

2014 Highlights and Significant Accomplishments

The park experienced continued changes and challenges in 2014, with more retirements of long-term employees, experimental re-organizations of work groups, and emergency responses to extreme weather events. This year the park hosted the next in what will be a string of anniversary celebrations - 2014 was the 50th Anniversary of the Wilderness Act. A range of activities were hosted by the NPS and its partners (see more info under Interpretation and Resources highlights) from June into October. The park also experimented with a “unit management” concept for providing oversight to staff working out of Toklat and Talkeetna.

The accomplishments and legacy of Alaska Native Walter Harper, the first person to set foot on Mt. McKinley, were celebrated on July 2 during the dedication ceremony for the Walter Harper Talkeetna Ranger Station. Over 70 people, including several descendants of Walter Harper, attended the event, which took place on a beautiful sunny afternoon in front of the ranger station in “downtown” Talkeetna.



Left to right: Dana Wright, Anna Erbeck (behind granddaughter Alaina Erbeck), Mike Harper and his wife Jane, Senator Lisa Murkowski, Esther Fast, Richard Fast (seated), Johanna Harper and Superintendent Don Striker.

The ranger station, base of operations for the park’s mountaineering operations, was renamed as part of the Denali National Park Improvement Act, introduced by Alaska Senator Lisa Murkowski and signed into law in September 2013. The Senator was the keynote speaker for the 40 minute event, which included Superintendent Don Striker as

master of ceremonies, an invocation and benediction by Bishop Mark Lattime of the Episcopal Diocese of Alaska, and short presentations by Mike Harper, great nephew of Walter and Dana Wright, great grandnephew Dana Wright. Afterwards guests and visitors mingled and enjoyed light refreshments, including cookies from Talkeetna's fine bakeries.

Harper family members were deeply appreciative of the legislation and the public event recognizing the renaming of the ranger station. Talkeetna-based staff spent countless hours tidying up the ranger station inside and out, and facilitated multiple logistics, including gathering fresh flowers to place by the podium and on the refreshment tables.

Highlights

"Call to Action" accomplishments indicated by ✨

ADMINISTRATION

The National Park Service implemented a new electronic travel system called Concur. The park's travel coordinator, Keli Mueller, led the park's transition to this new system. The transition was challenging with many system issues throughout the fiscal year, but Keli helped everyone get through the first phase.

The Administration staff continued use of the Financial and Business Management System (FBMS) and the fourth version of the Administrative Financial System (AFS4) for the second year. Stacie Oaks trained park and other Alaska Region NPS employees to be requisitioners.

The park utilized the Local Hire policy approved in October 2012 to fill 75 positions – seasonal, term, and permanent.

In FY14, all divisions of the park benefitted from the work of 523 volunteers. These individuals volunteered 69,760 hours to accomplish projects and program support.

In August, following a sweep of FY14 Concession Franchise Fee (CFF) funds to cover a settlement in Grand Canyon National Park, the park's budget team completed a contingency fund request to get funds back. The park also submitted an FY15 CFF funds request in September. Denali received all the funding requested.

Personnel Changes:

- Bonni Burnell transferred to the Maintenance division as their Budget Analyst.
- Lindsay Carder was selected as a Budget Analyst.
- Ellis Voivedich was selected for an IT Specialist position – first seasonally and then as a VRA permanent appointment.

- Laura Lasell transferred to the Regional Office.
- Michelle Kovach resigned to take a position at the Tri-Valley School.
- Rebecca Chisholm was selected for the HR Admin Assistant position.
- Kristen Friesen transferred to Glacier Bay National Park.
- Cinnamon Dockham was selected as an Admin Assistant following Kristen's departure, and began work in early October 2014.

COMMERCIAL SERVICES

*The park's largest concessioner, Doyon/Aramark Joint-Venture (JV) was instrumental in discontinuing the sale of plastic water bottles within the park. JV completed its launch of a very successful 'Canned Water 4 Kids' program that replaced all plastic water bottles used on tours and sold in their retail stores with aluminum bottles. This reduced plastic waste in the park, increased profitable recycling for the area's waste management partners and raised money for water access programs in underprivileged areas around the world. Additionally, this year marks a decade of perfect ISO 14001 certification (environmental audit) scores for JV. (Call to Action #23 - Go Green).

JV extended its regular operating season to partner with the park's Murie Science and Learning Center (MSLC) to host the MSLC's first ever Denali Science School from September 8 into mid-October. Participating school groups from Alaskan schools all along the highway system spent three days inside park boundaries, including a day-trip into designated wilderness along the Denali Park Road. JV provided bus transportation and food preparation for the five weeks the program was in session. JV's ability to be a professional and flexible partner is allowing the NPS to forge connections with its future stewards.

