

News in Brief

Aquatic Monitoring

Contaminant metal sampling ended in October and USGS continues processing samples. Progress continues on draft reports for large rivers, small streams, and springs. Field work for OZAR and BUFF invertebrates begins in November.

Bird Monitoring

Draft reports for GWCA, PERI, TAPR and WICR near completion. HOCU's three year summary report is in review. We began investigating fire and grazing effects on habitat structure at TAPR.

Black-tailed prairie dogs

Staff is investigating the influence of climatic conditions on long-term trends in prairie dog density and abundance.

Data Management

The HTLN network is moving to a 64-bit architecture on MSU and WICR servers. We have had the MSU 64-bit computer for several months and we are implementing a similar system at WICR. The 64-bit architecture offers greatly expanded memory capacity.

Fire Ecology

Participated in plant sampling, discussed HTLN monitoring with interpretive staff, and attended a fire planning meeting with cooperators at TAPR. Staff is testing a photographic method for biomass sampling in grasslands. Maria Gaetani has accepted the fire effects lead monitor position

Fish Community Monitoring

Crew completed fourth season of fish monitoring at OZAR. We presented results from river fish monitoring at a regional meeting, Eureka Springs, AR.

Invasive Plant Monitoring

Park Science accepted an article entitled "A Rapid Invasive Plant Survey

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Can't see the forest for the trees?

Leaves fall in the forest and forest structure comes into view. Forest structure refers to how each tree is arranged in the forest and the tree characteristics. In HTLN parks, most forests are small, homogenous areas of associated vegetation that grow under similar conditions throughout the forest. The forest structure in these parks gives clues to disturbance history and reveals potential development.

Forest dynamics determine how structural classes develop. Structural classes are defined using qualitative attributes of the trees. They represent key mileposts in stand development, but not a linear sequence of succession. Structural class definitions are standardized across forest types (hardwood, coniferous), but classification rules are unique to each structural class (oak-hickory forest) and often dependent on quantifiable data.

Classification rules are the link between field data and management strategy. Four primary structural classes describe stand development phases that apply to all forest types: 1) stand initiation, 2) stem exclusion, 3) understory re-initiation and 4) old growth. These primary classes can be subdivided to represent increasing detail. For example, the stem exclusion class can be re-

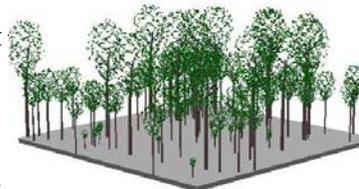
efined to reflect either a closed canopy (> 60% canopy cover) or open canopy (<60% canopy cover).

The drawings depict two primary classes: stem exclusion and understory re-initiation. The stem exclusion class is composed of two separate age groups (cohorts) with mature, tall trees excluding short, young trees from entering the top canopy. Under the closed canopy of stem exclusion, light is the limiting factor for new trees.



Stem exclusion
(by Michelle Guck)

Stem exclusion class can develop from a *single, major disturbance* that removed all trees from the previous stand, allowing one cohort to become established during a stand initiation phase. The single cohort then grew tall and dominated the canopy. Pairing age-class data from the dominant cohort with the stand class description allows inference about the time since the last major disturbance.



Understory re-initiation
(by Michelle Guck)

Gaps in the canopy created by overstory mortality offer space for new tree recruitment. This stand structure characterizes the under-

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Method for National Park Units with a Cultural Resource Focus" for publication in the winter 2008/2009 volume. It will be available on the network website as well.

Plant Community Monitoring

Staff recently completed field sampling and data entry for TAPR. Analysis of 2008 field data from GWCA began. Model development and spatial analysis continues as part of the EFMO RSS project.

Rare Plant Monitoring

Natural Areas Journal accepted the article, "Monitoring *Lesquerella filiformis* Rollins (Missouri bladderpod): Application and Evaluation of a Grid-based Survey Approach" for October 2008 publication. It will be available on the network website.

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story re-initiation phase and typically arises from a series of disturbances that results in many sizes of trees.

Forest management decisions benefit from categorization of forests by qualitative stand-structure delineation and quantified classification rules. Most importantly, quantified classification rules utilize field data at the spatial scale appropriate for addressing forest integrity and management. A complete picture of the forest forms when forest structure is coupled with species composition, allowing projection of future stand potential.

— 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 Memorial Park
PIPE = Pipestone National Monument
TAPR = Tallgrass Prairie National Preserve
WICR = Wilson's Creek National Battlefield

Wetlands

Field work has ended with boundary delineations for six complexes completed, six Vegetative IBIs performed, 12 test wells installed and nearly 200 plant vouchers mounted. Work continues on the GIS database and monitoring protocol.

White-tail Deer Monitoring

The 2009 deer surveys will begin the week of January 5th.

Condition Assessment

Water Resource Division initiated the Watershed Condition Assessment (WCA) program that has become a park-based/park-wide natural resource assessment. It synthesizes the available information as a knowledge base to assist resource managers in stewardship activities.

The Midwest Region and WRD identified OZAR and EFMO as pilot WCA parks in 2006. Missouri Resource Assessment Partnership, University of Missouri undertook the project. The draft WCAs became available for review in October 2008.

The EFMO and OZAR WCAs explain methodology, making the report a road map for future WCAs. The reports organize the WCA into five condition topics that cover biological and physical conditions, and natural process functions. Managers can use the WCA to find past, current and potential conditions. Assessment of current indicator values lead to condition ratings and identification of data gaps. Vital Signs monitoring provides much of the information on current conditions.

In 2008, the Natural Resource Program Center began "Connect-the-Dots" to coordinate and integrate science, including Vital Signs data and WCAs, with condition-based management. Connect-the-Dots implementation started with EFMO as the pilot park.

The WCA can contribute to a Resource Stewardship Strategy (RSS) by determining threats, stressors, condition indicators, reference or baseline conditions, potential conditions and gaps in resource knowl-

Share It on SharePoint!

The HTLN invites Technical Committee members to access a new communication tool. The HTLN has opened an Intranet SharePoint site where network staff and TC can post announcements, enter network activities on a calendar, or engage in discussion. You will find an update on the Exotic Plant Management Team at http://inpmwro_share.nps.doi.net:11122/IEPM/Lists/Team%20Discussion/AllItems.aspx. You can contribute to general discussions at http://inpmwro_share.nps.doi.net:11122/Lists/Team%20Discussion/AllItems.aspx

edge. It has a spatial component that can be linked to Management Zones. The WCA and Vital Signs can provide indicator target values that represent potential or desired conditions. Vital Signs monitoring supplies feedback on progress toward attaining/maintaining desired conditions. Adaptive management depends on this feedback of current conditions.

Connect-the-Dots distills information into a Natural Resource Summary Table that connects science to elements of park planning. The HTLN has started to populate Summary Tables for each network park. Eventually, all parks with significant natural resources will have a WCA and a Summary Table to guide planning efforts.

— Sherry Middlemis-Brown

More on the Web

SharePoint training demo: <http://office.microsoft.com/en-us/sharepointtechnology/HA102055631033.aspx>

SharePoint tips: <http://office.microsoft.com/en-us/sharepointtechnology/FX101494691033.aspx>

HTLN Natural Resource Summary Tables: <http://www1.nrintra.nps.gov/im/units/htln/ctd.cfm>