

News in Brief

Aquatic Monitoring

Staff completed first ever invertebrate sampling at PERI. Sample processing, data entry, and report writing continues for other network parks. Revision of the stream geomorphology protocol continues. USGS sent initial results of contaminant metals monitoring at OZAR ; results are being analyzed.

Black-tailed Prairie Dog

Network staff will travel to SCBL July 6th to monitor prairie dogs. The HTLN staff will monitor jointly with Northern Great Plains Network staff, as this project will transfer over to them next year.

Bird Monitoring

The HTLN staff started the 2009 bird monitoring season at HOME May 12th, followed by PIPE May 14th. HEHO and EFMO proceed later in the month. Many other network parks are monitoring their birds using park staff and/or volunteers.

Fire Ecology

Staff collected pre- and post-fire data and participated in prescribed fires at WICR, TAPR, HOME, EFMO and HEHO. We near completion of a geodatabase for all fire events at HTLN grassland parks.

Fish Community Monitoring

Staff sampled fish communities at PERI in early May. Floods forced postponing sampling at HOSP. We completed the BUFF fish report and placed it on the HTLN website. The OZAR fish report is in review. Staff continue reports for small stream parks.

Invasive Plant Monitoring

The contract for monitoring at HOSP was awarded to the Institute of Botanical Training, LLC.

Plant Community Monitoring

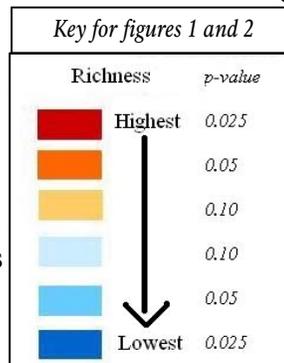
Staff prepares for the field season. We will sample at seven parks this summer: WICR, HOME, PIPE, HEHO, EFMO, SCBL and AGFO. We posted the GWCA baseline plant

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A Bird in Hand . . .

The Heartland Inventory & Monitoring Program (HTLN) monitors breeding bird species annually, collecting data in several parks each year. Birds are often used as a vital sign, telling us the health of an ecosystem or a habitat type. The network integrates bird species monitoring data into ArcGIS® and uses it to map species richness values at each sample site. This can show us “hot spots” where conditions favor or hinder species richness.

With the release of ArcGIS®, version 9.3, a newly unveiled spatial statistical toolset allows us to analyze these mapped richness values. Spatial statistics differ from traditional statistics by

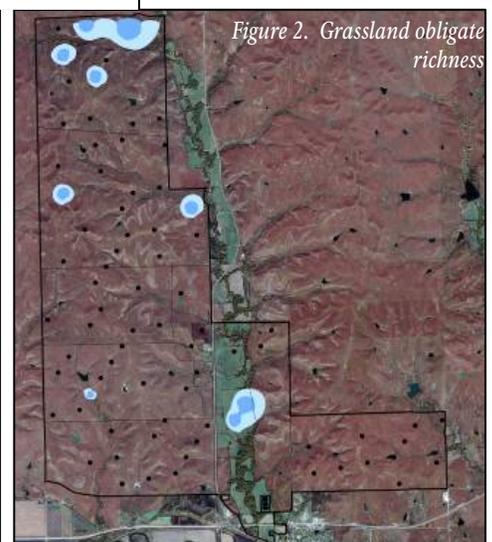
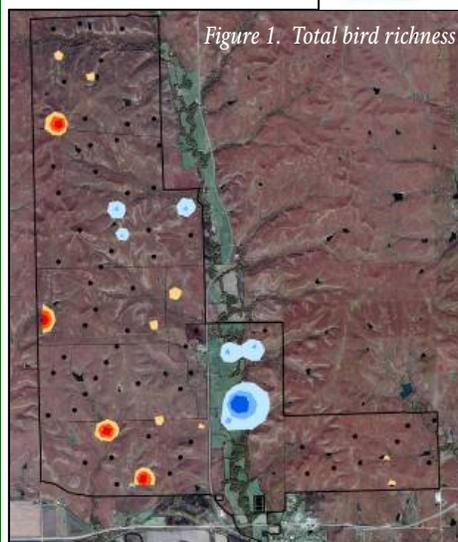


9.3®, identifies clusters of statistically similar areas in a spatial context. We used the hot-spot analysis on breeding bird data collected in 2008 at Tallgrass Prairie National Preserve (TAPR) for both total bird species richness and grassland obligate species richness. It calculated a z-score (measure of standard deviation) for each site, identifying statistically significant areas and a confidence interval (p-value).

