



# The Midden

The Resource Management Newsletter of Great Basin National Park

## Archeological Survey at the Johnson Lake Mine

By Karla Jageman, Archeologist

Great Basin National Park Cultural Resource Management (CRM) staff once again made the trek up to the Johnson Lake Mine during the 2013 field season (Figure 1). The purpose of this summer’s field work was to document the mine in its entirety in preparation for stabilization work on the buildings from 2014 to 2017. CRM staff camped at the site for nine weeks in order to survey the entire site. The historic mine covers an area of approximately 200 acres and consists of three different use areas: extraction, residential, and beneficiation/milling areas.

Park staff recorded many new features and thousands of artifacts. By the end of the 2013 field season, the CRM staff had recorded 85 features, including a collapsed log structure, three adits, 21 prospects, one aerial tramway, five loading platforms, one ore loading chute, nine wooden mining claims, three rock cairns, mine tailings, four standing log cabins, a mill, mill tailings, a stable, six tent platforms, three depressions, two privy depressions, a shaving/ bathing station, two corrals, four culturally modified trees, a pipeline, a rock alignment, and eight roads/trails.

Historic artifacts (Figure 2) found during the survey included tin cans, glass, ceramics, domestic



NPS Photo by Dan Rhode

Figure 1. Park Cultural Resource Management Staff with Superintendent Mietz near cabins associated with the Johnson Lake Mine.

items (such as cookware, utensils, storage/furniture hardware, springs, a pocket watch (Figure 3)), bone, clothing items (such as buttons, rivets, clasps, gloves), fabric, shoe parts, leather horse tack, stove parts, ammunition, buckets, barrels, metal drums, car parts, hardware (such as wire nails, spikes, bolts, nuts, washers), cable, cement, concrete, wire, wire mesh screens, corrugated metal, sheet metal, cut logs, cut lumber, metal pipes, rubber hose, mining/milling machinery, canvas machinery belts, milling balls, railroad rails, ore car parts, mining tools (such as pick axes and wheelbarrows), and miscellaneous metal objects.

These features and artifacts are currently being analyzed by CRM staff. However, preliminary results of the survey can be

reported. Based on historic and archeological research it has been determined that the site was occupied from 1908 to 1950, with some years of inactivity. The site can be further broken down into three periods. These are the Early Period (1908 – 1915), the Middle Period (1915 – 1935), and the Late Period (1935 – 1950). The early period is when the mine was just beginning its operations.

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## Archeological Survey at Johnson Lake Mine (continued)

It was a period of prospecting in which the miners were attempting to discover the mineral potential of the site. During this period they prospected for silver, lead, and gold. The middle period is the period in which the mine was the most profitable. It began with the discovery of tungsten in 1915, prices of which sky rocketed during World War I (1914 – 1918). This period ended with an avalanche destroying many features within the extraction area, including the aerial tramway building and the main adit. The late period was when the mine's prosperity declined, and the miners shifted from large scale mining back to minor prospecting.

Artifacts, such as tin cans, glass, and ceramics, discovered at the site helped the CRM staff to determine when the buildings were constructed and used during the mine's history. Artifacts can also be used to determine the foods that people were eating and the activities they performed, along with many other things. In the residential area, two of the buildings were built during the early period of the mine's occupation, most likely around 1910 - 1912. Two other features were built during the early stages of the middle period, most likely around 1916 or 1917.

In the beneficiation/milling area the historic record was utilized to determine the construction date of the mill. Newspaper articles from the *Ely Record*



Figure 2. Park CRM Staff recording artifacts at the Johnson Lake Mine.

NPS Photo by Dan Rhode

indicate that the mill was scheduled to be built in the spring of 1918, which is supported by artifacts found. The stable located in this area was probably built around the same time.

It is with clues, such as artifacts, features, and historic documents, that archeologists can piece together the events that took place at the Johnson Lake Mine. Just like any other archeological site, whether it is prehistoric or historic, these clues to the past are important. Without them archeologists are unable to gather critical information about the people who lived at a site in the past. After processing and analyzing the archeological information it is passed on to the public for them to better understand the past. Without these clues the Johnson Lake Mine may still be a mystery.

That is why it is important to remember these three simple rules when visiting archeological sites: Look but Don't Touch, Take Only Pictures, and Leave Only Footprints. By following these three rules you will help archeologists to preserve the past and the information contained within the artifacts for many generations to come.



Figure 3. Pocket watch found near the mill (collected in 2013 by Park CRM staff).

