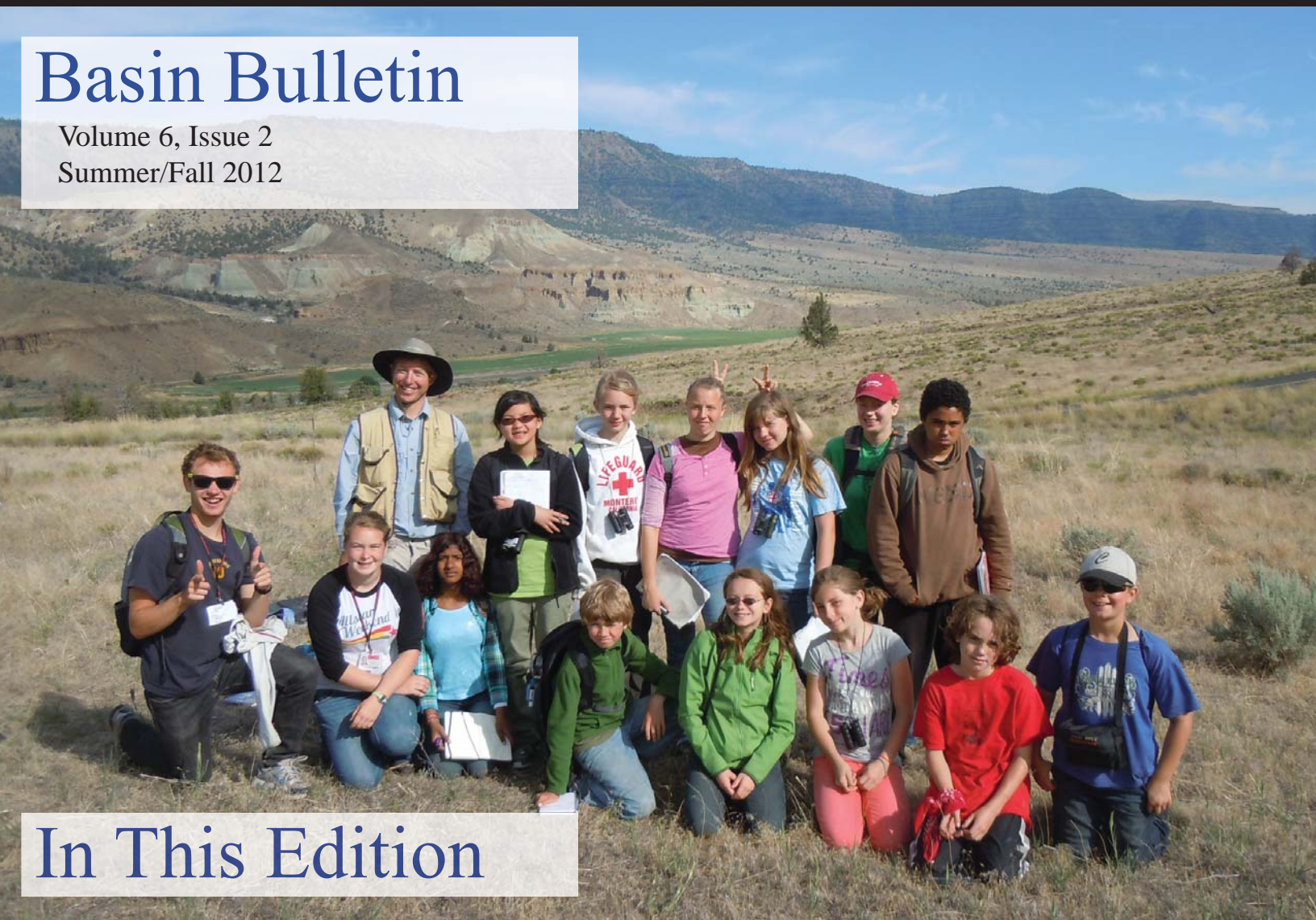




## Basin Bulletin

Volume 6, Issue 2  
Summer/Fall 2012



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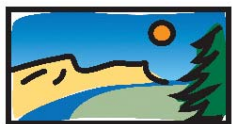
Shirley Hoh, Resource Manager at John Day Fossil Beds National Monument, tells us about the recent reptile survey.

