Chicago Urban Field Station

2013 Accomplishments

The Chicago Urban Field Station is an informal network of US Forest Service researchers and people from other agencies and organizations who work collaboratively on natural resource-related projects and initiatives in the greater Chicago region. This report describes 2013 CUFS research highlights and project successes.

RESEARCH HIGHLIGHTS

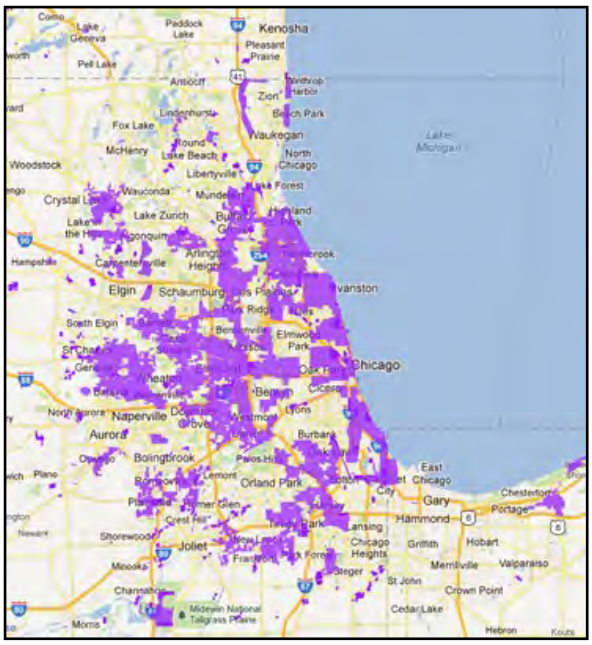
STEW-MAP: The Chicago Region Stewardship Mapping and Assessment Project

US Forest Service researchers are completing analysis of survey data from 369 environmental stewardship groups in the Chicago region. Our first Chicago STEW-MAP journal article will be published in *Cities and the Environment* in 2014. It presents some of the survey findings and geographic analyses. A summary report of the basic survey data is also available online. Next up is an article about how stewardship groups are connected to each other across the regional network.

STEW-MAP invites stewardship groups of all sizes to provide information about what they work on, where they work, how the group is structured, and what other groups they work with or get funding from. STEW-MAP was developed by Forest Service researchers in New York City and has since been replicated in Baltimore, Chicago, Philadelphia, and Seattle.

Research partners on the project include Field Museum Science Action staff who are analyzing geographic data from the survey and Center for Neighborhood Technology which designed and hosted the online survey and created the project website and maps. Early on, Chicago Wilderness and other groups also helped with outreach to encourage people to fill out the survey.

In 2014, the Chicago STEW-MAP team will be making presentations about the project's findings and reaching out to local stewardship groups about how to make the maps and other project data more useful to them.



A map of medium-sized stewardship sites and territories (in purple) in the greater Chicago region.

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RESTORE Research Wrapping Up

This year USFS researchers and DePaul University, the Field Museum, and the University of Illinois cooperators worked on data analysis for a multi-year study of ecological restoration at Chicago-area oak woodlands. The main goal of RESTORE (Rethinking Ecological and Social Theories of Ecological Restoration) is to look at how the social and organizational structure of restoration groups affects biodiversity outcomes on the ground. The research team interviewed people involved in restoration on public lands to find out how projects were carried out, who was involved in decision making, and whether or not they considered the restoration work successful. The RESTORE team collected detailed ecological data at the restoration project sites as well. Another part of the project surveyed residents near forest preserves about various ecological management activities in the forest preserves – and how they viewed and managed the plants in their own yards.

RESTORE researchers at a Forest Preserve volunteer workday.

In 2013, the RESTORE team began preparing several manuscripts for publication and presented on RESTORE at the Society for Ecological Restoration Conference, the Ostrom Workshop at Indiana University, the Ecological Society of America Conference, and the Chicago Wilderness Congress. USFS researcher Paul Gobster also presented study findings to local land managers and restoration professionals who wanted to know what homeowners thought about changing home lawn care and gardening practices with sustainability in mind.

Urban Tree Canopy (UTC) Analysis Underway for the Chicago Region

In 2013, USFS Project Leader Lynne Westphal worked with local cooperators to plan and secure funding for a regional Urban Tree Canopy (UTC) analysis. Forest Service funding is supporting UTC analysis of Cook County, which will be completed in early 2014. The rest of the region's UTC will be conducted as funding becomes available. The scope has been expanded to include not just Chicago and the surrounding counties but northwest Indiana as well.

