



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 4

AQUATIC MONITORING

Staff samples at HEHO and EFMO in July, and OZAR Springs in early July.

Invertebrates — Staff continue to process and analyze samples and to prepare reports.

Fish — Staff continue work on fish community reports for PIPE and BUFF.

DATA MANAGEMENT

Staff continue work on wetland monitoring databases, including vegetation index and water chemistry. We currently are working with Ft. Collins staff and IT contractors to migrate our breeding bird database to SQL Server and to test it from the Ft. Collins servers.

EPMT

We and partner-park staff have busily completed projects at BUFF, CUVA, EFMO, FOSC, GWCA, HEHO, HOCU, OZAR, PERI, PIPE and WICR. For some additional details, visit the [EPMT project planning](#) (More on the Web, p.2).

FIRE ECOLOGY

Fire Effects — Staff monitored burns at HOME, TAPR, FOSC and PIPE this spring. We are working with parks to determine the highest value monitoring information.

Great Plains Fire Science — We have 30 openings in the [Butterflies and Fire Prairie Tour](#), July 22 (More on the Web, p.2).

VEGETATION MONITORING

Invasive Plants — We presented GeoPDFs of invasive plant monitoring maps to GWCA, HEHO, HOME, PERI, PIPE, GWCA, and WICR. Reports are still in the works.

Plant Community — Staff completed monitoring at TAPR, assisted by American Conservation Experience Interns, Dave and Robin. We are preparing to sample forested communities at HOSP during the week of July 7. MoRap has delivered the final vegetation map products for HEHO, HOCU, LIBO and PIPE.

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Collect Data as You Go!

Since its inception, the Heartland Exotic Plant Management Team (EPMT) has collected data on treatment of invasive plants within HTLN parks, keeping very precise records on locations and methods.

Each year, the team precedes the data collection with preparing for field season and training new employees in species identification, control methods and GPS (Global Positioning System) units techniques. Team members also learn to manage EPMT data using a software program called CyberTracker™.



CCI field crews collect data while treating invasive species with backpack sprayers. "Data Handlers" then bring the data into the CyberTracker database where it is exported into ArcGIS and Microsoft Excel. Using ArcGIS and Excel, the data is analyzed to produce reports for WASO, GPRA and PUPS.

CyberTracker™, a free software program from a South African non-profit company, called CyberTracker Conservation, is easy to use and has proved essential to EPMT field data collection. CyberTracker™ software, used in combination with Trimble Juno™ GPS units, maximizes data capture in the field while minimizing effort for EPMT field crews.

Before crews head out into the field, each GPS user defines initial attribute information on their unit. Initial attributes include Observer Name, Park Code, Method of Treatment, Herbicide Used (if any), and Target Plant Species. After setting initial attributes, the field team applies the treatment and documents the amount of plant canopy treated, using the GPS recorded coordinates. This method of documenting treatment as-you-go more accurately estimates acreage treated and should result in higher quality treatment data than estimating treated area after completing work.

After concluding treatment for the day, the field crews turn their GPS units over to a "data handler," who downloads data. A park employee may serve as data handler. However within the HTLN, our partner,

Conservation Corps of Iowa (CCI), collects data for many parks. Our agreement with CCI includes downloading and managing data collected by the CCI crews at their central office in Ames, IA.

Quick turnaround on data downloads allows parks to use data immediately. This gives parks the ability to see completed work and plan for future treatment. It also permits data handlers and field crews to check data quality, while the work remains fresh in their

minds. Data handlers and field crews can notify the HTLN data manager of mistakes immediately, allowing the data manager to correct the errors early in the quality assurance process. At the end of the field season, the EPMT and data manager perform a final quality check on all of that year's data.

CyberTracker™ typically results in a database of around 70,000 treatment events annually from data collected by hard-working field crews. The data manager imports the data into ArcGIS™ for each park, and performs many different types of analyses. The EPMT provides vital information to parks for mandatory pesticide use and GPRA end-of-year reporting, and provides data to the WASO EPMT data manager to merge into the national database.

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The Weather Vane is published by the Heartland Inventory and Monitoring Network of the National Park Service. Visit <http://science.nature.nps.gov/im/units/htln/index.cfm>.

... protecting the habitat of our heritage



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As we continue to collect more data, we hope to see multiple years of treatment effort leading to project success. We archive all data from each year into a geodatabase for future reference and analysis, and we make data and analyses available to parks by request.

by Chad Gross and Gareth Rowell

On the Side:

The WICR Foundation acquired a grant that they applied to a summer day-camp program in partnership with the town of Republic's Park Board. Children in two groups, ages 8-10 and 11-12 years, spent a week of their day camps in the park. Although themes at the park involved several subjects, the HTLN contributed to Nature and Environment theme.

