OFFICIAL NEWSLETTER OF THE POWESHIEK SKIPPERLING INTERNATIONAL PARTNERSHIP

THE POWESHIEK POST

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FOR POWESHIEK SKIPPERLING ENTHUSIASTS

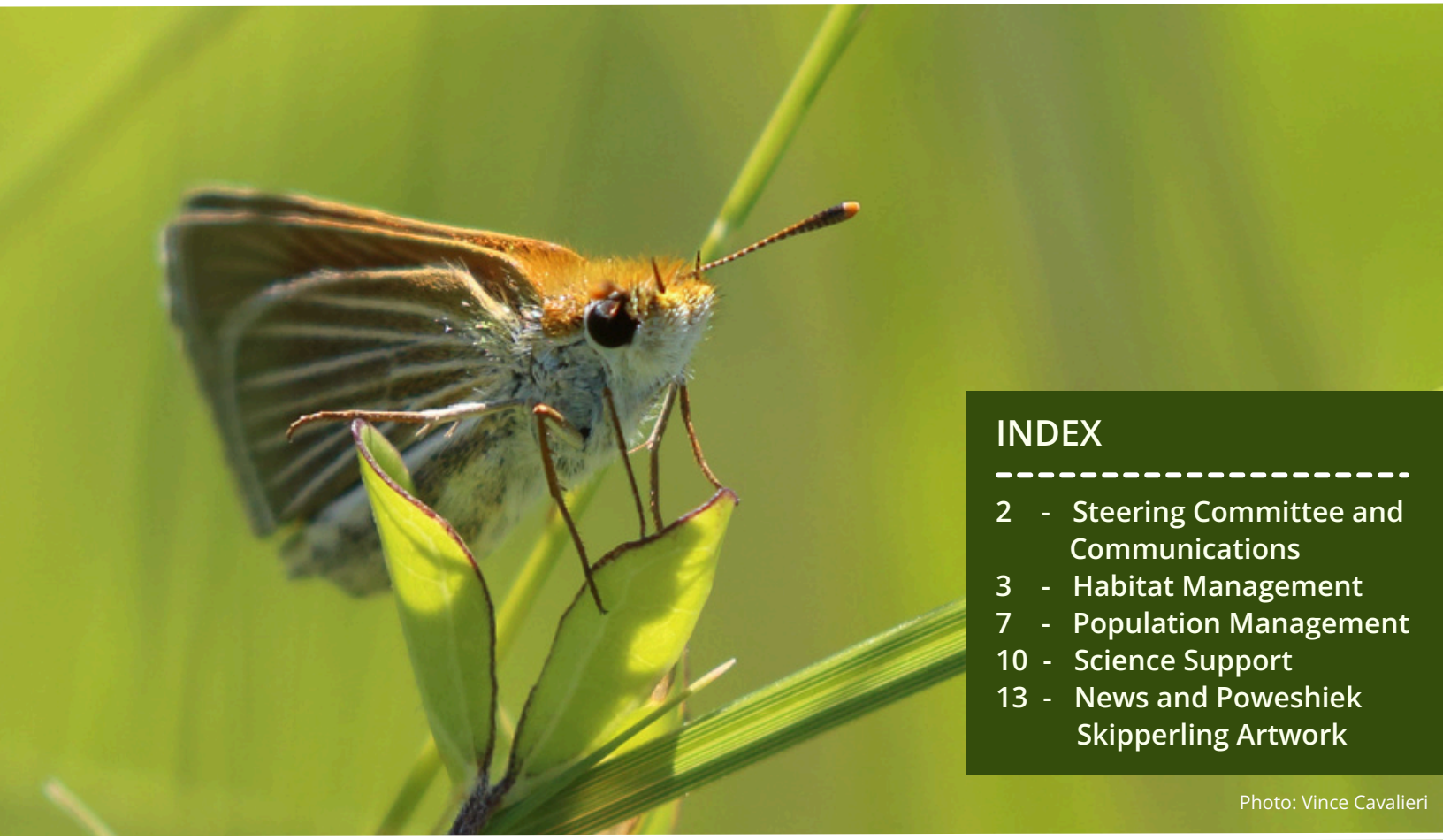

Photo: Vince Cavalieri

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In response to the imminent imperiled state of the endangered Poweshiek Skipperling, a coalition of conservation partners formed an international partnership to foster coordination and collaboration.

