The Weather Vane

The Newsletter of the Heartland Inventory and Monitoring Network

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News in Brief

Aquatic Monitoring

Staff drafted stream invertebrate summary reports for HEHO, EFMO, and AGFO. We conducted invertebrate monitoring in early May at GWCA and WICR. Sample processing continues.

Breeding Bird Monitoring

Staff posted status reports and summaries for HOME, PIPE and TAPR on the HTLN web site. We started monitoring at TAPR May 10th. Park staff and citizen scientists are conducting monitoring in nine other parks.

Data Management

Staff attended the Resource Information Management conference, April 19 - 23, which focused on Natural Resource Information Portal (IRMA), LIDAR and remotely sensed imagery use, climate change models and new GIS and GPS technology.

Fire Ecology

We completed fire effects monitoring at TAPR and HEHO. We began the hiring process to refill the lead monitor position in July and add an SCA crew member.

Fish Community Monitoring

We conducted WICR and GWCA sampling in early May. Sampling at BUFF continues through June. We completed trend reports for TAPR and PIPE.

Invasive Plant Monitoring

Network and HOME staff surveyed the location of garlic mustard following discovery and treatment of a single patch in the forest. We found no additional plants.

Plant Community Monitoring

Staff prepare for upcoming monitoring at TAPR. We continue updating database species tables to reflect changes in NPSpecies. We sent the final AGFO report for review, and continue writing the final SCBL report .

Rare Plant Monitoring

Staff completed monitoring seven Missouri bladderpod populations at WICR. We also gave a presentation on Missouri bladder-

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Watchable Wildlife Eating My Park?

Since European settlement, white-tailed deer *(Odocoileus virginianus)* populations in North America have changed in size and distribution. Deer numbers fell to near extinction by the early 1900s because of deforestation and unrestricted hunting. More recently, hunting regulations and loss of natural predators has led to unprecedented population growth throughout their range.

White-tailed deer adapt to human disturbance. Urban sprawl benefits deer by fragmenting continuous blocks of forest into small sections with more edge habitat than large stands provide. Forest edges provide good deer habitat, but hunting does not occur at the urban interface. Urban sprawl redistributes deer by eliminating habitat in one area and concentrating deer in other areas.

Deer population increases have a profound effect in parks where wildlife are protected. Restoration of native landscapes creates particularly appealing deer habitat as well. Parks provide safe harbors for deer and other wildlife, where the public can enjoy the watchable wildlife.

This leaves us in a Catch-22 — by restoring landscapes we create habitat that attracts wildlife in numbers that exceed the threshold where deer adversely impact the habitat. Exceeding this threshold or "carrying capacity" jeopardizes the ability to maintain restorations.

This is the price we pay for damaging natural processes within ecosystems and the reason that NPS emphasizes restoration of natural processes within its management policies. However, implementing natural processes may result in cultural backlash. Compromises are made between best practices for park resources and public acceptance of management actions.

With charismatic fauna, such as white-tailed deer, parks often find it difficult to carry out the NPS mission " *. . .to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.*"

White-tailed deer monitoring on ARPO, PERI, and WICR over the last six years revealed that deer numbers in these parks mirror current range-wide population trends which exceed carrying capacity.

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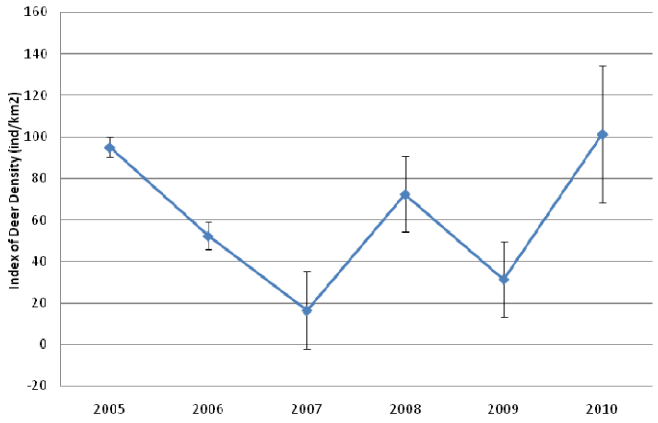

Population has fluctuated as over-population and disease affect survival.