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A new model for vegetation management and restoration, pg. 8

Tom Rodhouse talks about a management decision tool developed by the US Department of Agriculture.



UPPER COLUMBIA  
BASIN NETWORK  
**UCBN**

## PLUS!

- See where our field crew will work this summer on pg. 4
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- A farewell note from our Program Manager, pg. 7
- Learn about the Western Whiptail Lizards in our "Featured Creature" section on pg. 9



www.shileynaturecenter.org



# Upper Columbia Basin Network Inventory and Monitoring Program



National Park Service  
U.S. Department of Interior



The National Park Service has implemented natural resource inventory and monitoring on a servicewide basis to ensure all park units possess the resource information needed for effective, science-based managerial decision-making, and resource protection.

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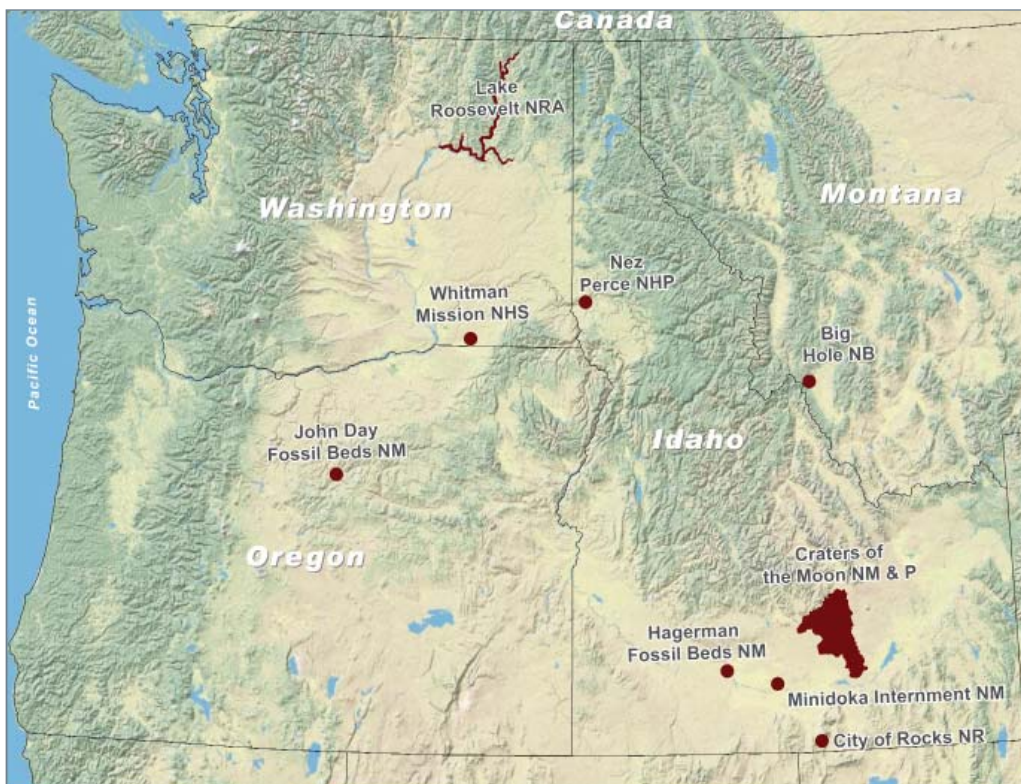
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Please distribute this newsletter on to  
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Questions about the newsletter?  
Write to: Editor  
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## PARKS IN THE NETWORK

Big Hole National Battlefield (BIHO)

City of Rocks National Reserve (CIRO)

Craters of the Moon National Monument and Preserve (CRMO)

Hagerman Fossil Beds National Monument (HAFO)

John Day Fossil Beds National Monument (JODA)

