

**Denali National Park and Preserve
Superintendent's Report
FY 2009**

For the first time in several years, Denali had no new major facilities to open to the public. Instead, the park received recognition for its accomplishments in providing inviting and environmentally sustainable facilities to support and enhance the park experience for visitors. Work on less visible projects continued, and the park is poised to receive millions of dollars of federal stimulus money as part of the nation's recovery from its economic crisis.

PARK ACCOMPLISHMENTS

AWARDS

2009 will go down as a year that the park, its staff, and their achievements were recognized with a high number of awards. Denali National Park and Preserve was one of three parks and three concessioners who received **2009 Environmental Achievement Awards** for incorporating high environmental standards into their operations. Denali was recognized for the new Eielson Visitor Center, which received a Leadership in Energy and Environmental Design (LEED) Platinum level rating—the first NPS designed and constructed building to attain that goal.



Opening Day at Eielson Visitor Center – June 1, 2008

Joe Van Horn, the park's wilderness coordinator, received the **Wes Henry National Excellence in Wilderness Stewardship Individual Award for 2008**. He was recognized for his significant and long-term contributions to wilderness in Denali, other Alaska parks, and the nation. The award was presented to him by Karen Taylor-Goodrich, the NPS Associate Director – Visitor and Resource Protection, during an outdoor ceremony that took place at park headquarters on June 17. The event was attended by numerous

park employees, regional office staff, friends, and his family. Joe has served as a natural resources manager and wilderness specialist at Denali National Park and Preserve for over 30 years. During that time, he has established a standard for wilderness management that is the envy of other Alaska parks. To assist managers, he developed a decision-making model that integrates social, resource, and managerial values associated with the Denali wilderness experience. This has been the foundation of his and others subsequent efforts to preserve Denali's wilderness resources and values.



From left to right, Alaska Region Director Sue Masica, Sarah Marshal (Joe's wife), Isaac Van Horn, Joe Van Horn, Ian Van Horn, Karen Taylor-Goodrich, Denali Superintendent Paul Anderson

These annual recognitions are presented by the NPS wilderness stewardship program to reward both an individual and a team or group from within the NPS for significant contributions to wilderness preservation. Recipients receive a generous monetary award and a bronze grizzly bear sculpture formally adopted in 2008 by the Wilderness Leadership Council to commemorate the award.

Pete Armington, Denali's Chief Ranger, was this year's recipient of the **Harry Yount National Park Ranger Award for excellence in "rangering."** Secretary of the Interior Ken Salazar and National Park Service Acting Director Dan Wenk presented Pete with the peer-nominated award at a Capitol Hill ceremony on May 19. Superintendent Paul Anderson stated, "During Pete's tenure at Denali, he has provided the ranger staff with the guidance, tools, and support needed to accomplish more than ever before. A classic example is the approach he has taken to poaching, which has always been a serious problem due to the park's size and remoteness. Pete established wildlife protection patrols which led to a dramatic increase in the number of poaching cases discovered and prosecuted. Restitution fees from those cases help fund additional wildlife protection patrols."



Harry Yount Award recipient Denali Chief Ranger Pete Armington

Phyllis Hassinger, a spry 85-year old great-grandmother from Wasilla, Alaska, was recognized for her **twenty seasons of volunteer campground host service** in Denali with an informal ceremony that took place at the Wonder Lake evening campground program on July 4. Park staff managed to get a large cake out to the campground relatively unscathed, which was enjoyed by everyone afterwards.



Rangers Sean O'Donnell and Kris Fister holding the celebratory cake for volunteer Phyllis Hassinger

Phyllis and her husband Harry, who passed away in April 2007, spent all but one of their Denali volunteer seasons at Wonder Lake. The site has no phone service, no internet, and no electricity except the motor home's small generator. By providing that extra touch of

caring and kindness she is so well known for, Phyllis continues to enrich the experience of those hardy campers who have traveled in a bus for hours, and braved the insects and other elements for the possibility of a breathtaking view of “the mountain” from their campsite.

Kent Miller, an accomplished professional photographer and photojournalism professor at Central Michigan University, received the **2008 Alaska Region Harry Hassinger Volunteer of the Year Award** in a ceremony held on July 29. He volunteered for 19 days in June and August 2008, and during that time he shot over 14,000 images. After editing, he donated more than 1,400 world-class professional images in three different formats to the park’s image files. The park has used Kent’s images for a variety of media, including the Alpenglow, brochures, press releases, web site, and other online products. The park can use his images without restrictions, and they also can be distributed to the public.

During his 10-day stay in 2009, Miller shot and donated another 600 images to the park. The previous year he had initiated the idea of Denali having a summer media intern at the park, funded through the Student Conservation Association. The idea came to fruition in 2009, and one of his students, Neil Blake, was the first intern this summer.



Kent Miller flanked by Phyllis Hassinger, widow of Harry Hassinger, and Superintendent Paul Anderson

DENALI PARK ROAD VEHICLE MANAGEMENT PLAN AND EIS INITIATED

The park initiated the NEPA process to prepare the *Denali Park Road Vehicle Management Plan and EIS*. Denver Service Center was included in the project team in 2009, with expectations that they will continue to be involved until the project is completed. A planning workbook with preliminary concepts was developed for additional

public input prior to the development of draft alternatives. A new completion date was set for summer 2012.

NEW CONSTRUCTION

The park received over \$22 million in federal stimulus money through the American Recovery and Reinstatement Act (ARRA) in 2009, which is to be used for approved, “shovel-ready” projects in the next 18 months. While only some smaller projects were completed this year, the stage was set to dive full scale into several major projects that will take place in FY 2010. Projects funded include:

- Rehabilitate Comfort Station and Campground Facilities in Savage River and Teklanika River Campgrounds (\$75,000)
- Remove brush and other vegetation encroaching on hiking trails throughout the park (\$78,000)
- Replace Aging Unit Heaters in Autoshop (\$128,000)
- Repair Wonder Lake Ranger Station Sewer Line (\$31,000)
- Close Hazardous Mine Shaft in Kantishna (\$32,000)
- Replace Frontcountry Wastewater Treatment Facility and Rehabilitate Collection System (\$6,327,000)
- Construct New Emergency Services and Law Enforcement Facility (\$6,448,000)
- Rehabilitate Fuel, Power, Water, and Wastewater Utility Systems at C-Camp (\$2,906,000)
- Rehabilitate 80-84 Mile Section of the Denali Park Road (\$6,300,000)

RESOURCE STEWARDSHIP STRATEGY COMPLETED

In 2009, Denali’s new strategic document, the Resource Stewardship Strategy (RSS), was finalized for approval by the Alaska Regional Office. The RSS is a 238-page document that provides guidance for the research, resource management, and resource education programs of the National Park Service at Denali over the next 20 years (2008-2027). The RSS lists Denali’s *fundamental resources and values* and *other important resources and values*. Park staff compiled the *current status of resource knowledge*, and selected *indicators* to assess current and desired condition for the resources and values. An important part of the RSS was the development of 19 *comprehensive strategies* and 99 *projects* needed to assure the protection of Denali’s natural and cultural resources for decades to come. Projects are *prioritized* as highest, medium, or lowest priority based on five ranking criteria.

Denali is the second unit in the National Park system—and the first park with extensive natural resources—to complete an RSS. Denali’s RSS document may serve as a prototype for other large parks managing extensive natural and cultural resources. This document takes the place of any former Resource Management Plan and serves as a bridge between the qualitative statements of desired condition established in the park’s General Management Plan, and the implementation actions determined through park strategic planning.

A 64-page color Resource Stewardship Strategy Summary was created in 2009 as well as an expanded executive summary from Denali’s RSS. The RSS Summary describes both

the process and the results of developing the RSS, and provides highlights for at least one project in each strategy, in order to showcase ongoing or planned work.

USE OF NEW TECHNOLOGIES TO SUPPORT PARK MISSION

As electronic technologies evolve, the park works not only to keep up with standards for daily operations, but to utilize new types of equipment and means to help the park meet its goals. Park IT staff and Assistant Superintendent for Operations Elwood Lynn continued their tireless efforts, in coordination with the University of Montana, on the establishment of a remote “wireless backbone” to facilitate wireless communication in the park. Every spring these remote sites must be accessed in order to replace equipment damaged during the winter and determine what can be done to prevent the same situation from reoccurring. The Talkeetna phone system was converted to VoIP, and the headquarters servers were upgraded for the changeover to VoIP there.

The Ranger Division is testing electronic instrumentation to monitor trail use in remote areas of the park. Additionally, the division’s use of high resolution photographic analysis provided the images to successfully locate the remains of two Japanese climbers who had disappeared during their climb in May 2008.

The increasing use of a variety (and constantly evolving) electronic media by the public is changing how the park communicates its messages. “Denali: New Expeditions” went live on iTunes on October 30, 2008 with eight multimedia offerings. For several weeks it was the most popular of all the NPS sites on iTunes. As many as ten more online videos are being developed. Among them is a two-minute video about sustainable features at the Eielson Visitor Center that is already featured on a national NPS web page.

http://www.nps.gov/americasbestidea/templates/reducing_our_carbon_footprint.html

Denali volunteered to be a “beta tester” in summer 2009 for a 90-day trial of social media giant, Twitter.com. The project proved so successful that the park continued after the test ended. During the trial period the “DenaliNPS” topped 500 followers and was approaching 300 “tweets”. As many as ten park staffers have been trained how to post the 140-character messages.



DENALI PROTECTS WORLD CLASS PALEONTOLOGICAL RESOURCES

The dinosaur and other trace fossil assembly found so far in Denali may represent the best record of the Cretaceous ecosystem of any national park, or for that matter, any other location in the world. The dense concentration of both flora and fauna in portions of the Cantwell Formation provides ideal grounds for continued paleontological research, and a brand new legacy of resource protection for management of the park.



Dr. Anthony Fiorillo with "dance floor" of dinosaur tracks

Approximately 33 new paleontological sites in the Cantwell Formation were documented by the 2009 Geological Society of America-GeoCorps volunteers. These sites are primarily in the areas of North Sable Mountain, the east side of the East Fork Toklat River, the upper headwaters of Big Creek, and portions of other tributary stream valleys along the north side of Igloo Creek. Condition status was re-evaluated for five other known sites. Additionally, three new areas were examined by Fiorillo, Hasiotis and Kobayashil at Fang Mountain, North Galen, and the eastern tributaries of Tattler Creek. The 2009 finds include additional ornithopod, pterosaur, hadrosaur, and theropod tracks or footprints, additional invertebrate trace fossils, and burrows of freshwater bivalves and crayfish. New found trace fossil data provides refinements on the late Cretaceous climate in Denali, i.e. better temperature ranges based on the existence of bivalves and crayfish.

The Paleontology Resources Management Plan (PRMP) is 75% complete and is being internally reviewed at the park.

DENALI HIGHLIGHTED IN KEN BURNS' DOCUMENTARY

Burns and his crew filmed in Denali during the summers of 2003 and 2004, and the park's natural and cultural resources were prominently featured in the six-part series. The park was involved extensively in community outreach and promotional activities for "The National Parks: America's Best Idea," which premiered on PBS in September 2009.

- On Earth Day in April, the National Park Foundation sent a park ranger from Denali to a "Parks for All" event in San Francisco to help kick off an outreach campaign for the series.
- The park was one of 35 sites to receive a grant from the National Park Foundation to tell "untold stories" of underserved audiences. As part of student recruitment efforts, seven Alaska Native high school students were chosen to participate in the program. At pre-camp meetings in June, students were given the opportunity to meet and interview Ken Burns. In July the group spent three days camping in the Denali backcountry. During their stay, they spent time with two local Athabascan elders, archeologists, a soundscape scientist, a geologist, and several park rangers. Afterwards, the students completed digital slide shows and videos about their experience in the park. A "premiere night" of their works took place on October 30 for family and friends. Their pieces about Denali are posted on the park website at <http://www.nps.gov/dena/supportyourpark/abi.htm>. The students are all active members of MEDIAK, a media skills development and outreach program hosted by the Cook Inlet Tribal Council.



Students with Minto residents Neal and Geraldine Charley at MSLC Field Camp

- From the final week of July through the end of the season in September, the Wilderness Access Center hosted free screenings of a DVD-feature "PBS Previews" and three music videos produced with footage from the TV series.