Division staff continued work on several concession prospectuses with regional and national concessions management staff, including the largest one, the transportation and reservation prospectus (which has been extended twice). At the end of 2014, it was still undergoing review in WASO. The prospectus for mountain guiding concessioners was released in mid-November. Six concession contracts (including two to historical operators) for providing guided mountaineering will be awarded in 2015. The proposed contracts will have a term of January 1, 2016 through December 31, 2025.

INTERPRETATION

Education: Actively engaging students

*The park hosted a week-long "Intensive" learning program for all 57 high school students in the Denali Borough. Students spent the week engaged – hands on – in the complexities of how and why the NPS works to preserve and protect the park. Each student was immersed in one of seven Intensive subjects: Biological Sciences, Building

Trades, Cultural and Social Sciences, Media, Physical Sciences, Trail Crew, and Visitor Resource Protection. At the end of the week, students gave presentations to the community showcasing their new knowledge and highlighting why the park is special and valuable for future generations. (Call to Action #15 - A Class Act)



Students doing presentations for community members at conclusion of “Intensives”

Wilderness 50th: Kennels, art, outreach and social media

The 50th Anniversary of the Wilderness Act was a focus for outreach and special events in 2014. The kennels staff and sled dog teams collaborated with Gates of the Arctic National Park and Preserve to travel to May Lake, a designated wilderness area in Gates of the Arctic, to remove waste 55 gallon metal drums. Along the way, the dog teams visited the community of Anaktuvuk Pass to share the tradition of dog mushing, and its current use in wilderness preservation, at the school. During the summer the park celebrated the Wilderness 50th by providing two ongoing opportunities: art kits available for check out at the Denali Visitor Center and an online forum to share poems, stories, photos or videos. Both options allowed visitors to create and share their unique wilderness experiences. The anniversary day featured an art table at the Denali Visitor Center where everyone was invited to create a small piece of art for a Wilderness Celebration “quilt”; over 150 visitors participated. The park also partnered with Alaska Geographic, Denali Education Center



and Joint Venture to provide a variety of speakers and an open mic night, “Your Wilderness Stories”.

Artist-In-Residence: New interactive visitor opportunities

*In 2014 each park artist hosted a workshop where visitors had the opportunity to try the artist’s medium first hand and engage in discussion. Six artists held workshops, and worked with a total of 90 visitors one-on-one. The outreach and engagement opportunities were also offered beyond the boundaries of the park via Livestream. Eleven Artist-in-Residence videos, many of which are archived Livestream conversations, are now available on the park’s YouTube page. Artists were interviewed by a host and virtual park visitors could submit questions via social media in real time. The new, interactive forums allowed visitors to engage with the arts program on a deeper level. (Call to Action #8 - Arts Afire and #17 - Go Digital)

For the first time, the program expanded to include winter residencies, which took place in March. A writer and a painter each spent two nights at the historic Savage River ranger patrol cabin, and both presented workshops for the public.



Beau Carey, one of two winter Artists-in-Residence, leading an outdoor painting class at Mt. Vista Rest Area

Informal Interpretation: Training, Partners, and Reaching Audiences

Extra emphasis was placed on informal interpretation and visitor contacts. NPS and Joint Venture (JV) interpretive trainers collaborated to create and present four, half-day

training sessions that focused on developing informal contact skills. All of JV's tour, shuttle and courtesy drivers participated in sessions on park significance, knowledge of audience, informal interpretation and customer service practice. The NPS hosted a guest interpretive trainer, who provided informal interpretation training and hands-on practice for over 85 NPS employees from all divisions. Interpreters placed increased emphasis on making roving contacts with visitors out enjoying the park and interacted with more than 2,500 people on frontcountry trails. Finally, the park's social media efforts represent yet another way to informally connect with park audiences. The park now has 18,300 Twitter followers, 151,041 Facebook likes. The park website hosted 831,292 user sessions.

Volunteers: Reaching diverse audiences with American Sign Language (ASL)

Two outstanding volunteers, Susan Trucano and her son Matthew, donated 1000 hours to the park, reaching over 4000 people with their roves, programs and visitor center contacts. Susan provided ASL interpretation upon request and Matthew presented short programs on wildlife and ASL signs. They did a Livestream version of Matthew's program, sharing ASL and Denali wildlife with a wider audience. They also trained interpreters how to use ASL at the visitor center desk, led a brown bag training session on ASL, and trained Visitor and Resource Protection staff about working with hearing impaired visitors. They brought incredible enthusiasm as well as great ideas on engaging the deaf community in Alaska.



Susan and Matthew Trucano at the Toklat Tent

Personnel changes: New Chief of Interpretation Nancy Holman arrived at the park in April 2014. She was able to overlap with and get an orientation from Acting Chief and Interpretive Coach Marisa James, Interpretive Coach, who retired from the NPS in May.