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Rare Plants — Staff will survey the orchid population at PIPE in July.

Wetland Monitoring — We received and reviewed proposals to expedite the first year of wetland monitoring at CUVA. The contract award will be announced soon.

WILDLIFE MONITORING

Breeding Birds — HTLN staff completed bird surveys at TAPR in May. Volunteers and park staff completed bird surveys at nine additional parks in the network. Data entry is underway and reports should be completed in early fall.

White-tailed Deer — HTLN staff have been working with NPS Midwest Region, PERI and College of the Ozarks on expanding the college's camera study of deer to include PERI. Surveys at PERI will be conducted next winter.

ABBREVIATIONS

| | |
|------|---|
| NPS | = National Park Service |
| ARPO | = Arkansas Post National Memorial |
| BUFF | = Buffalo National River |
| CUVA | = Cuyahoga Valley National Park |
| EFMO | = Effigy Mounds National Monument |
| EPMT | = Exotic Plant Management Team |
| 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 |
| HTLN | = Heartland I&M Network |
| 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 |

Pea Ridge NMP Develops a Vegetation Management Plan

Congress established Pea Ridge National Military Park to preserve and protect landscapes and resources associated with the Battle of Pea Ridge in 1862. The park interprets the battle as an integral part of the social, political and military history of the Civil War. People had altered local landscape to a mosaic of farm fields and forests by the time of the battle.

The Park's General Management Plan (GMP) of 2006 set goals for landscape management. Park managers recently undertook development of the Vegetation Management Plan to attain the goals of the GMP by establishing methods to create and maintain vegetation patterns that represent the battlefield. As part of this effort, the park prepared an Environmental Assessment (EA) in compliance with the National Environmental Policy Act to evaluate alternative methods of management. The park used the NPS planning website, [PEPC](http://www.nps.gov/pepc/), to complete the process.

The park proposed a plan that would marry the goals for cultural landscape with those for natural resource stewardship, maximizing benefits to both and exemplifying the ultimate integration of disciplines. The EA evaluates four alternatives: a no action alternative and three action alternatives. Under the no action alternative, the park would continue existing activities. Park managers preferred an action alternative that promotes effective vegetation restoration and long-term plant community sustainability, supports protection and preservation of cultural resources and improves the visitor experience.

The EA evaluates potential concerns and impacts to park resources and values, explaining mitigations to reduce adverse impacts that may occur with each alternative. The EA considered impacts to soils, vegetation, wildlife, visual resources, cultural landscapes, archeological sites, historic structures/objects, visitor experience, park operations, and socioeconomics. In addition, the park uses this plan/EA to satisfy the requirements of Section 106 of the National Historic Preservation Act, which focuses on preservation of cultural and historical resources and values.

The Battle of Pea Ridge occurred in a landscape of woods and fields.

Photo courtesy of PERI



The park analyzed data about park resources to determine if actions would adversely affect resources and values and if the alternatives could achieve management goals. Information from the HTLN contributed to understanding resources requiring management and any potential for collateral damage. The HTLN monitors the Arkansas Highlands Zone within the park, where open spaces and woodlands provide a sense of what combatants saw during the battle. Proposed management in this zone includes control or removal of exotic species and encourages native species and systems. Experts could find no major adverse impacts that would result from the alternatives considered. The HTLN assisted with some analyses of potential impacts and served on the Interdisciplinary Team for the EA.

The Cultural Landscape Report incorporates the Vegetation Management Plan, but also includes management recommendations for other cultural areas with natural resources. It also contains an appendix on the upcoming Highway 62 removal mitigation EA. The HTLN has helped with this by using their monitoring data to answer some resource questions.

The public, regulatory agencies and other stakeholders had an opportunity to comment on this the Vegetation Management Plan EA through June 21, 2014. The park will take the comments received into consideration in preparing the final Vegetation Management Plan.

—Sherry Middlemis-Brown

More on the Web

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

PEPC, NPS planning site: <http://parkplanning.nps.gov/publicHome.cfm>

EPMT project planning: <https://sites.google.com/a/nps.gov/heartland-i-m-network/epmt/project-planning>

Butterflies and Fire Prairie Tours: <http://blogs.missouristate.edu/gpfirescience/?p=922>