- The park received an advance copy of “This is America,” a 45-minute film about the contributions throughout NPS history of individuals from diverse backgrounds. The park hosted free public screenings of the film each Saturday in September, including a presentation for several park visitors on Public Lands Day, September 26.
- Denali was among a number of parks that was sent DVD copies of the series in advance so that it could host free screenings of each of the six episodes as they were broadcast nationally. The arrangement allowed park staff and area residents who didn’t have home televisions to share in the experience. Funds remaining from the Parks Foundation grant were used to buy DVDs of the series to donate to a local library.

PARK ADMINISTRATIVE HISTORY COMPLETED

In February 2009, the park received copies of the completed Volume 2 of “*Crown Jewel of the North: An Administrative History of Denali National Park and Preserve*”. NPS Historian Frank Norris, formerly in the Alaska Region, but now stationed at the NPS Santa Fe office, compiled both volumes of the park’s administrative history with significant assistance from Jane Bryant, the park’s cultural resources specialist.

KANTISHNA MINING RESTORATION

Work began in late June on the reclamation of Moose and Glen Creeks in the Kantishna Hills. Glen Creek has been a site of placer mining activity since the early 1900’s, and the accumulation of abandoned equipment, as well as a heavily disturbed floodplain, has represented one of the most impacted and unsightly stream valleys in the park.

The contractors, Environmental Compliance Consultants (ECC) and Oasis Environmental, brought in a D6 dozer, 955 loader, a 160C Deere excavator, a Case backhoe/loader, two 40-ft trailers, two Ford 450 flatbed trucks, and two ATVs to complete the job. Staging (in and out) took place at Friday Creek Camp, Eureka Creek crossing, and the North Face pull-out areas. The camp and field operations were centered at the Glen Creek camp.

Work accomplished on Glen Creek included: 1) removal of approximately 50 tons of abandoned mining equipment and supplies (washplants, trailerhouses or Atcos, cabins, miscellaneous generators and medium heavy equipment, a railroad boxcar, and a D6 cat), 2) contouring nine tailing piles (3.1 acres) located on the east and west forks, as well as the main stem, of Glen Creek, 3) reconstruction of 900 feet of stream channel, requiring the installation of 300 linear feet of gabion baskets and reno mattresses, and the associated slope reductions, 4) harvest and planting of willow cuttings and transplanting willow/alder plugs, as well as hydroseeding barren steep slopes and hand harvest and seeding of the flatter slopes, and 5) scarification of portions of the mining camp roads, and most of the access road from the Glen-Moose airstrip to the upper Glen mining camp. Similar work occurred on Moose Creek at one location where a single tailings pile was reduced. Some material was used to reinforce a mucky portion of the access road, and cuttings and plantings were placed on the barren tailings and surrounding area.

EDUCATION PLAN COMPLETED

The Education Plan, in the works since 2006, was completed in August, and was printed and distributed in December 2009. This plan will provide a long-range vision to guide park interpretation and education efforts. The plan also includes a new theme matrix that shows the link between park legislation, park themes and key park messages.

DIGNITARY VISITS

The park's dignitary visit season began in early April with the arrival of Terre Jones, President and CEO of the Wolftrap Foundation for the Performing Arts. In mid-June the season picked up in earnest with the visit of former Alaska Governor Wally Hickel, his long-time aide Malcolm Roberts, and their wives. The party spent two nights in the historic Superintendent's House, and Superintendent Paul Anderson took them into the park for a day trip. A larger group, including the assistant superintendents and their wives, were hosted for dinner at the new Summit Lodge dining facility in the McKinley Village Lodge by Bob Concienne, ARAMARK's Alaska Vice President of Operations.



Malcolm and Cindy Roberts, Mrs. and Governor Hickel, Supt. Paul Anderson, Elizabeth Hooge, Bob Concienne, Beth Lynn, Assist. Supt. for RSL Philip Hooge, Assist. Supt. for Operations Elwood Lynn at the Summit Lodge

A 20-person Trust for Public Lands group consisting of board members and other high level members spent the weekend of June 19-21 at Camp Denali as part of an Alaska-wide field trip. The NPS provided a tour of the Denali Visitor Center upon their arrival in the park, and Assistant Superintendent for Resources, Science and Learning Philip Hooge spoke about the park's significant issues during the buffet-style lunch, which took place at the MSLC. Superintendent Anderson did a presentation for the group and other guests at Camp Denali the following evening.

The park received a flurry of high level visitors in July and August, including Deputy Secretary of the Interior David Hayes; Assistant Secretary of the Interior Tom Strickland; Pat Pourchot, Special Assistant to Alaska for the Secretary; Council on Environmental Quality (CEQ) Chair Nancy Sutley and White House advisor Heather Zichal. The park also hosted and provided orientations to several Congressional committee staff members, NPS staff from WASO and the Alaska Region Office, national park staff from New Zealand, Brazil and Japan, board members of the National Park Foundation, the mayor of the Matanuska-Susitna Borough, and a Federal Highways Administration official. Many of the visits included helicopter trips to Curry Ridge in Denali State Park, the proposed site of the new South Denali Visitor Center.

In September the park hosted a weeklong training seminar on interpretation of wildlife management issues and policies for a group consisting of three WASO trainers and twelve Japanese staff from the private organizations that operate facilities and provide interpretive services in Japan's national parks. Some of the training took part in the MSLC classroom, but park staff also provided other activities, which included a tour of the Denali Visitor Center, a guided hike to Horseshoe Lake, a sled dog demonstration, and a guided bus trip into the park (which could only go as far as the Teklanika Rest Area due to snow).



Participants and instructors in September 2009 wildlife management interpretation seminar

The dignitary season came to a close in early October (technically the beginning of the next fiscal year), with the late season visit of Rhea Suh, Assistant Secretary of the Interior for Policy, Management and Budget, and two of her staff. Weather conditions were favorable for flying the group via helicopter to the proposed site of the new South Denali Visitor Center. The following day Assistant Superintendent Elwood Lynn and park engineer Tammy Scholten provided them with an orientation to the major upcoming ARRA construction projects in the park's entrance area.

ACCOMPLISHMENTS BY DIVISION

PLANNING

Planning and Compliance Division projects during 2009 included continuation of the *Denali Park Road Vehicle Management Plan*, and continuing efforts to implement the 2006 *Backcountry Management Plan* and 2006 *South Denali Implementation Plan*.

The Denali National Park Aircraft Overflights Advisory Council

The Denali National Park Aircraft Overflights Advisory Council, a Federal Advisory Committee Act chartered group, met three times during the year to provide recommendations to the NPS on ways to mitigate the impacts from aircraft overflights and achieve soundscape standards set in the plan to meet desired future conditions.

Staff assisted the Council in hosting a field exercise on perceptions of sound impacts by aircraft.

South Denali Implementation

The multi-agency partnership was successful in receiving \$1 million through a Scenic Byway grant to start construction of a visitor contact center in the planned transportation hub. This funding was matched by the State of Alaska with \$2.5 million to construct necessary parking and campgrounds in the area.

Progress was made on defining the Parks Highway scenic buffer Mile 105 – 131 with the final zoning plan expected in early 2010.

Denali State Park Master Interpretive Plan was finalized in August, 2009, with the inclusion of visitor experiences around the transportation hub.

Gas Line Project

The planning division continued to meet with the proponents of the Alaska Stand Alone Gas Pipeline (ASAP), as well as with the federal agency partners in the impending Environmental Impact Statement that will evaluate installing 7 miles of the 750 mile long pipeline through Denali National Park. This proposal generated Congressional legislative language for the section of pipeline that would pass through the park.

Compliance Program Management

Environmental Assessments and Findings of No Significant Impact were completed for the following projects: Rehabilitation of the Mile 73-86 Section of the Park Road, and Replacement of Restroom Facilities at Polychrome Overlook, Teklanika Campground and Teklanika Rest Stop. Sixty-one projects were tracked at the categorical exclusion level of National Environmental Policy Act compliance.

ADMINISTRATION

This year was a year of significant personnel turnover within the division, due to retirements and transfers. Long-time Human Resources Specialist Suzanne Brown

retired, as did Procurement Clerk Elvy Schmoker, leaving large holes in the operation to be filled. Grady Wilson was promoted into the IT supervisor position, after serving as “acting” since July 2008, when Michael Thornton transferred to Grand Teton National Park. James Tench was hired into the IT specialist position vacated by Grady and arrived in July 2009. Due to personal issues IT staff member Dave Brueland was on leave for significant amounts of time during the latter half of the fiscal year.

While being chronically short-staffed for most of the fiscal year, IT staff continued their work to upgrade and enhance park-wide computer and phone systems in order to facilitate better communication within the park. Equipment to virtualize the park’s servers has been purchased, which will increase the availability and reliability of the park’s critical data while at the same time reducing the overall power consumption of IT services. Equipment has also been purchased for the park-wide transition to VoIP. The conversion of Talkeetna to VoIP was completed in April. The phone system in the western part of the park was upgraded and was functioning again by mid-summer, a huge boost to the morale for employees stationed in the remote areas of the park, and an immense assistance to more efficiently getting work done.

The IT building is being completely rehabilitated, i.e. most of the structure will be brand new. This necessitated the staff moving to temporary quarters for the duration of the construction. They expect to move into the new building by summer of 2010.

Budget staff provided the guidance and direction for this year’s budget of \$12,850,800 ONPS and \$12,085,750 Non-ONPS funding, which consisted of 25 different fund sources and over 400 accounts. Staff worked with the Regional fee manager to re-write all FY2010 PMIS 80% projects to the standard acceptable for WASO approval. This resulted in the park having its 2010 plan approved in September. The park passed the AOC audit with minimal shortfalls identified (all of them clerical). The park also passed the KPMG audit with a “no significant findings”, the only park in the service to get this rating this year.

The year was a busy one for human resources, as human resources staff now work for the region. A large accomplishment was the conversion of all permanent employees hired under the “local hire” authority to competitive status, which provides those staff with the ability to apply to other parks, even outside Alaska. Staff also managed the issues and employee concerns related to changes to the seasonal “local hire” authority. Staff provided information to and met with the impacted park employees to assist them in utilizing the new hiring process.

The park also initiated the issuing of new nationally mandated ID cards for park employees. Other actions accomplished by the staff include:

- Processed 1150 personnel actions
- Issued 90 vacancy announcements/certs
- Completed 45 background investigations
- Processed 42 drug requests
- Processed 30 OWCP cases

- Processed 3 classification requests
- Implemented the use USAStaffing for all vacancy announcements (the regional office just started minimally using USAStaffing!)

CONCESSIONS

Full staffing for the division was achieved with the hiring of a new concession management specialist, Scott Burch.

Denali's Fee program obtained high scores from three separate audits performed during 2009: AOC audit, KMPG audit, WASO fee program review. Staff reviewed the fee collection for Kantishna businesses and established a voucher system, which resulted in better compliance with fee regulations and increased fee revenue. A credit card terminal was added to the Denali Visitor Center, which provided better accountability.

The staff conducted annual evaluations, updated operating plans, and conducted mid-season evaluations for 22 concession contracts with commercial operators.

Visitors were provided safe, efficient access to the park and opportunities for wildlife viewing and other recreational opportunities on these bus experiences:

| System | Total Pax | Total Buses |
|--------|-----------|-------------|
| TWT | 96,586 | 2052 |
| DNHT | 82,874 | 1978 |
| VTS | 69,172 | 2989 |
| KE | 3,316 | 100 |

A successful test of a prototype bicycle rack that would work outside buses took place on an Eielson bus beginning in mid-July. The bus ran to Eielson everyday with bikes on the rack to test this proto-type. The trial period is designed to establish insight into potential problems the rack could encounter, which should become evident with normal wear and tear.



The park experimented with ways to provide a demand responsive bus system. While this process hasn't been perfected and there were service difficulties this summer, this season has provided additional information and understanding of bus use patterns and has assisted in discovering elements required for a demand responsive system.

The division maintained positive relations between JV and the NPS during a season of significant strains: mechanic strike, communication issues with JV management, negative incidents between JV management and NPS personnel, lower-than-ever-before periodic ratings on bus operations, bus fleet services, and several facilities.

The park continues to work on and understand the contract implications of the legislation defining historic rights for Camp Denali/North face Lodge. The sale and transfer of two Type II contracts, one for sport hunting and one for dog sled freight operations was also completed.

