

The Weather Vane

The Newsletter of the Heartland Inventory and Monitoring Network

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News in Brief

Park abbreviations are given on page 2

Aquatic Monitoring

The draft report, "Five-Year Review and Recommendations for Revision of Aquatic Sampling Protocols at Buffalo National River and Ozark National Scenic Riverways", will go to peer review. We will finalize reports for HOSP, PERI and TAPR soon. Staff completed BUFF invertebrate sampling in January.

Breeding Bird Monitoring

We completed the report for HOCU and released it to the park and web site. Parks should start soliciting help from volunteers for next spring breeding bird monitoring.

Data Management

Staff have developed a new photo library using photo management software. We expanded the HTLN server to address drive space needs. Staff worked with HTLN fire ecologist, Sherry Leis, to install the national fire ecology database.

Exotic Plant Management

The EPMT and our park contacts initiated FY12 project planning. We are reviewing and revising safety plans. Jordan moved from SCA employment to become a full-time NPS Bio Tech. Adam renewed his red card and assisted with a prescribed burn at PERI.

Fire Ecology

Sherry is working with parks and fire staff to update goals and objectives for some park prescribed fire plans. Chris will return from winter hiatus March 16. Sherry presented a poster at the Society of Range Management meeting (see page 2). Sherry accepted additional responsibility as the Coordinator for the Great Plains Fire Science Consortium.

Fish Community Monitoring

Fish reports for PERI, HOSP, and HOME are complete. Monitoring at BUFF will commence in mid-May and go through June.

Invasive Plant Monitoring

Work continues on reports for ARPO,

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Refugia Spring Forth

Groundwater springs greatly influence water quantity and quality in streams in which they occur. Stable temperatures and flow of spring water are important in regulating stream conditions, which in turn effects the distribution and abundance of fishes.

Stream reaches influenced by springs may serve as key thermal refugia, during months when harsh temperature fluctuations and drying may occur. However, we know little about the fish community structure and use patterns within and adjacent to these potential refugia.

As part of the long-term fish monitoring at Wilson's Creek National Battlefield (WICR), the HTLN assessed influences of Double Spring on fish communities and water temperatures of Terrell Creek (Figure 1). During the spring, we found that temperature, dissolved oxygen, species richness and fish abundance in the stream were similar between reaches downstream (blue) and upstream (amber) of Double Spring (Figures 2 and 3).

The spring water kept temperatures and dissolved oxygen concentra-



▲ springs — lower reach — upper reach
Figure 1. Map of Terrell Creek at Wilson's Creek National Battlefield with location of sample reaches and location of Double Spring.

tions steady in the downstream reach throughout the year, resulting in a stable number of species present in all seasons (Figure 2). In summer, upstream water temperatures warmed, contributing to oxygen levels falling below lethal limits, and the reach began to dry. Abundance and species richness

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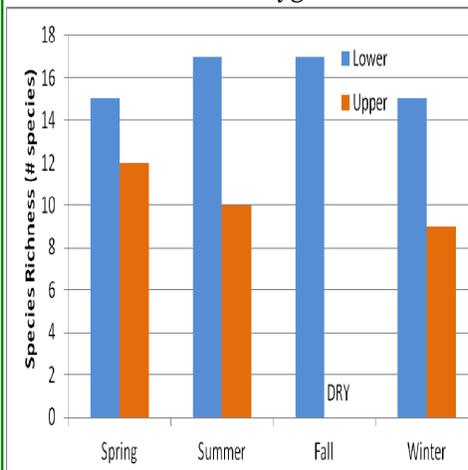


Figure 2. Number of species present at reaches downstream (lower) and upstream (upper) of Double Spring.

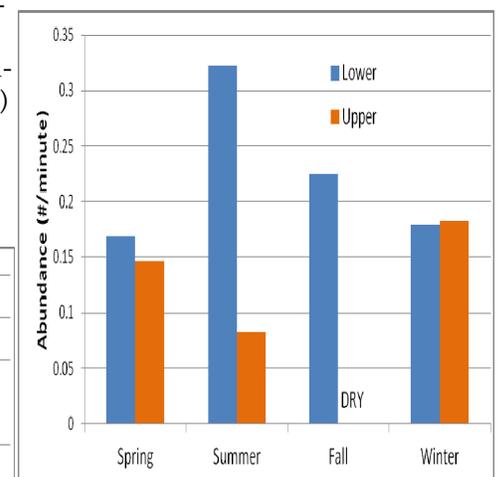


Figure 3. Number of fish caught per unit of fishing effort (#/minute) at reaches downstream (lower) and upstream (upper) of Double Spring.

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... protecting the habitat of our heritage



Kudos! To Our Team

Sherry Leis, fire ecologist, Outstanding Young Range Pro- fession Award . . .