Today's UTC not only shows where trees are (and aren't) but allows for sophisticated analysis of where trees can be planted to meet various public policy or quality-of-life goals. For example, which areas of a city or region have problems like flooding and/or the hottest summer temperatures and/or the most asthma hospitalizations? Are there places to plant trees in these areas — and would planting trees help address those concerns?

Paddle boaters in Lincoln Park.

Environmental Justice and Edible Plants in Chicago

The 23-acre Dunning Read Conservation Area in Chicago has beautiful woodlands, high quality remnant wetlands, and wildlife-rich meadows — but it is also an urban site in a very built-up area. When the American Indian Center of Chicago wanted to start collecting edible and medicinal plants at Dunning Read, they consulted Forest Service and Northwestern University experts to find out if there were pollutants in the plants that shouldn't be eaten.

The answer was unknown so the team put together a plan coordinated by USFS researchers to find out. Northwestern University staff collected soil and plant samples in the fall of 2013 and additional samples will be taken in the spring. The USFS laboratory in Rhinelander, Wisconsin will test the samples for metals using Northern Research Station Civil Rights & Diversity Committee Special Project funds.

Special Project funds will also allow two young women from the American Indian Center to intern on the project. They will help with the field sampling and travel to Rhinelander to tour the lab, observe analysis of the field samples, learn about Forest Service careers, and visit the Chequamegon-Nicolet National Forest.

Urban Waters-Northwest Indiana

Since 2011, the Northwest Indiana Urban Waters partnership has brought together federal, state, and local government agencies, nonprofits, and other stakeholders to talk about priorities and projects for local waterways. US Forest Service staff (with National Park Service and USEPA staff) provide leadership, offer technical expertise, help match needs to resources, and help build project development capacity among local partners. More than 30 agencies and organizations were active in the partnership in 2013. USFS-funded Urban Waters Ambassador Natalie Johnson continues do an excellent job of coordinating partnership activities, helping local partners write grants, linking federal agencies to local activities and needs, and publicizing funding opportunities.

Natalie Johnson, Urban Waters Ambassador

Replacing Trees Lost to Emerald Ash Borer

This fall, Kathleen Knight, a USFS Research Ecologist in Delaware, Ohio (NRS-04) supplied 32 Dutch Elm Disease-resistant American elms to replace lost ash trees at the Coffee Creek Watershed Preserve in Chesterton. Coffee Creek is a beloved local conservation area that is actively managed for native species preservation. The elms will help diversify the tree species at Coffee Creek and provide ecosystem services like stormwater management and shade. Coffee Creek volunteers will collect data on the elm trees' survival and growth for Dr. Knight's research.

Septic System Awareness Work Group

Started in 2013, the Septic System Awareness Work Group brings together people who share concerns about the effects of failed septic systems on surface water quality in northwest Indiana. The Work Group includes state health and natural resource agency staff, municipal officials, and an Illinois-Indiana Sea Grant representative. USFS staff helped the Work Group conduct a needs assessment for planning outreach, create logic models to think out the group's goals and priorities, and develop the group's first proposal for grant funding. The proposed project will collect water quality data in streams near septic system communities and gather information from residents, realtors, and municipal officials about their knowledge of septic system maintenance.

Environment Assessment Underway for the Little Calumet River

For several years, local recreation groups have expressed interest in creating a water trail and education corridor along the "Little Cal" within the Indiana Dunes National Lakeshore park. Woody debris clogs the river in key places, impacting water flow. Removing debris to allow paddling could change the water flow dynamics, altering fish habitat and effecting the river bottom. The National Park Service (NPS) has not had funding and staff time to undertake an Environmental Assessment of the river. In 2013, USFS staff and Urban Waters Ambassador Natalie Johnson offered to help NPS staff organize and carry out the assessment. Both recreation impacts and ecological health of the river corridor will be studied in depth.

Kids enjoying northwest Indiana waters during Wilderness Inquiry's September visit.

Jeorse Park Beach Ecosystem Restoration Underway

Jeorse Park Beach on Lake Michigan in East Chicago has a long history of severe water quality problems that impair ecological habitat and lead to beach closures. In 2013, the US Army Corps of Engineers began considering ways to reconfigure the shoreline to keep water from stagnating at the beach. USFS staff helped broker, frame, and find funding for Michigan State University to model water flow under various shoreline reconfiguration scenarios. Many local partners are involved in upland restoration and revitalization projects at the beach as well.

More Research

Supporting Bird Habitat in Human Dominated Landscapes

University of Illinois-Chicago PhD candidate Amy Belaire is investigating how residential neighborhoods affect bird species diversity in nearby forest preserves. This will allow managers and policy makers to better understand the role of private residential landscapes in providing or disrupting bird habitat. USFS Project Leader Lynne Westphal serves on Amy's doctoral committee, guiding the social science components of the research.