MAINTENANCE

This year was a record year of funding for projects, with a combined total of approximately \$11.5 million of ONPS, project funding, flexible base and fast-tracked economic stimulus funding. This represents all "in-house" expenditures, managed by over 120 separate accounts. The division has positioned the park to receive over \$22 million in American Recovery and Reinvestment Act (ARRA) funding for contracted line item construction and FHWA roads projects, to be obligated in 2010.

As part of the park's initiative toward sustainability, the division secured emergency funding to rebuild one Toklat generator and purchase another downsized 35 KW generator that resulted in savings of roughly 10% or 1,022 gallons in diesel fuel consumption. Further efforts have been initiated to reduce electrical demands with the purchase of on-demand propane water heaters for park facilities, which will be installed in FY 2010. The division also installed twelve LED exterior lighting in the C-Camp area as a pilot project for future exterior lighting upgrades.

The fleet services branch of the division helped to implement a parkwide motor pool, which successfully met the needs of all participating work groups and significantly improved the fleet's utilization.

Another significant project is the removal and replacement of the chemical toilets remaining in the park, so that they no longer contribute hazardous chemicals to the waste stream. To meet this goal staff removed 26 toilets in 2009, which included the disassembling of the entire Polychrome Rest Area. The remaining 46 chemical toilets will be removed in 2010. The new wastewater treatment plant, which will meet the requirements of the Compliance Order by Consent with the State of Alaska, is scheduled to be on line by May of 2011.

A line item construction project was awarded to construct the Savage rest area adjacent to the Savage River Campground. Most of this work has been completed and the site is scheduled to be open for visitors in the summer of 2010. In addition, day labor crews are also funded to construct vault toilets at the Savage Cabin, a bus shelter at the Savage

River, and trails leading out from the Rest Area. This work will continue in the summer of 2010, with substantial completion anticipated in fall 2010.

IT Building Rehabilitation: The park's phone and IT hub, and staff offices, were previously located in a small building, originally constructed in 1958 as a six-bay garage to serve residents living in the Apartment building (Bldg. 51). The Special Projects crew commenced a major rehabilitation of the structure in 2009, including a 12-foot addition, new gable roof, and new 9-1/2 feet walls. Only the original foundation and a seventh bay added in the 1980's was retained. The building was designed to blend with the adjacent historic district by regional architect Brad Richie. This project is scheduled for completion in April 2010.

Restoration of Residence Designed by Cecil Doty: Between World War II and the NPS Mission 66 Project, fewer than eight houses were constructed throughout the National Park system. Of these, four were constructed in Denali. Significantly, the houses were designed by a young Cecil Doty, who went on to become the Chief NPS Architect, responsible for the design of over 50 (about half) of the Mission 66 visitor centers. The houses were somewhat rustic in design, but modernistic enough to become the prototype for hundreds of Mission 66 houses to come later. In an agreement with the State Historic Preservation Office, the park has committed to a long-term goal of rehabilitating the exterior of all four Doty houses. Since only one of the houses still has its original stone fireplace (Residence P26), it was selected to be rehabilitated to its original interior appearance as well. Rehabilitation of the interior was started in fall 2008 by the Special Projects crew, and was completed in spring 2009.

Federal Highway Administration Projects: Two contracted projects, the 4-4.5 mile project and the Toklat riprap project, were completed in 2009. The 4-4.5 mile project is expected to greatly reduce the aufeis accumulation and subsequent pavement damage from aufeis removal operations on 2100 feet of paved road. Historically aufeis up to twelve feet deep accumulated along this section of the road, which took up to three weeks to remove.

The Toklat riprap project installed 1000 feet of riprap revetment and four stream barbs along the sheetpile protecting the Toklat Rest Area and the road into the Toklat Road Camp. The riprap installation successfully met two goals: to reduce sheetpile visibility and to prevent future undermining and collapse of the sheetpile. The installation is also natural looking, mirroring the appearance of a natural serpentine channel common to the Toklat River bar.

Personnel:

A variety of significant vacancies were filled this year, including:

- Lead Engineer position - Erik Henrickson
- Special Project Crew Foreman - Ed Sinner
- West District Maintenance Mechanic - Bill Ellis
- Maintenance Mechanic - Jeff Detienne
- Water System Operator – Alison Van Dyke
- Custodian – Steve Thomas

Nancy Pearson, Facility Management Specialist at Denali, completed the one year WASO Facility Manager Leaders Program and graduated in April 2009. She is the second Denali employee to graduate from this program in the last two years.

This year's summer workforce totaled over 150 employees, not including volunteers and Student Conservation Association interns. With the intent of bringing young, new and diverse talent into the NPS workforce, the division hired 35 special emphasis employees in FY 09. These hires included fifteen in the STEP program, fourteen through partnerships with the Alaska Job Corps and Riverside in Southern California, three from Tuskegee University in Alabama and three through the "Wounded Warriors" program. The division also actively supported the park's volunteer program (VIP), in which 89 individuals contributed a total of 11,702 volunteer hours to the park, averaging 131.7 hours per volunteer.

NATURAL RESOURCES

Denali's Natural Resource Condition Assessment

In 2009 Denali embarked on its Natural Resource Condition Assessment (NRCA) by setting up a Cooperative Ecosystem Studies Unit agreement with St. Mary's University (Minnesota) who will complete the assessment. Denali staff met in late August with a team from St. Mary's to review what an NRCA is and isn't, share examples of NRCA products from parks who have completed NRCAs, and to hear about project expectations. The NRCA may include: (1) spatial analyses of existing data on the condition of resources to present data in a pleasing way, (2) analyses of multiple data sets to answer condition questions, and (3) move non-digital data into GIS and perform analyses once the data are in GIS. A full scoping meeting will be held in FY2010, and the NRCA completed within 18 months.

Denali Park Road Capacity Study

Bus drivers and researchers continued to collect information on stops and wildlife sightings on the park road in 2009. Researchers analyzed data on wildlife sightings and numbers of vehicles at wildlife stops, rest areas, and within viewscapes; these data will help to inform indicators and set standards for the Vehicle Management Plan. A final report on these findings is being prepared. Field work on the dust study concluded and researchers are analyzing these data as well as sound data collected along the road corridor to inform the Vehicle Management plan.

Off-Road Vehicle (ORV) Impacts

Park staff used mapping-grade GPS to remap nearly 15.5 linear miles (25 linear km) of tracks made by ORVs in the new park additions near Cantwell. Staff recorded information about 13 trail attributes for each section of trail, including trail type (main active, secondary inactive, etc.), trail width, number of parallel paths along the trail segment, degree of vegetation stripping on the trail, depth of trail compared to adjacent areas, muddiness, and depth of damage to soil below the organic mat. The ORV tracks in this area were initially mapped in 2005. The NPS installed 12 magnetic trail counters to document the amount of use occurring within the park.

Bryophyte and Lichen Inventory

As part of a multi-year project (2007-2009) to compile an inventory of Denali's nonvascular plants (mosses, lichens, liverworts) and to summarize current knowledge of these organisms in the park, botany staff continued to identify and catalog collected specimens. Several taxa represent important range extensions and globally uncommon species status.

A species new to science, tentatively called *Parmelina borealis*, may have been discovered. Work in classifying this species, including genetic investigations, is occurring at Oregon State University, and a manuscript describing the species is in preparation.

- Boreal Felt Lichen (*Erioderma pedicellatum*) – Currently listed as Critically Endangered on the IUCN Red List of Threatened Species. This lichen was documented in the park in 2007. Additional locales in the park and Denali State Park were documented in 2008. Previously it was known only from a very narrow range of sites in boreal eastern Canada and northern Europe.
- Waterfan Lichen (*Peltigera hydrothyria*) – This lichen grows completely submerged in mountain streams. It is considered rare throughout its range in western North America.
- Methuselah's Beard Lichen (*Usnea longissima*) – An extremely pollution-sensitive species, this lichen is considered threatened or extirpated throughout much of its circumboreal range, partly due to deteriorating air quality.

Fire Management

A total of 8 wildfires burned 43,910 acres of land in Denali during the 2009 fire season. One of these wildfires was human caused and was suppressed at 5.1 acres. Seven fires were lightning caused, two of which started outside of the park and burned onto NPS lands. Fire Management accomplished several hazard fuels treatment projects and prescribed fires (i.e. pile burns) at backcountry sites. Hazard fuels were treated around structures in the headquarters area to maintain defensible space in case of a wildfire. Several large piles, consisting of debris accumulated during frontcountry hazard fuel treatment projects or roadside brush maintenance, were burned at various locations along the park road.

Overview of Bird Monitoring Programs in Denali

Some of the longer-term monitoring efforts for birds in Alaska occur in Denali. The park currently monitors trends in the relative abundance and distribution of Trumpeter Swans (in cooperation with the U.S. Fish and Wildlife Service), Golden Eagles, Gyrfalcons, and a suite of songbirds. The long-term monitoring studies for Golden Eagles and songbirds are supported by the Central Alaska Monitoring Network's Vital Signs Program. The Golden Eagle monitoring program started in 1987 and focuses on identifying trends in the occupancy of nesting areas and reproductive success of Golden Eagles. Denali is home to one of the largest nesting populations of Golden Eagles in North America, and this program is currently the only long-term monitoring program for this species in the high latitudes of northwestern North America. Results of this project have been published

in many scientific journals and have provided new and exciting information on the ecology of migratory Golden Eagles. The monitoring program for songbirds is testing new field and analytical techniques for developing more accurate estimates of relative abundance. These methods will be applicable in other areas in Alaska. A new bird study in the wetlands west of the Kantishna Hills will be implemented in 2010 to provide a benchmark against which to measure changes in the relative abundance and distribution of birds nesting in boreal forest wetlands in relation to climate change.

Bear Management

Between May 15, 2009 and September 10, 2009, 98 bear-human interactions were documented on Bear-Human Information Management System forms (BHIMS). These were classified as one observation, 88 encounters, eight incidents, and one control action. The total of 98 BHIMS this year marks a 9% increase from the previous year's total of 90. Of those interactions rated as encounters, 35 occurred in the frontcountry and 52 occurred in the backcountry. Of the eight interactions classified as incidents this season, three occurred in the frontcountry while the other eight occurred in backcountry.

Wolf Monitoring

The current study consists of maintaining one to three radio-collared wolves in each known pack inhabiting the park north of the Alaska Range. In April 2009, 25 wolves in 17 packs in and around Denali wore conventional, VHF radio collars that are located from an antennae-equipped airplane. Another eight wolves carried GPS collars that determine the animal's location once per day, store the data, and upload it through the ARGOS satellite system.

In April 2009, there were approximately 65 wolves in the 16 packs being monitored by park biologists. The estimated density of wolves is about 3.9 wolves per 1000 square kilometers, the lowest wolf density estimate in Denali since 1987.

Biologists captured and radio-collared 24 wolves during winter 2008-2009. Two of those, both from the Mount Margaret Pack, appeared to have hair loss caused by lice infestation. Wolves from several areas on the edges of the park have been found with hair loss and other coat problems in recent years. The Alaska Department of Fish and Game has diagnosed lice in wolves from the Tonzona and Toklat river areas near the park.

Between April 2008 and March 2009, ten collared wolves died of natural causes and five were killed by humans. Two non-collared wolves were killed by vehicles on the Parks Highway, in or near the park, in early winter 2008-2009. One was the mate of the wolf from which a snare had been removed in May 2008.

Caribou Research

The Denali Caribou Herd has been the focus of continuous research since 1984. A sample of 50-60 radio-collared females representative of the herd's age structure has been maintained since 1987. This age-structured sample is the only one of its kind ever attempted in a wildlife population.

During the fall composition survey of the Denali Caribou Herd, 23 calves per 100 cows were observed, along with 36 bulls per 100 cows. The survey produced a tentative herd size estimate of 2080 caribou, a number that has changed very little in recent years.

Moose Survey

The 10,004 km² (3862 mi²) area was surveyed from November 3-25, 2008. A total of 830 moose were observed during the aerial survey and estimated (\pm 90% confidence interval [CI]) 1279 \pm 135 moose for the entire survey area. The overall density was 0.13 moose/km² (.33 moose/ mi²). The calf:bull:cow ratio was 24:54:100. It was estimated that 77% of cows were without calves, 22% of cows had one calf, and 1% of cows had two calves present.

The number of moose in two areas south of the Alaska Range was also estimated. The Cantwell area of 1085 km² (419 mi²) was surveyed from November 6-10, 2008. Observers saw 255 moose during the aerial survey, which is the actual count since all units were surveyed. Overall density was 0.24 moose/km² (0.61 moose/ mi²). The calf:bull:cow ratio was 28:40:100. It was estimated that 73% of cows were without calves, 26% of cows had one calf, and 1% of cows had two calves present.

