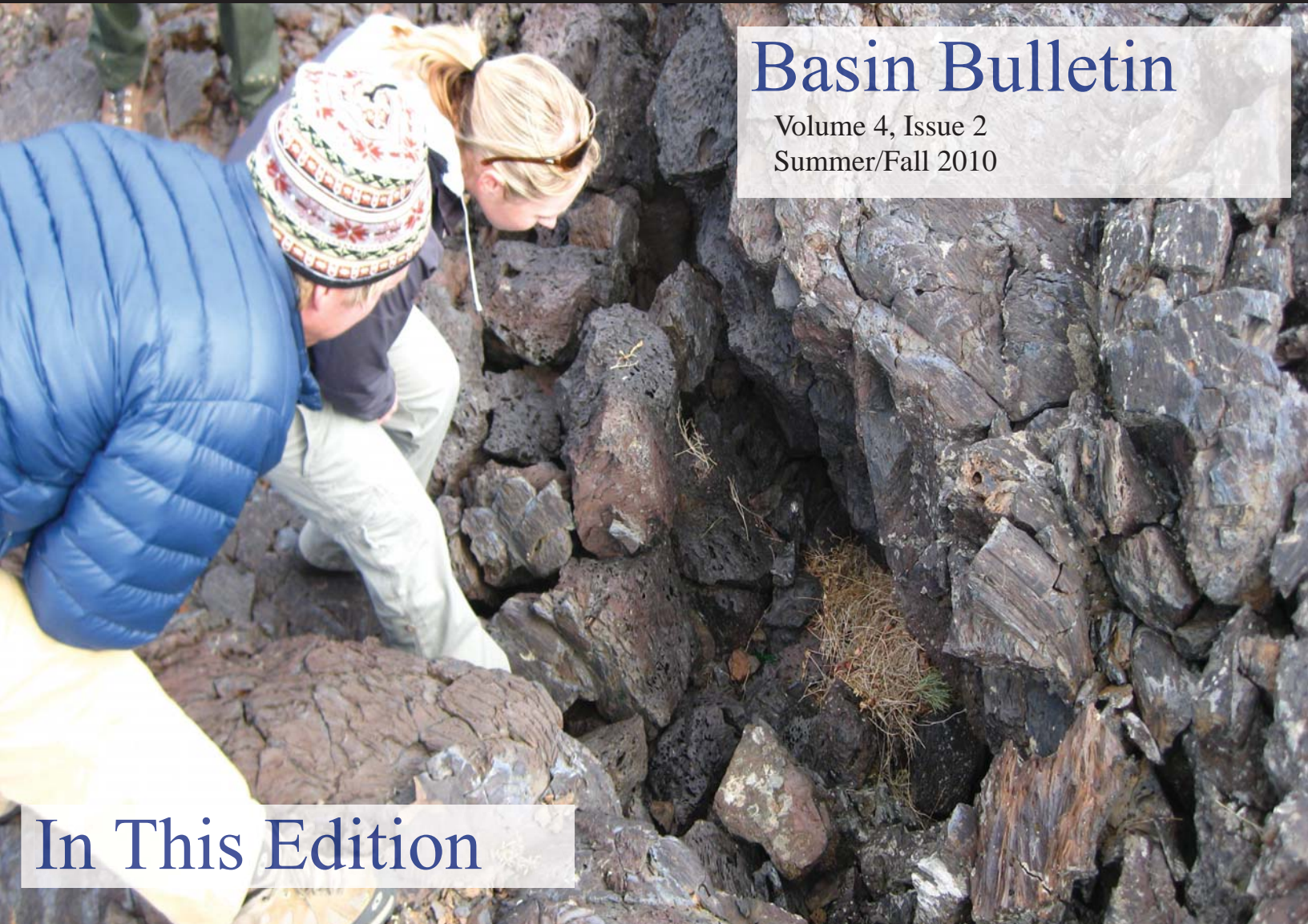




Basin Bulletin

Volume 4, Issue 2
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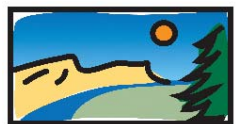
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UPPER COLUMBIA
BASIN NETWORK
UCBN

PLUS!

