

Daily Observations from Sisualik,
Cape Krusenstern National Monument,
Northwest Alaska

Volume 1: 1990

Bob and Carrie Uhl at their home, May 2001

by William R. Uhl

Daily Observations from Sisualik, Cape Krusenstern National Monument,
Northwest Alaska

Volume 1: 1990

Volume 2: 1991

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Volume 10: 1999 & Appendices

Volume 11: 2000

Volume 12: 2001

Volume 13: 2002

Volume 14: 2003 (with 2004 summary)

In 2004, the NPS printed 50 sets of Volumes 1-10 which were distributed to
libraries.

Volumes 1-10 have also been distributed in PDF format on CD-Rom.

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ABOUT THE UHLS

William R. "Bob" *Kalluchuq* Uhl was born January 4, 1927 in Sacramento, California. His first introduction to northwest Alaska was in February of 1948 as a member of the US Military. While stationed in Kotzebue, he met and married Carrie Williams. His marriage to Carrie and a growing disillusionment with the state of affairs in the Lower 48 lead to his decision to establish a life in northwest Alaska.



Carrie Williams *Qisiliaq* Uhl was born on November 30, 1922 in Kotzebue, Alaska, to Whittier *Kalluchuq* and Edna *Napaktuq* Williams. For most of her lifetime she has lived in the country, away from town and any public services, such as running water or electricity (although her family did spend some time in Kotzebue while the children attended school). Her family led a very subsistence-based lifestyle which meant that they depended on hunting, fishing, and gathering to provide food for themselves and their extended family. Carrie's father was the first Alaska Native pastor at the Friends Church in Kotzebue. In fact, Carrie was named after Carrie Samms, an early Friends Church missionary to the region.

For over five decades, Bob and Carrie have lived in rural camps. Summertime were spent in a tent (and later in a tiny cabin) on the beach at Sisualik, where they were able to fish and to hunt marine mammals. In the wintertime, they moved inland to a more sheltered cabin where trees provided wood for heat, a stream running under the winter ice provided water, and moose and caribou provided food. These camps were present long before Congress established Cape Krusenstern National Monument through the passage of the Alaska National Interest Lands Conservation Act of 1980.

Since its inception, Carrie, Bob and other local residents have been gracious neighbors to the National Park, its visitors and staff. They and others have openly shared stories, wisdom, insights, and food with those interested in learning about their lifestyles and homelands. In fact, Bob and Carrie authored *Tagiumsinaaqmiit: Ocean Beach Dwellers of the Cape Krusenstern Area: Subsistence Patterns* in 1977, a publication which has aided the National Park Service in the planning and management of the monument.

Where historically many families lived year round at Sisualik and Sealing Point, today only the Williams camp (Carrie's nephews) is occupied in winter. As times have changed, families still maintain summer camps on the Krusenstern beach, but almost all reside in Kotzebue or other villages, taking advantage of educational, employment and other opportunities. Carrie and Bob represent the last family maintaining their historical year round lifestyle within what is now Cape Krusenstern National Monument.

ABOUT THIS SET OF JOURNALS

Bob and Carrie Uhl have maintained a subsistence lifestyle at Cape Krusenstern for 54 years – beginning well before the establishment of Cape Krusenstern National Monument in 1980. In fact, they are the last full time residents of the Monument.

Bob has kept a daily journal of resource observations of the Cape Krusenstern area and its resources since April of 1990. Bob has generously given permission for the National Park Service to edit and publish his journals for library use in order to better share this invaluable insight into a vanishing lifestyle.

Bob Uhl's diaries provide an invaluable `window` into a vanishing culture. They also provide a daily, ten year record of resource observations made by a keen `naturalist` who has spent 54 years observing and documenting the natural processes of the monument and the subsistence practices of the resident Inupiaq people.

The National Park Service is indeed fortunate to have access to this historic record and is pleased to be able to share it with a broader audience through publication. The information in the journals will be of value to students of natural and cultural history, as well as of general interest.

This set consists of the first 10 years of his journal entries: 1990 through 1999. The National Park Service is in the process of editing entries for the years 2000 through 2004.

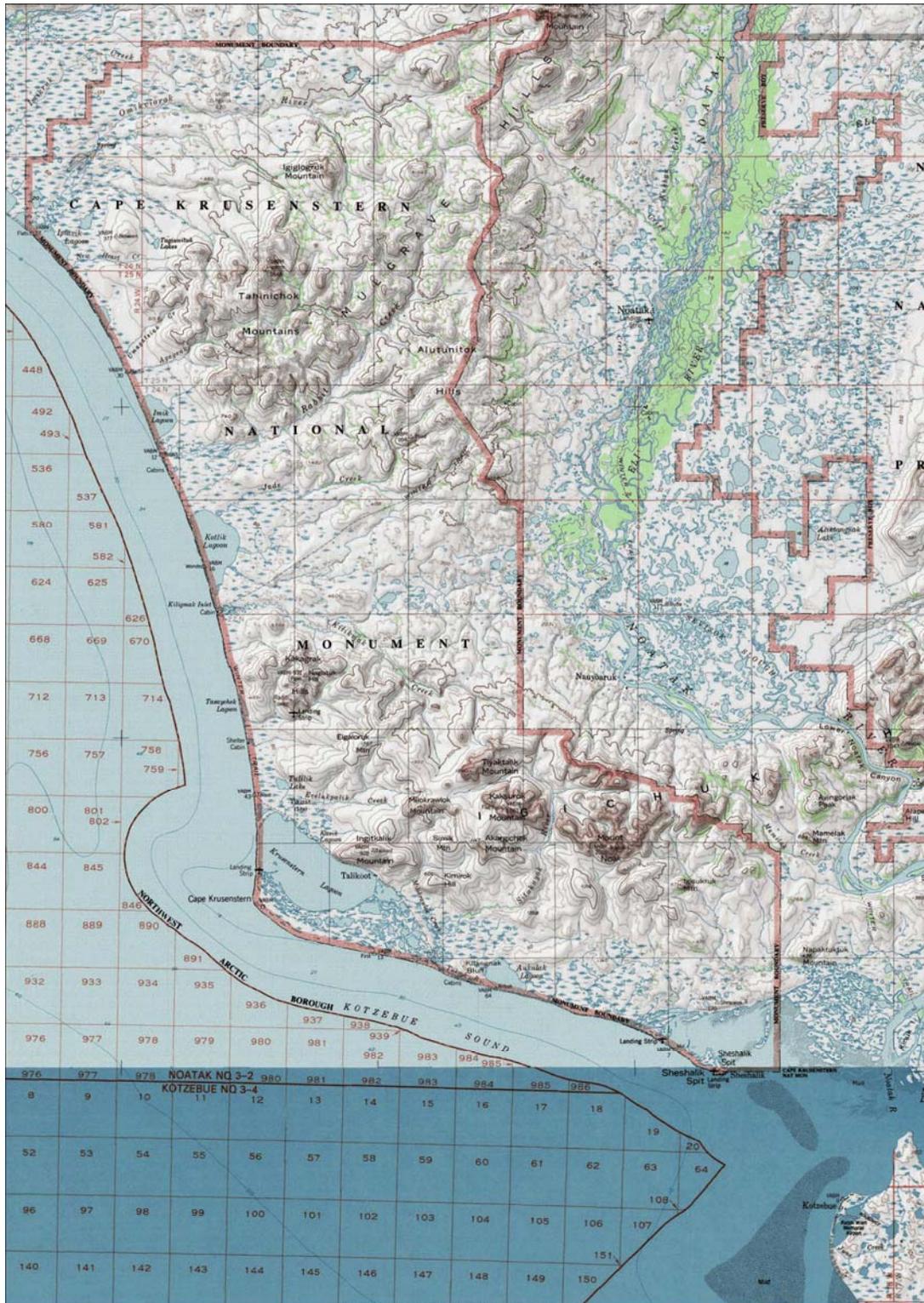
Various factors lead to the Uhls moving into Kotzebue for several months during the winter of 2003-2004. By June, 2004, they had returned to their coastal summer camp. Many people were pleased once again to hear Carrie back on the CB, greeting her friends and neighbors each morning and evening.

**CAPE KRUSENSTERN
NATIONAL MONUMENT**

RESOURCE REPORTS

1990

WILLIAM R. UHL



Map created with TOPO® 6.000 National Geographic (www.nationalgeographic.com/topo)

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MONTHLY RESOURCE REPORT

APRIL

Introduction

The month of April is an enigma of sorts to the people and animals that live in the vicinity of Cape Krusenstern National Monument. The long daylight hours, the warming sun at midday, and the general waning intensity of storms gives the promise - but most often not the fact - of spring. Starvation of both people and animals that have survived a full winter of wandering over the land in search of forage and shelter, has occurred in the past and can occur in the future. The hibernators begin to emerge. Bears and ground squirrels, the more fortunate ones still carrying fat put on in the fall, begin again their active life cycle.

The first half of April 1990 was quite mild; there were many clear days when the warmth of the sun could be felt on the face and in the microhabitats on south-facing slopes. A few days of snowfall added to normal or slightly above normal snow accumulations, which were distributed much differently than last year's huge wind-driven drifts. Two major rain crusts that formed over multi-inch fresh snowfall anchored much of winter's total snow in flat tundra areas. The effect, by mid-April, was an unusually level snow surface throughout the region, which was ideal for snow surface travel by machines (snow machine - aircraft landing). A more or less constant easterly flow of air kept temperatures above normal for early April.

Siberian air masses replaced this pattern for the second half of April, and night temperatures to 0° F and below were common. West winds tend to prolong winter conditions and inhibit the much-longed-for (by man and predatory beasts) migration of land birds and waterfowl. No one starves in May!

Offshore ocean ice appears to be much more sturdy than last year. Last year's ocean ice, with a very short shelf ice and near absent pack ice, was a real anomaly. This year, the more normal shore lead is several miles offshore from the port site to the point of Cape Krusenstern and thence across to Cape Espenberg. These conditions are ideal for sealing at Itiptigvik. Polar bear tracks were noted as late as mid-April on a shore lead at Krusenstern by surface travelers. This is unusual in modern times.

April almost faded into history without those much-awaited-for signs of true spring. First Glaucous Gull and "Goose" reported on April 27. First Arctic Ground Squirrel, April 29. We will have spring again!!

Caribou

Numerous groups of predominantly male caribou overwintered within the Monument. These groups, numbering from six to thirty-five or forty, generally fed near the high rocky coastal hills, to which they retreat when wolves or snow machines appear on the scene. These animals faded away during April, although several groups were reported during the month. This is in contrast to last year when groups of bulls were observed from the coast as late as May 16. This late date is a first for this century.

Moose

Moose seem to have wintered well. Snow cover was not too extreme during the extended cold spells of January and February.

Bear, Sheep and Musk-ox

No report this month.

Marine Mammals

No report this month.

Furbearers

Red Fox tracks, scarce throughout the southern portion of the Monument all winter, became quite numerous in April as mating season progressed. There was very little hunting pressure on fox, due to low fur prices the last few years.

Both Short-tailed and Least Weasels were quite abundant through the winter, but diminished through late March and April. These facts may indicate prey-seeking migrations as microtine populations crash locally.

Small Mammals

Varying hares, apparently, are nonexistent in the Monument for another year. It is in April, with the winter's snow accumulation still intact, that one's thoughts are drawn back twelve years or so; thousands of these small prolific animals roamed the snow

surface, eating every living shrub or green spruce bough they could reach within willow-spruce habitat. At the time, any suggestions that this animal would no longer exist here in a few years would seem impossible. In truth, one cannot shake off the feeling of lonesomeness after a fresh snowfall when there are no rabbits to almost immediately make tracks and trails. Maybe next year!

Vole populations, after an extreme high last year seemed to be rapidly decreasing last fall. Around our winter quarters, where winter to early spring presence of these animals can be determined, we find little evidence of their activity. Red Squirrel population is somewhat depressed also. This is due, no doubt, to several poor years of white spruce cone production and to predation by hawks, owls and weasels that lack diversity of prey. First report of the (Arctic) ground squirrel out of hibernation is on April 29.

Porcupine numbers were high due to lack of predators (man and wolverine). One wonders what other factors can limit this animal population. Many white spruce are killed by porcupine each year - a boon to dry wood gatherers. But due to the relative scarcity of the forests in the Monument, and the cessation of historic human use of the animal, one wonders whether balances can be maintained.

Birds

This was a very silent winter for birds in the Monument. A poor white spruce cone crop combined with the continued presence of a few Northern Hawk Owls kept woodland species (White-winged Crossbills, Pine Grosbeaks, Redpolls, Gray Jays, Boreal Chickadees) at a bare minimum. Heavy wet snow during the winter depressed seed heads of ocean beach vegetation (*Elymus*, *Angelica*, *Artemisia*) resulting in a scarcity of Snow Buntings and Redpolls also. Ptarmigan were present in moderate numbers and their predators were occasionally observed (Gyr Falcon, Goshawk, Snowy Owl). Bird noise was pretty much restricted to Raven croak, Ptarmigan cackle and Gray Jay scold.

Finally, on April 27 a lone Glaucous Gull, a flock of "real white" Glaucous Gulls and a lone Goose were reported by three other observers (not in the Monument, but in the Kotzebue area).

Willow Ptarmigan were noted to have the first darkening head feathers on April 14. In some years, this occurs the last week of March. It is said to be related to snow cover. We still have much snow cover and continue to have fresh snowfall into last few days of the month.

Early date bird reports for 1989:

April 16 - 5 "Gulls" Kotzebue.

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April 18 - 5 "Gulls", squirrels out at Sisualik, Oldsquaws and gulls on open ocean and land.

April 20 - 3 Sandhill Cranes behind Kotzebue.

Last year's dates were somewhat early. This year's dates are somewhat late. A variance of ten days to two weeks can be expected in any given year, due to mostly phenological factors. The birth date of a family member (April 14) remains a record early date for cranes and similar early migrants other than raptors (two cranes in the birthday soup pot were taken at that date on the upper Noatak in the early 60's).

Fish

Though not occurring on the Monument, an interesting local hybrid fish was taken by Carrie Uhl on April 20 from Kobuk Lake, in front of the northernmost Kobuk River Delta channel. During ice free seasons a fish of this variety may occur on the Monument proper. The fish is a Sheefish - Humpback Whitefish. It occurs often enough at certain geographic points in the region to have gained a presumably ancient Eskimo name (Illuug), though there is no English equivalent. Whitefish and Sheefish are both broadcast spawners, sometimes spawning at the same time and in the same location. There are documented incidents of this happening in other rivers systems of Alaska, Canada and Siberia with different species of Whitefish. Though very few specimens have reached the scientific world from the Noatak-Kobuk systems, there seems to be a weak, but interesting possibility that a new species may be evolving locally (or already has?).

Plants

Often in late April or early May, one remembers the beauty of plant and flower growth during spring and summer of prior years and feels glad that that special time is quickly approaching. Which plant will be the first to indicate this new year of growth? On April 17 observation was made of some catkins - pussy willows – that had popped their enclosing case and were in effect the first plants north of the Arctic Circle to “bloom” at this early date. These are the flower buds of the Felt-leafed Willow and these particular ones around our winter cabin will be ready to feed the very first bumblebees of the season in late May. *Eriophorum* buds will not be far behind, waiting under the snow for early cranes, displaying willow ptarmigan and caribou. April growth of plants in frozen and snow covered ground often occurs without being noticed, except by those that feed on them.

People

April can be a month of relative heavy surface travel through two main corridors: the Hatchery - Nauyauraq Pass trail and the regular coastal trails following the ocean beach north. This April seemed normal on the coastal route. The overland route probably showed considerably less traffic, due to the frequent wind and snow storms that obliterated the trail most weekends, when town travelers are out for a recreational trip.

Small groups of caribou overwintering in the Monument attracted some Kotzebue hunters in March and early April, as these were the closest available caribou. Being predominantly bulls and increasingly shy to snow machine activity, they sparked some traffic, but little success was noted. The earlier caribou hunting activity may have resulted in some sheep harvest from the small band known to be present on the Monument in recent years. Specific details are unknown.

Small numbers (two or three) of cross country skiers-campers were noted this early spring. A new activity likely to grow in numbers of participants in the future.

April firewood cutting in the northeast corner of the Monument by local camp families and some Kotzebue wood burners was rather regular for a short while but did not seem to reach the intensity of the past few years. This activity reached rather alarming proportions five to six years ago, but now seems to be diminishing.

The contrast between this year and last, with respect to caribou hunter activity, is unique and interesting. Last year many caribou were present on the Monument, from the fall migration until mid May. Considerable effort was restricted to key times (i.e., fall migration, "after Christmas " fresh meat sorties) because everyone had much meat. Throughout the season, long periods of totally undisturbed (by machine) habitat developed. This year, with a relatively small overwinter caribou population and the relative scarcity of meat, there were periods of almost continual disturbance. In spite of this, late March samples of caribou bull bone marrow and general physical conditions were good, due, to a good foraging situation close to adequate and well-used escape routes.

* Kobuk Lake ice thickness 58" measured 3 miles off shore SE of Fish Creek, April 21.

MONTHLY RESOURCE REPORT

MAY

Introduction

Spring and summer both came in the month of May this year on Cape Krusenstern National Monument. What usually takes a full two months was pretty much accomplished in one month, due to constant warm temperatures and prevailing easterly winds. Right on cue, at 10:45 p.m. May 31, the ocean ice in front of our place in Sisualik moved, ushering in the beginning of the ice-free season in Arctic Alaska.

Weather

Easterly winds beginning May 7 brought temperatures up, so that there was no freezing until May 14. On this date the temperature dropped only to 31° degrees F for one night. A few hours at 30° F on May 22 –23 were the only freeze for the rest of the month. High temperatures ran from 35° F to a warm 70° F on May 28. Needless to say, our snow changed to water quickly and augmented by several rainy days, there was much flood water for a relatively short time.

Most years, winds trade back and forth from west to east, and temperatures fall and rise in response. Constant east winds with southern air masses tend to provide both continental sun-warmed air, as well as southerly weather system warming, and that's what we have had for the month of May. Early plant growth, fish migrations, and probably beneficial birthing conditions for both caribou and moose may results from the unusual thaw. Early mosquitoes, blow flies, bumblebees and spiders are another result of early warmth. A hard freeze in the month of June would be catastrophic after this unusually warm start of summer season. An unusually severe thunderstorm occurred on May 28.

Caribou

Absolutely no caribou report for May, except to report their absence from the area. This is more normal than the observation of caribou throughout the month, as occurred last year.

Moose

A lone moose on the ocean beach on May 31 after a very warm morning is the only animal to come to attention. This area is out of its normal habitat.

Bear

No reports of bears, which is more typical than the frequent sightings of last year at this season. Perhaps the early warming and greening tends to keep each of these species from abnormal straying.

Sheep & Musk-ox

No report this month.

Marine Mammals

A few common seals were taken by a rather large group of coastal campers. Difficult and dangerous ice travel to open lead edge was the major reason for the small harvest. Three bearded seal (ugruk) were taken in May.

Much less intense effort by local campers to harvest marine mammals this month, than in the recent past.

Furbearers

No report this month.

Small Mammals

Ground squirrels were a little late to come out of hibernation. May 8 was our local date for that happening. Some years they are out in the last week of April, but heavy snow cover over level areas this year may have kept them in a week or so later. A few muskrats were taken by local folks. Probably less than fifty all told. Locally, not much effort is put into muskrat hunting anymore.

Vole populations much diminished (from last year) in Sisualik. There are some, but to date no indication of the "white-masked" pelage variation.

Birds

There seemed to be a definite sparseness of birds throughout this important month of migration. It is difficult to gauge the total migration from a relatively small area, even on a portion of a major river delta. No doubt the sudden and continuousness of the spring thaw allows dispersal over a wide area of adequate habitat and prevents the need for concentrations that are more normal with migrants through this Arctic region.

Several species were notably scarce: Northern Pintails, Western Sandpipers, Red Knots, Bar-tailed Godwits, and Golden Plovers were poorly represented. Snow Goose and Long-billed Dowitcher observations were almost nonexistent.

Passerines moved in and over the land very slowly and unspectacularly. It is good to have the birds back, but it almost seems like they sneaked in this year.

Good numbers of White-fronted Geese, Common Snipe, and Glaucous Gulls were noted. Pomarine Jaegers were early and numerous, attracted by winter killed herring and tomcod on west marine delta mudflat ice habitat.

Little raptor activity was noted. A pair of Snowy Owls were resident until the nineteenth, when they apparently moved on. A Merlin on the thirty-first and single Short-eared Owl and Northern Harrier observations are about all there is to report.

The first Glaucous Gull egg harvest was on the twenty second, a few days earlier than any previous record, though the last week of May is when harvest is normally expected. The eggs are so big, so rich, and so good. One can rejoice that this species seems to thrive near humans, in spite of heavy interruption to nesting activities. For several days at the end of May, when herring were spawning in the shallow lagoon behind our camp, Glaucous Gulls numbered in the thousands.

Willow Ptarmigans have made a good display for mating season distribution. Their numbers are less than last year but well spaced throughout the Monument. Last year's heavy density at mating time did not seem to produce many chicks. Perhaps they were too dense at mating time. This year may produce more new ptarmigan.

First real bird movement came on May 6, when a cool spell broke with fairly stiff east winds. Nightly low temperatures began to stay above freezing.

A pair of Rock Ptarmigan on May 12 (rare at this elevation), were a startling surprise on two counts: their gravelly, un-ptarmigan-like voices, and their mating plumage. The male retains a white head, with dark eye line. The female has a grayish

speckling of upper shoulder and lower neck. This plumage is different from Willow Ptarmigan, our most common species.

Two Bonaparte Gulls and a Hudsonian Godwit on May 15, two miles inland on a flooding creek, was probably the biggest bird watching thrill of the month. Both species are rare here. There is almost a complete lack of birds near the running water and mud, with the exception of White-fronted Geese.

Our bird house residents, Tree Swallows, returned. They made their first appearance on May 14, then briefly again May 17, and finally stayed for good on May 18. Last year's first appearance was on May 21, and they were resident from May 23. A lone bird usually appears two days before the pair takes possession.

Most waterfowl and sandpiper feeding areas were somewhat altered this year, due to the sudden and continuous thaw. Flood waters covering the lowlands (wetlands) and the higher ground becoming snow-free rapidly, causes different patterns of usage than during the typical long, drawn-out thaw of most springs.

Plants

The effects of early and continuous warming were reflected in early plant growth. Quick disappearance of snow, early warming of exposed ground and flooding of still-frozen wetlands provided a stark contrast of colors by end of the month. High ground was very green with both shrubs and grasses; wetlands retained their drab, brown, fall coloration. This caused some early inconvenience for early waterfowl and sandpiper feeding.

First flowering was rather a surprise. *Salix* catkins and *Eriophorum* blooms with pollen were first, of course, on May 20. Bumblebees were noted around these plants on May 22. On May 29, after a day of 70° F temperatures, many urn-shaped, yellowish-green flowers of Bearberry (*Arctostaphylos alpina*) were noted, even though the usually earlier *Pedicularis Kanei* in the same beach ridge area were not yet flowering.

On May 30 abundant *Pedicularis Kanei* and *Petasites* sp. flowers were observed on higher tussock tundra tableland. On this same day a few miles inland, leaf development was almost complete on dwarf birch shrubs (*Betula nana*), though partially unfurled leaves were visible on several *Salix* sp. Leaves were also well out on *Honckenya peploides* (beach greens) and *Oxytropis Maydelliana* on beach ridges. Both are edible and were utilized in the past.

Graminoid development this May was quite interesting. Brackish water zones from mud-line, beach ridge types, such as *Puccinellia* sp., *Carex* sp., and *Elymus mollis*,

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all showed above ground growth by May 25. Freshwater wetlands, such as lake margins, had not shown any above ground greening by May 31. The important (to waterfowl, muskrats, etc.) dominant graminoids on lake margins, *Arctophila fulva*, *Carex aquatilis* and *Calamagrostis* sp., are delayed in growth since lake ice, floodwater, and frozen lake bottom margins are not as quickly affected by warm air temperatures as the more elevated areas. This is probably great for waterfowl since the tender green growth is more needed after egg hatching next month. The related insect development is probably also critical to young birds' diets. Water midges (chironomids), mosquitoes, and other insects depend on proper temperatures and green new growth material.

Mosquitoes (from high land no doubt) appeared around camp on May 27. Very large, not very vicious!

The two "celerics" we use greened early, as they are "highland" zone species. The leaves of *Ligusticum scoticum* were useable on May 27. Leaf growth of *Angelica lucida* has also begun, but it is the stalk of this plant that is used. It won't be available as a vegetable till June. *Rumex arcticus* growth well underway. It is an important species harvested in late June and early July.

Fish

Tomcod and sculpins are available with jigging equipment through beach cracks in early May. These species are not much desired and no longer utilized at this season. Ice fishing for sheefish, from Kotzebue town east to Kobuk delta continues till surface travel is impossible.

Net fishing in Sisualik begins as soon as water can be found to put a net in. Humpback whitefish and spawning herring are the first fish taken. May 25 was "fish day" this year. Lots for everybody, even though only a short 15 to 20 foot net could be stretched in a crack. Whitefish are unusually fat for this season. Herring are late; they are somewhat scarce and many are spawned out. The first char were taken May 30 and 31, though only a few. These fish were from the Noatak River and were outbound. Most were very lean, snaky, and useable only for drying.

People

The seven camps on the beach west of Sisualik this spring are a few more than in the last few years, though they are people connected or related one way or another with historic clan families, and are camped on Native Allotment areas.

During early May there was considerable surface travel for hunting or recreation, but

the level is considerably lower than in the past few years. The reasons are clear. There is little marine mammal hunting, and no other big attractions. Many young adults are working.

What has occurred in obvious higher levels is air traffic. I do not know why the level should have increased especially this year, as it has risen steadily over the past ten. A guess is greater Red Dog activity and increased affluence, due to local participation in Red Dog development. Local people like to fly when they can afford it. There is no hint that this increased air activity is anything but traffic between established airfields. Some larger aircraft at low altitudes produce considerable ground noise and vibration.

There was no known use of the Monument area by non-resident people in the month of May.

Total occupied camps from Sisualik Spit tip to Port Site for the month of May is eighteen, ten in Sisualik proper and eight northwest of Anigaaq.

MONTHLY RESOURCE REPORT

JUNE

Introduction

The long period of mild temperatures through May made us wonder what June could turn out to be, since summer seemed to arrive on the land with the month of May. Well, now we know: it took the whole month of June to thaw out the marine world. On June 30 there was still ice in sight, three or four miles offshore from our Sisualik camp.

Weather

The ice of the marine environment had negative and positive effects on the growing, greening earth adjacent to it. Wind direction tends to produce wide fluctuations in temperature at this season, and that was so this year, to extremes. Westerly winds brought temperatures down below freezing long enough to cripple both new green growth and floral development. Most affected are species that tend towards early growth in response to a few days of warm air temperatures. In contrast, two days in the last week of June had temperatures above 70° F. On June 30, when Kotzebue had a record high of 78° F, the temperature here at Sisualik was probably 80°F or above.

The heaviest density of forest-tundra fire smoke of the season thus far occurred on the last day of the month also. It was caused, at least in part, by easterly (continental) breezes and currents. The heat is also a partly a result of wind from that direction.

Precipitation was moderate throughout the month and came in the form of fog and a couple of days of rather heavy rains. Vegetation is in good shape, moisture-wise and fire potential is low.

Winds were moderate throughout the month with no major storms. Some gusts on June 22 were, for a short period, in excess of 40 knots from the west. We first heard waves again on June 7.

By local criteria, summer had not yet arrived by the last day of June. Ground swells coming in from the open ocean signal the disintegration of the pack ice barrier and officially initiate in the ice free season of the year – the Arctic summer. That has not happened yet!

Caribou

Only two hints of caribou on the Monument this month: two animals seen northwest of Sealing Point on June 27, and the tracks of a single animal on June 28. Five caribou were taken from Baldwin Peninsula during this period. The near absence of caribou at this season has been typical in the past. Four or five years ago, as the Northwest Arctic herd increased, it was noted that June-July sightings of caribou were more numerous, though never in large numbers. So far this June has not produced as many caribou sightings as in the past five years. Caution should be exercised before jumping to conclusions. The relative coolness of the month may be a factor, since caribou are usually observed when driven to beach areas by heat and bugs this season. July will tell more.

Moose

Some moose spend considerable time in wide open spaces in the month of June and early July. Their huge bulk, especially in profile, is rather startling in tundra or delta areas where the vegetation is not tall enough to conceal them. There were as many as seven in sight at the same time from a Sealing Point camp on June 15. Singles and pairs of animals were noted in other coastal locations throughout the month.

Bear

Bear sightings were only noted once. A boat traveling west of Sealing Point towards Rabbit Creek and Port site reported seeing bear, musk-ox and moose. Much less bear presence has been noted than in recent years, though there have never been many at this season. In late July and August, as the ocean throws up dead marine mammals, local (and visiting?) bears take to regular beachcombing.

Sheep

No reports this month.

Musk-ox

See notation under **Bear**

Marine Mammals

In contrast to the past several years (of which last year seemed to be the low point), bearded seal abundance and harvest has been phenomenal at all stations (including Espenberg and Shishmaref). This reflects healthy stock populations to some degree, but ice conditions probably have at least as much affect on local presence or absence of Ugruk in June. Many “drifting in” lost or un-retrieved carcasses are expected throughout the summer and fall.

Ringed seal numbers were reported to be high. There is little utilization of this species at this season especially when bearded seal are plentiful.

An aircraft spotted an estimated fifty Beluga on June 9 near shore off Sisualik, “Place of White Whales!” It was the only large group positively noted in the North Kotzebue Sound until another group was observed a little north of Ranger station on June 26. A small group was seen by aircraft between Cape Blossom and Choris Peninsula on June 19. Hints of a few singles and pairs at other locations were the only other reports north of the Choris Peninsula and Elephant Point, where, on June 22, “many” belugas were taken by both Kotzebue boats and Buckland hunters. Few particulars are yet available on this successful harvest. It was reported every boat involved in the “drive” got some. Details will come out later in the year. No harvest was possible last year at Elephant Point so I am sure those folks are rejoicing in this year's successful harvest. Last year's harvest of beluga in North Sound (Sisualik, Nuvuruq, Kotzebue) was thirty-five or so, mostly taken in nets. This year to date, the known harvest is zero. Many nets were out early in season, but negative catch and ice caused their withdrawal. Some were replaced late in the month but there was no take to date. Beluga season possibly extends to mid-July. There are many unanswered questions regarding human-beluga interaction in Kotzebue Sound. Considerable complex change has been noted in the past forty years. Sadly, we do not know where we are in this category right now.

Furbearers

No report this month.

Small Mammals

Microtine and shrew populations are apparently very low. Last year they were very high at this season - tundra voles at least. The near absence of Short-eared Owls and Northern Harriers confirm these low density observations.

Birds

The most outstanding happening on the bird scene this month was the presence of a Hawfinch (*Coccothraustes coccothraustes*) at the Hatchery, a few miles outside the Monument boundaries. It is likely that this will be the first documented occurrence of this bird on mainland Alaska. It has been previously recorded in the Aleutians and Bering Sea Islands. Its nearest normal range is about halfway up the Kamchatka Peninsula in the Soviet Union. The bird was photographed and will be properly recorded as time permits. It stayed several days (June 15 – 20), apparently feeding on sunflower seeds left over from a late winter feeding of Snow Bunting.

Other bird news for June is not so exciting. Sporadic late migrants continue a trend of locally low and scattered numbers. Some successful chick production by Willow Ptarmigan was noted. Western Sandpiper and Whimbrel numbers (nearly absent here during the regular migration) increased locally during the last few days of June. These are most likely the failed and non-breeders; some may already be beginning southerly movement. A Lesser Golden-Plover¹ in post-breeding molt - near fall plumage - was noted in the last week of June.

Apparently there is no local Aleutian Tern colony again, though I have not yet checked the big island east of Sisualik Point where there is often a large colony. That colony has numbered two hundred pairs in some years, but was not active last year. Will check it out in July.

Number wise, Tundra Swans were our most prominent species in June. A flock of approximately five hundred non-breeders followed the greening areas of lagoon vegetation nearby our camp site from June 4 to 16. These birds first grazed *Puccinellia* sp. and *Carex* sp. at lagoon and lake edges and later spent time foraging under water, on sprouting aquatic *Potamogeton* sp.

Small and intermittent Brant flocks were noted through the month. The species population seems to be low in comparison to observations in past years of their “in” flights and “out” movement to the North Slope molting and nesting areas. Other waterfowl common to the region were present, but none in great numbers nor completely absent.

¹ Editor’s note. The Lesser Golden-Plover was formerly a single species. It is now recognized as three distinct species: European Golden-Plover, Pacific Golden-Plover, and American Golden-Plover. Both the Pacific Golden-Plover and American Golden-Plover are thought to occur locally. See Sibley, David Allen (2000). *The Sibley Guide to Bird* (National Audubon Society). New York: Chanticleer Press

Monthly Report

No raptor report, which is not unusual for this locale.

Glaucous Gull egg harvest continued till mid-month but with less intensity after the first week.

Fish

We took our first char (a favorite plentiful species in Sisualik because we are located in travel zone of Noatak-Kivalina char stocks) on June 1. Ice conditions interfere with net setting but not fish movement, so the entire month of June when you can set your net is productive, to varying degree. Char and Humpback (Alaska) Whitefish are the major utilized species. Herring coming into the shallow lagoons to spawn, often in great numbers, are also targeted.

Fat char (stocks that over-wintered in Kivalina and Wulik river systems) seemed more abundant this year than the lean, spawned-out “multi freshwater year” stocks from the Noatak. Relative abundance of the two groups varies each year.

Rumors of first salmon taken at Sadie Creek on June 21 were never confirmed. Hope July turns out better.

Sheefish in the ocean seemed present in small numbers throughout the month. This is somewhat of a change, from what we know of historic Sheefish range limits. They are five to ten pound sub-adults, usually stuffed full of out-migrating Saffron Cod fry.

Plants

For specific plant names and dates of first growth or flowering please refer to daily journal. In general, the critical month of June was good for vegetation, with a couple of exceptions.

The warm month of May this year stimulated much early growth and flower bud development. Most plants, since they are adapted to the region, do not generate too much growth early in the season, even if it is too warm. Some get trapped on a year like this; I am just becoming aware of how many of our plant species can go through a season or even several seasons with no seeds or new plant establishment, and still survive as an Arctic species. Amazing.

We had several nights of light to fairly heavy frost. *Petasites* flower stalks (which grow rather tall before leaves are out much) in many areas were frosted enough to die and dry up. *Pedicularis Kanei* had some flowers spikes in bloom which dried and

turn brown the next day. Others on the same stalk continued their active blooming, inviting bumblebees and other insects to feed, thus pollinating and producing viable seed.

Some berry plants (salmonberry and blueberry) were newly flowered when the cold days occurred. Many were not open long enough for pollination, so berries will not form. It is not yet readable how this year's berries will turn out. A couple of week into July we will know.

A trip inland on the June 28 for gathering sourdock (*Rumex arcticus*) gave a hint of other plant conditions. Minor growth, flower scarring, or leaf redness demonstrated the effect of frost. New growth and healing of flower scars was well underway and little evidence will be visible in July's final growth surge before maturation. Berry production is the foremost item of interest and still a question mark for now.

We were especially pleased to see two blooms among many buds on our rare (to us) white *Epilobium latifolium*. It did not bloom last year and we thought the plant had run its course. We will enjoy its pure white petals and pink sepals for at least another two weeks.

If our expectations and speculations are correct, we should see strong numbers of our rare *Gentianopsis detonsa* late next month. May's warmth, June's coolness and a heat wave developed in June's last days, should produce bumper crop.

People

A surprising lack of use by outside people has come to our attention this month. We heard that a lone, Russian-speaking scientist visited the area around June 21. We are not aware of visitors other than local residents (mostly unchanged since May) and marine mammal hunters who only camp on the beach overnight sporadically. A couple of boat hunting crews spent additional time around the boat harbor and outlet near the Ranger Station.

Since it was a good marine mammal ice hunting year, there were probably many lunch break stops and overnight beach camp sites. These activities continued through the month and will not diminish until berry picking activities get underway in August. Most of the six or seven established and occupied camps will also be moving back towards Sisualik and Kotzebue in early July. Unless there is an increase in outside visitors, people will be scarce until berries ripen in August. Two possible exceptions will be the port site sector and the commercial fishing boundary and harbor at the Ranger Station site.

MONTHLY RESOURCE REPORT

JULY

Introduction

If May was too warm and June too cold, then July was a mixture of too hot and too wet with the in-between times just right!

We are having a good summer, especially so when we hear every day of the smoke and fire conditions of most of the rest of the state. Our several record breaking hot spells were separated by days of heavy rain, so we missed the fires. Prevailing southwest to north winds kept us relatively smoke free. We hope we are as fortunate through the month of August.

The heat and moisture gave us a rather remarkable vegetation growth from which we will continue to benefit in the months ahead. We have already harvested a super crop of *Rumex arcticus* and can see coming an abundant crop of three major berry species. Only one, the salmonberry crop, looks poor due to the untimely frosts of June.

A southwesterly storm in mid month caused our second reason to rejoice for potential things to come. The outlets at Anigaaq and Akulaaq were closed by heavy surf on July 17, trapping multitudes of whitefish inside that can be harvested at will over the next four months. The same situation now allows ATV travel on the beach as far as Rabbit Creek, a real extension of range for berry picking, wood gathering and hunting of various creatures. To folks that live partially or mostly off the land these two July happenings mean much for the remains of summer and especially for the great harvest month of September.

July 23 was the warmest day at 83° F, though the record (daily) breaking 81° F of July 1 was not much cooler. Nine days in the month were 70° F or above. Not bad for north of the Arctic Circle and coastal habitat at that! A July 14-16 storm down from Siberian Wrangell Island swept our beach to grass level and flooded the delta lowlands to the rear. July 14-20 was wet: some days more so than others, but generally a period of thorough ground soaking and swelling of creeks and rivers. Another heat wave began on July 21. Temperatures held in the 70's for the last couple of days of the month, when a small low pressure system from the south brought clouds, rain and cooler air.

Caribou

Two bull caribou were taken early in the month. A few fresh tracks made by a lone animal were noted on inland sorties throughout the month. Information from a worker at the Port Site indicated that a large number of caribou with many calves crossed the haul road, moving southeast on to the Monument during the week of July 15 to 22. There was no further report of these animals by people at coastal sites farther south, so it is presumed that they swung northeast and passed north of Noatak village. One additional sub-adult male taken July 30 northwest of Sealing Point.

Moose

Scattered sightings of moose continued through the month but became less frequent towards the end of the month, and closer to the opening of moose season on August 1. This is normal, although their infrequent appearance in open country (out of habitat) around August 1 has more to do with cooling weather and plant condition than moose knowledge of the impending season opening. Happens every year though!

Bear

Well, the bear scene builds again this month. This is an entirely new scenario which began ten to twelve years ago and continues to the present. July storms and/or periods of onshore winds bring dead marine mammals to the beach. Our bear group knows this, or finds out on the wind. There is a lot more oily meat on a dead walrus or bearded seal than on a live ground squirrel and they are easier to catch. Bears come to the beach. People live and travel on the beach. The scene begins in late July and builds through August and into September. Up to this point in time only bears have sustained physical injury. We keep our fingers crossed, not knowing anything else to do. Various bear sightings that come to our knowledge are noted in the daily journal.

Sheep

No report of sheep for July. In the course of a conversation, mention was made of a group of six observed January to February in mountains of central Monument.

Monthly Report

Musk-ox

No report this month.

Marine Mammals

No report this month.

Furbearers

No mention of active fox dens, though that is not normally a topic of conversation nowadays. There is little interest in any fur animal other than wolves and wolverine.

Small Mammals

Coastal populations of Arctic Ground Squirrels are high. Some indication of an increase in Tundra Vole numbers from the low of late winter and spring. Nothing spectacular and no sign of the “white masked” strain that was plentiful in Sisualik last year.