Lake Roosevelt National Recreation Area (LARO)

Nez Perce National Historical Park (NEPE)

Whitman Mission National Historic Site (WHMI)

<http://science.nature.nps.gov/im/units/ucbn/>

*Taking the pulse of the National Parks*

# The Program Manager's Corner

The year 2012 is proving to be a dynamic one for the Upper Columbia Basin Network (UCBN) Inventory and Monitoring Program. Our treasured leader of the past eight years, Lisa Garrett, has departed for greener (or least more humid) pastures. As you'll learn on page 7 of this newsletter, Lisa is now the I&M Division Chief for the Southeast Region. I know I speak for all the UCBN Superintendents, Resource Managers, Park staff, and I&M staff when I say that we wish Lisa great success in her new role and thank her for all her hard work in developing a UCBN I&M Program recognized as #1 in customer satisfaction as measured by Superintendent and Resource Manager surveys conducted as part of the National I&M Program's 3-year review of all 32 I&M Networks. Job well done, Lisa!

Other changes making 2012 a dynamic year are the arrivals of some new UCBN Superintendents. Craters of the Moon National Monument and Preserve, after saying goodbye to Doug Neighbor last year and breaking-in Lisa Garrett on a Detail as Acting Superintendent, welcomed Dan Buckley as Superintendent earlier this year. Whitman Mission National Historic Site bid adieu to Terry Darby, had Kris Kirby as Acting Superintendent, and now has Tim Nitz on board as the new Superintendent. And Jim Hammett retired as Superintendent at John Day Fossil Beds National Monument, which hosted Matt Brown as Acting Superintendent and recently announced Shelley Hall as their new Superintendent. I have, no doubt, left out folks that served important Acting Superintendent roles during these transitions. My head spins a bit recounting all the changes, so please forgive any omissions. The entire I&M team looks forward to meeting these new faces, and working together to further our program's success. Speaking of new faces, on July 1<sup>st</sup> our GIS Analyst, Meghan Loncker, and her husband welcomed baby Lena into the world – congratulations Meghan and Jeff!

The UCBN I&M Program continues to hum along with our various monitoring projects (see page 4 for a schedule of activities). Expanding on the “dynamic” theme, the UCBN is progressing with some exciting projects that reflect the synergy between our I&M Program, Park Resource Managers and Superintendents, and other collaborators. For example, our intrepid Ecologist, Tom Rodhouse, is collaborating with John Day Fossil Beds NM staff and USDA Agricultural Research Service scientists on a structured decision-making framework to guide decisions for upland vegetation management and invasive species control actions (see page 8 for details). Critical to this collaboration is the data collected through our sagebrush-steppe vegetation monitoring protocol and the GIS-based models for species distribution built from that protocol's plot data. Another example is the synergy between Exotic Plant Management Team and Fire Management Program activities at Big Hole National Battlefield and the UCBN's Lehmi penstemon (*Penstemon lemhiensis*) survey data. The survey plot data includes information on the invasive spotted knapweed (*Centaurea maculosa*), which guides herbicide-based control efforts. In addition, the Park is considering prescribed fire as a tool for reducing conifer and shrub encroachment into the horse pasture and Howitzer hill, and our plot data will allow assessment of penstemon population response to the fire disturbance as well as response of the knapweed population.

While much change is underfoot, the UCBN is not missing a stride in completing all scheduled monitoring work, developing additional monitoring protocols (for bats and sage grouse), collaborating with the Parks and other partners to enhance resource stewardship, and, of foremost importance, ensuring the safety of all our staff as they accomplish their busy work schedules. I am just wrapping up my Detail as Acting Program Manager. Jason Lyon, Integrated Resource Program Manager at Nez Perce National Historical Park, will serve as the next Acting UCBN Program Manager.

As always, many thanks to the staff at our great UCBN Parks for your on-going support and assistance.

