

The Weather Vane

The Newsletter of the Heartland Inventory and Monitoring Network

Volume 7 / Number 2, April–May 2011

News in Brief

Aquatic Monitoring

Sample processing, identification and analysis continue. Draft reports also are in progress.

Breeding Bird Monitoring

We start field season May 16th, with visits to ARPO, LIBO and HOCU. We intend to utilize citizen scientists to survey birds in the remaining eight parks as part of our breeding bird project. Five parks have volunteers already committed to surveys.

Data Management/GIS

Staff added maps to the HTLN Sharepoint Intranet site. Members can look in the Park Maps tab under Shared Documents for EFMO, HOCU, LIBO, and TAPR. We posted metadata for each HTLN database under "Data Swap" of the Sharepoint site.

Fire Ecology

We are preparing for spring fire season. We completed a new fire ecology monitoring protocol and loaded it onto the HTLN website, Fire Ecology/Monitoring page.

Fish Community Monitoring

We published the status report for GWCA. Staff continue drafting reports for small stream parks and analyzing data from big river parks.

Invasive Plant Monitoring

HTLN staff organized a session for the George Wright Society, Early Detection of Invasive Plants.

Land Cover Project

We completed ground truth work for OZAR in February.

Rare Plant Monitoring

Staff have been visiting Bloody Hill Glade to photo document changes in the life-stage and habitat of the Missouri bladderpod.

Vegetation Community Monitoring

Staff completed and posted status reports for HEHO, HOME, PIPE and TAPR. Thank you to park staff who provided comments.

(Continued on page 2)

Fish Monitoring Provides Insight into Endangered Species Status

A number of factors associated with land use changes, including habitat loss and decline in water quality, have adversely impacted many native prairie fish populations. As a result, the Topeka Shiner (*Notropis Topeka*), a native prairie stream fish, inhabits less than 10% of its historic range. This has resulted in its listing as a federally endangered species under the Endangered Species Act. The Heartland Inventory & Monitoring Network (HTLN) has been monitoring fish communities, including the Topeka Shiner, at Tallgrass Prairie National Preserve (TAPR) since 2001.

Most streams at TAPR had moderate to high community diversity with little variability from year to year. Abundance and diversity of native species suggests that these streams support good biotic integrity. Yet within the park, Topeka Shiners were collected from only five of the 18 stream sites monitored.

Eighty-percent of the Topeka Shiners collected within the park came from a single site and were found at this site each year. Analysis indicated the abundance of Topeka Shiners at TAPR has significantly declined since 2002. This information raised concerns for the park. Why would Topeka Shiner numbers decline, when high quality prairie streams exist at TAPR?

As its endangered status indicates, this species is very rare and may have highly variable spatial and temporal distribution. Because of the results

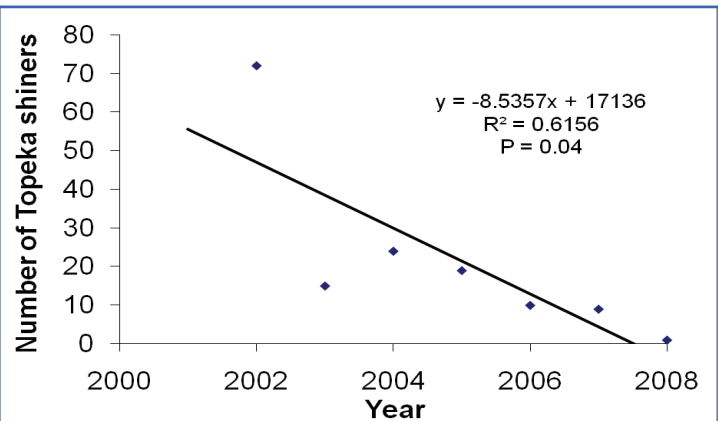


Topeka Shiner (*Notropis Topeka*)

from HTLN's long-term fish community data, TAPR plans to initiate an intensive survey to obtain detailed information on the status and distribution of the Topeka Shiner within the park.

This study will include seasonal sampling and sampling additional sites in streams with known Topeka Shiner populations, as well as streams not currently sampled by HTLN. From this survey, park managers will have a better understanding of Topeka Shiner status and be able to take necessary management actions to protect this endangered fish.

by Hope Dodd



Numbers of Topeka Shiners collected at HTLN long-term monitoring sites from 2002 to 2008. Line represents line of best fit for the data. A P-value <0.05 indicates a significant decline in numbers over time.