Sherry A. Leis has demonstrated extraordinary potential and promise as a range management professional and a future leader in the profession. She has established herself as a capable leader by building collaborations among people from a variety of agencies and locations around common rangeland interests, as exemplified by her involvement in the Patch Burn Grazing Working Group, to address issues at regional and greater scales.

Sherry's journey to range management began with Peace Corps service in Africa, where she observed the interaction of fire and grazing on plant communities. At Oklahoma State University, she used an interdisciplinary approach to understanding the effects of military disturbance on rangeland.

Collaboration, perhaps her greatest strength, comes naturally to Sherry. As one of her support letters states, Sherry "brings together all parties involved in the development of projects, encouraging the open communication of ideas and information, culminating in a proposed course of action." Yet another letter describes her "unfailing commitment to integrating information, ideas and observations in ways that expand our understanding of grasslands." The letter goes on to describe her ability to transmit understanding to land managers, "enabling them to become better at what they do."

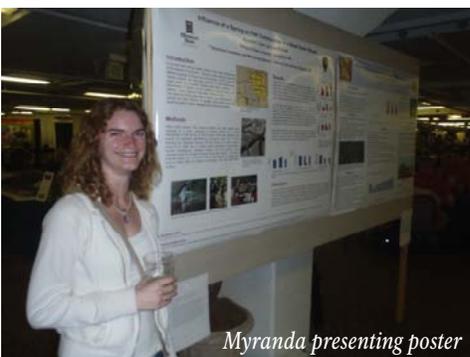
Sherry enjoys bringing new people into the profession by mentoring employees interested in fire and rangeland ecology.

The Society of Range Management mission is to promote the professional development and continuing education of members and the public in the stewardship of rangeland resources. This is a prestigious award for Sherry, and we all congratulate her.

— taken from the Society of
Range Management

Myranda Clark, HTLN STEP employee, con- ference attendee

Myranda Clark, a student employee, works with the HTLN aquatics program of Vital Signs monitoring. She



Myranda presenting poster

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declined at the upstream site while fish abundance at the downstream reach increased. The upstream reach became completely dry in fall, eliminating all fishes. Precipitation during winter months added water to the upstream reach and allowed re-colonization from downstream areas to replenish numbers upstream, completing the annual cycle of shifting fish populations.

By understanding the role that groundwater sources, such as springs, take in influencing water quantity and temperature and in shaping stream communities, parks can improve protection and management of their aquatic resources.

— Hope Dodd and Myranda Clark



Sherry receiving award

began working with HTLN as a graduating high school senior.

Myranda received a student travel award from the Missouri Chapter of the American Fisheries Society to attend the Missouri Natural Resources Conference in February. She presented the Terrell Creek monitoring data highlighted in the feature article on page 1, which she coau-

thored.

In these economic times with travel awards few and far between, we are proud of the recognition that Myranda, a Missouri State University Junior, received for her contributions to aquatic ecology and resource management, as well as to the HTLN.

— contributed by Hope Dodd

(Continued from page 1)

EFMO, HOCU, LIBO, and OZAR.

Rare Plant Monitoring

Staff have been working on revamping the western prairie fringed orchid database and 2011 report.

Vegetation Community Monitoring

We published a new report for WICR and added it to the website. Improvements on the database continue. A revision of the TAPR visual plant guide is underway.

Wetland Monitoring

Staff compiled information summary sheets for volunteers and interns at five important CUVA wetlands. We are hiring two interns this year, Luke Biscan, a University of Kentucky forestry student, returning for his second year, and a 6-month intern position, shared with the EPMT program.

Whitetail Deer Monitoring

Surveys began January 3rd and ran through February 9 at ARPO, PERI and WICR. Data are being compiled, error checked, and reports will be out soon.

Abbreviations

NPS	= National Park Service
ARPO	= Arkansas Post National Memorial
BUFF	= Buffalo National River
CUVA	= Cuyahoga Valley National Park
EFMO	= Effigy Mounds National Monument
GWCA	= Geo. Washington Carver Nat. Mon.
HEHO	= Herbert Hoover Nat. Historic Site
HOME	= Homestead Nat. Mon. of America
HOCU	= Hopewell Culture Nat. Historical Park
HOSP	= Hot Springs National Park
LIBO	= Lincoln Boyhood National Memorial
OZAR	= Ozark National Scenic Riverways
PERI	= Pea Ridge National Military Park
PIPE	= Pipestone National Monument
TAPR	= Tallgrass Prairie National Preserve
WICR	= Wilson's Creek National Battlefield

More on the Web

HTLN website: <http://science.nature.nps.gov/im/units/htln/index.cfm>

Society of Range Management: <http://www.rangelands.org/>

Missouri Natural Resources Conference : <http://www.mnrc.org/papers.html>

NPS Intranet staff contact information: <http://science.nature.nps.gov/im/units/htln/aboutus.cfm?tab=3#TabbedPanels1>