The Yentna area is 1885 km² (728 mi²) and was surveyed from October 29-31, 2008. Staff observed 50 moose during the aerial survey and estimated (\pm 90% confidence interval [CI]) 117 \pm 59 moose for the Yentna survey area. Overall density was 0.06 moose/km² (.16 moose/ mi²). The calf:bull:cow ratio was 18:57:100. It was estimated that 82% of cows were without calves, 18% of cows had one calf, and 0% of cows had two calves present.

Dall's Sheep Survey

In 2008-2009, park staff conducted aerial and ground-based Dall's sheep surveys using census techniques and survey units traditionally used to estimate abundance of sheep in Denali. Poor weather conditions in both years prevented a complete aerial census of all 17 survey units in the eastern portion of the park. Observers saw 1,724 sheep in the 15 units completely surveyed over the two years. Ground-based counts classified 177 sheep in 2008 and 136 sheep in 2009. Productivity from these counts was estimated as a ratio of 40 lambs per ewe in 2008 and 38.6 lambs per ewe in 2009. While comparisons with past survey results should be made with caution, results of the 2008-2009 survey suggest that sheep numbers within the traditional units east of the Muldrow Glacier have not changed significantly since the mid-1990's. Biologists recommend that park managers develop a survey methodology for Dall's sheep in the eastern portion of the park that can be more feasibly completed within a reasonable time frame and that provides more accurate estimates of sheep abundance that can be compared across years.

Small Mammals –Student Outreach

The third year (2009) of the Central Alaska Network's small-mammal monitoring outreach program recruited three high-school students from Fairbanks to join the small mammal monitoring project in Denali. NPS staff visited six science classes to provide information and application materials for assisting with the small mammal monitoring program. The 2009 outreach effort additionally yielded one graduate student and one

NPS administrative member as volunteers. Volunteers participated in seven days of scientific field work in a rigorous outdoor setting on the Rock Creek legacy plots. Training on small mammal identification, trapping, and tagging techniques was provided prior to the field research. The volunteers worked side-by-side with biologists and gained hands-on experience handling and trapping small mammals. In addition, volunteers collected data on hand-held computers and practiced backcountry/bear safety skills and leave-no-trace camping techniques.

Climate Monitoring

The climate monitoring sites around Denali operated continuously throughout the year. The stations record air temperature, relative humidity, precipitation, wind speed and direction, snow depth, and solar radiation. All data are available on the web at <http://wrcc.dri.edu/NPS>.

A few climate highlights from 2009:

- The Pacific Decadal Oscillation, an index of sea surface temperatures in the north Pacific, remained in a negative phase for 23 consecutive months ending in August 2009, the longest continuous run since the last negative phase in 1976. Mean monthly temperatures for the CAKN region correlate well with this index; during this time period, there were few months where the mean monthly temperature throughout the region was above normal. May and July of 2009 were the exception with average temperatures throughout interior Alaska above normal by ~ 3-4°F, respectively.
- The eruption of Mt. Redoubt in March in south central Alaska could potentially affect temperatures throughout the Alaska region this year. The eruption was characterized by powerful ash explosions with plumes extending 30,000 to 60,000 feet above sea level. There were eleven major explosive events during the first week, and a total of 19 events over the two week period in March and early April.
- The snowpack for the interior was slow to develop for the 2008-2009 season, but neared normal conditions in mid January. A few significant snowfalls occurred later in the season which resulted in above normal snow depth and snow water equivalent for many of the sites in the CAKN region. However, much of interior Alaska experienced an accelerated snowmelt the last few days of April 2009 due to the ash fall from Mt. Redoubt and record breaking high temperatures.

Weather Notes for 2009

- The mean annual temperature was 3° F below normal—the coldest year since 1999.
- The mean monthly temperatures were colder than normal for each month except March.
- It was the fourth snowiest April on record with 21.4 inches of total snowfall.
- July was wet; there were 2 inches more rain than normal.
- Maximum temperature: 79° F on July 5
- Minimum temperature: -37°F on February 10
- Mean annual air temperature: 24.6°F (colder than the historical average of 27.2°F)

- Total Precipitation: 16.56 inches
- Departure from Normal: +1.53 inches
- Max. 24 hr. precipitation: 1.20 inches on August 1
- Total Snowfall: 63.4 inches from July 1 to June 30
- Departure from normal: -34.3 inches
- Maximum 24 hr. snowfall: 6.7 inches on April 14

Glacier Waste Monitoring

An agreement was developed with Alaska Pacific University research Dr. Michael Loso to assess effects of human waste management practices on Mt McKinley. The three-year project will assess the biological risk to backcountry visitors and related glacier dynamics in order to inform mountain waste management practices. During 2009, an APU student established the surface movement field in the area of the Kahiltna base camp and a chemistry graduate student was recruited and began a detailed study design.

Toklat River Dynamics and Gravel Acquisition

The Denali Gravel Acquisition Plan authorizes gravel to be removed from the Toklat River Plain in order to support maintenance needs of the Denali Park Road. In 2008, approximately 20,000 cubic yards of gravel were removed from the Toklat River Plain by a “mirror channel method” whereby channels mirroring existing braids were cut. The method allows for minimum impact on the river system while providing a long-term sustainable gravel yield, without the need to transport gravel much longer distances if it were acquired from outside the park.

Park staff is monitoring floodplain dynamics, and in 2009-2011 will complete a comprehensive analysis of the Toklat River system assessing cumulative impacts from bank reinforcement along the Toklat access road, from the existing bridge lengths and causeway, and from gravel extraction. In 2009, a high-precision digital elevation model of the floodplain and high-resolution aerial photographs were acquired. Additionally, a re-survey of the long-term cross sections used to monitor river dynamics was completed.

Long-term Stream monitoring

The Central Alaska Network (CAKN) long-term stream monitoring program began collecting data from Denali streams in 2007, and by the end of this year’s field season has sampled 25 unique sites, most along the park road. Many of the sites have been sampled annually since 1994, originally as part of the Denali LTEM program. The program collects a variety of data for monitoring, including aquatic insects, diatoms, fish, water chemistry and geomorphology data. Data loggers collect continuous water temperature data in a number of streams along the park road. These data, along with data derived from remotely sensed imagery, will be used to monitor status and trends in indicators of the condition of Denali streams and river ecosystems, including water quality, biodiversity and channel morphology.

Through 2009, the CAKN program has documented the presence of 278 unique diatom species in Denali streams, a number which has grown substantially each year (127 in 2007, 226 in 2008, 278 in 2009). A previously undescribed diatom species was collected

in 2008 and 2009 from a number of streams, and efforts are underway to formally describe and document this species. In general, diatom richness is significantly higher than aquatic insect richness in Alaskan streams, a pattern that holds in Denali. Observed diatom species richness in Denali streams varies from 18 species (East Fork Toklat River) to 78 species (spring stream on McKinley Bar).

Sampling for fish took place in 21 streams, with fish successfully captured at 13 sites. Two results are of potential importance. First, the capture of juvenile Chinook salmon at the Moose Creek site constitutes a substantial expansion of its known range in the drainage (some 40 km upstream of its previously documented extent). Second, the high concentrations of juvenile Arctic grayling observed in the spring-fed creeks along the McKinley Bar trail (the only places in the park we observed large numbers of juveniles) suggests that these sites may be important rearing areas.

Water Quality in Kantishna Streams

U.S. Geological Survey researcher Tim Brabets is doing a comprehensive water quality analysis of previously mined streams in Kantishna to establish a baseline of water quality conditions. Most of the fifteen monitoring sites are located on streams that have been mined with the exception of Rock Creek, which serves as a control or reference site. A wide range of water quality and biology constituents such as pH, suspended sediment, trace elements, and macroinvertebrates are being collected to provide a complete “picture” of water quality of these streams. The study will evaluate whether streams show a degraded condition, and will provide a foundation from which any successes of the overall mine reclamation program can be monitored.



Early results indicate dissolved oxygen and pH are within normal limits at all sampling times. Low concentrations of suspended sediment and turbidity found in samples may indicate that some streams may have naturally recovered as new vegetation has taken place. To monitor the restoration of Glen Creek that took place in 2009, three sites on Glen Creek downstream of the reclamation have been instrumented to continuously record turbidity – a measure of suspended sediment.

Water samples have been analyzed for 23 trace elements. Most concentrations of these elements are less than published EPA guidelines for drinking water. However, antimony concentrations in Slate Creek, Eldorado Creek, and Eureka Creek, exceeded the EPA drinking water guideline of six micrograms per liter. Concentrations of arsenic and lead were elevated at these sites but did not exceed the drinking water guidelines. Rock Creek and the two Moose Creek sites show the lowest concentrations of these two elements.

Mining in the Kantishna Hills has increased metal concentrations in streambed sediments. Samples for trace elements were taken at 14 sites. The probable effect level (PEL) at which arsenic exposure would cause adverse effects to aquatic life is 17.0 milligrams per kilogram dry weight. The concentration of arsenic for Slate Creek was 3,900 milligrams per kilogram while the Moose Creek and Rock Creek sites were only slightly over the PEL limit.

Macroinvertebrates were collected at seven sites. The mayflies (Ephemeroptera), stoneflies (Plecoptera), and caddisflies (Trichoptera), referred to as EPT taxa, are taxa that tolerate good water quality conditions. Not surprisingly, the site on Caribou Creek farthest downstream from mining effects and Rock Creek, the control site, had the highest numbers of EPT. The number of individual taxa (RICH), indicating biological diversity, was also highest at these two sites. The mined sites had lower numbers of EPT and RICH with Slate Creek having the lowest number.

Air Quality Monitoring

Airborne contaminants were monitored continuously throughout the year in Denali as part of the NPS Air Resources Division (ARD) air quality monitoring program. The data capture rate was high, as was data quality, and all recommended quality assurance measures were followed according to network monitoring protocols. In an ARD assessment of nationwide air quality conditions and trends from 2003 through 2007, Denali results were positive. For all parameters (visibility, ozone, and deposition of sulfur and nitrogen compounds), conditions were rated in the “good” category, and all trends were stable.

Healy Power Plant

In January 2009, Golden Valley Electric Association announced its intention to restart the coal-fired Healy Unit #2 power plant located 3.8 miles from the park boundary. The plant has been in idle status since 1999, when it shut down immediately upon completion of post-construction demonstration and testing. Concurrent with review of the proposed restart, the Title V operating permit for Unit #2 and the adjacent Unit #1 was in the permit renewal process in 2009. A proposed renewal permit was submitted by the Alaska Department of Environmental Conservation (ADEC) for public comment in October. Denali staff worked with NPS Air Resources Division (ARD) staff to review and comment on the draft permit.

In May 2009, ADEC released a preliminary Best Available Retrofit Technology (BART) determination for the Healy Unit #1 power plant. ADEC proposed the addition of a selective catalytic reduction (SCR) system to reduce nitrogen oxide emissions, and proposed lower short-term emission limits for particulate matter, sulfur dioxide, and nitrogen oxides.

Soundscape Monitoring

In 2009, park staff deployed, maintained, and removed a network of monitoring stations which collected more than 5000 hours of acoustic data in ten locations. Working with developers at the NPS Natural Sounds Office, a software data analysis package was created for processing and compiling Denali's acoustic data in a way that addresses the Backcountry Management Plan indicators and standards. Using this new software, technicians analyzed a backlog of acoustic data for 2006, 2007 and 2008, generating high-quality data summaries. Staff also completed a comparative analysis of audibility detection methods, yielding a more defensible data analysis workflow for Denali's acoustic monitoring.

Denali's Sound Program has been working intensely to collect and interpret acoustic data so that the Denali Overflights Advisory Council can make recommendations based on good science. The Council was established in 2007 to advise the Superintendent, through the Secretary of the Interior, on mitigation of impacts from aircraft overflights at Denali National Park and Preserve. The Council will develop voluntary measures for assuring the safety of passengers, pilots, and mountaineers and for achieving desired future resource conditions at Denali.