- Find out where the UCBN field monitoring crews will be this summer on pg. 3.
- City of Rocks National Reserve receives an ozone monitoring station, pg. 5
- Participate in our photo contest! Details on pg. 5.
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National Park Service
U.S. Department of Interior
Upper Columbia Basin Network



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.

Upper Columbia Basin Network
105 East 2nd St.,
Suite 5
Moscow, ID 83844-1136

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

Network Coordinator
Lisa Garrett (208) 885-3684
Lisa_Garrett@nps.gov

Network Ecologist
Tom Rodhouse (541) 318-3726
Tom_Rodhouse@nps.gov

Network Data Manager/Ecologist
Gordon Dicus (208) 885-3022
Gordon_Dicus@nps.gov

Network Aquatic Biologist
Eric Starkey (208) 885-3010
Eric_Starkey@nps.gov

Network Research Associate
Mackenzie Jeffress (702) 293-8844
jeffress@uidaho.edu

Network GIS Analyst
Meghan Lonaker (208) 885-3014
meghanl@uidaho.edu

Network Science Communication Specialist
Paulina Starkey (208) 885-3015
pstarkey@uidaho.edu

Newsletter Contributors
Doug Neighbor Mackenzie Jeffress
John Ray Eric Starkey
Lisa Garrett

Distribution
Please distribute this newsletter on to any person or group who is interested!

Questions about the newsletter?
Write to: Editor
Paulina Starkey, pstarkey@uidaho.edu

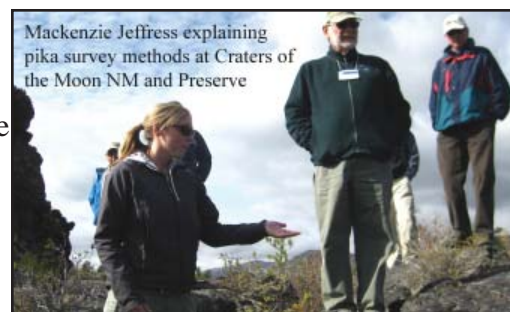
The Coordinator's Corner

The UCBN staff has been busy this spring getting field equipment organized, hiring summer help, attending workshops, and writing protocols.

Four parks in the Network (BIHO, CIRO, CRMO, and NEPE) were included in the formation of a high elevation group of 12 parks that will receive annual base funds to monitor climate change response across the region. Doug Neighbor, John Apel, Steven Bekedam, Jason Lyon, Tom Rodhouse, Jannis Jocius, and I participated in the planning and implementation of a 3-day workshop in May that was designed to assist participants in prioritizing and selecting climate change response monitoring projects that would enhance current monitoring efforts. Tom Rodhouse (Ecologist) presented information on sagebrush-steppe habitat within high elevation parks and how these habitats will be altered with changes in climate. I will work with the program managers from the Rocky Mountain and Greater Yellowstone Networks to develop and implement monitoring projects in the high elevation parks using base funding that is available from the climate change response program.

Gordon Dicus (Data Manager) and Meghan Lonaker (GIS Analyst) attended the annual Inventory and Monitoring (I&M) Data Manager's Conference in Ft. Collins, CO. Gordon presented a poster on the UCBN NestWatch program for LARO and on the database he developed. Paulina Starkey (Communications Specialist) is working with area schools, birdwatchers, and park staff to recruit volunteers to report their nest observations on eagle or osprey nest sites along the lakeshore through an online database.

