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 2

Aquatic Monitoring

Data analyses and reports continue for BUFF, OZAR, WICR, PIPE and GWCA.

Invertebrates — Staff sampled invertebrates at OZAR in November. We continue to process samples.

Fish — We present WICR fish monitoring results in January at Missouri Natural Resources Conference.

Data Management

Staff are entering water quality data into NPStoret, and are looking into the Aquarius data system for continuously collected water quality data. We are completing procedures for EPMT data analysis and reporting.

Exotic Plant Management Team

Two BUFF staff assisted the EPMT for two pay periods, cutting and clearing large infestations of Tree of Heaven.

Fire Ecology

Staff is finishing 2012 reports. We initiated fuel monitoring at Bloody Hill glade, WICR, and completed pre-burn monitoring at Fort Scott NHS. Sherry will to develop monitoring plans with parks for this year.

Great Plains Fire Science Exchange — We are planning our next Board of Directors meeting and a workshop at the Society of Range Management meeting in February. Our website is live! (see More on the Web).

Vegetation Monitoring

Plant Community — We are analyzing data for PERI, WICR and GWCA. The 2013 field schedule was added to Sharepoint (More on the Web). Staff are reviewing vegetation mapping inventory reports and working with cooperators on vegetation maps for HEHO, HOCU, LIBO and PIPE.

Invasive Plant — Staff completed monitoring garlic mustard at EFMO.

Rare Plant Monitoring — Staff groundtruthed Missouri bladderpod habitat classification at WICR.

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Making Plant Invasions Manageable

As the network enters its third year operating an Exotic Plant Management Team (EPMT), we measure our success in terms of the problems that we solve. Like most human endeavors, success or failure rests on key capabilities: 1) to make good decisions leading to solutions, 2) to realize economies of scale, 3) to provide and sustain technical and financial support for solutions and 4) to work cooperatively with parks.

A successful EPMT makes good decisions, solving real problems. The EPMT continuously attempts to improve decisions regarding investment in projects. We think that projects to protect well-defined park resources and projects to control invasive plants early in the infestation are our best investments.

We have begun to estimate long-term costs for all projects, looking critically at projects intended to control well-established plant species. Until we approximate costs, practical prioritization of projects is impossible. For instance, a project that has a high priority ecologically, but falls outside of budget may require a reduction in scope. That reduced scope may render the project biologically ineffective, thus reducing its priority, because desired outcomes are unachievable. In other words, we do not want to start a project that we cannot finish.

Follow-up on a project also becomes an encumbrance on future funds, such that a project's long-term cost may reorder priorities from those based on single-year costs. With costs in hand, we can engage in difficult discussions about environmental risk, benefits, and uncertainties. Biology and economics drive prioritization.

Eradication of garlic mustard among desired species may be costly, but control may be a reasonable and an achievable

A successful EPMT must realize economies of scale. Eighty-percent of EPMT funding goes directly into on the ground operations. Nesting within the Heartland Network and Wilson's Creek National Battlefield keeps costs relatively low. Programmatic environmental compliance will provide overarching compliance for all 15 parks, reducing the cost and effort of each park completing complex compliance every year. In addition, we manage agreements for multiple parks, instead of each park separately managing agreements.

A successful EPMT must sustain technical and financial support for solutions. The EPMT has base funds that allow long-term investments with relatively good confidence in funding availability. Maintaining areas that have received treatment is critical to project success and becomes part of financial planning. Project-based funding is often not available when needed for invasive plant management, particularly for early detection and immediate response, or for long-term maintenance.

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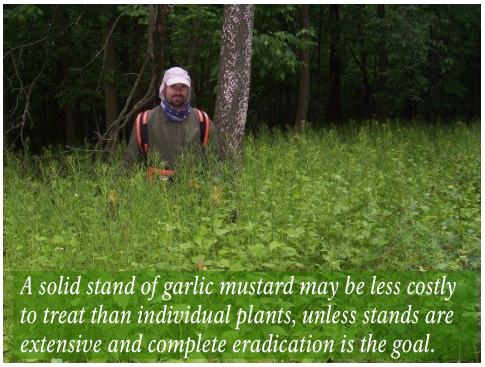

A solid stand of garlic mustard may be less costly to treat than individual plants, unless stands are extensive and complete eradication is the goal.