Birds

Flying young Lapland Longspurs and Savannah Sparrows were noted on July 6 and the stressful crying of parent Semi-palmated Sandpipers indicated some of their young are flying, but not very well. July 7 - 8 was a heavy mosquito time, even for ducklings. Numerous broods of a variety of species were noted on inland trip – Northern Pintail, Green-winged Teal, Scaup and Oldsquaw. Non-flying young of Bar-tailed Godwit, and Whimbrel were suspected to be in the same area on this inland trip. One swallow chick flying on the eighth, another on the ninth, and the last Tree Swallow seen on July 12.

An Aleutian Tern colony was reported July 11 northwest of Sealing Point. This colony was first reported in 1978. A dead “green throated” Pacific Loon (by measurements of wing, leg and beak) was picked up on the beach July 10. The first flying Northern Pintail noted on July 14 (back to coast from inland molt). A Snowy Owl on July 15 was a surprise; it remained in the vicinity for the rest of the month. Many flocking Western Sandpipers moving through on July 18. Three Emperor Geese were reported west of Sealing Point on the nineteenth. This is the only reported sighting of that species from this spring and summer. Young Arctic Terns were flying with adults on ocean beach July 20, in groups of twenty to thirty. No

predation by jaegers noted this summer.

Young Yellow Wagtails, Savannah Sparrows, and Lapland Longspurs were around the woodpile on July 21. First flying “new” gull of the year was a Mew Gull on July 23. No young Glaucous Gulls flying yet. Few bird predators were noted this month. Several were seen on the same day. A Northern Harrier, a Short-eared Owl and a Snowy Owl were around our backyard wetlands most of the day on July 24. Good numbers of passerines may have attracted the owls and harrier. Several dead Glaucous Gulls were noted along the beach after a commercial fish period on July 25.

The first good-sized flock of post-molt Northern Pintails was seen on July 26. A report of three flying geese on the same date was the first group noted with new flight feathers. July was not very exciting as a bird month. Production appears to have been good for Western Sandpipers, Arctic Terns, Savannah Sparrows and Lapland Longspurs. Some increase in Tree Swallow population probably occurred, but was not exceptional.

Plants

It was a great month for plant growth. No frosty nights and lots of warm spells (more than usual) broken by a string of rainy, foggy days just before things got too dry. The only real plant species failure was of salmonberry and the wetland *Pedicularis sudetica*. The frost in late June, when these two plants were in full bloom, hit them pretty hard. It did not kill the plants, but prevented berry or seed production.

Most other plants exhibited exceptional growth due to ideal conditions. We harvested more sourdock (*Rumex arcticus*) than in any other year. Blueberries, blackberries, and cranberries have a good crop coming for August. The daily journal again contains more specific details and proper Latin names.

Fish

The first confirmed Chum Salmon catch occurred on July 1, just west of the Ranger Station. Several were taken the same day at Sealing Point. There was a strong run of both Smooth and Rough Flounders on July 3 and we ate our first Chum Salmon on that date. It was a gift from our neighbors who got two. Heavy eastward movement of Humpback Whitefish began on July 6. These fish are part of a return movement of fish that went out from river deltas last month very lean, and are now very fat.

The commercial Chum fishery began July 9. Few fishermen participated. Not too

Monthly Report

many fish were taken but CPUE was not too bad. On this same day we got one good Chum with several Humpback Salmon in our table net (4 1/2 mesh). July 13-14 saw much commercial fishing gear left out in the ocean past closing time because of rough water. Thank goodness this was the only time during July that this happened. The salmon run built slowly until Alaska Department of Fish and Game announced an increase in fishing time - two thirty-six hour periods a week (up from two twenty-four hour periods) on July 28.

On July 17 both outlets to the west of us were closed by gravel thrown across them by storms swells. This is great, since tons of whitefish will be trapped inside and ATV travel will be possible to points much farther down the coast. A few King Salmon have been taken again through July. The largest we heard of was a forty pound one on July 17.

During the week beginning July 26 an unusual number of large, fat, egg-laden char were taken in nets at various locations in the sound. The number of char in this stage of gonad development moving through the fishery at this time is unusual. Most were females. Kind of too bad for char stocks. On another negative note is the unusual number of sub-adult Sheefish in marine waters (out of habitat) through the whole month of July. This seems to be a new phenomenon. Many are taken in nets set for other species and are killed (by the net) and often wasted, as they are in poor condition at this season. The last two days of July seemed to produce a good commercial catch of large, above average weight Chum Salmon.

People

To our knowledge, very little use was made of the Monument by non-residents through the month of July. The local campers that spent May and June at camps west of the Ranger Station left their camps intact for later berry picking, but moved back to Kotzebue or Sisualik for July fishing activity. Since the two outlets are closed, there is now easy access to these camps from Sisualik by ATV.

One new house was completed at an allotment site and the Sealing Point family house had many extended family visitors through July. ATV traffic through Sisualik towards the west was somewhat diminished in comparison to other years. There seemed to be less vehicles traveling west and most of the traffic has been by Sisualik residents. This could change in August-September if caribou should show up or berry picking become spectacular. The caribou might show up, but the usual big August attraction, salmonberries, does not show much promise. Fishing at the now-closed outlets will attract people in early September.

One unidentified aircraft landing was made on the beach a few miles east of the Sealing Point tower around July 15 or 16 for purposes unknown.

July

Use of the Monument by the visitor-tourist group was nil this July, which seems to indicate a decline from a small beginning five years ago.

Commercial fishing activity puts people at various beach points during open fishing periods, from east of the Ranger Station through Sisualik. This is of some importance in terms of trash, observation of game, wood gathering, and beach combing activity. Glaucous Gulls and loons suffer some mortality from this group, as do a few Harbor Porpoises some years.

MONTHLY RESOURCE REPORT

AUGUST

Introduction

The month of August turned out to be half and half. Half blissful, warm summer “grasshopper” weather and half catastrophic! The early and sudden closure of the commercial Chum Salmon season on August 11 left many fishermen and their crews gasping for air. This is Kotzebue Sound's only large scale commercial fishing opportunity and an early closure after a sparse early season brought considerable hardship to many fishermen.

A second “whammy” occurred on August 26 southwest winds to 50+ knots caused water and waves to reach a higher level than probably ever before in this century. Beach erosion was extreme and some changes in landforms will not only be permanent, but through “cause and effect” processes, bring other changes in the future. The beach is such an intensely dynamic area during flood storms, that the full scope of change cannot be known immediately.

Many tons of gravel on the five mile length of Sisualik Spit was thrown up and over the *Elymus* grass zone to a width of 75-100 yards, and in some places to a depth of three feet. There seems no precedent for an event of this magnitude in this century (or the last?). The questions arise: global warming? a reclaiming of beach ridge areas? an unknown process of the mechanics of continued beach ridge building? What ever the process, it needs to be said that living on the edge of beach ridge dynamics within Cape Krusenstern National Monument has its trying times!

Weather

Warm and dry weather continued from July into August and even began to become oppressive to most living creatures and plants. A couple of days of showers were the only relief until the twenty-third, when the later than usual summer rains began in earnest.

August 7 was probably the warmest day of the month at 78° F, though there were nine days of temperatures 70° F or over. We managed to get through August without a frost for once, much to the joy of all berry pickers and eaters.

The southwest winds of 50 knots recorded in Kotzebue on the night of the twenty-

sixth eclipsed all other wind velocities, though winds of 35+ knots on the twenty-second, twenty-fifth and the thirty-first made for enough wind in the month.

Caribou

Caribou occurrence on the Monument in August followed this summer's trend of scarcity though not to the point of absence. A large bull seen on the fifth, a young bull killed on the eleventh, and another bull seen on the nineteenth comprise the known totals for the month. Things are looking up though. As I write this (on September 1) there is a report of two large fat bulls taken in vicinity of Ranger Station.

Moose

There were a couple of reports of moose seen on the coastal strip of the Monument, but the only known harvest since the season opening on the first is along Noatak River, near the Hatchery site. Normal moose habitat in August on the Monument is not accessible by boat, thus there is very little harvest due to the difficulty in getting meat out.

Bear

A bear was noted inland from the beach and east of the Ranger Station, in the same vicinity as musk-ox (see below). A single animal near Kotzebue and one on the upper Noatak were reported near this same time.

The conditions forecasted for bear-human confrontations have developed and are still in progress. The situation seems aggravated by high water and a lack of salmon in the Noatak, and some (but not many) drifted in marine mammal carcasses on the flood-storm of the twenty-sixth. The details and speculation on this situation are very interesting but will not be a part of this report. Some additional information may be gleaned from personal communication. The score to date on the sad situation is: bears two down, humans nothing. As August changes to September, the situation will continue and intensify. It is a complex issue and even an elementary understanding involves recognizing that ocean beach occurrences of bear in this area were rare historically. The change in this situation is at least partially readable through events of the past ten to twelve years.

Sheep

No report, except of their absence. A pair of hikers were through the area where the small group thought to be occupying the monument might have been seen.

Musk-ox

There was a lone Musk-ox at the base of Sisualik Spit on August 3. A group of three to four adults and a smaller animal were seen several days in a row, just inland from the beach east of the Ranger Station. The date of first sighting was the twenty-first.

Furbearers

No report this month.

Marine Mammals

Two Spotted Seals, apparently in weak condition, were encountered in August. Not much in the line of details available. A single Beluga Whale circling a set salmon net on the nineteenth was the only noted occurrence of this species for the month.

Small Mammals

A few tundra vole diggings and individuals have been noted, but both they and the unfortunate ground squirrels that had burrows at too low an elevation suffered loss in the marine flood of the twenty-sixth.

Birds

The first ten days of August are interesting because several species that are not common here during spring migration often turn up at this time. This characteristic of several species seemed more intense this year since fewer than normal were seen during spring passage. Hudsonian Godwits, Whimbrels, Red Knots, Long-billed Dowitchers, and Northern Wheatears were prominent members of this category this year.

Wigeon, Northern Pintail, and Scaup seemed scarce in the immediate vicinity of our camp, but there were reports of heavy concentrations at other points on the Noatak Delta and Baldwin Peninsula, indicating that those birds have good numbers in other

places.

The passerine movement that began in mid-July continued into August's mid-days and then dropped off almost completely by the last week. Savannah Sparrows were by far the most numerous, although Lapland Longspurs, Redpolls, and Yellow Wagtails were present in good numbers.

A couple of Snowy Owls were in sight of the camp on most days of the month. No hint of nesting activity. This is rare at this season, but it happened last year too. The odd thing is that last year's vole population was very high; this year it is very low.

Geese (Taverner's, Canada and White-fronted) came back from molt on time and large numbers were reported from those areas of the Monument that they use during this season. Swans seemed a little late getting back to local areas, but a report of many on the large lagoon feeding areas just this side of Port Site may mean that they found a good food source and peace and quiet for a while there. Two rather rare birds for this location, at this season were a Pomarine Jaeger and a live Short-tailed Shearwater. Both were spotted on August 28.

Sightings of Merlin and Northern Harrier scattered throughout the month indicates a continued presence of these birds and "birds of the year" of both species were noted. There may have been more Merlin sightings than usual and less Harrier, but neither were seen in numbers enough to determine anything but their presence.

A group of nearly one hundred Whimbrels covered our backyard berry patch on August 18 just before they became quite scarce. Dunlin numbers began to build in mid-month and will stay till mid-September. Several good-sized flocks of Brant passed by August 20 to 25, perhaps in response to a North Slope cold spell. .

A few (less than ten) dead Short-tailed Shearwaters and Black-legged Kittiwakes were found in twenty miles of beach, after the strong onshore winds of the month. This is not unusual in the months of August and September. Some southern movement of cranes in high flying flocks was noted in the last few days of the month. Bird numbers and species have already diminished significantly from early August peaks.

Fish

Two major items on the fish scene this month. The failure of the commercial Chum Salmon fishery and the timely closure of the Krusenstern waterway outlet.

The early and sudden closure of the commercial fishing season on August 11

because of lack of escapement in the Noatak River was a blow to many permit holders and crew members, as well as those involved in the processing and equipment supply businesses. At this point in time there is wide speculation on the reasons for the failure of Chum Salmon stocks in Kotzebue Sound. Politics, management practices, changes in subsistence uses, high seas drift nets, and any number of other possibilities run through one's mind. To add to the complexity are the unresolved questions surrounding the enhancement Hatchery on the Noatak. We will hear much more of these issues farther down the line.

The closure of both lagoon outlets (Anigaaq and Akulaaq) in July trapped multitudes of whitefish in the systems, for which everyone (except the fish) was happy. This situation almost came to grief when the big storm of the twenty-sixth occurred. At first it was thought both outlets would reopen, allowing the impounded fish to escape. Akulaaq, the minor system, did open, but much to everyone's delight, the huge system at Anigaaq held. The open channel at Akulaaq, however, would prevent land travel from Sisualik to the fishing site at Anigaaq. A couple of days after flood waters receded, ocean swells effectively built up a new gravel dam across Akulaaq and everybody is rejoicing. Some fishing has already begun, and as air temperatures cool in September and freeze up approaches, fishing by several methods will become very intense. This whitefish, *Coregonus nelsoni* is much valued for winter use in many forms, both for dog and human use.

Char (trout) have been in the news also because of heavy metal pollution connected with mineral extraction at Red Dog. The Wulik River system is a major overwintering stream for char stocks in Kotzebue Sound. It is also a target stream, spring and fall, for the char migrating along shores of the Monument between the Kivalina and Noatak Rivers. It is a very important fish to Sisualik residents and visitors.

Plants

August is the fruiting month for most plants and this year it would seem most plants had a nice long growing season to produce the maximum numbers of viable seeds. Early to mid-August was very dry and warm, and some plants showed leaf drying and wilt stress from this. But by this time, most of them had seeds well into development and seed viability was probably not affected..

The great marine storm of the twenty-sixth brought a gravel mat onto the *Elymus* zone (which includes many highland zone forbs). Overwintering passerines will hurt from this, as these are normally the plant heads with seeds that remain above snow throughout the winter. This year they won't. There will be other long term effects of this event that are not yet readable. Some good effects for some plants, and some things detrimental.

The berry season has turned out well for blueberries, and is continuing very well for blackberries and cranberries. There are many of the latter and we have not had a frost yet. Salmonberries, of course, were a failure throughout the region, due to the frost that occurred during flowering in June.

Several plants had unusually good seed production. Gentians, *Epilobium* sp., and *Elymus* sp. most notably, and of course many *Carex* sp. and other grasses. Inland willow growth is probably exceptional due to this year's long, warm growing season. The fall yellowing of a nearby Balsam Poplar grove happened right on time, August 31.

It will probably be possible to see a few isolated blooming plants into September, but for the most part this year's magnificent plant season has come to an end. From now on it's falling leaves, internal growing buds, and seed dispersal for next year's show.

People

In August, there are probably more people on and about the Monument than any other month of the year. They are and have always been, for the most part, Kotzebue Sound or NANA region residents. That was true again for 1990. Since both channels were closed this side of Battle Rock, there was increased traffic from Sisualik west for berry picking, beach combing, and checking for occasional stray caribou. Commercial fishing activity use was intense during open fishing periods, east of the boundary and near the Ranger Station. Very little use of the Monument was noted by true visitors.

MONTHLY RESOURCE REPORT

SEPTEMBER

Introduction

September, an important pre-freeze up harvest month, was good this year. Though the first half was wet and windy, with one low level flood threat, the balance of the month was dry and cool, good for harvest preservation.

More Humpback Whitefish (*Coregonus nelsoni*) were taken from Anigaaq (Ranger Station site) than in any September for at least the last forty years. A real bumper crop of this species. The second most numerous utilized species was Least Ciscoe (*Coregonus sardinella*). Both of these species are dried, frozen or put in permafrost holes for both human and dog consumption. They are a preferred fish and everybody feels good about the catch this September. It will probably continue through October.

Blackberry, caribou and moose harvests were exceptional by those mobile enough to get to the areas where these resources were abundant.

The first hard frost didn't occur till the twenty-third. A light frost on the ninth only sweetened the berries. The late hard frost was good for late, sweet blackberry picking.

A rather heavy snowfall east of Sisualik through Kotzebue on the twenty-first was unusual, since it left them white and us dark for a few days.

Surprisingly (or maybe not because of the numerous warm spells we had through the summer), there were no really warm days in September. It was 52° F on the twentieth. A few days of temperatures 50° F or over occurred early in the month, and were the only near warm spells.

Wind was common through the month. The northerly to westerly quadrant flow kept our weather cool and relatively dry. September 29 was our first day of continuous below freezing temperatures.

Caribou

Caribou were scarce through September on the Monument, though multitudes were reported just east of the Noatak river all the way from the Noatak flats, through the

hills and to the delta late in the month. Some of these will no doubt cross as the river freezes and boat hunting ceases.

Caribou were available in small numbers far up the Noatak and Kobuk rivers from the first week of the month. They continued to get closer (to Kotzebue) and more numerous till the last week, when there were lots right across the Inlet from Kotzebue, east of the Noatak River. The river began running ice on the last day of the month; caribou were said to have crossed to our side (the west), for only a few days. Actual known harvest on the Monument for September was only three.

Moose

No moose news for September. As mentioned before, moose retreat to river and stream systems as summer temperatures cool and new plant growth is no longer an attraction. Most Monument fall and winter habitat is not available to boat hunters and is too far inland to be practical for ATV access. This changes, of course, with the coming of ice and snow in October. Females and young males are targeted at this season, as bulls are in rut late September through October.

Bear

A bear killed on the spit on the September 4 turned out to be the last people-bear encounter for the month, though fortunately it was not the end of the bears. Fresh bear tracks on the beach made the night before are still the norm for whitefish net tenders that make the daily run to Anigaaq. A wider distribution of dead marine mammals and lowering of river waters from flood stage may account for fewer bear-human conflicts. In addition, the few bears whose range encompasses this area have learned to give beach-traveling ATV's and camps a wide berth. Explanation and speculation on this summer's bear-people encounters is very interesting. Some hints could be gleaned for future seasonal avoidance of encounters which usually result in bear deaths.

Musk-ox

No reported sighting this month.

Sheep

No sheep notes for this month.

Marine Mammals

A rare, though not unknown animal for this area, was seen and heard by several people at Sealing Point on September 10. This Steller's Sea Lion was not shot at. Several years ago an adult male was shot and retrieved from near the Ranger Station site.

Regular marine mammal sightings were rare, which is normal for September. Single sighting and harvest of two species were appreciated by Sisualik people. The only known harvest of Beluga in the Kotzebue-Kotzebue portions of the Sound for 1990 was a lone sub-adult animal taken on September 21. Everyone had a small piece. The first young ugruk, a fairly common resident from late September through October, was taken September 29. Every one that wanted some, had a piece of that tasty meat too. A young walrus was seen by several people on September 26. It didn't offer a good opportunity for harvest or it would have been taken, since its meat, skin and flippers are prized for food at this season. It is normal for a few strays, usually sub-adult males, to be taken in the period from late September through October. This is the time frame in which a major migration of Pacific walrus passes far offshore of Cape Krusenstern.

Small Mammals

Voles and shrews remain scarce in those coastal areas observed in September. The flood in late August cut back the vole population in low-lying areas. There are some, but few. Higher land areas show some fall activity, so I expect the Tundra Vole population is on an upward trend.

Ground squirrels weathered the flood well, since it was not freezing at the time. Their population is quite high.

There is no sign of other small mammals. (e.g. Short-tailed Weasels, Least Weasels) in areas observed this month. We have not been into Varying Hare or Red Squirrel habitat, or porcupine either. Next month the presence of snow and our move to winter quarters will give us a hint on the presence of those small mammals.

Furbearers

There are some young foxes about, both red and white, but there is no indication of any exceptionally large production this summer season. Muskrat are present, but again there are no indicators of very large or very small numbers.

There has been no population of lynx on the Monument for several years. Wolverine tracks have been extremely rare for the past five years.

Birds

September is the month when most of our seasonal birds move out and this year there was very little lingering. An early extended freeze, after an unseasonably heavy snowfall at the end of the month, discouraged most of those birds that normally linger on till the last moment (Tundra Swans, Canada Geese, Wigeon, Red-breasted Mergansers).

There were several high points this month. First, an extreme concentration of Glaucous Gulls, from 1,000 plus on September 9 to several thousand by the end of the month. By the month's end, these gulls were 80 % of the birds observed this year. They were attracted to the Krusenstern waterway systems and its bounty of trapped whitefish, just like the people.

Large concentrations of Tundra Swans (four to five hundred) were present behind Sisualik on September 9. Some swans remained until the next to the last day of the month, when habitat closed in (frozen or slushed over by rising water after a north wind cold period).

By September 9 there were remarkably few passerines around for the relatively early date.

Snow Buntings were not seen until September 10. A huge flock of 200 plus was noted on September 25. Such a big flock is unusual. Sanderlings, a neat and rare, though regular fall species here, were seen in small numbers for a week, from September 15 on.

A Mew Gull on September 19 and two Sandhill Cranes on the twenty-fourth were really late for their species. The normal movement of Sandhill Cranes going south through here never happened. They were abundant locally the last half of August, but actual over-flight migration did not occur here, for unknown reasons.

Short-eared Owls, sometimes abundant in September as they move south, were seen only twice (September 18 and 20).

Flocks of ptarmigan finally came down to the beach on the twenty-fourth. There were several hundred in several flocks after a north wind system. They do not seem to have stayed. They normally come down for blackberries, but snow cover may

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have been a little too much this year.

A few (less than 10) Black-legged Kittiwake and Short-tailed Shearwaters were found in emaciated condition through the month. This is normal on the beach line drift for this season.

Our summer resident Snowy Owl, after giving us a treat show during the heat and rain of July and August, was not seen the last week of September. But then, Snowy Owls aren't supposed to be seen after the snow falls! Maybe that's how they get so fat and make such good soup in October.

A rather unusual observation of Lesser Golden-Plovers was made during the first ten days of September. Normally this species uses the back mudflat lagoon areas near grass line for fall foraging. Numerous small groups of four to five birds were foraging intensely on the open ocean beach, between the top edge of the swell line and the *Elymus* grass line. Mostly they were closer to the grass line. This was within a week or so of the record breaking flood of late August. See September 4 of Journal for more details.

Long-billed Dowitchers made a good showing around this same time up in the short grassy mudflat areas. Prolonged high water levels kept normal mudflat areas flooded, forcing them to this area.

A single Yellow-billed Loon was seen on September 10, moving southeast. It was the only bird of this species seen this year. It is never a common bird here, but one does expect to see more than one each year.

The last half of September was noteworthy mainly for its lack of bird life this year.

Raptors

There are very few raptors to report this month: a Merlin hunting in the wrong place on September 2, a new Northern Harrier on September 1 and 2, and a single Gyrfalcon on September 23. Owl observations were sparse, limited to our summer resident Snowy Owl and three Short-eared Owls. We will put out several pole traps in October for migrating Snowy Owls. Incidental catch of other species during this short owl trapping period is always interesting and sometimes surprising.

Plants

Useful plants in September are nearly limited to two late berry plants, blackberries (*Empetrum nigrum*) and cranberries (*Vaccinium vitis-idaea*). Picking of these is

further limited by the timing of our first frosty nights. A record breaking cold daily temperature of 28° F on September 9 softened and sweetened these berries, but did not much hinder picking. A couple more night frosts further softened and sweetened the berries, and some pickers went right on picking until snow covered the ground in the last week of the month. There was a great crop of blackberries; cranberries were small and scattered here.

Usually there is late flowering of some plants through September, but the cool temperatures, early snow and effects of gravel thrown up by the late August flood cancelled late bloomers out this year.

The most impressive plant happening was related to Fireweed (*Epilobium angustifolium*) seed dispersal. The gravel upheaval of the August flood caught this year's bumper crop of Fireweed after flower petals had dropped, but before seed pods had split to release seed parachutes. A few warm dry days in early September made this phenomenon happen all at once and the air was full of seeds on the downwind side of fireweed patches. Locally, everything was affected: engine air intake cleaners, people and dogs inhaling, etc.

On September 18, a few hours spent specifically in search of a flower bloom of any kind proved fruitless. This is unusual for September, but not a mystery this year.

The gravel thrown up to considerable depth along the spit will require re-establishment of zonal plant communities. This will be interesting to observe since it probably hasn't happened on these plots for at least 400 years, and maybe longer than that. The next few years will provide an excellent opportunity to record the mechanics of establishment and re-establishment of Arctic Ocean beach plant communities.

After the flood, insect activity around camp was nearly non-existent. On September 20, warmth and drying out, and maybe rain diluting or rinsing salt-flooded ground made the Journal keeper remark on the return of insects to the Spit. No mosquitoes though.

Fish

The hoards of Humpback Whitefish, Least Ciscoe and Bering Ciscoe (all of genus *Coregonus*) impounded in the Krusenstern waterway system this year by early gravel closure of the outlet just east of the Ranger station, eclipses any other fish news for September. Most Sisualik people and some Kotzebue people have been working at harvesting this bumper crop all through the month, and many will continue to work into October. It is a very great windfall that will benefit many people throughout the

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NANA region over winter, to one degree or another. These are a favorite fish, a staple of Eskimo food in many areas. A real lot of fish harvested for human use and dog feed.

So much rough, windy weather prevented a lot of netting in the ocean for salmon and char. Those fishermen that tried, made good short term catches of herring and saffron cod. The catch of these fish creates a special Sisualik activity of late September: the herring for salting and saffron cod for freeze drying.

Two juvenile Sheefish were taken in small mesh net inside the Anigaaq water system on September 15. One taken later in the month seemed to be of the age class sought by the ADFG fishery biologist (see September 15 journal entry). I will try to get scale samples for aging and other samples into the proper channels. Because of where these were taken there are some interesting speculations that can be made. Also some time (seasonal) assumptions can be made. These are Sheefish of a size and age group for which the normal habitat is unknown.

People

Again in September, as throughout this summer, the Monument was visited or used primarily by local Sisualik people and some Kotzebue dwellers. Since the salmonberry crop failed and caribou haven't yet made a good appearance on the Monument, the only activity drawing people was the great whitefish harvest at the Anigaaq outlet. Many Sisualik people made daily trips throughout the month to check nets or work their trap at the outlet. Ordinarily some of these people would move and set up camps there for the months of September and October. This was not done this year at least partly because of the large numbers and continually fresh bear tracks in the area. The big storm of late August, though it didn't open the system as many thought it would, did bury some of the old camping area just west of the outlet. People activity other than local based family groups, as far as we know, was practically nil for the month of September.

MONTHLY RESOURCE REPORT

OCTOBER

Introduction

Each month tends to have one or more dominant features or characteristics. October is freeze-up month in this region, a change of worlds. Every water surface that for four months has required special equipment to navigate (boat, kayak, canoe) now, slowly, becomes as solid (or more so) as that of the terra-firma around it. Ice would seem to be the theme for October and in most years it is. However for the year 1990 snow became the most used word when people came together to talk hunting and weather. In many years we cry for snow in October to cover the holes, tussocks, and slippery ice so that we might have better traveling conditions. In October 1990, during our annual move inland to winter quarters, it was necessary to snowshoe pack some of the trail into the white spruce patch that surrounds our house.

By the journal notes it snowed a considerable amount on a total of fifteen days in October. There were probably other days in which flurries or a few flakes mixed with rain occurred. At sea level (Sisualik), hours of rain following a substantial snowfall melted ground accumulation on several occasions. Moving inland, even with only few feet of elevation gain, more precipitation falls as snow, so that in the higher foothills there is no rain. By the twentieth, when we moved to our cabin, there was eighteen inches of snow in sheltered areas and some drifts to depths of six feet! This is the most snow we have ever seen in October.

Temperatures were moderate due to cloud cover on so many days. The coldest was -6° F on the twenty-sixth and the warmest at 39° F on the tenth. The twelfth marked the first time temperatures remained below freezing over the 24-hour day.

Ice on the larger lakes and slough did not become thick enough to walk on until the late date of October 20.

East winds to 40 knots on the ninth and eighteenth, and a few days of wind from other directions, to 30 knots, made wind enough with below freezing temperatures.

By the end of the month most stagnant fresh water had ice 8 to 10 inches thick. Areas of ice with snow cover, especially in areas of current, was much thinner, and made for a very dangerous fall traveling situation.

Caribou

As in most years in recent times, caribou and their migration activities eclipsed every other species by sheer numbers. Life's tempo is intensified with the onset of the rut, which occurs regularly and concurrently to their movement south to the winter range. Though there were some caribou taken earlier in the month, it was not until October 12 that a large group of animals was sighted from Sisualik. This was right on time, as an arbitrarily chosen date for the caribou rut is October 14. It varies by a week to ten days, in any given year, apparently triggered by relative coolness of the season. This year was known to have early "smelly" bulls prior to this date, due to wet, cold and snowy weather.

Many thousands passed over a two week time span in several waves, through a three mile wide west to east corridor along the edge of the lagoon due north of Sisualik. Physical condition seemed normal. Early bulls are nice and fat and sweet. Few bulls were taken after the twelfth, when females and especially females unaccompanied by calves are the fattest. Sub-adult males also provide good meat at this time.

Sisualik residents easily filled their needs. There were few other hunters on the Monument due to the availability of caribou to boat hunters, just before Noatak River started running ice. Waste seemed to be minimal and most dead animals were removed from the field after a while.

The corridor the animals used was much narrower than in previous years and was near the sea level zone. This zone had the least accumulation of snow due to low elevation intermittent rain. Some of the later animals are said to have crossed very thin ice to Lockhart Point and onto the Baldwin Peninsula. There are a few scattered bunches on the Monument as the month ends, but it is not yet clear as to whether they will be overwintering again. Some areas on the Monument are showing evidence of lichen depletion. It is not known to what degree this has occurred and whether it significant to the animals over the full range within the Monument.

Moose

Our move inland to winter quarters on October 20 returns us to habitat we share with a varying (from year to year) population of moose. We usually put off the taking of our annual table moose until after freeze-up. Because of the season, we prefer a large adult cow unaccompanied by a calf. We have found that it pays to go to considerable time and effort to be selective. This October we have only time and effort to show for our preference. Moose are fewer this year in our usual area of activity. They are present, but generally in one's or two's as opposed to the groups of the past several years. Early and deep snow at higher elevations may be a factor. There is no

indication yet that fewer animals here means fewer numbers for the total Noatak drainage. I have seen five animals in two days of looking. Along the ocean beach, an uncommon habitat for this season, only one or two moose were seen by Sisualik people while going about their October activities.

Bear

Beachcombing bears found something better to do in October, same as they did last year. That hasn't always been the case. The only bear incident on the Monument was observation of one eating a dead caribou in the Battle Rock area. A bear was in the village of Noatak during the week of October 11. Interesting, but we haven't heard the full story yet. Folks at the Hatchery reported mid- to late October bear activity.

Sheep and Musk-ox

No report this month.

Marine Mammals

As is usual, a few short yearling Ugruk were taken by seal hunting boats in early October, as the first fresh water ice pans and slush works their way out into the Sound. Hunting success during this month depends as much on wind and weather conditions as it does on numbers of target animals (Spotted Seals, Ugruk, and Common Ringed Seals). This year's weather didn't allow for much of a catch in Sisualik. Two boats, with a total catch of less than ten of mixed species, is about the size of it. Species-wise, observed numbers of Ugruk were less than most years. Spotted and Common Ringed Seals numbers were probably average.

Two walrus were taken. Both animals were hauled out in the Sealing Point area. The first was taken on October 1, the second on October 28. Both animals described as "not fat." Some of the first was eaten and most of the second was distributed around to all families. A good variety in diet this fall in Sisualik.

A large adult beluga on the October 3 was the only reported sighting for the month. This animal was not taken, though those that saw it would have liked to.

On the last day of the month, incoming marine water, after a low-water spell on land, brought much excitement to beach hunters in the way of slush and accompanying Ringed and Spotted Seals. The seals were after cod that hugged the beach, and the hunters had good chances to shoot, though retrieval in the thick slush was

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problematic. Probably ten were shot and most of those retrieved. A friend gave Carrie a nice big female that will replace the stored oil we lost in August's big storm.

Furbearers

A few fox are around, both red and white. Red fox density is probably lower than average. White fox numbers are extremely variable in this area. A few have been seen.

Tracks of a few wolves have been seen (less than five) No wolverine tracks to date.

There may be a few more mink than in recent years.

Small Mammals

We are almost disappointed enough to cry. No Varying Hares again! It is difficult to explain the lonesomeness caused by the absence of another living creature that in the past has been continual part of everyday life. It has been many years now since rabbits have lived with us in our spruce patch.

Red Squirrels face a skimpy winter too, since the spruce cone crop failed again. There are some squirrels, but very few. This is true of both weasel species as well.

Tracks of a few voles and shrews can be seen. No indication of population highs or lows.

Birds

A few waterfowl remained into the first week of October. Not nearly as many Pintail, Wigeon and Swans as usual. A young Tundra Swan and one of its parents may have established a new late date for departure. They were seen taking off from a small open water pool at a lagoon outlet on the twenty-second. Very unusual! Hope they made it to wintering grounds.

Another strange bird happening was the appearance of a living, but weakened Short-tailed Shearwater, walking around at the Hatchery on the twenty-fourth. This happened around the same time exceedingly strong winds occurred in the vicinity of Pt Hope (60+ knots).

A third strange bird incident occurred on October 12. An entire flock of 30 to 40 Willow Ptarmigan seems to have perished by drowning in the ocean. Check Journal

of that date for full story.

We had our first catch of a Snowy Owl by trap on the nineteenth. We took only three birds and sprung the traps on the twenty-second because of our move to winter quarters. All three birds were good and fat, and made good soup.

The numerous Gyrfalcon sightings during the month were normal, and hinted at the possibility of a little better production than most years.

Snow Buntings were present in large feeding flocks for the first three weeks of October. This was a different pattern for this species. Normally they move through in smaller groups during the first ten days of October. The change may be a response to early and continued freezing on the North Slope.

Lack of white spruce cone production will probably mean another near silent winter in timbered areas. Three Gray Jays and a Three-toed Woodpecker are the only bird residents to date.

Plants

Locally, it is generally believed that late fall rains, which saturate the ground, along with early snowfall, benefit next season's plant growth and production of berries, etc. If that is so, then the next growing season should be spectacular.

The lichens utilized by caribou in many places on the Monument are looking noticeably used. Several years of heavy migrations and considerable number of caribou overwintering have brought about this noticeable change in vegetation mosaic. It is not known whether or not this is extensive enough over the whole Monument to be of concern.

Seasonal willow and white spruce growth seems to have been good, reflecting the warm growing season we had in 1990.

Fish

After producing a record catch of whitefish for all those participating, the dam at Anigaaq finally gave way on October 25. Heavy rains on top of considerable snow brought the impounded water to a very high level. Then a spell of north quadrant wind brought an extended period of very low marine waters. This variation in water levels caused subsurface flow to eat out a channel, leading to gravel caving, and finally a full flush of the entire Krusenstern waterway system. At such a late date one

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wonders what will become of released biomass of different species. See journal entry of October 4 for description whitefish life dynamics.

On October 6 an interesting Least Ciscoe and Humpback Whitefish specimen was secured.

An impounded subadult and three very juvenile Sheefish taken in fall nets will require an update when ages and significance in the system are established.

See October 31 journal for description of the last fish of the season to run in Sisualik.

Net fishing in the ocean at Sisualik was not productive in October. In some years, just before the slush runs, Saffron Cod and Herring are available in usable numbers for those that want to work them.

People

Again this month, coastal use of the Monument was nearly entirely by residents of Sisualik and a couple of resident cabins in the Sealing Point. area. An interesting difference this year was the lack of use of two abundant resources that usually attract residents from other parts of the NANA region (Kotzebue). In the past, the exceptionally good fall fishing at Anigaaq and caribou on the beach just west of Sisualik would have drawn ten to twenty boats. This year we knew of only two boats all fall. Caribou were available earlier on the Noatak River and northwest Kobuk Lake beach; most Kotzebue people already had enough. Lack of fishing participation is not as easily explained. There seems to be a trend away from gathering the huge amounts of fall resources that was necessary for existence in the past. Maybe too many other things to do. Oddly, the initial worries were that too many people might turn up on Krusenstern National Monument. The trend seems to be in the opposite direction.

MONTHLY RESOURCE REPORT

NOVEMBER

Introduction

November produced several noteworthy events that remind us that we live not only in a unique place, but also in a time frame that continues to produce surprises. Snow and wind in amounts and velocity that seemed to be too much for one month overshadowed all activities. Some have suggested that a new glacial age is in the works! Actually, the lack of ice, a result of frequent snow and temperatures held high by wind, is the third anomaly for the month. Dangerous and late surface traveling conditions are a result. There will also be long term effects, such as high runoff water next spring and difficult winter feeding and traveling conditions for our important ungulate populations which are now at high levels.

Another event of interest is the occurrence of the first marten on Krusenstern National Monument. There appears to be no other record of marten, either in literature or oral history. This is another creature that extended its range west and/or north in this century. Others include Moose, Red Squirrel, and Beaver.

Snow fell on at least fifteen days. Winds exceeded 30 knots on eleven days. November 12 and November 24 had winds reported as gusting to 52 knots by the Kotzebue weather station. Rain, and a record high temperature occurred on November 4. The coldest days were November 16 and November 29-30, when thermometer dropped to -22° F, -30° F and -32° F respectively. Our camp thermometer registered 41° F on November 3. Eleven days were noted as clear for at least part of the day. Dangerous open water areas near normal public trails between camps and villages stayed that way till November 20. Very unusual.

Caribou

A few good groups (100 +) of caribou continued to follow the main eastward migration route in the first ten days of the month. After that, only a few inland strays were reported. Feeding is possible in most places, but travel and/or escape is very difficult due to very deep snow with at least two rain crusts. Sometimes the crusts hold the animal up and then allow it to break through to considerable depth.

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Hopefully, for the caribou's sake, this condition will improve as snow firms up. Maybe it is only a local condition. At the end of the month there was no clear indication whether there would be overwintering of caribou this year on the Monument. The reason for the lack of clarity is the small number of people traveling through the hills between here and Red Dog. Bad weather and short daylight hours keep most distance travelers home. Several animals were reported on the last few days of the month, in the Sisualik and north Sisualik section.

Moose

Snow depth and drift are already altering moose activities. Most moved two months early to willow thickets along the main river course. Since our population is high and of recent occurrence, this winter may be a test of the development of suitable overwintering habitat in the region.

We took our winter moose on November 5, a very large, dark colored female without a calf, presumably quite old. She was very fat. The total pounds of fat on an animal of this sex/class is unbelievable for this season. She is typical of our moose preference each October or November.

A large bull moose browsed through our camp within ten feet of our chained old sled dog while we were in town for Thanksgiving. Early feelings of moose scarcity in our area did not turn out to be the case. They proved to be numerous but distributed differently.

Bear, Sheep and Musk-ox

No bear, sheep or musk-ox information for November. There was late bear activity around the Hatchery in late October, but have not heard if it extended into November.

Marine Mammals

Common Ringed Seals were plentiful near inshore waters of Sisualik the first week of the month. The adult female given to us had an inflated stomach full of Saffron Cod and a fair sized fetus. Also a lot of good oil.

Very few seal were harvested in November. Effective seal hunting requires good coastal weather and this November didn't have much of that!

Furbearers

Our friendly marten is the main attraction for this century. He was in residence when we first moved up, but wasn't actually seen and confirmed until the day of the moose kill, November 5. His presence was noted every few days throughout the month. It is not yet clear if there is only one isolated animal, or if there are others around about in suitable habitat. Haven't heard any other local reports yet and have not visited the back timber areas where other animals could be. Also haven't yet established the range of this individual's regular wanderings. Both of these things may be clearer as winter and time make observation more possible. We have heard a report out of Kiana that marten are plentiful there this fall. (The upper Kobuk River –Ambler, Shungnak and Kobuk villages - was their normal home till now.) Some have suggested that large burned areas on the Upper Kobuk have caused a different distribution of this beautiful and valuable furbearer. See journal entry for November 5 for more details on marten incident.

Red and White Fox have been seen with regularity throughout the month. Concentrations at possible food locations have occurred with these species too. There has been very little caribou or moose hunting through November, since much caribou was harvested locally in late September and October. Those old kill site areas (which are also concentrated) have many foxes this month. Some hunting by young people on snow machines is now taking place, though low prices for fox pelts will limit activity somewhat in consideration of the high price of gas and snow machines.