Mackenzie Jeffress (Pika Monitoring Protocol Lead) was instrumental in getting a project funded through the Climate Change Response - Servicewide Comprehensive Call. The project is entitled "Pikas in Peril: multi-regional vulnerability assessment of a climate-sensitive sentinel species." The project was funded for \$714,000 and includes three universities, eight parks, and three I&M Networks. Congratulations!! Mackenzie will spend her summer field sampling in four parks in the Pacific West Region. Tom Rodhouse and Meghan Lonaker have been assisting Mackenzie with the development of sampling frames for this summer's field efforts.



Eric Starkey (Aquatic Biologist) wrote a stream channel characteristics protocol that was submitted for review in May. Eric will be sampling water quality at CRMO and JODA this summer and also spending time at LARO documenting osprey nesting productivity. Eric also attended the NPS Water Resource Professionals meeting in Ft. Collins CO, and presented a poster on the UCBN water quality protocol.

We have two protocols due in the August-September time frame. Tom Rodhouse is working with Shawn McKinney from the Sierra Nevada Network to develop a limber pine protocol, and Tom, Eric and I are all working on a protocol to assess the condition of UCBN riparian habitats.

We are looking forward to a busy field season!! All of the results of our efforts will be showcased at our annual science day meeting October 19th in John Day, OR. I hope to see everyone in October! Have a safe summer!

Lisa Garrett - UCBN Coordinator

UCBN Inventory and Monitoring Program Update - July 2010

Project	Parks Included	Status
Inventories		
Lemhi penstemon	BIHO	A 2 nd year of inventory data will be collected for Lemhi penstemon at BIHO in June 2010.
Vegetation Mapping	CIRO, CRMO, HAFO, JODA, LARO	BIHO – Scoping meeting October 2009 CIRO – Accuracy assessment April-July 2010 CRMO – HAFO Final reports complete JODA – LARO Preliminary maps in progress NEPE – WHMI Scoping meetings October 2009
Monitoring		
Aspen	CRMO	Final protocol approved August 2009. Data collection scheduled for CRMO in August 2010. Reporting scheduled for completion in October 2010.
Camas	BIHO, NEPE	Data collection scheduled for May 2010 (NEPE) and June 2010 (BIHO). Reporting scheduled for completion October 2010.
Limber Pine	CRMO	Protocol scheduled for submission in August 2010.
Osprey	LARO	Protocol submitted for review September 2009. Osprey monitoring data collection scheduled at LARO from May to July 2010.
Photomonitoring (targeted projects)	WHMI	Doan Creek photomonitoring May 2010 (WHMI).
Pika	CRMO, CRLA, LABE, LAVO	Protocol submitted in December 2009. Fieldwork scheduled at CRLA and LAVO in June 2010.
Riparian Vegetation & Stream Channel Characteristics	BIHO, CIRO, JODA, NEPE, WHMI	<i>Rip. Veg.:</i> Protocol scheduled for submission in Aug. 2010. <i>Stream Channel Ch.:</i> Protocol submitted May 2010.
Sagebrush-steppe Vegetation Monitoring	CIRO, CRMO	Final protocol approved in September 2009. Data collection scheduled for CIRO and CRMO, May-July 2010. Reporting scheduled for completion in October 2010.
Water Quality Monitoring	CRMO, JODA	Water chemistry and macroinvertebrate data collection at JODA and CRMO. Field work begins in late May-early June 2010.
Science Communication and Science Support		
Science Communication Strategy	All UCBN Parks	Publish updated UCBN brochure, develop VIP program for osprey NestWatch, develop and update info. material.
Natural Resource Condition Assessment	All UCBN Parks	Final reports completed for JODA, LARO, NEPE and WHMI. Reports scheduled for BIHO, CIRO, CRMO and HAFO in 2010 - 2011.
“Pikas In Peril” Project	CRMO (CLRA, GRSA, LAVO, LABE, ROMO, GRTE, YELL)	Task agreements in progress, sampling design underway, field season starts in late June 2010.

Pikas in Peril: An update of the tail-less tale of pikas in the West

Mackenzie Jeffress - UCBN Research Associate



Pika (*Ochotona princeps*) at Craters of Moon National Monument.
Photo by Doug Owens, CRMO staff.