~ Gordon Dicus – Acting UCBN Program Manager

## UCBN Inventory and Monitoring Program Update - July 2012

Project	Parks Included	Status
<b>2012</b>		
<b>Inventories</b>		
Vegetation Mapping	All UCBN parks	Final reports available for all parks.
<b>Monitoring</b>		
Aspen	CIRO	Protocol approved August 2009. Data collection at CIRO in July 2012. Annual report due November 2012.
Camas	BIHO, NEPE	Protocol approved October 2007. Data collected in May 2012 (NEPE) and June 2012 (BIHO). Annual report due November 2012.
Invasive weed / Lemhi penstemon	BIHO	Pilot work for monitoring of spotted knapweed will occur in conjunction with assisting park staff in monitoring Lemhi penstemon in June 2012. Report due November 2012.
Limber Pine	CRMO	Protocol approved May 2012. Data collected at CRMO in June and July 2012. Annual report due January 2013.
Osprey	LARO	Protocol version 1.1 submitted for approval May 2012. Osprey surveys conducted at LARO in May and July 2012. Annual report due November 2012.
Pika	CRMO	Protocol approved February 2011. Data collected at CRMO in July - September 2012. Annual report due November 2012.
Sagebrush-steppe Vegetation Monitoring	CIRO, HAFO, JODA (Clarno)	Protocol approved September 2009. Data collected at CIRO, HAFO and JODA between May - July 2012. Annual report due October 2012.
Stream Channel Characteristics	BIHO, CIRO	Protocol approved December 2010. Data collected at BIHO and CIRO June - August 2012. Annual report due March 2013.
Riparian Vegetation	BIHO, CIRO	Protocol approved November 2011. Data collected at BIHO and CIRO June - August 2012. Annual report due March 2013.
Water Quality Monitoring	BIHO, CIRO	Protocol approved February 2009. Water chemistry and macroinvertebrate data collected at BIHO and CIRO June - November 2012. Annual report due December 2012.
<b>Science Communication and Science Support</b>		
Science Communication Strategy	All UCBN Parks	Bi-annual newsletter available in January and July 2012.
Natural Resource Condition Assessment	All UCBN Parks	Final reports available for all parks.



# Citizen scientists collecting data at John Day Fossil Beds

**Shirley Hoh** - Integrated Resources Manager at John Day Fossil Beds National Monument



Citizen scientists working alongside NPS staff to collect data on western whiptail lizards at JODA.

Just last week, citizen scientists from the Oregon Museum of Science and Industry (OMSI) visited John Day Fossil Beds National Monument (JODA) to conduct a reptile survey. Over the past thirty-five years, there have been few reported observations of the large, western whiptail lizard (*Cnemidophorus tigris*) in the park. Even though this species of lizard occurs widely throughout parts of Nevada, Idaho, and southeastern Oregon, the disjunct population within the monument is well outside of its normal range, and represents the northernmost population, making

it unique and potentially important for genetic diversity and for adaptations to climate change.

In 2002-2003, UCBN ecologist Tom Rodhouse and herpetologist Al St. John documented Western whiptails only in a restricted portion of the Foree subunit of the park. This population is represented by the uppermost dot in the range map on page 9. Later, in 2005 and 2007, the Foree subunit was burned, shifting the lowland native steppe vegetation further toward a cheatgrass dominated ecosystem. As a result, a concern for park managers has been that the vegetative change may have had a detrimental effect on the lizard population. Previous studies of this species and of similar western North American steppe-associated lizards have shown that foraging efficiency declines and predation risk increases in landscapes heavily infested by cheatgrass.

In an effort to gather information about the status and trend of the Foree western whiptail lizard

population, UCBN and JODA staff are working with OMSI to have student volunteers survey the area. The group consists of eleven middle school students and four instructors who survey reptiles utilizing pitfall traps (constructed by the students) and twice-a-day walking surveys. Collected data consists of reptile identifications, date and time of survey, duration of searches, and GPS locations. Additional sightings of other species of lizards and mammals are also being recorded. Park managers will use this information to further evaluate the impacts of fire on park ecosystems and for developing a strategy to protect this unique western whiptail lizard population.



Student volunteers checking pitfall traps during reptile survey.

