparing a WAH Winter Range: Habitat Management Plan (HMP) and Monitoring Plan. They are looking at vegetation phenology and analyzing what the caribou have been eating. Jennifer McMillan can present the first year's data at the 2013 WG meeting.

Evaluating "bottom up" effects of changing habitats: Presented by Dave Gustine, US Geological Survey (USGS). (See copy of presentation in Attachment 8.) Key points in the presentation included:

- USGS, with many other agency partners, is looking at the effect of changing environmental drivers (such as temperature, moisture, snow, fire regime) on nutrient cycling and ultimately on availability of caribou forage.
- Documented effects of climate changes to calving-summer habitats of caribou in the Arctic include potentially positive and negative effects on caribou nutrition, but scientists really don't know what the ultimate effect will be.

Potential positive nutritional effect for caribou

- Longer warmer growing season, with more year to year variation
- Expansion of shrubs and increased biomass of vegetation
- Extends period that calving females can feed at a high rate

Potential negative nutritional effect for caribou

- Timing of calving is happening after green up
 - Lactating cows are “missing” nutritionally important part of the growing season
- USGS is doing more in depth habitat monitoring in range of the Western, Central Arctic, and Teshekpuk Lake caribou herds. Study objectives are to:
 - Determine and compare relationships among temperature, phenology, and forage characteristics
 - Assess changes in characteristics of growing seasons and forages from late 1970s to current
 - Project influences of expected temperature changes to characteristics of growing season and forages

Kyle Joly, NPS, also distributed two additional scientific papers related to climate, caribou habitat and caribou populations. These are: Joly, K., P.A. Duffy, and T.S. Rupp (2012). “Simulating the effects of climate change on fire regimes in Arctic biomes: implications for caribou and moose habitat”, *Ecosphere* 3(5): 1-18, Article 36, and Joly, K., D.R. Klein, et al. (2011). “Linkages between large-scale climate patterns and the dynamics of Arctic caribou populations”, *Ecography* 34(2): 345-352. (See Attachment 8).

VII. Western Arctic Herd, Caribou Traditional Knowledge Project, and CARMA Update (p. 60 in WG Binder)

Traditional Knowledge Project – Dr. Gary Kofinas and Masters student Gabriela Halas from the University of Alaska Fairbanks (UAF) described the traditional knowledge project. The objective of the project is to document traditional knowledge related to caribou behavior, human activity, and hunting. The project will focus on the community of Noatak, with 15-20 people participating in interviews and mapping project (linked with other GIS data). People will be asked about caribou distribution and movements, people’s relationship to caribou, conditions affecting hunting experiences, user conflicts (what, when, where, why), and effectiveness of attempts to mitigate user conflicts. Interviews will be done in February and March 2012, with a report in 2013.

In follow-up discussion, Vern Cleveland noted that the Northwest Arctic Borough (NWAB) is also doing subsistence mapping. WG member Cyrus Harris and Enoch Shiedt (in audience) emphasized the importance of confidentiality regarding the use and location of subsistence resources. Chair Roy Ashenfelter asked the researchers to work closely with WG member Raymond Hawley, to make sure that the draft report goes back to Noatak first, and to take the comments regarding the process and confidentiality very seriously.

Circum-Arctic Rangifer Monitoring and Assessment Network (CARMA) – Dr. Kofinas provided a brief update about the CARMA network. The future of the network is in question, due to funding and the need for leadership. The network has been working toward consistent approach across various caribou herds, along themes including: managing and monitoring herds when there is abundance, conservation of calving grounds, cumulative impact assessment including the impacts of climate change, caribou health monitoring program. CARMA has also completed the “Voice of Caribou People” project, including interviews and video of 97 people, including 10

people from Anaktuvuk Pass, Alaska. This product is available at the CARMA website:
<http://www.carmanetwork.com>

VIII. Industrial Development in the Brooks Range – Questions and Concerns

John Gaedeke from the non-government organization Brooks Range Council (BRC) spoke to the WG about concerns about proposed roads in the range of the WACH. John grew up on Inukuk Lake, in a family that initially guided and now works in tourism. His intent is that the Brooks Range Council can be an information source about possible impacts from these roads, and is concerned that elders are not being told the full story about potential impacts. John is concerned that people's voices are not being heard and wants to network with the villages. See BRC handout in Attachment 8.

The BRC includes about 60 members (see <http://www.brooksrange.org>).

Vern Cleveland invited John Gaedeke to the NANA meeting in March in Kiana. Roy Ashenfelter noted that it is important to participate in the State's public input processes. He noted that there is not a unilateral view within the region on the roads. The WG's Resource Development Committee (Wendy Loya, Chair) is participating in the public process to make sure that concerns identified by the WG are addressed.

Day 1 Adjournment – The meeting adjourned for the day at 5:00 p.m.

Thursday, December 6, 2012

I. Call to Order – 8:50 a.m. Quorum confirmed.

II. Executive Committee Report (p. 61 in WG Binder)

Roy Ashenfelter, Chair, thanked the agency staff that supports the Chair and the WG committees throughout the year.

Executive Committee: Jan Caulfield, WG Facilitator, summarized the report from the Executive Committee from page 61 of the 2012 WG Meeting Binder. The report outlined 11 Executive Committee actions, regarding: representing the WG in public comment opportunities related to resource development projects, the *Caribou Trails* newsletter, WG membership, approval of administrative updates to the 2011 WACH Cooperative Management Plan, and approval of distribution of the 2011 draft WG meeting summary to the full WG for review. (Note that Item 11 on the list of Executive Committee actions has a typographical error. The letter was sent to the village of Koyuk, not the village of Kobuk as listed on page 61.)

Assignment – In 2013, send out the draft meeting summary from the previous year earlier via US Postal Service, so that WG members in the villages will receive it well in advance of the meeting.

III. Technical Committee Report (p. 62 in WG Binder)

List of Management & Research Projects for the herd and habitat – In 2011, the WG asked that a list of management and research projects related to the WAH and its habitat be developed and kept updated. The current list is presented on pages 62-63 of the 2012 WG Meeting Binder. Tim Hammond, BLM, has taken the lead on preparing this document.

In discussion of the research project list, Roy Ashenfelter and Tom Gray emphasized the importance of BLM communicating with the WG about fire suppression in lichen areas that are important winter range. The WG wants to know what BLM is doing to prioritize suppression of fires in areas important for winter range. Tom Gray noted that, "With fire suppression, winter lichen should be the #1 priority". Tim Hammond, BLM, replied that BLM is working on a fire management plan for the winter range of the herd.

Assignment – Keep WG involved in and informed of progress on BLM's fire management plan for the herd's winter range. Present update / product at 2013 WG meeting.

Assignment – In list of research projects, add for each project: one sentence description, contact information, completion date, how to access completed report.

Assignment – Post the research list and bibliography on the WG's website (see motion below). Send hardcopies of the lists to the Tribal governments within the herd's range annually. Include updated lists in the annual WG meeting binders.

Selected bibliography for the herd – In 2011, the WG asked that a selected bibliography for the herd be developed and kept updated. This action was also identified in the 2011 WACH Cooperative Management Plan. The current version of the bibliography is presented on pages 64-71 of the 2012 WG Meeting Binder. Wendy Loya, Chair of the Resource Development Committee, has taken the lead on preparing this document. The following points were made in WG discussion:

- Assignment – Organize the bibliography by Topic with list of the relevant references, as presented by Wendy Loya.
- Bibliography will provide a link to where the full paper can be accessed via web, when that is available.

Motion to approve the information presented in the research project list and the bibliography, to approve the process for keeping those updated, and to post on the WG's webpage. Motion made by Ted Frankson, seconded by Tom Gray. Motion carried unanimously.

Technical Committee Report and Recommendations – Peter Bente, ADF&G, presented a report from the Technical Committee meeting on December 4, 2012, summarized in Attachment 2. See also pages 73-74 in the WG Binder.

The following points were made in WG discussion about the status of the herd and potential for future changes in management. This discussion was held in roundtable format, with most members commenting:

- Roy Ashenfelter: Recommended that the WG start to regularly use the WACH Cooperative Management Plan, particularly Table 1 "Western Arctic caribou herd management levels using herd size, population trend and harvest rate". (Table 1 is shown in Attachment 2.) It is important to get information out regularly to the public about the herd size, the declining trend, and the potential need to change management in the future. It is important for the public to be informed and prepared for that. Use information tools such as *Caribou Trails*, website, radio, etc. It is important that the message come from the WG, not from agencies, since the local people are familiar with the WG members.
- Tom Gray: Noted that Table 1 is very generic. As the population increases and decreases may need to have more triggers in place to indicate what management changes should take place and what that would mean for people using the herd. Emphasized that the herd

is managed based on its population. There are many ways to manage and different land managers use different ways.