There is no known trapping effort on the Monument to date, although the season opened on November 1. It is quite possible that a few traps for fox or mink have been set, but any great success or even effort would have come to our attention.

A few wolf tracks have been seen. No report at all of wolverine tracks.

Small Mammals

Voles and shrews indicate a presence around stored meat or where trails cross compacted snow or ice. No indication of high numbers.

Short-tailed Weasel and Least Weasel tracks are not hard to find and turn up around camp from time to time. Nothing to indicate large populations.

Red Squirrels are very abundant around camp cabin. Population has been slowly building over many years from a time they were not known here. Failure of white

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spruce cone crop for the last couple of years and this fall's extended wet periods at freeze up time (which destroys much of the summer's stored dried food, such as mushrooms and bone sinews), have caused the little animals to concentrate wherever a late food source occurs. We are not quite sure how we want to deal with this abundance around the cabin. It is difficult to keep everything they might spoil by eating, nest building or just cutting up, out of their reach. We wonder if the first occurrence of marten at this location is connected in any way to this 10-15 year establishment of a viable Red Squirrel population.

Birds

Birds are very scarce this November. White spruce cone abundance or absence determines much of our winter bird diversity and this year (the third in a row) of no crop, makes for a silent time in the spruce patches.

One Boreal Chickadee, one Three-toed Woodpecker, three Gray Jays and numerous Common Ravens are the monthly passerines.

Some Willow Ptarmigan are about, but not lots. With little prey available, only one Gyrfalcon was noted.

Down on saltwater beach a few birds were noted (Glaucous Gulls, Eiders and Oldsquaws), especially after warming by storm systems early in the month. Little observation of Snow Buntings during the month may indicate no presence this winter. Flattening of *Elymus* seed heads by August storm gravel, and later by heavy, wet snow may have done in their food supply.

The continued absence of a Varying Hares locally precludes enjoyment of raptor sightings throughout the winter. In other years Goshawks, Horned Owls, Hawk Owls and one year, an overwintering Golden Eagle, added pleasure and diversity to our winter scene. In our subarctic zone, over time, it is remarkable how entire species come and go, are present and absent. How is one to be assured they will ever return, until they do! Where are those rabbits and cones?

Plants

A November plant report? Yes! So many of the White Spruce in our patch seem to have unhealthy looking needles. That is, they are dried, yellow or missing, presumably an indication of tree health. It is hard to attribute this to anything happening recently and may be due to "climax forest" reasons. It is disturbing, however, as one doesn't really remember it being that way 20 years ago.

Much willow growth is protected from winter browsing by heavy wet snowfall that has depressed and hidden shrubs underneath.

Likewise, snow condition will not permit lichen disturbance this winter in many areas. Presumably the additional moisture provided by heavy ice and snow will boost growth next spring.

A high porcupine population and related insect activity (bark beetles), continues to produce dead spruce in the Monument's timbered sections, probably at a much greater rate than during the last century.

Fish

Since Anigaaq released its water and fish in late October, the only fish of note within the Monument are Saffron and Arctic Cod in ocean beach waters. Seals and gulls were reported to be feeding heavily on small fish after storms early in the month. A Common Ringed Seal we butchered around that time had an extremely full stomach of Saffron Cod. There has been nothing to indicate a heavy run of Arctic Cod this November as there sometimes is. Usually such an extreme run only comes to human awareness when seals, bird activity or storms force them up on the beach. None of these things were reported this November. Human presence and activity on the Monument has been very limited through November.

Netting for Sheefish has been good at the usual places in Kobuk Lake (Hotham Inlet) this November.

Saffron Cod and Rainbow Smelt fishing has been normal around Kotzebue town.

People

Compared to years past, there were very few people active on Monument Land through November. In the latter part of the month, some coastal travel between villages occurred and hunting sorties out of Kotzebue were made for fox and limited numbers of caribou. Most Kotzebue people still have much caribou meat from September and October hunts.

There was not enough wolf or wolverine sign to work up much enthusiasm for pursuing those animals.

Prolonged bad weather is a significant factor limiting presence of and travel by people on the Monument during the short days of November, December and early

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January.

There was a report of a small party of Anchorage hunters seeking caribou for meat. They were probably friends or acquaintances of local residents. Transportation was by snow machine and they may have been active only outside of Monument boundaries. This seemed a small event, but may be a first time happening for this specific area. Report was that the animals they took were skinny.

For an unusual happening relative to people and their use of fresh water ice as a main source of camp or home water supply, see journal entry for November 9.

MONTHLY RESOURCE REPORT

DECEMBER

Introduction

December is, of course, the month with the shortest daylight-hour days of the year here above the Arctic Circle. In spite of spectacular full moon (the moon doesn't set for several days in the near full phase), the "blue moon" (two full moons within the same month), and the occasional aurora borealis, one still feels, not the lack of light, but the lack of **sunlight**. At the beginning of the month, as the already short sunlight hours grow daily shorter, one experiences despair, feeling that the sun will never come back. Then, in the last few days of the month, if one marks closely which trees or cut banks are turned pink by the sun, it's apparent that the sun **is** coming back! Oh joy! It's coming back! it's coming back!! One has the feeling, and there are some observable hints, that other creatures too experience this joyful assurance that the life-sustaining sun is returning.

December 1990 continued the difficult run of weather - storms, snow and wind - that began for us in late August and September. The first half of the month was unseasonably cold: several days saw temperatures no higher than -20° F and dropping to -30° F or more. The coldest days were the third and the tenth, when it dropped to -35° F. The last half of the month was enjoyably mild for the holiday season. On the warmest day of the month, the twentieth, we enjoyed a temperature of +33° F.

East winds clocked at 52 knots by Kotzebue Weather station on the twenty-third were the strongest for the month. This was the day the young lady heading to Kotzebue from Jones' camp spent the night lost in a snowbank. A long night, no doubt; happily, she survived without permanent damage.

The most unusual item of concern to coastal dwellers, occurring on the ninth, was the killing and partial devouring of a Kotzebue man by a five or six year old polar bear, in the village of Point Lay (see Marine Mammals).

Although snowfall for the month wasn't excessive, a couple of blizzard periods added to the already abundant snow we have both on the ground and in drifts.

Ice thickness on lakes and shelf ice on the ocean increased due to the low temperatures of early and mid-December.

Wildlife

Because of short daylight hours, storms, and the relatively sedentary habits of wildlife in December, it is chronically the month of least human-animal interaction. The exceptions are trappers, where they are still active, and birders, who, even north of the Arctic Circle, do a Christmas Bird count in late December.

Caribou

Early in the month it was often easy to locate fresh tracks or see a few caribou, mostly strays or small groups of less than ten, and mostly moving west to east through the same trails made earlier. Towards the end of the month, just when it was decided by most every one that there would be no overwintering caribou on the Monument this year, a traveler in the Sealing Point area reported “lots of caribou” on the flats there, west of the Ranger station. By month's end there were still caribou there, but a satisfactory estimate of numbers remains elusive. There were at least 200 at first report and may be other groups in the area, or north and northwest of that area. This is the only valid report so far to filter through on overwintering caribou in this area. Word comes from Galena, Nulato, and Unalakleet that caribou have reached farther south and especially east than ever before this century. We hope those caribou have better snow conditions than those faced by the few left behind here. Mountain areas used by caribou overwintering on the Monument for the past few years might not be useable this year due to heavy snow and ice.

A few animals killed from the Sealing Point group were said to have “good meat,” which is good news.

Moose

Our snow cover has continued to grow through December, complicated by blizzard winds from different directions. These winds tend to deposit drifts, to a greater degree each time, in those thick willow and timbered edges where moose feed and are now concentrated. We already have difficult conditions for moose in outlying areas (that is, away from large main river systems). This makes for additional concentrations of animals. This will be, and indeed already is, a test for our available winter moose habitat. Snow conditions have not been this severe since moose came into the area in the mid forties.

In addition, there is evidence that more moose are being taken by human hunters than is usual for December, possibly due to a lack of caribou close at hand. This may ultimately benefit the population if our winter continues to build and browse does

become sparse. Some waste of meat from slain moose has been noted, which is not good for a number of different reasons.

There are some hints from some sections of Unit 23 that wolf populations have continued to build, in spite of rabies, airplanes and snowmobiles. If that is true (though there is no indication of it being true this close to Kotzebue), there is a great likelihood that in some places snow conditions will benefit moose predators also.

As December came to an end there was no definite sign of moose malnutrition from anywhere in the region. Those hunters who took young males reported good quality meat; a couple of nose samples proved good fat reserves for that age/sex component.

Bear, Sheep and Musk-ox

No observations or reports this month.

Marine Mammals

The killing of a Kotzebue man by a polar bear in the village of Point Lay on the ninth obscured most other marine mammal news for the month. On Alaska's northwest coast, successful predation on man by a polar bear is pretty rare in this century. This incident, as time passes, seems to be a coincidental meeting of unfortunate but natural circumstances that are not beyond the normal limits of polar bear and human seasonal activity.

Shelf ice, shore fast, was building substantially offshore of the Monument as December faded away. This is of great importance for the local Ringed Seal hunter for the next five months. It amounts to a brand new, sometimes very productive, hunting ground. It becomes an option to inland hunting and adds species. See journal entry for December 27 for additional details.

Some Ringed Seals were seen during December. We have no knowledge of successful harvest.

Furbearers

Our marten was still making tracks at intervals around the cabin tree patch. He is still somewhat of a mysterious stranger due to lack of time and circumstances to trace out his activities. Maybe next month.

Monthly Report

Several single animal catches of white fox occurred in December. This does not necessarily indicate a large local population of this animal. Some years none at all are seen or caught and other years 15 or 20 are caught in a few days by a single hunter.

Red foxes were heavily concentrated on the Monument through December, for much of the same reason as moose, with a few vital differences. A large amount of snow, and ice crusted at several levels, made microtine hunting fairly difficult. This, combined with very little additional caribou harvest through the month, led to concentration of foxes at food sites where earlier harvest of caribou took place. Several days of snow machine hunting in these spots during December thinned the foxes out somewhat.

A report out of Bethel indicated a near plague of red fox in that area. We have several around our cabin that are very tame and eating dog scraps and dump leavings. This species is demonstrating what happens when a formerly very valuable fur becomes nearly worthless, and its biological niche is, for a time, out of synch.

Small Mammals

There seems less and less sign of red squirrel activity in tree patches of the eastern Monument. Some of this may reflect short and cold days, but surveys of former colony areas during bird count and wood cutting efforts indicate a population crash.

Many very small microtine tracks (probably shrew) were noted in several mountain spruce patches. The animals appeared to be traveling from one tree base to another on the surface over four feet of crusted snow. It is not clear why so many animals chose surface travel over their normal subnivian habitat. Maybe the crusted surface made distance traveling easier.

Vole sign seems to have decreased since the fall months, around the camp cabins anyway.

Birds

Birds of all species were very scarce this December. We did an Audubon Christmas Bird Count (CBC) on December 15 and tallied only six species and 46 individuals. Last year we had nine species and 96 individuals. The year before that our individual count was over 1,000 due to a high Willow Ptarmigan population. We did manage to record two Three-toed Woodpeckers this year, our first since we started Sanningaruq CBC.

On December 4, many Eiders were reported in open water off shore of the Monument. These were probably Common Eiders. In some years, when water is consistently open, Common Eiders overwinter offshore of the Monument.

White spruce cone failure and no open salt water within our count diameter, plus the early fall flattening of ocean beach vegetation, has produced a nearly silent, birdless winter sky. One might be more thankful than usual for Common Raven and Gray Jay as they faithfully representing the avian community in the Arctic this winter.

Plants

We have mentioned before the importance of the genus *Salix* as a significant forage plant in the Arctic. This winter's heavy and sometimes wet snow has caused several unusual conditions with respect to willow availability. Moose, Varying Hare and Ptarmigan seem for the most part to depend on willow portions above snow level. (We have seen at least one moose, in another year, pawing snow from short willows and dwarf birch, much like caribou do to recover lichens.) This year, live willow shoots above snow level are becoming remarkably scarce. This means at least two things. Much of this year's willow growth will go the winter untouched. This no doubt will benefit willow growth next year, which will then be used for food by those animals and birds that find enough to survive this winter. A kind of neat balancing act!

On bird count day I ran across a fine specimen of *Betula* (birch) that is said to be a hybrid or intermediate of dwarf birch and paper birch. In appearance and characteristics it is a tree-sized dwarf birch. Examples are rare here, forty miles west of paper birch range, but they are scattered here and there. It is (or used to be) a prized find, as the wood is very strong for handles or snow shoes or other purposes where a "hardwood" is desired. It is our only indigenous hardwood.

Fish

Sheefish netting continues in Kobuk Lake and catches remain fair.

Tomcoddling (Saffron Cod) and Rainbow Smelt fishing was productive early in the month in Kotzebue Channel, but as is usual, effort faded away as the month came to a close. Saffron Cod eggs get loose as spawning begins and spawned out cod are a very poor food fish.

Sheefish hooking will begin as early as late January, though February offers more chance for that next major fishing activity.

People

Oddly, December may have produced more people on, or mainly across the Monument than earlier fall months. The reason, this year, is travel between north coast villages. Trail conditions are pretty good with cold weather and abundant snow. Kotzebue remains the biggest shopping center in the region, and many Kivalina and a few Point Hope folks with pay from Red Dog jobs make the run that passes through the entire Monument Coastal section. There was considerably more traffic of this type this year, than in years past. During December, this is strictly trail use as there is seldom any hunting. Opportunity and need together, may change that.

A little caribou hunting occurred between Sisualik and Sealing Point Probably less than twenty were taken.

No word out on wolverine or wolf taken on the Monument. Usually there are a few taken before Christmas, but no hints of that this year.

Other people activity was pretty much restricted to locals for a little wood hauling (driftwood) and ptarmigan hunting.

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APRIL

April 1 -10° F at 9 a.m.
No wind
Clear cold

Accumulated snow slightly above normal – less than last year in low places more than last year in open country. Ice thickness is ?

Last week in March there were four Pine Grosbeaks, fresh snow, no more caribou, a Great Horned Owl, and a Three-toed Woodpecker.

April 2 28° F by evening
E wind 10-25
Cloudy

Very few travelers for the weekend. Continue spring firewood cutting and haul. Kobuk 440 Dog race finishing up. Susan Butcher, Jeff King, Sonny Russell, and Ed Iten into Noorvik. Town festival activities tend to cause light weekend travel. Susan Butcher winner, Ed Iten second, Sonny Russell third.

More snow forecast for tomorrow. Snow cover is less than last year and differently distributed. Less in creek and low places – more spread out over the tundra. One male Pine Grosbeak. One Goshawk.

April 3 20° to 33° F, mild
E wind to 20

Good group of caribou, 18-20, Akulisak Mountain. One shrew under caribou carcass. Very few Red Fox tracks. Some ptarmigan tracks. Moose are scarce in the vicinity of Sanningaruq. Not much wood cutting yet this spring.

April 4 Record warm 33° F

A sticky trip to Kotzebue. Front street melting wet. Weather warm two weeks too early. One result of this early warmth may be plant growth stimulation in felt-leaf willow.

Journal

April 5

Still warm but cooling – snow.

Sheefish hooking at Callahan Portage another example of how technology extends resource users' reach.

Wolf census (FWS cabin Selawik) report of 26-28 wolves one group-so far unconfirmed.

Three Pine Grosbeak appear daily now in window cottonwood eating sticky buds.

Wood trail soft yet. No caribou insight.

April 9

There was snow and rain all day. Very wet. One and a half inch accumulation. Grosbeak around. Cleared and cooled near sundown.

April 10

Bright, clear, and warm sun today. Began the wood haul to Sisualik. A lone Snow Bunting in willow area (unusual). First bunting seen in this area since CBC. Susan went back to town today.

April 11

Overnight low 0° F
Clear

Sisualik haul continues. Trail super good after snow and rain of the other day. Report of Beluga seen at Kivalina. Later the report cancelled.

April 12

Low 0° F
High 32° F
Sunny, warm

Trip to Hatchery. Snow Bunting was there eating sunflower seeds! Fall area moose staging (high) – absolutely no tracks. A few fox tracks in high country. No rabbit tracks those many miles where there used to be thousands. How desolate the Hatchery trail is without caribou, moose, and rabbit (compared to other years of abundance)! A major wood cut northeast end of Akulisak.

April 13

Same weather continues. Town trip – some water in streets late afternoon.

Light Sheefish catch – only Callahan and Kotzebue front.

A unique trip by neighbors. A round trip all the way from their camp to Selawik hills and back, with a load of caribou meat. Implications of this extended “technological reach” in line of subsistence harvest probably least discussed and most important recent trend.

No report of spring birds yet.

April 14

Same weather. Mark Williams birthday. Earliest record of Sandhill Cranes on upper Noatak. Two birds in soup pot April 14, 1960.

Lots of ptarmigan around camp. Male Willow Ptarmigan showing patches of dark feathers on head and neck; some years this occurs last week of March.

Only moose sign in isolated tree-willow patches like camp. None in late fall habitat.

Red Squirrel activity (and Red Fox) intensifies.

April 15

Low 0° F
High 35° F
NW winds 10-20

Same warm weather. Expecting gull and crane report any day. Easter present – a large bird noise! Boreal Owl or Northern Hawk-Owl? Very loud, rapidly repeated, sharp rapping call.

Red plane with narrow white midline fuselage – snowshoes (Doug Larson). No visitors this Easter Sunday.

Woodcut northeast of Akulisak continues. Shoveled snow out and put wood stove in Sisualik camp today. Snowbanks down there much smaller than last year; more snow on level. No squirrel or bird reports yet. Coastal Kivalina trail much used over the weekend. Easter Songfest always a big attraction.

April 17

Low -5° F
High 25° F
Light winds

Clear – few clouds, great weather. May be whales at Point Hope. No spring birds yet.

Journal

Wood cut haul to Sisualik. No ground squirrels yet. Tree squirrels very active.

Two moose up creek. No sign of caribou. Last year's caribou dispersed throughout the area. This year, caribou restricted themselves to grid just below rocky local mountain mass.

Some willow catkins out (felt leaf willows – water willows) – our first flowering plant?

April 18

Low -5° F
High 28° F
Clear and beautiful

Ugruk reported off Sealing Point yesterday – no catch because young ice edge bad.

Spent the day in Sisualik. Lots of visitors (Susan and Lee Anne) searching for dropped bear collar. Do follow up on bear collar – ground proof of air interpretation.

Apparently caribou scarce between here and Port Site.

Pine Grosbeak at Sivisuk.

Apparently a total of five moose on our creek.

April 19

It's been the same weather, very clear.

Visit with Lee Anne. Ground proof of bear collar seems to offer different interpretation than first thought. Bears may still be alive, in den. I'll do another check in two weeks.

One raptor – ingitkaliq (Gyrfalcon). Report of first Mallard at Galena. No spring birds reported locally yet.

Caribou report from yesterday's trip was negative. A few northwest bound tracks.

April 20

Low 14° F
High 30° F
No wind
Cloudy

Trip to Kobuk Lake in response to news of Sheefish catch at Kimichak this week. May Thompson had 14 from early morning – didn't see any other people, but turns

April

out there was pretty good catch at Theodore Creek at same time. Passed them without seeing them! Our catch was eight small Sheefish. Carrie's second fish was the rare hybrid "Ihluuq" Sheefish x *Coregonus* Whitefish. Terminal mouth. This one was dark colored and with bigger scales than Whitefish. Line from the eye pupil to maxillary?

April 21

Low -6° F
High 38° F
Rain, snow, fog

Bad visibility, wet air. Wind shifted to west. Late evening temperature dropped 15° F in few hours. Over night low -6° F. Everything wet, frozen up.

Spent most of the day in Mahlon's Camp. Went 2-3 miles out on lake, made one hole; got one Sheefish. Went home wet. Report from Point Hope of Bowhead Whale take. Bet they appreciated it after no catch last year. Lots of houses and camps year round at Fish Creek: Iviq, Shaeffer's Cr. Theodore, etc. They were not there when we lived there twenty years ago. Lots of loss of undisturbed waterfowl habitat.

April 22

Low -6° F
High 10° F
Fog, light snow

Headed home when fog started to clear a little (11 am). A cold day compared to yesterday. West wind piled snow drifts – not quite so smooth. More snow towards home. Trails hidden again.

No report of gulls or squirrels yet. Two Pine Grosbeaks when we got home.

Read Nick Jans account of sno-go bear hunt/take in Alaska magazine article. Real mixed feelings.

April 23

Low 0° F
High 20° F
W wind at 20

Took a town trip. Drifting snow. Cold. Glad we hadn't moved to Sisualik yet. No birds or squirrels yet.

April 24

Low 0° F
High 14° F
Light W wind

April 28

Low 16° F
High 34° F
W wind to 30

Wind switched to west during the night. Two inches of fresh snow, drifted by the wind. Cleared in evening and further cooled. A cold morning to wake up to if you are a bear away from your den!

Many ptarmigan still inside tree-sheltered areas, in flocks. Much male head coloring.

April 29,

Low -6° F

A clear calm. The coldest place in state of Alaska today. Also tied record low for this date, according to Weather Bureau records. New weather forecast in the evening gave our -6° F this morning as record low for this date.

Afternoon report of at least two ground squirrels out on southern beach edge of Monument. (Mountain squirrels would have been out earlier.)

Is spring really here? For squirrels it is! May move to Sisualik tomorrow. Horned Owl noise at 11:30 tonight (strange?)

April 30

Low 6° F
High 28° F
Light NW wind
High clouds

Moved to Sisualik. No more trees for awhile. Quite a bit of sno-go and airplane traffic. No birds or squirrel report. Willow Ptarmigan conspicuous by their absence on the flats. Weather remains too cool and ground too white for spring migrants (except for last night's Horned Owl).

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MAY

May 1

Low 8° F
High 30⁰ F
Light wind

Town trip. No further report of birds. Seems a same day bird report, last week, was it for awhile. Short visit at National Park Service (NPS) office - busy there.

May 2

Low 8° F
High 30° F
Light snow, fog p.m.

Hatchery crew reported one Canada Goose last evening. No other mention of birds. Gulls reported last week - no longer at city dump. Final haul from winter camp.

May 3

Low 22° F
High 30° F
W wind to 16
Light snow

To Kobuk Lake for Sheefish hooking.

May 4

Low 20° F
High 30⁰ F
W wind 15-20

Fish Creek and Kobuk Lake similar to Sisualik. No birds. W wind.

Sheefish and Northern Pike catch was thirty-five.

May 5

Low 20° F
High 30° F
Light W wind
Low overcast

May

Home from Kobuk Lake. Only a few small fish from Theodore Creek. A few larger ones from Pipe Spit. Fish take just beginning there. First good spring catches over last three days. Some Sheefish not in prime condition. Wonder why?

Glaucous Gulls heard here and there throughout the day. No other bird reports throughout northwest Kobuk Delta except a few lone geese overhead.

May 6

Low 20° F
High 30° F
E wind 15-20

Gull noise, fog and snow shower patches. Flocks of to 20 Glaucous Gulls in all day from direction of offshore lead. Geese (both White-fronted and Canada) moving with wind. Crane pairs. One Northern Harrier in from ocean.

First real soft day (snow). Lots of coastal sno-go and air traffic. Some surface travel long distance (Point Hope-Kivalina). No water reported on town trail yet, but won't be long. Still no squirrels?

May 7

Low 34° F
High 38° F
E wind 25

Gull noise early! Bird day! Geese, cranes, gulls. One swan circling Kotzebue. Town trip after very last run to Sanningaruq to put in bear door.

May 8

Low 34° F
High 40° F
E wind to 15
Clear to partly cloudy

A real warm day. Robin and three Tundra Swans at Lena Jones camp. Small numbers, but regular passing of gulls, geese, and cranes. Our squirrels finally out. White Front Lake has very little water – mostly mud, lots of snow. Evidence of only two geese. No report of small birds except Lena's robin. Real soft snow inland.

May 9

Low 34° F
High 43° F
E wind to 15
Rain

May

A long stretch of light wind and no freezing temperatures. Local creeks “supiing” (flooding at mouths). Rain all night and morning – lots of flood coming. Fog all day.

Crane, gull, ptarmigan, and swan noise over the foggy flats. First distant sound of waterfowl shots.

Town trail said to be not too bad. Seal hunters return last night. Report lots of seals laying on ice. Traveled towards Espenberg. Sikulaik on ice edge made open water not hutable. Four hunters took home two Ringed Seals a piece. Napaatuqtuq water all over. Walter K.’s backyard too.

Two Snowy Owls still here. An early loon at Anigaaq (Red-throated?).

May 14

Low 31° F
NE wind 15

First freeze for a while. Rain and fog most of day – local water going to be real high.

Passerine birds and sandpipers at snow-free ground, Anigaaq west since last week. None here - snow cover extensive.

One Tree Swallow returned to box at 10:55 a.m., AK Daylight Savings Time (3 hours ahead of sun time). He stayed only five minutes. Pintails and Snowy Owl on back flats. Still no small birds (sandpiper and passerines) here.

Anigaaq “supi” yesterday (opened channel to the ocean). Beach crack surprisingly wide for this date (3 to 4 feet).

May 15

Low 33° F
High 38⁰ F
E wind to 15
Cloudy, rain showers

Real heavy air traffic first half of this month. Seems to exceed anything we have had before.

A trip west to First Creek - flooding. Very few birds, but interesting ones: an early Hudsonian Godwit, two Bonaparte Gulls (voice like a Rock Ptarmigan). Rare here. Three early Canvasbacks. Lots of ground and water habitat, but very few birds. Real few land birds.

Upper Kobuk, Buckland flooding. Pete said Noatak ice at Hatchery unsafe yesterday.

Journal

Ice out at Noatak village. People still traveling to and from town (Kotzebue).

May 16

Low 40° F
High 50° F
E wind 15-20
Rain off and on

Our flood thaw year continues. Lots of water. Kobuk village being evacuated. Our lagoon full. This year has more potential for flood than any in the past forty.

More bird movement - some passerine, some sandpipers. Northern Shoveler and Red Phalarope the new birds for today. Snowy Owls still here. Second Northern Harrier for the year.

May 17

Low 40° F
High 53° F
E wind to 25
Rain showers

A record breaking high today. Thaw and flood continue - the tenth day. First day no town traveler - much water on top of ice all directions. This continues to be unusual year with the early warming and sustained above freezing temperatures. Moderately heavy snow cover was gone in a few days - lots of fresh water. Hardly any salt water hunting yet this spring.

Remarkably few birds. Tree Swallow made a second pass through today. Black Turnstones, Lapland Longspurs, and Western Sandpipers seen today.

Lena and McCall's boating today. One tomcod in crab trap set in beach crack.

May 18

Low 44° F
High 55° F

A beautiful warm day. Light showers but lots of sun.

Few new birds: Semi-palmated Sandpiper, Savannah Sparrow, and Bar-tailed Godwit. Numbers increased a bit, but total bird count is still sparse.

Snow on ground is nearly gone. Water on ocean ice, and lagoon level somewhat diminished. First day most local seal hunters are out. They need good luck. Dog feed short. Noatak River continues to rise - Hatchery worried. Pilugraug people moved to Noatak.

Non-breeding swans beginning to flock up over early greens. Second day of no

travelers (surface) from Kotzebue. Checked Green's Airfield today – two-thirds snow-free. Received male Northern Pintail band from friend today: #956-98037. From Krusenstern. River floods (except Noatak) dropping off.

May 19

Low 38° F
High 53° F
Variable light wind

Beautiful thawing days continue. Lower forty miles of Noatak River flooding. Hatchery and McCall boys the only people.

Arctic Tern and Pomarine Jaeger new birds for the day. Carrie saw a “hawk.” From description it must be a Merlin. Avian population still sparse. Slowly picking up daily.

Amos Greene over for the day. Reports good trail on beach. Seal hunters home early this morning. Report lots of seals and ugruk, but dangerous trail near open water edge. Perry Keats brought in the first ugruk of the season. Others caught Ringed Seals.

Six occupied camps west of Sisualik this spring (Krusenstern). Colored water under sea ice today at Sisualik.

May 20

Low 36° F
High 42° F
S-SW wind
Light rain

Two Whimbrels. Swallows doing some nest building - not much enthusiasm.

Checked *Gentiana* ground: a snow-free, water covered margin. This early warm and a snow-free, water covered zone should produce good crop. An additional note of interest: heavy silt dust distributed by mid-winter gale from NNE may be a factor in spreading seed/soil throughout beach ridge ground. It may also contribute to soil mixing and nutrient distribution throughout the affected zones. Sixty days will pass before *Gentiana detonsa* plants can be expected (first bloom). Last year only two plants discovered. The year before (1988), super abundance (thousands).

Ground nearly 100% snow-free (only drifts around buildings). Lagoon waters almost down to winter freeze ice level. No floating ice yet. Lena Jones put net at Katyauraq – a few siulik (Great Northern Pike) and whitefish.

Journal

May 21

Low 33° F
High 43° F
SW-W wind 15
Rain, fog

Fog cleared. Nice and sunny in late evening. A cooling trend? A real odd year on two counts: one, deposited mud from midwinter gale from Noatak mouth (NNE), plus two, a steady thaw till snow melt equals flood! Last night Lena Jones reported a huge ice pile up at mouth of "Paul's Slough." "A white mountain," she said. McCall boys reported this year's flood of their island home worse than last, when they lost all "living things" (foxes, dogs). They moved to high ground - are safe now. They have no hope for island as a living place after this and last year's flood.

Oldsquaw and Long-billed Dowitcher new birds. Bird population still low. Some lagoon ice is beginning to float. Gulls active inner Kuliitqin.

No seal hunters out. Ice piling visible from Kotzebue. Boats soon!

Sealing Point seal hunters out - after fog - some sunbathers taken (Common Ringed Seals).

May 22

Low 30° F
High 35° F
SE winds at 20
Showers

First night freeze since thaw began. Left for Sealing Point at 3 p.m. to overnight. Trail all right - just dried up. Sealing Point flats completely snow-free. Few birds. First Glaucous Gull eggs: one in each nest, a total of 2 eggs. One week early.

Several tent camps west of shelter cabin - lots of extended family (6-7). Kotzebue channel ice (far side) reported moving. Sisualik lagoon side flooded higher than first flood due to south winds and Noatak outflow. Krusenstern Lagoon white - ice not floating (water level low due to open outlet).

May 23

Low 30° F
High 38° F

Snow showers this morning, but clearing by afternoon/evening. A very beautiful day.

New bird - Lesser Golden Plover.

Bumblebees! Lots of pussy willows open with pollen - ready for them!

Small Glaucous Gull egg take at West Noatak Delta. Less than ten eggs. Interesting that first egg laying occurs on same day, thirty miles apart!

Clear water (ocean beach crack) yet from Anigaaq west. East to delta water very opaque, tan-colored with silt. Water regularly changes from clear to tea, to coffee, to butterscotch pudding.

Cotton grass spikes and base of some *Carex* the only “greens.” Lagoon water remains high but is dropping, protecting the lower floral zone from nightly frosting.

Trash at Sealing Point. At what point does human trash become something obnoxious? In the past of sparse human habitation, “human trash” was seen as something “good” since it indicated the presence of other people – “no more lonesome.”

First boat at Sisualik Lagoon edge (Jones'). Akulaaq channel opened to sea.

May 24

Low 29° F
High 50° F
Light S wind
Mostly clear

A third freezing night! Lagoon water still over margin but dropping slowly. A 3-wheeler ride to the Point today - lots of muddy ice up (floating), but intact. Very, very few sandpipers feeding. Lots of gulls and jaegers - mostly Pomarine feeding on winter killed fish (herring? tomcod?). Thought I heard a Black-legged Kittiwake today! Red-necked Grebe hollering this evening.

Strange contrast in willows (*Salix*) between here and Sealing Point. Profuse, abundant growth there with many “pussy willows” (catkins) out - some open with pollen exposed. Guess both species to be *Salix pulchra*, though this remains to be proved. Only a few catkins out at Point and none observed were developed enough to be attractive to bumblebees. Grasses (*Puccinellia*, *Carex*, *Elymus*) beginning to show exposed green shoots of new growth. Swans and waterfowl have begun feeding on the most developed. No aquatic plant food (*Potamogeton*) available to them here yet. Only floating ice mud observed: a sterile surface mud - not lake bottom stuff.

First fish taken (by net) from wide beach crack. Reported Bering Ciscoe and Humpback Whitefish at Sisualik. Jones' camp (on sloughs) has been getting fish for a week. Now report large fat Broad Whitefish - very unusual! First boat from Sisualik to town - through delta sloughs and Noatak River.

Journal

May 25

Low 41° F
High 54° F
Light NE wind
Showers

Fish day! Lots of Alaska Whitefish (Humpback) at ocean beach cracks (with net). Some fish fat, which is unusual this season. Must have had a good winter. A few flounders; one Bering Ciscoe.

Warm temperature on snow-free ground bringing green growth. Perennials and bi-annuals showing green above last years dried growth (*Elymus*, *Puccinellia*, *Carex*, *Artemisia*, *Angelica*). Haven't checked tundra for *Pedicularis*, but would expect first blooming soon. *Primula* are numerous, though till underwater. Growth beginning at pothole/pond margins where plants are protected from frost.

Kittiwake and Oldsquaw noise today! Now we know we live on the ocean! Swans (10-12) beginning locally. Probably non-breeders moving around to different places to graze first greening on land since aquatic zone still frozen underwater. Ocean water continues to be tan in color. It tastes fresh and will be unsalted for some time due to flood runoff in river systems.

May 26

Low 40° F
High 58°F
Light E wind
Sunny

Seemed warmer today. With warm nights and days ground is greening rapidly. Whitefish catch through ocean ice cracks continues. Fish in good condition and plentiful! Tried herring net in lagoon; only one. Mud ice hasn't started to lift yet. Maybe no herring till it does. Birds increasing slowly, but surely. New birds: Yellow Wagtail and Pectoral Sandpiper (12). Swans (18) following new greening. A beautiful calm warm day.

First full leaf out today on *Salix* sp. One of the mat-decumbent varieties. Temperatures this warm, this early will cause some unusual happenings.

Glaucous Gull eggs abundant. A second ugruk was taken, this one at Sealing Point. Report of several on beach shelf ice.

Some large blocks of organic ice mud finally floating. Many birds on them; will try to check them out tomorrow. Sisualik Point Channel beginning to break up.

May 27

Low 40° F
High 54° F

Light winds
Sunny

High temperature of 54° F was reached by 10:00 a.m. West winds in afternoon brought cooler temperatures.

Ligusticum scoticum - Beach Lovage - Tuqaiyuq. Leaves formed and unfolding. The first of our wild celeries - a few days earlier than *Angelica*. This may be an extreme early date for these plants, due to early and continued warm temperatures. Green shoots of Iris also out.

A lone Dark-eyed Junco today. Rare here on the coast. Only appears every other year. Bird density remains sparse. Where are the Western Sandpipers, Bar-tailed Godwits, Red Knots, Long-billed Dowitchers, and Dunlin?

Channel down to the Point (Nuvuruq) from west Noatak Delta opened today. No boat reported yet. It won't be long! A quiet Sunday - first Sunday school of summer season today. Margin area water level for *Gentiana detonsa* still there. Early warming and soaking should produce good crop. (Last year only one plant!)
MOSQUITOES!

May 28

Low 42° F
High 70° F

Thunderstorm. A very gusty electrical storm. Winds 50-60 mph, short term. An unusual happening here for May. Thunder, lightning, and heavy shower.

Whitefish are still running strong. Lagoon finally has a few big areas of mud-ice which attracted 150-200 Brant, three Red Knots, and a few Bar-tailed Godwits. Relatively few species for ice mud this date. Wonder where they are?

Ground is rapidly turning green. Most early season plants showing green growth on surface. Dwarf birch (*Betula nana*) leaves are out; some shrub willow species are unfurling. Bumblebees are numerous. Only blossom found today was of Bearberry (*Arctostaphylos alpina*). *Pedicularis Kanei* stalks are up but not quite flowering. Bumblebees are working *Salix* catkins.

Water level in the lagoon near normal, but a little high. Still little sign of herring. Report that west of Sealing Point tower the ocean opened to the beach. Our cracks moving around little but only a few feet. Water very tan colored. High ground is already getting very dry. Promises to be a long fire season.

Gull egg harvest peaking. First boat down to Sisualik Pt. (Nuvuruq) Red Knot new

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bird for the day. Glaucous Gulls are riding the up drafts ahead of a thunderstorm; very impressive (35 or so). Some more large mosquitoes!

May 29

Low 40° F
High 54° F
Light W wind

Warm dry days continue after last evening's near catastrophic thunder storm. First boat travel to the Point (Nuvuruq) straight across the bar. Before today all crossings were through the Noatak River mouth and sloughs.

Water dropped to normal in the lagoon, but still no herring. Beach cracks increasing and show small movement. No marine mammal hunting activity due to ice condition.

Fast plant growth after last night's shower. Wonder what the effect will be when we freeze again! Ate first greens today (*Ligusticum scoticum*). Maybe first time ever in month of May!

Gull egging remains most pursued activity. Some large flocks of Brant coming in from towards Espenberg. Bird density still low.

May 30

Low 34° F
High 40° F
W wind
Showers

Much cooler today. Made trip west, inland to Akulaaq lake. Several blooming plants - *Honckenya peploides* (not blooming but leaves fully out), beech, *Petasites* sp., *Pedicularis Kanei* and *Eriophorum* sp. on uplands. *Salix* and *Betula* are leafing out. *Alnus crispa* catkins elongated with lots of pollen. An interesting note - high ground graminoids all show green growth. Lake margin *Arctophila fulva*, *Carex aquatilis*, and *Calamagrostis* sp. do not. This is of importance to waterfowl since green growth of these species is of importance after egg hatch. The reason is clear this year - rapid, continuous warming melted the snow and warmed higher ground quickly. Lake ice, floodwater, and frozen lake bottom margins are slower to respond to air and sun warming. Seems a strange contrast this year to see ground greening and blooming, while lake and wetlands are brown and as drab as fall time. *Betula nana* most progressed leaf development of all shrubs.

Wilson's Warbler, Fox Sparrow, Pacific Loon and Aleutian Terns back home the new birds for the day. Egg laden herring from Sisualik lagoon -mmmm! *Oxytropis Maydelliana* leaves out. An important plant to squirrels. Used to be important to people also.

May 31

Low 43° F
High 55° F

Calm most of day. NW winds at 15-20 mph in the evening. On this date, ten miles out from Sealing Point, on the ocean ice at the edge of the open water lead, the sun no longer dips below the horizon. The midnight sun is on!

Lots of herring in lagoon. Many already spawned. Ocean open to half way between here and Point. May open to here with this evening's NW wind. First outgoing char taken in Sisualik nets. Sheefish too, amongst the many Humpback Whitefish. All the fish anyone could want right now. No one keeps a net in more than a few hours right now.

Another ugruk was taken at Sealing Point last night by a small boat through narrow opening in beach shelf ice. This is the third this season. Bit of a new twist - this used to be kayak, man pulled sled ugruk hunting time, not small aluminum boat. But it works to some degree and is probably less dangerous, though less effective, too. A new month tomorrow. Most things that normally happen in June have already happened! What will June bring?

Several thousand Glaucous Gulls on lagoon tonight after herring (low water and spawning). An unusually dense gathering of Glaucous Gulls.

CAPE KRUSENSTERN JOURNAL

JUNE

June 1

Low 40° F
High 45° F
N-NW wind to 20

Ocean ice moved but piled in front of us. Beach clear of ice from Obie's east. Boats traveling straight across to Kotzebue but Kotzebue channel running heavy ice today. First char for us today. Herring and gulls still active in lagoon. No beluga yet though they could show at any time. Cold evening, may freeze tonight. No more shelf ice at Sisualik now (this evening), only pack ice. Ocean water has cleared with westerly wind and current. Boat marine mammal hunting can now begin. Aleutian Terns and Kittiwake again today.

June 2

Low 34° F
High 38° F
NW wind at 15-20

Ice piled very high in front of Sisualik. No fishing, no boating no mosquitoes! West wind may take up whole month of June! Brrr!
Water extra low in lagoon. Some herring activity, but gulls are dispersing. Ocean water clearing. Kotzebue channel ice running strong. Crossing possible, but only sporadically.

