

2010 in Review

Mission: The Great Lakes Research and Education Center (GLREC) facilitates research and provides educational opportunities in 10 national parks in the Western Great Lakes Region. It involves public-private partnerships with a wide range of people and organizations, including researchers, universities, educators, students, and community groups. Through collaborative efforts, the GLREC communicates scientific information to enhance management decisions within the network parks and contributes to public understanding of natural and cultural resources.

Projects Supported in Network Parks

Natural Resources Research and Education:

- Hybrid cattail expansion and the Relationship With Anthropogenic and Environmental Factors of Indiana Dunes National Lakeshore (research internship)
- Deer Exclusion Experiment Construction at Sleeping Bear Dunes
 National Lakeshore: Assessment of the Effects of Overabundant White-tailed Deer Impact on the Herbaceous Understory (research internship)
- Investigate Morphology and Genetics of Cattail Populations at Cuyahoga Valley National Park, Pictured Rocks National Lakeshore, and Sleeping Bear Dunes National Lakeshore (research internship)
- Measurement and Modeling of Thermal Landscape for Moose at Voyageurs National Park Using Black Globe Temperature Sensors (research internship)
- Research Outreach/Communication Internship at Mississippi National River and Recreation Area
- St. Croix River Research Rendezvous Curriculum Activities for Minnesota and Wisconsin
- Invasive Species and Citizen Science: A Workshop and Traveling Trunk at Indiana Dunes National Lakeshore

Cultural Resources Research and Education:

- Transfer of Oral History Information (audio and video) to Digital Format Through Partnership with Friends of Sleeping Bear Dunes
- Equipment Upgrade for Oral History Collection at Sleeping Bear Dunes National Lakeshore
- Sleeping Bear Dunes Public Barn Restoration Workshop
- Indiana Dunes National Lakeshore Oral History Project, Phase II

Facilitating the use of parks for scientific inquiry

The GLREC staff reviewed 7 research grant proposals and edited 5 peer reviewed journal manuscripts. Arrangements were made for an International VIP to conduct a research project on water quality at the GLREC Field Research Station (FRS), Indiana Dunes National Lakeshore, and Valparaiso University for 4 months. Researchers investigating patterns and dynamics of local-scale plant extinctions over the past few hundred years at Indiana Dunes, coastal dune and habitat assessments, Karner blue butterfly rearing, and bee pollen photography were all supported through use of the GLREC FRS laboratory. Two National Science Foundation grants were implemented at Indiana Dunes National Lakeshore through GLREC efforts.

Providing Research Information or Value-added Products to Park Staff and Managers

GLREC staff co-sponsored the annual Western Great Lakes Research Conference held in St. Paul, MN, this year. Periodic e-mail bulletins on a wide variety of research subjects were shared with resource management and interpretive staffs at network parks and with park partners. Interpretive staff from Indiana Dunes National Lakeshore were trained in two citizen science programs on invasive cattail and earthworms. Two brown bag lunch seminars and two staff and partner training sessions were presented at Indiana Dunes.

Communicating the Relevance of, and Providing Access to Knowledge Gained through Scientific Research

Presentations for middle-school through university groups (7), conferences and conference presentations/posters (3), educator workshops (2), public workshops and presentations (3), festival booths (3), research bulletins (7), curriculum activities (2), newsletter articles (2), resource trunks (1), webpage updates (2 websites), and e-mail bulletins (numerous) were created/presented, and education grant proposals were reviewed (3). Topics included: climate change, invasive species, hybrid cattails, historic barn restoration techniques, ethnobotany, local scale plant extinctions, copper mining, sand movement, deer herbivory, mussels, Pitcher's thistle, spiny water flea, wetland water quality, bioaccumulation of toxins, and the importance of research to resource management.



Post-doctoral scholar conducts research on local plant extinctions at Indiana Dunes

Promoting Science Literacy and Resource Stewardship through Partnerships

GLREC staff worked with forty partner organizations to facilitate both research and education projects. Highlights of these partnerships include: work with the United States Geological Survey, the University of Minnesota, and Chicago Wilderness on citizen science projects involving cattails, earthworms, and invasive species; an international Volunteer in Parks from Thailand working in partnership with Valparaiso University on water quality monitoring and chemistry as it relates to resource management; and the United States Environmental Protection Agency on Great Lakes Restoration Initiative Invasive Species Media Campaign and Interpretation endeavors.

2010 Budget	
Category	Dollars
Salaries	187,891
Network Park Assistance/ Internships	19,054
Science Education/Outreach	502
Publications	593
Equipment	89
Supplies	3,903
Other admin costs (vehicle)	3,163
Other (services, utilities, dorm charges)	8,763
Travel	978
Total	\$224,936

Table: Students Participating in GLREC Facilitated Research

Number
2
9
3
4
7
2

GLREC website: http://www.nps.gov/indu/naturescience/glrec.htm