Social Science Program

The park hired a term Social Scientist, Andrew Ackerman, in late September to work on improving data collection and reporting about park visitation, as well as other emerging social science initiatives. Progress has been made in gathering existing data, including collections methods and how the data is stored, from the divisions involved in currently collecting visitor data. Communications have been improved with the NPS Public Use Statistics Office. An analysis of existing park reporting formulas indicates a need for a major revision to more accurately account for park use. Additionally, a variety of visitor data collection tools are being assessed and pilot-tested in the field. For example, a Trafx trail counter has been placed at the winter gate on the park road. The installation of additional non-intrusive infrared and electromagnetic counters is planned for commonly used winter trails and airstrips as well as re-establishing road traffic counts near the entrance to the park road.

Several collaborations are in progress or were initiated in 2009:

- Economic Impact Modeling (with Dr. Dan Stynes): to develop a more detailed, Denali-specific model and report of economic benefits of the park to the local economy.
- Backcountry User Survey (with Dr. Peter Fix): to better understand day and overnight hiker characteristics, use patterns, and preferences in direct support of the 2006 Backcountry Management Plan.
- NPS Socio-Economic Modeling (SEM) (with the NPS Social Sciences Program): to establish park-specific and region-wide indicators to track social and economic trends in and around the park.
- Models of future visitor use patterns (with Dr. Randy Gimblett): to develop predictive models for future visitor patterns in a highly-dispersed environs like Denali

- Noise-preference norms (with the Soundscape program): to study backcountry visitor perceptions of mechanized noise. The study will develop noise preference norms for various groups that use the backcountry.

CULTURAL RESOURCES AND SUBSISTENCE

Archaeology Program

A four-year archaeology survey project concluded in 2009. A crew of four archaeologists spent the month of June in the backcountry near the Swift Fork of the Kuskokwim surveying and testing one prehistoric site. Condition assessments on 23 previously recorded sites were completed on sites near the park road. A final report by Brian Wygal is due to the park in early 2010. More than 16,000 acres of the park received intensive archeological survey during this project, which resulted in the documentation of 30 previously unrecorded sites.

Through a CESU agreement and an MSLC fellowship, the Teklanika West archaeological site was re-investigated in the summer of 2009 with University Alaska Fairbanks (UAF) Anthropology Department staff, graduate students, and fourteen volunteers. This project was conducted in order to determine the extent, age, and cultural activities at the site in order to update the National Register of Historic Places nomination, and develop a long-term management plan for the Teklanika Archaeological District. The project was incorporated into the NPS Alaska Region Archaeology Mentorship Program organized by regional archaeologist Becky Saleeby. The three students involved with the excavation included two Alaska Native high school students from Anchorage and one high school student from Russia.

Additional public outreach included doing presentations and a walking tour of the Teklanika West archaeological site in July. Visitors to the site included a group of Alaska Native high school students from Anchorage. In addition, a film crew with the National Geographic Channel filmed two archaeology fieldwork projects for an upcoming television show entitled "Surviving Prehistoric Alaska".

Through a partnership with the University of Colorado, Institute of Arctic and Alpine Research (INSTAAR) and collaboration with the University of New Mexico, an archaeological survey of alpine ice-patches was conducted in mid August. Prehistoric artifacts and other organic material have been exposed at these locations in many places in North America, including Alaska and the Yukon. No artifacts were located in the park, but inclement weather allowed the survey crew to access only six ice-patch locations. The survey did establish baseline data involving current ice-patch locations, size, and associated faunal remains.

A Determination of Eligibility for the Denali Park Road was completed in 2009, and it has been officially determined eligible for listing on the National Register of Historic Places. The Alaska State Historic Preservation Officer concurred with this determination.

Historical Research and Outreach

Cultural staff facilitated the collection of historic photographs, documents, and data from private sources. One previously unknown historic structure was investigated and documented. Jane Bryant is working on a guide to park history sites visible from the Denali Park Road, which will be completed in 2010. Historic photographs and interpretive text will illustrate the themes of park history, including transportation, tourism, park administration, mining and significant place names.

Museum Collections

Flexible park base funding for a Museum Standards project through the Centennial Challenge Initiative allowed the museum curator to facilitate a collections survey and assessment of paper material by a paper conservator and a review of all archival holdings. Research for a Museum Collections Emergency Operations Plan, which will outline the special needs of museum objects and records in emergency situations, was also begun. Finally, the collections vault was completely reorganized with the installation of new museum storage cabinets and 4-post shelf units. This has increased object/specimen storage by 40% and archival storage by 300%.

Federal Registration Hunts

Denali staff managed the Federal Registration Permits for subsistence hunting of moose and caribou on park lands in Wildlife Management Unit 13E near Cantwell, and moose hunts on preserve lands in Unit 16B. A total of 66 caribou permits and 32 moose permits were issued for Units 13E, and seven moose permits were issued in Skwentna for Unit 16B. Permit applications were advanced to the U.S. Fish and Wildlife Service. Park staff updated and revised the Kantishna Hunting Guidelines and ensured that enforcement of regulations were consistent with information given to subsistence users utilizing the park road.

Subsistence Projects

Managing Timber Resources in the Windy Creek Area:

Sanders Forestry Consulting based in Sutton, Alaska was contracted by the Alaska Regional Office and the park to conduct a timber inventory of forest stands within designated ANILCA additions in the Windy Creek Area. Results from this inventory will be used by Denali to develop a forest management program for subsistence use of timber products in the Windy Creek Area. Information to be provided includes: a statistically based field timber cruise, timber cruise report and associated GIS maps and data files.

Monitor Subsistence Fisheries in the Northwest Portion of Park:

No monitoring programs have taken place to examine status and trends in beaver activity or lake surface area dynamics in the northwest portion of the park and preserve. The goal of this two-year project is to fill in the gaps in knowledge about fish distribution and abundance, beaver dam density, and lake surface area dynamics using a combination of traditional ecological knowledge, aerial surveys, remote sensing, and fish sampling. Most objectives for the 2009 season were met, but gillnet fish sampling has been delayed until 2010.

In July 2009, Denali staff flew to Nikolai to visit a family fish camp on the Blackwater River to collect traditional knowledge about historical fish locations and populations from local subsistence fishers and to film an interview with an extended family about their subsistence fishing activities. The final film project was shown to the Nikolai community during a NPS-sponsored picnic attended by 76 adults and children.

Eight interviews with local residents were recorded on video, identifying spatial and temporal trends in subsistence fish harvesting, beaver activity in fish-bearing lakes, and extensive aerial photographs of eight lakes. Future work will include examining mosaics, identifying beaver dams, and rectifying current aerial photos to recent satellite imagery (already collected by USGS) to see if the features can be identified. The next phase will compare these satellite images to older images (1980's) and try to quantify both lake surface area change and changes in beaver dam density.

Documenting Traplines and Associated Activities:

In 2009 Denali received funding from NRAC to conduct mapping and ethnographic fieldwork in the park, which would provide information for trapline management plans. In February 2009 park staff organized a potluck/community meeting in Lake Minchumina to introduce the project to the community. The meeting was well attended by local trappers, who provided input into the project design. This season's work produced a GIS map inventorying the historic trapline trails, information on the species trapped and approximate numbers of animals harvested, and data based on associated trapline activities derived from interviews and archival research.

Subsistence Resource Commission

Two Subsistence Resource Commission (SRC) meetings took place in 2009. The spring meeting was held on April 30th at the Denali Dome Home in Healy. Meeting highlights included an update and discussion on the Cantwell ORV regulations; Horn, Antlers, Bones and Plants Subsistence Use permit; criteria for qualifying for a 13.440 subsistence use permit and the new wildlife regulatory timeline for federal subsistence board actions. The second SRC meeting was held on November 4th at the Murie Science and Learning Center in the park. At that meeting the SRC discussed the upcoming Federal Subsistence Program review, SRC vacancies, and Federal subsistence proposals and upcoming projects.

The Denali SRC submitted three wildlife proposals to the Federal Subsistence Board. The first was to reduce the harvest of wolves in Kantishna (Game Management Unit 13) from ten wolves to one wolf from August 10-April 30, and to five wolves from November 1-April 30. The second proposal was to add a hunting season for 25 muskrat for the park for the period November 1-June 10. The last proposal was to request an individual customary and traditional use determination for a resident currently living in Game Management Unit 20A to hunt moose in Game Management Unit 13E.

RESOURCE AND VISITOR PROTECTION

North District

Personnel

Bob Sloop transferred to Shenandoah National Park in October, and Wonder Lake Ranger Jeff Caulfield resigned from the Service for personal reasons in March. Michael O'Connor left the Service for a position with the Department of Commerce in July. Kennels Manager Karen Fortier resigned from the Service for family reasons in August. Cody Cole accepted a transfer from Zion National Park to be duty stationed as the Wonder Lake Area Ranger. Carmen Adamyk received a temporary promotion as acting Kennels Manager and continues in that role. Richard Moore received a promotion to the GS-12 grade level. A new GS-11 Deputy District Ranger position was established though it remains unfilled pending recruitment. Ranger Rick Gupman, from Jean Lafitte NHP in Louisiana, was detailed for much of the summer for patrol coverage.

Significant Incidents

May

- A concessions employee was found deceased on the floor of his room at the Northern Lights dorm of apparent alcohol poisoning.
- A 76-year-old male died of an apparent heart attack at the railroad depot.

June

- A park ambulance responded to a 69-year-old male not breathing at the Princess Lodge parking lot pursuant to a mutual aid-request from Tri –Valley who were on another call. Rangers performed advanced life support and transported him to the Canyon Clinic but he died on the way to the Healy Airstrip for evacuation.
- A 19-year-old Princess employee became lost on a descent from Mt. Healy. He was located and evacuated by aircraft after an overnight search.

July

- A 23-year-old female suffered a broken ankle in Gorge Creek below Eielson VC and required a technical evacuation.
- A 59-year-old male died of an apparent heart attack aboard a DNHT bus at the Savage Cabin.
- A 88-year-old woman collapsed at the Toklat Visitor Tent of apparent medical problems and required an air evacuation to Anchorage. She later died at the hospital.

August

- A 19-year-old Princess employee and his companion became lost returning from a hike to the ‘famous’ bus on the Stampede Trail. Park staff assisted AST in locating him. This was the second time this summer he had required rescue.
- Two female visitors from Israel became lost in the Riley Creek drainage and were located by ground searchers in the darkness after approximately four hours.

September

- A 48-year-old male died of an apparent heart attack on a ranger-led Discovery Hike in the backcountry near Igloo Creek on the Teklanika River.
- The park received a request from AST to evacuate a 48-year-old hunter on the Rex Trail who had been involved in an ATV accident and was suffering serious chest injuries. The park helicopter evacuated him to Fairbanks.

Wilderness Protection

A project to map ORV trails in and around the park was completed, which identified several new trails immediately adjacent to the park boundary, as well as recent incursions into the park. This information will be used to guide ranger patrol efforts and boundary marking to prevent future violations. An official BLM resurvey of the north boundary of the Denali Wilderness was conducted, which will improve information provided to the public and the park's ability to protect park resources.

Field work was completed this year for a cooperative project with Dr. Jeffrey Marion of Virginia Technologic Institute to develop procedures for mapping social trails in the backcountry. Backcountry staff also continued to collect data on the occurrence of other human recreational impacts in the backcountry such as campsite formation and litter. Both of these projects address indicators and standards established in the park's Backcountry Management Plan for monitoring the condition of the wilderness resource. This information is being incorporated into the park's GIS database. A handbook for collecting and organizing ranger field observation data using GPS and GIS was developed in conjunction with the Alaska Regional Office GIS staff to facilitate this work.

Significant progress was made on an inventory of modern man-made items in the wilderness. It includes everything from facilities to markers on research plots. The location of these items will be incorporated into the park GIS database in 2010 to help monitor incremental changes in development over time. This project work will supplement continued progress in planning and compliance to make certain all projects in wilderness meet the minimum requirement standards established by policy. A request for ANILCA Title 11 access across the national park to an adjacent private property was evaluated to determine if there were other access routes available to the landowner, or if the property was "effectively surrounded" by the park. This evaluation is the most significant one of its type that to be conducted in the Alaska region and may set important precedents.

A major project to clean up construction debris that had washed downstream from the park road along Stony Creek and the Toklat Rivers was completed. Several thousand pounds of material that had been consolidated by volunteer work crews was removed by three kennels staff and the park dog teams during the winter of 2009.



Kennels staff Emily Iacobucci and Jessica Toubman with one of the sled dog teams hauling debris at Toklat

Road Lottery

An on-line entry system (through www.pay.gov) was initiated for the Denali Park Road Lottery, which this year took place September 18-21. This dramatically increased the number of entries for the 1600 slots. The park received 10,061 requests, with the majority, 7,536, done via the website. Entry numbers had been just slightly over 8,000 for the two previous years. Good weather contributed to the park road being open for its entire length all four days, allowing the occupants of 1,383 vehicles to enjoy this special experience.