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

Heartland Network
Natural Resource Monitoring

More than 6,000 Native Plants, and Counting

Cuyahoga Valley National Park is unusual in that it was created as a National Recreation Area within a highly urbanized setting before being converted to a national park. This setting has provided challenges and opportunities for habitat restoration, uncommon within other national parks.

When established in 1976, disturbed landscape dominated the parkland. Commercial interests mined gravel, rock and topsoil, cleared bottomland forest for farming and developed extensive areas for industrial and residential use. The park continues to support golf courses and ski resorts.

The park's *Degraded Site Restoration Plan* identified 40 large disturbed sites, more than 700 acres contributing sediment to the Cuyahoga River and its tributaries. The park's *Small Disturbed Site Restoration Plan* identified 230 additional disturbed sites. Approximately one-quarter of the park's 1,000+ plant species are not native, at least 47 of which are invasive, degrading wildlife habitat, water quality and visitor experience.

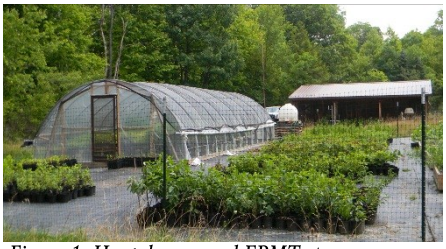

Figure 1: Hoop house and EPMT storage area

The park began stabilizing eroding sites in the 1980s, but only recently began restoring native habitat. Partnering with the Heartland Network Exotic Plant Management Team, the park implemented an extensive program to control exotic plants and to restore native vegetation.

Since 2010, park staff and volunteers managed invasive plants on 1,000 acres; collected and cleaned hundreds of pounds of native seed; propagated more than 20,000 native plants at the park's nursery (Fig. 1); and planted about 6,000 native plants at disturbed sites. Nearly 4,000 volunteers have contributed more than 30,000 hours to restoration. Project managers have incorporated habitat restoration into park projects (Fig. 2), and partnered with Indiana Dunes National Lakeshore in 2012 to initiate a prescribed-fire program to control exotic species and promote native species.

Figure 2: CVNP Boston Waste Water Treatment Site 2012 June 25 by Jerry Jelinek

To date, the park's largest restoration projects reforested disturbed sites. In 2011, corporate volunteers and park staff planted more than 1,200 trees representing 16 species on 14 acres of mined land (Fig. 3). This past summer, volunteers and park staff planted more than 1,000 trees on a 10-acre farm site adjacent to the Cuyahoga River and plan to plant 1,000 more trees and shrubs next year. Funding for these projects was provided by grants to the Conservancy for Cuyahoga Valley National Park and most trees were grown by a local nurseryman using seeds collected at Cuyahoga Valley National Park.

Figure 3: Fairmount Minerals tree planting 2011 Aug 30 by Jerry Jelinek

submitted by Chris Davis, CUVA

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Wetland Monitoring

Protocol, protocol, protocol! We will post an announcement of a 6-month, wetland biotech seasonal job for the field season.

Wildlife Monitoring

Breeding Bird — We completed review of status reports for GWCA, PERI, and WICR.

Whitetail Deer Monitoring — We begin deer survey season January 3rd at WICR. The College of the Ozarks will run concurrent deer density monitoring at WICR.

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*
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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In addition, the EPMT provides technical expertise and a readily available labor force. In many cases, the EPMT expertise and funding has allowed us to meet technical, logistical, fiscal, and human resource challenges that park base funding and project money does not.

A successful EPMT works cooperatively with parks. The EPMT works best when it builds on expertise and management planning within parks. We keep our staffing lean in order to invest in parks. For example, we have shared the costs of an EPMT crew and leader at Cuyahoga Valley National Park. This crew also serves Hopewell Culture National Historical Park and Lincoln Boyhood National Memorial. We have also supported park staff working as technical experts on multi-park projects, and we have provided funds for seasonal workers, when a park was best served by local human resources.

Our commitment to develop capabilities cooperatively offers our best chance for success in the coming years. We intend to remain responsive to park needs, while keeping our programmatic mission solid and sustainable.

submitted by Craig Young

More on the Web

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

Great Plains Fire Science Exchange: http://GPFireScience.org

SharePoint site for field schedule: http://inpmwroxshare.nps.doi.net:2011/sites/heartland/Lists/Calendar/calendar.aspx