Outreach and Education

TreeKeepers

Since 1991, TreeKeepers has trained over 5,000 Chicago-area residents in tree identification, species selection, planting, mulching, pruning, disease detection, and invasive insect identification. Started and run by the nonprofit OpenLands, the 8-day TreeKeepers course includes both classroom time and fieldwork and the faculty includes nationally-known experts in tree care and urban forest management. USFS staff always offer the course's first lecture, focusing on the history of urban forestry and the many benefits provided by the urban forest.

Photo courtesy of OpenLands

TreeKeepers used to be offered twice a year but it has become so popular that this year OpenLands offered it three times – and offered it in suburban Chicago locations for the first time. OpenLands is committed to making the course accessible to the everyone, alternating the course locations between the south side of Chicago and the north side and offering scholarships to those who can't afford the course fee.

Eden Place: A Nature Center in an Underserved Urban Community

Eden Place Nature Center is a 3-acre oasis of learning, nature, and calm on a former dumping site in Fuller Park, the poorest neighborhood in Chicago. At Eden Place, kids and families learn about urban farming, solar energy, composting, gardening, and urban forestry in outdoor classroom spaces.

This summer, the longstanding partnership between Eden Place and the US Forest Service continued as USFS provided funding and staff time to support the Leaders in Training program. Leaders in Training teaches environmental stewardship concepts and practical skills to African-American and Hispanic teenagers and introduces them to careers in natural resource science and management.

USFS Program Specialist Vassiliki Heneghan works with Leaders in Training on using a digital range finder

In August, USFS staff spent a morning with teenagers in the Leaders in Training program. We discussed the many different kinds of jobs available in the Forest Service and used real forestry equipment to measure the heights and diameters of trees at Eden Place. The kids even got to use the Pythagorean Theorem from high school geometry to calculate tree heights based on measurements taken from the ground (some of them were more excited about this than we expected!).

More Outreach and Education

Back to School: Talking with University Students about Research

USFS Research Social Scientist Paul Gobster was invited to speak at the Illinois Institute of Technology (IIT), Northwestern University, and the University of Wisconsin this year. His IIT and Northwestern lectures presented findings from the RESTORE project (see p. 2) about Chicago residents' perceptions of nearby nature. The University of Wisconsin talk to landscape architecture students focused on making a career of research in that field.

Annual Career Fair and Panel at Northeastern Illinois University

In November, for the fourth time, USFS staff represented the agency at a half-day, multi-agency USDA Career Fair and Panel at Northeastern Illinois University in Chicago. Hosted by the USDA Hispanic-Serving Institutions National Program, this event gave Forest Service staff a chance to talk with dozens of undergraduates about the range of available careers with the Forest Service and the career paths that they personally followed to end up in their current jobs.

Advisory Roles

Chicago Wilderness

Chicago Wilderness (CW) is an alliance of over 300 environmental nonprofits, corporate partners, and local, state, and federal government agencies focused on restoring natural areas and improving the quality of life for all living things. The CW region includes the Chicago metropolitan area, southeast Wisconsin, northern Indiana, and southwest Michigan. USFS Project Leader Lynne Westphal serves on the CW Executive Council.

Science Team

Lynne Westphal is one of three leads on the Chicago Wilderness Science Team which works with scientists and land managers to identify and address social and ecological research needs. This year the team convened the first "Drinks and Thinks," an informal meet-and-learn event attended by more than 40 scientists, land managers, and graduate students. The Science Team also leads the 100 Sites Project, RESTORE, and other research.

Measuring Success

Lynne is also helping CW members develop meaningful metrics to measure success on the alliance's four main initiatives: 1) Leave No Child Inside; 2) Climate Action; 3) Restoring Nature; and 4) Greening Infrastructure. This will help guide programs and secure funding for member projects and programs in the future.

Natural Resource Management, Climate Change, and Green Infrastructure Vision Teams

USFS Social Scientist Cherie LeBlanc Fisher serves in an advisory capacity on the Chicago Wilderness Natural Resources Management Team, the Climate Change Task Force, and the Green Infrastructure Vision Task Force.

Regional Trees Initiative

Spearheaded by the Morton Arboretum, the Regional Trees Initiative brings together experts from government, industry, and nonprofit organizations to think strategically about how to manage the Chicago region's tree resources in the coming decades. Specific goals are to improve tree health and diversity in meaningful ways and to maximize the human health and well-being benefits that trees provide to the region's residents. USFS Project Leader Lynne Westphal serves on the Executive Advisory Committee which offers expert advice for refining and achieving the Initiative's goals. The Initiative builds on findings from the 2010 Regional Tree Census which was conducted with USFS funding and staff support.