## Sage grouse lek counts

**Todd Stefanie** - Biologist at Craters of the Moon National Monument and Preserve

Since 2004 Craters of the Moon National Monument and Preserve (CRMO) staff has monitored sage grouse (*Centrocercus urophasianus*) leks on National Park Service (NPS) managed lands. This year, lek monitoring was expanded just beyond NPS lands to include rarely visited leks on Bureau of Land Management (BLM) Monument lands. Lek surveys are performed using established methods used by the Idaho Department of Fish and

Game (IDFG) and the BLM. During March and April I spent many early mornings looking for these leks and counting these imperiled birds. Sage grouse males can be easily counted this time of year thanks to their elaborate courtship rituals. Each spring, males congregate in leks and perform a “strutting display.” Groups of females observe these displays and select the most attractive males to mate with. The dominant male

claims the center of the lek and typically copulates with around 80% of the females on the lek.



Male sage grouse displaying for female birds in Southern Idaho (Fremont County).

Photo courtesy of Bill Schiess

## Sage grouse lek counts (continued)

Males perform in leks for several hours in the early morning and evening during the spring months. Leks generally occur in open areas adjacent to dense sagebrush stands, and the same lek may be used by grouse for decades.

Over 40 leks were visited at least once this year. Access to leks varies from simply parking on the side of the highway and viewing birds adjacent to the road, to hiking by headlamp (starting at 4:30 a.m.) in order to get into the wilderness (2 hours one-way) by sunrise to catch the birds on the lek.

The Golden Chariot lek complex has been a mainstay of the Monument, since the 170 acre Golden Chariot fire in 2000 created the open habitat the birds use as a lek. In what CRMO staff hopes is not a trend, numbers on the Golden Chariot complex were way down this year. Only 3 of 7 leks were active with a high of only 22 males counted; compared to the recorded high of 202 (2007) and the ten-year average of 99.

Surveying the east side of the Monument was a different story. A high percentage of the leks were active and several new leks were found. The biggest problem seemed to be not scaring pronghorn across the lek and flushing the birds before I could count them. There was also a lek that was reported by a visitor in the wilderness portion of the monument, and it was recently verified.



Sage grouse monitored at Craters of the Moon National Monument and Preserve.

## New faces in our network

### Dan Buckley

Superintendent at Craters of the Moon National Monument and Preserve, Idaho

Dan Buckley has worked in a variety of capacities for the National Park Service. He served at the National Interagency Fire Center in Boise, Idaho first as the Wildland Fire Operations Program Lead, and then, as the Fuels/Fire Use Specialist working on NPS fuels policy, interagency prescribed fire policy, biomass, community assistance, and budget allocation.

Prior to Boise, Dan worked three years as the Prescribed Fire Manager for Yosemite National Park ('01-'04), three years as the Fire Management Officer for the Bay Area (Golden Gate, Point Reyes, Eugene O'Neill and John Muir) National Parks ('97-'01), six months as the Prescribed Fire Specialist for the Bay Area Parks ('96-'97), 16 seasons on the Arrowhead Hotshot Crew ('81-'96), one season on the Arroyo Grande Flight Crew on the Los Padres National Forest ('84), one season on as an engine crewmember for Sequoia and Kings Canyon National Parks ('80), two years as a schedule A & B firefighter for California Department of Forestry ('78-'80), and one season as an AD firefighter for Sequoia National Park ('76). He maintains multiple wildland fire qualifications.



Dan Buckley, Craters of the Moon National Monument and Preserve Superintendent.

Dan and his wife of 23 years, Dayna, were both raised in the San Luis Obispo, CA area. They have three children, Sierra Rose, a junior at the University of Idaho; Savannah Lily, a senior at Timberline High School in Boise; and Trekker Daniel, a sophomore also at Timberline High School.