The two fundamental objectives of the partnership are to:
1) Minimize likelihood of near-term extinction of Poweshiek Skipperling
2) Maximize likelihood of long-term viability of the species

Please visit us at https://savingskippers.org/

The Poweshiek Post is a platform for partners to share news about Poweshiek Skipperling conservation efforts in order to mobilise knowledge amongst interested public citizens.

STEERING COMMITTEE

2025 Annual Meeting of the Poweshiek Skipperling International Partnership

The Poweshiek Skipperling International Partnership (PSIP) will meet during March 2025 in Winnipeg, Manitoba, Canada! At this meeting, partners will discuss developments in Poweshiek Skipperling conservation before strategizing a collective approach to facilitate recovery of this endangered skipperling. Following this meeting, partners will implement our plan through the 2025-26 season.

STEERING COMMITTEE CO-CHAIRS

Erik Runquist
Melissa Grantham

Photo: Kirstyn Eckhardt

COMMUNICATIONS

Exciting news! The Poweshiek Skipperling International Partnership has a Facebook page! Be sure to like and follow the page (Poweshiek Skipperling International Partnership Facebook Page) for updates!

COMMUNICATIONS CO-CHAIRS

Dave Pavlik
Tam Smith

HABITAT MANAGEMENT

Nature Conservancy of Canada

Poweshiek Skipperling (POSK) habitat management activities in the Manitoba Tall Grass Prairie Preserve (MTGPP) in 2024 focused on prescribed burns, prescribed grazing, and the mechanical control of woody species.

Prescribed burns were implemented on several conservation lands within the MTGPP that contain POSK sites, and these burns were implemented with consideration of the most current POSK survey results to limit incidental POSK population loss. An approximately 80-acre prescribed burn was implemented in May on a MTGPP property that contains a site formerly occupied by POSK and is a candidate for potential POSK reintroduction. An approximately 15-acre prescribed burn was implemented in August on a MTGPP property that contains a recently occupied POSK site that has experienced prescribed burns and mechanical control of woody species over the past number of years to improve POSK habitat. An approximately 5-acre prescribed burn was also implemented in August on a MTGPP property that contains an occupied site that has experienced prescribed burns and mechanical control of woody species over the past number of years to improve POSK habitat.

Drone photo of the limited dot ignition fires carried out at a MTGPP site.

HABITAT MANAGEMENT

Nature Conservancy of Canada

Also in August, a limited dot ignition prescribe burn technique was implemented in an occupied site adjacent to known survey occurrences, in an area that had previously received mechanical woody species control. This was the first time implementing this prescribed burn technique, where a point ignition was allowed to grow to a small patch (approximately 3-m2) before being suppressed. In total 25 dots were burned, creating a mosaic of burned and unburned vegetation, adding a necessary disturbance to POSK occupied habitat while limiting incidental POSK population loss.

Close-up of a limited dot ignition fire carried out at MTGPP site.

Prescribed grazing was implemented on MTGPP conservation lands in 2024, with one grazing unit containing a recently occupied site being grazed. Grazing on the paddock containing this site was implemented in September.

Mechanical control of woody species in 2024 focused on a MTGPP conservation property that contains the current POSK reintroduction site. Mechanical control of woody species was implemented in the fall of 2024, with approximately 3 acres adjacent to the reintroduction site mowed to create a corridor of improved POSK habitat. An additional approximately 4 acres of woody species was mowed on a formerly occupied site.

HABITAT MANAGEMENT

Michigan Natural Features Inventory

A December view of prairie fen habitat occupied by Poweshiek Skipperling and managed by Michigan Nature Association. Photo: Logan Rowe

Poweshiek skipperling habitat management planning for 2025 is currently underway in Michigan (MI) prairie fens. In December, Michigan Natural Features Inventory (MNFI) scientists met with the land managers at historic and/or currently occupied prairie fens to discuss ongoing habitat needs and identify priorities for 2025 including prescribed burns and shrub management. Management will occur at occupied or previously occupied prairie fens areas and support ongoing post-fire vegetation studies initiated by Central Michigan University researchers. Fingers-crossed for good spring burning weather!