FIRE MANAGEMENT

During the summer of 2013, 14 fires, including several large ones, burned a total of 104,850 acres within the park boundary. Based on the fire perimeters it appeared that three fires burned several Central Alaska Network Inventory & Monitoring (CAKN) vegetation mini-grids (75 total plots) in the park. Burn severity is a factor that strongly influences the impacts of fire on vegetation succession, lichen/moss consumption, and active layer thaw. However burn severity is often difficult to assess several years after a fire. Since many of these plots would not be re-measured by the CAKN vegetation crew for another 5 to 10 years, the Denali Fire Crew and Regional Fire Ecologists measured burn severity and one year post-fire effects at two of the burned mini-grids (36 plots) in summer 2014. Assessing these fires and plots provided an opportunity to improve the park's understanding of how fire changes vegetation, permafrost, soils and potential impacts of climate change. This data will provide information for the long term monitoring of natural fires for Denali. The project is an excellent example of a co-operative effort between the NPS Fire Program and the CAKN Inventory and Monitoring Program.



Denali Beaverlog MiniGrid Plot 15. Photo on the left was pre-fire in 2010, photo on the right was one year post fire in 2014. Note the flush over herbaceous plants 1 year after the fire. The pink-flowered plant in the 2014 photo is *Cordylis sempervirens*, which will only flower for a few years after a fire disturbance, and then the seeds will lie dormant in the soil till the next disturbance.

MAINTENANCE

The division's combined funding for the fiscal year, including ONPS, quarters, reimbursable and project funds, totaled approximately \$19.3 million. During peak

season the work force of permanent, term and seasonal staff consisted of 120 employees. Volunteers contributed over 10,200 hours to the division's projects. Volunteer hours were provided by five SCA crews (each for 30 days), three SCA Interns (each for 14 weeks), four volunteer groups (one week each group), and 80 individual one day volunteers.

For the first time since the early 1980's, the park road was plowed and opened to the public as far as the Mountain Vista Rest Area, in order to provide expanded winter recreational opportunities for park visitors for a 3-5 year trial period.

A major accomplishment was dealing with a significant flooding event near the western end of the Denali Park Road. Torrential rains during the night of June 25th caused Eureka and Friday Creeks to morph from small streams to raging torrents, causing a great deal of damage to those and other sections of the park road. The raging water also marooned guests and employees at private lodges in Kantishna, and over a dozen park employees staying at the Friday Creek camp. Road crews cleared and repaired the causeway (north end of Wonder Lake) section of the road, but the damage and water flow at Eureka Creek were too great to initially deal with. The 103 guests and employees from the Denali Backcountry Lodge were successfully evacuated from Kantishna via private fixed wing aircraft and the NPS helicopters. Those ferried via helicopter were dropped off at buses staged at the Wonder Lake Ranger Station, and then driven out the park road.



Four mountaineers who had traversed Mt. McKinley were also airlifted from the south side of the McKinley River to the Eielson Visitor Center by the park's contract helicopter. They had been trying for days to cross the river, but had been unsuccessful due to the high water, and were out of food.

The NPS coordinated the flood damage repair on the approximately one-half mile of road with the Alaska Department of Transportation (DOT), who has the jurisdictional responsibility for major repairs on that section of the Denali Park Road. The road opened for its entire length on July 7.

In late August work began on the park's next major construction project - the replacement and upgrade to the underground utility systems at park headquarters. The project includes laying new water, sewer, and propane lines in buried trenches mostly located under the headquarters road system, and installing new propane tanks near some of the buildings. The contractor worked into October, and will return in spring 2015 to complete the project by the end of next summer.



Utilidor replacement in park housing area

The existing utilidor system consists of underground concrete and corrugated metal pipe structures that connect the administrative facilities and permanent housing units in the headquarters area. It houses multiple utilities, including steam, water, sewer, electric, and communication (i.e., telephone, data, fire alarm, and satellite) lines. The

steam, sewer, and water lines have not been replaced since the utilidor's construction in 1958, and are well past their serviceable life.

Work was finally completed on the replacement for the Rock Creek Bridge in mid-September.