- Cyrus Harris: There is a need to look into the impacts of predation and possibly if controls are needed. (Roy Ashenfelter acknowledged the importance of the issue, but noted there are different views on predation control among the different WG members). Suggest sharing information about the population through the Advisory Committees and Regional Advisory Councils. Send copies of the Cooperative Management Plan to these committees and highlight the population management section.
- Ted Frankson – Put information on the website, in addition to *Caribou Trails*.
- Phil Driver – Board of Game news release useful?
- Morris Nassuk – Predators include bear, wolf, wolverine and lynx. We depend on caribou as our customary food source. Important to get information out about declining herd size.
- Charles Saccheus – Traditional knowledge is a very important tool. It is alarming when the caribou population declines. He’s happy the caribou today are in stable condition.
- Vern Cleveland - *Caribou Trails* goes out in the villages, people read it. Could it be published twice/year? The decline is important, use the schools for information about the decline.
- Elmer Seetot: To harvest caribou need to travel 100+ miles/hit or miss finding the caribou and some do not get them due to that distance. We do without caribou if they’re not there and predation by wolf is the primary reason.
- Rod Arno: Represents Fairbanks hunters who visit the region to hunt. Regulations are in place for conservation of the resource. It is also important to keep the habitat intact and to manage the herd to keep future opportunity to hunt. As far as getting message out to visiting hunting public, they get the hunting regulations and can read about where they can hunt. If there is harvestable surplus somewhere in the state, and the hunter has the money to go hunt, they will hunt. Does not expect the visiting hunter to change their use of the herd unless the regulations change. Noted that the other caribou herds have more restrictive hunt opportunities (e.g., Nelchina, 40-mile, Porcupine).
- Grant Klotz: Need to make sure *Caribou Trails* is available at the Anchorage and Fairbanks ADF&G visitor information offices. If you go to the Raspberry Road ADF&G office and ask people, they’ll direct people to call Kotzebue. Train Anchorage staff to learn a bit more to tell the hunter, rather than directing them (immediately) to call the ADF&G Kotzebue office.
- Benedict Jones: Noted that in the Middle Yukon, moose population is also declining. There is a drawing permit for sport hunters and numbers of permits have been dropped from 700 to 400 to 200. Suggests that the main problem for caribou numbers is sport hunters. If the population declines to 200,000 suggest that sport hunting be stopped.
- Roy Ashenfelter: Requested that there be an article about user conflicts in the *Caribou Trails*.
- Phil Driver: The Alaska Constitution says, “resources ... [shall be managed] on the sustained yield principle, subject to preference among beneficial users”. (Note: quote is from Article 8 – Natural Resources, Section 4. Sustained Yield)
- Wendy Loya: From a conservation community perspective, we try to protect habitat, such as recent WG letters urging protection of the calving grounds in NPR-A. Very interested in hearing WG members’ perspectives. Many conservation organizations are distrustful of predator control, but is very good to hear to hear from the WG members.

In follow-up public comment, John Gaedeke noted that transporters have been very good about telling sport hunters how to share their meat and skins with local residents. Enoch Shiedt suggested that ADF&G offices hang a large poster announcing *Caribou Trails*, so the public knows to pick up a copy. He noted that the average take of caribou per family is 14/year. He also suggested using a pamphlet or flyer and an over-size poster in the Post Office to get the message to the villages about population changes.

Assignment – Communicate succinct, key messages to the public about the herd size, the declining trend, and the potential need to change management in the future. Make the public familiar with the 2011 WACH Cooperative Management Plan, particularly Table 1 “Western Arctic caribou herd management levels using herd size, population trend and harvest rate”. It is important for the public to be informed and prepared for changes that may affect their hunting. Use information tools such as *Caribou Trails* (highlighted article, front page), website, radio, through IRAs, schools. It is important that the message come from the WG, not from agencies, since the local people are familiar with the WG members. The process could help WG members address the question: “What is the most important thing to say about the decline to your village?” Note that this Assignment implements the Education Management Action #9 from the Cooperative Management Plan (p. 27 of plan).

IV. Management Agency Reports - ADF&G, BLM, USFWS, NPS (p. 75 in WG Binder)

The text of the agency reports is provided in Attachment 7. Key points included:

ADF&G (p. 75 in WG Binder) – Peter Bente, ADF&G representative to the WG, indicated that in Region 5, approximately 30% of the budget goes toward caribou management for the Teshekpuk and Western Arctic herds. Work includes photo census (next in July 2013); fall composition /spring recruitment work, and collaring at Onion Portage.

Meghan Nedwick described her position with ADF&G and the outreach she provides to the communities. The next Board of Game meeting addressing Region 5 will be held in Kotzebue in January 2014; proposals are due May 1, 2013. ADF&G provides \$25,000 to support the WG, contributes staff time, and awards the contract (funding) for the facilitator.

BLM (p. 76-78 in WG Binder; see also Attachment 8 for copies of handouts addressing reindeer grazing research projects, and a map of 2012 fire locations in the WACH range) – Shelly Jacobson, BLM Field Manager, addressed a variety of land management plans and Rapid Ecological Assessments that BLM is preparing or has completed in the herd range (see Attachment 7). The BLM agency report also addresses reindeer grazing, wildlife projects, recreation, mining, and realty work done by the agency. Regarding fire management, Shelly noted that the Alaska Interagency Wildland Fire Management Plan (2010), which was prepared collaboratively by state and federal land management agencies in Alaska, designates the Nulato Hills and some other areas that are within the herd’s winter range as receiving “limited” fire protection and response. However, she noted that BLM can also take a “non-standard response” and provide different levels of response if they are concerned that the fire in these areas may cause too much damage. BLM will be watching this area very carefully and may recommend changes to the Fire Management Plan to possibly upgrade the response level for the winter range. It would help BLM if the WG and public identified sub-areas that are important for fire suppression. Shelly noted that fire retardants are less harsh than in earlier years (no longer includes cyanide), but are still not completely benign. The mix used has low toxicity and is not believed to pose a hazard to animals. BLM’s policy is to use retardant only to protect human life,

permanent year-round residences, and high-value resources, and (in Alaska) not within 500 feet of waterway.

In a public comment, Enoch Shiedt mentioned the importance of also protecting salt licks from fire.

Assignment – In response to a question from Ted Frankson, BLM will research records of what types of fire retardants were used on older burns and provide that information to Ted.

NPS (pp. 79-84 in WG Binder; see also PowerPoint presentation in Attachment 8) – Frank Hays, Western Arctic Parklands Superintendent, provided information on the new approach the park is using to manage transporters through commercial use authorizations (CUA). In 2012-13, the NPS eliminated the limits on the number of transporters and clients that were established in 2010; these limits did not adequately minimize the potential for conflicts with traditional subsistence users. In 2012-2013, CUA holders were authorized to transport hunters seeking caribou into specified areas in the western Noatak after September 15, unless authorized by the Superintendent to provide services earlier (based on the status of caribou migration across the Noatak National Preserve). This does not affect guide services and is only for caribou hunting. The NPS will be following up with villages and transporters regarding the new system and any need to adapt it.

Additional NPS projects related to the WACH include caribou collaring (addressed by Kyle Joly in earlier report), resource protection activities (monitoring and enforcement), climate monitoring and modeling, development of a database tracking where commercial transporters landed in the park for client drop-off and pick-up, an ungulate exclosure project at the Bering Land Bridge, and documenting traditional knowledge in Noatak regarding caribou, hunting and user conflicts.

In a public remark, Enoch Shiedt noted that Maniilaq Association supports the NPS' new approach to management of CUAs in the Noatak National Preserve.

USFWS (pp. 85-88 in WG Binder) – Lee Anne Ayres, Selawik National Wildlife Refuge Manager, reported that the Selawik Refuge Comprehensive Conservation Plan was completed and the Refuge is implementing the priority actions identified in that plan such as: monitoring sheefish population, monitoring water quality in the lower Selawik delta, monitoring climate parameters in the Selawik river delta, working with communities and partnerships (e.g., science/culture camps, lodging USFWS staff in Selawik community). USFWS has a small staff and the budget forecast is “bleak”. However, supporting the WG is a high priority and the agency contributes \$20,000 annually. Lee Anne is willing to help pursue some new options for long-term funding for the group.

In response to a comment about marking of winter trails, Lee Anne noted that the Northwest Arctic Borough is coordinating this. Comments are welcomed from the WG members regarding priority areas for marking and how far apart to place the markers.

V. Community Harvest Assessment (p. 89 in WG Binder)

Nikki Braem from the ADF&G Division of Subsistence presented information about the Northwest Harvest Monitoring Program: 2012, with surveys conducted in Brevig Mission, Teller, Noatak, Deering and Selawik. Key points:

- The communities of Brevig Mission, Teller, Noatak, Deering and Selawik were surveyed about their estimated 2011 caribou harvest. Results of numbers of caribou harvested and per capital pounds were presented, as well as information about numbers of bulls and

cows, and dates of harvest. Results are compared with past survey data, when available. Most harvest occurs in March.

- Analysis of the subsistence diet in the NANA region, 1980-2011, shows that caribou makes up 28% of the diet and contributes more to the diet (by edible pounds) than any other resource in Northwest Alaska. Twenty-seven percent of the caribou harvested for subsistence in the region are taken by Kotzebue residents.
- ADF&G would like to conduct the survey in Noorvik, Point Lay, Golovin, and Upper Kobuk.

Tom Gray noted that Shaktoolik and Shishmaref are high harvest communities and suggested surveying there.

VI. Resource Development Committee Report (p. 94 in WG Binder)

Wendy Loya, Chair of the WG's Resource Development Committee, reported on the following:

- In 2012, the Committee wrote letters on behalf of the WG on the following topics:
 - Governor Parnell regarding Roads to Resources (pgs. 94-95 in WG Binder). Response received from Deputy Chief of Staff Randy Ruaro on pgs. 102-103.
 - BLM supporting protection of important caribou habitat in the Draft NPRA plan (pp. 97-101 in WG Binder)
 - Sen. Murkowski, Sen. Begich and Rep. Young sharing our comments on NPRA and a copy of *Caribou Trails* to make them more aware of the WACH WG and importance of protecting caribou habitat. Responses from Senators Begich and Murkowski on pgs. 107-108 in WG Binder.
 - BLM regarding Habitat Management and Monitoring Plan (pgs. 104-106 in WG Binder).

During discussion, Vern Cleveland noted that the Ambler Mining District Road is an important issue and suggested that it be added to the agenda of the 2013 WG meeting.

