

**Denali National Park and Preserve**  
**Division of Research and Resource Preservation**

**Resources Report for September 2001**

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The lands and waters encompassed by Denali National Park and Preserve's boundaries provide outstanding examples of subarctic and mountain landscapes, wildlife, and vegetation in relatively pristine condition. In addition, Denali has rich cultural resources of historical and archaeological significance, and on-going subsistence ways of life. The Division of Research and Resource Preservation is charged with understanding and managing these 9,400 square miles to insure these Park resources and associated subsistence activities are unimpaired as a lasting legacy for future generations.

What has the Division done recently in carrying out this charge? Below is a synopsis of important inventory, monitoring, research, management, education, and administrative activities that have occupied the resource management staff during the month of September 2001.

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**Selected Resource Highlights for September 2001:**

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Black bears at Kantishna....page 1  
Bear-human interactions at Denali total 248 in 2001 season...page 1  
Reseeding of Denali native plants at new Primrose pullout...page 2  
Trapper Creek air monitoring station installed...page 2  
Maximum temperature in August was 73° F...page 3  
Glacier surveys...page 4  
Chum salmon (some 37, 000+ of them) run up the Kantishna drainage...page 5

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# Denali National Park and Preserve Resources Report for September 2001

## I. BIOLOGICAL RESOURCES

### Wildlife

#### **Bears**

As part of the **Grizzly bear monitoring and ecology study** a capture operation was conducted on 23 and 24 September. The radio collar was removed from one female bear who no longer resides in the area covered by the North Side Bear Study (1,750 km<sup>2</sup> along the north slope of the central Alaska Range west of the Muldrow glacier) and spends considerable time along the road. One female bear wearing a failed radio collar was located and re-collared and one new female bear was added to the sample. All three bears were in good body condition with about average body fat for this time of year. Pat Owen and Ed Vorisek made up the capture team while Jane Bryant and Sandy Hamilton (contract pilot) provided aerial observation.

#### ***Bear Management***

The month of September brought the usual flurry of **black bear activity in the Kantishna** area. As visitor activity tapers off and evening darkness increases, black bears tend to become more bold and curious around the Kantishna lodges. Human food and garbage odors may also be more attractive as the bears try to gain the fat they need to survive the winter. Ed Vorisek and Jason Ransom responded to damage complaints at three of the Kantishna businesses in connection with poorly stored food and garbage. In each case they suggested some obvious solutions to the problems. They attempted to haze and aversively condition bears near the lodges when possible. Ed Vorisek and Jason Ransom helped with road patrols during the Road Lottery weekend from September 14-17 but also spent a significant part of that weekend in the Kantishna area.

From September 19-21, Ed Vorisek traveled to McCarthy at **Wrangell-St. Elias National Park** (WRST) to meet with Biotech Jim Wilder and Wildlife Biologist Mason Reed. Jim Wilder has been developing a bear management program for WRST in the McCarthy area and visited Ed and Jason Ransom at Denali last summer. They discussed bear-human conflict management ideas and collected bear hair samples for a DNA study.

By September 28 Jason Ransom and Ed Vorisek had entered and proofread data from all of the **248 bear-human interaction reports** collected since April 30. They also began work on the 2001 Wildlife Management Summary report of bear-human interaction statistics and bear management work completed this season.

## **Birds**

**Swan surveys** were conducted on the south side of the Alaska Range (from the West Fork of the Yentna to Cantwell) on September 25-26. Jane Bryant and contract pilot, Sandy Hamilton conducted the surveys. They identified 204 adult trumpeter swans and 110 cygnets. These numbers are not substantially different from numbers obtained in recent years. These swans were distributed as 63 pairs of trumpeter swans, which included 32 pairs with a total of 106 cygnets, 3 lone adult swans, one group of 4 cygnets without an adult, and 12 groups of swans ranging in group size from 3 to 12. Also seen in the survey were 368 unidentified ducks that were in groups staging for migration (there were 12 groups, with group size ranging from 3 to 100).

## **Vegetation**

### ***Management***

**Seeds were scattered to revegetate** over 2,000 m<sup>2</sup> of disturbed ground at the new Camper Convenience (near Riley Creek Campground) and 3,000 m<sup>2</sup> of the remodeled Primrose pullout area at about Mile 17 of the park road. Collectively these two areas are approximately the size of a football field, so that's a lot of seeds! Wendy Mahovlic, Revegetation Technician, and a very helpful volunteer, Bill Moser used the following seeds: *Hedysarum alpinum* (Bear Root), *Oxytropis campestris* (Yellow Oxytrope), *Agropyron sp.* (wheat grass), and a wildflower-and-grass mix that was in the "seed bank". All seeds had been collected by hand from the vicinity of the areas to be revegetated.