Additional Projects Underway or Completed

- Completed habilitation of Gallop Cabin
- Re-roofed historic Quigley Cabin leaving no visible evidence of modern materials
- Rehabilitated Horseshoe Lake Trail and eliminated many social trails in the area
- Healy Overlook trail rehab work and realignment well underway
- Re-roofed Wonder Lake Campground comfort station
- Completed rehabilitation and expansion of Toklat Auto Shop
- Construction of building to replace historic P-22 (needed for permanent employee housing) nearly complete
- Two portable cabins and two wall tent platforms designed, constructed and situated at sites along the park road for use by dog mushing concessioner and kennels staff (potentially for other park employees also)

Personnel Changes

New Permanent and Term Employees

- Bette Bormann – Admin Assistant – new hire
- Bonni Burnell – Budget Analyst – from Budget Tech Resource and Visitor Protection
- Rebecca Chisolm – Admin Assistant – from Administration
- Aaron Eddington – Trails Worker Leader – from Trails Worker Seasonal
- Katie Fitch – Admin Assistant – from Comm Center
- Paul Franke – Engineering Equipment Operator – New Hire
- Michael MacAloon – Engineering Equipment Operator – New Hire
- Leroy Olson – Maintenance Worker – from Glacier Bay NP
- Jakob Scheiber – Trails Worker Leader – from Trails Worker Seasonal
- Norm Sollie – Maintenance Worker – from Maintenance Worker Seasonal
- Jared Zimmerman – Trails Worker Leader – from Trails Worker Seasonal

Personnel in New Positions

- Land Cole – Carpenter to Special Projects Foreman
- Bill Ellis - Utility Systems Repairer Operator to Auto Shop Foreman
- Jon Fitch – Electrician to B&U Foreman
- Riley Tingué – Roads Work Leader to Roads Foreman

Losses

- Brad Ebel – Roads Supervisor West – retired
- Steve Eickert – B&U Supervisor West – retired
- Bill Friesen – Auto Shop Foreman - transfer to Glacier Bay National Park
- Lonnie Hergenrider – B&U Supervisor East – retired
- Karen Keith – Admin Assistant – retired
- Mike Nagy – Heavy Equipment Mechanic – retired
- Edna “Eddie” Ranson – Admin Assistant – retired
- Will Revely – Engineering Equipment Operator – died in auto accident
- Eric Smith – Chief of Maintenance – promotion to Deputy Superintendent
- Denise Taylor – Admin Assistant – retired
- Tim Taylor – Roads Supervisor East – retired
- Rick Weibel – Engineering Equipment Operator – retired
- Greg Timeche - Senior Boiler Operator - retired

PLANNING AND COMPLIANCE

In cooperation with the Resources Division, the Planning Division requested and received the first Golden Eagle Take Permit issued by the Alaska Region of the US Fish and Wildlife Service. The permit allowed the park to install an exclusionary device in an eagle nest 80 feet above a complicated FHWA-funded park road culvert replacement project. The project lasted for 60 days in the summer of 2014 and could have affected fledging success had the nest been occupied. By placing an exclusionary device in the nest in September 2013, the returning eagle pair chose an alternate nest site for the summer of 2014, which eliminated the potential conflict. Park data accumulated over many years of eagle monitoring convinced FWS that the plan was not adverse to eagle survival. The exclusionary device was removed in September 2014.

Based on commitments made in compliance documents that evaluated and approved two large FHWA road repair projects, in Fall 2013 the Planning Division prepared a Mitigation Plan to support a summer 2014 wetlands restoration effort in the Kantishna Hills as compensation for project impacts to wetlands and requested funding from FHWA for the restoration. The restoration involved using heavy equipment to re-route lower Eldorado Creek back into its original channel. Placer mining in the 1970s and 1980s and recent flood events had re-channeled the lower section of Eldorado Creek many different times.

RESOURCES - CULTURAL

***Birch Creek Site Visit**

The park began the process of consultation with federally recognized tribes to identify knowledgeable elders and lineal descendants of families that lived at the Birch Creek

Site and/or were buried there. Three lineal descendants were contacted and invited to conduct a site visit on August 9, 2014. Two were able to attend and flew to the site for a day visit with two NPS staff.

Valuable information was gained through identifying the graves at the site, along with how the descendants would like the site managed. The site visit and consultation helped fulfill the park's obligations under the Native American Graves Protections and Repatriation Act (NAGPRA) that requires Federal agencies to consult with Alaska Native Tribes and lineal descendants on issues concerning Native burial and items subject to NAGPRA located on federal lands, and to gain information from these entities regarding the potential stabilization and/or restoration of the site which is being disturbed by erosion and other natural processes.



Amy Craver interviews Ally Starr (left) and Stanley Starr (right) at the Birch Creek Site

NPS staff recorded over four hours of oral interviews during the site visit, which were later transcribed. These interviews provide insight into one family's subsistence lifestyle 60 years ago in a remote region. (Call to Action #3 - History Lesson)

Archaeology surveys

Two archaeology surveys were carried out in August. One was done in the Upper Teklanika River Valley, which contains sites that are 12,600 years old. The principal investigators were Samuel Coffman, Archaeologist at the University of Alaska Museum of the North and Phoebe Gilbert, DENA Park Archaeologist. No archaeological material or cultural remains were found.