South District

Mountaineering rangers and volunteers based in Talkeetna responded to seventeen major search and rescue operations during the 2009 season, including providing mutual aid to the Alaska State Troopers during a Talkeetna-based river search. Other incidents included a high profile search for a lost climber, a fatal fall involving two former Denali Pro Award winners, and a cardiac fatality. The South District staff honed their skills at high resolution photographic analysis, resulting in the successful resolution of a 2008 search for two missing Japanese climbers on Mt. McKinley. With a more advanced digital camera and a more powerful lens, the remains of the two climbers were readily brought into focus; a direct helicopter flight to the site confirmed the findings. These new resources should enable more efficient and safer searching as well as reduce flight costs in future years. Other less intensive incidents involved minor trauma, emotional instability, and cardiac irregularities.

A record number of 47 mountaineering volunteers contributed 10,800 hours in providing park visitors with resource information, climbing advice, and medical care. Two of the

volunteers also assisted with the translation of the park's current mountaineering guidance into Russian and Polish. Four military personnel served on NPS mountaineering patrols, as did a climbing and law enforcement ranger on a detail assignment from Grand Canyon National Park. In what is hoped to be the first of many such educational exchanges, PhuNuru Sherpa, who is a member of the Mt. Everest mountain climbing community, a guide with International Mountain Guides, and an instructor with the Khumbu Climbing School, served on a 30-day Denali mountaineering patrol before going to Mt. Rainier National Park for additional training. The U.S. Army Chinook helicopter crew from Ft. Wainwright assisted the NPS with both insertion and removal of camp equipment from the Alaska Range, and flew several high altitude sorties during the aforementioned search for a missing climber.

Two substantive changes in South District mountaineering operations transpired during the 2009 climbing season. Following the retirement of longtime district ranger Daryl Miller, mountain operations were ably supervised by Acting District Ranger John Leonard, who was ultimately hired into that position in September 2009. As Acting District Ranger, Leonard successfully orchestrated and supported the transition from the Lama helicopter to a new high altitude B3 helicopter. With the assistance of Helicopter Manager Dave Kreutzer, who left Denali at the end of this year's mountaineering season to take a permanent position in Yellowstone, the B3 and its pilot crew executed a safe and accident-free aviation season. The new ship and pilot performed well above expected levels and proved highly effective in several lower altitude flight missions for the park.

Communications Center

The numbers used for the 2009 season are reported as Year-To-Date. All other years are final tallies for the calendar year.

The center routed 17,102 phone calls and logged over 28,415 entries in the computer aided dispatch program so far this year. Of those, 1,940 were calls for service which is up 40.6% so far from 2008. Examples of the types of calls received include assistance calls, medical emergencies, traffic complaints, wildlife incidents, and motor vehicle accidents. The center processed over 506 Case Incident Reports and filed 125 violation notices with the Central Violations Bureau. Over 2,687 flight hours were monitored so far this year, which is down 9.1% from 2008.

| Stats Snapsh t | 2007 | 2008 | 2009 (YTD) | |
|------------------------|--------------|---------------|-------------------|-------------|
| Switchboard Calls | ▼3.9% 19,778 | ▼7.3% 18,334 | ▼6.7% 17,102 | |
| Log Entries | ▲6.3% 29,384 | ▼12.8% 25,602 | ▲10.9% 28,415 | |
| Calls for Service | ▲35.7% 1,634 | ▼15.6% 1,379 | ▲40.6% 1,940 | |
| Reports Processed | ▲2.9% 561 | ▲0.5% 564 | ▼10.2% 506 | |
| Citations Processed | ▼6.1% 183 | ▼10.3% 164 | ▼23.7% 125 | |
| Flight Hours Monitored | ▲19% 2,757 | ▲7.2% 2,958 | ▼9.1% 2,687 | |
| | | | | |
| Stats Snapsh t | 2003 | 2004 | 2005 | 2006 |
| Switchboard Calls | ** | 16,973 | ▲13.4% 19,240 | ▲7% 20,589 |

| | | | | | | | |
|------------------------|--------|--------|--------|--------|--------|---------|--------|
| Log Entries | 17,235 | ▼8.5% | 15,760 | ▲33.4% | 21,032 | ▲31.4% | 27,634 |
| Calls for Service | 887 | ▲19% | 1,056 | ▲12.2% | 1,185 | ▲1.6% | 1,204 |
| Reports Processed | 249 | ▲5.2% | 262 | ▲38.5% | 363 | ▲50.1% | 545 |
| Citations Processed | 79 | ▼34.1% | 52 | ▲59.6% | 83 | ▲134.9% | 195 |
| Flight Hours Monitored | | | | | | | 2,316 |

The CommCenter staff includes permanents Ron Adams and Lynn McAloon, who came on board in 2008, and three seasonals hired for the summer. The center flight followed for Denali aircraft, and WEAR, GAAR, and YUCH flights. The center also provided flight following in other park areas for the Regional Office radio technicians and for NPS aircraft going on fire assignments outside of the parks. Float plans for patrols in KEFJ were also monitored by the center.

The APSIN/NCIC (Alaska Public Safety Information Network/National Crime Information Center) terminal was expanded so that dispatchers could receive direct, statewide, and nationwide bulletins, which provide information that may pertain to homeland security or officer safety. The center also expanded its investigative assistance capabilities with additional staff now authorized for access on the ALEISS and LInX Northwest systems. The center has the capability to query U.S. Coast Guard document numbers as well as vessel numbers, which will provide better assistance to the region’s law enforcement staff during contacts and investigations.

INTERPRETATION

Denali Visitor Center

The DVC was open 8 a.m.-6 p.m. from May 15 - September 22, 2009. Approximately 161,217 visitors spent time there, which was a decrease of 88,215 visitors over 2008—indicative that tourism is down throughout Alaska. Roaming the center or asking questions at the front desk, visitors had the opportunity to interact with visitor use assistants, Student Conservation Association interns and interpreters.

Eielson Visitor Center

The Eielson Visitor Center (EVC) continues to be the hub of visitor activity in the West District. Dates of operation: June 1 - September 21. Over 81,827 visitors came to the center. Daily staffing consisted of two morning and two evening shifts between the hours of 9 a.m. - 7 p.m. A new real time energy display exhibit was installed which illustrates production of power by the solar, hydroelectric and propane systems. Visitors dropped \$1,425 in the donation box.

Murie Science and Learning Center

The MSLC is a year-round facility whose front-line operation is divided between NPS VUA/VIP in the winter and MSLC Alaska Geographic staff in the summer, with a total annual visitation of 18,158. New exhibits include a “kids’ cabinet” to entertain younger audiences so their parents can enjoy the other exhibits and teach their kids about Denali, an online kiosk with internet filters, and a display focused on birds during the summer.

The facility was recently rewired for a new multimedia audio-visual system which includes videoconferencing, SMARTBoard, and audio-visual needs in a manner that makes the two MSLC classrooms easier to use for both internal needs and future distance learning educational programs.

From late-September to mid-May, the MSLC serves as the **Winter Visitor Center**. The building is open seven days a week from 9 a.m. – 4 p.m., but closed holidays. A total of 4,431 visitors stopped to visit with the winter staff, which included one Visitor Use Assistant, one Information Assistant, and four volunteers. In February and March, park staff offered weekend snowshoe hikes to 17 visitors with hikes ranging from 3-9 visitors.

Toklat River Contact Station

Over 174, 816 visitors passed through the Toklat rest area, a majority of them visiting the Contact Station to view exhibits, purchase items from the Alaska Geographic sales area or to talk with the ranger on duty. The Contact Station was open May 22 - September 21, 9 a.m. - 7 p.m. It was staffed daily by one NPS interpreter and one Alaska Geographic sales associate.

Talkeetna Ranger Station

About 29,000 visitors stopped by the station this year, which is open year round to serve the needs of climbers as well as other visitors. From Memorial Day through Labor Day one education specialist, with the assistance of two visitor use assistants and periodic support from climbing ranger staff, provides a 1:00 p.m. daily program at the Talkeetna Historical Society Museum. On many evenings, a formal illustrated interpretive talk was offered in the great room of the ranger station at 6:00 p.m. The mountaineering exhibit talk consistently commands an audience of 6 to 60 visitors with the larger numbers occurring on inclement days. Illustrated evening program attendance in June and July is sporadic and sparse. Attendance increases in August to audiences of 6 or more.

East District Highlights

Interpretive staff continued to work with kennels staff to offer sled dog demonstrations, a perennial favorite. This year 42,741 visitors attended the programs, a decrease from the 2008 attendance of 44,089 visitors. This was one of the few programs for which we had a drop in audience numbers this year.

The park continued its successful partnership with Princess Tours in offering a morning theater program at the Denali Visitor Center that was open to all visitors. In 2009 this partnership idea was extended to Holland America for an afternoon theater program. Holland America supported the idea and staffing needed to do this program. The afternoon program was offered daily, two days more per week than last year, and was attended by 8,358 visitors, up from 5,500 in 2008.

With increased staffing of experienced GS-07 interpreters, 22 more Discovery Hikes were conducted in 2009 than in 2008, with 996 visitors enjoying the wilderness with a ranger as compared to 849 the previous season.

The Safety Ranger (formerly Student Ranger) program was expanded, as two NPS Park Guides were hired for eight weeks, and they both wore the gray and green. The 2008 Student Safety Ranger returned, expanding upon her past visitor education duties to perform more informal interpretation and some formal conducted activities. A Denali Borough high school student joined the staff as well, with an added focus on trail safety conditions along with the delivery of wildlife safety and day hiking preparedness messages. The Safety Rangers contacted nearly 5,000 visitors in the entrance and Savage River areas.

West District Highlights

West district offered the Alpine Hike in 2009. This 2 ½-hour ranger-led hike gains approximately 1000 feet in one mile and takes visitors to the spine of Thorofare Ridge. The hike takes place on a hardened trail, but passes into the Wilderness area: thus group size is limited to eleven visitors, plus the ranger. The program was offered 109 times and had 676 participants.

This was the third season of the Kantishna Experience, a program offered in partnerships with Doyon/ARAMARK Joint Venture. A bus departs the entrance area of the park with the driver providing narration to passengers. When the group reaches the Wonder Lake Ranger station, the ranger boards the bus to provide an indepth interpretive program of the Kantishna area. The KE received a total of 3312 visitors June 8 – September 15. When not working with KE groups, the rangers provided daily campground programs and interpretive roves in the Wonder Lake and Kantishna areas.

South District Highlights

This was an orientation year for the new education specialist. The time of the evening program was moved from 7 p.m. to 6 p.m. to make it more accessible to visitors and greater effort was put into providing program schedules and information to local venues and tour group operators. 2000 visitors attended 164 South District formal programs.

Media Intern

Working with regional volunteer award winner Kent Miller and Central Michigan University, the park hired a Media Intern through the Student Conservation Association. Neil Blake, a senior at CMU, spent about eight weeks in Denali producing hundreds of still photographs and several video projects for the park. He and Miller were asked to make a presentation to university officials and alumni in the fall about the budding partnership with Denali.



Neil Blake composing a shot – photo by Kent Miller

Park Brochure Re-Design

Denali hosted a site visit for three days in July by a writer, a designer and a cartographer from Harpers Ferry Center as they begin work on the first major revision of the park's "Unigrid" park brochure in more than 25 years. A first printing of the new brochure is likely to arrive in the park in spring 2011.

MSLC Field Seminars and Teacher Trainings

The MSLC offered 21 accredited seminars/trainings in 2009 and hosted 175 participants. Several new courses were offered this year including "Birds of the Upper Tanana/Carol McIntyre", "Turning Tundra: Plants & Animal Adaptations/Nan Eagleson", and "Subarctic Science & Sustainability/Kristen Friesen."

Running with the Pack—A family-focused program with Adventures by Disney

This new program introduced visitors to Denali and focused on wolf ecology and research. The program includes lunch service and a three-hour hike with more than four activity stations. For this inaugural year there were 11 programs with 262 participants. Disney and Premier Alaska Tours were quite pleased with the program and are eager to continue in 2010. Initial reviews list this as the top rated activity on the entire Alaska tour.