June 3

Low 32° F
High 36° F
W wind 20-25

Cold and fog. Brrr! Fog cleared late afternoon. Entire visible ocean jammed hard with piled ice! Looks like it won't move all summer! No boat, no hunt for awhile. Maybe fish through small, ice-free ponds. Ho, ho! Now we know what some of June will amount to. Thawing out again!

Gull egg take continues. Lagoon ice three quarters gone. Ground world turning green. Wind dropped off near 12:00 a.m.. Not "midnight" as that occurs at 3:00 a.m. Dumb system!

June 4

Low 30° F
High 45° F
Light winds
Sunny

A very fragile, beautiful morning. No wind, warming sun, shiny water and strong background noise of Tundra Swan and Sandhill Crane. All shattered by the amplified staccato roar of an early-rising boater. An hour later aircraft noise, nearly constant, pervades.

The world has almost turned green! Heard swans from areas out of sight. Was surprised to see 500+ later! Lots of music on a day when sound carries well. Many Long-tailed Jaegers have come (40).

Jammed ice loosening up with a fairly strong 15-20 mph evening north wind. Maybe more water tomorrow. Fishing rather poor. Lee Anne and Richard visit.

June 5

Low 42° F
High 50° F
N-SW wind to 15

Sisualik lagoon ice free. Ocean front ice loosened some, but still too tight for boating.

First noted salmonberry plant leaves unfolding today.

Lots of whitefish in the ocean; char scarce yet.

Flock of non-breeder swans still around (500). An unusually large flock of Canvasback, mostly male (40). A several year question remains: are these unusual groups of canvasback a result of an extended breeding range or a prairie draught over flight?

Mosquitoes increasing with the greens. World has turned green. Snow gone from Sisualik lowlands. Some inland snowbanks remain.

Considerable open water on ocean in late p.m. after the 15-20 N and NW wind.

Two “Kivalina big” char taken a little west of Ranger Station, the first of the season.

June 6

Low 35° F
High 42° F

Calm morning winds. In afternoon, west winds to 20 mph. NPS seasonal staff orientation today.

Lots of swan noise (500) and open water in the ocean. At 5:30 a.m. a low flying two

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engine plane made lots of noise, but didn't disturb swans. An amazing change. Heavy aircraft noise used to cause birds to take flight. Such steady air traffic seems to have caused swans to get used to the noise and vibration.

Heavy "fat" Kivalina char catch, Anigaaq west. Some real big ones.

A surprising flower bloom on a Kotzebue side street. Lots of *Caltha palustris*; these are the only flowers noted.

Check Jonas Ramoth's report of heavy whitefish run in Sinaaqrug creek.

The early aircraft turned out to be a med-evac out of Point Hope. An in-law at that! A town (Kotzebue) rumor: a few belugas moving "out" Kotzebue channel in front of town two nights ago.

June 7

Low 32° F
High 34° F
W wind at 20-30

Waves! The monster at our front doorstep stirs again. No more ice, even on the horizon to the west. Temperature dropped to 32° F by mid afternoon. Cool! Fog bank, but didn't quite get foggy. Wind dropped in evening. Lots of water, not much ice in sight.

A full stalk *Pedicularis Kanei* at tent site. Beautiful deep color. Blooms scarce here, yet on highlands blooms are plentiful.

Surprisingly, no fish in net on first try in waves today. Only trash, plastic and junk!

Five hundred flocked tundra swan non-breeders continue their interesting activities.

Tent site willow finally leafing out. These are very latest in the spring to green-up. Leaves and catkins come out at the same time. A long time span between first mat *Salix* sp. and *Salix* sp. shrub.

Five nice fat char. A late catch. Taikuu!

June 8

Low 28° F
High 38° F
W wind 20
Variable to 10, evening

Flocked non breeder swan group (500) very vocal this evening. Their persistence in returning to choice feeding spot in spite of closeness to neighbor camp site and

numerous disturbances throughout the day is remarkable. New growth *Potamogeton* in beds underwater is the target food.

A short stroll over the salt marsh this morning revealed surprising number of *Primula borealis* and *Androsace chamaejasme* in bloom! These are the first noted for the year. First blooms could have occurred several days ago, but no more than three days. Beautiful. These are an early flowering, plentiful and widely distributed wildflower on Sisualik spit.

Spiders very active during this cool weather spell (after many days of warm temperatures). Various insect prey scarce and hidden, requiring wider ranging of hunting spiders. Arctic spiders and bumblebees interesting creatures. General public not much aware of their unique adaptations.

First belugas sighted today: “a few but all large white ones.” They were in sight from mid Sisualik for a half an hour, though not real close to beach. They left, headed west.

Sisualik water nearly clear and very cold due to current from west caused by several days of strong westerly wind. Sisualik water masses very extreme in their temperature variation at this season. One block of water may register 0-1° C while another adjacent to and touching it may be as warm as 14° C! Must be quite a sensation to fish and belugas as they swim through the boundary lines. The full effect of these temperature and salinity changes is poorly understood, but have the potential to explain behavior of fish, whales, seals, sea birds etc.

Greening of the world continues. White film beginning to show on high table lands one to two miles to the north. This is caused by the maturing of *Eriophorum* sp. flowering stalk. In a good year (for that plant) some areas will take on the whiteness of a snowfall for a time.

Not much fish today, but many fat char said to be at Sealing Point. Headed this way! Four Noatak families moved into Point camping area. Soon more. No ugruk hunting by boat yet because of high winds. Lots of water now, so when winds drop, boats will be out.

Gull egg take continues. A beautiful calm, warm, late evening. Hunters will be off soon.

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June 9

Low 31° F
High 37° F
NE-NW wind 15

A fine clear cool day. A family member's boat brought in two ugruk and dropped one here. First ugruk boat catch of the year. Late last night a passing plane reported fifty beluga offshore, a short way from Sisauligraug. Plane continued to monitor them for one half hour. Boats went after them but no catch. A few (four or five) seen west of us this morning.

First piece of "new" driftwood landed on Sisualik beach today. After many years of little driftwood, last year provided a bonanza. Still lots left from last year. It has been many years since more wood landed than could be burned in one season. There should be some more this season with all the early flooding.

Waterfowl grounds behind the camp site have become well populated with flocked non-breeders of several species: Tundra Swan and Northern Pintail predominate, with good numbers of Wigeon, Scaup, and Canvasback. One thousand or so, all together.

Many slim "outbound" char here. Very fat "inbound" char west of here. Ugruk day. Some four to five boats report "lots" of animals not far out.

June 10

Low 38° F
High 50° F
Light S-W wind

A beautiful morning. Ice three or four miles offshore. Lagoon water low. Waterfowl working the *Potamogeton* sp. strongly.

The *Pedicularis Kanei* flowering stalk was perfect from bottom to top for one day – yesterday. This morning a quarter of the flower petals browned. Reproductive life short north of the Arctic Circle. The adaptations of the genus *Salix* were well demonstrated this spring. Our latest blooming and leafing species is just now developing both leaves and catkins, more than two weeks later than mat varieties. Leave killing late frosts are much more likely at ocean beach site at this time of the year, thus the survival of late leafing shrub forms. First blooming Forget-me-nots, *Myosotis palustris*, observed this morning.

Fair catch of fat char last night. Several (5) beluga nets put out today. Every boat that went out yesterday returned with ugruk. Few boats out today. A few new "summer people" every day, a few more ATC'S.

June 11

Low 33° F
High 40° F
NW wind 15-20

A dry cool day. More ugruk brought in today. Catch per boat less than Saturday (1 or 2 per boat). No more egg taking. No more word of beluga. Fog getting close (at 10:30 PM).

Profuse blooming of *Primula borealis*.

Sheefish mixed with fat char in Sisualik nets. Sheefish stomachs loaded with 4 inch tomcod and herring.

Fairly high water level in lagoon for awhile today after many days of low water. Flocked non-breeding swan group (500) not around today, either because of water level change or discovery of a new feeding area with tender greens.

Large ice floes may have damaged some beluga nets. No report of beluga catch or sighting this day. Ocean water still murky when tide is out flowing. Lagoon waters warming rapidly (12-14° C), now that both bottom and top are ice free

June 12

Low 33° F
High 40° F
Light NW wind
Fog, clearing by 3 p.m.

First blooming poppy (*Papaver* sp.), salmonberry (*Rubus chamaemorus*), and *Astragalus alpinus*, an ubiquitous Sisualik floor mat species.

Boat hunting for ugruk continues intensely! In the last ten to fifteen years, this marine mammal has become the primary producer of NANA Region seal oil. This a change of emphasis that may result in management concerns.

Ocean water has become quite clear and salty. Several days of W-NW winds tend to bring this clear, cold salty water from north and west anytime during the summer after spring flush. It is always relatively sterile compared to the warm brackish outflow brought by easterly winds. Char still running, flounders increasing every day. Two species - Starry Flounders and Arctic Plaise. Hatchery fry release set for tonight. Hope the Sheefish are not anticipating!

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June 13

Low 38° F
High 42° F
W-NW wind to 20

Town trip for FWS orientation. Eagle eye view of Noatak Delta always amazing. The world always looks different from a bird's perspective; geography easier to comprehend. Snowbanks on our side of the Sound getting small and scarce. The Baldwin Peninsula has many snowbanks yet. Town dandelions (*Taraxacum*) blooming profusely. Must do well on a diet of oiled dust.

Beluga overdue. No news of new sighting or any harvest at all. Nets have been roughly treated by ice. Some ugruk catch continues.

Park Service boat on way to Anigaaq station. Pretty choppy. Ground floor continues to bloom. Waited all winter for this!

June 14

Low 38° F
High 46° F
W wind to 20

Another cool, windy dry day. Too windy for hunters today. Some ugruk taken yesterday. Still no beluga news. Wind dropped after 7:00 PM. Maybe a weather change soon.

Extreme low water in lagoon. A few late-spawning herring present, probably the last for this year. Only flounders in the ocean today.

Reports of three caribou taken today (out of a group of seven) on Baldwin Peninsula.

Many boats headed for ocean ice pack as wind calmed. More summer campers (local) setting up camp.

June 15

Low 42° F
High 50° F
NW wind to 20

Calm overnight A glassy sea in the morning. Steady sound of distant rifle shots into the water. Ugruk harvest continues. A good catch for those that are out overnight and in the early morning. Highest catch per boat noted, five.

Many blooming *Primula borealis* on trail to the well this morning. Not only on sides of trail but some in it! The way these fragile little plants with their deep pink petals and yellow eye tolerate the salt burn margins and used paths and trails is remarkable. One of the most abundant of the flowering species at this time of season.

A call from Peter R. A Hawfinch at the Hatchery today! A real Eurasian rarity here! Hope we get good documentation.

Only one char (stuffed with 3" tomcod) and two Bering Ciscoe in net. Ovaries of Bering Ciscoe pretty well developed; individual eggs easily discerned. Flounders much increased!

Report of seven moose at Sealing Point flats. Walrus noise heard off shore of Ranger Station early this morning.

June 16

Low 38° F
High 45° F
Light NW wind
Cloudy

Ocean ice looks kind of far. Lagoon water mid level. Fish movement slack except for flounders. Herring and char activity fading away. Ugruk hunters still having fair catches.

Snowbanks in sight getting very small behind Sisualik. They will be gone in another day or two.

No beluga report again.

Swans have moved off. Very few birds around. As the week ends, mid June is characterized by two scarcities: bird and belugas. No explanation.

No mention of caribou on beach this summer by marine mammal hunters between here and Port site. Different than the last few years.

June 17

Low 36° F
High 41° F
W wind to 20

Another cool windy day with ice close on the ocean. Blooming of plants continues in spite of coolness. Though the temperature never stays below freezing quite long enough to cause plant damage, it has been hanging on the very edge. This will be a remarkably long growing season if this "edge" is maintained.

Some late Herring Gull activity in lagoon. Sisualik dandelion(*Taraxacum*) bloom. Report of walrus hunting out of Kivalina. This means the continual west winds have caused a path to open through the "ice belt" so boats can gain access to outer edge of

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the pack ice through which walrus migrate. This always a prelude to completely ice-free ocean season.

NW wind to 20 mph this late evening has brought temp down to 36 F. If wind quits abruptly during the night, green growth and flowering plants will be frosted. A critical time for this year's berry crop. This "month of the midnight sun" has been a cool one to date. Compensation for May's unseasonable warmth?

Swallows are absent - interrupted incubation?

June 18

Low 35° F
High 54° F
Wind calm to S at 15

A beautiful morning. Very clear, salty water in ocean. A few ice chunks along the beach. The extended period of W winds at this season bears the Eskimo term Imigitqqsak. After the spring flush out of freshwater runoff, silt, and debris, the ocean regains its very salty and very clear characteristics. This annual environmental change, a part of Eskimo folklore, has many ramifications. Fish species are affected, marine mammal molt and buoyancy, seabird ecology and man's activities are influenced by this "change of water."

Two small flocks of Brant (15 total) westbound today. Very scarce this year. While cutting a char for cooking, again found the stomach full of 2" to 4" tomcod (saffron cod). This brings to mind another area where research is needed, especially in regards to the chum salmon hatchery program. It is obvious that there are juvenile fish of many species in the Sound at this season. Little is known of their food needs, prey species, etc. Doubling the number of fry of any one species may or may not be a tolerable increase in competition for available food.

With the new southerly wind system, ice has moved on shore in our north sound beach. Ugruk hunters did well today. Seems plenty of floe ice yet.

Interesting story today of a radio-collared wolf taken on the Monument last winter.

The Hawfinch at the Hatchery continues to enjoy the sunflower seeds put out for Snow Buntings last spring. Report of pictures taken today. This may be first documented occurrence of this bird near the Monument and maybe on mainland Alaska. We'll see after report is made to U of A museum.

June 19

Low 40° F
High 45° F
Rain

Rain! Just in time for berry crop and fire protection. The Kotzebue area had coldest overnight temperatures in whole state.

First blooming of Bluebells, *Mertensia paniculata*, and Beach Peas, *Lathyrus maritimus*.

Floe ice right on the beach. Very high water levels due to southerly winds. No net fishing due to floe ice.

Two moose wandered down towards our camp this evening. As many as seven have been seen at once at Sealing Point flats this week. This is a more or less regular happening in June and July. Wonder why? (cool weather? no bugs? greens?) Latest “new growth” sprouts occur closest to ocean.

A full day of rain and south wind, high water. Finally a little driftwood is beginning to float in.

June 20

Low 34° F
High 38° F
W wind to 20
Fog

A cool morning. Tough on swallows? Temperature only 36° F at 6:00 p.m. Report of a large ship anchored in the ice offshore at Anigaaq. This probably means the pack ice belt at the mouth of Kotzebue Sound is thin enough for the first ocean transport craft to seek landing either at Red Dog Port Site or Kotzebue. In either case it means ice hunting days are numbered. Spotted seals and walrus are close by. Ocean swells will soon usher in the ice-free summer and the Chukchi Sea.

Two Sheefish in ocean net today. Stomachs stuffed with 3 to 4 inch saffron cod. No other species except flounder.

Sea birds (kittiwake and Mew Gull) beginning to feed more on something that has not been available on surface till now. Sand lance? Smelt fry? Euphausiid?

Blackberries (*Empetrum nigrum*) set on plants, the size of number 6 lead shot. Hope we have a good crop. Rained right on time.

Report of a few belugas seen by aircraft between Cape Blossom and Elephant Point yesterday.

June 21

Low 34° F
High 52° F

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Calm this morning, with frost. In the afternoon and evening, SE winds to 20 mph.

The longest day of the year. Always a bit difficult to comprehend here since 24 hour sunlight has been the norm from June 2 and will continue to July 10. Likewise, the ocean is still full of ice (very close to beach this morning) and the green ground growth is barely underway. Makes it hard to comprehend that our sunlight has passed its peak of building and will now diminish, culminating in the few hours of December sunlight.

A completely calm early morning. Sounds much magnified over glassy ice-filled ocean. A loon's wail or a gunshot echoes and reechoes around the periphery of the hearer's world. An oil barge and tug went by today towards Kotzebue.

A large ugruk harvest continues. Some boats with five or six. Still no beluga. No fish catch today. Unusual, with the net in the water three hours.

Rain showers began at 8 p.m. Found a dead ugruk which had drifted in; skin and blubber salvaged.

Hawfinch at Hatchery hadn't returned today by 8 p.m. Kittiwakes and loons more active in ocean.

Report of Russians on Beach Ridge Complex of Krusenstern.

An unconfirmed rumor of salmon at Sadie Creek.

June 22

Low 42° F
High 45° F
W wind to 35
Rain, fog

A real heavy rain overnight. Vegetation benefits and fire potential much reduced. Profuse blooming of *Potentilla villosa* at local patch. The tendency of this plant to produce blooms which nearly obscure its leaves and stems makes it one of the most beautiful of the yellows on the beach ridge mosaic of color. Oddly, it seems to be only recently established on Sisualik Peninsula, while it appears long established on the Krusenstern Beach Ridge Complex. This just the opposite of the *Ligusticum scoticum* plant which seems new to the more NW area.

Another very cool windy day. NW wind direction has moved most of the ice off and out of Sisualik.

No word from Peter on the Hawfinch. Two Sheefish in table net. Ocean Sheefish

remain a mystery.

A lone Red Phalarope among broken ice pieces on the beach. Dull plumage. Few to be seen this spring.

No word of beluga, though hunters are gathering at Elephant Point.

June 23

Low 37° F
High 51° F
W winds to 20
Rain showers

Snowbank whiteness of Cotton Grass heads intense right now.

Ice is very close this morning. The rifle shots of the first boats out to ugruk land could be heard from here. Many kittiwakes and a Pelagic Cormorant were seen on edge of broken ice, which is moving into the beach. Ugruk hunting still good. Abundant ice.

Our last visible inland snowbank has disappeared. New snow will be welcome - by October!

Ocean fishing pretty poor. Only flounders and a few Bering Ciscoe. Ice so tight against the beach that a traveler turned back this side of the Ranger Station. Cape Espenberg CB contact today. Report of lots of ugruk there this spring. It is turning out to be a bumper crop year for ugruk throughout Kotzebue Sound. That is good, for they seemed scarce the last couple of years. This is good, as recent hunting trends have put much more pressure on this species. Maybe they can stand it. Finally, beluga news: Elephant Point yesterday. Rumored a good catch – “every boat” in the drive. (How many boats? Catch per boat?)

June 24

Low 38° F
High 65° F
S-SE wind to 20

A cool night, warm morning and sunny day. Beautiful! *Papaver* sp. in their glory. I continue to seek information on the relative rarity of the salmon colored center variety named *Papaver Hultenii* in Hulten. Several years ago (10-12?) there were two clumps of these northwest of Krusenstern Tower, among several thousand blooms of the common all-yellow blossoms. Have not seen this coloration since and have alerted other travelers to keep an “eye out” with no results.

Much ice with many ugruk continues on the ocean. Hunting effort much reduced

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since most crews active from beginning of season have all they want or need. There is intense interest now in Beluga. No known harvest yet except out of Elephant Point. (Yesterday's rumor as yet unconfirmed.)

Nice cool sea breezes ideal for meat drying and we have lots. Butterflies! Mosquitoes! No fire in stove this afternoon. Don't remember since when. Summer getting closer.

June 25

Low 53° F
High 74° F
E wind 15, calm p.m.

A very warm, buggy night! First bad mosquito evening, night, and morning - both for animals and people. Fish aren't bothered much!

A real hot late day! Lots of ice left in the ocean but didn't help cool things down this afternoon, because the breeze was from east. Great day for spiders, butterflies, and mosquitoes! First blooming of *Oxytropis Maydelliana*.

Some ugruk still being brought in. Beluga hunting apparently good at Elephant Point. Some rumors of Belugas at Riley Wreck. No reliable numbers yet available, but hints indicate fairly heavy harvest at Elephant Point. Big stampede from here and Kotzebue since everyone has enough ugruk here, and weather and time permit long distance travel for a special food not available here yet. This is a graphic demonstration of a newly developed pattern.

The ground very dramatically alive! The recent rain and warm nights and days promote exuberant growth and life!

A group of over twenty Whimbrels in backyard today. Must be flocked non-breeders. Unusual, since very few were seen here during early migration time (May). Both these birds and Lesser Golden-Plovers are present daily on *Empetrum nigrum* flats. Probably failed breeders and non-breeders. Maybe early return migrants.

June 26

Low 52° F
High 58° F

Early SW breeze off of the ice floes cooled our too hot evening and night.

Berry and bug seeking Whimbrel flock (30 birds) stalked through the back acres this early morning. Interesting body contact attack by parent Lapland Longspur when nest was approached. David and Goliath!

“A lot of” beluga reported traveling NW last night at Ranger Station site. These the

first reported since June 9 in North Kotzebue Sound. Two reported earlier in the day at mouth of Kotzebue Channel. Only Sheefish in the ocean. A good sized one reported taken by hook and line west of Ranger Station. Four in our net here.

Two moose swimming from Sealing Point toward Siberia. This has been observed before at this season. Reason unknown. Often swim the mile or two out to moving ice pack, try to climb out, can't, then swim back and exit the water near where they entered it.

Elymus mollis (Lyme grass) grain heads beginning to show. In Eskimo lore, this signals the time of salmon return. Tried a net set (a few fathoms) to confirm that lore this year at this site, without success. However, word of salmon somewhere in the Sound usually occurs each year about the same time the grain heads appear.

June 27

Low 50° F
High 60° F
Wind 5-15

A number of new flowering plants noted in short stroll through backyard. *Pedicularis sudetica*, *Castilleja caudata*, *Chrysanthemum arcticum*, *Potentilla Egedii*, and *Polemonium acutiflorum* are all new for this season. It is interesting at this late date that our “nearest to the ocean” *Salix* sp. shrub is just now fully leafed out, with catkins still in the pollen shedding-producing stage. A real long time interval between first *Salix* sp. catkin development and the last for the year.

Ice still in sight to the SW. Some ugruk still being brought in. The stampede to Elephant Point for beluga, predictably, has fizzled. Most boats from this side have come back without beluga. This in contrast to the first boats, which all came back loaded. Still no guess as to how many were taken in first few days of successful harvest by mixed Buckland and Kotzebue boats. The catch was zero last year at Elephant Point.

The whiteness of open areas in tablelands probably at peak for the year. *Eriophorum vaginatum*, Cotton Grass, makes it snowbank white this year.

Two caribou were seen yesterday west of Cape Krusenstern. These are the first known to be seen since last April.

In CB conversation today with residents at Sadie Creek (Baldwin Peninsula) taking of salmon was not confirmed so we still wait for confirmed first salmon. First open period for commercial fishery announced today as being on July 9.

Large flock of mixed Whimbrel and Lesser Golden-Plovers still working backyard

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areas. Apparently finding last year's blackberries still tasty. This years crop almost half size already. The number of species utilizing *Empetrum nigrum* fruit summer, winter, spring, and fall must be great. An amazingly important plant across the Arctic.

First waterfowl scheduled to be flightless this week.

June 28 Low 48° F
 High 52° F
 SE wind to 20

A trip to Sourdock Lake. Wasn't suppose to rain but it did. Got soaked! Sourdock (*Rumex arcticus*) leaves fairly well-developed, but they have felt the effects of several late frosts. Picked 35-40 lbs. Salmonberry crop looks poor; was also affected by frost at critical times. Some late flowers in sheltered and low draws may develop berries. Cranberries just blooming. Bright green and white - intense - is the color of inland-tablelands. Cotton Grass and Labrador Tea (*Eriophorum* and *Ledum*) make everything that isn't green, white. Some frost damage noted on early sprouting plants (*Petasites* and *Rumex*).

Many moose tracks and one set of caribou tracks in open country. A large flock (40) of Wigeon males, losing feathers but not yet flightless, were on the trail. No young ducks or ptarmigan.

Some driftwood landing. Ice nearly out of sight. A group of twenty Brant on sand spit in Lagoon. Late travelers. No mosquitoes on inland strip - too cold with rain.

June 29 Low 48° F
 High 60° F
 E wind to 18

A nice warm, breezy, and dry day. Near perfect June day.

Finally some good table fish - two large fat whitefish, which signal the first return to east of prior west moving Humpback Whitefish. This is a food migration (foraging) that occurs each year at this time. Lean overwintering fish spread out over Krusenstern sloughs and shallow lakes to feed heavily on developing insect (Chironomid?) larvae. They fatten up and begin to make their way back to major river system spawning areas. These two whitefish are the first sign we have noted of the beginning of that return movement. A bonus of a fat char also in the net. Ovaries of this fish indicate that it is of the "fall spawner" group (as opposed to "summer spawners").

Ice still in sight to the SW. Very few boats out in the ice, but some.

Report of three caribou taken by beluga hunters from here that were in the Choris Peninsula area (Baldwin Peninsula). That's two reports of caribou summering on Baldwin Peninsula. Not common in this century.

June 30

Low 60° F
High 78° F
Light E wind

A loud thunder clap at 6:30 a.m.! Very odd timing! Also the night low of 60° F is odd. Bugs!! Today's high of 78° F a record breaker.

First visit today by Anigaaq NPS crew. A good visit. Much smoke in the air today. Haven't heard of local fires, but visibility poor in the a.m.

A few ugruk brought in this morning. Still no beluga news except the Elephant Point hunt. A shackle of salmon gear fished today. No salmon. Our neighbor caught several char in the salmon gear. Update on beluga: "some" seen NW of Sealing Point today. Yeah!

Found two rare blooms on our tent site *Epilobium latifolium*. Rare because of its white petals and pink sepals. There are two plants near our camp which we located several years ago. Among thousands of other normal-colored plants we have checked on the Spit, we have not found other flowers with white petals. Last year these plants did not produce any flowers. We thought their capability to produce flowers was gone (old age?). We are glad to find we were wrong. Lots of vigorous looking buds!

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JULY

July 1

Low 58° F
High 81° F
Calm

A record heat day. wish we could save some for December!

Interesting report of Gyrfalcon nest with two downy young at traditional Sealing Point Lagoon cliff site.

First confirmed salmon catch from a net set near Ranger Station site - chum. Second salmon catch at Sealing Point camp.

A real suffering heat in the afternoon, when breeze stopped and in the evening when mosquitoes came out. Mid afternoon “horsefly” activity (a large “human-biting” fly) more intense than previously known here. Strange how anomalies in environment provoke some short term catastrophes!

July 2

Low 63° F
High 78° F

Lots of “stove pipe” columns (water midges).

New blooms: *Senecio pseudo-arnica*, *Senecio lugens*, *Saussurea angustifolium*. Downhill for some flowers already: *Pedicularis*, early *Potentilla*, *Primula*, and *Papaver*.

Town trip today. Several salmon reported taken on the Kotzebue side. Lots of activity over there despite the heat. Tourists seem to have a constantly bewildered look: “This hot north of the Arctic Circle?” (Not to mention oiled dust, mosquitoes and plastic in the water!)

July 3

Low 58° F
High 64° F

Cool. A welcome morning fire in the stove again!

First blooming of Iris (*Iris setosa*). Flower stalks and buds of Grass-of-Parnassus (*Parnassia palustris* and *P. Kotzebuei*), but no blooms yet. Local cranberry patch –

actually Lingonberry, *Vaccinium vitis-idaea*, just now blooming profusely. This is strange, with all other berries already set on the vine. This is our latest berry.

Strong run on this west wind of flounders and many fat, eastbound whitefish (Humpback). Most flounders are of the smooth type (Arctic Plaice). There are also a few Starry flounders. The first two Chum Salmon were finally taken in Sisualik; our neighbors gave us one.

July 4

Low 64° F
High 76° F

Yesterday's first bloom of Iris reminds us that this is our largest wildflower and a flower of quite complex design at that-wonderful! This morning I noticed the first plant growth of *Gentiana detonsa*- our only claim to fame, maybe, in botanical circles. This is the earliest of the plant's younger stages that I have caught. It is on the site of last year's only growth location. The last week of July is the normal flowering time, we think. This year it may be at least a week early. At this point, the plant is about 5" high, including the terminal bud which is already obvious. The leaves are very narrow relative to their width at flowering time, and very dark green, outlined or grading on outward edges to dark gray "shadow." This makes the undeveloped plant very hard to see amongst the current lush green growth of grass and forbs. White *Epilobium latifolium* plant is in full bloom today. I took a picture of it. Neat plant - because we can't find another like it? Rain and warmth these last few days has brought phenomenal growth of beach zone grasses and forbs. *Elymus* grain is up to my shoulder. It's turning out to be a great year for some plants, graminoids, especially, and some shrubby cluster plants (*Mertensia*, *Artemisia Ligusticum* and *Angelica*).

Caribou update: a couple of bulls were taken in the last ten days, in the vicinity of Rabbit Creek, by marine mammal hunters. The bulls were reported to be in superb condition - fat! Bulls are again the preferred target meat from May till Oct. 10.

July 5

Low 64° F
High 78° F
Calm to variable winds

Smoky, and another warm night! People camped west of Sisualik are moving back to their more permanent camps in Sisualik. There's a new building on Krusenstern Beach Ridge complex this week. There will be few local people on Krusenstern proper until salmonberry time, in mid August.

Some commercial fisherman activity is taking place east of ranger station, in preparation for the first opening next Monday.

Profuse blooming of *Iris*, *Saxifraga* mats and *Senecio lugens*. In October we tend to lose things under the beginning build-up of snow; right now, we tend to lose things in the vegetation. It is growing so rapidly! A real jungle! The first *Gentiana prostrata* are in bloom, which is actually the first Gentian bloom of any kind for this year- early! There are many clusters of *Gentiana propinqua*, but no blooms yet.

One broad whitefish and two fat “egg” char. No salmon. Charlie Lean and Susan put commercial fishing boundary buoy out.

July 6

Low 64° F
High 66° F
SE wind to 20
Smoke, then clear

Young passerines and Semi-palmated Sandpipers bumbling around.

Heat wave continues, augmented by smoke.

Whitefish movement heavy, but heat and flies prevent much utilization. Salmon run rather slow in developing.

No fire in the stove- all day yesterday! Ocean has real summer look today: smoky, small swells from SW wind, waves from the SE, and no more ice in sight!

First Humpback Salmon catch.

First blooming of *Saxifraga hirculus* and *Gentiana tenella*.

There's a new swallow out today. Appears to be only one. If they're gone tomorrow we'll know for sure - and we'll miss 'em!

We had a late visit from Jerry Stroebele, bearing a welcome plant sample from Mary L. Our first confirmed *Gentiana detonsa* ssp. *detonsa* from Baldwin Peninsula. Three sites have been confirmed now: Sisualik spit, Kikiktaichak Island, Kotzebue town site. Hurray! More, more requested! The early bloom date is a real surprise. The last week of July has been a 10 year norm for Sisualik. Is this year's warm month of May the reason? The general 10-day earlier development of vegetation on more inland sites? Anyway, this specimen is two weeks earlier than any previous.

July 7

Low 54° F
High 55° F
Light SW wind to 18
Early fog, smoke

The lagoon water level is high, due to high marine water systems. There's no more ice. There was a ground swell this evening, only halfway up the beach.

The swallows are still here!

There was a report of a sow bear with two young cubs and a larger bear (male?) west of Sealing Point. This is only the second report of bear seen from the beach this season.

We took a trip 3-4 miles inland to other sourdock lake today, and we're glad to report numerous groups of ducklings: Northern Pintail, Green-winged Teal, Northern Shoveler, and Scaups.. A pair each of Whimbrels and Bar-tailed Godwits seem to have hidden chicks in the same general area. I noticed the same thing at the same site last year. They are both such loud mouths; I wonder if the location is by design or accidental? There are lots of mosquitoes yet. Downy ducklings are scratching their heads every few seconds. The salmonberry crop looks very poor; there are some blueberries set on the vines The sourdock growth is fair, at near peak, for a harvest of 35-40 lbs. Nagoonberry, *Rubus arcticus*, and bog cranberry, *Oxycoccus microcarpus*, are still blooming profusely. These are two strange plants whose berries are difficult to come by. Many different plants that are not found around home were in sight today. Many Yellow Wagtails were seen in willow patch creek draw areas. The young are either not flying yet at all, or not much. Tussock areas are like cotton fields - lots of cotton this year.

Neighbors caught twenty Chum Salmon today. There was also an unusual report of salmon taken at Noatak village already.

Driftwood that has not been picked up is now moving around again with growing swells.

A few blooms of *Epilobium angustifolium* were seen inland, though none yet on Sisualik spit.

July 8

Low 50° F
High 55° F
N-NW winds to 15
Swells

The water level is half-way up the beach due to large, widely spaced waves. Cool, dry.

The swallow box mystery continues. It seems likely (based on observation from

other years) that one chick flies much earlier than others, which causes some confusion amongst swallows and swallow box watchers who try to interpret what's going on.

The NPS boat stopped by; they tried to land but the swells were too much. We waved them on; will catch up on visit this week sometime. Later got word that they made it into their station in good shape. These swells are beginning their work of closing the two outlets between here and the Ranger Station. The sooner they close the better - for fishing - as each day they remain open now, fish are moving out.

July 9

Low 48° F
High 55° F
Light W wind

Sun will set tonight, which is the first time since June 2. There will still be twilight throughout each night until August.

An interesting note on our local fireweed: two species of the same genus (*Epilobium*) grow here on Sisualik Spit, sometimes very close to each other. *E. latifolium* has been blooming for days; *E. angustifolium* has not yet shown a flower, though buds are near to bursting. In some cool summers (much unlike this year) *E. angustifolium* grows tall, but does not bloom. I recall one cool summer when there was not a bloom to be found on the tall fireweed, though on a visit to Kotzebue (Baldwin Peninsula), there were blooming plants around town. Obviously many plants in the Arctic manage to exist without producing viable seeds every year and some may go several years without producing seeds. Within long warm summers, both plants are robust with full-size blossoms. Our two *E. latifolium* with white petals and pink sepals are in full bloom with a few flowers beginning to drop petals.

Commercial Chum Salmon fishery begins today. Five boats set this side of Sisualik Point. We had one fine male Chum in our subsistence net this morning, with whitefish and a Humpback Salmon.

Swallows still around and have at least two young flying. Each year, at the first commercial salmon opening, it is painful to recall the abundant loon traffic at this season in the past. Since most Red-throated Loons nest in shallow tundra lakes with no fish population, they are required to fly back and forth to the ocean to feed themselves after hatching their chicks. This makes for a lot of round trips to bring a pair of young to flight size by mid September. They're gone from here, or nearly so, because of the tremendous footage of salmon gear in the water during open fishing periods. Pacific Loons have fared a little better since they usually choose deep, high-banked lakes with a fish population. After these many years of commercial gear in the water, one can readily notice the difference in loon traffic east and west of the Ranger Station at Anigaaq, which is close to the NW boundary of the fishery.

July 10

Low 46° F
High 55° F
W wind 18
Cloudy, fog patches

Made another sourdock (*Rumex arcticus*) trip inland, to the same lake we picked first in the last week of June. Remarkable re-growth has occurred; we harvested more than on our first trip. Huge leaf growth is due in part to intentional breaking of seed stalks. When done early in growing season (like this), small leaves at first harvest grow to giants. It sure worked this time, 50 lbs. worth! A few salmonberries and blueberries set on vines.

Three molting flightless ducks were noted this trip: two male Northern Pintails nearly ready to fly and one male Wigeon just losing its flight feathers. Several duck broods were noted: Green-winged teal, Scaup, Oldsquaw, Northern Pintail, and Mallard.

A large bear's tracks were found on top of my first tracks in the mud on the trail to the lake. It had packed a small seal from the beach two miles inland before eating it. These are the first bear tracks noted east of Ranger Station. We are going to have beachcombing bears again.

It was a mosquito free day today, even inland. This was due to dry, cool, moving air.

I picked up a dead Pacific Loon on the beach, four miles east of the Ranger Station. This is the first this year. It was a casualty of commercial Chum Salmon gear. I took it home for measurements for Pacific-Arctic Loon separation. All measurements indicate it is a Pacific Loon, although the throat patch color is iridescent green.

July 11

Low 45° F
High 60° F
W wind
Cloudy

First blooming Star Gentian (*Lomatogonium*) – two of them. Many plants growing at a little higher level than some years, but only two blooms. Iris (Flag lily) at peak bloom. Some willows on hills have yellow patches, and some yellowing of beach greens. The reasons for this are early growth, cool weather, and lack of rain.

There was a Sisualik burial today; a lot of people attended, maybe 200? The artificial flowers went well with the artificial lifestyles. The real flowers honored the dead.

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The swallows did a real fly-about ballet this afternoon. Maybe a farewell salute.

The report from Anigaaq is that the channel is getting very shallow. It is important that it closes now, as each day that it stays open many fish will run out. If it remains open till August, fishing will be poor next fall.

There's a report of an Aleutian tern colony - again: 10-20 pairs at Tasagagaruq Lagoon, northwest of Sealing Point. That colony was first reported in the OCS Sandpiper study, 1978, Peter Connors.

July 12

Low 50° F
High 58° F
S-SE wind 20

Had a fair catch of Humpback Salmon today (12) and one Chum. The water is really high, with an onshore wind.

Epilobium angustifolium is blooming profusely; its peak will probably occur by the end of this week.

The second opening for commercial Chum Salmon season is this evening. There were fewer than 50 participating boats for the first opening. There may be a few more than 100 this period. The run was "average" for the first period, with one 15 lb. King Salmon sold. It seemed for a few years that a King Salmon population was building here. Since spawning areas have not been located in the NANA Region it is now generally thought that the Kings that are taken each year in Chum nets are "spill over," i.e. strays from Norton Sound or Yukon stocks. Any observance of King Salmon spawning activity in Noatak, Kobuk, or Selawik waters would be of interest to any fisheries biologist in the region.

We had strong southerly winds after 8 p.m., which were not forecasted. Some fishing gear is in jeopardy, and there's been a minor swamping a few miles west of here. Anigaaq channel is reported to have closed for a while yesterday, and then to have reopened with the high waves.

There were a couple of swallows around camp today, but no activity around the nest box. To the best of our knowledge, production from our box was only two this year (some years it's four or five).

July 13

Low 48° F
High 54° F
SE wind 15-20
Rain

The ocean water was too rough to handle gear this morning. The wind is dropping. I hope commercial nets don't get stuck out beyond closing time (6 p.m.). The three hour time differential from sun time is a pain in the neck for lift off time limit for salmon gear. The strongest wind of any given day is usually at 3 p.m. sun time. Thus the 6 p.m. closure currently in effect requires the fisherman to work the water at most likely its strongest wind period.

Grass-of-Parnassus (*Parnassia palustris*) stays "in bud" for a long, long time. The variety *P. Kotzebuei* was blooming long ago. The first opened bud of *P. palustris* was noted today.

We continue to have high water today due to southerly winds. A gull on the point is still sticking to its nest, though it must be nearly flooded out. The story of this gull is kind of neat: two years in a row it has used a new nesting strategy. I hope it works!

There was lots of salmon gear still in the water at 6 p.m. closing tonight due to rough water. It's a bad beginning for the season! The next period of opening may be skipped if too much gear (too many fish killed) is left in the water.

We had steady rain all day and into the night - good for vegetation, bad for fire. Rough ocean.

July 14

Low 51° F
High 54° F
SE wind to 30
Rain

Our first summer storm. A considerable amount of commercial salmon gear is still in the water, probably at least 18 hours past legal fishing time. This is a semi-tragedy. Rain and wind were steady through the night. There's a low flood stage throughout the wetlands.

The "unique" Glaucous Gull nest flooded. The gull was noted in the vicinity. If the chick hatched, he/she made it. If egg(s) were still intact, could he/she have moved them? This "flood out" of mid July is not unusual, especially for low level nesters (Glaucous Gull and Aleutian Terns, in particular, and sometimes Arctic Terns, Brant, and Black Turnstones).

The rain has come at an ideal time for berries set on plants and for relief from too much fire and smoke. The rivers will rise, which will benefit salmon migration. Char and Sheefish movements are necessary as pre-spawning criteria.