VII. Roads to Resources (p. 109 in WG Binder)

Western Arctic Caribou Herd Movements near the Red Dog Mine – Jim Dau, ADF&G, presented slides showing mapped movements of satellite-collared WAH caribou in proximity to the Red Dog Road (pgs. 109-133 in Meeting Packet). Key points included:

- The slides show how caribou have moved when near a relatively quiet industrial road. The Red Dog mine and road have almost certainly not affected the size and general movement pattern of the WAH. The maps are relevant to discussions of potential effects of new roads on the WAH or Teshekpuk Caribou Herd (TCH).
- Summary – Fall 2011
 - 21 of 74 collared caribou, (28%) all cows, came within ~30 mi of Red Dog Road during Aug-Dec 2011
 - Eight of 21 cows (86%) noticeably changed their speed and/or direction of travel in vicinity of road
 - 4 collared cows did not cross the road – all died during winter 2011-2012
 - median distance of initial reaction to road was 8 miles (range 2-36 miles)
 - median number of days from 1st reaction to crossing the road was 41 days (range 16-84 days)

- after crossing the road, rate of travel roughly doubled compared to periods before and after initial contact with road (approached road at average of 6.4 mi/day; after changing speed and/or direction of travel but before crossing road moved at average of 7.8 mi/day; after crossing road moved at 13.6 mi/day)
- Compared to 20 satellite-collared caribou through the middle Noatak drainage (no road) – did not change their speed or direction of travel to the extent shown by caribou that crossed the Red Dog Road; average speed through middle Noatak was 9.9 mi/day.
- Summary – Fall 2012
 - 6 of 64 collared caribou, (9%) came within ~30 mi of Red Dog Road during Fall 2012
 - Two (33%) increased their speed and changed their direction of travel to go around the road and mine to the east, then resumed former speed while migrating south
 - One (17%) caribou increased its speed but did not change its direction of travel when it cross the road
 - One (17%) caribou appeared to cross the road without altering its speed or direction of travel
 - It was not clear whether two caribou changed their speed or direction of travel near the road and mine
 - Three of 42 (7%) satellite-collared caribou from the Teshekpuk Caribou Herd approached within ~30 mi of the Red Dog Road. One of these (33%) changed its speed and direction of travel just north of the road. Two (67%) moved through the area just east of the mine and road and did not noticeably change their speed or direction of travel.
- Summary: Fall Movements
 - From 1989-2012, caribou have come within 30 mi of the Red Dog road on 68 occasions; 40 of these times, caribou appeared to change their speed and/or direction of travel
 - In all years, the vast majority of WAH caribou successfully crossed the road, even after substantially altering their speed and direction of travel
- Summary: Summer Movements
 - Prior to 2011, WAH caribou usually traveled north of the Red Dog road and mine during early summer
 - In 2011 & 2012, WAH caribou contacted the northeastern portion of the road when beginning their eastbound movement in early July
 - In 2011, none of the herd crossed the road; instead they moved north around the mine and road
 - In 2012, 60-75% of the herd crossed the road several miles south of the mine. The rest of the herd moved west and north around the mine and road. This is the first time a substantial portion of the WAH has crossed the Red Dog road during summer.

The following points were made in WG discussion:

- Wendy Loya asked if there were any data from before the road? Jim Dau replied that there is not.
- Tom Gray said it would be interesting to gather traditional knowledge and he suggested a hearing to learn about what was typical prior to the road.
- Vern Cleveland suggested that a representative from the Red Dog Mine be invited to the 2013 WG meeting to talk about the road and how it is operated.

Methods for Analyzing Caribou Road Crossings – Lincoln Parrett, ADF&G Division of Wildlife Conservation and Ryan Wilson, The Wilderness Society, presented information about quantifying caribou responses to roads during migration, with preliminary results from the TCH (pp. 135-146 of the Meeting Binder). Key points included:

- Step 1 – (Presented by Lincoln Parrett) – What is migration? Working to define the migratory period for individuals, which will allow us to:
 - Use a period of consistent behavior for modeling movements during migration
 - Understand environmental factors that may influence timing of migration
 - Produce refined estimates of migratory routes
- Step 2 – (Presented by Ryan Wilson) – Develop statistical models of movement / quantify caribou responses to roads during migration
 - Testing effects of different parameters on caribou movement (e.g., road, vegetative cover, moisture of substrate, elevation)
 - Looking in more detail at eight TCH caribou who interacted with the Red Dog Mine road; hope to apply what they learn through modeling to the WAH data sets

The following points were made in WG discussion:

- Pollock Simon noted that, in his observation, if there is a road, the caribou won't go over it and it affects their migration. Moose are unaffected.
- Grant Klotz asked if there were studies with underpasses. A: Tried in Jasper National Park, but a very small herd of elk. In oil fields, have elevated pipeline. Need to keep roads from seeming like a berm or obstacle.
- Elmer Seetot wondered about effects of smell of the road (e.g. exhaust).
- Tom Gray urged that the studies be unbiased; the WG's mission is protection of the caribou.

Update from Alaska Department of Transportation & Public Facilities (DOT&PF) – Murray Walsh represented the DOT&PF Commissioner's Office. He noted that he did not have substantial new information to present about the Roads to Resources projects at this time, but appreciated hearing the presentations and welcomed comments from the WG. Members offered the following remarks:

- Vern Cleveland asked whether it was certain a road would go from Bettles to Ambler, or were other routes under study? Murray responded that there are many studies underway and meetings in communities. Lead on Roads to Resources will be shifting from DOT&PF to the Alaska Industrial Development and Export Authority (AIDEA). They do not expect to file a request to begin an Environmental Impact Statement (EIS) until August 2013. The US Army Corps of Engineers would likely be the lead agency for preparation of the EIS.
- Cyrus Harris is concerned about the "cons", potential impacts from a road. This needs to be fully discussed in village meetings. Concern about loss of subsistence way of life.
- Wendy Loya asked if the Ambler mine would be similar in size and scale to Red Dog. Murray replied that the Ambler project is bigger and the road would be approximately 200 miles in an east-west direction (one lane road with turnouts, limited access road which is not open to the public). The Red Dog mine road is 50 miles, oriented southwest/northeast. AIDEA is a public entity, but that does not mean the road would have to be open to the public.
- Concern expressed that Dalton Highway was initially closed to the public, but was later opened.

- Darcie Warden wondered how the WG can engage in Health Impact Assessments. Murray indicated it might be best to formalize a relationship and have a special meeting to focus on the roads.
- Pollock Simon said that people in Allakaket would be affected by the Ambler road. People are concerned about impacts on rivers and creeks, and on prime hunting and trapping areas. They're being told goods will be available to them cheaper than air freight, but wonder what they have to sacrifice for that.
- Tom Gray echoed Pollock's concerns. He is "dead set against a [long] road to Nome". Road access would change subsistence as we know it. The lower freight costs are not worth it. The Red Dog mine road is a good example of using options, such as marine access.
- Roy Ashenfelter indicated that the WG will participate in every way possible.

Questions asked / comments made by public and agencies in audience:

- If road is opened, concerns about possible changes in land status, with land being transferred from public to private lands.
- Q: \$4 million was allocated to DOT&PF this fiscal year for the project. How was that spent? A: Fieldwork and analysis. The public can get the information on how money was spent.
- Q: Which route is DOT&PF leaning toward for Ambler mine road? A: Southern route connecting from Dalton Highway to Ambler mining district.
- Q: Have heard that there would need to be additional mines for the road to be economically feasible. Is that the case? A: This would be considered during the EIS cumulative impacts review; has heard different things regarding financial feasibility.
- For the Umiat Road, the North Slope Borough has expressed a preference for the "Meltwater Road" option. A: This is being studied for the Umiat project, but would involve some privately owned lands.
- Q: What is the soonest timeframe for a right-of-way application for the Ambler Road, and how soon constructed? A: Uncertain how long it would take to process a right-of-way. Would start that process after the Record of Decision is issued for an EIS and permits are obtained. There is no published schedule. The earlier date for a ROD would be 2016. Construction in 2017?

VIII. BLM NPR-A Planning Decision

Dave Yokel from BLM gave a PowerPoint presentation entitled "Update on BLM's NPR-A Planning Decisions" (pp. 147-152 in 2012 WG Meeting Binder). BLM was nearing completion of a Draft Integrated Activity Plan (AIP) and Environmental Impact Statement (EIS) for the 23 million acre National Petroleum Reserve in Alaska (NPR-A). The Draft EIS evaluated four alternatives for management and was made available for public comment in mid-2012. The WG commented on the draft plan. Issues analyzed in the Draft IAP/EIS included: oil and gas leasing; impacts of development, such as those on caribou, birds, subsistence, and public health; climate change; and protection of threatened and endangered species.

In August 2012, the Secretary of the Interior introduced Preferred Alternative B2, which offered a few percent less acreage in NPR-A to oil/gas leases. Under this alternative, the entire calving ground would not be available for leases and there would be no non-subsistence infrastructure. The Teshekpuk Lake protected area would be expanded and unavailable for lease sales.

Additional stipulations would provide 0.5-1 mile river buffers, best management practices to avoid disturbance to caribou, protections for Brandt geese and other species, and no infrastructure offshore within one mile of the coastline.

(Note: The Final AIP/EIS was issued by BLM in February 2013. The decision reflects the Preferred Alternative B2, with some final modifications and clarifications. The Record of Decision and all related documents are available at www.blm.gov/ak)

IX. Business Meeting

Approval of Meeting Summary – December 2011: Motion to approve the Executive Summary and complete minutes for December 2011, by Pollock Simon and seconded by Ted Frankson. Motion carried unanimously.