Dan received an A.S. degree in science from Cuesta Community College in 1980, a B.A. degree in journalism/public relations with minors in biology and anthropology from Humboldt State University in 1984. He has used his education and experience to help develop and deliver fire and wilderness training courses, write fire management planning and policy documents, and facilitate meetings and workshops. Dan started as Superintendent of Craters of the Moon National Monument and Preserve on February 27, 2012. His hobbies include bicycling, fly fishing, reading, distance running, snowboarding, hiking and backpacking with his family.



## A farewell note

**Lisa Garrett**

*“20 years from now you will be disappointed by the things you didn’t do than by the one’s you did. So throw off the bowlines. Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream. Discover.”*

~ Mark Twain

By the time you read this newsletter I will reside at the NPS Atlanta Regional Office as the new Southeast Region Division Chief for the Inventory and Monitoring program. It is with great pride and trepidation that I applied for and accepted this position. Pride in knowing that I was able to surround myself with such an incredible staff at the Upper Columbia Basin Network that enabled me to step up to the next level, and trepidation in knowing that I left an amazing Network and staff to pursue another opportunity.

I found the preceding quote and believe it captures the essence of my thoughts as I embark on my new adventure. I’m going to the Southeast Region to be closer to my family as well as to pursue opportunities to work with another great group of program managers, resource managers, superintendents, and regional staff.

My time spent with the folks in the UCBN will always be remembered as “one of the best periods in my career!” I had the opportunity to work with Tom, Gordon, Eric, Paulina, Meghan, Mackenzie, and Devin to build a strong foundation for the Network. We increased participation at our annual science meetings from eleven participants in 2004 to thirty-two in 2011. We produced nine peer-reviewed protocols and have two more underway. Our staff has grown from one to seven and we have produced over 20 annual reports, 62 resource briefs, and 11 newsletters.

The Network is committed to Job #1, and that is to develop a practical, sustainable monitoring program that provides parks with timely, relevant scientific information. We have a busy field season scheduled in 2012. Please refer to the program update on page 4 for dates when staff plans to be in your park, and to learn more about the monitoring that is scheduled.

As I say my final goodbyes to the UCBN staff and parks I would like to extend my personal thanks to all the UCBN Superintendents, Resource Managers, and staff for their amazing support during the last eight years. I look forward to continued partnerships on “State of the Park” reports and gatherings at NPS events. I will miss each and every one of you and invite you to look me up when your travels take you to Georgia or other areas in the Southeast Region.

My Best Wishes to All,

Lisa Garrett



2011 Annual Science Meeting Participants, Walla Walla, WA.

# Ecologically-based invasive plant management in the UCBN

Tom Rodhouse - Ecologist Upper Columbia Basin Network



Dr. Roger Sheley, EBIPM team member, leads a discussion at a recent workshop attended by Shirley Hoh and Tom Rodhouse about the multiple successional pathways that sagebrush steppe communities can take when subject to disturbances like fire and weed invasion.



Shirley Hoh, Resource Management chief at John Day Fossil Beds National Monument (JODA), and I are together learning about a new rangeland vegetation management decision-support tool developed by scientists in the USDA Agricultural Research Service called “Ecologically-based invasive plant management” or EBIPM. The basic idea behind EBIPM is that to really be effective at treating weed invasions we must first understand the underlying causes of invasion; otherwise our control efforts may only be treating the symptoms with no real chance of long-term success. The developers of EBIPM emphasize the process behind the decision-making, and offer a series of simple (at least in concept) steps that all parks, and particularly those with sagebrush steppe or similar rangeland ecosystems, can take to arrive at vegetation management decisions.

EBIPM is based on well-developed ecological principles about disturbance, competition, and the life history and dispersal traits of plants. It is a framework that explicitly recognizes 3 fundamental constraints on vegetation: site availability, species availability, and species performance. Managers have options to influence each of these 3 constraints. For example, we can increase the availability of desired species by seeding. However, we would only do this if it was clear that natural seed supply was limited, such as might occur with big sagebrush after a large fire. We might negatively influence the performance of undesirable exotic annual grasses through herbicides, and carefully plan the timing of various treatments based on our understanding of the life history traits and phenology of the target species.