Geographic relationships

between richness values and land features can be identified by looking at a map. However, using advanced analytical methods provides more information about the location than observation alone (Fig. 1 and Fig. 2).

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incorporating locations and spatial relationships as a part of the mathematics.

The hot-spot analysis tool , a type of spatial statistic in ArcGIS

The Weather Vane is published by the Heartland Network Inventory and Monitoring Program of the National Park Service. Visit www.nps.gov.

... protecting the habitat



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community report to the HTLN website.

Rare Plant Monitoring

Staff completed annual Missouri bladder-pod monitoring at all WICR glades.

White-tailed Deer Monitoring

Reports for ARPO, PERI, and WICR are in final edit stage and will be sent to the parks in an interactive pdf form soon.

Update on EPMT

Regionally based Exotic Plant Management Teams help parks to fight 2.6 million acres of exotic plants in national parks. They identify, plan, conduct and evaluate exotic species removal projects, and undertake native species restoration efforts in the parks they serve. A Heartland EPMT working group is fleshing out a proposal for a Heartland EPMT in anticipation of 2010 funding.



News Feeds and RSS

RSS stands for Really Simple Syndication. No need to browse with this easy way to keep up with news and information from participating parks. The content reaches you directly without cluttering your inbox.

An RSS reader is a small software program that collects and displays RSS feeds. Some browsers have built in RSS readers and you can download one from the web. Follow instructions for using the RSS feed on park websites where available (HEHO, HOME, HOSP, PIPE in this network) and you will have up-to-date news on your browser with a click of the mouse.

PIPE's plethora of projects

Pipestone NM (PIPE) managers believe that communication plays an important role in successful park management. They achieved a major communication goal with the recent release of their first newsletter edition sent to Monument Friends and other stakeholders.

According to PIPE's resource program manager, Gia Wagner, "This is a really important step for us, developing this newsletter for our friends group and other interested people. It covers a lot of information in six pages."

Several of the projects discussed in the newsletter will preserve natural resources in the monument. Completing these projects effectively requires an understanding of the resources, gained through science and monitoring.

Managers continue restoration of 18 acres of corn field that they converted to prairie. Additionally, they began experimenting to find the best methods of controlling reed canary grass in the

monument. The Minnesota Conservation Corps will implement the selected best control method in 2010. The monument will collect wetland seeds this year to reestablish native wetland species in the treated areas next year.

Other projects include macroinvertebrate sampling in quartzite pools and water quality sampling at two sites on Pipestone Creek. The monument will participate in ash tree seed-banking with the US Department of Agricultural to preserve genotypes before the emerald ash borer moves into the region.

The monument hosted a special communication event related to HTLN monitoring on May 13. Dave Peitz and Craig Young gave a Friday night talk about HTLN activities at the park, specifically highlighting bird monitoring.

PIPE continues its very active resource management, coupled with proactive public communication. Success builds on success as PIPE relies on good science and good communication to attain monument goals.

- Sherry Middlemis-Brown

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In our data, spatial statistics provided better insight into the spatial relationships of bird richness values across the preserve than we could determine without the hot-spot analysis. At TAPR, there were areas of both significantly high and significantly low total species richness in 2008. However, grassland obligate bird species richness was fairly uniform across the preserve with a few notable areas of below normal richness.

The output from this statistical analysis highlights areas of either high or low richness. The hot-spot analysis tool allows areas of interest to come to the surface, becoming easily identifiable for an at-a-glance interpretation. Additional analysis can be preformed based on these results, answering new questions about bird species richness patterns.

- Michelle Guck and Dave Peitz

Park Acronyms

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

Banner schedule on Intranet Sharepoint site: http://inpmwro_share:11122/default.aspx

ArcGIS Hot Spot Analysis: [http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Hot Spot Analysis with Rendering \(Spatial Statistics\)](http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Hot Spot Analysis with Rendering (Spatial Statistics))

Pipestone NM: <http://www.nps.gov/pipe/index.htm>

News Feeds: see [http://www.nps.gov/\[park acronym\]/parknews/index.htm](http://www.nps.gov/[park acronym]/parknews/index.htm) to subscribe.

Ash tree seed-banking: <http://www.mi.nrcs.usda.gov/programs/pmc.html>

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

Exotic Plant Management Teams: <http://www.nature.nps.gov/biology/invasivespecies/>