



# *Erythronium*

Newsletter of the Iowa Native Plant Society, vol. 26 no. 2 May 2021

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## Hill's Thistle Upon Codfish Hollow Hill Prairie *by Ray Hamilton*

When I began going on high quality prairie field trips in the late 1970's, I often traveled to the Loess Hills and the north central state prairie preserves protected by our famous mid-century botanists. There were few protected, high-quality natural areas at that time. It felt important to me after a childhood immersed in trees and woodland flowers to learn more about prairie plants and landscapes. With newfound knowledge, I started talking to Jackson County residents about their farmsteads, and hiking with my wife Patti with the intent of identifying prairie remnants.

On one evening car ride, Patti and I stopped at a roadside not far from our home near Maquoketa, where we saw prairie vegetation. After another trip to the Loess Hills to clear prairie hillsides, and with additional knowledge, we returned to the same roadside and realized the corner of this farm had native prairie. We noted many prairie species. A subsequent hike revealed multiple isolated hilltops dotted with compass plant and other prairie plants. By the end of that year, we had acquired the parcel, naming it Codfish Hollow Hill Prairie. It is a jewel in the eastern Iowa landscape and is home to ornate box turtles, prairie dependent skippers, one of the northernmost populations of purple coneflowers, as well as fun components such as downy painted cup, prairie moonwort, ladies' tresses orchids, woodcocks, nighthawks, occasional bobcats and densities of shooting stars and such. One of the more exciting residents for a day was a black bear (named Bruno on social media), who traversed the prairie in its entirety TWICE and took a much-needed nap in a cozy wooded corner before continuing on his journey south.

The 60-acre parcel is now permanently protected by a conservation easement with the Iowa Natural Heritage Foundation. It is managed as a native prairie preserve with woodland and savanna components. It also contains a 37-year-old very local seed source reconstruction buffer and interconnection of the native hilltops. It is a repository for other local prairie species at risk of extirpation.

One of the more humbling aspects of prairie management is acknowledging the depth of responsibility to observe and understand the complicated relationships of plants, animals and people. A butterfly specialist encouraged me to observe the quiet, subtle, and numerous prairie invertebrates, which he noted often to be thriving in ignored, unmanaged and unburned remnants. One of these invertebrates on the Codfish Prairie was the Ottoe skipper (*Hesperia ottoe*), which lives its entire life above ground and is susceptible to annihilation by routine use of fire. I listened to concerns expressed by others and began weighing and balancing the benefits and hazards which all management techniques create. I wrote the "Native Prairie Management Guide" to consolidate concepts of new more protective, diverse, and wholesome prairie management themes for the purpose of improving chances of survival of those known and unknown species.

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## Leaves of the President's Notebook



### Change

Well, it has been quite a change for me since the last newsletter – I moved to town! In past newsletters, I often wrote about the changing seasons and what was happening on our acreage. We sold the acreage in short order and distributed the junk I had collected, and then we loaded up one truck with all the remaining items and hauled them to Ames. I took a lot of memories with me! We are currently living in Green Hills retirement community in Ames. Our acreage was a special place on a hill, but it could be impossible in winter or spring.

~ *Lloyd Crim*



### In Memoriam: Stephen Johnson

by *Mary Stark*

Stephen Roy Johnson, 63, of Pella, Iowa, died peacefully on January 8, 2021, at his home. He was born November 4, 1957, in Richmond, Virginia, a son of Ellen (Stephenson) Johnson and the late Roy Ernest Johnson.

Stephen earned an Associate of Science degree from Chowan College in 1979, a Bachelor of Science from Virginia Commonwealth University (VCU) in 1988, a Mast of Science from VCU in 1991 and a PhD in Biology from Kansas State University (KSU) in 1994. VCU awarded him inclusion in the 1990 Phi Sigma Biological Honor Society, and KSU honored him with the John C. Frazier Award for Outstanding Botanical Research in 1993. He worked as a research scientist before teaching courses at VCU and John Tyler Community College in Virginia, as well as Central College and William Penn University in Iowa. He was widely published.

In addition to his father, he was predeceased by his brother Robert Emmet Johnson. He leaves behind his loving mother, Ellen Johnson of Richmond, as well as many devoted friends such as Dave Fore and John Sheehan, both of Richmond, and Mary Stark of Pella, Iowa.

Donations in his honor may be made to the Iowa Native Plant Society or to The Friends of Big Rock Park, 1227 Shadow Lane, Pella, Iowa 50219.

*Editor's note:* We had the pleasure of enjoying the articles that Stephen (often with Mary Stark as coauthor) contributed to *Erythronium* – one in each issue since December 2017. His/their descriptive style and the accompanying photographs allowed us to see through their eyes the wonders of plants and their pollinators!



# Loess Hills Prairie Seminar

## Theme: "Complex Obstacles"

June 4th - 6th 2021

**Free** Family - Friendly Programs

**Free Limited Camping**  
in the Heart of the  
Loess Hills Saturday  
Night!  
Loess Hills Wildlife  
Area



**Meals available for  
purchase at event  
Sunday.**



178th St. and Oak Ave., rural Castana

Note all activities will occur at the seminar outdoor site. We will be following CDC recommendations of social distancing and the use of hand sanitizer.