## **Fire**

When wildfires were blazing in the Lower 48, Larry Weddle and Case Martin assisted with the national **fire fighting efforts** on a Type II crew assignment (part of a 20-person handcrew working on the fireline every day) in southern California. At the end of the assignment, Case returned to school. John Cataldo completed two details outside the park—he was at Dinosaur National Monument (August 3-25) and in Reno, Nevada working for the Bureau of Land Management (August 26-September 19). At the completion of the Nevada BLM assignment, John was reassigned to Yellowstone National Park to assist monitoring two Fire Use fires. Fire Use fires are fires started by lightning that are monitored and managed for resource benefit. They may be partially suppressed to protect resources at risk (*e.g.*, cabins), but are basically allowed to take their natural course within specified acreage limits.

## II. PHYSICAL RESOURCES

### Air Quality

The **air quality monitoring station in Trapper Creek** (Mile 115 Parks Highway) is up and running, after many months of coordination and planning. The small shelter houses filter samplers, and is part of an interagency monitoring network (IMPROVE - interagency monitoring of protected visual environments). Andrea Blakesley will be working with the park education specialists to develop a program to teach Trapper Creek school children about air quality and research methods.

### Meteorology

All **weather stations in the Rock Creek watershed** were visited for routine maintenance, storage module swaps, and sensor replacements. These weather stations are part of Denali's Long-Term Ecological Monitoring.

The **Teklanika weather station**, located ¼ mile off the road near Mile 29 was removed for two reasons: 1) it was originally set up in 1995 to support the road dust palliative study which has been completed, and 2) because the current location is within the wilderness boundary and is visible from the road. When adding long-term monitoring equipment to the park, every effort is made to locate it either in an area that is already developed (i.e. Toklat, Eielson) or locate the equipment so that it is not directly visible from the park road.) The station will be equipped with a new satellite transmitter and tested this winter in C-Camp. The station will potentially be moved to the Toklat road camp after the compliance process is completed.

Here is an **August 2001 weather summary** for Denali Headquarters (HQ):

Maximum Temperature:	73°F
Minimum Temperature:	35°F
Average Temperature:	53°F
Total Precipitation:	2.21(inches)
Total Snowfall Amount:	0 (inches)
Snow on Ground at end of month:	0 (inches)

Note: Last August (2000) we had 4.99 inches of rain and the average temperature was 46.6°F for the month.

September **requests for weather data** were:

Sue Huse from the Alaska regional office requested daily data on sunrise/sunset times and average, minimum, and maximum temperatures and snow depth.

Charlie Loeb, Ranger Division, requested monthly precipitation averages and extremes from the Headquarters weather data. He needed the information to verify information being presented in a new book by Bill Sherwonit, Anchorage author.

### **Snowmobile Studies**

As another winter approaches, thoughts turn to studies investigating the impact of snowmobile use on park resources. To understand our current status, Shan Burson completed a **draft report, Snowmobile Studies in Denali National Park and Preserve Winter 2000/2001**. This report includes the results of surveys of snowmobile use and wildlife activity areas in the park, the first year results of a study of wildlife use of snowmobile trails, results of snowmobile noise monitoring, and refers to other studies related to snowmobiles that will be reported separately.

Pam Sousanes completed a draft report, **Assessing Adequate Snowcover in Denali National Park and Preserve 2000-2001**. Data on depth and density are collected throughout the winter season in areas popular with recreational snowmobilers. We presented the information to managers in a September meeting. This project is funded by Denali's Long-Term Ecological Monitoring Program.

### **Glaciology**

End of season mass balance measurements and movement **surveys were completed on the East Fork Toklat, Traleika, and Kahiltna glaciers** as part of the LTEM glacier program. In coordination with a fee demo project, ice movement, surface target movement, and surface elevation changes were measured on the **Muldrow Glacier** between Gunsight Pass and McGonagall Pass. The current terminus of active ice (essentially the down-glacier limit of white ice) was also surveyed on the Muldrow glacier. The terminus survey on the Kahiltna glacier was completed, as well as an attempt to resurvey targets on the Tokositna Glacier. Weather prohibited a successful resurvey of targets on the Tokositna glacier. Guy Adema, Pam Sousanes, and Trent Hubbard completed the fieldwork.

University of Alaska-Fairbanks glaciologist Keith Echelmeyer completed his effort to measure several **glacier profiles** in the park.

### **Geology**

Guy Adema and Phil Brease surveyed four **potential sites for gravel extraction** in Kantishna as part of the development of an overall gravel acquisition plan.

