

Building Local Capacity to Protect and Restore Hine's Emerald Dragonfly Habitat in Northeast Michigan: Semi-Annual Performance Report 3

Grant # F13AC00991

October 1, 2014 – March 31, 2015

Daria Hyde-MNFI Report No. 2015-08

Project Overview:

We will train and work with local stakeholders to conduct surveys for the federally endangered Hine's emerald dragonfly (HED) while simultaneously mapping locations of invasive plants at four known Hine's emerald dragonfly sites in Alcona, Alpena, and Presque Isle counties. Small invasive plant infestations will be treated during surveys to minimize follow-up efforts and the highest priority larger infestations will be identified for future treatment. This project will build local capacity to protect and restore HED habitat in this region.

Goals and Objectives:

1. Extend current USFWS permit through duration of project.

- Dave Cuthrell is a sub-permittee under a permit held by Dr. Cashatt. His permit has been extended to 12/31/2015 which coincides with the end date for this project.

2. Recruit volunteers from the community and local schools and provide workshops for the local community.

- A workshop is scheduled for June 19, 2015 at the Presque Isle District Library in Roger's City for those who would like to learn about this project and who may be interested in participating. Bill Grigg with the Friends of Thompson Harbor will assist us in marketing this workshop within the Friends Group and within the local community. We plan to provide an overview of the project and discuss the Hine's emerald dragonfly and other unique plants and animals at Thompson's Harbor State Park and the threat posed by invasive species. Presenters will include: Daria Hyde and Phyllis Higman -MNFI, Staff from Huron Pines, Sue Keller- Friends of Negwegon, Staff from MDNR State Parks and if available Christie Deloria or Laurel Hill-USFWS.
- An 8th grade teacher in Roger's City Schools has expressed interest in conducting surveys for HED and invasive plants with her students at Thompson's Harbor State Park this year. We will coordinate and schedule a date in September for her students to spend a day at the park.

3& 4. Train State Park and Huron Pines staff /volunteers to i.d rare species and invasive plants.

- A 3 hour training workshop will be provided in late July or early August for volunteers at Thompson's Harbor State Park. In addition, we will host refresher training and work with volunteers who participated last year at Negwegon State Park. We will also provide a training workshop for volunteers in mid to late September at Thompson's Harbor State Park and spend a day working with a class of 8th grade science students. We plan to work with the same 8th grade teacher from Alcona Schools at Negwegon State Park as well if she is interested in bringing her classes out to conduct surveys again.

5. Conduct surveys for HED and invasive species at Misery Bay, North Point Rd., Negwegon S.P. and Thompson's Harbor.

- We focused our survey efforts at Negwegon State Park last year to make the best use of project resources and to test the survey methodology at one location. We will continue to support volunteers at Negwegon in 2015 by providing a refresher training in late summer and possibly early fall.

- This year we will focus volunteer training and survey efforts at Thompson's Harbor State Park. We plan to work with volunteers 2-3 days in late summer and 2-3 days in early fall.
- MNFI and Huron Pines staff will spend several days conducting surveys at the Misery Bay and North Point Rd sites to identify HED habitat and mark invasive species.

6. Treat occurrences of invasive plants which occur in areas <1 acre during surveys.

- We will coordinate with Huron Pines to have their staff or AmericCorps volunteers accompany us when we conduct surveys and treat invasive plants which occur in areas <1 acre. We will record occurrences > 1 acre so they can be treated later by State Park staff or contractors.

7. Conduct larval surveys in potential habitat

- Volunteers will be trained to identify potential HED larval habitat and will mark with GPS and flagging any potential burrows.
- David Cuthrell will return to Negwegon State Park and pump the burrows that volunteers identified in 2014. He will also pump burrows identified at Thompson's Harbor State Park, Misery Bay and North Point Road in 2015.

8. Report project results to State Parks and USFWS.

- Progress reports have been provided to State Parks as well as USFWS.
- I met with Glenn Palmgren and Alicia Ihnken to review results from the first year of the project and discussed plans for the second year. Alicia will prepare maps for Thompson's Harbor State Park that will be loaded into the tablets that we will use to collect data in the field. She will also create a map of the northern portion of Negwegon State Park so that volunteers can conduct surveys in a different area than last year.

9. Provide GPS locations of invasive plants > 1 acre to DNR PRD and Huron Pines

- GPS locations of all invasive plants were provided to DNR Parks and Recreation Division as well as Huron Pines. These locations were sorted into categories of 1) treated and 2) flagged but not treated. Areas > 1 acre were not treated and larger trees were flagged but not treated as they need to be cut and then have the stump treated as this is more effective than just a foliar spray with herbicide. Large trees near the main parking lot were cut by DNR Parks staff and the stumps were treated by Huron Pines Americorp staff. Huron Pines will return to treat some of these areas in 2015.