Membership/Committees: The following actions were taken to update WG membership and committees:

- Vice-Chair – The WG considered the nominations of Phil Driver and Vern Cleveland as vice-chair to serve a three-year term. Vern Cleveland was elected by closed ballot with ten votes, to Phil Drivers six votes.
- Village groupings represented by WG Seats – Peter Bente noted that on p. 4 of the Meeting Binder there is a proposed listing of which communities are represented by which WG Chairs. These village “groupings” had never been formally approved by the WG. Motion by Ted Frankson, second by Morris Nassuk to approve the groupings on p. 4 with the deletion of Grayling from the Middle Yukon River. Motion carried unanimously.
- Alternate WG members – Assignment – Peter Bente and Jan Caulfield will work with the villages within each group to identify an alternate chair for those that are missing. Jan Caulfield will contact Grant Klotz regarding a letter from the Anchorage Advisory Committee regarding his taking Chair 1 and filling the alternate seat. Jan Caulfield will contact Willie Goodwin clarifying whether he had resigned from the alternate for Chair 8 (Kotzebue). Tom Gray stated that the Reindeer Herders Association had voted to have Alfred Karmun serve as the alternate member for Chair 16. This will be corrected in the membership list.
- Meeting Locations – Tom Gray would like to see the WG meeting be held in Nome or Kotzebue to make it possible for subsistence users to attend. Roy Ashenfelter agreed, “as funds permit”.
- Executive Committee: The membership was further defined as chair, vice-chair, three WG members, and the WG agency representative.
- Technical Committee – Roy Ashenfelter clarified that WG members who attend the Technical Committees will include the Chair, Vice-Chair, and then whichever members live near the meeting location (so no additional travel day required, to save on expense).
- Resource Development Committee – Motion to retain Wendy Loya as Resource Development Committee Chair, made by Vern Cleveland, seconded by Tom Gray. Motion carried unanimously.
- Web access to map of satellite collars – The group discussed the change made by ADF&G in November 2012, to no longer show caribou SAT collar locations on the Seward Peninsula, due to concern that the information was being used to aid hunters. ADF&G policy states the department does not release specific telemetry data to aid

hunting. The topic will be discussed further by ADF&G and the Reindeer Herders Association at a meeting in Nome in January or February 2013.

Communication Committee Report: Meghan Nedwick, ADF&G, addressed the following points:

- Thanked the WG and agencies for making time to include student presentations in the agenda, and thanked ADF&G, BLM and NPS for supporting their attendance. Noted that the students were touring the Anchorage zoo and the BLM's Campbell Creek Science Center.
- The Education management actions in the 2011 WACH Cooperative Management Plan (p. 27 of the plan) are all underway. Action #9 says, "implement education outreach efforts based on the management strategies appropriate for the four caribou population management levels shown on Table 1, and encourage public discussion". The WG had talked about the need for this outreach earlier in the meeting and made an assignment.
- Meghan suggested that in 2013 the WG pair up with students in small informal discussions.
- ADF&G has developed an Alaska Environmental Literacy Plan, which looks at bringing more information about community, culture and economy into school curriculum. Encourages the WG to be aware of and support the plan. See www.akelp.org
- Website - The WACH WG website is up and running and actively visited.
- Facebook – Ron Moto noted that Facebook is one of the primary ways that communities and Advisory Committees now communicate. The Selawik Refuge has a Facebook page (maintained by Brittany Sweeney).
- Caribou Trails – Meghan Nedwick noted the interest in publishing two issues of Caribou Trails annually. That can't be afforded with current funding and staff. The next issue will be published in May 2013. The publication has a wide distribution of 15,000 hard copies and is now also posted on the WG website. Possible topics for the 2013 issue include:
 - Information on herd size, declining trend, population management, and what changes might mean for local hunters.
 - Article on Unit 23 WG – status of work on user conflicts.
 - Article on elder (Johnson Stalker)
 - Student pages re: Onion Portage
 - 2012 meeting updates
 - Resource development article – Roy Ashenfelter suggested NPR-A plan
 - Article about predator/prey dynamics relative to caribou population
 - Q/A page with WG members
 - Caribou Roundtable questions – provide to public and request their responses; include question about their observations of predator abundance. Possibly use an insert or reply card as suggested by the WG Roundtable discussion.
 - Research project summaries (not specified which research would be included)

Assignment – Communication Committee consider how Facebook could be used to support the work of the WG.

Assignment – Meghan will present some options at the 2013 meeting for a simpler format Caribou Trails document that could be added as a second issue each year.

Assignment – Meghan will work with Jim Dau to develop a method for public response on caribou roundtable questions, including observations of predator abundance.

In a public comment, John Trent noted that the model for the newsletter is the *Caribou News* produced by the Beverly and Qamanirjuaq Caribou Management Board. It is a tool for communication and building trust. Need to use a mix of communication tools.

Old Business: No old business to discuss.

New Business:

- Question regarding who has access to the Caribou Roundtable database? At this time, it is available only to the WG. Assignment – Roy Ashenfelter asked that at its 2013 meeting, the WG consider different options for sharing the content of the Caribou Roundtable database.

Assignments: List of assignments made during meeting, see Attachment 4

Next Meeting Date: Motion to schedule next WG meeting on December 4-5, 2013 in Anchorage, with Technical Committee meeting on December 3, made by Tom Gray, second by Vern Cleveland. Motion carried unanimously. Assignment – Shelly Jacobson will prepare a comparison of the cost of holding a WG meeting in Nome, Kotzebue, Anchorage and Fairbanks and bring that to the 2013 meeting for the information of the group.

X. Closing Comments: WG members offered the following brief closing comments:

- Phil Driver – good two days.
- Tom Gray – agreed; good interaction
- Ted Frankson – good meeting; good participation
- Benedict Jones – good meeting; wants to include in newsletter how to snare wolves and/or put on website
- Pollock Simon – good meeting
- Grant Klotz – great; thanks
- Cyrus Harris – good meeting; thanks
- Rod Arno – first meeting; appreciated being here
- Elmer Seetot – good meeting; Norton Sound Economic Development Corporation may have funds to help support WG meetings
- Vern Cleveland – good meeting; request that Ambler mining and North Slope Borough be at the 2013 meeting
- Charles Saccheus – good meeting; good job with *Caribou Trails* and with caribou management
- Morris Nassuk – good meeting; would like BLM map provided as a handout to be filled in with all permits they've issued
- Ron Moto – Thanks to PJ Bell for coordinating travel
- Raymond Stoney – very good
- Darcie Warden – thanks

XI. Adjournment: Motion to adjourn made by Tom Gray, seconded by Elmer Seetot. Motion carried unanimously. Meeting adjourned at 5:29 p.m. on December 6, 2012.

Western Arctic Caribou Herd (WACH) Working Group

December 5-6, 2012

8:30 am – 5:00 pm each day

Egan Center, Summit Room, Anchorage, Alaska
555 West 5th Avenue

WACH Working Group, December 5

8:30 Call to Order

Invocation

WACH Working Group Roll Call / Establish Quorum

Introductions

Approval of Agenda – Preview of Meeting Binder

Membership (nominations and vacancies)

8:50 Guest Elder – Mr. Johnson Stalker, Kotzebue

9:40 – 10:00 AM BREAK

10:00 Caribou Roundtable

Caribou Roundtable database, format, questions – Lee Anne Ayres, US Fish and Wildlife Service (15 minutes)

Roundtable Discussion in small groups by region (45 minutes)

Small groups report briefly back to large group (60 minutes)

12:00 – 1:15 PM LUNCH

1:15 School Presentations – Kivalina & Kobuk Schools

2:00 Herd Information and Discussion

Herd biology and status, other studies or research

- Jim Dau, Alaska Department of Fish and Game
- Kyle Joly, National Park Service

3:00 – 3:15 PM BREAK

3:15 Herd Habitat Reports and Discussion

3:15 Western Arctic Caribou Herd Winter Range: Habitat Monitoring – Jennifer McMillan, Bureau of Land Management

3:40 Evaluating the “bottom up” effects of changing habitats: climate changes, vegetative phenology, and the nutrient dynamics of caribou forages in the Alaskan Arctic – Dave Gustine, US Geological Survey

4:00 Western Arctic Herd, Caribou Traditional Knowledge Project & Update on CARMA¹

- Gary Kofinas and Gabriela Halas, University of Alaska Fairbanks

4:40 Industrial Development in the Brooks Range – Questions and Concerns from a Local Perspective – Brooks Range Council

5:00 END DAY 1

WACH Working Group, December 6

8:30 Call to Order / Announcements

8:45 Committee Reports

Executive Committee – updated Cooperative Management Plan, other topics

9:10 Technical Committee – Assignments from 2011 WG Meeting

- List of management & research projects for the herd & habitat
- Selected bibliography for the herd

9:45 – 10:00 BREAK

10:00 Technical Committee – Recommendations from Dec. 4, 2012 meeting

10:30 Management Agency Reports

10:30 Alaska Department of Fish and Game, Steve Machida

10:45 Bureau of Land Management, Shelly Jacobson

11:00 National Park Service, Frank Hays

11:15 US Fish and Wildlife Service, Lee Anne Ayres

¹ Circum-Arctic Rangifer Monitoring and Assessment Network

11:30 Community Harvest Assessment

- Nikki Braem, ADF&G Division of Subsistence

12:00 – 1:15 PM LUNCH

1:15 Resource Development Reports

1:15 Resource Development Committee – Wendy Loya, Chair

1:30 Roads to Resources

- Update from Alaska Department of Transportation
 - Murray Walsh and Ryan Anderson
- WAH movements near the Red Dog mine
 - Jim Dau, ADF&G
- Methods for analyzing caribou road crossings
 - Lincoln Parrett, ADF&G

3:00 Update on BLM’s NPR-A Planning Decision – Dave Yokel, BLM

3:30 – 3:45 BREAK

3:45 Business Meeting

Approval of WG Meeting Summary – November 30 – December 1, 2011

Membership/Committees

- Election of Vice-Chair
- Formalize which villages are represented by which Chairs (see p. 4 of meeting binder)
- Discuss Committee representation by Alternates (see pgs. 5-8 of binder)

Communication Committee

- Website report
- *Caribou Trails* – Suggestions for next newsletter

Old Business

New Business (Action Items)

Assignments

Next Meeting: Date _____ Location _____

4:45 Closing Comments

5:00 ADJOURN

**Western Arctic Caribou Herd Working Group
Technical Committee Report
December 4, 2013 – Anchorage, Alaska**

The Technical Committee (TC) met on December 4, 2012 at the Egan Center in Anchorage. Present were resource agency staff and Working Group (WG) members to discuss technical issues related to conservation and management of the Western Arctic Caribou Herd. The following is a list of meeting highlights and TC recommendations for consideration by the WG.