NPS Photo by Karla Jageman

## Kious Basin Update

By Patrick Mingus, Supervisory Biological Science Technician

Park visitors may have noticed some smoke rising from the eastern flank of the South Snake Range in November 2013, but it was all part of the plan. As part of the ongoing Kious Basin Sage Steppe Restoration Project, Lake Mead Fire recently visited Great Basin National Park to conduct a twenty-five acre (10 ha) pile burn. Lake Mead and Great Basin have now completed this phase of the 195 acre (79 ha) restoration project. Hundreds of pinyon and juniper slash piles were disposed of over a two-day period using low intensity fires.

This type of managed burn is effective for enhancing the regrowth of native understory and limiting the potential spread of invasive plants. Great Basin staff received valuable experience in assisting Lake Mead with the operation. The slash piles in Kious Basin were previously constructed by visiting Fuels Crews from Sequoia/Kings Canyon and North Cascades National Parks during the summer of 2012.

Restoration experience at Great Basin National Park has shown that the highest seedling survival rates are achieved when seeds are sown just prior to the first lasting snowfall of the season. A mixture of native bunchgrasses and forbs will be seeded into the burn scars with an eye on the weather.



NPS Photo

Burning slash piles in Kious Basin to aid in the sage steppe restoration project.

Fall seeding also discourages the establishment of invasive plants such as cheatgrass.

The 25-acre subunit of slash piles was designed to compare the long term restoration results of lop-and-scatter to pile building/burning restoration techniques on previously suppressed sage and antelope bitterbrush plant communities. Line-point

intercept vegetation transects were sampled in Kious Basin in 2009 to establish a floristic baseline. These transects will be revisited over the next few years to monitor restoration results. Knowledge and experience gathered during this project will be used to help make better informed decisions in future restoration projects at Great Basin National Park.

### Lepidoptera BioBlitz

Help find moths and butterflies with lepidopterist and author Paul Opler and photographer Evi Buckner-Opler!

**July 13-15, 2014**

Contact [Gretchen\\_Baker@nps.gov](mailto:Gretchen_Baker@nps.gov) for more info.

# Christmas Bird Count Reveals Trends

By Gretchen Baker, Ecologist

In 1900, a group of birders started counting birds at Christmastime, which they called the Christmas Bird Count (CBC). Before long, they were joined by dozens, and then thousands of other groups, launching the longest-run citizen science project on the planet. Year after year, bird lovers have documented what birds are present within 10-mile diameter circles, and this data has shown a remarkable number of trends.

The Snake Valley CBC was established in 1997 and has been conducted every year since. It includes the towns of Baker, NV and Garrison, UT, portions of several park watersheds, extensive BLM lands, Burbank Hills, and Pruess Lake, along with the Spring Creek Rearing Station. Participants include local birders, park staff, and employees from the Bureau of Land Management, Nevada Department of Wildlife,

Eastern Nevada Landscape Coalition, and the Great Basin Institute.

From 1999 to 2012, a total of 105,768 birds have been counted, with fluctuations of annual counts from 2,226 to 13,102. The most common birds seen are mallards, European starlings, and horned larks (Figure 1).

Over the years, 111 bird species (including some groupings, such as sparrow species), have been spotted on the CBC day. In addition, 13 other species have been spotted during the count week. Those seen in the count week aren't counted individually, but simply marked in the data as being present. One of the fun things about birds is that the species seen each year changes. While the number of species seen on each count has stayed relatively constant, from 43 to 57, the actual species seen has varied, largely due to climate and if any



Photo by Gretchen Baker

An American Goldfinch seen during the 2008 Christmas Bird Count.

storms have blown through. Some species are rare birds to the area. In fact, 32 species have only been documented once during the CBC.

Although the overall count has fluctuated over the years with no discernible trend, some bird species have increased or decreased over the years. Birds that have become more abundant include rock pigeons, appearing in 2003, red-breasted nuthatches, appearing in 2004