10. Report project results to the community and develop plan with local leaders to continue EDRR efforts

- Project results were reported to the community through two articles in the local newspaper "The Guide" (covers Northern MI) in the September 2014 and the Dec/2014/Jan2015 issues (See Appendix).
- An article about student involvement in the project appeared in "Mid Michigan's Second Wave". <http://midmichigan.secondwavemedia.com/features/nestowards102814.aspx>
- Phyllis Higman, Brandon Schroeder, Sue Keller, Christie Thomas and I presented a talk entitled "Building Local Capacity to Protect and Restore Hine's Emerald Dragonfly Habitat in Northeast Michigan" at the Place Based Education Conference in Grand Rapids on November 7, 2014. The conference was sponsored by the Great Lakes Stewardship Initiative.
- Project results were also reported in articles posted on the NE MI Great Lakes Stewardship Initiative website (<http://www.nemiglsi.org/projectlocs.asp?ogt=pv&pid=55>) and the Michigan State University Extension website (http://msue.anr.msu.edu/news/hunt_for_the_endangered_hines_emerald_dragonfly).

Appendix

1) “Protecting Rare Species that Make the Great Lakes Special”: Guide article: Sept. 2014.

2) “Hunt for the Hine’s” Guide article: Dec. 2014/Jan. 2015

Your Assignment: Learn About Your Land

Huron Pines' expert staff is available to help Northeast Michigan landowners learn about their land and protect our natural resources.

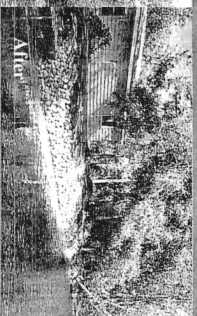
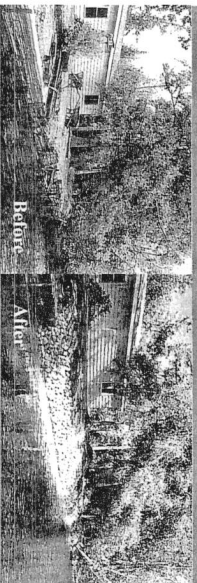
Fall is a great time to get outdoors and walk your property. To get the most out of the activities you enjoy, you need to get to know your piece of Michigan.

Huron Pines has an experienced staff available to help landowners complete stewardship projects in and out of the water. Projects that may help address concerns on your property while maintaining high quality habitat include:

Invasive Species Removal | Instream Habitat | Natural Shoreline Restoration | Native Plantings | Habitat Restoration/Enhancement | Small Dam Removal | Attracting Wildlife | Forest Stewardship

Sign up for a free site visit today on our website or by calling (989) 448-2293 ext. 211

Huron Pines members receive discounts on stewardship projects along with many other benefits. Contact us today to find out how you can help your land while helping us provide our free site visits to more of your Northeast Michigan neighbors!



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Protecting rare species that make the Great Lakes special



By CLARE WOOD
Huron Pines
AmeriCorps
member

NEGLEGON STATE

PARK – Peace and solace are what many of us who live and vacation in Northeast Michigan seek. We are spoiled with abundant forests, winding rivers and refreshing waters of the inland seas that surround us.

Yet, sometimes we overlook the uniqueness of the Great Lakes ecosystem.

While the infamous Asian carp is on the cusp of

invading our waters, lesser-known threats to the rare natural treasures that make the Sunrise Side so special are popping up in the form of pesky plants.

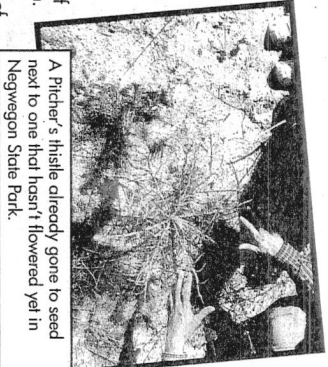
Hiking through thick huckleberry brush and soggy

marshlands with a three

gallon sprayer of herbicide on my back, I undertook a journey to protect the rustic beauty

of Neglegon State Park and the rare species that live there.

With eight miles of undeveloped shoreline, the park is an untouched parcel reminiscent of the Lake Huron of years past.