The hallmark of EBIPM is its intuitive progression towards decisions based on basic ecological principles and knowledge of the local environment. It does not offer a “silver bullet” but rather provides a structured decision-making framework that can be tailored to meet the goals and needs of managers. What I like about the framework is its clear connection to adaptive management. The decisions arrived at through EBIPM are not made once, never to be altered. Rather, the results of decisions are evaluated over time through monitoring and assessment, and new strategies can be tried in an experimental manner. As a monitoring ecologist this gets me really excited – the UCBN monitoring program can really help in this process. To get started, Shirley and I are looking at all kinds of information, from recently discovered old photopoints established by park staff in the 1980’s, to the recent monitoring data collected through our sagebrush steppe vegetation monitoring program. The EBIPM development team, based at the Eastern Oregon Agricultural Research Center, is eager to help. Together we will be working toward decisions that Shirley can incorporate into an updated fire management plan. This is the first opportunity they’ve had to work with the National Park Service, and assuming this process goes well for JODA, should become a model of collaborative, science-based decision-making applicable across the Network. We’ll keep you posted.

For more information on the EBIPM program, visit [www.ebipm.org](http://www.ebipm.org).



# \*6 Featured Creature 9\*

## Western Whiptail Lizards



www.discoverlife.org

Western whiptail lizards (*Cnemidophorus tigris*) are long, slender lizards with triangular heads and pointed snouts, forked tongues, and very long tails. Their tails could reach twice the size of their whole body. They have the ability to lose their tail when fleeing from a predator, so many of them may have smaller tails that are regenerating. The dorsal scales are small and granular, while their ventral scales are large and rectangular.

These lizards mate in the spring, and lay between 1-4 eggs in June-July. These eggs hatch around August. Juvenile lizards look like the adults, except their coloration is much brighter including blue and green colors. They eat all kinds of insects, such as ants, spiders, crickets, grasshoppers, beetles, butterflies and scorpions.

Western whiptail lizard (*Cnemidophorus tigris*)

Western whiptail lizards are found in eastern Oregon and southern Idaho, south to southern Baja California and Northern Mexico, and from California east to Colorado and Texas. They live in areas with sandy soils and desert type vegetation such as sagebrush. In contrast with other lizards, they do not make their home amongst the rocks but rather use abandoned mice burrows.

In the Upper Columbia Basin Network, this species has been documented only in Hagerman Fossil Beds (HAFO) and John Day Fossil Beds (JODA) National Monuments. In JODA, this is a disjunct population isolated from the rest of the species' range, representing the northernmost population, and therefore unique from the perspective of biological diversity.

Information obtained from the Idaho Museum of Natural History:  
<http://imnh.isu.edu/digitalatlas/bio/reptile/lacer/cnti/cnti.htm>

### What order do western whiptail lizards belong to?

Unscramble each of the clue words and copy the letters in the numbered cells to find out the answer:

NOETIPD - TOSNU


1

NLOG TILA


3

4

GUHBASRES


5

REEDST


6

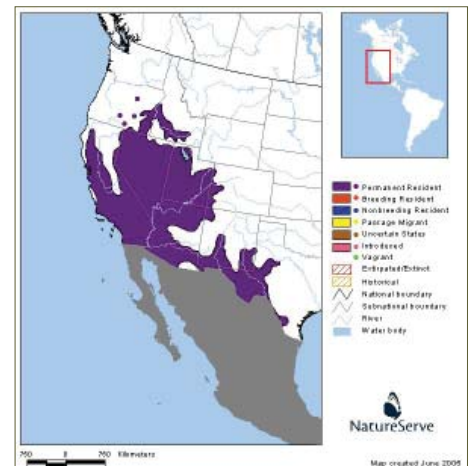
SENCIST


2

Western whiptail lizards (*Cnemidophorus tigris*) belong to the Squamata order of reptiles, also known as

1	2	3	4	5	6		

reptiles.



Distribution of western whiptail lizards. Uppermost dot in the map belongs to the Foree Unit at John Day Fossil Beds National Monument.