Photo: Logan Rowe

Local legend Dave Cuthrell discussing Poweshiek Skipperling habitat needs with The Nature Conservancy of Michigan land managers Kim Steinberger and John Lerdal at an occupied fen.

Photo: Logan Rowe

Previously occupied Poweshiek Skipperling habitat at an occupied fen in southern Michigan. Ongoing management aims to improve prairie fen habitat.

HABITAT MANAGEMENT

Michigan Poweshiek Habitat Team

Members of the Michigan Poweshiek Habitat Team (MPHT) have continued to develop and refine the Poweshiek Skipperling Habitat Adaptive Management Framework (PSHAMF) to guide management and monitoring of Poweshiek habitat in Michigan prairie fens. Current partners in the MPHT include Springfield Charter Township, Michigan Nature Association, The Nature Conservancy in Michigan, Blue Heron Headwaters Conservancy, Michigan Department of Natural Resources, U.S. Fish and Wildlife Service, Michigan Natural Features Inventory (Michigan State University Extension), and Central Michigan University (Figure 1).

Figure 1. Members of the Michigan Poweshiek Habitat Team (MPHT). Photo: CMU (logos for individual organizations are not owned by CMU).

In Summer 2024, Central Michigan University completed sampling for the PSHAMF 2023-2024 Prescribed Fire Assessment. Burned treatment and unburned control plots were sampled in three currently and historically occupied prairie fens. Sampling included documented or suspected Poweshiek nectar resources, oviposition host plants, and larval food sources; structural and functional groups; and environmental metrics like litter depth and maximum vegetation height. Plots were sampled in Summer 2023, burns were completed in March/April 2024, then plots were sampled again in Summer 2024 (Figure 2). A comprehensive report of the results of the assessment is currently under review by the team and will be finalized soon.

Figure 2. A quadrat sampled in a burned treatment plot in 2024.

In Fall 2024, the MPHT met to coalesce on and refine Goals for the next decade of the PSHAMF. Current priority Goals include maintaining or increasing the cover and diversity of potential Poweshiek resources and increasing the size of Poweshiek-occupied patches. Results Chains are in development to describe how our management Strategies will help us reach these Goals as a team

HABITAT MANAGEMENT CHAIR (ACTING)

Melissa Grantham

Open Education Resources and manuscripts are in development to share insights about the Poweshiek Skipperling recovery efforts, Adaptive Management process, and conservation of Michigan prairie fens. These materials are intended to engage stakeholders across a broad audience and emphasize data literacy, diversity, and inclusion.

POPULATION MANAGEMENT

Haddad Lab/John Ball Zoo and Minnesota Zoo Update

2024 Poweshiek skipperling releases

Efforts to augment the last remaining populations of Poweshiek Skipperlings in Michigan continued. Over 1,400 adults were released at the three extant sites to continue augmenting these populations and into a new reintroduction site. This was the first ever reintroduction attempt in Michigan.

Two-day old female and an eight-day old male Poweshiek Skipperling observed at the new reintroduction site.

View of the new Poweshiek Skipperling reintroduction site in MI after many long years of invasive species removal and management by land managers.

Releases were paired with transect surveys conducted my MNFI and MNZ researchers. Prior to release, zoo-reared butterflies were marked so that surveyors could differentiate them from wild occurring adults (unmarked). Although wild numbers remain lower than historical highs, this year's surveys found the first ever year-over-year population increase of wild Poweshiek skipperlings since the decline was documented.

Huge thanks to everyone that contributed to the translocation efforts in MI this year!

POPULATION MANAGEMENT

Haddad Lab/John Ball Zoo and Minnesota Zoo Update

2024 Poweshiek Skipperling Releases

Since the adult flight, MNFI has conducted opportunistic larval surveys at the new MI reintroduction site. This last fall, Logan Rowe spotted three Poweshiek Skipperling larvae at the site all on prairie dropseed. This a great early sign of establishment at the reintroduction site.