As many of you might have seen in previous newsletters and presentations, I have spent the last year working with the UCBN to develop a monitoring protocol for the American pika (*Ochotona princeps*). Originally, four parks in the Pacific West Region, Crater Lake NP, Craters of the Moon NM and Preserve, Lava Beds NM, and Lassen Volcanic NP, were targeted for pika monitoring. We submitted the draft monitoring protocol for peer-review in December 2009 with plans to pilot test the protocol in two parks this summer. Little did we know that the project was about to get bigger!

In February 2010, the American pika was declined for listing under the Endangered Species Act. In spite of this decision, the USFWS acknowledged that “climate change is a potential threat to the long-term survival of the American pika” and called for more information, includ-

ing long-term monitoring data, to better evaluate the status of pika populations in the future. Given this concern and need for more information, the UCBN teamed up with two other networks, park biologists, and university researchers to submit a proposal for an in-depth study of pikas in the four parks mentioned above as well as Grand Teton NP, Great Sand Dunes NM and Preserve, Rocky Mountain NP and Yellowstone NP. The proposal was funded as part of the NPS Climate Change Response Program, and the study is using and expanding on the UCBN pika monitoring protocol to assess pika vulnerability to predicted changes in climate. More specifically, this project, catchily titled “Pikas in Peril,” will 1) document pika occurrence patterns and predict pika distribution across the parks and regions, 2) measure gene flow and model connectivity of pika populations within five of those parks, and 3) project climate change effects on the future distribution, connectivity and vulnerability of pika populations in each park. So as I’m writing this article my bags are packed and I’m ready to begin pika surveys in our original four parks. We have great technicians, park biologists, interns, and others who will help survey 100 sites per park for evidence of pika activity with plans to do the same in 2011. We are very excited to see the protocol so well received and being applied across a range of areas. We truly appreciate the support of all involved. I look forward to presenting some of our preliminary results at October’s Science Advisory Committee meeting and promise to have plenty of cute pika pictures to share!

Osprey NestWatch takes flight

Paulina Starkey - UCBN Science Communication Specialist

Around mid-May our volunteers started monitoring birds at Lake Roosevelt National Recreation Area (LARO). We have a handful of volunteers so far, including LARO staff, SCA’s, and college students. Our website is up and running too, so check out the program and how to become a volunteer at:

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

Our website includes a description about the program, a code of conduct, an identification guide and a frequently-asked-questions section. Volunteers can also print field data forms and maps of Lake Roosevelt for their reference. We hope to increase participation next year by working with local high school students and other interested parties. Thanks again to our volunteers for their help monitoring osprey’s nests productivity!



Osprey nest at Lake Roosevelt National Recreation Area.
Picture submitted by Osprey NestWatch volunteer, Katie Potter.

Ozone monitoring station at City of Rocks National Reserve

John Ray and Lisa Garrett- NPS Air Resource Division, Program Manager for Gaseous Pollutant Monitoring and UCBN Program Manager

The Upper Columbia Basin Network in coordination with the National Park Service Air Resource Division (ARD) have acquired and installed an ozone monitor in City of Rocks National Reserve (CIRO). The ozone monitoring program supports the placement of relatively low cost, self-supporting ozone monitors in park units to monitor ozone during the summer months.

The portable ozone monitoring station (POMS) has an ozone analyzer, weather sensors, a datalogger, solar power system, and a communications package. Ozone data is collected as hourly averages and transmitted back to a central office for validation checks and storage in a database. The “portable” aspect is that a station can be easily shipped to a site and assembled in a few hours. You may wonder why ozone is being monitored, and here is the reason. Ground-level ozone is an air pollutant harmful to humans, animals and plants. High concentrations of ozone harms the membranes of the respiratory system when inhaled by humans and animals, and when absorbed by plants through their gas exchange pores. Large concentrations can cause oxidation and lead to death of plant cells. Signs of injured plants include visible foliar injury, such as black/brown interveinal lesions in broadleaf plants and yellow spots on needles in conifers. These signs are not always visible, however. The Environmental Protection Agency (EPA) established an ozone standard of 75 parts per billion (ppb) over an 8-hour period in 2008. However, the EPA recently announced that they will revise the current standard, and probably change it to a new standard more protective of