The second project investigated the Toklat River Valley, which had never been surveyed for archaeological resources. The work was conducted by Jake Adams (Ph. D student), Samuel Coffman (Archaeologist at the University of Alaska Museum of the North) and two volunteers. Adams received a fellowship from the Murie Science and Learning Center to complete this survey. The Toklat River drainage had little to no glaciation during the Pleistocene and Holocene, so it may have provided people with an advantageous area of occupation for the exploitation of ice-age mammals. No cultural material was found, but two historic sites were located that appear to be related to a possible bridge building event or mining.

***Archaeology Field School**

The park and regional archaeologists, in conjunction with the Murie Science and Learning Center (MSLC) ran a field school from July 24- July 28 designed to introduce students to sub-arctic Alaska prehistory and archaeological field methods in classroom and field settings. The ten students, all primary and secondary school teachers, received training in archaeology ethics, field methods, and the cultural chronology of Interior Alaska. The teachers developed lesson plans for an archaeology-themed exercise. The project took place in the Big Creek Watershed north of the park road and at the MSLC Field Camp located at the Teklanika River Campground. Nine previously unrecorded prehistoric sites were located during the project and four condition assessments of previously recorded sites were completed. (Call to Action #3 - History Lesson)



MSLC Archaeology Field School Participants at the headwaters of Big Creek

***Archaeology Culture Camp and Museum Family Day**

A five day Archaeology Culture Camp (September 15-19) and Museum Family Day (September 27) was led by University of Alaska Museum of the North (UAMN) staff with assistance from the park archaeologist. The purpose of the culture camp was to teach local and Alaska Native students about the human history of the park through an archaeology excavation at the Nenana River Gorge Site. The Museum Family day provided an opportunity for local communities to ask researchers questions, participate in hands-on activities, and explore the collections.

The Culture Camp and Family Day were led by UAMN staff with assistance from Phoebe Gilbert (DENA Archaeologist). The NPS provided funding for the project to UAMN through a cooperative agreement. The funding was used for UAMN labor costs, equipment costs, to provide food for the 10 students and three chaperones who participated in the culture camp, and for transportation for the students for the culture camp. The students spent 24 hours testing at the site. NPS staff put in an estimated 30 hours working on the project. During the week of the course the students; learned about archaeological ethics, excavated test units, and researched the artifacts that they uncovered.

Major accomplishments of the project include; education of the public about cultural resources the students gaining an understanding of archaeological ethics, their engagement with their own area's history, and the strengthening of relations between the NPS and the local communities of Healy, Anderson, and Cantwell. Analysis of the artifacts recovered during the culture camp is ongoing by UAMN staff. (Call to Action #3 - History Lesson, #7 - Next Generation Stewards and #16 - Live and Learn)

Thirty-eight projects were reviewed for Section 106 of the National Historic Preservation Act (NHPA) compliance. There were 13 projects in DENA which required archaeological monitoring or testing. As a result of survey and monitoring of projects requiring 106 compliance, six new sites were recorded and seven site condition assessments were completed. An estimated 500 acres were surveyed during this project.

HABS documentation of historic structures in the Park

The Heritage Documentation Programs (HDP) assists in the preservation of significant resources by recording historic buildings, structures and landscapes, and transmitting the documentation to an architectural, engineering and landscape archive at the Library of Congress. HDP is comprised of three surveys: the Historic American Buildings Survey (HABS), the Historic American Engineering Record (HAER), and the Historic American Landscapes Survey (HALS); and the Cultural Resources Geographic Information Systems (CRGIS). In June 2014 Todd Croteau (Project Leader, HAER, HDP) took photos (most exterior) of 21 historic structures in the park for inclusion in

the HABS Collection at the Library of Congress. All original documentation will be transmitted to the HABS collection at the Library of Congress, which is public domain.

RESOURCES AND SCIENCE

The park celebrated the 50th anniversary of the Wilderness Act with several key wilderness events including the roll out of the park's wilderness character spatial model, storytelling events, a speaker series, and an increased vigilance on minimizing its own impacts on wilderness character.

The Resources Team continued long term monitoring of the status and trends for several of the park's fundamental resources:

- Caribou (year 30): population is up slightly from previous year
- Eagles (year 28): productivity is nearly at its lowest level
- Wolves (year 28): population near an all-time low of 51 for the spring count
- Small mammals (year 23)
- Air quality (35 years)
- Acoustics (13 years)
- Glaciers (24 years)

*Seven arthropod researchers from Alaska and other areas of the United States were invited to the park in late July to conduct the park's first "Bug Bio-Blitz," an intensive effort to catalog the biodiversity of several invertebrate taxa within just a few days.

The goals of the Denali Bug Bio-Blitz were to engage the public with scientists collecting and examining lesser-known realms of biodiversity in the park and encourage invertebrate taxonomists to catalog the diversity of their focal taxa and lay foundations for future collaborative research.