The dominant yellow of Sisualik Spit at this date is created by two numerous plants

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of the genus *Senecio*. The one, (*Senecio pseudo-Arnica*), is a big, coarse sunflower-like seashore plant that abounds in sandy areas where past human excrement has been buried shallow. The other is a more delicate plant (and more ubiquitous), with a bit more notoriety. The species name, (*Senecio lugens*) is said by Hulten to allude to the type locality: "Bloody Fall, where the Esquimaux were destroyed by the Northern Indians that accompanied Hearne."¹

The wind dropped to 10 mph (SW) at about 9 p.m. Most late nets were removed from the water. There's no hint of lots of fish. The rain became intermittent showers. We caught about 75 gallons of fresh "new" water today. It makes great tea - till another Chernobyl accident happens in the wrong place.

Two flying Northern Pintails were noted today. They may be the first to appear with new flight feathers after the molt.

July 15

Low 50° F
High 55° F
S to W wind
Fog, light rain

The ocean is really calm this morning. The green growth with large blotches of yellow and purple blossoms (*Senecio lugens* and *Epilobium angustifolium*) are dripping with beads of moisture and look like they're from a different world - certainly not north of the Arctic Circle! It will, however, take a warm sun to bring the world to life. It is too cool for above-ground insect activity, and newly fledged Longspurs and Savannah Sparrows find it difficult to fly with soaked feathers. They are, thus, rather easy prey.

The storm surge seems to have thwarted the late Glaucous Gull nest effort. One nest-local. A Snowy Owl on back beach ridges! This is normally unusual at this season, though last year we had numerous isolated over-summering owls. The low microtine population this year makes one wonder how effective a white predator might be during snow-free season. Perhaps to be taken for a white Glaucous Gull, by prey, is often an advantage to the owl.

We are near peak of *Epilobium angustifolium* bloom for the year.

July 16

Low 50° F
High 56° F
S-SW wind 35

¹ Hulten, Eric (1968). *Flora of Alaska and Neighboring Territories*. Stanford, CA: Stanford University Press. p. 935

Flood today. Strong 25 to 40 knot winds (not forecasted) began blowing from the S to SW at about 10 p.m. last night. The wind has brought a storm surge of high water. The back flats flooded above the gull and tern nesting sites. Oceanfront waves are near grass level. Another dangerous weather pattern with no warning from the Weather Bureau! The wind dropped and the water went out, to normal high water level before 6 p.m., commercial net set time. Fog and drizzle continue. Rivers and creeks of region are running high due to these few days of steady rain. On my trip to the Point today, I saw many purple-yellow blotches, i.e. the bright colors of *Epilobium* and *Senecio*. After the storm the beach was very clean to upper grass edge.

I received another *Gentiana detonsa* from a Kotzebue city site; it was undated. I welcome the help of friends in establishing the local range and zone of plant growth.

Another few molted Northern pintails returned today.

July 17

Low 52° F
High 56° F
Light S-SW wind
Fog a.m., drizzle

Wet! There are light ocean swells today. Last night reports indicated that both western outlets are still open, with two large fishing boats harbored in one. Closure of these outlets is critical at this time. There is always some worry that these outlets will be kept open manually to provide storm shelter for commercial fishing boats.

Glad to report this p.m. that both outlets are closed! Surface land travel is now possible, at least as far as Rabbit Creek. The first ATV's are already on their way. This is a real time for rejoicing. If rain or earthquakes or some other mighty catastrophe doesn't happen, local folks are assured of many tons of whitefish between now and November 1 (whenever they choose to harvest). On the negative side of this, all boats seeking access to Krusenstern waterways will have to be dragged over several hundred feet of gravel.

This commercial salmon fishing period ended well with all gear out of the water on time, and most with a better catch than the first or second period. I did hear a loon's unexplained mournful wail, though, just as gear was being removed from the water.

I was surprised today to see two *Gentiana detonsa* that I hadn't noticed before within two feet of the one close to the tent that I have been checking all month. This again demonstrates how difficult it is to see this plant, among the grass-forb jungle growth of this season. They'll continue to be hard to see until the buds get near enough to bloom that their deep blue color attracts the attention of the eye. Since we have had

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several days of wet, dull, cloudy weather, with the sun peeking through near midday, *Gentians* as a genus will be coming into their peak of glory. It is a good year here for *Gentiana propinqua*, *G. prostrata*, *G. tenella*, *Lomatogonium rotatum* (Star Gentian), and at least a few *G. detonsa*.

Bear tracks were reported around the first cabin east of Sealing Point (first of the season in that area). As of yet, there are no walrus carcasses for this season. This is unusual, with a week of south winds as of this date.

A 40 lb. king salmon was taken by a friend, among the chums. Eighty dollars? Two dollars per pound is the reported buyer price for local kings, thirty cents a pound for chums.

July 18

Low 48° F
High 54° F
SE-S wind 15-20

A cloudy but dry day. The sun never really came out, but nearly did around 3 or 4 p.m. The gentians responded! To my great and continuing surprise, in the area where I searched for *Gentiana detonsa* plants a few days ago and found none, today there are blue *G. detonsa* blooming! They have large (4.5 cm) open corollas! The way the narrow tall plants blend in with the grasses and forbs amongst which they grow is remarkable. Then, as the deep blue-purple corolla petals appear, they are easy to spot. There are not thousands this year, but hundreds anyway. Many are large flowered plants - few of dwarf size. The first blooming of these lower zone Sisualik plants falls into the normal two week window of late July, though they are ten days earlier this year than in some recent years. Tall fireweed at bloom, peaking.

Four more bears were seen west of Sealing Pt. A live walrus was reported near ranger station. Flocked western sandpipers are prominent on our back wetlands. There's been a lot of back-and-forth traffic to Sealing Point, with ATV's, for various reasons. This traffic will continue as far as possible and for many reasons: berries, caribou, and ivory. A walrus carcass with tusks from last season was reported between shelter cabin and Battle Rock.

July 19

Low 51° F
High 58° F
E wind 20

It has been many days since we've had a sunny day. Pink-purple-lilac of tall fireweed is the dominant color now against a deep green background. No fall yellows yet on wetland greens, though flocked Western Sandpipers let one know it won't be long.

Flood again; SE winds to 40 mph this p.m. Back lagoon/mud flats affected by high

July

stream and river water. We hope the outlet closures to the west of us hold. Some *G. detonsa* areas flooded just at blooming time. I wonder if they can cope, and how. Both Arctic and Aleutian Terns face some problems (their unfledged young).

There was a report of three Emperor Geese west of Sealing Point yesterday. Have not heard of another Emperor sighting since the one behind our tent here last spring ('89).

The walrus reported yesterday was evidently an orphaned baby animal. This is not too unusual, as the walrus migration route runs parallel to shore this month.

The wind dropped around 8 p.m. Some fishermen were late in setting their nets for this commercial fishing period.

July 20

Low 54° F
High 58° F
S wind to 15
Cloudy

Both marine waters and watershed runoff remain high. No rain during the night. No sun again. Only one commercial net was in sight on the ocean this a.m. In the p.m., there were a few more. The one net seemed to have a good catch. All gear was out of the water on time (6 p.m.).

Our large resident Snowy Owl is "showing off" by perching his great bulk on an owl trap pole. White owls just don't look right against a green background.

I did a Gentian check to the point today. *G. detonsa* is there and at peak performance. Predictably, the back water pond edges are at the extreme high water line again (*Elymus-Poa* zone). There are also many more *Gentiana propinqua* in the higher drier zone. Huge beds of *Epilobium latifolium* are now mostly seed pods. The lower petals of *Epilobium angustifolium* are falling fast; in less than a week they will be all seed pod.

A lot of green blueberries over there. A few are turning blue. We are going to have a good blueberry year for a change. Picking will start next week.

Young Arctic Terns are flying. There was another bear sighting northwest of Sealing Point.

July 21

Low 55° F
High 70° F
Light wind

Clearing

It's a nice morning. Everything is still soaked from yesterday, but it looks like we may dry up today.

Young Yellow Wagtails and Savannah Sparrows are around the woodpile. Two tough looking Snowy Owls are back in the beach ridge areas. The presence of the Snowy Owl here this year and last is unusual. Voles were abundant last year, but not this year.

Sunshine finally! And a partial eclipse! At least the clouds didn't hinder the eclipse.

The water level is still high. Much fresh water will run out from extended rainy period. Several Humpback Salmon were in table net today. There was a report of salmon jumping in Sealing Point area. Only one King Salmon was reported from the last fishing period.

July 22

Low 50° F
High 70° F
Light wind

A perfect morning! Shiny water and warm sun. Gentian Day in Sisualik for 1990! A revision of *G. detonsa* numbers: there are thousands this year! Numbers are second only to 1988. It is also pollen day in Sisualik. Anyone with "hay fever" problems is in trouble. *Artemisia Tilesii*, our medicine plant, is loaded and dispersing yellow dust all over. This has interest relating to core samples and speculation relating to prehistoric plant communities across the Arctic.

A yellowing of small patches throughout meadow/marsh areas signifies a trend toward fall. We also heard crane hollering today for the first time in a long while.

All Gentians are wide open (corollas) due to hot sun after many wet days. Best day for fertilization all at once in years. Probably important for the future in the Gentian world.

Lots of visitors today. Sadly, one was a hay fever sufferer. *Artemisia* nearly did him in. Visitors numbered twenty-nine. Only one town (Kotzebue) family.

Noticed the first mushroom today. One *Boletus* (edible), one unidentifiable (by me).

A large group of caribou was reported to have crossed the Red Dog road moving south or east this last week; lots of "fawns." As yet there's been no report of these caribou by local coastal residents south of the Port site.

July 23

Low 54° F
High 83° F
Light N wind

A clear hot day with a little smoke.

We ate our first ripe salmonberries today. A few berries are ripe locally in sheltered areas. Some are big. There are also dragonflies today. We don't see them often. At least five were around. We have enough mosquitoes to feed them. There are also several hundred bumblebees working around our fireweed patch. It's unusual to have such a concentration of bees, but then the fireweed patch is big and still bright. Only the lower petals are falling off. The 80° F temperature seems good for bumblebees.

The first new gull, a Mew, is down on the beach. It has claimed a whole dead ugruk. There are many young Yellow Wagtails over willow patches on back beach ridges. Very few ducks are back from the molt. Our local Snowy Owl is crouching really low with 80° F temperatures. Sure looks out of place in the hot, humid, green jungle!

July 24

Low 60° F
High 79° F
Light N-E wind, smoke

The drying, fading, and yellowing of the landscape is very noticeable this morning. This late July heat wave is having its way. *G. detonsa* is much faded and becoming invisible again in the surrounding growth. *Lomatogonium rotatum* and Grass-of-Parnassus are coming into their peak bloom. Tall fireweed still full of bumblebees. Low fireweed petals have nearly all dropped. The plant with white petals still has a few blossoms. No other white has been located this summer. A cool breeze off the water in the p.m. saved us from another scorching! Some blades of grass and plant leaves are showing signs of stress (wilting, wrinkling, etc.).

Saw several raptors today for a change: a Northern Harrier, a Short-eared Owl, and our unmeltable snowman, the Snowy Owl. We must give that bird a name. He's becoming one of the family. There are lots of passerines, and I even saw three voles today!

The ocean is really calm and benevolent.

Four bears were herded away from Sealing Point houses last night.

July 25

Low 55° F
High 64° F
Variable wind

Journal

We took our third and last trip to Sourdock Lake today. It's a real natural garden up there. It looked as though it hadn't been picked this year. There's been great growth of leaves, many of them large and chard-like. We filled a 100 lb. sack tightly, its probable weight being 45-50 lbs. This has been our best sourdock year ever (*Rumex arcticus*).

Many groups of 15-20 Arctic terns with young were on the beach today. Fortunately for the terns, there were no signs of jaegers. Some years jaegers kill many or most newly fledged young terns.

I saw two bears today and was glad they were looking for blueberries. The larger was a very light tan color, the smaller nearly invisible in the smoky air. It was probably a sow with this year's young.

There were ducks of several sizes on the lake. None were flying yet. Gulls (of which we took one egg clutch in early June) have young that are not flying yet. I found one predator-killed, large, but not yet flying Glaucous Gull on the edge of the lagoon. Noted several (5) dead Glaucous Gull adults along ocean beach near commercial fishing net set sites.

Blueberries are still green on tablelands. There are probably some blue ones on hillsides facing the sun. Fifteen gulls were up there eating blueberries. We saw very few Salmonberries on that route.

There are a lot of whitefish at Anigaaq outlet. Gulls will feed well there, and people too, later on. I saw a fresh bull caribou track on the trail to the lake and lagoon edge. Two dead ugruk on the ocean beach, one eaten and one as yet unopened. Akulaaq is filling with water. There's no more mud.

There are few flowers in the hills. The only Cotton Grass (*Eriophorum angustifolium*) left is around lakes. Monkshood (*Aconitum delphinifolium*) is the most numerous blossom. Many yellow patches are on the hillside - *Salix*. Some *Alnus crispa* leaves are apparently "burned" by the heat of the 80⁰ F sun.

There are many young passerines about.

July 26

Low 48° F
High 68° F
Light wind

It's a beautiful clear day. Even the air is clear of smoke due to a night of north wind.

There was a good catch of fish in the table net: three Chum Salmon, eight humpies,

three char, two Sheefish, and one whitefish.

Eighteen to twenty Northern Pintails were in our backyard lake. They use it when the mudflat areas are flooded. This was the first good sized group to show up with new wing feathers. Heard a report that someone saw three flying geese. This is the first report since the molt for geese.

Folks are getting excited over the large numbers of whitefish showing at the closed Anigaaq outlet. Though these fish can be taken anytime now, most people will wait until September, when fly activity and heat have diminished. Preserving them is more certain at that time.

At 6 p.m. commercial nets seem to be doing a little better than so far this summer.

July 27

Low 48° F
High 72° F
Light NE wind

It's a beautiful dry clear day. *Lomatogonium rotatum* and *Parnassia palustris* are at their peak in blooming. A few *G. detonsa* have bright-colored petals. It's remarkable, again, how quickly *detonsa* blossoms appear and then fade and disappear in the surrounding vegetation. This has proved an early year for blooming and fruiting of this curious species.

Local blackberries (*Empetrum nigrum*) are turning from light green to black. Salmonberries remain scarce. The blueberries on low flats (beach ridges) are ripe.

Many passerines are moving south, mostly Longspurs and Savannah Sparrows. Some white-petaled *Lomatogonium* have been seen. The plant normally has light-to-darker blue petals.

A sharp drop in marine water levels related to northerly wind systems occurred this p.m. As the commercial fishing period closed at 6 p.m., some boats found the water level too low to pass over the bar in front of town. This is no big deal to those who know how to go out around and come in through Kotzebue's main channel. Those that don't know now probably will next time. Sudden surges of marine water don't often happen, but when they do, normal boat trails change. Wind direction gives some warning, but not always. We hope all the fishermen got their fish to market in time.

The first blueberries were picked for the table.

July 28

Low 50° F

High 75° F
Light NE wind
Clear

The marine water level is very low and there are lots of mudflats. Boat travel is difficult in shallow water areas. The of cause and effect relationships between wind direction, relative high and low pressure systems, tides, and gravitational forces is an interesting subject when one is trying to understand and predict marine water levels within Kotzebue Sound.

There are lots of passerines again, both traveling SE and feeding around camp. A moose with no visible antlers is moving east along the edge of the lagoon, after coming out of the hills to the west at 8:15 this morning. A Snowy Owl was surveying the world from his pole at the same time as the moose passing. I wonder what the Snowy Owl thinks about the moose, since they don't often see each other?

We got a surprise catch of char in the table net this morning: five females, four of which had eggs. Many of the eggs were well-developed, about the size of No. 2 to BB-size lead shot. These would be late fall spawners en route to their natal river watershed. The fact that there were no males and that they were traveling in marine waters at this point in time is interesting.

Our resident Snowy Owl is sitting on a pole. Its wings are drooping and it's looking uncomfortable as temperatures move up past 70° F this afternoon at 2:30.

There was an emergency announcement from ADF&G: "36 hour commercial fishing periods(up from 24) beginning July 30." Fishermen will be happy. The last period catch must have been really good, as it seemed to be from our local observations. We ate our first "new" berries today: a fine blueberry pie!

July 29

Low 52° F
High 68° F
NE wind 15-20

Another beautiful, dry, and bright morning. The weather forecaster (on radio) is talking about rain, though. Berry picking season is on and too much rain time won't be welcome to those involved.

We had visitors from Galena. We saw some aircraft and boat activity by apparently non-local "weekend" groups.

It was a rainy evening, enough to help the ground along a bit.

July 30

Low 51° F

July

High 71° F
NE wind 20
Some smoke, p.m.

Overnight rain left ground very wet. The sky and air are clear, dry, and sunny. It's a beautiful morning.

A lone subadult male caribou was taken yesterday northwest of Sealing Point. Here's a correction from earlier information, on the distance one can travel by beach vehicle towards Port Site: we reported travel as far as Rabbit Creek possible. It may be, but it would require detour or bridge to cross the outlet at the big lagoon southeast of Rabbit Creek (Killikmai). We assumed that that outlet had closed when those on our side did. Not so; it is reported to be wide and deep.

More large, fat, egg-laden char were reported taken early in this commercial fishing period. It's unusual that so many char in this stage of gonad development are moving through the salmon fishery.

On this next-to-the-last day of July, our wetlands are showing the yellow tinge of early fall against the bright green of summer. After the wet night, there's a really heavy peak bloom of *Parnassia palustris* and *Lomatogonium rotatum*. There are many dwarf plants of *Lomatogonium rotatum*. At the end of July, when most plant flowering has run its course, it is odd that you can still find isolated plants of nearly all species with a single or a few blooms.

Two Mew Gull parents are down at the beach with young of the year: two with one adult, one with the other.

July 31, 1990

Low 54° F

Another unforecasted onshore wind gave fishermen some excitement this morning. Most nets were heavy with fish, and wind chop built rapidly. So far there have been no known real problems. Gear is supposed to be out of the water by 8 p.m. on this first 36 hour period of the season. The evening turned beautiful, warm, and nearly calm.

A Northern Harrier was hunting today through the back marshlands in the same pattern as in the other times I've seen him/her this summer. It may be the same bird.

A couple went by on a 4-wheeler today - maybe Kotzebue hospital workers on an outing. There hasn't been much of that activity yet this summer by non-local (Sisualik) residents.

Journal

There's a super abundance of *Lomatogonium rotatum* blooms right now. They are everywhere. Their delicate pale blue flowers are everywhere on the moister zones of the wetlands. That makes this species about the latest, not only of the Gentians, but of all widely-distributed blooming plants of the area.

CAPE KRUSENSTERN JOURNAL

AUGUST

August 1

Low 54° F
High 65° F
Light wind

Town trip. A fine traveling day. Good water level - touched bottom on Kotzebue bar on way over but “slow speeded” across. Squirreltail Grass on Kotzebue side streets pretty extensive with strong growth. A beautiful plant even in the oiled dust. Lots of people and vehicles over there. The nine miles of water separation certainly is convenient.

August 2

Low 50° F
High 58° F
NW wind 25

First day of commercial fishing for us.

Mew Gull brought her family to ocean beach before sunrise. Two cranes planed in to land on wetlands behind camp. First of the fall fliers of this species we have seen here.

Fishing started off pretty good, but didn't hold up; our catch 80 by midnight.

Lots of passerines still about - mostly Savannah Sparrows. Some small “peep” sandpipers still moving through (Westerns?).

August 3

Low 54° F
High 72° F
NW wind 20+

A beautiful bright clear morning. Fall is in the air. Somebody is probably eating fresh moose meat since we're three days into the new season. No known effort (hunting) of moose by local folks yet though one would be taken if, in a manner of speaking, it presented itself.

An encouraging report on waterfowl. Hundreds of Wigeon and Northern Pintail on mudflats between Lockhart Point and Pipe Spit on the Baldwin Peninsula.

Journal

A couple of parties of visitors came on the Monument yesterday. Reportedly some doctors and nurses for subsistence fishing and camping.

Several good flocks of Whimbrels (15-20) starting to work on blueberries. Sisualik berry pickers happy. Blueberries are nearly all blue now and people scattered here and there picking them up. Very tasty. We have had two pies already.

A lone musk-ox reported at most westerly Sisualik camp this p.m.

August 4

Low 53° F
High 68° F
a.m. calm, clear
p.m. light west wind

Crane trumpeting every morning now at coffee time. Ground getting pretty dry. It has been a while since we've had rain though there is rather heavy dew each night. Blueberries and Salmonberries ripe for the picking. Blackberries and cranberries not yet. Glaucous Gulls and Whimbrels feeding heavily on blueberries. Whimbrels were formerly taken in old fish nets draped around berry bushes at this time, a practice no longer used. Very, very few local waterfowl in our small sector of observation.

A CB report of young bull moose taken in Lower Noatak area, not on the Monument. This the first take we have heard of in this 4 day old season.

Dry weather and post-maturing state taking its toll on this year's great vegetation production. Must be a good year for seed production for plants that don't produce viable seed every year.

August 5

Low 48° F
High 76° F
Light NE wind

A calm quiet ocean for two days now. A lot of visitors today. Some locals and some from Kotzebue.

A first "trout bird" seen today. The story is that the fall run of char begins about the time the first Wheatear makes an appearance around camp. This bird is fairly common in the mountains during breeding and fledging but not on the coast. Around mid August Wheatears, in fall migration or pre-migration, appear magically around fish camps. The fall run of fat char usually begins near the same day the bird is seen. Bumblebees and the first ugruk of June share a similar trait or relationship.

A large bull caribou reportedly seen northwest of Sealing Point yesterday. It was not

killed.

A couple reported to be birdwatchers set up camp near William's house at Sealing Point after arriving by plane (Jim Rood). Report is they are to be around for a while, maybe doing some extended walking. Real Monument visitors!!

Very warm buggy evening. Our warm summer continues.

August 6

Low 52° F
High 73° F
Variable light wind
Smoky

Another beautiful, though smoky day. The rising sun is a rather ugly red orb rather ugly in the NNE, the setting sun an ugly red orb in the NNW. Lots of mosquitoes and especially gnats.

Today, for the first time this season, there was another catastrophe: "grass" in the nets. This happens each year to one degree or another. The "grass" is an aquatic plant (*Potamogeton* sp.), which is very important to waterfowl. It grows profusely in brackish as well as fresh water. Its leaf growth is about at peak development right now. As it is weakly rooted, waterfowl, waves, and currents dislodge the stems and leaves, which then float. Invariable wind systems, combined with high water levels, such as those which we've just had, cause many large clumps to float out into the area of the commercial fishery. Lots of it clogging nets today! Its mass is undoubtedly important in coastal/delta area ecosystems

Salmon catch very light. Run seems to have peaked and we're headed downhill. Fall trout run has begun, somewhat early.

August 7

Low 54° F
High 78° F
Variable wind

Goose noise with coffee this morning. A small flock of Taverner's Canada Geese flew over and made their characteristic call as they passed the camp. These are the first fliers heard here, though reports of newly feathered flying geese from farther west have been noted for at least a week.

The camp *Gentiana detonsa* seedpod is opening from the top today for seed dispersal. Presume this to mean a good seed year for this species (as for many others due to warmth and length and moisture of this growing season).

Journal

A multitude of passerines continue to be about and passing through. A high percentage of them are Savannah Sparrows. Lapland Longspurs and redpolls make up the balance. Flocks of geese flying around again. Many Whimbrels gathering and a very tame group of Red Knots (5) today. First Knots seen in fall plumage.

Ground getting very dry. We do need rain to swell the blackberries and soak up the ground.

Fishing period ending 8 p.m. this evening was mediocre. Our catch a little over 200. ADF&G may return time to 24 hours (from 36) due to poor escapement.

August 8

Low 55° F
High 74° F
W winds to 18 p.m.
Smoky

A long rainless dry period for this location. Blueberry picking at peak. Blackberries need rain to continue their development. Beach travel by ATV continues for harvest or recreational reasons. Westerly camps (those occupied this spring-summer) mostly all moved back here to Sisualik. Even Sealing Point people have moved back here.

Three Lesser Golden-Plovers, fulvous type (Pacific Golden-Plover), and four young Black Turnstones on front beach today. Haven't seen Golden-Plovers for a while.

No more petals on tall fireweed flowers. Seed dispersal is just beginning. The long warm season we've had this year has produced many, many seeds. Fireweed patches are now more red than the purple-red they were when in bloom. The red is from the many seed cases.

August 9

Low 50° F
High 68° F
NW wind to 18

Waves again! It has been calm for a long time. Heavy dew each night but no rain. Ground getting very dry.

Dowitchers have finally returned to Sisualik. Due to low water, lake margin mud areas have become feeding zones for numerous groups of Long-billed Dowitchers, Dunlin, and Western Sandpipers.

Numerous salmon jumping on way to town and back today.

There may have been a small colony of Aleutian Terns directly behind our neighbors

camp. A small colony (10 pairs) used to nest behind our camp. That area isn't used anymore and this new area may have taken its place. Most Arctic Terns with young have departed. Some Aleutian Tern young may not have flown yet.

August 10

Low 48° F
High 67° F
Light W wind

Freezing on the North Slope today while our temperatures remain summer-like. Often this situation causes a sharp increase in our bird population. This seems to have happened this past week and now populations of plovers, Whimbrels, Dunlins, dowitchers, geese, and passerines are much increased over the rather sparse summer numbers. Wheatears, knots, and redpolls, which were absent from coastal location earlier, are now a common sight on any day's rambling.

Seed dispersal by numerous plants continues. Brackish water mudflats are much warmed by sun at times of low water and both seed and over-wintering corm buds (a major source of waterfowl food) of *Potamogeton* sp. quickly approach their peak of growth and next year's energy storage.

Number of super fat char continues to build as they migrate to freshwater streams.

August 11

Low 50° F
High 70° F
Light N-NE
Smoky

Winds increased to 30 from the east by p.m.

Moose reported again - three in Sealing Point area. Unusual, since we are eleven days into the legal season and moose are supposed to be hard to see now.

Geese and cranes more prominent. A lot of Whimbrel about. This bird used to be caught in nets at this season. This method is no longer used. An unusual group of eighteen Hudsonian Godwits here today. They may hang around for a few days. Will check them out tomorrow; didn't have time today.

Catastrophe today. Commercial Chum Salmon fishery closed by emergency order at an earlier date than ever before.

Went blueberry picking today. There wasn't much. We had lunch on an odd looking, moss-covered and rather well drained knoll. A few large exposed boulders indicate

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the knoll's origin might be glacial. The vegetation on the knoll was most interesting. Alpine in the midst of lowland tussock-tundra. One still blooming *Dryas* and a June-like blossom of "Pink Plume" (*Polygonum bistorta*). These islands of different vegetation, sometimes a pingo or glacial till, are real interesting. Found *G. detonsa* plant in new location - salt meadow N side Kulitqiin.

A strange, ugly, green-gray smoke cloud passed from Baldwin Peninsula over and through Sisualik. Unusual because of its color and relatively clear air in front of it and behind.

August 12

Low 55° F
High 66° F
E wind to 20
Cloudy, showers

Finally! Rain! In time for blackberry development.

Still in shock from surprise closure of commercial fishing.

A lot of birds (passerines and shorebirds, not waterfowl) around. Lakes are at a very low level, which means lots of rich probing area. Seed maturity adds to both passerine and shorebird forage material. Another wave of passerine migrants. A beautiful red sunset.

Report of a caribou (bull?) taken this week in Krusenstern area. Some bear sightings and close approach reported, though details unknown at this time. Four Wheatears (trout birds) around camp. First flying Northern Pintails of this season noted in lakes around camps.

August 13

Low 58° F
High 72° F
Calm to east wind

A warm, quiet morning. Lots of little birds and bugs.

Put out subsistence table net this morning. First time in a while. A couple of hours later there was one egg carrying char, three Humpback Salmon, and a Sheefish. Enough for supper and a little over. The presence of the Sheefish in the ocean at this late date is of interest and could be related to the surprise closure of the commercial chum fishery Saturday. Very low and warm (from long warm spell) freshwater streams and rivers may keep Chum Salmon milling in cool marine waters instead of entering streams to spawn. Visual survey of the river systems would then indicate lack of escapement, bringing on the closure. The presence of Sheefish might indicate warmer water than normal in its usual habitat at this season. A male King Salmon of

15-20 lbs. taken in Sisualik beach net. Not real fat, and somewhat spent.

Unusual smoke cloud of a few days back probably the result of a new, large, tundra fire near Candle, on the southern shore of Kotzebue Sound.

August 14

Low 54° F
High 68° F
E wind to 20
Cloudy, smoke

A rather windy morning with the promise of rain. Ocean waves, a light pounding for a change, instead of silence. The Monster stirs again! This August period of low water table in delta areas where lakes and shallow end lagoon areas are exposed to extreme warming by the sun produces ideal conditions for aquatic plant forms to reach maturity for seed production. *Potamogeton*, the dominant genus in delta aquatics, appears to reproduce mostly by overwintering buds and corms, but on a year like this seed production is probably good.

Very smoky this p.m. with SE wind. We are probably getting smoke from Candle area fire. A few light showers are less than what we need to stop the fires and clear the air.

Several Northern Wheatears (juveniles) have taken up residency around camp since last week. This is rather unusual but the abundance of insects and, surprisingly, cooked fish flakes around dogs pot seem to supply an abundant food source. A grass fire was reported in Sisualik near the Point at about 9:15 p.m. Quick response by CB circuit people quickly extinguished it we are glad to report. This is our most smoky day so far this summer. It is thick, strong, and much like a foggy day with smoke smell.

August 15

Low 55° F
High 66° F
Light W wind

A wet rather calm morning. Smoke moved out late last night.

Lagoon water still high but dropping. Northern Pintails are at highest density for this early fall season so far (60-80). They frequent a nearby lake when mudflats are flooded.

Left for overnight berry picking at Fish Creek. Night flying geese up there. Very nice and different up there. Though it is less than 50 travel miles, (less as the Raven flies),

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different vegetation types and even some birds are immediately noticed. Robins and Varied Thrushes, and a Merlin are examples. In the deep mouth of the creek, the boat anchorage, there were broad-leaved *Potamogeton*. Examples of lakeshore or near beach plant species found along the northwest bluffs of Kobuk Lake (Hotham Inlet), but that are not found in Sisualik are currant (*Ribes triste*), dry bearberry (*Arctostaphylos uva-ursi*), Juniper (*Juniperus communis*), and Lapland Rosebay (*Rhododendron lapponicum*).

August 16

Low 56° F
High 73° F
NE wind to 20

Home late from Fish Creek. Night flying geese down here too. A very warm day (80°+ F) at Fish Creek, but cooler here on the ocean beach at Sisualik.

Nearly a hundred Northern Pintail and American Wigeon in our tent site duck lake. Geese and Whimbrel in the air most of the time now. Numbers of local passerine birds declined.

Smoke appeared all around as wind moved from N (clear air) to E (smoky). Maybe the forecast rainy period will clear up the air and water the blackberries. Blueberry picking was very good at Fish Creek.

August 17

Low 57° F
High 68° F
E-SE wind 20

Windy and wet. We need the wet. Dry by later afternoon with very strong 35-45 mph E winds.

Much yellowing, wilting, and general “falling” of meadows and beach ridge vegetation as well as tablelands and foothills. Report of wind related flooding on Yukon-Kuskokwim. We hope that the weather system causing it falls apart before reaching here.

Wind dropped off abruptly about 8:00 p.m. Yesterday a record breaker for warmth at Kotzebue according to weather service.

Lots of blackberry pickers in the flats now. Berries are big and black but a little bitter yet. They tend to be good in cooking or mixtures with other berries where the bitterness drops out. Later on they get very sweet and are then better for freezing or keeping for eating unmixed.

August 18

Low 54° F

August

High 68° F
NE wind 15

A fine, dry, warm, morning. A few scattered clouds, and a promise of another day of above normal warm temperatures.

Some big flocks of both sandpipers (Dunlin? Pectoral?) and passerines moving through. Will try to check species today. Much goose noise this early morning.

A rather lot of ATV travel down the beach the last few days for berry picking and scanning for big game with very little known results. The usual northwest terminus of beach trips is Battle Rock or Kilikmaiq Lagoon outlet, which is difficult to cross.

Bears seem happy more inland with good berry crop. There are no fresh marine mammal carcasses to attract them to the beach right now.

Caribou few or none presently in vicinity. Moose pretty much back in river habitat.

Another Merlin on the clothesline pole this morning. Two Snowy Owls in sight again on north beach ridges after a prolonged absence. Northern Pintail numbers increasing. Bar-tailed Godwit and Golden- Plovers common in backyard.

Only one fish in table net. Lots of dirt. The fish was a female Bering Ciscoe.

A real warm windless evening. Summer is still with us. Two or three day camps pitched for berry picking activities. Between now and Labor Day the Monument will have numerous family camps.

Large flocks of Whimbrel in backyard berry patch this afternoon. Nearly one hundred long-billed berry eaters. It doesn't appear that their bills were designed for berry eating. They manage well, though it reminds one of chopsticks.

August 19

Low 51° F
High 70° F

Another beautiful, lightly smoky morning.

Snowy Owl sitting close to the tent. For company? A noticeable increase in Northern Pintail numbers in two local and much-used feeding lakes. Number has doubled in the last couple of days to 250-300 now.

Reported good catch of salmon by those who set one shackle subsistence nets today.

Journal

Our table net set produced a fat whitefish, a fat char, and a female humpback.

Report of a single beluga around a neighbor's salmon net last week. This is the only beluga report for the month.

Lots of visitors today – eighteen? Some for Sunday school, others for a visit. Lots of dishes to wash.

A caribou west of Sealing Point missed by an eager young hunter.

August 20

Low 50° F
High 56° F
Light N wind
Cloudy, dark

Lots of waterfowl in backyard, mostly Northern Pintail and first flying Tundra Swans of the fall noted. Of the many ponds available, only three are used for feeding by waterfowl. Interesting. This pattern seems to hold throughout the area and is probably related to *Potamogeton* bed growth. It is important, in that many ponds don't necessarily mean unlimited foraging area for all wetland species.

A cloudy day with little smoke and no rain.

Commercial fisherman that live in Kivalina trying to go home. Two started yesterday but turned back halfway due to rough water. There is no sheltered harbor between Sisualik and Kivalina, and it's a long stretch of ocean beach on the Chukchi Sea. One is trying again this afternoon.

Blackberry picking getting real good. Pickers in the field till late each day.

August 21

Low 53° F
High 60° F
SE wind 15
Cloudy, smoky, rain

One heavy rain shower today. A good char catch in our overnight net set of table net (4 1/2" mesh). Eighteen char and one red salmon. We are trying new preparation method for freezer char.

Local duck feeding lakes continue to have lower and lower water levels. Northern Shovelers and Green-winged Teal seem more satisfied with the conditions than Northern Pintail and American Wigeon.

A first word of mouth report of caribou crossing the Kobuk above Ambler. Boats

from everywhere in the region will soon be converging wherever caribou are known to be near a navigable river.

It is getting difficult to find a flower blossom accidentally. If one purposely seeks out blossoms, many individuals of species that first bloomed long ago can still be found. There seems no species yet to bloom for the first time. It might be interesting to check back to note the very last species to bloom for the first time.

Five musk-ox reported behind Ikpigaruq, four large and one smaller. Also a large bear in the same area that during last night made tracks on the beach by a broken down four-wheeler. He didn't touch it.

Heavy smoke moved in again with fairly stiff easterly winds.

August 22

Low 54° F
High 64° F
E wind 20-38
Showers

A warm breezy dry day. Good for berry picking. A few fresh blossoms noted: *Papaver* sp., *Stellaria* sp., *Chrysanthemum arcticum*, *Castilleja caudata*.

No fishing due to high winds (gusts to 40 knots).

Only a few passerines moving by now.

A few vole diggings beginning to appear around. Microtine populations must be building again.

A heavy rain began about 7 p.m. Maybe our rainy season has begun. At any rate, it is welcome - for a while. Blackberries will swell and sweeten, ducks, geese, and gulls will swallow their berries easier, and river travelers, whether home-goers or meat hunters, will be happy. Smoke and fire conditions will improve and those plants that are biennial will retire for the winter in a higher energy condition.

August 23

Low 55° F
High 56° F
SE wind to 15

We are getting our long awaited rain. Berry picking interrupted, fish drying more difficult, and a fire in the stove feels wonderful! We are entering the last week of August and besides rain we can expect Sharp-tailed Sandpipers (from Siberia),

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Sandhill Cranes (migration beginning), frost and/or snow (God forbid!), and accelerated coloring of leaves as fall gets underway. School started today in Kotzebue.

Wind switched suddenly to SW and W, increasing to 20+ mph. Large swells developed and then dropped off later p.m.

Very few passerines around now. Insects becoming scarce. They only appear now at opportune times, when temperature and humidity are just right, and then only for a few hours on some days.

Heavy rain showers moving through late evening.

August 24

Low 50° F
High 60° F
W wind to 15
Calm late p.m.

A cool morning. Looks like a good day for berry pickers. Blackberries and early cranberries are the most targeted, though blueberries are still pickable. Sisualik Peninsula is known in the region for its abundant, large, sweet blackberries (*Empetrum nigrum*). Harvest time is from now till the first heavy frosts of September.

Two good groups of Long-billed Dowitchers were noted this morning. This species was very scarce in spring migration. So far their numbers seem near normal for fall.

It has not been possible to put table net out for several days due to ocean swells. We would like some fresh fish by this time!

A good berry picking day: we spent 9 hours at it. Payload of about 40 lbs. of blackberries. Our warm 60° F sun after yesterday's rain brought out a few late blooming flowers of many species. This sporadic blooming of most species extending throughout the summer season into fall is interesting as it seems a mechanism for establishing pioneer colonies, in spite of seasonal anomalies in environment or climate.

A flock of eight Brant in today from the north. These are the first seen this fall. A few flocks of Sandhill Cranes in apparent southern movement today, also the first hint of south moving large fowl. These early movements may reflect the freezing temperatures reported on the North Slope this week. Several groups of 20-30 Lesser Golden-Plovers also made a fly by and rest/feed stop.

A shiny ocean this evening, though swells continue. Managed to get the table net

poled out so maybe we'll have fresh fish soon.

August 25

Low 50° F
High 52° F

East wind at 25 mph, increasing to 40 mph by noon, and 50 mph by 3:00 p.m. A windy "red" morning, sailors warning I guess.

Five nice fat char in overnight table net.

Passerines around camp almost nonexistent.

Rain and wind by noon. May be a major storm building, though not in forecast. There is a small craft warning out. Lucky we got the char out of the water in time.

Another group of sixteen Brant this morning. Waterfowl (ducks) not building in numbers like they normally do locally at this time in August. Two possibilities: waterfowl are scarce, or *Potamogeton* beds depleted. Reports of great numbers of both ducks and geese in Krusenstern waterway complex.

A night bear visit to Sealing Point camp. Two adults. A difficult scenario building: the bears that are a part of the local group of beach combers have had no marine mammal carcasses to find for a long time, so even though there is a lot of green forage and berries they must either go back to squirrels, up the Noatak for salmon, or seek out places where marine mammals were butchered this spring. Don't know any way out of this situation that's easy - bears and people being what they are. The best hope would be some new marine mammal carcass to wash up during this storm.

Very strong winds till 8 p.m. Probably some gusts from E over 50 mph. Heavy rain at the same time allowed us to fill our water barrels and blackberries should swell to size of grapes. With the coming of heavy rain and rising rivers one ponders the effect on Chum Salmon. If fresh water outflow is a requirement to get milling salmon into the river systems we now have it. Noatak escapement should improve rapidly and I do hope ADF&G does a late survey flight (September 10?).

Some good flocks of Lesser Golden-Plovers, Long-billed Dowitchers, and Dunlins passing. Time this coming week to look for our regular Siberian visitors - Sharp-tailed Sandpipers. Speculation has it that both Sharp-tailed Sandpiper and Fulva Golden-Plovers¹ hatched in Siberia move to Kotzebue Sound to build fat reserves, since the Siberian Coast lacks coastal mudflats.

¹ Now known as Pacific Golden-Plover, *Pluvialis fulva*

August 26

Low 50° F
High 54° F
S-SW wind 35-50
Light showers

Marine flood! Well, well! The best laid plans of mice and men

At daylight this morning lagoon waters were up to a few hundred yards from the tent. Monstrous waves on the ocean were touching grass line and foam globs were flying across the spit after the breaking of a larger wave. The planned dedicating of a small building as Sisualik Friends Church was canceled due to weather and flood conditions. These are the times when Sisualik people know they live on the edge. Our elevation is not much. Water had flooded out some vole areas and nearly reached backyard squirrel holes. They live on the edge too! The ducks and gulls are the lucky ones at these times. After the swells start down we may be luckier if the big white clams have been washed out of the ocean bed and piled on the beach. Northern Pintails and geese will find blackberries easy guzzling for a while. The ducks don't utilize the berries much when they are dry but eat plenty when they are wet or flooded.