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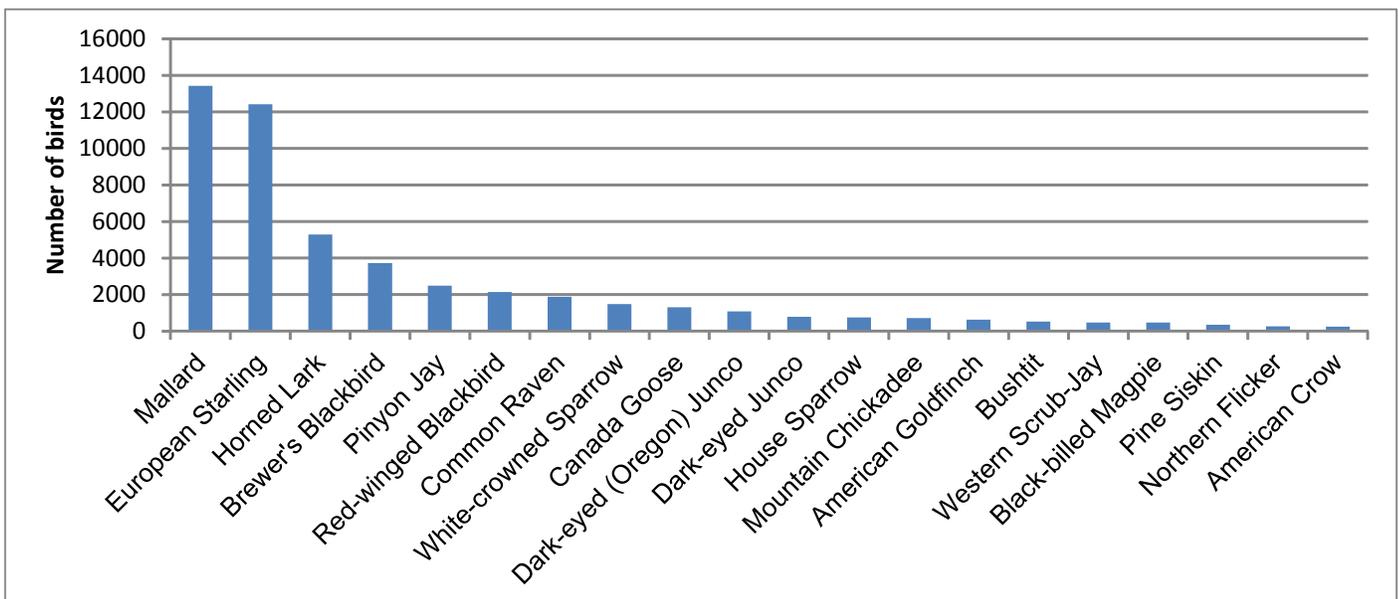


Figure 1. Twenty most common bird species seen in the Snake Valley Christmas Bird Count, 1999-2012.

## Christmas Bird Count (continued)

(although with some earlier count week appearances), Eurasian collared doves, appearing in 2005, and wild turkeys, also appearing in 2005. Bird species that have decreased over the years include sage sparrows, with only two seen after 2004, and white-breasted nuthatches, which have had a small decline in recent years.

What birds will be seen in 2013? The best way to find out is to come join the count! To participate in this year's Snake Valley CBC, to be held on Monday, December 16 (info on back page).

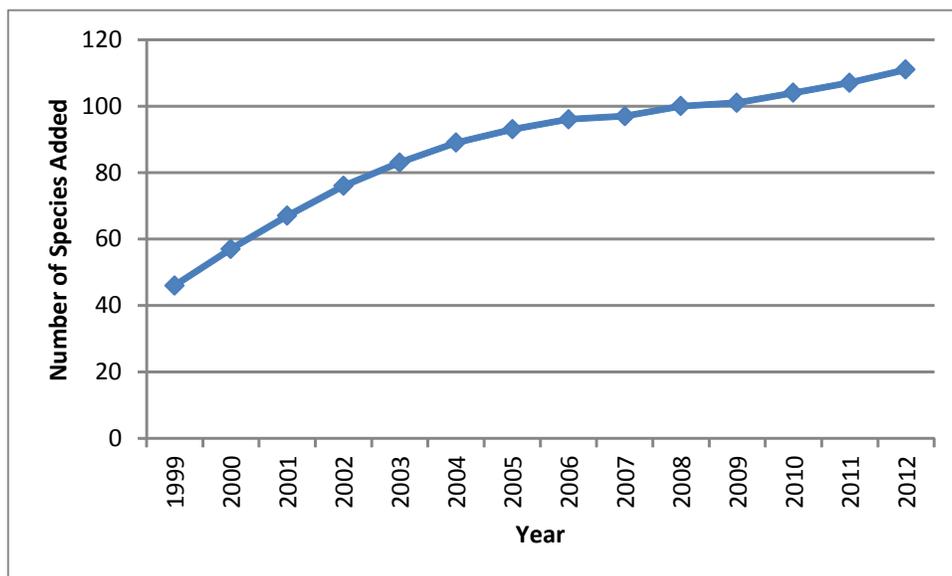


Figure 2. Accumulation curve showing the number of bird species added to the count each year, from 1999-2012. The curve has not yet leveled off, indicating we should expect one to three additional species to be added to the Snake Valley CBC list in 2013.