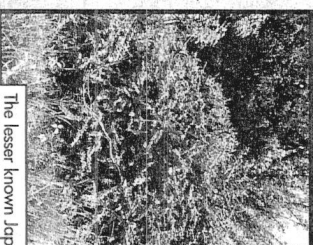


Despite the park's natural beauty, invasive plants such as baby's breath, bladder campion and spotted knapweed encroach upon dunes and the rare plants that live there. Those threatened

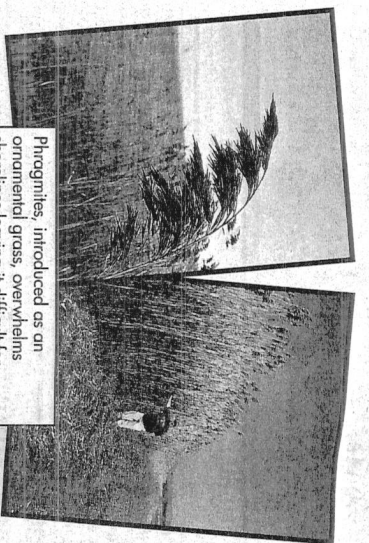
plants include

Pitcher's thistle, a thistle that flowers only once in its five to eight year life and is found only on the shorelines of the Great Lakes.

The lesser known Japanese barberry is another introduced ornamental that chokes out native species.



Volunteers from the Friends of Neglegon group, scientists from the Michigan Natural Features Inventory and other conservation groups set aside two weeks in



Phragmites, introduced as an ornamental grass, overwhelms shorelines leaving it difficult for animals to reach the water. It also can release a chemical that kills fish.



found here but are threatened by these invasives. So why is it so important to protect rare and endangered plants and animals from invasive species?

In the larger scheme of things, what does it matter if one tiny creature isn't around anymore? "Everything is connected," explains Phyllis Higman, MNFI biologist. "Our environment is a web of interactions that have evolved over thousands of years and invasives don't fit into that web."

Even if we don't care specifically about a certain species, or don't think they serve a purpose, losing that rare species means losing a habitat type and a diversity that will never again exist.

"Destroying natural communities has a ripple effect – a lot of these habitats are important to the survival of many animals," said Daria Hyde of MNFI. Rare animals like the piping plover, Hines emerald dragonfly and the wood turtle that are native to Michigan are a part of why our state is so special. "Losing habitat to invasives is losing a piece of our heritage."

"No plant is bad," said Higman. "They are just doing what they do to survive. It is only when they are interfering with something we humans desire that we need to control or remove them."

What the Friends of Negwegon desire is to maintain the pure and rustic beauty of the park and its unique coastal habitat that is home to rare, threatened and endangered species. Finding evidence of Hines emerald dragonfly larvae in the park would just be one more thing that makes it special.

Keeping Northeast Michigan's forests, lakes and streams wild, scenic and suitable habitat for the many rare species that live in our region is an important goal of Huron Pines. From the sandy Grayling soils and the jack pine forests that are home to the endangered Kirtland's warbler, to the coastal dunes of the Hines emerald dragonfly, we work together with many partners to protect wildlife and the lands they depend on.

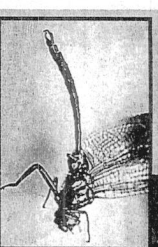
—To learn more about Huron Pines and the work they perform protecting Northeast Michigan's native plants and natural resources visit www.HuronPines.org

Northeast Michigan needs your help.

If you see an invasive species of any type, report it to Huron Pines. Tell us everything you know and join the battle.

Go to www.HuronPines.org or call (989) 448-2293 ext. 24

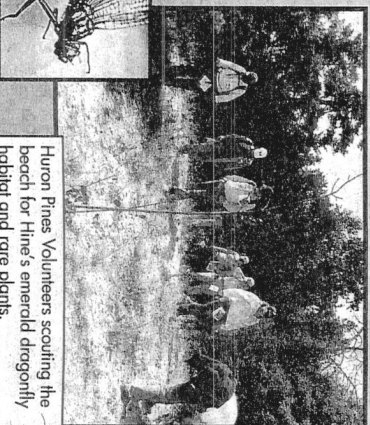
Huron Pines is a non-profit organization based in Gaylord, serving 14 counties in Northeast Michigan. The mission of Huron Pines is to conserve the forests, lakes and streams of Northeast Michigan by bringing together regional partners, acquiring funding and managing sustainable watershed projects. Visit www.HuronPines.org to learn more.



marshy areas of the dunes, or swales where the Hines emerald dragonfly lays its eggs. Houghton's goldenrod and dwarf lake iris are also rare native plants that are

threatening the dragonfly's habitat. The dreaded phragmites, and lesser known Japanese barberry and glossy buckthorn have also been found here, threatening some of the lowland

Invasive plants can dominate an environment and create a monoculture, crowding out native plants that provide habitat for endangered animals like the Hines emerald dragonfly.