Portable ozone monitoring station at CIRO.

human health, ranging between 60-70 ppb. Additionally, the EPA plans to create a secondary standard designed to protect natural resources. The new standards are expected to be announced in August, 2010.

The ARD has conducted GIS spatial analysis to estimate the ozone concentrations over rural areas. This is done by using the current monitoring stations that are primarily located in or near urban areas. Given that a large portion of the western US do not have access to continuous ozone monitoring, they are very likely to exceed the proposed primary or secondary ozone standards.

The ozone monitoring station at CIRO is currently providing direct observations of ozone concentrations. CIRO is on the edge of areas projected by satellite observations and it is likely to be affected by pollutant plumes from Salt Lake City, UT. The data collected from the ozone monitoring station at CIRO will assist managers with their assessment of air quality for the park.

Take your camera outside! UCBN Photo Contest

Different aspects of each park in the UCBN captivate people in different ways. It could be a landscape, a historic landmark, wildlife or plant species. Now is your chance to show them to us by submitting your picture(s) for our 2011 calendar. A committee will select the best 12 pictures from our parks and we will include them in a calendar that will be distributed to YOU next year. Submit your pictures (JPEG format - high quality) to Paulina Starkey at pstarkey@uidaho.edu by August 15th.

Share the wonders of your park with others!



Landscapes Conservation Cooperatives

Lisa Garrett and Doug Neighbor - UCBN Program Manager and CRMO Superintendent

Many of us have been involved in discussions and workshops with parks, regional staff, and partners from other agencies about Landscape Conservation Cooperatives (LCCs). The Fish and Wildlife Service and other Department of Interior agencies, along with a number of NPS folks who are on the steering committee for an LCC, are still working on defining what they are and how they are supposed to work. We thought it was timely to give UCBNers a glimpse of what is being planned.