A wild Poweshiek Skipperling on prairie dropseed observed at the new reintroduction site in September 2024.

2024-2025 Generation

The Haddad Lab/John Ball Zoo team bred 50 pairs of Poweshiek Skipperling this past summer producing over 3,000 eggs. For redundancy, about half of the eggs were shared with the Minnesota Zoo trying to have equal representation of each lineage at both facilities. The resulting caterpillars are now spending the winter in environmental chambers at their respective zoos and will be brought out of diapause in the spring.

Left. Nov 2024: Poweshiek Skipperling larvae at the MNZ before being prepped for winter diapause.

Right. Poweshiek Skipperlings tucked away for winter in a new environmental growth chamber at the MNZ. Funding for the new chambers came from the USFWS Great Lakes Restoration Initiative.

POPULATION MANAGEMENT

Grassland Butterfly Conservation Program at Assiniboine Park Zoo: 2024 Summary

Newly released Poweshiek Skipperling marked with two red dots.

This year, we released a record 210 Poweshiek Skipperling across three sites in Manitoba's Tall Grass Prairie Preserve between July 11th and August 1st. We marked each butterfly with one or two colour-coded dots on their hind wing prior to release, which allowed us to identify 21 of these individuals via resight or recapture 0–8 days after their release. Resight data provide valuable information on how Poweshiek move across the landscape and allow us to differentiate Zoo-reared butterflies from wild ones. We observed five unmarked (wild) Poweshiek adults at the 2023 reintroduction site, an encouraging sign that Zoo-reared Poweshiek can successfully mate in the wild.

In addition to collecting eggs from wild-caught females, we successfully bred five pairs of Poweshiek Skipperling at the Zoo this year. We collected 570 eggs, the second-highest number of eggs since the program began in 2017. 82% of fertilized eggs hatched into larvae. In late October we transferred 276 larvae into 'diapause chambers' in a temperature-controlled incubator set to -4°C, where they will spend winter. These 276 larvae represent 14 maternal lineages.

Poweshiek Skipperling mating pair, composed of two Zoo-reared individuals, in the reintroduction site.

POPULATION MANAGEMENT CO-CHAIRS

Cale Nordmeyer
David Pavlik

SCIENCE SUPPORT

The Science Support Team hosted three presentations that discussed research with practical applications for Poweshiek Skipperling conservation during the first portion of the 2025 Science Series.

Preliminary mark-resight results from the Manitoba Tall-Grass Prairie Preserve (summer 2024)
Katherine Dearborn1, Richard Westwood1 and Laura Burns2
1 University of Winnipeg and 2 Assiniboine Park Conservancy

How do disturbance-based management practices influence soil properties in Poweshiek skipperling sites in Manitoba?
Jessica Mariana Sánchez Jasso1, Nicola Koper2 and Richard Westwood3
1 University of Manitoba, 2 University of British Columbia and 3 University of Winnipeg

Using gut-content metabarcoding as a tool to quantify risk of predation by Eastern Pondhawk dragonflies on Poweshiek Skipperlings
Dr. Alisha Shah and Dr. Chris Kozakiewicz
Assistant Professors, Kellogg Biological Station, Michigan State University

Thanks to the researchers for delivering stimulating presentations! If you want to deliver a similar type of presentation, or know of someone who may be interested, please contact Justis and Logan. We also plan to host our typical update-style presentations prior to our 2025 PSIP Annual Meeting.