Huron Pines Volunteers scouting the beach for Hines emerald dragonfly habitat and rare plants.

On the hunt for the endangered Hine's emerald dragonfly



By BRANDON SCHROEDER
Michigan Sea Grant

Armed with GPS units, maps of the park, muck boots and identification guides, student-scientists searched Negwegon State Park for dragonfly habitat and the invasives that threaten it.

NEGWEGON STATE PARK – Walking the woods, wading wetlands and scouring Lake Huron beaches – what more could a kid (or an adult) ask for in a fun-filled exploration of this remote location? Add Great Lakes scientists and an endangered dragonfly and the trip to this Alpena County state park just got a lot more interesting for some conservation-minded Alpena County youngsters.

During summer break, the Alpena 4-H Environmental Science Club ventured here as citizen scientists to assist Friends of Negwegon State Park. Working alongside scientists from the Michigan Natural Features Inventory, the youth were on the hunt for potential habitat of the endangered Hine's emerald dragonfly. Armed with GPS units, maps of the park, muck boots and identification guides, they searched for invasive species that threaten the dragonfly's critical wetland habitat.

When school started back this fall, middle school science students from Alpena Community Schools joined the project, continuing their long-term stewardship at Negwegon State Park. While past students from this school helped make the park's interpretive signs, this trip found the middle-school students partnered with Alpena Community College's field biology class,

mapping endangered species, wetland habitats and problematic invaders.

Splashing color across Michigan's wetlands and waterways are some 150 species of dragonflies and their close relatives, damselflies. Some are common, such as the green darner dragonfly referred to by some as Michigan's unofficial state insect. Others, like the Hine's emerald dragonfly are more rare, even threatened or endangered. A new citizen science effort led by Michigan Natural Features Inventory, a program of Michigan State University Extension, calls on community involvement to help protect the Hine's emerald dragonfly and the high quality natural habitats found at Negwegon State Park.

A recent Lake Huron Biodiversity Conservation report calls attention to



In effort to help save the threatened Hine's emerald dragonfly, youth work alongside MSU Extension scientists to map the wetlands habitats and invasive species of Negwegon State Park.



Northeast Michigan and this shoreline park for its abundant rare habitats and threatened species – a place worth protecting. Funded by U.S. Fish & Wildlife Coastal Program, through the Great Lakes Restoration Initiative and local Community Foundation for Northeast Michigan, this innovative conservation project trains and engages community volunteers to map potential endangered species habitats and threatening invasive species. Fielding the project entailed a partnership with Huron Pines, Michigan Sea Grant, Friends of Negwegon, DNR Parks Stewardship, U.S. Fish & Wildlife, among others.

A project of partnerships!
It only made sense that students – our youngest citizens – might also

partner in this project. Fostering school-community partnerships through 4-H and local school connections, the Northeast Michigan Great Lakes Stewardship Initiative network helped link educators and youth with this habitat study.

Attention to the Hine's emerald dragonfly offers opportunity to promote biodiversity conservation – conservation of a variety of species and their habitats. Scientists have documented adult Hine's emerald dragonflies in the park but were unsure where adults lay their eggs and where the larvae develop. Larvae spend 3-5 years in these wetlands, even inhabiting crayfish burrows during dryer seasons, before emerging as adults. Threats to these critical wetland habitats by the ever-encroaching





Hine's emerald dragonfly habitat, including 77 crayfish burrows that scientists will later search for Hine's juveniles. Students also helped map more than 230 instances of invasive plant species that were ultimately treated with help of Huron Pines.



Adding to the project's stewardship value, Alcona students explored the beach while conducting their annual beach trash clean-up. With Michigan Sea Grant experts they searched the shoreline dunes for other rare species such as the pitcher's thistle and Lake Huron locust. As with wetland habitats, invasive species threaten habitats of these two rare beach-loving species and students improved beach habitat by working with Friends of Negwegon and U.S. Fish and Wildlife Service to remove invasive scotted-knapweed.



Wet feet barely slowed down Alcona 4-H youth as they mapped Negwegon State Park's critical wetlands and learned about a diversity of dragonfly species found here – such as this meadowhawk dragonfly.

invasive species present a management opportunity before the invaders become too well established at Negwegon.

But how can you protect habitat and contain invaders if you don't know where to find them?

To date citizen youth scientists have helped map 23 locations of potential

The work provided students with an invaluable place-based education experience that taught the young citizens about Great Lakes science and careers, habitat stewardship and civic engagement. In trade, their enthusiastic contributions were valued by scientists, who welcomed the students as partners in this important conservation effort.

— Brandon Schroeder is the District Sea Grant Extension Educator for Michigan State University Extension.

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