**Masks will be required.**

Please register at the email below. We will get you on a list of attendance for Sunday's Activities. Send an email to below address, if you would like to attend the Zoom sessions. A link will be sent to you Thursday, June 3rd.



For more information please visit :

[www.loesshillsprarieseminar.com](http://www.loesshillsprarieseminar.com)

Or Contact Program Coordinator: Andrea Porter  
mccbnat@mononacounty.org Phone: (712) 433-2400



### Friday:

9:00am - 12:00pm - G.R.A.S.S.  
Pre Seminar Activity - Iowa DNR  
(Reese Homestead)

### Zoom

2:45pm - Welcome  
3:00pm - Keynote: Be Wild Re-Wild  
6:00pm - Tie Dying with  
Natural Dyes  
7:00pm - The Mythology of  
Landscape

### Saturday: - Zoom

9:30am - Welcome  
9:50am - "Providing Urban  
Buffer Zones for  
Connectivity to the  
Loess Hills "  
10:50am - White Rock  
Conservancy  
12:00pm - Lunch via Zoom -  
Join Us in Conversation  
with Professionals in  
Conservation.  
12:50pm - Loess Hills Writers  
1:50pm - Relation with Creation  
3:00pm - Announcements

### Sunday: - Seminar Site

7:00am - Breakfast  
7:50am - 10:50am -  
Field Sessions  
10:55am - LoHi Trail Trek Kickoff  
11:15am - S.O.A.R. Raptor Program  
12:00pm - Lunch





## Calendar of Upcoming Events and Activities

Events sponsored or supported by INPS for the 2021 field season are included here. More events will be added to the INPS website calendar as the season progresses, including more information about events already scheduled – [www.iowanativeplants.org/calendar.php](http://www.iowanativeplants.org/calendar.php). Invite a friend to join you on an excursion in the 2021 season!

### Friday, June 4 to Sunday, June 6

#### Loess Hills Prairie Seminar (Monona County):

##### Theme - Complex Obstacles

**Friday, June 4, 9:00am to 12:00pm - Pre-Seminar activity: G.R.A.S.S. – Great Race Against Shrubs and Shade** - Meet at the Reese Homestead

##### Friday, June 4, LHPS activities on Zoom:

2:45pm – Welcome

3:00pm – Keynote: Be Wild Re-Wild

6:00pm – Tie-Dying with Natural Dyes

7:00pm – The Mythology of Landscape

##### Saturday, June 5, LHPS activities on Zoom:

9:30am – Welcome

9:50am – Providing Urban Buffer Zones for Connectivity to the Loess Hills

10:50am – White Rock Conservancy

12:00pm – Lunch via Zoom – Join in conversation with professionals in conservation

12:50pm – Loess Hills Writers

1:50pm – Relation with Creation

3:00pm – Announcements

##### Sunday, June 6, LHPS activities at the Seminar site, Loess Hills Wildlife Area (near Castana):

7:00am – Breakfast

7:50am – 10:50am - Field sessions

10:55am – LoHi Trail Trek kick-off

11:15am – S.O.A.R. Raptor program

12:00pm – Lunch

The Iowa Native Plant Society is a major supporter, one of many. Sponsors: Monona County Conservation Board and Iowa Department of Natural Resources See the LHPS poster on page 3 for more details. To register for the Zoom link and/or to attend the Sunday outdoor session, email [mccbnat@mononacounty.org](mailto:mccbnat@mononacounty.org) More info: 712-433-2400

<https://www.loesshillsprairieseminar.com/> (more information will be posted) or check the INPS website calendar

### Thursday, June 24, 7:00pm – 8:30pm

#### Doolittle Prairie Walk (Story County)

This is the second in the 2021 series of walks at this

prairie. Tom Rosburg will be leader. Sponsored by INPS, IPN, and Story County Conservation.

Additional 2021 Doolittle Walks are on July 22 and August 26.

Go to this website to register (it's free):

<http://www.storycountyiowa.gov/Calendar.aspx?EID=2284&month=5&year=2021&day=14&calType=0>

The walk format is casual and informational, focusing on questions from participants and identification of both blooming and vegetative plants. This is a good opportunity to view the prairie as it changes during the summer. Insect repellent, long pants, and sturdy shoes are recommended. The site has pot holes so be prepared for some wet spots.

DIRECTIONS: Doolittle Prairie is located north of Ames and south of Story City. From I-35 take Exit 123 (Roland and E18/130th St exit) and go west on E18 for ~ ½ mile until 560th Ave (a gravel road); turn south and go 1½ miles. There is a sign at the preserve entrance on the west side of the road – follow the lane west to the parking lot and prairie.

### Thursday, July 22, 7:00pm – 8:30pm

#### Doolittle Prairie Walk (Story County)

This is the third in the 2021 series of walks at this prairie. Tom Rosburg will be leader. Sponsored by INPS, IPN, and Story County Conservation.

The final 2021 Doolittle Walk will be August 26.