### **Soils**

The fifth year of a six-year cooperative **soil mapping** effort was completed on September 5. All 42 study regions were visited as planned (60% on the south side and 40% on the north side of

the Alaska Range). As in previous years, preliminary results will be presented to the park in late winter or early spring.

### **Soundscape**

Natural **soundscapes in National Parks** are becoming a threatened resource. Legislation and park management policies and director's orders require parks nationwide to begin to address the impacts of human-generated noise (aircraft, snowmobiles, personal watercraft, all terrain vehicles, generators, park vehicles, etc.) by developing and implementing soundscape management and noise mitigation plans, and air tour management plans.

Denali is near the forefront in this relatively new field. We are fortunate to have Rangers Charlie Loeb and Joe Van Horn working on the park's **interim soundscape management plan** to include in the upcoming Backcountry Management Plan. Observer-based sound inventories and monitoring studies are ongoing. Shan Burson's automated sound recording stations are making digital recordings and collecting data on decibel levels of sounds. Data from these two projects will begin to characterize the natural and non-natural soundscape and provide park staff the background to wisely manage the park's soundscape.

Several of Denali's staff attended the National Park Service's **regional soundscape management workshop** held in Anchorage. Shan Burson, along with Joe Van Horn and Charlie Loeb, both of Ranger Division, and Mike Tranel, Park Planner, gave presentations on their areas of expertise. Shan Burson provided instrumentation for the sound monitoring field trip. Shan is acting as the Alaska-area consultant for Alaska parks needing assistance setting up sound monitoring programs.

Denali's three **seasonal sound stations** have been removed from the field for the winter. The year-round station continues to collect data in Broad Pass south of the Alaska Range. So far this season the sound stations collected data for 4968 hours of "listening" over 262 days. In a quick review of the data, Shan Burson found that a number of planes were still flying over Broad Pass during the days all non-military aircraft were grounded during September 11-13. Most of these were jets, presumably military jets.

## **III. SUBSISTENCE AND CULTURAL RESOURCES**

### **Subsistence**

Hollis Twitchell traveled to Lake Minchumina on September 6<sup>th</sup> to accompany a Bureau of Land Management survey crew on a **field inspection of a Veterans Native Allotment land claim**. Alfred Starr identified the area and boundaries for the Native Allotment near Starr Lake on the lower Muddy River. A survey marker was placed on one of the corners for future reference.

Mike Turner continued to operate the **recapture fishwheel for fall chum salmon on the Kantishna** River near the Bearpaw River confluence. From August 16<sup>th</sup> through the month of September, a total of 2,173 chum salmon were captured and released from the *lower* Kantishna River tagging wheel near the Tanana River. The *upper* Kantishna recovery wheel (one of two major tributaries that the fish passing the lower Kantishna River tagging wheel would follow) captured 226 fall chum salmon and 426 coho salmon and 9 tagged chum salmon. The average travel time between fishwheels for these 9 chum salmon was approximately 5 days. The preliminary abundance estimate for the Kantishna River drainage run component through September 30<sup>th</sup> was 37,425 fall chum salmon (with a standard error of 3,517).

Denali Subsistence Resource Commission Chair, Florence Collins, prepared a letter explaining the Commission's Draft Hunting Plan Recommendation to establish a new residency requirement. Those moving into the Cantwell Subsistence Resident Zone would have to be residents for 3 years before becoming eligible to subsistence hunt and trap in the part of Denali National Park near Cantwell. The **Draft Hunting Plan proposal** will be available for review and comment until February 28, 2002. The Commission will review comments and make a final hunting plan recommendation at their next meeting in early March.

### **Cultural Resources**

In September, the field season was not quite over. Ann Kain spent September 4 – 7 in the field with Archeologist Gena Weinberger from the Alaska Regional Support Office. They conducted a cultural survey at the site of the proposed new science and learning center and the proposed new alignment of the park road. Ann and Gena also spent two days in the park surveying numerous proposed sites for gravel acquisition along the park road. Two new trails, one at Savage River and one across the park road from Eielson Visitor Center, were also surveyed during the week.

Jane Bryant provided photographs, research and editorial assistance to the Interpretation Division for the preparation of **wayside exhibits at the Fanny Quigley Home**.

## **V. MONITORING, INVENTORY, AND RESEARCH PROGRAM MANAGEMENT**

### **Monitoring**

See Sections I and II for reports of Denali's Long-Term Monitoring Program (LTEM) results.

## Research

### *Miscellaneous studies*

Behaviors associated with **moose during fall rut** were being studied by Vic VanBallenberghe, retired Forest Service Pacific Northwest Station researcher, during September and early October. On September 27, Lucy Tyrrell accompanied Vic for the afternoon, driving the park road seeking observations of moose behavior. The previous day, Vic reported that he had counted two-dozen cow moose congregated in the spruce near the small pond at Mile 7. In mid-afternoon, a dozen of the cows were milling about and browsing near the pond within view of the road pullout. The antlered bull emerged from the taiga and appeared to “herd” the females back to the spruce.