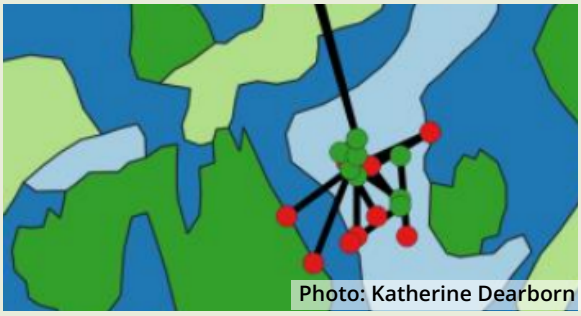
Photo: Katherine Dearborn


Photo: Jessica Mariana Sánchez Jasso

SCIENCE SUPPORT

Research

Minnesota Zoo, USFWS, Michigan Natural Features Inventory

To achieve formal recovery goals, Poweshiek skipperling populations will eventually need to be re-established outside of the handful of known extant locations. But where? Which locations may provide appropriate resources and present the least risk? Many factors must be considered for these big decisions. Thanks to new US federal and Minnesota state funding, we launched a new project to help evaluate the geographic scale of one of the potential risks: non-target pesticide exposure.

We will generate a 3-year dataset on the composition and quantities of pesticides occurring within dozens of sites that currently, historically, or may potentially host populations of Poweshiek Skipperling, Mitchell's Satyr, and/or Dakota Skipper. This inventory will help us understand variation and across sites, seasons, and years, which locations might be suitable for consideration for future reintroductions, and which locations may pose too large of a risk. We are also doing quick habitat quality evaluations at the sampled points to help guide planning.

MNFI technician Olivia Franklin collecting samples.

The first round of sampling occurred in late summer 2024 by MNZ, USFWS, and MNFI staff. We collected 82 samples of graminoids (putative larval hosts) from 27 sites across Minnesota, Michigan, and Wisconsin and are having them analyzed for ~400 pesticides and their derivatives. Stay tuned for more! We will collect the next batch of samples in spring.

Population Monitoring
Manitoba

Population surveys were carried out in Manitoba between July 9 and 19, 2024 to determine presence or absence of Poweshiek Skipperlings in a number of locations. Observations were made at several of the survey sites. The number of observations made during these surveys was approximately the same as last year and totalled 59. There were some additional new sightings in one area reinforcing the need for us to continue exploring the possibility of movement between sites. It was also exciting to hear that wild Poweshiek individuals were spotted in our reintroduction site, meaning that they are likely the offspring from those released there in 2023.

SCIENCE SUPPORT

Population Monitoring

Michigan

Michigan Natural Features Inventory completed 8 to 12 rounds of surveys for Poweshiek Skipperling in Michigan prairie fens managed by Springfield township and Michigan Nature Association, including at the first reintroduction site within the Shiawassee Basin Preserve. Survey effort in 2024 was increased compared to previous years and included Minnesota Zoo reinforcements to collect mark/resight data. Population numbers seem to be improving yearly, likely due to the combined efforts of the captive breeding and land management programs aimed at protecting Poweshiek Skipperling and their habitats in Michigan.

Photo: Logan Rowe

Left. MNFI researchers spotting a Poweshiek Skipperling along transect surveys at a currently occupied prairie fen.

Below. Looking north within the first Poweshiek Skipperling reintroduction site in Michigan.

Photo: Logan Rowe

SCIENCE SUPPORT CO-CHAIRS

Justis Henault
Logan Rowe

NEWS

On October 1st, 2024, the Association of Zoos and Aquariums (AZA), approved our proposal to create the SAFE Prairie Butterfly program. Standing for Saving Animals from Extinction, SAFE is AZA's framework for prioritizing conservation efforts. The new SAFE Prairie Butterfly program will leverage support from accredited zoos across North America and incentive other Zoo's join in conservation efforts. SAFE Prairie butterfly will focus on Poweshiek Skipperling, Dakota Skipper and Mitchell's Satyr Co-led by Laura Burns and Cale Nordmeyer, and additional leadership from Stephen Petersen (APZ), Bill Flannagan (JBZ) and Erik Runquist (MNZ): this team will be working through the final work plan. This team will keep the PSIP appraised to any SAFE updates.

POWESHIEK SKIPPERLING ARTWORK

Spencer High
Quercus Creative Consulting

Jessica Curtis
Umbra Arts

To submit inquiries regarding The Poweshiek Post or the Poweshiek Skipperling International Partnership, please use the contact form on our website.

Editor: Justis Henault