Denali Bio Blitz public outreach day participants - NPS photo by K. Thoresen

The July 26th public outreach day was filled with events encouraging visitors and local area residents to join scientists in biodiversity discovery. These included: collection activities with scientists on the park's front-country trails; an indoor "lab" session at the Murie Science and Learning Center (MSLC) where visitors could get an up-close view of specimens that had been collected that morning and talk one-on-one with the scientists; a catch-and-release outdoor session with younger children and their parents, and an evening presentation where each scientist explained their research focus and provided some background about the organisms they study.

The scientists then headed further into the park for three days of collecting. The aquatic group headed to the end of the 92-mile long park road so that they could sample kettle ponds and streams with mining legacies as well as pristine streams for aquatic mites. The aquatic mite researchers collected species representing at least 10 genera. These collections represent some of the first official water mite samples ever collected in Alaska, and could include species currently unknown to science. The terrestrial group headed up into the high country in search of accessible snow fields and alpine flowers in bloom. One day of field work yielded two specimens that are members of a new *Phlaeopterus* species yet to be described! (Call to Action #7 - Next Generation Stewards)

Plant Ecology:

A new article in the *Journal of Biogeography* discussed landscape-level patterns in plant diversity in Denali. Authored by Carl Roland and Joshua Schmidt, the article is titled "A diverse alpine species pool drives a 'reversed' plant species richness–elevation relationship in interior Alaska" and is based on 15 years of plant distribution data

collected during several large field projects in the park. The article reveals a unique and intriguing pattern observed in interior Alaska, where small areas (relatively speaking) of alpine vegetation contain a greater diversity of plant species than the surrounding much larger sea of lowland boreal ecosystems.

Avian Inventory:

This park’s Avian Ecologist and Acoustic Scientist are collaborating to extract avian diversity information from the park's long-term acoustic monitoring program.

Collections:

This past year the museum collection saw an increase in outgoing loan agreements. With nine new loans established, the park now has thirty-six active loans with various universities, museums, historical societies and research facilities. Each loan agreement documents what museum property is being stored with specific institutions. With the updated and new loans, researchers were reminded to complete cataloging requirements for collected specimens. This has allowed the park to import new catalog records and maintain the current location and object status for many specimens and objects. The park's museum collection totals 372,954 objects, photos, archives and other museum forms property.

Physical Sciences

Staff continued to investigate the October 2013 land slide event in Igloo Canyon. The entire permafrost layer detached from an underlying clay layer, which resulted in 30,000 cubic yards of frozen material sliding onto the park road. This event is being used as a case study in climate change induced hazards.

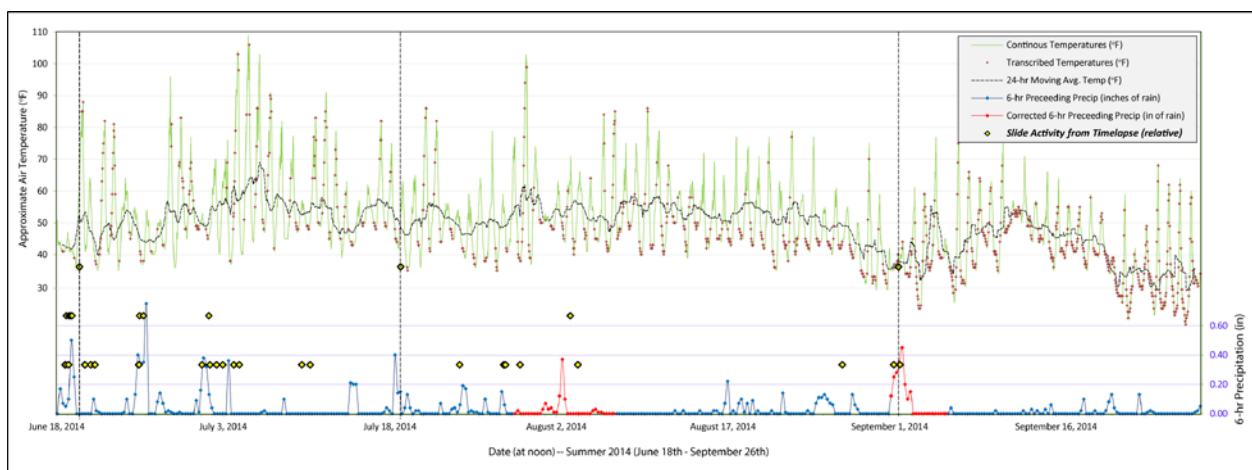


Figure 4 - Correlation of slide activity, precipitation, and approximate air temperature at the Igloo Debris Slide for Summer 2014 (June 18th - September 26th). Ranges of approximate volumes used to classify relative slide activity, from lowest position to highest: Category 1: <10 m³; Category 2: 10-100 m³; Category 3: >100 m³. Dashed vertical lines show the position of category 3 events.

