

# The Weather Vane

The Newsletter of the Heartland Inventory and Monitoring Network

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## News in Brief

### Aquatic Monitoring

We published Reports and Resource Briefs for GWCA, PIPE and HOME. WICR, OZAR and BUFF reports near completion. We scheduled the fifth year invertebrate sampling at OZAR and BUFF for November and December respectively.

### Black-tailed Prairie Dogs

Continuing the transition of monitoring to Northern Great Plains Network.

### Bird Monitoring

We completed data entry and QA/QC, and began reports for EFMO, HEHO, HOME, and PIPE. Dave will present data from TAPR at the 70th Midwest Fish and Wildlife Conference.

### Data Management

Staff continue to revise the HTLN website, making the site easier to maintain and update. The revision focuses on behind the scenes organization with some changes in content. We are adding links to NPS Natural Resources Information Portal, where HTLN species lists, reports, references and metadata reside.

### Fire Ecology

Maria Gaetani, Fire Effects Lead Monitor, will return in January as full time MSU staff. We reported fuel loads for WICR, TAPR and EFMO. Sherry drafted a paper on biomass sampling results from August.

### Fish Community Monitoring

We completed fish monitoring at OZAR in October. Staff continue to process samples and data, and to report results to parks and state agencies. We will give a presentation on TAPR fish monitoring at Midwest Fish and Wildlife Conference in December.

### Invasive Plant Monitoring

Two Student Conservation Association interns completed invasive plant management projects in EFMO, HOCU, PIPE, OZAR, and WICR.

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## A Name By Any Other Rose?

Plant names and naming have a long history and remain confusing. Seemingly, each species should have one scientific name, but in reality a single species may have multiple scientific and common names in use across its geographic range. This problem confounds botanists communicating with one another or to a broader audience.

National Park Service (NPS) recently announced the Natural Resource Information Portal (NRInfo), providing park staff an efficient and easy way to find, manage and share information about park natural resources, including plant species lists. The portal uses certified species lists from park units and makes this information easy to access. The HTLN wished to create a single HTLN plant species list, using the certified park lists from NRInfo, to facilitate consistent communication about plants between network and parks.

Problems and confusion surfaced when we tried to compile the species information at the network level. We obtained park species easily, but reconciling scientific and common names and species nativity (native or introduced) proved to be a challenge.

Total species records for fourteen park lists topped 10,000 records and included the following data: Integrated Taxonomic Information System (ITIS) Taxonomic Serial Number (TSN), scientific name, multiple common names, and nativity. Immediately, it was apparent that there were inconsistencies in all data fields among multiple records of the species with the same scientific name.

For example, a TSN number might be missing or there may be disagreement in nativity for different records of

the same species. In addition there was a problem in data management with multiple common names being included in a single field in the database. The challenge was to create a normalized data table that contained an accurate TSN number (where available), associated with a single accepted scientific name and one common name along with the species nativity, resulting in a single plant species represented by one row of data in the table.

HTLN botanist, Karola Mlekush, performed species verification for each species in the data table. This involved checking both ITIS and USDA Plants databases for current and consistent TSN numbers, accepted scientific name and preferred common name, along with each species origin. The labor intensive work resulted in a normalized, certified species list for the fourteen parks in the HTLN.

Karola's work resulted in 2953 unique species identified across the HTLN. This is a 71% reduction in the number of rows from the original data table. More importantly it forms the foundation of the network database "look-up table" for plant species. The HTLN staff use this as a reference of consistent names (scientific or common), when communicating with park staff. We submitted this revised data table back to IRMA to help consolidate and refine the plant species lists obtained from NRInfo.

NRInfo is currently only available to those with an NPS computer account,

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*Aster sericeous*, *A. laevis*, and *A. ericoides* have changed genus to *Symphotrichum*. Many parks still use the genus *Aster*.

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## The Change in Historic Chinquapin Oaks on Bloody Hill



Heartland Network botanist, Karola Mlekush, conducted a study of the over-story trees in Bloody Hill glade at Wilson's Creek NB in autumn of 2000. One study objective was to document the size, condition and location of Chinquapin oaks (*Quercus muhlenbergii*). Several of these trees had historical significance, pre-dating the Civil War battle. Study results provided resource managers with information important to a strategy protecting the oaks from cedar tree encroachment and prescribed fire damage.