1. Attendance: *Working Group* – Roy Ashenfelter, Phil Driver, Wendy Loya, Rod Arno, Darcie Warden. *Agency staff:* ADF&G - Peter Bente, Steve Machida, Jim Dau, Charlotte Westing, Lincoln Parrett, Geoff Carroll, Bob Sutherland, Nikki Braem, Karen Mitchell. BLM – Shelly Jacobson, Tim Hammond, Merben Cebrian, Jennifer McMillan, Dave Yokel, Cara Staab, Dan Sharp. NPS – Frank Hays, Kyle Joly, Greg Dudgeon. USFWS - Lee Anne Ayres, Karen Murphy, Greg Balogh, Melinda Hernandez. BOEM: Chris Crews. *Visitors* – Gabriela Halas, Ryan Wilson, Barrett Ristroph.

2. Status and Condition of the Herd:

- July 2011 survey – 325,000 caribou (bull:cow ratio 42:100)
- Next survey in July 2013

Based on population size and trend in the herd (WAH Cooperative Management Plan, Table 1, pg. 17) the herd is at a “Liberal” Management and Harvest Level, with a “Declining” Population Trend. In July 2011 the herd size was 325,000 and biological parameters (recruitment, mortality, bull:cow ratios) were declining.

It is uncertain how the herd will decline because it is influenced by factors that are not very predictable, such as weather (icing events), predation, harvest, and changes in habitat. The TC identified the need for more information about these factors, possibly through:

- Using a range-wide approach to talk with, or learn from, communities about their harvest, observations of changes in predator populations, and other important factors.
- Long-term monitoring focused on predation by wolves on caribou in the range of the herd.
- Long-term monitoring focused on thaw-refreeze events affecting caribou.

3. Thinking Ahead – Herd Management with a Declining Population: Because the herd is on a declining trend, the TC discussed two ideas that may help the public/communities and the WG become more aware that harvest management may need to change in the future, and to be more prepared for change. The TC suggests the following actions:

- Communication – Develop a list of “key talking points” about the status of the herd, the declining population trend, and that use and management of caribou may change in the future if the population continues to decline. These key points could be used by the WG members and the agencies in communication with communities, Advisory Committees, Regional Advisory Councils, and others – and presented in Caribou Trails. If the WG agrees that a list of key points would be helpful – the question is: *What is it most important to say to local residents and communities?*
- Talking about future management – The WG may want to have time at the 2013 WG meeting to talk informally together about what types of changes in harvest / management

might be needed in the future, under different population conditions (such as, if the caribou herd declined to the “preservative” or “critical” level on Table 1).

TABLE 1. Western Arctic caribou herd management levels using herd size, population trend and harvest rate.

Management Level and Harvest Level	Population Trend		
	Declining Low: 6%	Stable Med: 7%	Increasing High: 8%
Liberal	Pop: 265,000+ Harvest: 18,550-24,850	Pop: 230,000+ Harvest: 16,100-21,700	Pop: 200,000+ Harvest: 16,000-21,600
Conservative	Pop: 200,000-265,000 Harvest: 14,000-18,550	Pop: 170,000-230,000 Harvest: 11,900-16,100	Pop: 150,000-200,000 Harvest: 12,000-16,000
Preservative	Pop: 130,000-200,000 Harvest: 8,000-12,000	Pop: 115,000-170,000 Harvest: 8,000-12,000	Pop: 100,000-150,000 Harvest: 8,000-12,000
Critical Keep Bull:Cow ratio ≥40 Bull:100 Cow	Pop: <130,000 Harvest: 6,000-8,000	Pop: <115,000 Harvest: 6,000-8,000	Pop: <100,000 Harvest: 6,000-8,000

4. Caribou Roundtable: The TC discussed the current format for the Caribou Roundtable (small group discussions of questions) and the database of information that is being collected for the WG. Lee Anne Ayres will present the database and discuss with the WG where the information should be stored and who would have access to it?

5. Selected Bibliography: Wendy Loya presented the list of selected references related to the WAH for discussion by the TC. Some reports from BLM, ADF&G Subsistence Division, and other sources were missing and will be added to the list. The TC recommends the list be organized by categories or topics (such as Biology, Climate Change, Habitat, etc.) and posted on the WG website.

6. List of Management & Research Activities: Tim Hammond and Merben Cebrian from BLM presented a list of management and research activities related to the WAH for discussion by the TC. The TC suggested that research being conducted by the University and other agencies (such as Natural Resource Conservation Service) be added. For each project, they will also add a one-sentence description of the work and include a contact name, phone and email.

7. Western Alaska and Arctic Landscape Conservation Cooperatives (LCC). Karen Murphy and Greg Balogh discussed projects the LCCs have funded relevant to the WAH, including

projects addressing winter thaw-refreezing events, permafrost and snow mapping & monitoring, changing tundra (range condition, nutrients), and improved GIS mapping & modeling tools. There will be future opportunities for projects to be proposed for LCC funding that relate to the WAH and its habitat. (See handouts in Attachment 8.)

8. Winter Thaw-Refreeze Events. Ryan Wilson described results of remote sensing study of winter weather events from 2001-2008. The TC identified this as an important topic for continued work, including a long-term monitoring program (see above: Item 2, Herd Status).

The Technical Committee meeting adjourned at 3:50 p.m.

Respectfully submitted:

Peter Bente, Agency Representative to the WACH WG

Motions Adopted at WACH WG Meeting
December 5-6, 2012

Call to Order & Introductory Sections

- Motion to accept nominations and appoint Morris Nassuk as Chair 17 and Leo Charles, Sr., as Chair 17 alternate, by Tom Gray, second by Ron Moto. Motion carried unanimously.
- Motion to approve agenda as presented, by Tom Gray, seconded by Vern Cleveland, Sr. Motion carried unanimously.

Technical Committee Report

- Motion to approve the information presented in the research project list and the bibliography, to approve the process for keeping those products updated, and to post them on the WG's webpage. Motion made by Ted Frankson, seconded by Tom Gray. Motion carried unanimously.

Business Meeting

- Motion to approve the Executive Summary and complete meeting summary for December 2011, by Pollock Simon and seconded by Ted Frankson. Motion carried unanimously.
- Motion by Ted Frankson, second by Morris Nassuk to approve the groupings on p. 4 with the deletion of Grayling from the Middle Yukon River. Motion carried unanimously.
- Motion to retain Wendy Loya as Resource Development Committee Chair, made by Vern Cleveland, seconded by Tom Gray. Motion carried unanimously.
- Motion to schedule next WG meeting on December 4-5, 2012 in Anchorage, with Technical Committee meeting on December 3, made by Tom Gray, second by Vern Cleveland. Motion carried unanimously.

Adjournment

- Motion to adjourn made by Tom Gray, seconded by Elmer Seetot. Motion carried unanimously. Meeting adjourned at 5:29 p.m. on December 6, 2012.

Assignments Made at WACH WG Meeting December 5-6, 2012

Executive Committee Report

- In 2013, send out the draft meeting minutes from the previous year earlier via US Postal Service, so that WG members in the villages will receive it in advance of the meeting. (Jan Caulfield, Facilitator)

Technical Committee Report

- In list of research projects, add the following for each project: one sentence description, contact information, completion date, how to access completed report. (Tim Hammond, BLM)
- Keep WG involved in and informed of progress on BLM's fire management plan for the herd's winter range. Present update / product at 2013 WG meeting. (Tim Hammond, BLM)
- Organize the bibliography in the way presented by Wendy Loya at the WG meeting (by topic area). (Wendy Loya, TWS)
- Post the research project list and bibliography on the WACHWG website. Send hardcopies of the lists to the Tribal governments within the herd's range annually. Include updated lists in the annual WG meeting binders. (Meghan Nedwick, Jan Caulfield)
- Herd Population and Management – Key messages: Communicate succinct, key messages to the public about the herd size, the declining trend, and the potential need to change management in the future. Make the public familiar with the 2011 WACH Cooperative Management Plan, particularly Table 1 “Western Arctic caribou herd management levels using herd size, population trend and harvest rate”. It is important for the public to be informed and prepared for changes that may affect their hunting. Use information tools such as *Caribou Trails* (highlighted article, front page), website, radio, through IRAs, schools. It is important that the message come from the WG, not from agencies, since the local people are familiar with the WG members. . Note that this Assignment implements the Education Management Action #9 from the Cooperative Management Plan (p. 27 of plan). (Meghan Nedwick, Jim Dau, in consultation with Executive Committee)

Agency Reports

- In response to a question from Ted Frankson, BLM will research records of what types of fire retardants were used on older burns and provide that information to Ted. (Tim Hammond, BLM)

Membership

- Work with the villages within each group to identify an alternate chair for those that are missing. Jan Caulfield will contact Grant Klotz regarding a letter from the Anchorage Advisory Committee regarding his taking Chair 1 and filling the alternate seat. Jan Caulfield will contact Willie Goodwin clarifying whether he had resigned from the alternate for Chair 8 (Kotzebue). Tom Gray stated that the Reindeer Herders Association

had voted to have Alfred Karmun serve as the alternate member for Chair16. This will be corrected in the membership list. (Peter Bente, Jan Caulfield)

Communication Committee Report

- Consider how Facebook could be used in relation to work of the group. (Communication Committee)
- Present some options at the 2013 meeting for a simpler format *Caribou Trails* document that could be added as a second issue each year. (Meghan Nedwick)
- Develop a method for public response on caribou roundtable questions, including observations of predator abundance. (Meghan Nedwick, Jim Dau)

New Business

- Roy Ashenfelter asked that at its 2013 meeting, the WG consider different options for sharing the content of the Caribou Roundtable database. (Lee Anne Ayres, Jan Caulfield)

Next Meeting Date

- Prepare a comparison of the cost of holding a WG meeting in Nome, Kotzebue, Anchorage and Fairbanks and bring that to the 2013 meeting for the information of the group. (Shelly Jacobson)

Meeting Attendance (Agency, Public)