### *Research administration*

A review of one project was coordinated by Lucy Tyrrell for a “**research**” **collecting permit** (date submitted in parentheses):

- Parks as classrooms mountaineering curriculum (9/1/01)  
(Howard Carbone, Talkeetna Education Specialist, is developing a curriculum to teach about the geology of the park, and submitted a proposal to collect a bucketful of fist-sized pieces of Cantwell Formation Shale (sedimentary rock) as part of geological activities and demonstrations for the classroom)

## VI. PROGRAM SUPPORT

### Outreach and Interdivisional Activities

Two resources staff provided information to **visiting students** from Cantwell schools. Cantwell elementary students were taken on a tour of the air quality monitoring site on September 20<sup>th</sup>. Andrea Blakesley showed them how we measure airborne contaminants at the park, and the students were interested to learn about global sources of Alaska air pollution. On September 21<sup>st</sup>, high school students from Cantwell school met with Pat Owen. Pat provided a presentation about bear studies in Denali then talked at length with students about the importance and types of writing used by scientists.

During the **road lottery** which allows a limited number of private vehicles to drive the Park road, Pat Owen and Gina Moreno, and Susan Boudreau and Lucy Tyrrell worked in pairs to provide traffic control and wildlife information for visitors. Pat and Gina spent the majority of time near Toklat where a family of bears (the sow being the bear whose collar was removed) and sheep provided much entertainment for visitors. Susan and Lucy drove the road between Headquarters and Sable Pass.

Ann Kain attended the **Alaska Historical Society/Museums Alaska Annual Conference** in Valdez, Alaska September 26-29. During the conference Ann and Darrell Lewis from the Alaska Support Office fielded questions at the exhibit highlighting public outreach programs of the National Park Service in Alaska including National History Day in Alaska, Beringia Days Conference, Archeology Month, and the Aleutian World War II Affiliated Area (Visitor Center).

On the last day of August, Jane Bryant traveled to Kantishna and gave a “**Historic Road Trip**” Powerpoint program at the Denali Backcountry Lodge. The staff there requested information about Fanny Quigley, which was provided.

Hollis Twitchell traveled to Telida and Lake Minchumina with Anchorage schoolteacher Mary Saint Johns to discuss **educational curricula** being developed jointly by the school district and the National Park Service along with local residents of those communities.

### **Training and Meetings**

#### ◆ Training

Shan Burson, Pam Sousanes, and Lucy Tyrrell attended the 1½-day NEPA (National Environmental Policy Act) training held at Denali.

Shan Burson attended the 2-day Soundscape Regional Workshop in Anchorage (see above in Soundscape)

Larry Weddle participated in the Type II crew assignment as a Crew Boss Trainee.

John Cataldo participated in several fires as Incident Commander Type IV Trainee while on detail.

#### ◆ Meetings

Several resources staff attended the park-wide meeting on September 20 in which Mike Tranel, Planning, provided an update on the **draft Backcountry Plan**. The meeting generated comments and discussion that resulted in revisions and corrections to the draft plan.

Shan Burson and Andrea Blakesley continue to participate in the newly renamed and reinvigorated **Environmental Innovation and Leadership (Sustainability) Committee**.

Andrea Blakesley has participated in several meetings and teleconferences concerning the newer of the two coal-fired power plants in Healy, adjacent to the park. Golden Valley Electric Association is requesting permission from the Alaska Department of Environmental Conservation to abandon the original “**clean coal technology**” in the plant, and replace it with more standard technology. Regardless of which technology is used, the National Park Service

wants to ensure that Golden Valley continues to use the plant's \$117 million federal subsidy to demonstrate cleaner power generation than has existed in the past as well to be protective of the park's air quality.

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**Research and Resource Preservation (Resources) Division staff members are:**

Guy Adema, Andrea Blakesley, Susan Boudreau, Phil Brease, Jedediah Brodie, Jane Bryant, Shan Burson, John Cataldo, Olga Helmy, Ann Kain, Ken Karle, Amy Larsen, Janie Lasell, Carol McIntyre, Wendy Mahovlic, Gina Moreno, Gordon Olson, Pat Owen, Jon Paynter, Jason Ransom, Carl Roland, John Shook, Pam Sousanes, Hollis Twitchell, Lucy Tyrrell, Ed Vorisek, James Walton, Larry Weddle, Kahlil Wilson, Jennifer Wolk.

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This month's report was edited by Lucy Tyrrell.