Denali Explorers Club—A Family-focused program for Princess Tours

This new program uses maps and exploration as a theme to learn about park science and the ecosystem. Traveling by van, the group made several stops in the first seventeen miles of the park road. This program was offered on 26 occasions, but because it was an 'optional activity' only 22 Princess guests registered for six programs.

Discover Denali Research Fellowship Program

Four fellowships were awarded for the following projects in Denali:

- Remotely sensing the effects of permafrost thaw on tundra carbon balance
- Distribution and prevalence of the amphibian chytrid fungus in the northern range of the Wood Frog
- Microbial succession in newly deglaciated soils
- Ice on the edge: global warming and a new archeological/paleontological research frontier

MSLC Research Fellowship Program

For the third year, the MSLC was able to provide funding via small research grants to visiting researchers:

- Prehistoric obsidian procurement and use (GAAR)
- Genetic diversity in *Oxytropis kokrinensis* (KOVA)
- Understanding cultural activities at Teklanika West (DENA)

Teacher-to-Ranger-to-Teacher Program

The MSLC began investing in the TRT program in 2007 and the same teacher has participated in 2008 and 2009. The primary focus of this partnership is to have a formal educator on staff assisting with youth programs, front line interpretive programs geared toward younger audiences, and assistance with NPS Week in the Denali Borough School District schools and Junior Ranger Day. In both 2008 and 2009 funds within the TRT grant created science kits for use by students.

Winterfest

The ninth annual celebration for this popular community-wide event was extended from a long weekend to a full week, with events scheduled each day and each evening. Activities were sponsored in each of the Denali Borough School District's three schools, which included storytelling, snow safety courses, and ice sculpting. The dozens of events saw the participation of more than 2,000 community members and visitors, with many of them taking part in multiple activities. Among the new activities offered was the "To the Aufeis or Bust!" 5K family fun run/walk/bike/ski/skijor/snowshoe on the park road. Mother Nature smiled on Winterfest, providing spectacularly clear, blue skies and sunshine.

Artist-in-Residence Program

Three Alaska visual artists, Bill Brody and Karin Franzen, both from Fairbanks, and Gail Niebrugge from Palmer, were selected from over 50 applicants from throughout the United States and abroad for residencies this summer. Fairbanks poet John Morgan was also invited to be the first writer participant.

The park also teamed with University of Alaska Fairbanks Museum of the North to mount a show of AIR pieces on display from October 2009 through January 2010. The show includes interpretive panels, a DVD, curricula for middle- and high-school students, shipping cases for future transport needs and promotional materials. Key funding came from a \$30,000 Challenge Cost Share grant.

National and Regional Coaching Course: The Alaska Region Chief of Interpretation appointed a Denali Interpretive Specialist to become a Regional Lead Coach for the Interpretive Development Program (NPS IDP). Forty-five Lead Coaches were trained nationwide last October; Alaska's team of five Lead Coaches held the first regional training for Local Registered Coaches in Denali in March. Five additional coaches from Denali Interpretation became Local Registered Coaches, using the coaching and mentoring skills throughout the season to evaluate seasonal interpreters and various park partners.



Local Registered Coaches class participants and Denali instructors

Park VIP Program

In 2009, 340 volunteers contributed 42,389 hours. The mountaineering operation maintained the long standing use of highly skilled volunteers to provide essential life safety functions on Mount McKinley. Partnerships made a major contribution to Denali's volunteer program. The Denali School Borough and the Student Conservation Association provided 79 volunteers who ultimately contributed 13,144 volunteer hours. Accomplishments for the 2009 season include the construction of two seasonal quarters, construction of several miles of trail in the Triple Lake region and removal of 584 pounds of non-native plants.

CONCLUSION

This was a year of recognition for what the park and its staff has accomplished in providing enhanced visitor facilities and services for park visitors, and protecting its resources. It was also a year of preparation for what will be major projects in construction and planning. Next year will see the groundbreaking for two new facilities that will help

the park better protect its resources – a new wastewater treatment facility and a consolidated fire and emergency services building. Both projects have been years in planning and design, and they will each take two years to complete.

The park will also continue its work on the development of alternatives for the Denali Park Road Vehicle Management Plan and EIS, which will determine a carrying capacity for the park road. Much information and data has already been gathered for this project as part of the multi-year road study. Denali is breaking new ground for this plan, as it will be the first time the National Park Service will use defensible scientific data to determine a limit or carrying capacity for park visitation in order to preserve the visitor experience and protect its resources.

The groundwork was laid for work to continue on what will be major projects in 2010, in planning and in construction. The park is fortunate to have a skilled, professional and experienced workforce as it sets the standards for products that help insure the protection and preservation of not just Denali National Park and Preserve, but other similar units in the National Park System.

Appendix 1

FY2009 Human Resources Report

| Promotion From | New Grade/Position | Incumbent | Comments |
|-----------------------------|-----------------------------|------------------|-----------------|
| GS-5 ADMIN SUPPORT ASS'T | GS-7 ADMIN TECH | MCLAUGHLIN | |
| GS-5 ADMIN SUPPORT ASS'T | GS-5 BUDGET TECH | SAUVEY | |
| | GS-9 SUPV FEE/BUSINESS MGR | | |
| GS-7 SUPV FEE/BUSINESS MGR | MGR | LEBEL | |
| GS-7 SUPV FORESTRY TECH | GS-9 ASS'T FIRE MGT OFFICER | REYNAR | |
| GS-9 BUDGET ANALYST | GS-11 BUDGET ANALYST | LASELL | |
| GS-9 ASS'T FIRE MGT OFFICER | GS-11 FIRE MGT OFFICER | WEDDLE | |
| GS-11 IT SPECIALIST | GS-12 SUPV IT SPECIALIST | WILSON | |
| | GS-12 SUPV PARK RANGER (LE) | | |
| GS-11 SUPV PARK RANGER (LE) | (LE) | MOORE | |
| | GS-12 SUPV PARK RANGER (LE) | | |
| GS-11 SUPV PARK RANGER (LE) | (LE) | LEONARD | |

| Vacancies Created | Office | Vice | |
|------------------------------|---------------|-------------|------|
| WG-4 CUSTODIAN | MAINT | BRAUN | |
| WG-7 TRAILS WORKER | MAINT | TRAVIS | TERM |
| WG-9 UTILITY SYSTEM OPERATOR | MAINT | MCCOMBS | |
| WG-9 MAINTENANCE MECHANIC | MAINT | PORTER | |
| GS-6 SUPPLY TECH | ADMIN | SCHMOKER | |
| GS-7 BUDGET TECH | RESOURCES | DEMERS | |
| GL-9 PARK RANGER (LE) | RANGERS | CAULFIELD | |
| GS-9 PARK RANGER (KENNELS)) | RANGERS | FORTIER | |
| GS-11 ECOLOGIST | RESOURCES | PHILLIPS | |
| GS-12 HR SPECIALIST | ADMIN | BROWN | |
| GS-12 SUPV PARK RANGER | RANGERS | MILLER | |

| Vacancies Filled | Office | Incumbent | |
|-----------------------------|---------------|------------------|------|
| WG-9 MAINTENANCE MECHANIC | MAINT | DETIENNE | |
| WG-9 MAINTENANCE MECHANIC | MAINT | ELLIS | |
| WG-7 TRAIS WORKER | MAINT | BUERKLE | TERM |
| WG-7 TRAIS WORKER | MAINT | ZIMMERMAN | TERM |
| WS-09-SUPV MAINT MECHANIC | MAINT | SINNER | |
| GS-4 FMSS ASSISTANT | MAINT | PAXTON | TERM |
| GS-4 ADMIN SUPPORT ASS'T | MAINT | HOUSTON | TERM |
| GS-5 INFORMATION ASS'T | INTERP | LINDEMAN | |
| GS-5 ADMIN SUPPORT ASS'T | ADMIN | ADAMS | |
| GS-6 SUPV FORESTRY TECH | RES | FORD | |
| GS-6 SUPPLY TECH | ADMIN | SIMPSON | |
| GS-6 SECRETARY | SUPT | GONTERMAN | |
| GS-7 SUPV VISITOR USE ASS'T | RGR | SMOTHERS | |
| GS-7 BIOLOGICAL SCIENCE | RES | BORG | TERM |

TECH

| | | | |
|---------------------------|--------|-------------|------|
| GS-9 EDUCATION SPECIALIST | INTERP | HENRY | TERM |
| GS-9 PARK RANGER (MEDIA) | INTERP | ELHARD | |
| GS-9 CONCESSIONS MGT | | | |
| SPEC | CONC | BURCH | |
| GL-9 PARK RANGER (LE) | RGR | COLE | |
| GL-9 PARK RANGER (MTN/LE) | RGR | GENTZEL | |
| GL-9 PARK RANGER (MTN/LE) | RGR | HENDRICKSON | |
| GS-11 OUTDOOR REC PLANNER | PLAN | SNOVER | TERM |
| GS-11 CIVIL ENGINEER | MAINT | HENDRICKSON | TERM |
| GS-11 IT SPECIALIST | ADMIN | TENCH | |
| GS-11 SOCIAL SCIENTIST | RES | ACKERMAN | TERM |

Perm: 95

Term: 24

SCEP: 1

Appendix 2

FY2009 FINANCIAL SUMMARY

SUPERINTENDENT

| | |
|--|------------------|
| ONPS | 778,500 |
| CFF 80% Replace Eielson VC | 14,400 |
| CFF 80%: Correct Latent Defects Associated with the Construction of the EVC | 129,300 |
| General Donations | 49,600 |
| Road Lottery SUP | 3,700 |
| TOTAL, SUPERINTENDENT | 975,500 |
| PLANNING | |
| ONPS | 314,200 |
| CFF 80%: FACA-Chartered Advisory Group | 2,500 |
| CFF 80%: FACA-Chartered Advisory Group Coordination | 26,200 |
| Federal HWY: Transit Study | 248,700 |
| TOTAL, PLANNING | 591,600 |
| ADMINISTRATION | |
| ONPS | 1,771,500 |
| Rec Fee 80%: Upgrade Toklat Communications System | 67,600 |
| Rec Fee 80%: Convert Denali Telephone Swiches to VoIP | 167,000 |
| CFF 80%: Eielson Visitor Center Telephone and IT Systems Upgrade | 48,800 |
| Road Lottery SUP | 3,500 |
| TOTAL, ADMINISTRATION | 2,058,400 |
| CONCESSIONS | |
| ONPS | 229,600 |
| Rec Fee 80%: FY2009-Cost of Collections-Operations | 277,300 |
| Rec Fee 80%: FY 2009 Cost of Collection-Capital | 6,500 |
| CFF 80%: Professionalize Conc Mngmt | 30,000 |
| CFF 80%: Manage Concessions Special Accounts | 120,000 |
| Road Lottery SUP | 1,300 |
| Cost Recovery: CUA Holders Incidental Business Permit | 4,400 |
| TOTAL, CONCESSIONS | 669,100 |
| INTERPRETATION | |
| ONPS | 1,077,800 |
| Rec Fee 80%: Upgrade BB on North side | 33,400 |
| Rec Fee 80%: Enhance Ability of Volunteers | 45,400 |
| Rec Fee 80%: Fund GS-09 Education Specialist and Education Network Development | 124,900 |
| Rec Fee 80%: Maintain Critical Supplies of Park Brochures | 11,000 |
| Rec Fee 80%: Celebrate the Arts in Denali | 17,300 |