Type of Participant	First Name	Last Name	Organization	Location
Agency	Peter	Bente	ADF&G, WG Agency Representative	Nome
Agency	Nicole	Braem	ADF&G	Fairbanks
Agency	Geoff	Carroll	ADF&G	Fairbanks
Agency	Jim	Dau	ADF&G, WG Agency Lead	Kotzebue
Agency	Steve	Machida	ADF&G	Anchorage
Agency	Karen	Mitchell	ADF&G	Nome
Agency	Meghan	Nedwick	ADF&G	Kotzebue
Agency	Lincoln	Parrett	ADF&G	Barrow
Agency	Robert	Sutherland	ADF&G	
Agency	Charlotte	Westing	ADF&G	Kotzebue
Agency	Kristen	Romanoff	ADF&G	Juneau
Agency	Paul	Karczmarczyk	ADOT&PF	Fairbanks
Agency	Murray	Walsh	ADOT&PF	Juneau
Agency	Merben	Cebrian	BLM	Fairbanks
Agency	Tim	Hammond	BLM	Fairbanks
Agency	Shelly	Jacobson	BLM, WG Agency Lead	Fairbanks
Agency	Lon	Kelly	BLM	Fairbanks
Agency	Jennifer	McMillan	BLM	Fairbanks
Agency	Dan	Sharp	BLM	
Agency	Cara	Staab	BLM	
Agency	Dave	Yokel	BLM	Fairbanks
Agency	Chris	Crews	BOEM	
Agency	Gene	Augustine	BOEM	Anchorage
Agency	Greg	Dudgeon	NPS	Fairbanks
Agency	Kyle	Joly	NPS	Kotzebue
Agency	Joel	Hard	NPS	Anchorage
Agency	Frank	Hays	NPS, WG Agency Lead	Kotzebue
Agency	Gabriela	Halas	UAF	Fairbanks
Agency	Lee Anne	Ayres	USFWS, WG Agency Lead	Kotzebue
Agency	Karen	Murphy	USFWS	Anchorage
Agency	Greg	Balogh	USFWS	Anchorage
Agency	Jeff	Brooks	USFWS	Anchorage
Agency	Chris	McKee	USFWS	Anchorage
Agency	Trevor	Fox	USFWS OSM	
Agency	Melinda	Hernandez	USFWS OSM	Anchorage
Agency	Eva	Patton	USFWS OSM	
Agency	Tom	Evans	USFWS OSM	Anchorage
Local Govt	Brian	Person	NSB, Wildlife Dept.	Barrow
Local Govt	Billy	Adams	NSB, Wildlife Dept.	Barrow
Organization	Melanie	Smith	Audubon	Anchorage
Organization	John	Gaedeke	Brooks Range Council	Bettles

Type of Participant	First Name	Last Name	Organization	Location
Organization	Karla	Dutton	Defenders of Wildlife	Anchorage
Organization	Carolina	Behe	ICC-AK	Anchorage
Organization	Enoch	Shiedt	Maniilaq Association	Kotzebue
Organization	Bob	Shears	North Slope Regional Advisory Council	Wainwright
Organization	Pam	Miller	Northern Alaska Environmental Center	Fairbanks
Organization	Eleanor	Huffines	Pew Trusts	Anchorage
Organization	Lindsey	Hajduk	Sierra Club	Anchorage
Organization	Nicole	Whittington-Evans	The Wilderness Society	Anchorage
Organization	Ryan	Wilson	The Wilderness Society	Anchorage
Organization	Barrett	Ristroph	The Wilderness Society	Anchorage
Public	Erling	Westlien	Shell	Anchorage
Public	John	Schoen		Anchorage
Public	John	Trent		Anchorage
Public	Johnson	Stalker		Kotzebue
Public	William	Garland		Anchorage
School	Dana	Greenwood	McQueen School	Kivalina
School	Joe	Burch	Kobuk School	Kobuk
Tribal Govt	Eddie	Frank	Venetie Village Council	Venetie
Facilitator	Jan	Caulfield		Juneau

WACH WG Meeting 2012
Caribou Roundtable Discussion
Responses to Questionnaire on Observations about Caribou

North Slope Region

WG members: Ted Frankson (Pt. Hope), Bob Shears (Wainwright), Billy Adams (Barrow).

Contributed to notes: Dave Yokel (BLM), Brian Person (NSB), Geoff Carroll (ADF&G), Eva Patton (USFWS/OSM)

Physical Environment

- 1. When did freeze-up occur? How does this compare with past years? How about the first snowfall? How about break-up?**
 - Wainwright – Rivers usually freeze in late September, but about 10 days late this year (2012) and water was high when they froze. The water levels dropped carrying the ice out, and then the rivers refroze later.
 - Barrow – Break-up last spring (2012) was in late May, rather than early June as is usual. It was very warm in early July and people were catching caribou just outside of town. It was warmer and wetter in August and the caribou left the coastal plain for the foothills. It was really wet this autumn with winds out of the west from mid-summer to October. Rivers froze late, in mid-October; under-ice fishing has been poor as a result. There was no sea ice until November.

- 2. What did you notice about snow depth and icing?**
 - Pt. Hope - very little snow in autumn 2012; had about 4” and then it blew away.
 - Pt. Hope - Ice after freeze-up thicker this year due to colder weather.
 - Pt. Hope – The high, standing water on the tundra this year will freeze and may make foraging hard for the caribou.
 - Wainwright - He’s seen a lot of change in weather in his 15 years at Wainwright. Last winter (2011-2012) was relatively calm without too much wind or snow.

- 3. What were winds like in winter? In summer?**
 - Wainwright - Summer 2012 had relatively calm winds, but still not too much insect harassment of caribou because the insects began about a week late (end of June) and ended early (end of July).
 - Wainwright & Barrow – Winds were prevalent from the SW and W in summer and fall 2012, while they are typically out of the NE.

- 4. Has there been any unusual weather this year? If so, what kind? (For example, strong winds, storms, much/little rain or snow, etc.)**
 - Barrow - We had good snow at first this fall (2012) but then it quit. The southern coastal plain and foothills are brown. This may be good for foraging caribou but is harder on predators and lemmings. It’s so warm that gulls are still in Barrow. Wainwright - Lots of rain in August. Villagers were able to boat further upriver than ever before.

- 5. Has there been anything else noteworthy this year regarding the air, rivers and lakes, or land? (For example, occurrences of fire that may have impacted caribou range, good/poor vegetation growth, late/early freeze, erosion, etc.)**
 - Barrow – extreme beach erosion in September 2012

Caribou

6. When were caribou present in your area? When did they first arrive? When were they last seen? How does this compare with past years?

- Wainwright - Lots of caribou stayed around Wainwright all winter, so we had wolves around, too. By April 2012, caribou groups had grown to about 1000 individuals.
- Wainwright - Caribou normally begin migratory behavior in late August, but this year (2012) they were just feeding, not moving at that time. As a result, when hunting he couldn't find them near the river so had to make long carrying trips to get carcasses back to the boat. Bulls were healthy and fat and entered rut early (mid-September 2012). The tundra was very wet this September (2012). The calving seemed like it could have been late and calves were less healthy/seemed weak and some had evidence of disease around their ankles, although there was no sign of any kind of hoof rot or anything in the adults.
- Barrow - There were a lot of caribou in Barrow area in July 2012 and hunters were successful. Caribou arrived near Barrow in late November 2012 and were really fat and healthy. Some appeared to have gold on their teeth; what is that?
- General - Caribou were not at the rivers/river crossings at their usual time and hunting required a lot of hiking across the tundra to reach the herd.
- Barrow - Caribou on the Chipp River (S of Barrow) had shown up on the river late this year (2012).

7. How many caribou were in your area? What was the composition of the herd like (calves, males/females)? How does this compare with past years?

- Wainwright - Once there was about 6" of ice, caribou came by the thousands and the females were obese with 2" of rump fat. In September, the ratio of mature bulls to other caribou was about 1:20 or 1:30, but by mid-October it was more like 1:10. There are still plenty of caribou around Wainwright now. The average household harvest this fall was about 20 caribou and a lot were sent to Barrow.

8. If you harvested caribou, how did the meat and skins compare with past years? What did you notice about fat? Parasites?

- Pt. Hope - Caribou fatter and their meat softer; the previous year it was tougher.
- Wainwright - Females were obese with 2" of rump fat.
- Barrow - Caribou arrived near Barrow in late November 2012 and were really fat and healthy. Some appeared to have gold on their teeth; what is that?
- Wainwright - The calving was late in 2012 and calves were less healthy/seemed weak and some had evidence of disease around their ankles, although there was no sign of any kind of hoof rot or anything in the adults. Noted that calves appeared very small and weak and there appeared to be a lot of calf mortality, specifically many calves that were "too small in September" (2012) and were abandoned by the river.
- Pt. Hope - mentioned they (with Jim Dau, ADF&G) had wanted to examine some caribou that had died near Cape Lisburne (possibly starved?) but were unable to reach them due to bad weather.

9. Were there any other notable changes regarding caribou compared with past years?

1. Wainwright - noted that bulls dropped their antlers early this year (2012), in early November.
2. Barrow - Noted that "thought that caribou communicate with each other over long distances, maybe like elephants".

Other Animals

10. What did you notice about bears and wolves in your area?

- Wainwright – Lots of bears everywhere this fall, bears were blocking caribou migration until we killed 9 of them in a 10-mile stretch of river.
- Barrow - More grizzly bears were caught this fall and wolves are coming back to the Barrow area also. Grizzly bear numbers seem higher than in the past. Three wolves were caught in Atqasuk just 2 days ago (Dec. 3).

11. Have there been any notable changes regarding other animals in your area, compared with past years? (For example, new animals arriving in your area, or animals that you do not see much of any more, or changes in behavior or body condition)

- Barrow - It was so hot last summer that we saw dragonflies in Barrow for the first time. (Ted commented that they were normal in Pt. Hope.)
- Barrow – A Wainwright hunter caught a lynx.
- Barrow – people are seeing new fish that they haven't seen before.