Permafrost dynamics were investigated at Gosling Lake in the north-west preserve. New patches of permafrost that had formed since 2005 in a collapse scar bog were unexpectedly observed demonstrating that while permafrost is likely diminishing at

broad scales across that park's landscape, at local scales under certain condition, ice rich permafrost can re-form.

Resources and Roads staff teamed up for another successfully harvest of gravel from the Toklat River. This year, new gravel scrape methods (double helix, excavations not connected to water, bar reductions) were deployed to deal with changing conditions and



Toklat Scrape by Diane Kirkendall

develop an adaptive management framework for testing new methods while maintaining or improving resource condition and continuing with a biennial gravel harvest of 22,000 cu. yds.

Glacier Monitoring

The Glaciology Citizen Science course was offered for the third year in a row. Eight participants and three leaders shared a four day backpacking trip of adventure and discovery. Participants learned about and measured how glaciers are changing in Denali. The 2014 offering stands out because of the connection to the 50th Anniversary of the Wilderness Act. Wilderness values and issues are part of the content and dialogue of the course. These trips are done in partnership with Alaska Geographic and rely on their organizational, marketing, and logistical support. The course has drawn ordinary people from all over the world; about 50% of them were teachers. Participants were able to contribute to a clean-up effort on the East Fork Toklat glacier, collecting hundreds of pounds of metal poles that were used in a 1990s glacier studyOs, but had melted out and were littering the glacier. In January 2015 kennels staff are planning to pick up and transport these poles out of the Wilderness. This clean-up project in the Wilderness accomplished entirely with non-motorized means. The 2014 Citizen Science course was commemorated with a video produced by an NPS media intern which is posted on the

DenaliNPS YouTube

channel. <https://www.youtube.com/watch?v=zc7jev3ri4c&list=UUyfk7EjiFzH49NnWqRyLC3w>

For a comprehensive summary of the Resources and Science Team's accomplishments see Current Projects

2014: http://www.nps.gov/dena/naturescience/upload/CRP_2014_draft_wcover_reducedsize.pdf

VISITOR AND RESOURCE PROTECTION

Personnel Changes:

- North District Ranger, John Fish, accepted the Chief Ranger position at Lassen Volcanic National Park
- Jenny Yeager-Fish, accepted a position as a Law Enforcement Ranger at Lassen as well.
- Mountaineering Ranger Brandon Latham transferred to Yosemite National Park for the Lead Climbing Ranger position.
- Ranger, Jeff Duckett, his wife and children moved back to Great Smoky Mountains National Park to continue his successful career in law enforcement.
- Backcountry Ranger Ralph Anderson returned from his training at the Federal Law Enforcement Training Center and was assigned to the frontcountry operation.
- Backcountry Ranger Doug Stringfellow transitioned to the west end operation, where he was based at the Wonder Lake Ranger Station for the summer season.
- Wilderness Coordinator and Backcountry District Ranger, Dan Abbe, adopted the duties of the North District Ranger and supervised the Frontcountry Operation and West End Operation.
- Sharon Olson and Travis Hall were given temporary promotions to support frontline staff: Sharon acted as the East Sub-District Ranger, supervising four permanent and two seasonal VRP Rangers. Travis acted as the West Sub-District Ranger and supervised two seasonal General Park Rangers and one permanent VRP Ranger.

Significant Incidents

Fatal Climbing Fall (May 5) - An early season climber on the Muldrow Traverse suffered a fatal fall while descending un-roped from Denali Pass (18,200 feet) to the West Buttress high camp (17,200-feet). The climber's partner was ahead on the route and did not witness the fall. The surviving climber was evacuated on May 7 via the NPS helicopter due to frostbite and inability to descend safely on his own. The remains of the deceased climber were also recovered.

Frostbite and Minor Injuries (June 17) - Three climbers from separate expeditions, each travelling solo, suffered varying degrees of frostbite, exposure, fatigue, and other minor traumatic injuries during a long descent from Denali Pass to high camp. Two of the three were evacuated from high camp via the NPS helicopter and subsequently transferred to ground ambulance for further medical care.

Cardiac Issues (June 20) A client on a guided expedition lost consciousness at 18,800-feet on the West Buttress route after complaining of severe chest pain and shortness of breath. The patient was evacuated from their location via short-haul rescue basket by the high altitude helicopter. Once lowered to the Kahiltna Basecamp, the patient was transferred to an air ambulance for further medical care.

Stranded Kayaker (June 24) - Talkeetna-based climbing rangers rescued a stranded kayaker from the banks of the Upper West Fork of the Yentna River. The kayaker became separated from their boat after flipping in swift whitewater and could not retrieve it. The kayaker activated a PLB from the river's shore and was rescued via the NPS helicopter. The kayaker was evacuated to Talkeetna with minor injuries.