Things fell to pieces in the p.m. Winds picked up to 50 knots from SW and with water already at flood stage, waves built to mighty monsters. The most erosion and highest water level in 40+ years occurred between 8 and 12 p.m. We evacuated to higher grounds for the night. When the waves began breaking over the bank and leaving their water on the ground rather than sliding back to the ocean, the whole area began to have much water standing on the ground. It was a real mess. Tent floor filled with water to 12 inches. Destructive force of waves either moved everything not tied down to a new location or covered it with gravel.

August 27

Low 46° F
High 49° F
W wind to 25

Returned to camp about 11 a.m. to find most everything beside the tent and dome moved around or covered by gravel thrown up by the huge waves. Water and waves were down though winds were still quite strong.

Some large flocks of sandpipers were feeding in short grass marsh near tent site, since they could not find mud with all the high water. Long-billed Dowitchers, Dunlin, and Pectoral Sandpipers were most abundant with some Godwits and Lesser Golden-Plovers.

A bonanza in clams this evening. All you want for everybody of the large white *Mya* clams. It takes a large storm to dislodge these delicious clams from mud bottom and

pile at water level in the shadow of the offshore shoal at Nuvugruq. Due to storm waves, Sisualik looks like a different place. This will indeed have long-term implications. The great crop of *Elymus* and forb seeds, winter bird feed (Snow Buntings, Redpolls), is for the most part buried under gravel, up to 2 feet in some places!

August 28

Low 40° F
High 45° F
W wind 15
Rain showers

Still in shock from storm results. So much gravel was thrown up over the bank and so much of the grass sod bank eaten away. A fish rack upright put in place by Carrie's dad at least 50 years ago, 50 feet from the sod edge at that time, washed out and away with this storm. Many tons of gravel on top of old beachline does give a little more elevation. Many odds and ends lost under it (nets, boards, shovels, and other tools). Semi-underground Eskimo style sod house we use for cool storage of berries and oil flooded badly, bringing some loss of barreled meat-oil and oil. Must have been frightening to live in this type of dwelling near the sea and be flooded out by a super storm.

Lots of shorebirds feeding in the newly made gravel zone. Probably on insect eggs and larvae displaced by storm. Dunlin most numerous then Long-billed Dowitchers, Lesser Golden-Plovers, and a few Bar-tailed Godwit and Whimbrel. Passerines rare now. Saw two rare birds for this season. A Pomarine Jaeger followed by mob of sandpipers and a sickly looking Short-tailed Shearwater. Cranes continue to move south in small numbers.

One outlet (Anigaaq) remains closed. The other (Akulak) is newly opened and so remains an impediment to ATV travel westward.

A bear (sow with two cubs?) tearing up things around W. Kenworthey's last night. Walter's is the first camp in Sisualik for beachcombing bears moving W to E.

Still eating clams (*Mya arenaria*?) from yesterday's gather. These appear to be a shallow water river delta clam that lives in adult stage wherever proper substrate occurs on outer bars, where marine water is deep enough to prevent substrate from freezing, i.e., nine to twelve feet deep.

Snow reported on distant high Noatak mountains today. Any day now our local cottonwood grove, *Populus balsamifera*, will turn yellow and officially usher in fall.

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August 29

Low 41° F
High 52° F
W-SW wind 15

A dull, cool morning with noise from ocean swells still present. Sisualik looking devastated. There seems no historical evidence for such a broad leveling of beach gravel over everything. Seems different than “normal” beach ridge building pattern over the last 8-10 thousand years.

Keith managed to get freezer functioning again after flood induced break down. Made overnight trip to town for fall supply of propane and gasoline. Many Northern Pintails noted in Kotzebue lagoon.

August 30

Low 46° F
High 54° F
SW wind 15 mph (p.m.)
Heavy rain (a.m.), clear

Strange to awake from sleep in town at this season. A very somber morning. Heavy drizzle, light winds. A Merlin was sitting on pole as we approached docking site on our return to camp late afternoon.

Good news - outlet at Akulak closed again. First ATV's to travel reported several marine mammal drift-ins. One female walrus with tusks, two baby walrus dead. Several ugruk. Maybe this will alleviate our bear encounter problem. Report of one bear killed in camp two nights ago. A return of several others to the same site the next night. It is hoped that now that the bears have meat to feed on we'll get back to the previous pattern of just seeing tracks where they have fed during the night.

Several (less than 10) Short-tailed Shearwaters found dead on beach after storm (25 miles of beach).

August 31

Low 44° F
High 50° F
W-NW wind 35
Showers

A cool windy morning with the waves up again. Water level is at its normal position for a W to NW wind system. Though waves are big there is little chance of them reaching what's left of sod bank, so we are somewhat relaxed. The sight of such big waves so soon after the flood out is not what we'd like to have, though. One sad result already is that the Akulak outlet is open again. Some folks from here have whitefish nets set there and now may not be able to reach them for a while.

We hope NPS crew made it back to Kotzebue late last night as we heard they had some trouble leaving the beach at Ranger Station.

Fall officially begins today here at Sisualik. Our distant Balsam Poplar (Cottonwood) grove turned a distinctive light yellow overnight. Enough to make a definite difference from the surrounding green of *Salix* which is yet unchanged. Welcome September, the second greatest harvest month in coastal regions. Difficult to say whether June (for marine mammals and fish) is greater than September but both exceed any other month in harvest potential.

More bear incidents. Two animals feeding on dead ugruk between camps on Sisualik beach before dark (between 9 and 10 PM). Many bear stories circulating through Sisualik.

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September 1

Low 38° F
High 51° F
NE wind to 15

A beautiful sunrise and a flock of cranes (38) flying high, right down the beach line. Fall time is indeed here! The ocean water level way down there! A very wide beach now. A few scattered shotgun blasts (less than 10) to usher in this year's legal waterfowl season. Northern Pintail and Wigeon scarce in west Noatak delta area, as compared to other years. Report of two bull caribou killed north of Ranger Station today and a couple of cranes. Water level in marine systems very low now and may go to rock bottom in response to forecasted N to NE wind. It is good after the flood.

A very chestnut-brown Northern Harrier hunted his way past camp today. Probably a new bird this year. Remarkable how soon out of the egg a predator can feed himself. May be tough sometimes.

Since weather has cleared and this is Labor Day weekend there is lots of berry picking and "whitefishing." Lots of beach ATC travel.

September 2

Low 37° F
High 48° F
NE-E wind 20-30

A mostly clear, cool, and breezy fall morning with a young Merlin sitting on a dog stake in backyard. If he's looking for passerines he may go without breakfast. He would do better on the extensive mud flats.

This is the morning that *Epilobium angustifolium* gets distributed far and wide. The dry windy morning, after the flood and soaking of a week ago, has caused seed pods of tall fireweed to open and release thousands of seeds.

A windy dry p.m. Yesterday's bull caribou turned out to be feral reindeer. An aircraft report today mentions many caribou on the Noatak (at Sugar), not far above the village.

September 3

Low 46° F
High 48° F

E wind 15-20
Light rain

A dull wet morning, but water level in lagoon is up, so boating will be more possible than in the last two days. A day of drizzle: mostly inside work. We continue our picking up and gathering up after the flood.

September 4

Low 40° F
High 50° F
E-S wind 15-20

Heavy rain in early a.m. Our table net out for first time in ages. No catch as waves brought it to shore. Waves growing in the p.m. again. A wet day all day.

Some large flocks of Wigeon and Canada Geese around now. Our resident Snowy Owl looked pretty drenched today. Wonder how he hunts with that sloppy looking pelage.

A third bear killed on the Spit today. The hope is that these are the most troublesome of the beachcombing bear group and encounters will be less frequent. This animal was very fat, young, and had very good meat.

People getting tired of wind, rain and waves, especially berry pickers. We have come to value every berry picking day in September before the first heavy frost. One never knows which September day will bring heavy frost and terminate blackberry picking. Rainy days are very poor for blackberry picking.

Caribou news from both the Noatak and Kobuk very good. Apparently caribou present along the full length of the Kobuk and on the Noatak, only a short way above the village.

A surprise today. Many Lesser Golden-Plovers feeding on ocean beach at last night's high water line, about half way up the sand-gravel beach. Very unusual to have plovers feeding on ocean beach. Must be something delicious in the drift line.

September 5

Low 44° F
High 46° F
E wind 20-35

A windy, rainy morning after a windy, dry night. All day near steady rain. Wind gusts from NE to 40 mph. Still have Lesser Golden-Plovers on ocean beach. Large flock (300) of Wigeon at lagoon edge. Several flocks Canada Geese using Greene's point.

Everything that was salted during last week's marine flood now getting thoroughly rinsed with fresh water. This may be an important process for salt marsh species with marginal salt tolerance.

Well, well! A coastal flood watch issued again, for early tomorrow. Our E wind gusts to 40 today have given way to SW winds at 30. The weather seems determined to sweep us off the Spit!

September 6

Low 44° F
High 45° F
W wind 30+
Fog, drizzle

Well, we didn't get swept away. The air is very wet, and the waves large, but marine water level and direction of wind (W to NW) not the combination that brings us flood. The Weather Bureau seems incapable of including in their forecast data local and/or geographic conditions that add up or don't add up to catastrophic storms. Their usual pattern was demonstrated over the last ten days. A failure to issue warning for the August 26 storm which resulted in catastrophic effects, followed by the overly cautious night flood warning in effect last night which never hatched. The way this hits the public is frustrating: you either get walloped with wind, wave, flood with little or no warning, or you spend a sleepless night, after making preparations for a situation that never happens.

A huge flock (100?) of Long-billed Dowitchers this morning. No mud flats since everything still flooded back there. Swans finally gathering in back areas of camp, in their usual numbers. A first Sanderling for the fall and the year. A rare but regular fall migrant here. A very neat looking and interesting Arctic bird. A few flocks of Sandhill Cranes riding the west wind. Our local snowy owl looks big and fluffy again after he got his coat dry

A fine p.m., cool, dry and clearing. Water in lagoon remains high due to outflow of flooding river. Waves on ocean side and high water on lagoon makes kind of restricted day.

Picked two buckets of blackberries.

September 7

Low 40° F
High 43° F
NW wind
Light showers

Cool. Nome frosted last night. Tops of our coastal Monument mountains (sheep habitat) snow covered this morning. Cloud cover and showers presented frost here.

Made a first trip down the beach toward the Ranger Station since the storm. Lots of erosion. Much exposed permafrost on sea bluff just east of Ranger Station. Storm water had been over the bank and through the fall camping site, gravel filling house holes and sweeping some tent frames into the channel.

Some whitefish at outlet. Remarkable that it didn't open up yesterday with strong W wind and rain water. Hope it stays closed. Many young herring and Nine-spine Sticklebacks at outlet. Only one small bear track since the big storm at Anigaaq.

September 8

Low 33° F
High 45° F
N-NW wind 10-15

Kotzebue gave their overnight low as 38° F. There was frost on ATC seat this morning here. The first of this fall season. No skim ice on water bucket.

Was reminded this morning, shortly after sunrise, that modern man tends to miss some of the greater emotional feelings of life closer to the land and as existence closer to survival. The gravel front of the dammed outlet at Anigaaq was covered with dead and dying fish, Glaucous Gulls, and feathers. A circumstantial fish trap had occurred during the night, naturally (that is without the help of man's hand) and nearly 1,000 gulls were taking advantage of it. The water of the slough was glassy calm and one could see surface signs of fish as far as you could see, even with binoculars. An incredible abundance of food! The ease with which it could be gathered! A tremendous feeling of awe and thankfulness in a land where one normally must strive daily and mightily to fill one's stomach, whether you are a man or a gull.

Fresh bear tracks again at that location. Human use of that location much increased and will continue to build as fall fishing gets underway. The net I left set there overnight caught a tremendous load of whitefish. Maybe the most I've seen in one net at one time.

A new dog team and an old resident moved in for a fall stay at his allotment, in the same area as the latest bear activity. Hope they're both cautious.

Very few birds on coastal strip except for Glaucous Gulls and Canada Geese. Blackberry and cranberry picking still very good, but clearing sky and north winds may provoke a hard freeze that will soften the berries and make picking nearly impossible until they freeze solid.

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A couple of caribou seen today in far northwest part of Monument.

A lot of shotgun firing this quiet evening. First time this fall. A “good weather” weekend for a change brings many town boats into hunting areas, either for caribou or waterfowl.

September 9

Low 28° F
High 44° F
Light N wind
Clear

A clear cold morning. A record breaker for Kotzebue at 32° F. Previous record was 34° F. Heavy ice in outside fresh water bucket. Berries will soften. Sad but beautiful as the frozen part of the year commences.

A real large group – four to five hundred – of Tundra Swans in back wetland area. Very low water due to north wind system, which exposes lots of mudflats. Ocean very calm.

Fall colors very bright now with the yellows of cottonwood and willow, and reds of dwarf birch and bearberry.

A noticeable effect of deposited gravel is going to be a dramatic change in plant zones through Sisualik Spit. Wonder how the process will work?

A rather remarkable absence of small birds (passerine). Extreme concentration (1,000) of Glaucous gulls at Anigaaq outlet. Lots of fish - it should attract some rarities.

September 10

Low 30° F
High 43° F
Light N & W wind
Clear

Ice on outside buckets again. Very heavy frost this time, though not quite as cold as yesterday. Strangely enough, even with two nights of freezing, blackberries in some places are still firm and much sweeter. We picked another 20-25 lbs today.

First catch of both fall herring and fall tomcod today. The herring for salting, the tomcod for drying. Both a special fall treat. Weather and seas permitting, there will be many more to come before ice begins to run.

Reported sighting of Steller’s Sea Lion at Sealing Point this morning. This animal

rare north of the Bering Straits but one is seen every few years, usually in September. Three or four years ago one was shot near the Ranger Station around this date.

Two northern birds we haven't seen yet this fall turned up today. Two Snow Buntings and an eclipse plumage male Common Eider. A third, a Yellow-billed Loon, was the first I've seen this year. It passed over, traveling in a southeast direction.

Fishing for whitefish at Anigaaq continues to be good. Many people are cutting some for drying. The last chance for making dried fish before freeze up. We cut 150 yesterday. We also cut the tomcod for drying and boiled the livers to mix with blackberries for the delicious dish called Tingulik.

The tomcod stomachs are full again. On inspection of contents, a remarkable view of the relatively great diversity of species on the Kotzebue Sound ocean floor. Many one would not know existed if it were not for the inspection of saffron cod (tomcod) stomachs!

We are enjoying this spell of cool dry weather with light winds after the storms and rains of the last few weeks. A few more dry days and our fish will be safe.

September 11

Low 40° F
High 45° F
SW wind to 20

Waves again. Loud and halfway up the beach. Lagoon at medium high water again. No mud flats. No freezing last night.

A walk around the back wetlands today. Lots of Tundra Swans, Wigeon, and Canada Geese. Northern Pintails notably scarce. Nothing much else to see except a few Dunlin and Red-necked Phalarope.

Light SW winds have kept both lagoons and ocean front at high level. Blackberry picking and fishing (whitefish) continue.

We seem to be the only rural location that doesn't have caribou yet. A rumor: "Kivalina people have reported that Sisualik people have caribou in the mountains behind them." We haven't seen them yet.

September 12

Low 39° F
High 46° F
SE wind 10-15
Cloudy

Water levels still high. A red sunrise.

A nice group of Snow Buntings (14) today. They are pretty regular in their fall migration through here from mid-September into October.

Very, very limited Sandhill Crane migration through here this fall. We saw a few flocks in late August and kept waiting and waiting for a major flight. It never occurred.

Finally sunshine this late p.m. Feels and looks very good. A few moths and flies flying. Seems flood and gravel throw up nearly did in the local insect population. Wind has been more southerly this p.m. and all waters remain high-above normal. No mud flats. Difficult waterfowl hunting.

Fishing activity at Anigaaq intensifies. This is about the earliest date that fish can be sacked, sewn tight and kept out of the sun to age for human use after air temperatures get cold enough to freeze it solid.

September 13

Low 40° F
High 45° F
S-SW wind to 25
Cloudy, showers

South winds again. A Wrangell Island wind forecast was only to 15 mph, but we were to 30 mph by noon. High water levels, but waves only three quarters of the way up to grass line. Late August and the first half of September has been rough, with bad onshore winds in Sisualik.

Wind dropping by p.m., water level behind continuing to rise, waves diminishing in size.

Not much precipitation, our fish drying up just fine.

Mid September close! Must think of sacking up some Least Ciscoe and Humpback Whitefish. Green fish sacked a week to ten days before freezing air temperatures get a very good strong flavor when eaten frozen. They can get too strong if freezing is too long delayed.

Five hundred or more Tundra Swans in sight again today. A pretty sight at that. Much flying back and forth to strengthen wing muscles of young and old alike.

Wind dropped to nothing about 8 p.m. Waves dropped rapidly. No flood this time, and no mud flats yet either for Sandpipers. Poor show for those birds again this year in Sisualik.

September 14

Continued high water levels. Weather cleared in the p.m. It was nice and dry and sunny until a squall struck with hail and all about 9:30 p.m.

Lots of ducks, geese and swans around when a boat is passing through the back wetland area and causes them to fly.

Set a short net this evening, of herring mesh size, in Anigaaq, hoping to catch Least Ciscoe.

At least two different sets of fresh bear tracks on the beach road. This last onshore wind storm brought many dead ugruk to the beach. The bears will have plenty to eat now, so incidents should become less frequent.

Our dried fish are coming along well due to roof over them to protect from showers.

Whitefish netting and berry picking continue, though berry picking activity is winding down. Some berries are soft and a little harder to pick, though they have sweetened and are real delicious now.

A caribou of some kind reported taken yesterday near Sisualik.

September 15

Low 38° F
High 45° F
SW wind to 20

Snow on our mountains! About a quarter of the way down on the most westerly mountains. Second time? Water levels remain much above normal for September. Feeding areas for waterfowl and shore birds much affected. There is some hint that birds of the year are fat enough for successful migration.

Weather Bureau suggests our Wrangell Island complex low moving off to north and will be replaced by a more normal Aleutian low. More wind?

Finally got to the net I set last evening. Swells against the high mud bank between here and there delayed the operation. Lots of fish in the net. Enough Least Ciscoe to fill three fourths of a hundred pound burlap sack. Filled half a small sack with Humpback Whitefish.

Two dead emaciated seabirds on drift line. A Short-tailed Shearwater and a juvenile kittiwake. Swan family groups much in evidence now. This window from mid September to October seems to be the time that family groups are integrated into the

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flock. Several pairs of Sanderling were noted on ocean beach around dead marine mammal carcasses.

There are many ugruk carcasses from last spring hunt just now being dredged up from the cold bottom of the sea. Some are surprisingly un-decomposed.

Caribou, by rumor, are getting closer to here. We have meat coming from son's camp on northwest shore Kobuk lake.

There were two juvenile Sheefish in herring net (mesh size). They looked like twins. These are the smallest I've had in hand since search for Sheefish less than five years old began. Heads seem small in relation to body. This brings up some interesting questions. Since Anigaaq fish are now landlocked, a time for the entrance of these fish is known unless they were spawned within the system which is unlikely. Saved the fish in the freezer. Would like them aged (scales?)

September 16

Low 42° F
High 50° F
NE wind to 35
Cloudy

Windy but no waves from this direction. Water level on ocean dropped much. Direction of wind keeping water levels up in lagoon system, a level much better for waterfowl feeding.

Mountains between Kobuk Lake and Squirrel River still have yesterday's snow on their north sides.

Water continues to drop through the day. Several nearby swan families feeding constantly to build up migration fat. The interesting phenomenon again occurring in feeding procedure. Small groups (4-5) of Wigeon follow each swan around as it forages with head underwater. They apparently grab *Potamogeton* stems and corns that float to surface disturbed by swan activity.

Wind down by evening, temperature up. No freeze tonight.

September 17

Low 42° F
High 48° F
NE wind 35-40
Cloudy, dry

Strong winds again. Very low lagoon and marine waters. Lots of mud flats. Lots of waterfowl in back sheltered areas. Lots of whitefish at Anigaaq. Lots blackberries as

yet unpicked. Lots of huge tomcod (Saffron cod) in the ocean.

Put our dried whitefish from recent cutting down in seal oil. They look pretty good.

September 18

Low 45° F
High 50° F
E wind 30-35

Another windy, cloudy, but dry day. Water level real low
Some huge groups of Wigeon (200-300) and Tundra Swans (400 plus) and some good flocks of Canada Geese.

Can't find a flower of any kind. Some years a late Arctic Daisy or a Mouse Ear can be located as late as October.

Fishing (whitefish) and berry picking continue in spite of the wind

Saw two juvenile Short-eared Owls today, twins! And they didn't want to get separated from each other. The first seen this fall when normally they are quite plentiful by this time as southern movement is on. These seemed very young which seems strange since we had an early spring.

September 19

Low 38° F
High 47° F
Light E wind

Winds down, water level up, a fine morning. Some clouds.

This turned out to be best day we've had for weeks. Ocean calmed completely this p.m. Few flies out again. Herring running night and early morning. Made our winter bucket of salt herring today.

ATC breakdown kind of marred the day. Hope to get it fixed soon.

Some off-color subadult Gulls showing finally. Positive identification is difficult. We may have a first year Herring Gull, Glaucous Gull and Glaucous-winged Gull. Will work on more positive identification if they hang around. Every fall (mid September to mid October) produces some stray gulls from far away places, usually subadult.

A late lone Mew Gull of the year around the herring net for awhile today. Strange how Mew Gulls, both adults and young, migrate from here so early. Probably a full month ahead of Glaucous Gulls.

Journal

September 20

Low 42° F
High 52° F
N-NE wind 15

A fine quiet cloudy morning. Water level low to medium or better yet, medium-low. No herring. Good that we got them yesterday while they were here and water level was up.

Neighbor put out one shackle of salmon gear yesterday. He is catching a few fish. Haven't heard what kind or how many. It is late for both salmon and char in marine waters but there are always a few through September. Whitefish fishing exceptional. Quantity unbelievable.

May have ATC fixed enough to go put net. Saw another Short-eared Owl today.

A good catch of very large Saffron Cod in sea beach net.

Maggie W. called today. Hope she makes it out tomorrow. Good to see old friends!

Insects flying again.

September 21

Low 34° F
High 35° F

Cloudy and drizzle. Snowfall in Kotzebue. None here, but visible on the mountains. Water level very low.

Anigaaq outlet reported to be eroding away from water current underneath the gravel on the ocean side. This always a threat when marine water drop is extreme. While dammed up, waters of the freshwater system are high. Some remedy is usually taken, like driving stakes or putting grass under or in gravel to slow erosive action

A rather heavy wet snow with considerable accumulation east of a north-south line from Noatak mouth through Kotzebue. Not even a single flake through Sisualik and west. Kind of unusual.

A wet cool day. Spent most of it finishing up yesterday's work.

September 22

Low 33° F
High 45° F
N-NW wind 15

A beluga taken yesterday evening. Apparently a near-adult, lone animal. The one and only taken by Sisualik people so far in 1990.

A good dry, near freezing day. Water levels somewhat up.

A single Snow Bunting and multitude of Glaucous Gulls only birds seen on trip to net set.

Wind picked up late p.m. to 25 mph from NW. Picked up net and surprised to find only four or five whitefish and a few flounders. Anigaaq out of fish already? A lot of tonnage removed this week.

It has cleared and looks like we're in for our first hard freeze. The parent Pacific Loon and her offspring we saw at Akulaaq will need to hurry on the flying lessons.

September 23

Low 31° F
High 40° F
NW-N wind 15

First day of fall and it looks like it. Small lake surfaces frozen, clear sky. Freeze-up is on the way. The larger lake between here and neighbor's froze all the way across after sun up.

Fish reported abundant again this morning at Anigaaq. Water levels dropping again in p.m. Spaced swells on the ocean.

A fine dry, cool day. Our local ground squirrels are fat and playing out a bit as the sun warmth penetrates through the morning frost. Hibernation is close for them.

Birds very scarce. Gulls, Ravens, a few Swans, a stray Snow Bunting or Redpoll, a lone Snowy Owl, a single Gyrfalcon and that's about it all week.

September 24

Low 31° F
High 40° F
NW-N wind 15

A fine bright, cool, and dry morning. Lots of fish at Anigaaq outlet. Water levels somewhat high. Put net out and picked up small sack of fish.

Yesterday's miserable bird scene has changed. Two late Sandhill Cranes flew over as

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I was setting my net. A flock of Ptarmigan, numbering 300-400 and a second flock of 400 plus were seen. There were over 1,000 Glaucous Gulls at Anigaaq. Our species have become few but numbers are great.

Swells continue on the ocean, far offshore, due to strong NW to N winds.

Anigaaq continues to produce more whitefish this fall than it has for many, many years.

Snow showers and squalls all p.m.

Caribou reported to be many at Aggie and coming off the mountains at Nelson's camp northwest of Kobuk Lake. Sounds like many caribou east of Noatak River. No report yet of any west of the lower river. Heard yesterday that Michio Hoshino, the famous wildlife photographer, is in the region again. An old friend.

September 25

Low 30° F
High 36° F
N-SW-E wind to 15

A cool squally morning. An inch of snow fell from one cloud about sun up time but melted by noon.

Picked up fish and net at Anigaaq. A very large bear track in the snow was impressive and not very far ahead. Fishing is good but marine waters high. We've had N-NW winds for a few days, but it changed abruptly to SW about 11:00 this morning.

Lots of Swans yet, some Pintail and Wigeon as well as Canada Geese. A huge flock (200+) of Snow Bunting made their way from north inland to beach-lagoon feeding area. Haven't seen such a large flock before. Usually they are in small groups of three to ten.

Huge group of Glaucous Gulls (1,000+) at Anigaaq remains. Is it growing? Seems to be solid Glaucous; can't yet isolate any other species out.

A lot of news of caribou moving. The closest are at lower canyon of the Noatak, only twenty miles or so from here. We have only a short ten days now before the big fat bulls come into rut and become too strong to be used as food.

September 26

Low 33° F
High 36° F
SW wind 10-15

An early heavy snow today, with 3-4" of accumulation.
Many flocks of Canada Geese moving by, since berries are now snowed over.
Wigeons and Tundra Swans still holding.

A Walrus seen near Ranger Station. A young animal strayed from its group. Not an unusual happening for the last week of September.

Still 2,000 Glaucous Gulls at Anigaaq outlets. Not much whitefish at the outlet but overnight net set got us a lot of Least Ciscoe and Humpback whitefish and one more Juvenile Sheefish.

Clearing this late p.m. and beginning to freeze. Swells in the ocean continue.

September 27

Low 26° F
High 33° F
N wind to 20
Clear

An early snow yesterday, and an early freeze up today. Yesterday's snow cooled the water and ground and last night's temps in the 20's froze many small lakes. The north wind, the cool clear weather and extremely low marine water means freeze-up is near!

Some Swans, Canada Geese and Wigeon along sloughs where current keeps water thawed so that food (*Potamogeton* sp) is within reach. Several flocks of Snow Bunting passed as well as the two thousand Glaucous Gull, which are mostly young of the year

Bears still beachcombing at night. Fresh tracks again this morning again. A sow with cubs, and another individual, probably a 3-year old.

Lots of whitefish in Anigaaq net. Lots of Saffron Cod in ocean net. Busy day.

Caribou news, but it all seems east of Noatak River. Wish they'd cross the river. River will probably be running ice by tomorrow or next day. Not long till bulls get strong. Noatak has run ice as early as September 15-16 in years past. So there have been earlier freeze-ups.

September 28

Low 24° F
High 33° F
N wind to 20
Clear

Freeze up continues. Clear, cool, dry and windy. Extra low water - hardly a drop left in the lagoon. Much of surface is frozen, though a few places remain open, where feed is available for water fowl. A mixed flock of family groups, 35-40 Tundra Swans remain in one of these feeding places. Why? Cold winds and freezing temperatures make a pretty miserable, long night for those swans. Are the young not strong or fat enough to go south? How do the old ones know this? In other years I have noted feeding places kept open during cold nights by swan activity.

Since temperature has been above 32° F for only a short period each day, our 3" snow cover hasn't changed much. Pretty good snow cover for tracking and snow machine use.

Whitefish continue to be plentiful at Anigaaq and Saffron Cod are plentiful in the ocean. Saffron Cod and Herring are the last species to run past Sisualik in the fall. After they reach winter quarters, any species of fish inshore of Sisualik is rare. Nearshore areas become nearly sterile. One exception is those years when Arctic Cod hit the shores hard in October and November. This doesn't happen every year, but when it does it is spectacular. Black clouds of *Boreogadus saida*.

Caribou news is still all east of lower Noatak. Bears and squirrels still active, although it seems bears more so than squirrels. Squirrels making very few tracks, though they sit in the sun at midday.

September 29

Low 20° F
High 29° F
N wind to 10
Clear

A beautiful cool morning, and our early freeze-up continues. Small lakes and pot holes on the lowlands slow to freeze since they are filled with salt water from the flood. Freshwater ice thickening fast, and will support a person's weight in many places today.

This is the first fall day the temperature has remained below freezing all day.

At least eleven swans in back slough area where they have kept a feeding place open. The mysteries of bird migration very interesting at this season. What triggers the decision to move south rather than spend another hard freezing night in extremely limited habitat? Most waterfowl, of course, have already left.

Another point of interest: many sandpiper adults leave young of the year to find their own way south in migration. Apparently some or most ducks do too. Tundra Swans and Loons seem unwilling to do that. Some swan families seem unwilling to start migration till young are ready. Wonder if this "readiness" has to do with flying strength or suitable, sufficient fat reserve.

Caribou reported super thick in hills on east side of lower Noatak River. A few reported on our west side. Since we have early cold weather, the rut will begin ten days early. Median rut date is October 14 for this area. That means some large bulls will begin getting strong this coming week.

No report of ice running yet, but could already be in upper river areas and is due anytime here at the mouth. Boating time on large rivers very limited if weather remains below freezing.

September harvest has been good, especially for blackberries and whitefish and for some people, caribou, moose and waterfowl.

The first young Ugruk was taken in Sisualik today. Very good meat for a change. These fall Ugruk are invariably short yearlings and begin to show with the first running slush ice around the last week of September. In some years they are common through October but tend to disappear toward the end of the month as ice pack edge moves far offshore.

September 30

Low 26° F
High 36° F
NW wind 15
Partly cloudy

A little warmer than yesterday, a little more windy, and partly cloudy. Freeze-up continues with ice running in Kotzebue Channel for the first time this fall.

Marine system water level has risen to normal. Swells began in late afternoon without wind. Southwest wind to 20 mph began a couple of hours after swells began to grow and continued through the night.

Due to only moderate rising of water level, no threat of flood has yet appeared with this weakening low down from Wrangell Island.

Rain starting to wipe out our snow cover. Ptarmigan, and whatever waterfowl that might remain will rejoice. Berries are uncovered again.

CAPE KRUSENSTERN JOURNAL

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October 1

Low 31° F
High 38° F
SW wind 25
Mixed rain and snow

Waves again! Huge, but water levels rather low so waves are breaking below grass line. We've lost most of our snow cover to rain and warm wind. Almost back to square one for surface freeze-up.

Wind dropped to variable this p.m. Water level also dropped some. Thin ice in lagoon has shifted around and piled up here and there maybe establishing the horizon for the next nine months.

Found a pot of white clams today. They seem kind of grade two. Maybe they were washed out of place by the big storm a month ago and just now have washed ashore. They were good for a change.

Some neighbors moving back to Kotzebue for the winter. We'll probably be moving inland to our "security blanket" within a couple of weeks.

Several flocks of Snow Buntings about.

A walrus and a bull caribou taken near Sealing Point. Walrus reported to be a small female, not fat but apparently healthy. Two age/sex characteristics dominate over the years of fall walrus take in Krusenstern area. Most are either sub-adult males or very old females.

October 2

Low 28° F
High 38° F
Variable S wind 18
Mixed rain and snow

Things frozen again this a.m. but south wind picked up in the afternoon and by evening, mixed snow and mostly rain became rather steady. Evening rain eating up all our snow and probably ice too.

Some good flocks of Snow Buntings. Not traveling, but feeding along the grass edge of the beach. Also some long distance waterfowl observation. Not sure of identification, but appeared to be a small flock of Canada Geese, a flock of near

twenty Greater Scaup and six Red-breasted Mergansers.

A few herring and tomcod in short set of herring net.

Some seal hunters out from Sisualik today. Results not known yet though it's probably not much. One or two young Ugruk is a good catch at this early boat hunting date.

Our early freeze-up is fading away. We are often able to walk across shallow water ice to the hills by the third or fourth of October. Doesn't look like that will be possible this year.

October 3

Low 36° F
High 38° F
SW wind 20

A warm, rainy night. Most of the snow gone at lower levels though the hills are white. Wind dropped midday. Water level normal. Went to Anigaaq to set whitefish net. First time for a few days since overnight freezing was making net tending difficult. Not much sign of fish. Gulls thinned some, though there are still several hundred, mostly birds born this year.

No overnight bear tracks.

Several flocks of Snow Buntings passing through this morning close to the beach and moving west. About as much open water as ice sheet in water of back lagoon areas. A few waterfowl observed, but was not close enough to identify.

Several young ugruk taken yesterday by Sisualik boats and probably more by Kotzebue based boats. These young animals are pretty regular in their appearance as the first free-floating ice pans drift out to sea from fresh water delta areas.

October 4

Low 32° F
High 35° F
NE – E wind 20
Mixed rain/snow

A dull sloppy day weather-wise. Rain changed to wet snow that soon melts and chills everything it touches. It isn't often considered to be, but is, a rather dangerous time to be outdoors, as of course a lot of people and most birds and animals are. The combination of cold snow and soaking wet outer insulation (hair, feathers, clothing) can, under extreme circumstances, bring body temperatures down to a very low, sometimes dangerous, level.

Journal

I was able to check net set yesterday at Anigaaq. A good catch (60 lbs.) of whitefish and a surprise, a very fat Sheefish of about 8 lbs. The presence of Sheefish in the Anigaaq system is a relatively new development. Having a tendency to speculate on the how's, why's and wherefores I can barely resist, but there is hardly room to get into it here. It is interesting!

Another point of interest in the Anigaaq system is that *Coregonus* sp. are into their egg laying time window. Nature waits for no one! The eggs and milt must go. The fish being impounded, although their impoundment consists of many square miles and several feeder streams, must do the best they can with what they have to work with. We have observed spawning activity in the known spring area of Tugruq Creek area at Igavaun but we don't know if production occurs from the effort in this system. It is possible that every Bering Ciscoe spawns in this system as well as char and Grayling, but just which species do and which don't is unknown. Rather remarkable for a major stream in a National Monument! Which reminds me, the three juvenile Sheefish specimens may prove to be the catch of the season in this system.

Visibility very poor all day. Expect that some camps will find caribou all around them when the air clears. Caribou rut movements are probably beginning.

Birds for the day down to three species: raven, Glaucous Gull and Snow Bunting.

No seal hunting boats out today.

A 30 knot N wind forecast for weekend. Maybe that'll break the rain spell and we'll get back to freeze up.

October 5

Low 35° F
High 38° F
E-NE wind 18
Cloudy, drizzle

A dark, damp day. Most all lowland snow melted. Snow remains above 1,000 feet elevation.

Spent the day butchering three bull caribou brought by our son who lives in Kotzebue and has a camp on northwest corner of Kobuk Lake at Fish Creek. They had a very good hunt at their cabin last weekend. The bulls were fat and in good condition. Interestingly, one already had a much swollen neck, though no hint of strong odor yet. This does confirm our earlier speculation that rut would begin ten days early this year (October 14 an arbitrarily chosen median date for northwest arctic herd rut). All herd bulls do not come into rut at the same time. Even after the first strong smelling bull (not useable for human food) is reported, many other large bulls, though necks are swollen, will be fat and odorless. However, this condition

cannot be determined on a live animal. Therefore one takes a gamble when one shoots a herd bull from this week on.

A first group of sixteen caribou reported not far west of base of Sisualik spit at 8 pm. Two taken. Movement is west. Is this an indication of a good run or only a stray group? Time will tell! Some Sisualik people will not be sleeping past daylight tomorrow!

Many Snow Buntings in the area. Some flocks of more than 100 in sheltered shoreline areas. A quick glimpse of a raptor (without binoculars no time) suggested from size and narrowness of wing, a late Peregrine Falcon. There are still a few Pintail and Wigeon and possibly some stray shorebirds around. A late date for Peregrine but quite possible. Twelve Tundra Swan in two groups moving west!

Summer seems to have returned briefly. Most sign of ice on lakes, lagoon, etc. pretty much gone. Since snow is gone berries are pickable again, but I didn't see anybody out doing that.

October 6

Low 34° F
High 36° F
Rain, drizzle

Another dark wet day. A good catch of whitefish. Not much new on the caribou scene to everyone's disappointment. Some animals northwest of Sealing Pt. All reports not in yet. Two were seen where bunch of sixteen were seen yesterday. One caribou taken close to Sisualik, several northwest of Sealing Point.

Another apparent hybrid fish today. Probably a Least Ciscoe -Humpback Whitefish cross.

Most ice melted. A few small lakes retain some. Saw six Northern Pintails, a lone Brant, and four Wigeon on a half hour trip to back wetlands. Lots of habitat now. There would be many waterfowl using it still, had the early near freeze-up been less intense. Many large flocks of Snow Buntings. Apparently a slow "feed while you go" movement this year. Some years it's go, go, go. Ptarmigan nearly all white. With snow melted, falcons, goshawks, and owls have good hunting and ptarmigan probably sleepless nights.

No fresh bear tracks. That's rather surprising. Lots of food on the beach and all this warm wet weather. Must be things to do elsewhere: caribou in the country, whitefish egg laying in upper streams, and salmon spawning activity.

A real lot of runoff at lower elevations. Rain and melted snow on partially frozen ground. Anigaaq may yet open if the gravel dam overflows.

Journal

A note on caribou tissue anomaly. A late September, fat, adult male from NW Arctic herd with a swollen watery lump just below second joint above hoof, half the size of a medium sized lemon. No external drainage, healthy and hair covered. On lancing, a clear water "neutral" fluid containing many thin short white (translucent) noodle-like segments released. Though the water and segments are contained between bone and skin, neither shows obvious signs of deterioration. Between the flesh and the skin of the animal, the skin side has a definite sandpapery feel.

October 7

Low 30° F
High 36° F
NE wind 15 to calm

A little sun and a little drying this afternoon, a little freezing this evening.

Four swans: two cygnets, two adults. A few waterfowl (less than ten seen) – Northern Pintail and Wigeon. Lots of Snow Buntings in large flocks feeding around. Other shore residents commented on size and numbers of flocks they have seen.

Finally a group of caribou in sight from Sisualik. Six or seven of them with no mature herd bull. Other caribou seen on the Monument today. There seems to be scattered bunches through the Monument from behind Sisualik to Port Site. Most appear to be between Sealing Point and Battle Rock. No way to make a statement of numbers or from whence they came, though a large group was said to have crossed Noatak River at the Hatchery this week.

October 8

Low 30° F
High 36° F
NW wind 20-25
Heavy cloud cover

Another dark day without sun and without a real beginning to freeze- up. We are starting to get impatient. And remembering that the earliest ice travel from Kotzebue to Sisualik was on October 10th one year. Prior to that it was the twelfth and before that a dog team on the fourteenth. Now we think we need both snow and ice to get on with late fall early winter activities.

After the ocean was so quiet last night with glassy surface and no wind we were surprised to wake up to loud swells and strong winds.

Five swans and six diving ducks (Scaup?) seen this morning. A Gyrfalcon passed camp this morning, traveling south along the ocean edge.

A strong run of whitefish at Anigaaq outlet again today and the dam is still holding. With lots of rain and melted snow the dam is in jeopardy. We had hoped for anything

but a strong west wind which will push water down towards the outlet. We have our fingers crossed.