Photo by Gretchen Baker

Introduced non-native wild turkeys have appeared in the Snake Valley Christmas Bird Count since 2005.

## Recent Publications

Baker, G. M., S. J. Taylor, S. Thomas, R. Olson, K. Lavoie, M. Denn, S. C. Thomas, H. Barton, K. H. Helf, R. Ohms, J. Despain, J. Kennedy, D. Larson. 2013. National Park Service cave ecology inventory and monitoring framework. *In* Land, L. and M. Joop, Eds. National Cave and Karst Management Symposium: Proceedings of the Twentieth Conference, November 4-8, Carlsbad, New Mexico: NCKRI Symposium 3. Carlsbad (NM): National Cave and Karst Research Institute, pp. 117-125.

Barrows, C. W., H. Gadsden, M. Fisher, C. García-De la Peña, G. Castañeda, & H. López-Corrujedo. 2013. Patterns of lizard species richness within National Parks and Biosphere Reserves across North America's deserts. *Journal of Arid Environments*, 95:41-48.

Provencher, L., T. Anderson, G. Low, B. Hamilton, T. Williams, and B. Roberts. 2013. Landscape conservation forecasting™ for Great Basin National Park. *Park Science* 30(1):56-67.

# Management Guidelines for Reptiles and Amphibians

By Bryan Hamilton, Wildlife Biologist

From salamanders in the Smoky Mountains to sidewinders in Death Valley and spotted turtles on Fire Island, the habitat and protections afforded by National Park Service (NPS) units play an important role in stemming the worldwide decline of reptiles and amphibians. The NPS is a federal cooperator with Partners in Amphibian and Reptile Conservation (PARC) in conserving reptiles, amphibians and their habitats as integral parts of our ecosystems and cultural heritage.

PARC publishes regional habitat management guidelines (HMGs), which are intended to assist land owners and land managers in improving the compatibility of lands with reptiles and amphibians. HMGs use the best available science and provide guidance on the management and restoration of habitats so that amphibians, reptiles, and many other wildlife species may benefit.

HMGs for the southwestern region are currently being finalized. This document will provide specific and non-regulatory guidelines for managing habitats with the goals of keeping common species common, decreasing the decline of imperiled species, and reducing the likelihood of species becoming listed as threatened or endangered.

Reptiles and amphibians serve many important roles in our world. Snake predation controls rodent populations, amphibians indicate a clean environment, fence lizards inoculate ticks against lyme disease, and reptile venoms treat diabetes, heart disease, high blood pressure, and control pain. In the Southwest several species such as desert tortoises, spotted frogs, and ridge nosed rattlesnakes are imperiled due to habitat loss, disease, and indiscriminate killing. Other species such as short-horned lizards (Figure 1), spadefoot toads (Figure 2), and kingsnakes (Figure 3) are more common and add a sense of adventure and character to the sometimes harsh Southwestern landscapes.

NPS units play an important role in the conservation of reptiles and amphibians and assist in the development of regional HMGs. If you are interested in conserving reptiles and amphibians, consider joining PARC, the world's largest conservation group for reptiles and amphibians (it's free at <http://www.swparc.org/>).

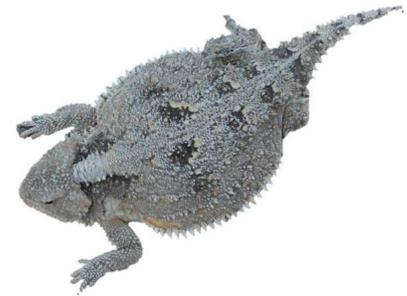


Figure 1. Short-horned lizards can be found across the Southwest. Sometimes known as horny toads, these lizards are myrmecophagous (feeding almost exclusively on ants).



Figure 2. Great Basin Spadefoots are distantly related to "true toads." They use their spades for burrowing and spend hot, dry periods underground (sometimes for years) waiting for rains.