| | |
|---|------------------|
| CFF 80%: Concessioner-Run Ticketing Facility | 51,000 |
| CFF 80%: Expand Educational Opportunities | 60,000 |
| CFF 80%: Research & Science Education Opportunities | 33,900 |
| CFF 80%: Provide Visitor Services with YCC Candidate-YCC | 4,600 |
| Youth Patnerships: Host Multipartnership Youth Camp for Communities Bordering DENA, Partner match \$18,100 | 12,700 |
| Challenge Cost Share:Create DENA Artist-in-Residence Art Exhibition & Support Materials, Partner share \$45,180 | 30,000 |
| Youth Partnerships: Teacher to Ranger to Teacher Program-in three Alaska National Parks | 22,700 |
| DENA VIP Program | 22,700 |
| Provide Intepretive Programs to Hotels | 47,000 |
| Provide Kantishna Experience | 41,000 |
| Road Lottery SUP | 34,500 |
| TOTAL, INTERPRETATION | 1,669,900 |
| MAINTENANCE | |
| ONPS Flex Base: Cantwell Disturbed Lands | 70,000 |
| ONPS | 4,138,100 |
| Rec Fee 80%: Wonder Lake Campground Water System-Design & Well Drilling | 60,000 |
| Red Fee 80%: Rehab Wonder Lake Campground Comfort Station & Shelters | 56,500 |
| Rec Fee 80%: Recondition & Replace Park Signs | 40,800 |
| Rec Fee 80%: Replace Park Road Guide & Information Signs Mile 53 to Mile 92 | 45,000 |
| Rec Fee 80%: Replace Park Road Guide and Information Signs Mile 15 to Mile 53 | 42,100 |
| Rec Fee 80%: Design Component for Replacement of Chemical Toilets at Polychrome Rest Stop | 126,400 |
| Rec Fee 80%: Replace Chemical Toilets with Sweet Smelling Toilets at Polychrome | 212,700 |
| Rec Fee 80%: Replace 8 SSTs at Tek Rest Stop | 519,600 |
| Rec Fee 80%: Eliminate Unsafe Trail Crossing | 59,000 |
| Rec Fee 80%: Cantwell Traditional Use Area Trail Stabilization and Hardening, Yrs 1-3 | 72,500 |
| Rec Fee 80%: Rehabilitate Social and Overlook Trails on Triple Lakes Trail | 45,200 |
| Rec Fee 80%: Youth Crew for the Rehab of the Triple Lakes Trail | 32,100 |
| Rec Fee 80%: Daylabor for Construction & Restoration Triple Lakes Trail | 116,700 |
| Rec Fee 80%: Rehabilitate Failing Denali NP Roadside Trail | 83,000 |
| Rec Fee 80%: Provide Materials & Labor for Trail Bridge Rehab | 7,000 |
| Rec Fee 80%: Provide Labor to Brush Springtime Trail | 15,000 |
| Rec Fee 80%: Youth Crew to Improve Drainage on Triple Lakes Trail | 25,000 |
| CFF 80%: Park Road Dust Mitigation | 106,200 |
| CFF 80%: Constrution Projects Engineering Oversight | 65,300 |
| CFF 80%: Provide Design Service for further Development of the Concessioner Land Assignment | 49,700 |
| CFF 80%: Design for Replacement of Chemical Toilets at Teklanika Rest Stop | 98,100 |
| CFF 80%: Concessioner Bus Barn Leachfield | 50,000 |

| | |
|---|---------|
| CFF 80%: Construct Concessioner Maintenance Shop | 108,000 |
| CFF 80%: Install Waterline | 77,000 |
| CFF 80%: IT Shop Building Compliance | 147,000 |
| CFF 80%: Construct Winter Recreation Storage Facility | 74,500 |
| CFF 80%: Provide Engineering Oversight of Special Account Construction Projects | 94,800 |
| CFF 80%: Design, Survey & Engineering for VIP RV Unit | 48,000 |
| CFF 80%: Riley Creek Vault Toilet (SST) | 83,600 |
| Cultural Cyclic: Restore the Historic Sushana Patrol Cabin | 57,800 |
| Cultural Resource Preservation: Rehabilitate the Historic Pearson Cabin in Denali, Building 4 | 106,900 |
| Recovery Act: Rehab Comfort Station & Campground | 67,500 |
| Recovery Act: Repair Wonder Lake Ranger Station Sewer Line | 28,000 |
| Recovery Act: Improve Energy Efficiency at AutoShop | 60,000 |
| Recovery Act: Replace Onan 125 KW Generator | 60,000 |
| Recovery Act: Repair Caterpillar 950 Loader | 20,000 |
| Recovery Act: Repair Surfaces of Trails | 70,200 |
| Recovery Act: Rehabilitate Savage Alpine Trail | 20,500 |
| Cultural Maint: Rehabilitate Lower Windy Cabin and Shed | 75,000 |
| Cultural Maint: Paint Toklat Shops and Offices | 60,000 |
| Cultural Maint: Radon Testing and Mitigation for Administrative Buildings and Employee Housing | 32,500 |
| Cultural Maint: Rehabilitate Gravel Road Surface, Denali Park Road | 335,100 |
| Cultural Maint: Eliminate Unsafe Driving Conditions By Replacing Worn and Faded Regulatory Road Signs | 43,300 |
| Cultural Maint: Cyclic Brushing at Denali Park Road | 129,200 |
| Cultural Maint: Improve Tread and Drainage on Taiga Trail, Denali NP | 33,000 |
| Cultural Maint: Maintain Tread and Drainage Roadside Hiking Trail | 60,000 |
| Cultural Maint: Brush/Repair Tread/Drainage McKinley Trail | 84,400 |
| Cultural Maint: Brush Front Country Trails | 40,000 |
| Cyclic Fire Pump and Fire Code Repairs in the Autoshop | 248,800 |
| Environmental Management: Thermal Remediation | 58,700 |
| Housing: Rehab Tundra Cabin Q-213 | 30,000 |
| Housing: Replace C-Camp Cabins #179 & #180 | 112,300 |
| Repair/Rehab: Rehab Mission 66 B-26 | 117,200 |
| Repair/Rehab: Rehab Mission 66 Housing | 135,100 |
| Repair/Rehab: Complete C-Camp Water Rehab | 2,000 |
| Repair/Rehab: Rehab C-Camp Electrical System | 700 |
| Repair/Rehab:Rehab C-Camp Residential Sewer | 1,000 |
| Repair/Rehab: Demolition and Removal of the Obsolete Riley creek and Horseshoe Pumphouses | 22,900 |
| Repair/Rehab: Parker Cabin Log Foundation Repair, Denali National Park | 87,600 |
| Repair/Rehab: Rehab Interiors, Correct Code Deficiencies, Housing Units B169, B170, B99 | 56,500 |
| Repair/Rehab: Rehab Mission 66 Housing B-26 | 31,900 |

| | |
|---|-------------------|
| Repair/Rehab: Upgrade SCADA Utilities Control System | 79,400 |
| Line Item: Savage Rest Stops Day Labor | 214,000 |
| Federal Lands Highway: Replace Park Road Damaged Culverts | 491,700 |
| Fed Lands Highway: Repair Unstable Road Edges | 504,000 |
| Fed Lands Highway: Rehab Denali Road,Miles 80-84 | 72,700 |
| Grant: Propane Education & Research | 1,300 |
| Recycle Program | 600 |
| Reimbursable Utilities | 1,400 |
| GSA reibursible | 172,300 |
| Concession Utility | 219,300 |
| Concession Reimbursables | 176,300 |
| Road Lottery SUP | 35,100 |
| Permanent Quarters Ops. | 426,500 |
| Seasonal Quarters Ops. | 114,400 |
| TOTAL, MAINTENANCE | 11,566,000 |
| RANGER ACTIVITIES | |
| ONPS | 2,608,400 |
| Rec Fee 80%: Document Changing Alaska Range Snow Conditions for Visitor Safety and Interpretive Purposes | 49,200 |
| Rec Fee 80%: Backcountry Hiking Guide | 1,100 |
| Rec Fee 80%: Develop Parkwide Computerized Backcountry Permit and Statistic Program | 60,000 |
| Rec Fee 80%: Clean Up Garbage Along Rivers in Wilderness of Denali NP & P | 15,800 |
| CFF 80%: FY 2009 High Altitude Camp Transport | 88,100 |
| CFF 80%: Prevent Southern Unit Illegal Hunting | 46,000 |
| CFF 80%: Wildlife Law Enforcement Training | 25,500 |
| CFF 80%: Human Waste Management in Glaciated Area | 77,000 |
| CFF 80%: Protect Wildlife from Illegal Hunting | 87,500 |
| CFF 80%: Stop Illegal Guiding on Mt McKinley | 57,500 |
| CFF 80%: Survey North Boundary of DENA | 62,000 |
| Repair/Rehab: Rehab/Upgrade Radio System to Narrowband | 149,000 |
| Youth Program: Provide a YCC Kennels Visitor Use Assistant to Support Denali NP Sled Dog Kennels Operations | 3,200 |
| Public Land Corp: Provide SCA Interns at Denali Park Kennels to Enhance Visitor Experience | 9,900 |
| Natural Resource Preservation: Protect Park from Illegal ORV | 11,900 |
| VIP: Provide Critical Volunteers to Sustain Denali's Mountaineering Program | 7,500 |
| Wildlife Protection Fund | 5,000 |
| Photography Permits | 16,100 |
| Cost Recovery: Mountain Use Fees | 197,300 |
| Interagency reimbursible: AMD Kreuzer Assistance | 12,649 |
| Road Lottery SUP | 30,000 |
| SAR Donatioins | 1,100 |

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| Kennels Donations | 18,800 |
| TOTAL, RANGER ACTIVITIES | 3,640,549 |
| RESOURCE MANAGEMENT | |
| Flex Base: Upgrade Museum Collection | 105,000 |
| Flex Base: Kantishna Abandoned Mines | 535,000 |
| ONPS | 1,513,700 |
| Rec Fee 80%: Design & Construction of New Resource Protection & Safety Signs | 30,000 |
| Rex Fee 80%: Restoration of Abandoned Mines in Kantishna Year 2 | 80,000 |
| Rec Fee 80%: Restore Abandoned Mines, Year 2 | 5,100 |
| Rec Fee 80%: Sustainability Evaluations of Cantwell Trails | 43,200 |
| Rec Fee 80%: Road Traffic BACI Study | 206,000 |
| CFF 80%: Multiple Audience Resource Communications | 23,700 |
| CFF 80%: Develop Resource Stewardship Plan | 46,200 |
| CFF 80%: Monitor Calcium Chloride as Dust Palliative | 10,000 |
| CFF 80%: Pilot Methods for Visitor Use Surveys | 15,800 |
| CFF 80%: Develop Research/Resource Profiles | 18,400 |
| CFF 80%: Perform Research for a Roadside Guide to Park History | 22,800 |
| CFF 80%: Develop Digital Record Database | 50,000 |
| CFF 80%: Wolf/Caribou Movement Study | 199,000 |
| CFF 80%: Glacier Trend Visitor Information | 25,000 |
| CFF 80%: Produce Roadside Guide to Park History | 20,000 |
| CFF 80%: Develop Methodology to Estimate Visitation | 15,000 |
| CFF 80%: Endangered Lichens | 13,500 |
| CFF 80%: Toklat Gravel Extraction Monitoring | 35,000 |
| CFF 80%: Windy Creek Timber I&M Plan | 24,200 |
| CFF 80%: Evaluate Backcountry Soundscape Standards | 95,500 |
| CFF 80%: Produce Kantishna Mining District Cultural Landscape Inventory and Report | 95,000 |
| Wildland Fire: Fuels Management | 161,200 |
| Wildland Fire: Hazard Fuels Project | 96,400 |
| Wildland Fire: Fire Readiness/Preparedness | 218,800 |
| Cultural Resources: Comprehensive Archeo Survey and Inventory | 117,800 |
| Cultural Resources: Decrease Park Museum Backlog | 4,000 |
| Collections Management: Prepare Emergency Operation Plan (EOP) for Park Museum Collection | 5,200 |
| NaturalResource Presv: Develop High Resolution Climate Maps for the Alaska Region | 10,600 |
| Natural Reso. Pres.: Inventory of Traplines and Documentation of Assodiaed Activities | 20,400 |
| Natural Resource Pres.: NRAC Professional Enhancement Grant | 4,100 |
| Natural Resource Presv: Modeling Caribou Habitat at Landscape Scale to Determine the Potential Impact of Climate Change | 31,300 |
| Natural Resource Pres.: Inventory Bryophyte and Lichen Flora of DENA, YUCH, and WRST | 35,200 |
| Natural Resource Pres: Inventory and Protection of Paleontological Sites (Dinosaurs) in DENA | 23,100 |

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| Natural Resource Pres: Monitoring of Subsistence Fisheries in and Near the Northwest Portion of DENA | 15,300 |
| Natural Resource Pres: Census Sensitive Moose Populations in the Cantwell and Yentna Areas of DENA | 36,300 |
| Natural Resource Preservation: Develop Regional Integrated Pest Management (IPM) Program to Insure Health of Natural Resources | 4,800 |
| DENA GIS | 7,000 |
| Thomas Polito Memorial Donation | 1,500 |
| Road Lottery SUP | 3,600 |
| TOTAL, RESOURCE MANAGEMENT | 4,023,700 |

TOTAL, ALL FUND SOURCES

25,194,749