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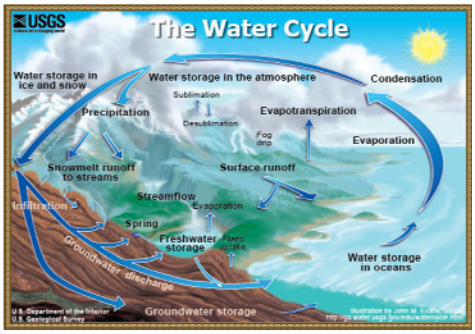
. . . protecting the habitat of our heritage

Heartland Network

Rain, Rain, Go Away . . .

Stormwater management practices improve as our attitude toward stormwater changes and our knowledge increases. In the past, we piped stormwater to streams, straightened waterways and built levees to force flow off of our land and onto those below us in the watershed. This management style works, somewhat, for small and frequent storms, but fails for large storms.

The water cycle shows us natural processes associated with water movement. Stormwater management designs how water moves in runoff and infiltration portions of the cycle.



Half of the land at Herbert Hoover NHS (HEHO) is natural landscape, about one third is maintained landscape, and the rest is buildings and pavement. Best management practices encourage managers to keep stormwater on the land and in the soil. This ensures that stream flow remains constant and water remains available to plants, while reducing chances of flash floods and soil erosion.

Park staff has ideas as to how to manage stormwater using best practices, but do not have the expertise to design structures. Having a college of engineering located 10 miles away at the University of Iowa, presented a wonderful opportunity to borrow expertise, while giving students a real-life engineering experience.

Professors Larry Weber and Jacob Odgaard offer a course in which students groups act as engineering firms to complete real-life project designs. Although a certified professional engineer does not approve the design, each project provides a concept with basic specifications and costs.

The students that selected stormwater management at HEHO made a site visit to gather information from HTLN reports and other sources, took a site tour, and learned about the many limitations and restrictions related to cultural resource protection. The students completed their project with a "boardroom" style presentation and a detailed report in mid-May.

This tile, once support by soil, fell into Hoover Creek after floods in 2008. It also contributes stormwater from hard surfaces in the park.

Now park staff has best management alternatives and can pursue funding for formal plans and projects. Completed projects will exemplify land and water stewardship practices available for the area and circumstances, while protecting the park resources from stormwater damage.

The park owes a debt of gratitude to the University of Iowa students for their hard work in creating a very useful product for the park. We hope that this experience taught them the intricacies of blending their skills with preservation of public trust resources that is the heart of the National Park Service mission.

— Sherry Middlemis-Brown

News

HTLN has invited the Technical Committee, Board of Directors, and a representative from each park's interpretation division to attend the Biennial meeting, July 20-22. David Larsen, Servicewide Interpretation and Education Training Manager, has agreed to present a keynote address in the opening session.

Alex Harnocz, a master's student at Ohio State University, accepted the wetland intern position at CUVA that will begin in June.

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High population density promotes disease transmission. During a hemorrhagic disease outbreak from 2005 to 2007, deer numbers in our parks declined. Populations rebounded quickly, returning ecological pressure onto park resources.

Favorable habitat at ARPO encourages high deer density and location on a peninsula limits dispersal. Population densities exceeded carrying capacities three of six years here.

White-tailed deer monitoring by the HTLN provides the first step in assessing population fluctuations. It also helps parks to evaluate potential deer impacts to park restoration efforts.

—Dave Peitz

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pod to the Springfield Chapter of the Missouri Native Plant Society.

Wetland Monitoring

Jen Haack helped compile a wetland shapefile, combining all completed surveys, to serve as a primary reference layer. Volunteers have adopted groundwater well sites to monitor weekly.

White-tailed Deer Monitoring

Staff sent 2010 deer status reports to ARPO, PERI, and WICR in interactive pdf format.

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

IRMA (Natural Resources Information Portal): http://science.nature.nps.gov/im/datamgmt/docs/IRMA_ProjectBrief_v1.2.pdf

Resource summaries from monitoring reports and full reports: http://science.nature.nps.gov/im/units/htln/articles.cfm

Instructions for interactive pdf white-tailed deer reports: http://science.nature.nps.gov/im/units/htln/library/Wildlife/Deer/Deer_ReadMe_r.pdf