October 9

Low 30° F
High 34° F
E wind 40
Cloudy, snow

A cool, windy, and blizzardy day with snow showers. Our trend of blustery weather continues. We yearn for spell of clear, cold weather to freeze local lakes and sloughs, so we can get a look at winter quarters.

Only birds to be seen today are Glaucous Gulls, Common Ravens, Snow Buntings, and sea ducks (four Oldsquaw, three Steller's Eider). The Eiders are interesting. Each spring and fall a rare few Steller's Eiders are seen on Krusenstern Monument. Each spring and early summer a few Spectacled Eiders are seen. If there are some Spectacled Eiders in the fall they are overlooked or don't occur where people are present (offshore). Young Steller's Eiders often turn up after all freshwater birds are gone from the salt marsh. They are very tame and don't have the immediate appearance of an eider. Their light brown coloring all over (hidden white-bordered blue speculum) and head shape give them an almost small "Mallard" look. The result is the Steller's Eider in Kotzebue Sound area is not often recognized for what he/she is in fall.

Well, the evening weather indicates we will not likely have another flood, just another night of flapping and jumping tent as E-SE winds to 40 K work their way through. It will be a relief to get to winter camp house, if the bears have not torn it down or up.

Today's caribou report just in. Fairly good numbers in sight four to five miles inland from the Ranger Station, apparently moving slowly this way. A few down close to the beach each day. A few (3 or 4) taken today by ATC folks from two different points of access: between Sisualik and Ranger Station and northwest of William's camp at Sealing Point. Since nothing is frozen, catching a caribou near enough to the beach to pick it up with ATC at this time can be difficult, especially with competition.

One of the bulls taken today by a neighbor was good and fat, but he could notice the beginning smell of rut. He is hanging the meat outdoors. This is an effective method to improve marginal meat. The reason for "gambling on bulls" at this season is plain. Herd bulls are the fattest of all age/sex groups now. The only other animal in herd carrying fat now is a female without calf and they are difficult to single out.

October 10

Low 34° F

Journal

High 39° F
SE wind 5-25
Snow

A near blizzard through the night with high SE winds and fresh snow. A surprise this morning. All the newly formed snowdrifts melted, as snow turned to rain after midnight and wiped out whatever was gained in ice or snow cover. Strange how we look at snow and ice as a gain at this season and as a loss in spring. We are, however, looking forward to freedom of movement that freeze-up gives. This date is the earliest that an ice crossing was made from Sisualik to Kotzebue a few years back. This day in 1990 one would have to search hard to find ice even on the smallest pond. So it goes, early cold fall weather but a delayed freeze-up.

A very wet day, finally clearing some as the sun was going down. Marine water level that kept coming up through the day also started retreating, so apparently no flood from this weather system.

Four Northern Pintail, three Wigeon, and many Snow Buntings, Glaucous Gulls, and Common Ravens birds for the day.

Three to four caribou taken by ATV behind the Ranger Station site. First report of a single caribou track made last night on ocean beach, a little east of Ranger Station. Scattered caribou through the hills continues to be the picture on the Monument. No great mass movement yet.

As for freeze-up we are back to square one with both ice and snow. Last year we were able to move to Sanningaruaq (winter house) on October 21. Hope we make it by then, or before, this year. I've had enough ocean and gravel for awhile!

A report today from a person who traveled a lot on the Monument this fall. He remarked on the relatively large number of Gyrfalcon he has seen here this fall.

We have delayed setting pole traps for Snowy Owl till freeze up gets back underway. First of October is sometimes set time. Have not seen any Snowy Owls for a long time. Haven't turned up any rare gulls or sea birds either for all our stormy weather. Some stray Eiders and Oldsquaws are beginning to show on the ocean. Unless the bird is close to shore, exact identification is difficult, since they are typically birds of the year.

October 11

Low 33° F
High 36° F
E wind 20, SW 35 p.m.
Rain, snow

Another night of non-freeze. A remarkable extended warm spell for this season,

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without breaking any daily extreme records. Another point of interest: habitat all set for normal freeze-up and when that doesn't happen the whole environment, in the broad sense, seems poised on the brink. In many cases the life dynamics are at a "hold" position. One has the feeling of an intermission between two different worlds. Which is it: Arctic summer or Arctic winter?

A roving subadult male moose reported first of this week. Moose are in full rut activities and sub-adult bulls cover broad areas around the outskirts of activity, driven away from taking an active part in mating.

Rain and melting snow threaten to impounded water systems (i.e., Akulaaq-Anigaaq) Some other local systems have already broken free and released trapped fish for broader winter distribution.

A bear story out of Noatak Village. A bear within the village Wednesday evening caused a lot of excitement. Maybe more details later.

Finally! They are coming! An eyewitness report that a multitude of caribou are moving this way from a few miles northwest of Sealing Point. How strong the emotions are at the prospect of seeing a great herd of wild animals moving over lands that have been barren. For months, these lands can be searched for months, even with binoculars, without hardly ever seeing movement of any kind (of a large animal) The Ancients as well as the Moderns must thrill to the sight and the prospect. Oh my! The multitudes, the action, the dynamics!

A swift and dangerous change of wind around 8 p.m. that built to 35 mph and carried on till past midnight. Not even a small craft warning. The change to SW is our most dangerous quadrant. Again the last couple day's forecasts seem for some other part of the world, bearing little relation to local Kotzebue or Sisualik weathers. Wonder why? Wonder how the local forecasters feel when their material is being broadcast hourly and much of the time blatantly contradicts reality!

October 12

Low 26° F
High 28° F
SW wind 15 to N 10
Sunny

A clear moonlit morning after a miserable wet rain-freezing snow night. Looks wonderful!

There were five or six hundred caribou in sight a couple of miles inland from here as the moonlight changed to sun up. An extremely beautiful day and freeze-up is on again. Temperatures stayed below freezing all day in spite of a warm sun.

Journal

The caribou turned out differently than it first appeared. The close group, probably near a thousand, is not connected by long lines to the multitudes mentioned yesterday northwest of Sealing Point. There were no caribou in sight in the seven or eight mile stretch behind the Ranger Station and Akulaaq lagoon. The more western group may follow the tracks of these first ones, which appear to be moving north after nearly reaching the beach. Not many were killed here today. Probably less than ten. Two reasons. Many people already have a considerable amount of caribou meat and thin ice on streams and sloughs prevent easy (though not impossible) access.

A remarkable amount of sharp young ice formed in the few hours before daylight, as wind dropped and the already super-cooled water (by falling snow and wind chill) turned immediately to surface ice.

A most strange incident today. On our way to Anigaaq to put our net out we began to see dead Willow Ptarmigan along last night's high water line. Some were being eaten by ravens and Glaucous Gulls. After passing eight or ten that had been scavenged I noticed several as yet untouched, so I picked up five for inspection and any hint as to how they came to be there. The outside skin and feathers were soaked and lightly frozen; the inside meat was unfrozen. Each crop of the five birds was plumb full (presumably of normal feed, willow buds, berries etc though we'll check that for sure as we thaw the birds) Birds were distributed here and there along at least six to eight miles of beach - 30 to 50 birds. We have not heard of this kind of happening here before. Our best guess is that yesterday's terrible heavy wet snow fall and sudden wind change (to south) disoriented a rather large flock of ptarmigan that got out over the ocean in white out conditions. They either dropped exhausted to the water or were weighted down by icing in the wet snowy air they were flying through. A true "wilderness" tragedy that I guess we can't blame the Weather Bureau for. It is a great lesson in dangers of this season and the unexpected potential for hypothermia problems. A Willow Ptarmigan is, of course, a bird designed to handle regular dry temperatures, day after day, to minus 50-60 degrees or more. This must be an extremely rare happening as there seems to be no local Eskimo remembrance of such happening. It's also quite possible that a Gyrfalcon could figure in this incident someplace as they are quite plentiful now with this year's young out and in a limited migration mode. Tough end for an entire flock of ptarmigan.

Snow Buntings still about in large flocks.

A silent ocean tonight. A real contrast from the thundering surf and conditions that did in the Ptarmigan in last night. Northern lights in the far north of the sky tonight. A sign of cold, and it is a real ice making night!

October 13

Low 26° F
High 33° F
NW wind 15

Light snow

Clouds again. A very quiet ocean. Temperatures stayed a little warmer than expected due cloud cover.

A two hour table net set (3 ¼ inch mesh) in ocean last evening produced nothing but jellyfish. The net we set yesterday froze in (a cork or two) so we couldn't pull it today. The ice is too thin to go out on. Maybe we'll be able to free it tomorrow.

A lot of caribou in hills behind Ranger Station to hills behind base of Sisualik Peninsula. Access is still difficult since ice is not quite thick enough to cross creeks, sloughs or lakes. A few killed today, less than ten. Some bulls are still good.

Light snow most of the day. Made a short visit to Doug and Tessie's.

Plucked one drowned Ptarmigan today for inspection. Content of crop the normal mixture of willow buds and tips with some cranberries and blackberries. A very full bag. Nothing unusual about carcass, except a rather watery, reddish edema. Probably characteristic of drowning and/or hypothermia.

A report of no caribou between Sealing Point and Battle Rock where there were many day before yesterday. Caribou hunter report of land otters seen in the hill. Not unusual at this season to see a family group traveling overland between streams.

October 14

Low 24° F
High 28° F
Light N wind
Overcast

Caribou finally made it to beach in numbers. Several thousand at base portion of Sisualik spit to Akulaaq. Harvest substantial: 35 to 50.

Did manage to get out on thin ice with use of a long pole to free the frozen in net. Ice pretty thin, scary! Lots of fish in it. Maybe 150 lbs. of whitefish.

Caribou meat report good. Females and young males. Herd bulls strong. A report of a reindeer steer with the caribou, recognized by late velvet on large animal at this season. Not recognized for what it was by those close enough to shoot it. It's still roaming.

Late this afternoon there were a lot of caribou yet in sight from hills behind Ranger Station through Akulaaq to base of Sisualik. Line direction of departure of the huge morning group was NNE toward the Fish Hatchery and our winter camp.

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Ice will probably be thick enough in the morning to cross some sloughs and creek channels. More than a week late already for that happy event. We may soon see what the bears left us of our winter house, Sanningarauq.

October 15

Low 22° F
High 26° F
E wind 15
Snow

A cold day with intermittent snow. A couple of firsts for the season: drifting snow and slush ice running in the ocean. This last is call for a fall celebration in Point Hope and some other ocean situated villages. Ocean ice, a whole new world, made anew each year. This also the first day seals could be seen laying on small ice pans within the out going slush. These would be Larga Spotted Seals, Common Ringed Seals, and short yearling ugruk. Some boat seal hunters out. Not much word as to their success.

Another net full of fish today. Maybe the last for us. Least Ciscoe have lost their eggs and Humpback Whitefish eggs are beginning to run out.

Caribou still around. More scattered than yesterday. The front movers have reached Noatak River from this west side. They probably won't cross, the ice being too thick to swim and too thin to walk on.

Some Snow Buntings around.

Set six pole traps last night. No catch at all.

October 16

Low 21° F
High 33° F
E wind 20-30
Drifting snow

Freeze-up continues in spite of strong east winds. Snow also beginning to accumulate. Maybe we'll get to winter quarters before the end of the month yet. Large tent living is not a lot fun after October.

By afternoon, fresh snow and drifting snow reduced visibility to a few hundred yards. Our first blizzard? Quite a bit of slush and small pans of ice running out.

The "young gull problem" is intense this year. These are young Glaucous Gulls hatched this summer, fed by their parents until they can fly and then abandoned. Having been fed with food brought to them most of their short lives, they remain pretty attached to any food source as long as it is available. As freeze-up develops each year it becomes increasingly difficult to find anything to eat that a gull can

October

handle. They can't do much with anything frozen that's too big to swallow whole. They hang around camp since there are usually edible scraps available here. If one takes pity and makes more scraps available, two things can happen. One, you attract more gulls and two, they become habituated and stay around until scraps give out. Sadly, most of them stay until after scraps give out and they starve or freeze. One wonders how Glaucous Gulls as a species appears to do so well, since so many perish each year during freeze-up.

A wind shift (to south at 30) brought temperatures up 10 degrees in a few hours this evening. After snow and drifting all day we have rain and no freezing temperatures. Back to square one again? Forecast is for easterlies with snow for next couple of days.

No caribou report today. Visibility very poor all day with snow and drifting snow. Time to stay home and keep dry and warm.

October 17

Low 26° F
High 34° F
S-SE wind 20
E wind 30 p.m.
Rain, snow

Tight packed ocean slush against the beach due to south winds, along with the peculiar sounds of muffled ocean swells muffled or amplified slush and pan ice. A characteristic fall sound peculiar to ocean beaches near large river deltas such as in Krusenstern Monument.

A sharp temperature change from 34° F with rain and wet snow this morning, to freezing in a few minutes as wind direction moved from SE to E. Another critical time for any living thing that had gotten wet or soaked and had no way to dry up.

Afternoon had strong wind, freezing temperatures and drifting snow. Another day by the stove inside the flapping tent. Comfortable, but noisy and frustrating when you would like to be doing something else.

Caribou movements last two days a mystery, due to very poor visibility and lack of hunter activity.

News for the day: snow drifts and a 6 foot high slush wall at edge of ocean, where waves and swells piled much of the outrunning slush.

October 18

Low 23° F
High 26° F
E-NE wind 40

At least it's dry and bright today. Strong winds continue but dropped off in the evening.

Several thousand caribou in a tightly packed group showed up on the first highlands on the west end of Sisualik. They rather quickly made their way across the sloughs (ice finally thick enough for that) and down to the beach ridge complex immediately behind our place in Sisualik. A sno-go came along from Jones' camp and crossed the outlet, which placed his scent there. Predictably all the caribou stampeded back to the high ground, the way they had come.

Ocean free of slush and its level dropping in response to forecasted N to NE winds.

Snow Buntings around. A fairly high number of adult Glaucous Gulls for this date. Ravens having a great time due to hunting effort and continued presence of caribou.

Air taxi pick-ups running a couple of days late due to bad flying weather. They did make it today. I still haven't crossed ice to hills. No doubt it's possible today, though still dangerously thin for vehicles.

October 19

Low 24° F
High 26° F
NE wind 20
Snow

A somber snowy day with visibility improving.

A lot of caribou passing west to east. Fairly steady strings rather than mass pile ups, as happened a couple of days this week. The futility of trying to estimate numbers of caribou from the ground is apparent this week. When numbers get in to the multi-thousands your mind boggles! Wonder at this point where and if they are crossing main channel of the Noatak River. Since yesterday, sloughs, lakes and any waters with little or no current have been covered with ice thick enough, though slippery, for crossing by caribou.

I was finally able to cross our back slough systems (winter trail to house) today with ATC. Our first crossing was yesterday with snow machines, on trails made by numbers of caribou.

First catch in the owl traps this morning. One medium fat Snowy Owl which we ate for supper. A good change from caribou, whitefish, goose, duck, and ptarmigan. As far as food diversity goes, we are having a great fall. It's only the weather that has been a bit trying. That has its good side too, though, which we'll soon be making use of. We are ready to move to winter house and only lack of

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ice has prevented that till now. Lack of snow on the inland trail is often a big problem at this time. Doubt that will be a problem this year. An inland neighbor reports that she already needs snowshoes to get around. We'll probably find out tomorrow, as we are planning to try to move.

We are having a very sloppy freeze-up this year which we are liable to pay for later on, with hidden weak ice on overland/water trails. Too much snow and rain on top of thinly formed ice is the problem.

Had to kill a Short-tailed Weasel in sacked fish pile. Weasels are a real problem when one has a good fall, with numerous food stock piles. Weasels (both species), shrews, and voles replace bears as threats to the rich as winter comes on.

October 20

Low 24° F
High 29° F
Light N wind
Snow

Light snow overnight and some clearing this morning. Everything white! Where are yesterday's hard earned trails?

I did find the willows I marked the "thin ice crossing" with yesterday and made it up to Sanningarauq cabin. We moved on a second trip and are spending our first night in winter quarters. Good to be in a house again and rather good to be away from the monster ocean!

We were very surprised at amount of snow on the ground here as compared to Sisualik. A full eighteen inches compared to four or five at Sisualik. No icing up this way. All the rain we had over the last couple of weeks fell as snow here. It is the deepest October snow we have ever had at the cabin.

There were only a few caribou in sight on the way up, though in two sections there were very deeply cut and recently used W-E trails. Our multitudes of last week are reportedly passing the vicinity of Nelson's camp (NW Kobuk Lake).

Lots of animal tracks in the trees: caribou, moose and red squirrels. Lots of ravens. House just as we left it. No bear damage. Taikuu!

This early deep snow makes most game especially vulnerable to snow machine activity.

A Snowy Owl in neighbor's trap, none in ours. Some fox sign.
First tomcod hooking at Jones' camp. Some but not many.

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Our creek is running a lot of water still (from late rains). No ice at our winter crossing. The combination of open mountain stream riffles with snow laden white spruce as a background makes an unusual, Christmas-like scene. A real beautiful change from Arctic coast six or seven miles away. It's good to be home for winter! One day earlier than last year.

October 21

Low 12° F
High 28° F
Light N wind
Sunny

Oh, such a beautiful clear fall day! Heavy aurora activity before daylight. Sun warmed to near thawing at midday (3 p.m. dumb clock time). A great start for our first day in winter quarters.

A word about high and low temperatures in this 1990 journal. They need to be taken as approximations due to the lack of a hi-low thermometer in my equipment. Sisualik and Kotzebue temperatures are probably similar, as both are at water level and separated by only twelve miles. We catch broadcast high and low temperatures for Kotzebue make any slight adjustment our plain thermometer indicates and that is how our daily report has been derived. A good indication, but not exact. Now, having moved seven miles inland, on a creek under coastal mountains, our temperatures often deviate from Kotzebue by ten degrees or more. Will do the best we can, but be aware of the lack of precision.

During the night, several huge groups of caribou (several hundreds) moved across yesterday's newly trail (W-E). Seems to be a real hurrying along; they're probably at the peak momentum of fall rut migration, now that ice has returned. There may not be many caribou left to the west. We'll soon know if they are all going to move through to winter south of the Kobuk, or whether some groups will overwinter close by again. The heavy snow we have in this portion of their range at this early date may influence that situation.

More foxes and weasels are showing up.

Ravens and even some subadult Glaucous Gulls are thick where people and caribou have come together behind Sisualik.

Our winter cabin Gray Jay group has increased by one. There were only two last year. The population must have been trimmed back by the resident pair of Hawk Owls of the two prior winters. In other years there have been as many as six or seven Gray Jays.

Several nets set under the ice at Anigaaq for whitefish yesterday and today. Heard first Sheefish nets set in Kobuk lake recently. Reported catch is poor. Maybe our

mountain of whitefish will look better and better as winter closes down.

One more day of hauling and transfer of stuff needed from summer camp and we will be secure at winter camp. This moving a busy time. Abundant snow helped things along this year.

October 22

Low 6° F
High 28° F
NE wind 15
Clear

A beautiful sunny, cool day and a very strange observation. There is a single open water hole at the outlet of the lagoon lake below where we cross on the ice to get up here. Today there were two Tundra Swans in that water! A dark bird of the year and an adult white bird. After the kind of fall we have had this is a very late date for any freshwater fowl. The two were alert and wary, the young bird the more so. When I showed up on the scene at 400 yards the young bird took off; when it saw that the other was not following, it made a circle and the other took off and joined the younger bird. The white bird seemed to have a little difficulty getting airborne, maybe a few wing feathers missing or an old wound. Once in the air they joined together and headed east. Hope they found another water hole for feed and rest before they needed it badly. It's a long ways now to swan wintering areas. A very heartrending sight.

Caribou still moving through, but in a different pattern the last three days. Few but large compact groups of 200 to 500 animals in single tight groups, even at feeding and resting time. Don't know if the unusual snow cover is the reason for this or if there is some other reason. It is kind of typical of animals that are chased or harassed by something. Shot one female from a group; she was carrying some back fat so they seem healthy enough.

Foxes, ravens and weasels continue to increase. Unretrieved caribou, gut piles, and blood are the drawing card.

Ocean water very low water due to northerly wind system.

Our creek (mountain stream by our house) is open; haven't found a place to cross to make a trip to the Hatchery. They are doing some late egg taking up there that I'd like to witness.

Report of caribou crossing from mouth of Noatak to Lockhart Point on Baldwin Peninsula, before any human has made the crossing. Bad news for reindeer herders.

October 23

Low 4° F

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High 14° F
N-NE wind 20
Clear to partly cloudy

A bright, clear, breezy morning; a duller p.m. Sundown brought a brilliant reddening of clouds.

Another haul trip to Sisualik indicated caribou thinking (???). Only a few overnight tracks and a few scattered individuals seen. There remains a recent report of caribou still present around Sealing Point. Very little recent sign north of our camp here. Ninety-five percent of this fall's W-E movement has been through a narrow six mile corridor between here and ocean beach. That's not an unusual happening, though the width and breadth of the corridor varies each year.

Some drifting snow today and I guess our coldest 24 hour period to date. Ice that I cut for house water today from a small but deep lake was about 5 inches thick.

Ocean level down at Sisualik. Very low due to widespread N wind system. Point Hope forecast to go 60 knots or more tonight.

Only birds here so far are three Gray Jays and a daily overflight of more than forty Common Ravens headed for heavy timber roosting areas in the evenings.

October 24

Low 8° F
High 14° F
Light NE wind
Partly cloudy

A fine day. Dark morning, bright afternoon. Cool weather has made both main creek crossings usable.

P. Robb at Hatchery called today this morning to report another interesting bird, for there. It is apparently a Short-tailed Shearwater, probably 30-40 miles off course inland, seeking to get away from 60 knot north winds blowing several days at Point Hope. The Hatchery is gaining a reputation as a rare bird station.

A few scattered caribou in sight from top of trail hill. No large bunches.

The last couple of days have been cool enough to make a little ice. Besides our two creek crossing, a CB report today may indicate first traveling into town from this side.

Overwintering flies in the house have awakened. Carrie is busy chasing them down. This is an annual occurrence and takes about a week to resolve.

Not a lot of moose sign around, though there is some. A bull and a cow with calf have made recent tracks around the house. We will be looking for a cow unaccompanied by calf for own winter moose meat.

October 25

Low 6° F
High 16° F
Light NE wind
Clear

Another beautiful day in the mountains. Finally got a look from the mountains today. Both creek crossings were in good shape this morning so took a trip up to the twin rocky knolls called Miiluraq and was again impressed by the huge expanse of land and the lack of obvious sign of any life in it. Part of the attraction of great herds for humans and ravens surely must be the near total emptiness of the land when they are not there! All the caribou migration has been south of our winter camp. Today I had oversight of the area ten miles north.

Moose sign is less than at anytime at this date in the past ten years. Surprised at this. No reason at this point. Further investigation will be interesting. Snow, ice and general weather patterns may supply some answers down the line.

Another surprise today. Just heard by CB this evening that the outlet at Anigaaq (Ranger Station) seeped through the bottom enough to open completely. The dam broke, releasing all the fish and other organisms into the ocean. Since this has not happened this late in the season before, we can't guess at the fate of released fish into an unseasonable system. We may be able to read some results as time moves along.

October 26

Low -6° F
High 15° F
Light N-NE wind
Clear

Our first below zero temperatures. A beautifully clear sunny day.

First day of traveling around the county looking for our winter moose. Relatively few moose in those high areas where they are normally found at this season. I did see one large bull, a small bull and a good looking cow but with calf. None of these are our first choice.

Very little other sign of animals in the mountains, where the snow depth increases dramatically. Some drifts on the edge of tree line are already belly deep to a bull moose, which is reason enough for a different moose dispersal pattern this October. The unseasonably heavy snow (ice on rocky parts of coastal mountain) makes ideal

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snow machine traveling, but difficult going for most animals. There will be a heavy take of wolves and wolverines by small planes and snow machines this winter.

First surface travelers may have made it across the ice to Kotzebue from Sisualik today.

October 27

Low 4° F
High 14° F
NW wind to 20

Lots of sun again and a trip to Sisualik. A shiny sea full of slush, open water on beach edge, very low water level (due to a week of north wind) and numerous Glaucous Gulls, Common Eiders and Oldsquaws. More birds down there than up here in the trees. I did see sign of a woodpecker recently chipping.

The same bull moose and little group of cripples (five caribou) were in the same location as yesterday.

Wolf tracks and activity reported last night from Sisualik. The first wolf report of this season.

Only caribou news is that Sealing Point flats still have some.

Common Ringed Seals showing along Sisualik-Anigaaq beach. Two or three taken yesterday. This is the season when Arctic Cod move in close to the beach and seals follow them. Sometimes few, in some years by the millions.

Yesterday's town travelers made it all right, but required a long detour around, almost to Pipe Spit we understand.

A late note on caribou: "many passed by Sisualik again today." Sealing Point group? Are there more?

October 28

Low 2° F
High 14° F
NE wind 10
Clear to cloudy

A bright clear early morning, clouding over rapidly before noon to a very dull day, near whiteout as far as seeing trails go.

A quiet Sunday with the only outdoor noises being creek babbling, Gray Jays, a passing raven, and jet take off from Kotzebue. The "plik, plik, quick!" of a Three-toed Woodpecker, because of it being a different sound, stands out at least as much as its "rappa-tap-tap," as it chips bark and wood in its search for sustenance.

Local bull moose in same willow patch, though he showed signs of curiosity and willingness to move this time.

Group of four caribou in the same place may be joined by couple more stragglers. Another group of five caribou moved through house spruce patch last night. No update on numbers said to have passed through Sisualik yesterday. No updated information on whether there are any more caribou at all on the Monument west of Sisualik.

Late word of a walrus taken a little this side of tower at Sealing Point. Most Sisualik people went down to butcher.

A gyrfalcon made a pass through the trees today. Didn't turn left or right for the woodpecker or the Gray Jay.

October 29

Low 12° F
High 22° F
SE wind 20
Cloudy, light snow

Light snow all day and visibility poor. The camp bull moose still in his willow patch. Also the group of survivors (5 caribou) still on their moss patch. Kind of amazing how animals that are seen as great movers can become quite sedentary at times. These have remained in place for nearly a week now.

Checked out Napokturaq for out winter moose this afternoon. There was one, but too small. Probably a year old female.

Not much else in that patch of spruce except porcupines, a couple of red squirrels and a gray jay. No rabbits again!

October 30

Low 12° F
High 16° F
E wind 10
Cloudy, fog, snow

A 1 ½" snow fall overnight. Seems like there's no shortness of snow for Sanningarauq.

Moose hunt continues. Saw two female moose without calves today. Either would have been good. Could not manage to get within rifle range. No wind and spooky animals. A long day of trying without success. Each day in field shows there are moose in most of their favorite places, but not grouped up like they often are during

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this season.

Another year with a poor white spruce cone crop. Consequently there are few winter birds and red squirrels will have to rustle up some other food (mushroom, buds and bones!)

Some vole sign about but not a lot.

A very large mink visited garbage dump on the fresh snow this morning. This is the second time he has been around since we moved here.

All in all, and especially with heavy, wet early snow cover, the country looks pretty barren of animate life. The complete absence of Varying Hares exaggerates the emptiness.

October 31

Low 16° F
High 26° F
SE wind 15
Snow, clearing late p.m.

An all day snowfall. Another 2 inches.

Our first visitors today. A couple of friends that went up to Hatchery area yesterday and broke new soft trail down to here and back.

A lot of excitement down at Sisualik today. Seals! Common Ringed Seals and Larga Spotted Seals. Lots of slush in the water, though, sometimes too thick to retrieve a shot seal.

We have had a long spell (10 days) of north quadrant winds and marine waters have been very low. Now that has changed and water has rushed in, causing some overflow, bringing slush and probably a large biomass of a small dark fish called Arctic Cod (*Boreogadus saida*). This fish appears in great numbers very close to the beach in some years. In near spawning condition it has a very rich liver and is a favorite food of seals, gulls, and eiders. The assumption is that the incoming marine waters bring the Arctic Cod, which in turn attracts the large number of seals close to the beach, in reach of hunters. Both species of seals are in process of building their blubber thickness for overwintering needs. Less than ten seals were taken; most were Common Ringed Seals are smaller and tamer than the Spotted Seals.

A first otter track was noted today in the fresh snow along cabin creek. Our animal community continues to increase. The bull moose, caribou group, and the mink continue to make fresh tracks in the new snow. I find myself often contemplating the unfortunates that live on land where there is no snow to record the life that goes on around them. It seems a pity, since those warmer climates generally have a much

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more diverse living community, active night and day, and there's only dust or mud to record it.

No travelers on town trail noted today. High water and overflow may interrupt that for awhile.

Trapping season opens tomorrow. Whether on the first, like now, or the fifteenth, like many years ago, it used to be a very important, long awaited day. A source of much needed cash for the person that lives from the land.

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November 1

Low 15° F
High 18° F
SE-E wind 20 mph
Snow

A long trip to Sisualik! A lot of new snow! All old, firm trails out of sight. Some overflow on lagoon crossings. On the way home we had to leave half of our load due to soft trail. After we got home it snowed extremely hard for nearly an hour. We are now set up for a tremendous blizzard. Quite a lot of loose snow around.

Ran into a nice bunch of 30-40 caribou in ground storm on the way home. They were quite tame, even though the sno-go light was not covered. Don't know if it was a stray group or the front of another wave of eastward moving animals.

A good neighbor gave Carrie a fine big female Common Ringed Seal. It will replace in part some of the oil we lost in the big August storm.

Lots of Eiders and Oldsquaws in the ocean. These are mostly birds of the year, some of which regularly perish as winter gets tighter. They don't seem to know that for a sea duck there are better waters in which to winter, farther south.

An interesting ptarmigan incident again. On our return trip from Sisualik, as we crossed a wide lake-lagoon, we almost ran over a flock of 30-40 ptarmigan. They started to fly (as a group) but landed back immediately, giving the impression that they were disoriented in the extreme. It was snowing hard, producing whiteout conditions. Apparently, ptarmigan experience navigational stress on occasion, when no horizon is visible, sometimes with deadly results, as with the drowning incident earlier this fall.

November 2

Low 16° F
High 33° F
SE-S wind 30 mph
Snow

A day of snow! A full one! With October's snow continuing into November, one wonders when the next glacial age is to begin!

Much work today trying to re-establish trails, though without much success as snow and wind continued.

November 3

Low 33° F
High 41° F
S-SW wind 18 mph

Raining during the night. All the white spruce trees black again and dripping. What a fall! Very heavy snow yesterday soaked with rain overnight and now what little ice remains is very dangerous.

Two huge bull moose in our backyard this morning. Lots of antlers.

Snow too wet and sticky to travel around today. Even snowshoeing a short ways difficult. Even two hours of heavy spring-like fog this afternoon.

Gyrfalcon passed through again, scaring a tremendous squawk out of a dozing raven. Woodpecker also stopped for awhile to work on bark beetles.

Ice on upper creek crossing melted so have to use south trail again. Also word out that Kotzebue-Sisualik crossing not usable due to rain and warm weather. A real dangerous fall for both surface and air travelers. Lots of fog and icing.

November 4

Low 28° F
High 36° F
SW-W wind 20 mph
Rain – snow

A real wet day. Wind switching more west around sundown and temperatures finally dropping below freezing again. Today and yesterday we have gone through more than 24 hours of thawing with considerable rain. This was the toughest day of snowshoeing that I have ever seen. The amount of snow and the fact that it was soft clear to the bottom, plus the sticky brand new fall that stuck to the snowshoes were the reasons. The reason for the snowshoeing was four moose around the house, one of which was a cow which appeared to fill our qualifications. Due to one thing and another I could not get a good shot at her. Collecting our winter moose this year is daily becoming more difficult than in some years.

Much trail ice under fresh snow has melted and set traveling schedules back. It is now expected to get much cooler and hopefully things will be back to normal for November. Kotzebue Weather Bureau reports a record high for this date at 34° F.

Finally saw a chickadee today and the woodpecker again. Most winters we've had two to six chickadees around camp. There were none last year. We hope some stop by or become residents this year.

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We finally got to see the moon this evening. It was full on the second but we've had steady cloud cover for many days.

November 5

Low 8° F
High 29° F
NW wind 20 mph
Clear, pm snow showers

Colder, not wet. Better snow shoeing today. Caught the winter moose today. Very big, very fat and not far from the cabin.

Another first today. I have seen a marten. It walked right up to where I was butchering the moose, licked some blood, took one bite each of the heart and the brisket laying on the snow and left. This will be the first marten recorded on the Monument, both in writing and in historic fact. There is no oral historic record that we can trace for the presence of marten west of the Noatak River. The nearest regularly stable population is on the upper Kobuk River.

As I have spent more days in the field, the local moose population seems in better shape than first assumed. They are distributed differently and don't move around as much as in previous falls due, no doubt, to early heavy snow cover. They may be in for a hard winter. Saw four yesterday and two today in the stormy weather we've had, right on Carrie's forty acre allotment.

Sky clear and north winds this evening. Temperature already down to 8° F. Maybe it's going to freeze up again.

Sisualik had very high water and waves again last night. At least one boat lost. Slush in the ocean protected some places. A report of lots of Glaucous Gulls in Sisualik, still feeding on herring or Arctic Cod. Much overflow water between Sisualik and Kotzebue.

November 6

Low -5° F
High 10° F
NW wind to 20 mph
Mostly clear

Cool and bright with some ground drift.

Finally fired up the sno-go and broke some trail in our fresh snow cover - there is lots! It looks like this could be a tough winter for some animals. The snow is already deep all over and crusted at several levels.

Finished skinning the moose and cut into pieces that can be handled. A very large animal and quite old. She carried a lot of inside fat. One doesn't really appreciate the

size of a moose until skinning and cutting one up. It is sobering to realize that it took a whole summer of eating tons of green forage to put on the large amount of fat that is now ours. We appreciate it and need it and are as thankful as we can be.

The marten came by while I was working and checked out the progress of the project. It hung around for five minutes or so and then left for whatever was next on his schedule.

Some travelers tried the trail to Kotzebue today but turned back because of too much water under the snow. Although it has cooled off some, it takes considerable time to freeze salt water under fresh snow.

Some caribou to the west yet. Report that there was movement toward Sisualik, but they were turned back by hunters.

There was a lot of red squirrel activity around the cabin today. I'm afraid word has gotten around that there are exotic odds and ends to eat around camp. Must be a tough fall for squirrels with no cones and wet weather to spoil whatever else they tried to store up.

After seeing the grace and agility of the marten in action it is difficult to see what defensive tactics the squirrels employ to survive!

November 7

Low 8° F
High 10° F
N wind 20 mph
Clear, some ground drift

A bright cool day.

Two wolf tracks reported today by a traveler from Hatchery. Don't know yet if our odd snow cover gives wolves an advantage at this point. The location of these two is interesting since there are presently no caribou.

Saw our pet marten again today. I was snowshoeing down a sno-go trail entrance into timber and had removed my big fur mitts while I worked with the axe. As I looked back up the trail Marty was just rolling over one mitt. Quite a curious animal.

We may finally get to town tomorrow. Today's traveler's report good: dry frozen surface all the way.

Our plague of red squirrels continues to build. Probably should invite Marty over to the house to stay awhile.

November 8

Low -12° F
High 10° F
N wind to 20 mph

First town trip of the season. Went straight from here (by passing Sisualik) through nearly the center of Qikiktaichaaq. Surface of everything frozen except one large open hole just off the beach at Arctic Lighterage. A chilly trip with wind chill down to -35 or -40. Felt warm enough until we passed near the open water in Kotzebue channel with waves and white caps!

Most remarkable thing about the trip was the level, icy, crusted snow cover for this early winter date. Usually at this season trails on the ground zigzag here and there to find enough snow and miss the roughest ground (tussocks and creek cut banks and heavily grassed areas). Today all those things already leveled out. The mechanized hunter has a super advantage as long as conditions persist. This has its built in negatives and positives. It certainly increases the potential for misuse.

November 9

Low -10° F
High 19° F
NE-N wind 10-15 mph
Clear

Winds down today. Temperatures still cool, but much more pleasant out on the trail than yesterday. Made trip to Sisualik for a few more things and saw a few small groups of fresh caribou tracks following those that have gone before. These stragglers run a terrible gauntlet of danger being so far separated from the main herd.

Lots of open ocean water yet on Sisualik beach. The high swells of last week didn't quite get to grass level at out camp, thank goodness, but did go over the bank farther west, where there was no belt of protective slush.

Saw four good flocks of Willow Ptarmigan. More than we've seen for awhile.

Few more camp folks moving to town or other places. Year round camp dwellers seem to have leveled off again after a few years of increase.

Another problem unique to this fall's unusual weather cropped up today. No clean ice! Usually lake ice is crystal clear because of normal freeze up dynamics. This year, heavy snow forced down the first newly formed ice on all the lakes, which acts like a sponge and soaks up yellow water. As this mass finally freezes (which it hasn't yet in most snow covered areas), instead of nice clear ice for water, you have very discolored, opaque ice. I have hope of finding a small deep "pot hole" type lake that may not have caved in under snow weight.

Also have to locate place to cut some wood. We usually leave a few logs from last winter to get settled with, then a wood cutting trail will have to be established: the unending chores of keeping a year round camp going.

November 10

Low -8° F
High 2° F
SE wind 25-30 mph
Cloudy, snow

"Red clouds in the morning-Sailors' warning!" A very red sunrise this morning and a blizzard with -50° F chill factor by 6 p.m. Not sure we need more snow!

Daylight hours getting quite short. Needed both ice and wood today. By the time I had them both, daylight for today was gone.

Kind of an exodus from Sisualik too. Some will be back, but there were people at only one camp today.

Our large community of red squirrels very active today. Most living creatures in the nearby land seem to be gathered around our little house clearing, vying for spoils from our activity. (Moose-Caribou blood, meat saw dust and fish table scraps) Squirrels steal from Gray Jays, and a raven harasses both all day!

Found one small lake ice source, with clear ice under 4" of cloudy (red/brown) surface ice. No lakes seem to missed the "snow sink" or overflow problem this fall.

November 11

Low -2° F
High 10° F
E-SE wind 35-40 mph
Snow blizzard

Genuine blizzard this morning. Surprisingly, red squirrels and gray jays came to work at daylight in spite of it.

Heavy snow and wind continued all day. Snowshoed down various trails around camp. We are back to speculating on how the process begins for the next glacial epoch!

The large amount of fat on our winter moose meat makes us very thankful and a little curious. We have learned through trial and error that an adult cow moose unaccompanied by a calf is always very fat in the months of October, November and December. It would seem that this animal would be the most likely candidate for

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successful reproduction next spring. The fat is apparently built up during summer forage and maintained through most of the winter by good willow browse. There certainly is a tremendous amount.

November 12

Low 8° F
High 12° F
E-SE winds 52 mph
Blizzard, snow

Second day of heavy snow and high winds. Our winter camp here at Sanningaruq looks like the end of the season rather than the beginning in terms of snow cover and drifts. This looks like a winter that would be better spent in a much larger forested area.

Day spent mostly tramping down trails with snowshoes, the same as yesterday, the same trails too.

Camp animals: red squirrels, gray jay and common ravens.

Blizzards are a hardship on some Sisualik camps. Only one family down there at home and several camps have numbers of dogs. The camp people are stuck in town or other villages and unable to move either by surface travel or air due blizzard.

No doubt a difficult time for some animals too. Don't know how our moose are going to cope with this rapidly increasing snow cover.

November 13

Low 12° F
High 14° F
E-SE wind 15 mph
Light snow

Winds are down. Some light snow continues. Took nearly all day to break various trails around the cabin. Snowshoes first, then snow machine without sled, and finally with sled. Even got stuck once on snowshoe trail with sno-go alone. First time, an indication of how much fresh snow we have. Kotzebue Weather Bureau said 7".

Heard numerous rifle shots towards the ocean, so climbed the hill to take a look. Saw a few scattered caribou (5) so it appears there are a few yet around.

Our snow cover increased again and the strong winds this time left a wash board pattern in many places. Animals (caribou, moose) much hindered in their ability to run away from anything.

Saw the lone moose calf that was here on our creek when we moved up. It chose to run up the creek bed. (it would not be able to run at all on either bank due to depth of

drifted snow) It slipped and fell twice as it hit glare ice. Would have been easy prey for wolves. This animal must have lost his mother to the Sept 15 female season opening or some accident. It may be the first casualty of a probably tough winter for local moose.