A 2.7 hectare study area, divided into a permanent sampling grid used primarily for Missouri bladderpod (*Lesquerella filiformis*) monitoring, became the focus area for the study. Karola recorded location and measurements for Chinquapin oaks within the grid. Those near the grid were also measured and their location recorded with a GPS unit, so as to further investigate abundance around the glade.

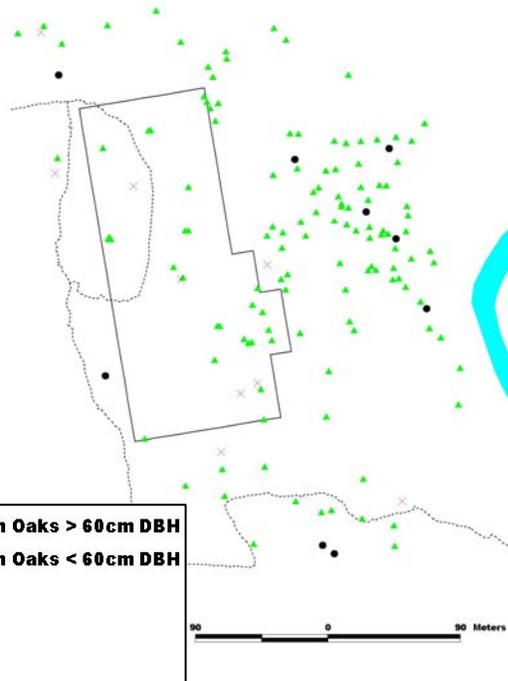
An ArcView® map shows the distribution of the 181 Chinquapin oaks. A total of 31 trees were located on the grid, and 150 trees were located off the grid. Nine trees had a diameter breast height (DBH, diameter of tree at 48

inches from ground) of over 60 cm, the largest tree measuring 87 cm or about 35 inches in diameter.

Chinquapin oaks grow very slowly, resulting in the classic large trunk base and massive limbs associated with an open grown oak. During the winter of 2006 and 2007, ice storms severely damaged some Chinquapin oaks and caused many young trees to die.

Karola and Ashley Dunkle have begun a follow up study to substantiate observed losses to Chinquapin oaks with field data, thus characterizing the impact of ice storms on the oaks. Using methods from 2000 study, they will locate Chinquapin oaks, measure and record data that they will be compared to the 2000 study. Those trees with a DBH of 30 cm or greater will have location recorded by GPS.

The beauty of the Chinquapin oaks is part of the story associated with Bloody Hill and the battle at Wilson's Creek. Several of the sentinel trees stood witness to an important historical event. Although we recognize that no environment remains static, having these sentinels as part of the landscape,



Chinquapin oak distribution in and around the Bloody Hill sampling grid

or at least, having large Chinquapin representatives in the viewscape, lends a sense of time and place to the visitor experience.

Karola Mlekush & Sherry Middlemis-Brown

Photo credits: University of Tennessee by Wofford and Chester and Ohio Department of Natural Resources



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but eventually will be made available to the public. Staff have nearly finished reconciling the revised HTLN species against our existing plant species look up tables. When this work is completed, the final list will be available to park resource managers upon request.

— Kevin James

### 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

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### Plant Community Monitoring

Staff continue updates to the VegMon database, in addition to preparing visual plant guides for parks. Analysis of 2009 field data is underway and final reports for AGFO and SCBL are being prepared.

### Rare Plant Monitoring

The 2009 monitoring reports for the Missouri bladderpod and western prairie fringed orchid have been submitted to park

staff for review.

### Wetland Monitoring

Staff completed identification and vouchering of 250+ specimens of wetland plants for the working taxonomic collection.

### White-tailed Deer Monitoring

The 2010 survey season at ARPO, PERI, and WICR will begin January 4th and run through February 12th, weather permitting.

## More on the Web

NRInfo: <http://nrinfo.nps.gov>

HTLN Reports and Resource Briefs: <http://science.nature.nps.gov/im/units/htln/reports.cfm>

Vegetation Monitoring Protocol: [http://science.nature.nps.gov/im/units/htln/library/monitoring/protocols/VegCom\\_Protocol\\_2009.pdf](http://science.nature.nps.gov/im/units/htln/library/monitoring/protocols/VegCom_Protocol_2009.pdf)

For use by Heartland resource managers and staff, schedule of staff travel and availability: [http://inpmwro\\_share:11122/default.aspx](http://inpmwro_share:11122/default.aspx)