Kantishna Flood Event (June 26) - Rangers coordinated and transported over 100 stranded Denali Backcountry Lodge visitors over a raging Eureka Creek during that flood event in Kantishna. (see Maintenance section for additional information).

Excavator rollover, Stony Hill (June 27) - A piece of heavy equipment that was assisting in making road repairs in Kantishna rolled while it was being transported back to Toklat Road Camp. The park road was completely blocked for more than two hours until the equipment could be moved.

Moose Poaching, North Thumb (September 14) - Two individuals entered the north side of the park from the Stampede Road area using an off road vehicle and shot a bull moose. While following an ORV trail to contact the hunters, rangers passed three visible park boundary markers, one approximately three feet from the trail used by the hunters. The two men, who hail from the Matanuska Valley, stated that they did not know they were in the park, but they had a map, a GPS unit, and a regulation book with them. Charges are pending.

Double fatality motor vehicle accident, Mile 236 Parks Highway (December 23) - VRP rangers responded to the scene to find two vehicles fully engulfed in flames on separate sides of the roadway. Assisting agencies included Tri-Valley Volunteer Fire Department, McKinley Village Volunteer Fire Department, and the Alaska State Troopers. Due to the severity of the fire, determining the number of occupants and the identities of the two victims was difficult and relied on circumstantial evidence. The cause of the accident is still under investigation.

Injury motor vehicle accident, Mile 236 Parks Highway (December 28) - Less than a week after the double-fatality accident there was an injury accident in the exact same location on the highway. Over the course of two months there were a total of five motor

vehicle accidents within a two mile stretch of the highway. The NPS worked with the Alaska DOT to post signs warning motorists of the rough road and to reduce the speed limit in that section until repairs can be made in the spring.

Proposed regulations related to sport hunting in Denali National Preserve

The National Park Service held 17 public hearings in Fall 2014 on proposed regulations and environmental assessment related to sport hunting in Alaska's national preserves. Three took place at the park or in nearby communities between October 22-27.

The proposals include prohibitions on taking wolf and coyote pups and adults in early summer when they den and their pelts have little commercial value; the taking of brown bears over bait stations; and the use of artificial light to take black bear cubs and sows with cubs at dens. Other procedural changes and wildlife harvest related changes are also proposed.

The park has put in place temporary closures on hunting due to liberalized predator hunting practices authorized by the State of Alaska's Board of Game. While sport hunting is consistent with the purposes for which national preserves were established in Alaska, NPS policies prohibit reducing native predators for the purpose of increasing numbers of harvested species. The proposed rule would not restrict federal subsistence hunting on NPS managed lands.

Road Lottery and Military Appreciation Day

The 2014 Road Lottery hosted 5,300 visitors, with over ninety percent of those Alaska residents. A true interdisciplinary event, over 60 employees each day, from all divisions, pulled together to make this beloved event a success. The application and lottery process was again run through Recreation.gov and saw 9,300 entries for the 1,600



available permits. This year's event saw the institution of an annual Military Appreciation Day, a fifth day of Road Lottery set aside specifically for U.S. military members at no cost to the participants. Park staff worked closely with the military to help 1,070 people using 319 permits take advantage of Military Appreciation day. Additionally, the park was able to issue over 300 Inter-agency Military Annual Passes on this one day. All five days saw good weather and abundant wildlife with no notable incidents or accidents.

Regional/Community Outreach

Other notable events were subsistence outreach trips to communities outside the park, including Nikolai, Lake Minchumina, Telida and Cantwell, for meetings with elders and locals.

Rangers responded to Wrangell St. Elias to assist with a search and rescue on July 6; they utilized the fire resources helicopter to retrieve two individuals from a river bar, one who was suffering from a broken leg.

Ranger Liz Hamilton was an active participant in the Regional Law Enforcement Training Committee and helped put together a training program for the region's NPS law enforcement officers to ensure that they are trained for the modern law enforcement environment. After being a part of the committee and reviewing the needs of the region, she was sent to Control Tactics Instructor Training. After the training Ranger Hamilton assisted the Fairbanks Police Academy Training with their control tactics sessions.

Sustainable Summits

The American Alpine Club in partnership with Denali National Park and Preserve, hosted an international mountain conference, *Sustainable Summits: The International Mountain Conference on Environmental Practices*, July 20-24, 2014. Originally planned to take place in Talkeetna, Alaska in 2013, financial and logistical factors pushed the date of the Conference to 2014 and pushed the location south to Golden, Colorado. The successful event brought together land managers, climbers, planners and scientists from the world's mountainous areas whom focused on environmentally sustainable management practices and on developing global partnerships.

Sustainable Summits Conference

Celebrating 100 Years of Denali Mountaineering

The American Mountaineering Center

July 20-24, 2014

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