Other Comments

12. How do people in the communities use caribou, other than for meat (e.g., clothing)?

- Use of caribou for other than meat for food: make drums or boots from skins; mostly use hides for blankets and mattresses or pads for sleds; use sinew (from legs of caribou taken during summer) for sewing umiaq skins; make handicraft sleds from jawbones; use parts as bait for traps; use bone and antler for knife and tool handles; eat tips of velvet antlers, tastes good; use stomachs for drums; can eat the bone marrow or sometimes use it for insect repellent.

13. What types of exploration and development or other activity have you noticed in the region that may be impacting caribou?

- Wainwright – Hunting was difficult in September due to a lot of helicopter traffic. Reported that Gordon Brower mentioned that there were over 3,700 helicopter landings recorded in the NPR-A. Couldn't be sure if the helicopter traffic was the cause of the more difficult hunting or if it was just a coincidence in time; nevertheless, there are many projects going on in their area.
- Pt. Hope – also had a lot of helicopters for about three weeks.
- Barrow – the same around Barrow. They had lots of public service messages on KBRW, so more people were reporting aircraft tail numbers and their color. They have also received several calls with frustrated people threatening to shoot at aircraft.

14. What have you noticed regarding any conflicts between local and non-local hunting in the area of your community? Do you have suggestions for how to reduce conflicts?

- No issues with outside hunters because there are none in their area.

15. Is there anything else that you have seen this year that you would like to mention?

- Wainwright - Wainwright hunter had harvested a caribou that had a radio collar and that the hunter thought that the collar was too tight and that the caribou wasn't moving very much. Lincoln Parrett (ADF&G) said that collars that are adjusted to fit properly sometimes look tight to people, but that it is much better for them to have a snug fit than to be too loose. When they are loose they can rub the caribou's neck and bang on the caribou's chest and jaw. I have the collar in my office and it looks like a typical adjustment for a female caribou.

- Lincoln confirmed the long history with this particular collared caribou. It had been re-collared twice, had been on the air for about 6 years, and had traveled all over the North Slope and beyond. She was harvested at 7.5 years.

Seward Peninsula

WG members: Morris Nassuk (Koyuk), Roy Ashenfelter (Nome), Tom Gray (Nome), Charles Saccheus (Elim), Elmer Seetot (Brevig Mission), Wendy Loya (representing conservationists)

Contributed to notes: Kyle Joly (NPS), Charlotte Westing (ADF&G)

Physical Environment

- **When did freeze-up occur? How does this compare with past years? How about the first snowfall? How about break-up?**
 - Very late spring breakup (2012) in Nome; bad for salmon and herring fishing
 - Hunting seals from ice in June (2012), very unusual (“first time in his life”)
 - Late September/early October (2012) freeze-up in Elim
 - Mid-October (2012) freeze-up in Nome, Imuruk
 - Mid-November (2012) freeze-up in Pt. Clarence Bay
 - In December (2012), still open water west of Brevig Mission

- **What did you notice about snow depth and icing?**
 - Great snow conditions in all directions, spring 2012; easy travel
 - Not severe icing, but light crust on snow made travel easy
 - No snow anywhere yet in winter 2012 (December 2012)

- **What were winds like in winter? In summer?**
 - Southwest winds made it hard to fish

- **Has there been any unusual weather this year? If so, what kind? (For example, strong winds, storms, much/little rain or snow, etc.)**
 - Late spring in 2012 – breakup very late; fish late
 - Rainy/cool summer conditions in 2012; lots of summer rain; “never seen so much rain”

- **Has there been anything else noteworthy this year regarding the air, rivers and lakes, or land? (For example, occurrences of fire that may have impacted caribou range, good/poor vegetation growth, late/early freeze, erosion, etc.)**
 - More coastal erosion – trees that are 500-600 years old are washing away

Caribou

- **When were caribou present in your area? When did they first arrive? When were they last seen? How does this compare with past years?**
 - Harvested caribou in late April 2012 by Chicken Hill
 - There are resident caribou on the Seward Peninsula
 - Lots of harvest in April; males make up a big percentage of harvest at this time
 - Robust fall (August, September) hunting, both caribou and moose
 - Granite Mountain consistently has caribou
 - Serpentine Hotsprings area has consistently had caribou for past 5-6 years; 120 miles each way from Nome
 - White Mountain and Nome hunters didn’t have to travel too far last winter
 - Shishmaref hunters only had to go 20 miles to get caribou
 - East side of Fish River flats had caribou
 - Bulls near Darby Mountains; year-round herd in this area
 - In December 2012, Nome hunters already getting caribou
 - Caribou were further south than in past years

- (Noted that in the 1950's had to go almost to Yukon River to get caribou)
- **How many caribou were in your area? What was the composition of the herd like (calves, males/females)? How does this compare with past years?**
 - No specific response.
- **If you harvested caribou, how did the meat and skins compare with past years? What did you notice about fat? Parasites?**
 - Bulls with knobby antlers in spring are ready to harvest and are good eating.
 - Lots of healthy caribou. No concerns.
- **Were there any other notable changes regarding caribou compared with past years?**
 - No specific response.

Other Animals

- **What did you notice about bears and wolves in your area?**
 - Wolves are impacting moose and reindeer
 - Lots of wolves
 - Lots of trouble with bears in Koyuk area
- **Have there been any notable changes regarding other animals in your area, compared with past years? (For example, new animals arriving in your area, or animals that you do not see much of any more, or changes in behavior or body condition)**
 - No specific response.

Other Comments

- **How do people in the communities use caribou, other than for meat (e.g., clothing)?**
 - No specific response.
- **What types of exploration and development or other activity have you noticed in the region that may be impacting caribou?**
 - Wondering about radio tower planned for Granite Mountain; any impacts to caribou?
 - Concern in White Mountain, Koyuk, Elim about potential Uranium development in Death Valley; concern about Koyuk River water quality.
 - No impacts of immediate concern on Seward Peninsula; but note that industry does have impacts on caribou migration on a regional scale, especially roads.
- **What have you noticed regarding any conflicts between local and non-local hunting in the area of your community? Do you have suggestions for how to reduce conflicts?**
 - Conflicts and competition not an issue in Seward Peninsula region
 - Lots of local hunters in Nome.
 - Noted that in Koyuk area, not competition – people share information.
- **Is there anything else that you have seen this year that you would like to mention?**
 - Subsistence hunters on Seward Peninsula want access to the satellite collar data; this was recently taken off of the website.
 - Want study of caribou that stay on the Seward Peninsula and mingle with reindeer.
 - Include similar questionnaire in Caribou Trails to collect more local input.

Koyukuk and Middle Yukon Region

WG members: Benedict Jones (Koyukuk), Pollock Simon (Allakaket)

Contributed to notes: Tim Hammond and Jennifer McMillan (BLM)

Physical Environment

1. When did freeze-up occur? How does this compare with past years? How about the first snowfall? How about break-up?

Koyukuk –

- Freeze up was two weeks late.
- There was unusual rain in September.
- Actually rained from July 1 – September 20 when freeze-up occurred.
- Lakes and creeks were high when freeze-up occurred
- Ground was saturated at freeze-up.
- Standing water ponds on forest floor at freeze-up.
- The above conditions were the opposite of last years' freeze-up
- Last year the permafrost appeared to have melted substantially at end of summer season

Allakaket –

- Rained right up to freeze up
- Temperatures dropped quickly and stayed cold in fall
- -20 deg. F or lower all November

2. What did you notice about snow depth and icing?

Koyukuk –

- No snow till two weeks ago (mid-November 2012)
- Usually snow by October 20
- Last two or three weeks very cold (prior to the early December WACH meeting); below -20 F
- 5 inches of snow in Galena which is low compared to other years but highest in area (compared to other villages)
- The ice is already too thick to trap under. This is similar to around 1953 when they had a lot of ice and flood.
- Concern expressed about no snow and fast freeze-up for salmon streams
- Water freeze to bottom of streams
- No place for salmon fry
- This thick ice situation happened before in 1937 and 5 years later the king salmon run was poor

Allakaket

- Only a dusting of snow (2 inches)
- No clouds
- The river was high when it turned cold which lead to rough ice (especially along the river shore)
- Six inches of ice on the shore, which pushed up on other ice and lead to jumbled rough ice. It makes it very difficult to get around by either sled or snow machine.
- Used to be smooth ice on the shore (they could ice skate)
- Now winter is unpredictable.
- Only real difference from last year in winter weather is lack of fall snow
- Lack of snow is hard on people who don't have 4 wheelers or car but only have snow machines (snow machines get torn up).

- Longer winter season than usual. It is cold when hunting.
- 3. What were winds like in winter? In summer?**
 - Koyukuk – in Galena, summer was windy
 - Allakaket – summer was not windy like Galena
 - 4. Has there been any unusual weather this year? If so, what kind? (For example, strong winds, storms, much/little rain or snow, etc.)**
 - Koyukuk – water too high for fish wheels; drift netting (seining) instead across Koyukuk
 - 5. Has there been anything else noteworthy this year regarding the air, rivers and lakes, or land? (For example, occurrences of fire that may have impacted caribou range, good/poor vegetation growth, late/early freeze, erosion, etc.)**

Allakaket

 - Ray Mountain winter habitat needs to be protected from fire.
 - This was the first year in many with no fire activity in around Allakaket

Caribou

- 6. When were caribou present in your area? When did they first arrive? When were they last seen? How does this compare with past years?**

Koyukuk

 - Galena had caribou in the spring but none in the fall
 - Allakaket – good caribou harvest; were there this spring (2012) after having been absent for 10 years
 - There were lots – thousands around Koyukuk, past Allakaket, from Ray Mountains (caribou were around unburned areas)
 - Caribou came in having made a westerly loop; used to come in from east. The presence of the Haul Road changed the migration path.
 - Influx of caribou started with just 4 and everyone knew right away (announced on CB)
 - Village elders encouraged hunters to only take what they needed and leave nothing to rot out in the field in hopes that the caribou would continue to come back to the area in future years.
- 7. How many caribou were in your area? What was the composition of the herd like (calves, males/females)? How does this compare with past years?**
 - Snow was deep last winter near Kaltag so fewer than usual caribou
- 8. If you harvested caribou, how did the meat and skins compare with past years? What did you notice about fat? Parasites?**

Koyukuk

 - Caribou appeared to be in good shape
 - No parasites reported in Galena or in Huslia
 - Caribou from the woodlands were fatter than in prior years, but those from flats were in poor condition

Allakaket

 - No parasites
 - Bulls from Ray Mountains in good shape
- 9. Were there any other notable changes regarding caribou compared with past years?**
 - Nothing specific regarding this topic.