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



Summer Monitoring Schedule and Exotic Plant Management Team Activities

| Park | Program area | | | | |
|------|---------------------------------------------------------|-----------|-----------------------------|------------------------|--------------------|
| | Aquatic | Birds | Fire | Invasive Plants | Vegetation |
| ARPO | | May 17-18 | | May 9-13 | |
| BUFF | | | | July 5-8, 18-22 | |
| CUVA | | | | | Wetland, May 9-13 |
| EFMO | July 11-14 | | | April 11-20 | |
| GWCA | | | | several treatments | |
| HEHO | July 11-14 | | | May 22-27 | |
| HOCU | | May 22-24 | | | |
| HOME | Fish, Sept 12-15 | | | April 11-20; June 6-11 | |
| LIBO | | May 20 | | | May 27- June 1 |
| OZAR | April 11-12; Springs, July 25-29; Fish, Oct 3-21, 25-26 | | | May 23-25 Aug 8-11 | |
| PERI | | | | several treatments | |
| PIPE | Fish, Aug 29-31 | | | | Orchid, July 12-14 |
| TAPR | Fish, Sept 12-15 | | April 1-8 Fuels, Aug 1-5 | May 20-25 Aug 22-27 | May 23-26 |

Seasonal Training 2011 Available The HTLN Communication Work Group updated the Seasonal Training Materials. This program, intended for parks to use during training of new and returning seasonal employees, provides a slide show and script that explains the role of science and the HTLN in the parks. Download it from <http://science.nature.nps.gov/im/units/htln/edoutrch.cfm>.

(Continued from page 1)

We near completion of Vegetation Inventory Mapping projects at HOME and TAPR. Review began on Natural Resource Condition Assessments for GWCA, PERI and WICR. Staff will establish new monitoring sites at LIBO this summer.

Wetland Monitoring

Staff presented a poster at the George Wright Society Meeting that summarizes the wetland protocol. Seasonal employees have been hired to assist with groundwater and vegetation monitoring.

White-tailed Deer Monitoring

We completed 2011 White-tailed Deer surveys at ARPO, PERI, and WICR and annual reports near completion as well.

George Wright Society Conference:

March 13-18, New Orleans, Louisiana

Representatives from the HTLN Communication Work Group and partners from Missouri State University, Springfield, and Miller High School, Miller, MO, offered a well attended panel discussion, Making Science Relevant for Parks and People. Connecting monitoring results to places, park resources, and visitor experiences helps managers to attain the goals of their individual parks and the NPS. Craig Young moderated a session on plant management, Early Detection of Invasive Plants, at the conference. Sonia Bingham presented a poster on the wetland protocol.

Citizen Science elsewhere in NPS:

Great Marsh Wetland Restoration Project, Indian Dunes National Lakeshore

Wendy Marth, an undergraduate at Valparaiso University, initiated a water quality project in 2009 in an interdunal swale system marsh. In 2010, an international VIP from Thailand and graduate of Univ. of Missouri, continued work, contributing 620 hours to monitoring (April-August 2010). A succession of experienced students continue the monitoring through undergraduate student mentorships. The research coordinator of Great Lakes Research and Education Center coordinates the monitoring project.

Acronyms

NPS = National Park Service
 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

Upcoming 4th annual Fire in Eastern Oak Forests Conference to be held in Springfield, MO May 17-19. <http://muconf.missouri.edu/easternfire/index.html>

Fire monitoring protocol: http://science.nature.nps.gov/im/units/htln/library/Fire/FireEcol_2011_p.pdf

George Wright Society Conference, 2011: <http://www.georgewright.org/gws2011>

Presentations and resources from Fire Ecology GIS training: <http://inpmwroxshare.nps.doi.net:1155/ecology/Shared%20Documents/Forms/AllItems.aspx>

Park Maps: <http://inpmwroxshare.nps.doi.net:11122/parkmaps/Shared%20Documents/Forms/AllItems.aspx>

Webinars on NRPortal: <http://nrpcsharepoint/irma/Webinars/Forms/AllItems.aspx?>

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