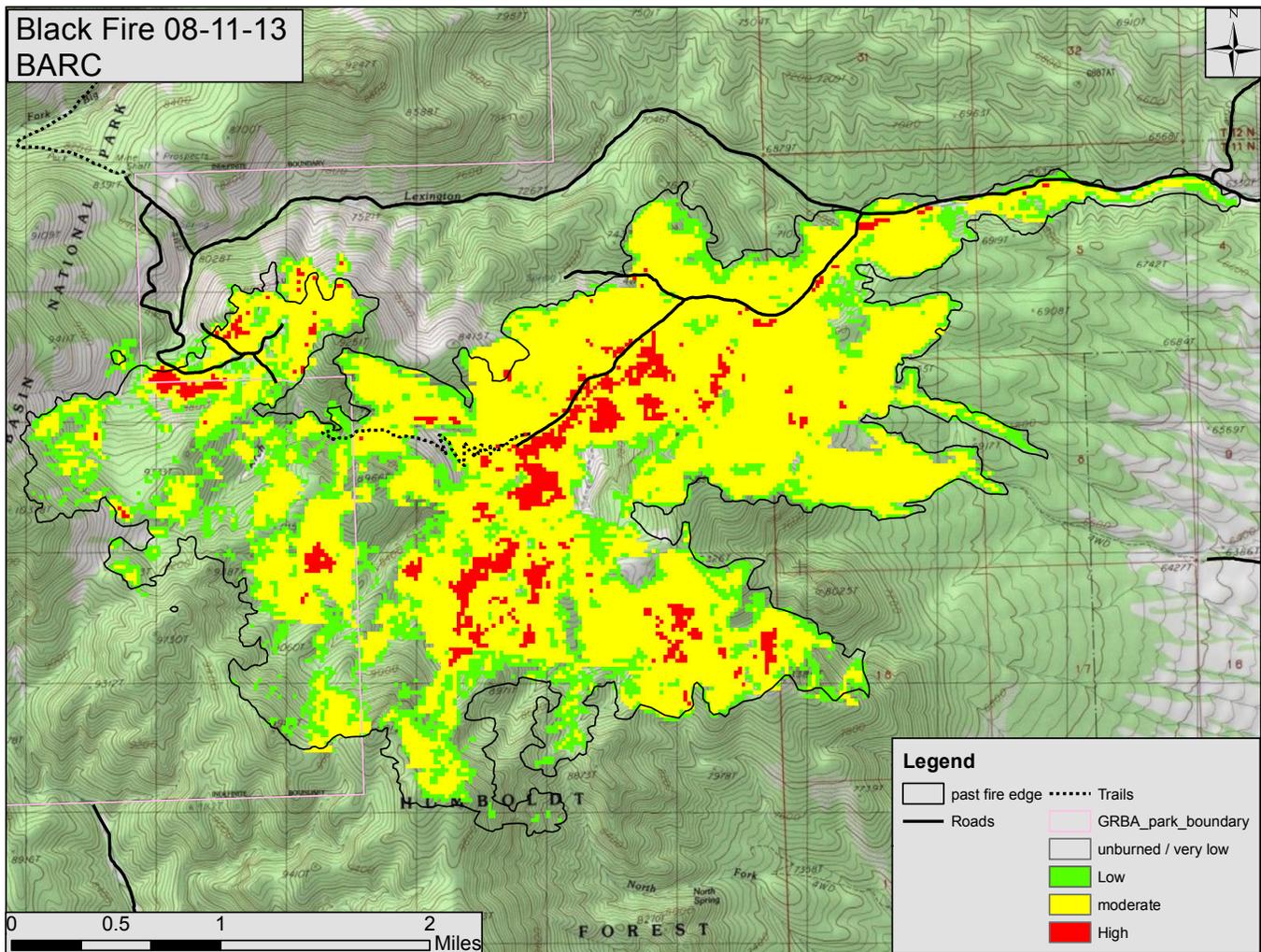


Figure 3. The bright colors of Sonoran Mountain Kingsnakes may be used to mimic the venomous coral snake. However in Nevada no coral snakes occur and their mimics are stranded with no venomous model.

**Learn more about  
reptiles--sign up to  
help with the annual  
Kingsnake Survey!**

Contact [Bryan\\_Hamilton@nps.gov](mailto:Bryan_Hamilton@nps.gov) for more info.

# Account of the Black Fire, in and near Great Basin National Park



Map of the Black Fire, which burned in July and August in the Black and Lexington watersheds on the southeast side of Great Basin National Park. Red indicates high intensity fire, yellow is moderate, and green is low.