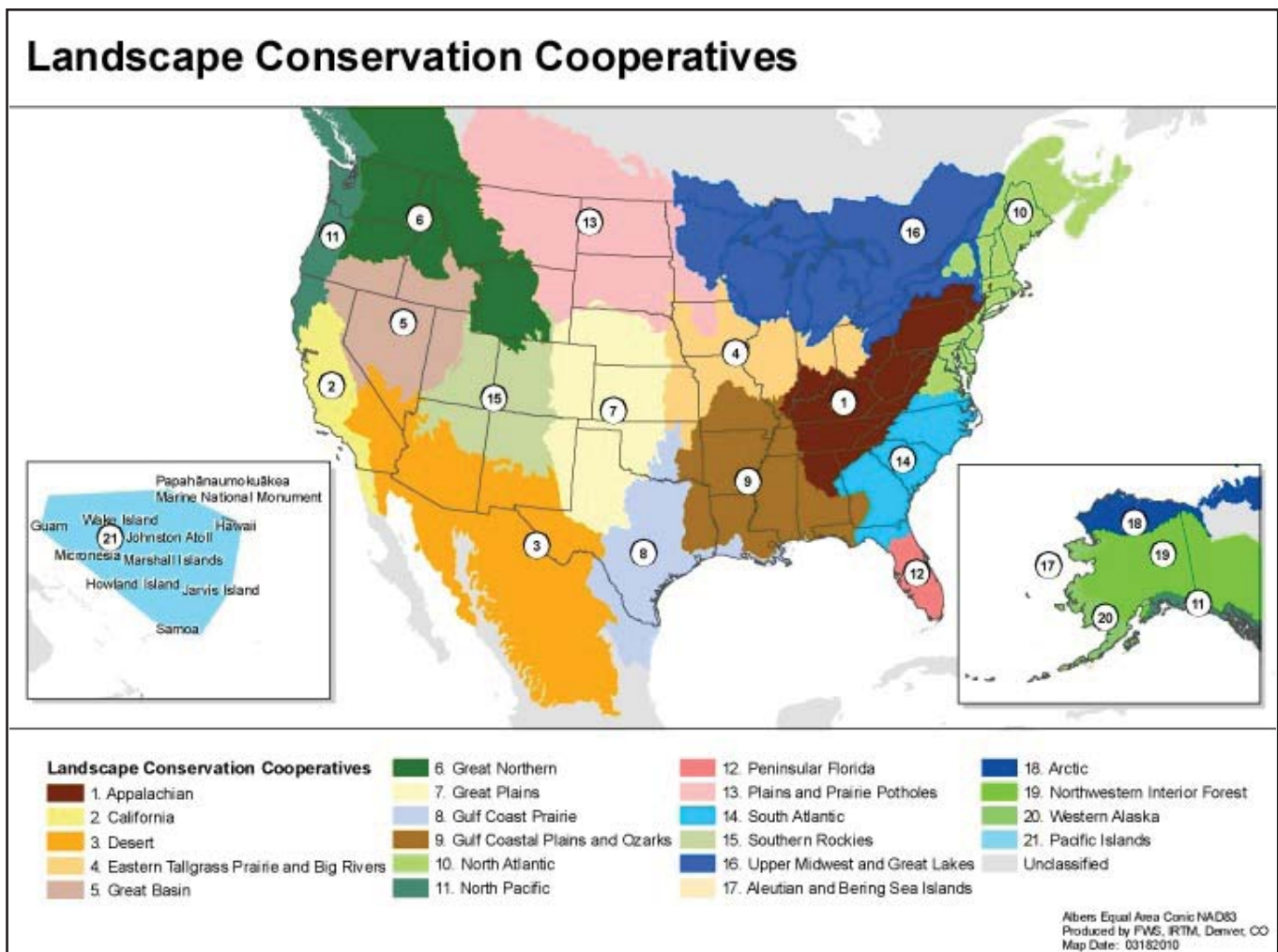
Landscape conservation cooperatives (LCCs) are applied conservation science partnerships focused on a defined geographic area. They are fundamental units of planning and science capacity to target the right science in the right places for efficient and effective landscape-scale conservation. Collectively, LCCs will comprise a national network focused on helping conservation agencies and organizations support natural systems capable of sustaining abundant, diverse and healthy populations of fish, wildlife and plants.

By functioning as a unified network rather than independent entities, LCCs can accomplish a conservation mission no single agency or organization can accomplish alone.

LCCs will complement and build on the current science and conservation work of existing partnerships, such as fish habitat partnerships, migratory bird joint ventures and flyway councils, as well as species - and geographic - based partnerships.

Currently Doug Neighbor, CRMO superintendent, is on the planning committee for the Great Basin LCC and Lisa Garrett, UCBN Program Manager, is working with the Great Northern LCC. The map of the LCCs geographic framework is shown below.

For more information on LCCs please visit: <http://www.fws.gov/science/shc/lcc.html>.



Agreements, Cooperation, and Monitoring... “Oh My!”

Eric Starkey - UCBN Aquatic Biologist

No, this isn't the “Land of Oz,” this is the Upper Columbia Basin Network's (UCBN) Stream Channel Characteristics and Riparian Condition monitoring protocols. The UCBN has teamed up with the United States Forest Service (USFS) - PACFISH/INFISH Biological Opinion Effectiveness Monitoring Program (PIBO) to monitor permanent wadeable streams and their riparian corridor in our network parks. The PIBO program developed monitoring protocols for the Upper Columbia region and has been actively monitoring for 10 years. The original sampling design, developed by PIBO, was intended to address monitoring needs for bull trout and steelhead recovery efforts. Since that time, it has been used extensively to evaluate stream and riparian condition in a wide variety of streams.