Probably monstrous snow banks in Sisualik after this storm. Hope we don't lose anything.

Our resident marten made a pass by camp during the day today, the tracks indicated. Through the years I have wondered about differences between mink and marten. Now finally I am learning. Marten (this one at least) seem diurnal compared to mink tendency towards nocturnal hunting. Even on very light, powdery, fresh snow a Marten's gait leaves clean tracks with no dragging or grooving, as is characteristic of mink and more so of otter. Footprints (and the feet that make them) are very, very round and large compared to mink. Much more like lynx in roundness, though of course not in size. The perfect snowshoe! Marten much, much more curious than mink, probably a result of hunting technique (mink forages mostly under snow or water surface).

Ptarmigan seem to be increasing locally.

We are eating our third and last snowy owl today, an early Thanksgiving!

November 14

Low 12° F
High 21° F
Light wind
Light snow, fog, cloudy

Seems like it can't quit snowing! No accumulation today but snow flakes all day.

Broke trail down to delta flats. Found some very rough snow sculptured in a few places. Hope the Sound crossing not too lumpy since we'll need to go to town again tomorrow for gas and propane.

A few scattered bull caribou about today. Most with shed antlers. One good group of ten.

A hunter out of a neighbors camp is reported to have shot a few caribou yesterday and found them "skinny". That's not surprising, as traveling over long distances is pretty difficult for them the way the heavy snow cover is crusted.

The marten and red squirrels giving a great show of their peculiar talents on the soft snow surfaces within the spruce patch.

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November 15

Low -12° F
High -8° F
NW wind 15 mph
Clear

Feel privileged today to see the sun and the sky uncluttered. A good day for our town trip and was pleasantly surprised to find the delta, Sound crossing nearly table flat, no sculptured snow bumps. A very good trail, still landing just upstream of the Arctic Lighterage dock, which is still a thin ice area. No water showing this time. From there one can travel an exact straight line to our place.

We arrived home just at dusk and were surprised to see seven or eight caribou coming out of the house trail where it enters the trees. Found out they had been visiting around the house clearing and our old red chained camp dog. Unusual!

There was one fresh moose track out on the Sound half way to Kotzebue. On the way home there were two groups of caribou tracks made on the ice while we were in town.

Although some have reported taking skinny caribou this week, we were glad to hear one mature hunter reported taking one very fat animal from a group around the Ranger Station and noting several cows that looked equally fat.

Snow conditions are not such that they inhibit caribou feeding except for the extra time it takes them to move the snow from the lichens. That is, the bottom side of the snow cover is not iced. It is the traveling, especially long distance travel or running that is difficult because of layered ice crust in deep snow.

Folks living down on the beach beginning to report abundant fox activity. This is fairly common after multitudes of caribou have passed and over time, many butcher-kill sites in a relatively small zone. Both white and red fox are reported. Percent of whites likely to increase as ocean ice builds.

November 16

Low -22° F
High 4° F
E wind

Clear this a.m., cloudy in p.m. A blizzard building, with winds in Kotzebue reported at 53 knots by 8 p.m. This is probably a new record for the Weather Bureau. A blizzard forecast three days ahead of time that it happened. We feel we've had enough snow and enough wind for one winter already..

Not much red squirrel activity when temperatures between 10 and 20 below zero. Only one caribou in sight today, even though it was fairly bright for looking around

before noon.

On our trip to town we noticed a dead animal partly frozen in the ice. When we mentioned it we were told by Kotzebue people that several caribou had perished on their first attempted crossing to the Baldwin Peninsula. This happens when the animals go through thin ice and then can find no way to haul out with their slippery (on glare ice) hoofs. No indication that there were very many animals lost in this manner.

November 17

Low 8° F
High 22° F
E wind to 20-25 mph
Light snow

Something a little different today. We got to see the sun in between broken clouds. The only problem was that outside of our tree drifting snow, there was fresh snow and fog. Very poor visibility except upwards.

The very young moose and the two bulls with whom we share this patch of timber passed through on their way up creek today. They are being careful to follow a path up the creek bank that has the shallowest and least wind drifted snow banks. We are liable to see and experience a different moose scene this winter. We are well on the way to having a snow depth and distribution unlike anything we have had since the moose came into the area in the early or mid 1940's.

We have a raven around camp learning new tricks. He hijacks gray jays carrying off scraps from where the dogs eat or where we dump table scraps. A fox has also come into the dump pile the last two nights. Our spruce patch community continues to build.

Caribou seen in Sisualik today, even in the storm.

There was hint of a few Anchorage based caribou hunters in the area this last week. There hasn't been much of that kind of activity brought to our attention, surprisingly. Early fall moose and wolves seem to attract more non-local hunters

November 18

Low 12° F
High 28° F
E wind 25-40 mph
Snow

Another blizzard forecast for tonight forecast. Temperature quite high at beginning of the other one.

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Went down to Sisualik today to pick up some things. Visibility poor both ways. Even my own fresh tracks obscured on the way home.

Ocean slush was just beginning to move out, leaving clean black open water, always a shock at this season because of coming out from an inland or fresh water environment where everything is white and frozen. I didn't see any birds or seals the short while I was there but one could expect to see eiders, Oldsquaws or guillemots and snow buntings on the beach.

Noted a few vole and shrew tracks around our buildings in the fresh snow.

Our high-jacking raven went bust today.

No marten tracks today. Don't know if he's lazy, headed back to where he belongs or ran into a less friendly human. He's so terribly curious he won't last long where traps are set.

November 19

Low 22° F
High 29° F
E wind 20-25 mph
Broken clouds

Strong winds overnight. Not much fresh snow. A marginal blizzard. A look at the sun today with an opportunity to note how shallow its curve above the horizon. Days are getting pretty short.

Went over the trails close to camp with the sno-go. Red squirrels about the only fresh tracks to be seen.

Report of some overflow between here and town, though at least one traveler made the trip today.

We begin our count down, trying to choose the right day, weather-wise, to travel to town for Thanksgiving with family.

Interesting note: red squirrel colonies in other places within a mile of camp seem to have vacated the outlying holes and nests and moved to our camp clearing. Probably due to abundance of available food scraps and lack of normal food sources (no white spruce cones, wet fall for drying mushrooms, etc.) Don't know how long we can tolerate the increase. Good to have them around but they can get pretty expensive with nest building and frequent food gathering from those things they are not supposed to get into.

November 20

Low -2° F

High 26° F
N-NE wind 15 mph
Clear and cooling

A beautiful day. Some sunshine and the pink-purple of light coloring so characteristic of the Arctic at this season. Daylight hours getting pretty short.

Our camp red squirrels and single fox the only animals to be seen.

Today's chores include getting things ready for a town trip tomorrow to overnight with family for Thanksgiving.

Peter Robb from Hatchery came by today on way to town. Only our second "visitor book" person this fall. He remarked that their visitor situation is about the same. Unusual for both camps, due primarily to weather and related trail-travel conditions. He agrees that our snow cover is remarkable for this date.

Haven't seen our marten tracks since the last blizzard. Disappointing!

Town trail said to have some overflow but it's dropping and possible to go around.

November 21

Low -5° F
High 6° F
N wind 15 mph
Cloudy, light snow

A good trip to town. A few zigzags around pond overflows and an "edge following" on Kotzebue bar, but fairly level ice trail. On ground trail there were a few rough "washboard" snow drifts.

Shortness of daylight accentuated on a traveling day. And we have the whole month of December to go! Probably one of the greatest accomplishments of modern man north of the Arctic Circle, second only to fire for warmth, is artificial light for the two months of short days.

A lot of ravens in town.

Another blizzard watch on for tomorrow evening. Sorry to hear that our town time may be involuntarily lengthened!

November 22

Low 5° F
High 8° F
E wind 35-40 mph

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Thanksgiving feasts went well but blizzard settled in late in the evening. Roaring of wind in power lines and phone poles a foreign sound to country dwellers. Kind of frightening! Forecast is for blizzard to go all day tomorrow.

An abundance of frozen fish and caribou soup at the feast, always a good indication of how the fall subsistence harvest has gone. There was sheefish from Kobuk Lake netting, whitefish from Anigaaq and char from Noatak. These traditional village holiday feasts are a very interesting subject. There is a modern cultural clash in process and one wonders what the ultimate outcome will be. Will the turkey triumph over indigenous fish and game? It'll be a sad day!

November 23

Low -2° F
High 6° F
E wind 35-45 mph
Snow

Visibility away from buildings zero all day.

No trail stakes out yet, so the 9-12 miles of flat ice on trail home impossible to navigate in these conditions. Too bad. We had several house plants that could have survived had we gotten home today.

Ravens active around town even in the blizzard. They certainly won't pass up a plastic bag without tearing it open to see what's there. Saw one lifting out smaller plastics from a big bag and apparently gleefully letting the empty ones fly in the gale.

November 24

Low 4° F
High 8° F
E-SE wind 40-52 mph
Snow

A real wind out there today. Gusts into 50 knots at 4 or 5 a.m.

Winds dropped to 30-40 in late afternoon but some fresh snowfall took away whatever visibility might have been gained.

A few folks that had well used trails to follow did get underway. We chose not to try and then were a little concerned when new weather forecast indicated yet another blizzard for tomorrow!

In the meantime, search for a missing traveler from Noorvik, overdue since early Friday morning, was undertaken as much as conditions would allow. Snow machine was located Kobuk Lake side of Kotzebue Portage. No hint of where the driver

might be.

November 25

Low 5° F
High 8° F
N-NE wind 15 mph
Some clearing

A lot of thanks given this morning as new blizzard watch for today was cancelled and clear air, free of snow dust, greeted early risers. Stars and clear air looked very good! The storm system passed just south of us, through Bering Straits and Norton Sound.

More thanks given as we got home to a frozen house and while thawing out, heard the good news of the lost traveler being found in relatively good condition. (Chill factor temperatures had been in the -50's or more category the full time the fellow was missing!) His story of survival will be interesting. It may also prompt some trail staking activity!

Found our yard full of ravens, squirrels, and moose tracks when we pulled in through the new snow banks. Our old red dog had lots of company. Moose, a large one, had browsed within a few feet of the chained dog. Plants frozen and a handful of vegetables. Every thing else, including the old red dog Buck, in good shape. Trail from town to our camp very good. A little rough near camp

Saw one caribou from high ground while scanning with binoculars. Open ocean water line still from Sisualik Pt. to Cape Blossom.

Glad to be home. These past few days an interesting example of how natural forces continue to alter the best laid plans of mice and men!

November 26

Low -10° F
High 9° F
NW wind 15 mph
Clear

A very good day. Cool, a little wind and a few hours of bright sunshine.

Our friend marten back after the blizzards. Wish I could get him to give a report of where he has been for more than a week. It was interesting to hear that Marten are reported in numbers in the Kiana area (unusual!). Some suggest the fires of the last two seasons are the cause. For years, the normal range of a resident population of this animals has been the village of Ambler and above on the Kobuk River.

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An otter has passed through on our little creek again and several foxes have tunneled through deep snow banks to work on the fat moose guts and blood.

The constant interplay between gray jay, common raven and red squirrel with camp scraps is much more intense here this year than ever before. Some reasons can be suggested. The stealing from each other seems to provide fertile ground for developing all kinds of new strategies, both in defense and offense. Scraps, of course, are not the only targets, and some of our stored things need constant surveillance to guard against damage. Never a dull moment living on and with the land!

November 27

Low -12° F
High -4° F
NW wind 20 mph
Clear

Much like yesterday with a little more ground drift under the hills.

Made a trip to Sisualik for fish and other goodies. No water showing, but young ice is very thin. It will have water when the tide goes out.

Saw one dog team and several snow machines. Some early winter Point Hope and Kivalina travelers are using the coastal trail.

Birds for the day limited to raven and gray jay. Animals seen limited to red squirrels and dogs, although there was a short tailed weasel in the trap inside the fish house.

It is 8 p.m. and there is an interesting and characteristic temperature difference. Kotzebue is reporting -18° F with 9 mph E wind. We have a temperature of -1° F with 15 mph NW wind.

Trail conditions fairly bumpy in the uplands due to snow sculpturing by strong east winds of last week.

There were fresh white fox tracks around (and on top of) the Sisualik fish house. This is the season when young ocean ice during calm spells or onshore winds give ice dwelling Arctic Fox access to land areas that might have a food source. These fox, being so nomadic, tend to show up anywhere that promises a steady food supply. An area that produced no young foxes during the year may be overrun with multitudes of them, if a dead whale is beached or huge natural fish kill occurs (Arctic Cod-Herring). Even an abundance of microtines can provoke an invasion. In years past, when very little hard cash was in the country, many families would depend on a December white fox invasion to round out the Christmas season present problem as well as Holiday goodies. Sadly, no foxes made for a fairly lean Holiday season.

November 28

Low -10° F
High -2° F
N-NW wind 20 mph
Clear

A very bright and sharp day. Dry too! There weren't a lot of sunup hours. We are down to a little more than three hours and less than a month till the days will begin to get noticeably longer. December can be a beautifully relaxing month, if you have a warm place to stay, no travel commitments to meet and a lot of good food of the land stored up.

The characteristic pink-purple light of the sub-arctic was much in evidence when looking towards the NE mountain ranges and away from the low curve of the fiery red sun.

The camp community of birds and animals were all that caught our attention today. A fairly good flock of Willow Ptarmigan fed through the creek willows today, leaving trails, droppings and hope for a fresh bird to eat sometimes this winter. All of our resident birds and animals seem so unique and valuable as they demonstrate their ability to cope with such an unforgiving winter environment.

A helicopter shattered the afternoon mountain silence, both going and coming, west. Red Dog? National Guard?

A report of many moose grouped up on the main Noatak river banks. Moose have not yet faced a super snowfall since their entrance to the region in the late '40s. This year may be a test of regional overwintering food supply and shelter capacity for our inflated moose and caribou populations.

During these bright moonlit nights a number of foxes and our resident marten are really tracking up and burrowing into our moose kill site. Fur gathering is really at a low ebb in the region.

Our ears are wide open for news of the nearest over-wintering group of caribou. Wherever there is a good group (in the hundreds) there will be over-wintering. Even if one does not need additional meat, the knowledge of how far one would need to travel if the need should arise is always important. If it's far it is disturbing, if it is near the knowledge leaves one with a good comfortable feeling.

November 29

Low -30° F
High -22° F
No wind
Clear

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A clear cold day without wind. This is our coldest day so far this winter. A very typical calm cold weather day. The kind that may produce -50° F temp. Later in the day we had a clear sky, with moonlight, but smoky-hazy air.

Did get the snow machine started and got a load of ice. At these temperatures it is very easy to get large chunks of ice out of natural cracks with a pick at these temperatures.

Didn't see any animals today except camp squirrels and birds.

We will need to make a town trip tomorrow for Carrie's birthday. Looks like it will be a cold one.

November 30

Low -32° F
High -28° F
E wind 20 mph
Clear, SW cloud bank

A very cool trip to town though not as bad as one would expect with the stated "chill factor" temps. (-50 to -70° F) The air was clear and dry with the 20 mph east wind present only in a narrow band about a ½ mile out of town.

It proves again that the reporting and forecasting of "chill factor" danger is useful in its proper context, but shouldn't be as intimidating as actual thermometer temperatures. In traveling, one negates chill factor effects when there is a tailwind and adds to them with various angles of head wind. If one is not careful to go out and actually see the weather, the voice of warning on radio or TV may cause you to cancel out a good usable day on the trail.

The ravens of Kotzebue continue to amuse and amaze me. There indeed is a bird as adaptable as man himself. It is remarkable that in some portion of their range it is said they have been extirpated.

Carrie had a happy birthday! Now our only problem is to get back home tomorrow through the forecast -30° F temperatures with 30 knot winds!

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December 1

Low -31° F
High -12° F
E wind to 35 mph
Clear

The first day of a month of very brief daylight hour days and very long and sometimes very bright nights.

Made it home from town in good shape in spite of reported -70° F to -80° F wind factors. Wind was from behind.

Couldn't help thinking of eider ducks today on the way home, with the veil of steam hanging over the open ocean water along Sisualik beach. There are many large bodied birds out there, splashing, diving, eating clams or Arctic Cod and generally having a great time, even with chill factor temperatures down to -80° F!

We are developing a problem around camp. Too many animals! A plague? In a tough early winter with little normal prey available, our stored foods and scraps broadcast a loud invitation to local red squirrels, weasels and foxes, not to mention the fat and flesh eaters like shrews and some voles. In years past we would have trapped or shot the foxes, weasels and I guess the squirrels. Don't feel like doing that now.

December 2

Low -32° F
High -18° F
Light winds
Clear

A cool day growing cold again in the early evening.

The huge moon we have, with clear skies, makes the long night brighter than the short days.

Not much to report today since we stayed around camp resting up from town trip and stress of cold weather.

The usual camp squirrels, jays and ravens doing their thing though somewhat

subdued because of temperature. Ever wonder what raven and gray jay's do with their bare feet and legs during those long December nights when temperatures dip to -50° F sometimes?

December 3

Low -35° F
High -25° F
Clear

Another trip to town for gas and freight left behind last week.
Trail great. One hour straight to town. Peter R. on his way in too. Faster than I!

Town ravens again made my day. They probably have their negative value, but they sure are experts at adaptation and making a living. There is a certain camaraderie amongst those creatures that must make their living in the Arctic. It is small wonder that indigenous people develop stories and relationships that were/are difficult to explain in the context of modern man and scientific explanation. So many of the relationships exist in the spiritual realm where the scientific world is either uncomfortable or for the most part refuses to go.

The sun when it finally came up - after noon (due to 2 hour "dumb" time) - was very prominent today. Everything had to notice it. The brightest thing in the outside world for the short time it was up. Such a contrast to the late November blizzard time when we went for days without a sun.

Another marten story. Last weekend our town family was up at their camp at the mouth of Fish Creek on Kobuk Lake. Right at their house site, up on the lake bank in a few spruce trees and alders, a great grandson called out to his dad, "Hey! There is a great big squirrel out here". They have a family of red squirrels living around their house too! The parents ran out - and yes, there was a very tame marten. That site is 25 miles from here towards Kiana. A real eruption seems to be developing on the marten scene in the NANA region.

December 4

Low -22° F
High -12° F
NE wind 40 mph
Partly cloudy

Chill factors pretty mean today. Not a lot of fun traveling around.

A report of many "mitiq" (Eiders) off Sisualik in black cold waters. Check out yesterday's weather if there is any question about the hardiness of Common Eiders!

Cut a local tree today for firewood. It seemed a little too cold to make a trail farther back in the mountains. There is always a feeling of awe and reverence when cutting

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a large tree, especially so in this far northern limit of timber growth. One is mindful of the several hundred years it has taken to grow to reach the size that it is.

No animal/birds to report besides our local camp group.

Hope to be able to travel a little more tomorrow.

December 5

Low -25° F
High -8° F
Light winds
Mostly clear

A real sudden drop in temperature this afternoon. Nearly 20 degrees in a few hours. High winds nearby but not here brought temperatures up yesterday and through the night. They dropped back below -20° F very rapidly.

Went down to Sisualik to get washing machine today. Lots of open water, but didn't see either bird or seal in the short while I was down there. Rather a "washboard" trail down that way.

There was a report of eight to ten caribou in Sisualik yesterday evening. They must have gone back toward the west as I didn't see fresh tracks crossing our trail.

Didn't see anything but ravens and our camp birds and squirrels again today. The short, and in the outdoors, lonely days are on us again. There is outdoor life around, all right, but not a lot where it can be easily seen as temperatures drop back to the minus 20's.

December 6

Low -30° F
High -28° F
Clear

Town again today. A cold but good trip. Made it home with propane and a little more gas. Trail on the Sound very good.

Two caribou reports of interest. A group of eight to ten bulls coming down from the uplands each day to the beach ridge area of Sisualik (west portion) because of abundant lichen under relatively little snow. Snow machine travelers from Kivalina reported numbers (?) of Caribou near the trail they used. Presumably this would be in the Sealing Pt. area or the Old Army Base Site. These two indicators are good solid hints that "over-wintering" is again occurring on the Monument. Actual numbers may come to be known later on. As yet no test of physical condition of these animals.

The town trip again points up the fact that in some years, if one would bird watch in December north of the Arctic Circle, the Common Ravens in communities and Gray Jays in camps are the most likely candidates for study. Both are very hardy birds that consistently do well with man made habitat.

December 7

Low -33° F
High -30° F
High clouds to S & SE

Our cold spell continues. There is cloud cover to the south but no hint of warming yet. One does not go too many days at -20° F or lower before longingly searching the sky for the clouds which will assure a warming nearer the 0° F mark that is more comfortable for most warm blooded creatures.

Fired up the snow machine to ride and give the dogs some exercise. During cold spells a short run to dry out hair, stretch muscles and defecate is beneficial.

Willow ptarmigan, red squirrel, red and white fox, marten, short-tailed and least weasels and a few vole tracks are visible in places of undrifted surface snow.

An interesting weather note - our temperatures have been lower than Kotzebue's "all time lows" for several days. Their temperatures that have hovered around -20° F are not far out of the normal range for an early December cold snap.

Wonder what the Eiders, Guillemots and Northern Dippers are doing today.

December 8

Low -34° F
High -28° F
Light winds
Clear to partly cloudy

Cold spell continues. We were glad to have a little group of visitors in spite of the cold trip they must have had to get here and back. Good thing they are young, lively and thoughtful!

Saw our camp fox out the window this morning. We are again amazed at how quickly "wild" animals become tame and slip into routines that allow them to exploit a human situation that benefits them. Most animals seem more than willing to live at peace with humanity - even when it doesn't benefit them.

Very short daylight hours now. Not near enough to get done all you would like to do, especially at -30° F.

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Squirrels, Gray Jays and Raven real active but not for long. They show up late in the morning and leave early evening. They work a much shorter day at -30° F than at 0° F.

CB report last night of much "caribou digging" around Doug Sheldon camp (Sealing Point flats) These may be our over-wintering group.

December 9

Low -34° F

High -20° F

Clear sky with few clouds around. A quiet Sunday after yesterday's visitors. Still very cold with light winds.

A CB report last night indicates a large group of caribou between Doug Sheldon cabin and Sealing Pt. tower. The person that saw them chased them, hoping to get one or two to take home. He said "no chance to shoot", the caribou ran too fast and the big lagoon was too "washboardy".

One white fox was taken from the same area.

May be some milder weather coming.

Our Skidoo is throwing out oil. Hope it's a minor problem like a loose head bolt, but looks like an oil seal.

A few more caribou reported in late afternoon at Sisualik.

The polar bear attack on Carl Stalker at Pt. Lay was a sobering event. It seems a first for modern times. Would like to see both reports (man and bear). A rare happening in arctic Alaska.

December 10

Low -35° F

High -28° F

No wind

Clear sky

Our warming trend postponed. Brrr. Need to take snow-machine to town to check out oil leak but hate to do it at these temperatures.

Sought a little dry wood to go with the half green wood that we are burning.

Camp animal/bird activity very slow today. As temperatures leave the -20° F range, most creatures that can afford it tend to curl up or fluff up in a warm ball and wait for

warmer weather. Not hibernation, but probably close to the idea.

There are only ten days left of diminishing day light before the days begin to lengthen again. That will be great! By January 10 things will begin to look brighter.

December 11

Low -34° F
High -18° F
N wind 15 mph
Clear early morning

Warmed some during the night and early morning with 15 mph north wind. Dropped quickly back to -30° F in the afternoon.

Most recent caribou report (Doug Sheldon area) may be canceled out as an over-wintering group. Folks still living down at Sisualik reported a bunch of over one hundred moved on through Sisualik headed for the Baldwin Peninsula.

One lone bull caribou crossed our sno-go trail moving west.

No travelers up this way today. Some traffic down on the beach and over at Lena Jones'.

Wonder if temperature will come up a little before Saturday. We hope to do Christmas Bird Count then.

If no further public statement given on polar bear's physical condition, in Pt. Lay incident, would be good to check through channels to know what autopsy revealed.

December 12

Low -18° F
High -1° F
N-NW to 18 mph
Some clouds

Finally warmed a bit. Made a trip to town to check out possible mechanical problem on sno-go. Turned out to be minor - thank goodness!

Saw a raven following the trail out of Kotzebue before daylight. Where was he going?

May have a little fresh snow this week to check out marten scene. Hope to do CBC Saturday. Bird numbers don't look encouraging.

December 13

Low -12° F
High 2° F

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N-NW intermittent wind
18 mph

A pretty bright day for having only 2 hours and 1 minute of sun.

Made a trip up toward the Hatchery but went less than half way. The last strong east winds left very heavily "washboarded" sculptured snow up that way. Tops of ridges the worst, but even hillsides and edge of willow draws, which are sometimes the smoothest, are bad this time. The effect on snow machine travel in a north-south direction is awful! East-west travel direction more reasonable but still tough on driver and machine. Sure hate to send CBC crew out into that!

Got a good look around the country from rocky foothills. Not much to see except a beautiful purple-blue landscape. Actually a real lot to see, but only two live caribou in sight in all that beautiful landscape. Recalled seeing a sub-adult golden eagle from that vantage some more than 10 years ago. Saw him several times in December, January, February and March. An over wintering golden eagle, when varying hares were at an all time high. It is likely that in the 100 square miles I overlooked today there may not be one varying hare where there were tens of thousands the winter of the Golden Eagle on Cape Krusenstern National Monument.

Saw a set of wolf tracks today, a porcupine and several spruce grouse beds in the snow. Red squirrels seem absent from places where they were quite plentiful the last few years.

Very difficult to see a bird of any kind in that backcountry, though there are some. Ptarmigan tracks in most willow covered areas. Doesn't look very promising for CBC. There probably won't be any open water on the ocean either.

Latest polar bear report - no fat - no rabies. Simply a hungry bear? Haven't heard the obvious question asked yet. Why was the bear in such a low fat reserve state at this time? A very important question it seems to me, since there may be other "hungry bears" if something is wrong with access to normal prey.

December 14

Low -24° F
High -12° F
NE-NW wind 10 mph
Light flurries

A real rough trail north. Saw a few spruce grouse "snow holes" at Miluraq. Lots of snow at Igaichak and apparently a lot of shrew tracks from tree to tree.

Two lonesome caribou moving west to east this side of Miluraq.

No moose tracks in hill, high country.

One wolf or large dog tracks at Miluraq.

No birds! Not a lot of hope for bird count tomorrow.

December 15

Low -28° F

High -21° F

Light wind

Clear, some ground fog

1990 CBC at Sanningaruq happened today. A little chilly but good visibility. Not many birds but enthusiastic participants. Four adults, two young boys and two feeder watchers totaled twenty six willow ptarmigan, five common ravens, two three-toed woodpeckers, two spruce grouse, five boreal chickadees and six gray jays.

A few caribou, moose and porcupine were seen, as well as an unusually large (for this area) birch tree. These tree size dwarf birch are a strange and interesting happening in the shrub-tree-hybrid plant category. An abundance of very small microtine tracks were noted in several timbered areas. Just what these animals come out of their normal subnivian habitat at tree bases to travel on the surface for I will have to speculate on for awhile. The tracks are numerous so some population maybe pretty high - maybe one of the shrews.

The effects of our early heavy snow are sure apparent and pervasive throughout this eastern segment of the monument.

December 16

Low -32° F

High 0° F

Cloudy, foggy

Snow beginning in late p.m. A somber dark day but temperatures warming rapidly from our long -20° F to -30° F cold spell and we're glad for that. Also glad we used the good visibility yesterday to do the CBC even though it was quite cold.

A young Sisualik resident froze his cheek yesterday because of getting excited when he found a white fox at his house. More and more white foxes are making a show in the region. It has been many years since white foxes have been abundant here. They may become quite numerous after Christmas as ocean ice gets to be more extensive.

The boy caught the fox.

A large moose has come back into the creek from the west. New moose tracks are getting pretty scarce on highlands and small creek drainages. Larger river willow patches will need to support most of the population this winter. Maybe for the first

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time since their advent here.

Fresh snow this evening. First in quite awhile. Two inches by mid-night. A whole new surface to read soon.

December 17

Low -8° F
High 12° F
E-SE wind 35 mph
Snow

Blizzards today. The nice warm temperatures are a treat and the fresh snow gives us a clean slate. There is about 3" of new snow.

Saw as many animals as fresh tracks today on a short run around the "circle track" giving the dogs exercise. A large moose (without horns, probably a bull), three red squirrels and a short tailed weasel.

Trails around camp required some shoveling and snowshoeing but not too much.

Outer Sound winds have been blowing hard south and southwest, though ours so far have been more easterly. We may have some overflow to contend with. We had hoped to make a town trip tomorrow for a family wedding.

December 18

Low 2° F
High 18° F
SE wind 20 mph
Clearing

A nice mid-winter day, what there was of it. Bright and spring looking.

We didn't make the town trip for several reasons and did a big overdue washing instead. The mild weather and dry air made that chore a lot easier.

Had to shovel out trails from last night's drift again.

Surprisingly, the only fresh tracks around camp are squirrel and weasel. Maybe there is more fox hunting going on than we are aware of. Or maybe the late diminishing storm kept foxes from scrap foraging last night.

An interesting CB report from neighbors tonight. A pilot report of polar bear in Buckland and more recently at Ivik. Wonder if the bear has actually been seen or just the tracks. Or if it's a Brown Bear whose winter den proved unsatisfactory with our odd fall snow deposition.

Had a good visit with an old friend who is leaving soon. We would have missed him had we gone to town. The visit made my day.

December 19

Low 12° F
High 28° F
SE wind 25-30 mph
Snow

Another day of warm temperatures but very limited visibility. Our town shopping trip postponed again.

We are drawing very near the day of the year that has the least time of sun up. There is less than two hours of that time today. And if one has chores or traveling to do by daylight it doesn't leave much time. Nice long nights though!

Snow and drifting snow all day.

Saw the sub-adult moose again today - his bum luck. He was bedded down right in the creek channel just below a deep spring area. When I came on the scene he jumped to his feet and dashed off up the creek bed where snow is least, taking the fork where the spring hole is and - you guessed it - fell in the water and had trouble climbing out the steep icy bank. Glad the weather is warm and with all this fresh snow around he'll dry up quickly. If that clumsy youngster survives this tough winter it will be a miracle.

Besides the moose, one overnight fox track was the only animal sign on our new surface during a short snowshoe walk through the trees.

A walk through the trees on a stormy blizzard day is always such a satisfying experience, partly because of the contrast between walking out in the open where drifting snow clutters the air and wipes out visibility. A spruce patch is a wonderful sheltered place in a storm!

December 20

Low 26° F
High 33° F
SSW – W wind 18mph
Snow, fog, drizzle

An aborted town trip. Started off at daylight with fair visibility up here. Got down on the ice and couldn't see the tip of Sisualik Pt. from where we were, losing sight of the high ground we had come from. Decided to wait for a better day.

A polar bear scare in Kotzebue today. No tracks or bear were located.

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Saw our creek-traveling, short yearling moose again today. He is still creek bottom traveling. He's doing pretty well at escaping from danger and using those escape routes that have the least continuous snow depth.

Real warm and wet today.

We won't lose any more daylight hours! No gain for a couple of days but no loss either! Guess we've made it through the first half of the short days for this winter season.

We have gained considerable more snow these last few days. Sno-go slipped off to side of old trail inside the trees. A real struggle to get it back up on the trail. Snow depth between my belt and chin!

December 21

Low -2° F
High 18° F
N wind to 18 mph
Clear

Finally made it to town, though not without travail. Found out that overflow was pretty extensive both on this side and that. Did manage to find ways around, but it was time consuming. Kotzebue bar was bad but was able to get around on FAA end.

We even got to see what was probably yesterday's Polar Bear. A wild-acting, medium sized white dog that ran towards the ocean when followed a short ways with snow machine.

We are past the shortest daylight day of 1990. Hurrah! We may gain a minute of sunlight tomorrow.

Only birds today were ravens and jays. Not even ptarmigan tracks on town trail.

There are fresh marten tracks today and camp fox. Glad our marten is hanging on. Time may permit after Christmas to determine where he lives and how widely he ranges and what he eats beside moose and squirrel.

Some seals reported in open lead but the exact location west of Sisualik that the lead begins is not clear.

December 22

Low -10° F
High 12° F
N-NE wind 20 mph
Cloudy

A dull day just long enough to get wood and ice.

Traveled up the creek and found that much snow has leveled and smoothed out the bad bumps that were there last week.

Foxes returned in force around camp last night. Thought they had given up when tracks were not being made during the stormy days.

Marten passed through again. Our camp seems to have more fresh animal tracks in it's little clearing than anywhere else around, which I guess is an indication of how tight food sources are in the surrounding vicinity.

Some more wind and snow forecast for the end of the weekend. Hope we are able to get to town and family for Christmas!

December 23

Low 10° F
High 18° F
NE wind to 20 mph
Cloudy

The wind changed in the late p.m. to an east wind gusting to 52K

A gain of two minutes of sun today! The person who lives in a rural setting in the Arctic probably has a more intense grateful feeling for the return of sunlight as his/her outdoor chores are more determined by presence or absence of sufficient light.

Lots of fox activity around camp last night (dog barking, tracks, etc.).

Weather front that seemed about to give us travel trouble for tomorrow seems to be slipping by to the south. If Weather Bureau is correct, tomorrow should be a fine travel day.

Weather update at 2:30 p.m. gave blizzard warning (that began at 1:30) for this afternoon and tonight. Still holding for a drop in winds for tomorrow.

Search is on for a young lady traveling from Jones camp to Kotzebue. Left there at 1:00 p.m., didn't show up in Kotzebue.

December 24

Low 12° F
High 18° F
NE wind at 15 mph
Light snow

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Blizzard warning canceled. Visibility is slowly improving. We still hope to make it to town before Christmas Eve.

No results on search for yesterday's lost traveler. It is reported she was not too warmly dressed. Jacket and Beaver hat. Temperatures are relatively moderate but wind, wetting from drifting snow etc. make it a very long night for her, I'm sure. A larger search effort being mounted this morning. Promise of slow clearing through today and of good weather tomorrow.

We did make it to town after being lost for a bit in Sisualik Lagoon. Got into town about 3 p.m.

The search for the missing person was successful! She spent overnight inside a snow bank. Searchers luckily spotted a snow machine handle bar sticking out. She had a few areas of frostbite but was otherwise in good shape.

A good Christmas program. Glad we we're able to be there.

Merry Christmas!

December 25

Low 10° F
High 16° F
NW-N wind 35 mph

Strong north winds and drifting snow afternoon and night. A white, windy cool Christmas day. A good feast day. Town ravens did pretty well too!

December 26

Low -16° F
High 6° F
Light N wind 15 mph

Home again! Oh Boy!

Trail real rough now due strong NW and N winds yesterday after the last fresh snow pile up.

A fine bright day for traveling. Many caribou reported on Sealing Pt. flats. This is a pleasant surprise. Heard somebody got three yesterday. Today's report involves more than a hundred so we do have some over wintering on the Monument.

Interesting report from Bethel area of multitudes of foxes into everything.

NW wind left a lot of new snow around house clearing again. We're going to have trouble staying on top of this year's snow cover yet!

Last week's overflow areas the only smooth trail left on the Sound now.

A large moose track on the Sound headed toward the Baldwin Peninsula from this side.

Ptarmigan tracks by the house.

December 27

Low -20° F
High 14° F
NE wind 15 mph
Cloudy

Heavy cloud cover, a dull day, but clear air under the clouds. This results in sharp contrast between "black" trees, willows, rocks, open water and white snow covered areas.

A new blizzard warning for late today and early tomorrow. The open shore lead is already quite wide and there seems to be several miles of shelf ice off Sisualik, extending parallel to shore towards Sealing Pt. If this proves to be still the situation after the forecast strong winds of late tonight (35-40 mph) the stage will be set for winter hunting of common ringed seal in offshore leads.

The warning from the old timers is not to venture off shore onto ocean ice for the purpose of seal hunting in open leads until after Christmas. Prior to this time ocean ice is sparse and drifting out to sea if cracks develop behind you it is too great a risk. After Christmas when shelf ice and pack ice have made a more definite stable stress edge, conditions are more reasonable and ocean ice hunting becomes an option to land hunting for the next six months.

Marine mammal hunting used to be such an intense, life sustaining activity for coastal dwellers that it seems remarkable at this point in time that it has faded to such a low ebb. A few still hunt when conditions get right, but in Kotzebue Sound the lack of midwinter ice hunting activity is remarkable. There are many reasons.

Ringed seals are at their seasonal peak of fat/blubber reserves and unborn pups, prized for their long shiny, silvery hair are large enough to be used, beginning in January and continuing through February until they are born in March. Harvest and preparation of winter seal and products is almost nonexistent here. Those animals that are taken are usually used for meat, dog feed, or oil with little effort made to utilize skins or other arts and crafts products.

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December 28

Low 12° F
High 22° F
NE wind 20 mph
Cloudy, snow

Another day of snow. I took a short walk around our spruce patch today and marveled at the depth of snow and size of drifts. In years past one major "after Christmas" activity would be "rabbit" (Varying Hare) hunting. Driving rabbits as days got brighter and longer in late January was an activity looked forward to by young and old alike. If there were any rabbits (which there aren't) it would be a great year for rabbit hunting. Rabbits stick to the thickest of willows and the idea of the drive is to move them out of the thickest cover so they can be seen. As winter snow piles up, covering some willow patches, rabbits concentrate around and through the thickest cover left. This year and in this place most willow thickets are already covered. Wonder why our Varying Hare population is so slow and late in recovering from the last high in the late 70's.

Hard to see any sign of life in our tree patch to day on the surface of our newly fallen snow. A large Porcupine made the only tracks to mar the clean white surface.

December 29

Low 5° F
High 12° F
N wind to 25 mph
Clear

A real bright clear day. Even saw the sun rise above the horizon for a short time.

Finally found the Marten's tracks in the house tree patch. Tried to follow it around to see what it did and where it came from. Not much luck due drifting snow out in the more open places. It did a lot of hunting around tree bases and short distances up the trunk. Found one hole into an old upturned tree root that suggests the possibility that its home base is right here in our thicker trees. I can't locate other tree patches with marten tracks or determine if it enters our tree patch from up the creek or down. We'll see what further develops.

Our snow cover level and drifts inside the trees now exceeds anything we have seen before.

Cut a fine big dead tree for wood today and wouldn't you know - it hadn't been down ten minutes when the first Boreal Chickadee I've seen in a month came by to check the fallen carcass out for Spruce bark beetle larvae and me for making a big mess on the immaculate new snow surface.

December 30

Low -10° F
High 14° F
NW wind to 18 mph
Clear

It is great to see the full round orb of the sun two days in a row in the last week of December. Speaking of the "dark" of December north of the Arctic Circle - yesterday we not only saw the sun for a couple of hours, we had a nearly full moon for 24 hours, and northern lights during the midnight hours. Twenty four hours of "special" light that might rival June's better known "Midnight Sun"- in the aesthetic sense anyway.

A welcome visit from Hatchery folk today. Report that the overland trail a little better than terrible but not much. The river trail (Hatchery to town) is in fair shape, compared to shorter overland route. We hope the various winds and new snow since the first of the week, when we last used the Sisualik staked trail, has smoothed it out a little, but it is probably a forlorn hope. We will go to town tomorrow for an overnight stay for a family wedding and to watch night service.

December 31

Low -23° F
High -18° F
Variable winds
Clear

A cool trip to town to take in a wedding celebration and share with friends the outgoing old year and incoming New Year. A good trip and a good time of sharing. Was surprised to find the trail not as rough as our home coming from Christmas. The most recent overflow stretches that have frozen are the smoothest.

We are getting a real dramatic "return of the sun". Completely clear skies that make our seven minute gain each day pretty obvious. By next week its rays will again be entering directly into the small high windows on southeast side of our cabin.

Well, December 1990 with its very short days is gone. Might we say "Good Riddance"? Yes, for its inconvenience of short daylight hours and cold weather, but then again maybe not, because of the huge, brilliant 24 hour full moon and ocean ice making temperatures that we will benefit from on the marine mammal scene in April, May and June.

We are thankful for all things, great and small, good and bad. Happy New Year!