By Ben Roberts, Chief of Natural Resources

On July 1st, 2013 a lightning strike in the Black Canyon drainage, located outside the park in the BLM-managed Highland Ridge Wilderness, caused an ignition in pinyon/juniper vegetation. On July 2nd, a BLM crew, the Unaweep Wildland Fire Module, conducted an initial size-up. They determined the fire to be under two acres in steep terrain. Due to limited values at risk, firefighter safety concerns and a

desire for resource benefit, the fire was determined to be manageable under a contain/control strategy.

On July 3rd, the fire had grown to 40 acres and was still within the Black Canyon drainage. On July 4th thunderstorms in the area caused the fire to make several large runs, growing to 375 acres. Additional hand crews and helicopter support were brought in. The Lexington Road was closed by the BLM with park concurrence for public safety on July 8th.

On July 9th the fire grew to 900 acres. On July 10th the fire more than tripled in size to 3000 acres due to storms that brought wind but no precipitation. The fire was outside of the wilderness area at this point and stretched from lower Lexington Creek near the 6,200 ft. level to the park's southeast boundary at 9,000 ft. The incident transitioned from a Type 4 to a Type 3 team.

The fire received significant precipitation on July 13th.

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National Park Service  
U.S. Department of the Interior

The Midden is the Resource Management newsletter for Great Basin National Park.

A spring/summer and fall/winter issue are printed each year. The Midden is also available on the Park's website at [www.nps.gov/grba](http://www.nps.gov/grba).

We welcome submissions of articles or drawings relating to natural and cultural resource management and research in the park. They can be sent to:

Resource Management,  
Great Basin National Park,  
Baker, NV 89311  
Or call us at: (775) 234-7331

**Superintendent**  
Steven Mietz

**Chief of Resource Management**  
Tod Williams

**Editor & Layout**  
Gretchen Baker



## What's a midden?

A midden is a fancy name for a pile of trash, often left by pack rats. Pack rats leave middens near their nests, which may be continuously occupied for hundreds, or even thousands, of years. Each layer of trash contains twigs, seeds, animal bones and other material, which is cemented together by urine. Over time, the midden becomes a treasure trove of information for plant ecologists, climate change scientists and others who want to learn about past climatic conditions and vegetation patterns dating back as far as 25,000 years. Great Basin National Park contains numerous middens.



## Black Fire (continued)

On the 14th, most resources were demobilized from the fire. Small runs were observed until the 18th when 150 acres burned near Lexington Arch. The Arch itself was not burned but trees below it were scorched.

More resources, including a dozer, were again assigned to the fire. On July 22nd, 40 mph winds caused the fire to grow another 700 acres, moving into the North Fork of Lexington. By July 26th, most active fire was above 8,500 ft. near the western edge of the fire, in and near the park boundary. Crews began rehabilitation of dozer lines and lower elevation hand lines. Scattered rain showers on the 27th and 28th reduced the risk of further spread. Chipping operations along the North Fork of Lexington continued to reduce fuels along the road.

On July 30th, most resources were released from the fire. BLM and park staff continued to monitor the fire. Several large thunderstorms during the last week of August caused significant debris flows in the South Fork of



Photo by Gretchen Baker

Burned sign at Lexington Arch trailhead

Lexington and moderate flows in the upper end of the North Fork.

The fire was declared contained on September 3rd. Park and BLM staff submitted a restoration plan on September 24th, although funding to carry out the plan is not guaranteed. The Lexington Road will remain closed until next spring due to lack of road maintenance and the threat of falling snags. When snows clear, park and BLM staff will meet to discuss when and how to allow safe public access.

### Upcoming Events:

**December 16 Snake Valley Christmas Bird Count:** Help count birds in and near the park. Contact Melissa Renfro, 775-234-7154 for more info or look at: <http://birds.audubon.org/christmas-bird-count>

**December 19 Ely Christmas Bird Count:** Contact Marian\_Lichtler@blm.gov for more info.

**May (date tba) Nevada Archeology Month:** Special activities at Great Basin National Park to help celebrate Nevada's 150th Anniversary. Contact Karla\_Jageman for more info.

**May (date tba) Kingsnake Surveys:** Contact Bryan\_Hamilton@nps.gov for more info.

**July 13-15 Lepidoptera (Butterflies and Moths) BioBlitz:** Help with the sixth annual BioBlitz to help learn more about what lives in the Park. Contact Gretchen\_Baker@nps.gov for more info.