Metrics used to assess stream channel and riparian condition include but are not limited to: percent stable banks, bankfull width to depth ratio, percent undercut banks, percent pool tail fines, large wood frequency, wetland rating, effective ground cover, woody cover, and small trees per hectare.

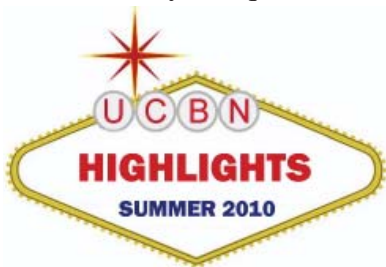
Monitoring of stream channel and riparian condition is especially important because of their value as habitat for a wide variety of aquatic, semi-aquatic, and terrestrial



Big Hole River by Encampment Area

species. In addition, riparian areas and conditions within the stream channel can have a profound influence on other resources such as water quality and cultural artifacts in the floodplain.

Monitoring will occur in JODA this year, followed by NEPE and WHMI in 2011, and BIHO and CIRO in 2012. If you have any questions regarding sampling that will occur in your park please contact Eric Starkey or Tom Rodhouse (Eric_Starkey@nps.gov, Tom_Rodhouse@nps.gov).



This new section of our newsletter provides brief information on the latest accomplishments, partnerships, new projects or ideas that have taken place or are currently happening in the network

- 1. Hot off the press! new publication:** UCBN Ecologist, Tom Rodhouse, recently published an article on rodents at City of Rocks National Reserve in the Journal of Mammalogy. Here is the citation: Rodhouse, T. J., R. P. Hirnyck, and R. G. Wright. 2010. Habitat selection of rodents along a pinyon–juniper woodland–savannah gradient. Journal of Mammalogy 91(2):447–457.
- 2. Project of national importance:** Lisa Garrett, Mackenzie Jeffress, Tom Rodhouse, Meghan Lonneker, Paulina Starkey, and Gordon Dicus are working with the “Pikas in Peril” team on a project funded through the Climate Change Reponse - Servicewide Comprehensive Call.
- 3. Save the date for this upcoming meeting:** Remember our Science Advisory Committee Meeting, October 19-21, 2010 in John Day, Oregon.
- 4. Update on Monitoring Protocols:** A protocol for monitoring stream channel characteristics was submitted in May. Additional protocols for monitoring riparian vegetation and five-needle pines will be submitted in August-September 2010.

#6 Featured Creature #9*

What do you know about Townsend's Big-Eared bat?

Fill in the blanks with the appropriate word from the list.

Townsend's big-eared bats are from the _____ family. They have long flexible _____ and lumps on each side of the snout. They occupy a wide range and can be found throughout the _____, from British Columbia to _____. Their diet is based on insects, primarily _____. They _____ in the winter and in the summer they form _____ colonies (of 12 to 100 individuals!). They are cave and mine roosters, but old buildings are also an important habitat.

Townsend's big-eared bats are very _____ to human disturbance, and they are listed as _____ species by Idaho Fish and Game. Human interference can cause bats to abandon roost sites and _____ spraying has a serious effect on their food source. Another concern is the spread of _____. This is a disease that is ravaging bats in the eastern US and that is _____ close relatives of the Townsend's big-eared bat. Recently, it was announced that the disease is advancing to the west; it has been found in Oklahoma in the US, and Ontario and Quebec in Canada.



1. "vulnerable"
2. Mexico
3. ears
4. white nose syndrome
5. hibernate
6. maternity
7. moths
8. threatening
9. sensitive
10. Vespertilionidae
11. western U.S
12. pesticide

Help this bat get to his cave!

Lava tubes in Craters of the Moon National Monument and Preserve (CRMO) provide regionally critical habitat for Townsend's big-eared bats. In fact, some of the few documented maternity colonies in Idaho are in CRMO.