Other Animals

10. What did you notice about bears and wolves in your area?

Koyukuk

- Villagers reduce predators by trapping.
- One year they took 200 wolves in the region, but now they stay away.
- Black bear population appears to be down since they are being eaten by brown bears
- Den harvest of bears is way down from previous. Have to travel over 100 miles to find.
- Not many trappers active in Alatna and Galena
- Most of the young guys in Kaltag trap martins, but not many people trapping wolves any more
- ADF&G's Jim Dau may bring Benedict Jones to Kotzebue to teach people how to snare wolves.

Allakaket

- Black bear population down, brown bear population up
- Pollock described this chain of events:
- Brown bear first ate caribou
- Then no caribou so ate moose
- Now no moose so eating black bear
- Allakaket has requested ADFG predator control around the village
- Not many trappers active in Allakaket now

11. Have there been any notable changes regarding other animals in your area, compared with past years? (For example, new animals arriving in your area, or animals that you do not see much of any more, or changes in behavior or body condition)

Koyukuk

- Concerned about fish in general; usually harvest about 150 king salmon from but this year only 30 king salmon
- Fish are smaller (used to be 40 lbs and in last 10 years only 15-20 lbs)
- White fish harvest good though
- Concern about salmon by-catch in the Pollock fishery
- No fish net in river this year. Ice got too thick, too early. There's 6 feet of ice.
- Moose population in good shape
- Glad for 5 day extended hunting season from Sept 20 to Sept 25
- Appears that moose habitat is changing. Willows are getting old and too tall for moose to reach. Not enough gravel bars.

Allakaket

1. Low moose population
2. Wishes for days when there was a cow season since cow meat tends to be more tender
3. Winter bulls are tough. The winter season is bull only. Used to eat cows.
4. Some muskox sightings around Allakaket, but there's no season so you can't hunt them. If more come around maybe they could eat them.

Other Comments

12. How do people in the communities use caribou, other than for meat (e.g., clothing)?

Koyukuk

- Used to use moose pelts, but not being used as much now.

Allakaket

- Villagers use all of animal (e.g. bones, dried heart membrane for bags, boil hooves, hide for rawhide rope)
- Special note that villagers make moose head stew (sport hunters usually waste head meat).

13. What types of exploration and development or other activity have you noticed in the region that may be impacting caribou?

- None near Galena
- Haul Road traffic has disturbed caribou migration from east. Caribou are afraid of Haul Road traffic and are avoiding the road and pipelines. Crossing routes for wildlife on pipeline don't work.
- Sport hunters are affecting (detering/detouring?) caribou migration
- Group is stationed on Alatna making measurements (for road crossing?)
- No issues with helicopter traffic noted

14. What have you noticed regarding any conflicts between local and non-local hunting in the area of your community? Do you have suggestions for how to reduce conflicts?

Koyukuk

- There is a drawing permit for non-resident hunters
- Non-resident hunters can't hunt within 60 miles of village on Koyukuk
- The drawing permit program helps minimize conflict with sport hunters.
- No problems with transporters noted

Allakaket

- Too many sport hunters coming in air boats down Koyukuk from Haul Road
- Too much air traffic
- Villagers can't compete with sport hunters

15. Is there anything else that you have seen this year that you would like to mention?

Koyukuk

- Not many geese or ducks this year (2012). The geese left early.

Allakaket

- Bird areas are not being used as much
- Beaver trapping for food is common
- People are using dogs (more?) than they used to.

Kotzebue Sound / GMU 23 Region

WG members: Ron Moto (Deering), Cyrus Harris (Kotzebue), Raymond Hawley (Kivalina), Vern Cleveland (Noorvik), Grant Klotz (Anchorage), Rod Arno (Fairbanks)

Contributed to notes: Nikki Braem (ADF&G), Jim Dau (ADF&G)

Physical Environment

1. **When did freeze-up occur? How does this compare with past years? How about the first snowfall? How about break-up?**
 - In 2012, freeze-up was later than usual. Not sudden, but more gradual.
 - Kivalina had a late freeze-up.

2. **What did you notice about snow depth and icing?**
 - Everyone is hurting for snow so far this winter (2012). This is affecting travel.
 - No discussion on icing events.
 - Rivers are freezing while water is high, which causes access safety problems.
 - In Kivalina in particular, there has been no snow and the caribou came back very fast.
 - Thought lack of snow may be preventing caribou migration. Usually caribou don't like to walk on ice. They like to walk on snow or snow-covered ice.

3. **What were winds like in winter? In summer?**
 - Lots of wind and rain.

4. **Has there been any unusual weather this year? If so, what kind? (For example, strong winds, storms, much/little rain or snow, etc.)**
 - Lots of wind and rain.

5. **Has there been anything else noteworthy this year regarding the air, rivers and lakes, or land? (For example, occurrences of fire that may have impacted caribou range, good/poor vegetation growth, late/early freeze, erosion, etc.)**
 - High water. Didn't seem to be a big deal for animals, but was an issue for hunter access. Transporters had to switch planes to floats.
 - Water so high on Kiana River didn't hit prop on river bottom until back near Kotzebue.

Caribou

6. **When were caribou present in your area? When did they first arrive? When were they last seen? How does this compare with past years?**
 - Caribou slow coming into Sisoalik area, but kind of normal. Not enough initially to stock up on.
 - Vern said there were lots of caribou in Noorvik area, but because of criminal incident there were safety concerns among local hunters, so less people out hunting.

- 7. How many caribou were in your area? What was the composition of the herd like (calves, males/females)? How does this compare with past years?**
- No specific response.
- 8. If you harvested caribou, how did the meat and skins compare with past years? What did you notice about fat? Parasites?**
- In general, caribou are fat and in good shape.
 - Early caribou were better than the later caribou.
- 9. Were there any other notable changes regarding caribou compared with past years?**
- Nothing additional re: this topic

Other Animals

- 10. What did you notice about bears and wolves in your area?**
- Lots of wolves and bears; getting caribou the last few weeks (December 2012).
 - Lots of wolves. Mentioned that if you see caribou, you will see wolves.
 - High water displaced salmon, which in turn displaced bears. Bears coming into town.
 - Discussion about what makes wolf populations fluctuate. Suggested that since cost of gas is high, there is less hunting. There are three wolf families with pups, are getting baby caribou.
 - Not as many travelers and trappers out in the field, to deal with bears and wolves.
 - If reindeer herders were “out in the field” they would deal with bears and wolves, but since there are fewer herders, the predators are coming into town now.
- 11. Have there been any notable changes regarding other animals in your area, compared with past years? (For example, new animals arriving in your area, or animals that you do not see much of any more, or changes in behavior or body condition)**
- No specific response

Other Comments

- 12. How do people in the communities use caribou, other than for meat (e.g., clothing)?**
- No specific response
- 13. What types of exploration and development or other activity have you noticed in the region that may be impacting caribou?**
- Discussion that road from Red Dog mine to port area may affect caribou movements.
 - The pattern has shifted because of the road? Locals want to meet with Red Dog Mine workers. RDM does halt traffic when migration happens, but perhaps not soon enough. Should halt their activity (like) 10 miles up the road, instead of 1 mile.
 - Concern expressed about mining activity noise. That may contribute to displacement of caribou.
 - Dau asked Phil Driver about Kivalina road ‘affect’; he thought it would actually be worse than it is.
 - Proposed road to Ambler mining district. Local opinion shifted for the preferred road access.

14. What have you noticed regarding any conflicts between local and non-local hunting in the area of your community? Do you have suggestions for how to reduce conflicts?

- No specific response

15. Is there anything else that you have seen this year that you would like to mention?

- No specific response

Attachment 7 -- INSERT PDF PAGES with agency reports to WG from Meeting Binder

**Handouts, papers, presentations distributed at the
December 5-6, 2012 Working Group meeting** **Page**

Paper - Joly, K., 2012. Caribou Vital Sign Annual Report for the Arctic Network Inventory and Monitoring Program, September 2011-August2012. Natural Resources Data Series NPS/ARC/NRDS-2012/406 1

Powerpoint presentation – Evaluating the “bottom up” effects of changing habitats in the growing season to caribou on the North Slope 33

Paper - Joly, K., P.A. Duffy, and T.S. Rupp (2012). “Simulating the effects of climate change on fire regimes in Arctic biomes: implications for caribou and moose habitat”, *Ecosphere* 3(5):1-18, Article 36..... 42

Paper - Joly, K., D.R. Klein, et al. (2011). “Linkages between large-scale climate patterns and the dynamics of Arctic caribou populations”, *Ecography* 34(2):345-352..... 60

Handout – Brooks Range Council, Industrial Development – Questions and Concerns..... 68

Handout – 1020 Reindeer Range Monitoring, July 2012 69

Handout – 1020 Grazing Exclosures, June 2012 72

Handout – BLM, map of fires that burned in 2012 in the range of the Western Arctic Caribou Herd..... 75

Powerpoint presentation – NPS, Agency Report to the Western Arctic Caribou Herd Working Group, 2012 76

**Handouts, papers, presentations distributed at the
December 3, 2012 Technical Committee meeting** **Page**

Handout - Fresco, N., M. Lindgren, F. Heuttmann, K. Murphy, 2012. “Predicting Future Potential Climate-Biomes for the Yukon, Northwest Territories, and Alaska” (front cover only) 82

Handout - Landscape Conservation Cooperatives in Alaska – Advancing Science – Understanding Change, Fourth Edition, Fall 2012 (prepared by USFWS) 83

Hanout - Alaska Integrated Ecosystem Model (prepared by Alaska Climate Science Center) 88