Go to this website to register (it's free):

<http://www.storycountyiowa.gov/Calendar.aspx?EID=2284&month=5&year=2021&day=14&calType=0>

See the description and directions at the entry for the June 24<sup>th</sup> Doolittle Prairie Walk.

### SAVE THE DATE: Saturday, July 31 to Sunday, August 1

#### Iowa Prairie Conference – Theme: Prairie Kinship

Hosted by The Iowa Prairie Network and the Iowa Prairie Conference Planning Committee.

Saturday, July 31 – Virtual Presentations

Sunday, August 1, 2021 – Statewide prairie field trips

More information to come.

**Thursday, August 26, 7:00pm – 8:30pm**

**Doolittle Prairie Walk (Story County)**

This is the last of the 2021 series of walks at this prairie. Tom Rosburg will be leader. Sponsored by INPS, IPN, and Story County Conservation.

Go to this website to register (it's free):

<http://www.storycountyia.gov/Calendar.aspx?EID=2284&month=5&year=2021&day=14&calType=0>

See the description and directions at the entry for the June 24<sup>th</sup> Doolittle Prairie Walk.

**Saturday, August 28, 10:00am – 1:00pm**

**INPS Field Trip to Wolters Prairie Preserve (Butler County – Northeast Iowa)**

Wolters Prairie Preserve is owned and managed by the Butler County Conservation Board. The tallgrass prairie had been hayed for years and was purchased from John Wolters in 1984. Wolters Prairie Preserve has some good quality mesic to wet mesic tallgrass prairie which is reflected in the large number of native vascular plants that are found within portions of the preserve. We will be exploring the late summer flora with our field trip leader, Mark Leoschke, botanist for the Wildlife Bureau of the Iowa Department of Natural Resources in Des Moines.

**DIRECTIONS:** Start from the intersection of Iowa Highway 3 and Iowa Highway 14 (the portion of Iowa Highway 14 that goes south from State Highway 3) in Allison (the county seat of Butler County. There is a Casey's convenience store on the northeast corner of this intersection). Drive 4 miles east on State Highway 3 to Quail Avenue (a gravel road). Turn left (north) onto Quail Avenue. Drive approximately 1.7 miles north, passing 195<sup>th</sup> Street, to Wolters Prairie Preserve (just west of Quail Avenue). Park near the south end of the preserve on Quail Avenue as we will be crossing the road ditch by walking over a small bridge. The address for Wolters Prairie Preserve is 19155 Quail Avenue.



**INPS Grants Information**

**2021 INPS Grant Recipients Announced**

Congratulations to our 2021 INPS grant awardees! INPS has awarded five 2021 grants, which will assist with management and acquisition of high-quality remnants, as well as educate an upcoming generation of conservationists. The grants are made possible through your dues and generous donations to INPS. An additional large thank you goes to our panel of

grant reviewers. Thanks to all for making these grants possible. Best wishes for success to our grant recipients, thank you for your work and contribution to protecting our prairies and woodlands of Iowa.

**Inventory, restoration and management**

“Supplemental tools for INHF's volunteer program”, Melanie Schmidt, Iowa Natural Heritage Foundation, \$675

“Restoration of a Prairie remnant at West Peterson Park”, Brandon Clough, Story County Conservation Board, \$1250

“Yellow Banks Park Savanna habitat restoration”, Cassandra Cook, Polk County Conservation Board, \$1250

**Land Acquisition**

“Hackman Tract and Sand Prairie”, Rod Marlatt, Fayette County Conservation Board, Fayette IA, \$1250

**Restore Iowa Grant (Education)**

"Engaging High School and College Students in Jackson County Conservation's People Prairie Project", Tony Vorwald (Jackson County Conservation), \$1000



**2020 INPS Grants Final Reports**

Note that INPS also funded the following two proposals for 2020, but these projects could not be completed due to COVID-19. Funding will be carried over to 2021, and we hope to have a description of the projects' successful completion next year.

**“Floristic Inventory of Mossy Glen State Preserve, Clayton Co., IA (1994-2020): Final Phase,”** \$850 Research grant awarded to William R. Norris (Professor), Silver City, NM, 88062

**Friends of Hickory Hill -- Restore Iowa! proposal,** \$835 grant awarded to Casey Kohrt (Chairman), Friends of Hickory Hill Park, Iowa City, IA

**Benton County Fen Acquisition Project, \$1,250**

Land Acquisition grant awarded to Benton County Conservation Board, Vinton IA

Benton County Conservation has partnered with



several other agencies in addition to the Iowa Native Plant Society to purchase 160 acres in northern Benton County that includes a 24-acre fen as well as surrounding cropland and pasture. Plans are to protect and manage the land in the best interest of the fen and its state-threatened and special concern species. Existing tile will be removed, and surrounding agricultural lands will be converted to native prairies, wetlands, and shrublands that provide habitat to a variety of wildlife species. Amphibians, reptiles, and plants will be monitored for the next several years. Benton County Conservation plans to educate the public and surrounding landowners as to the importance of wetlands (fen) and the need to protect these rare and unique habitats. This parcel will be open to the public year-round.



**Woodbury County Conservation Board Prairie Rescue Equipment**, \$1250 Restoration and Management grant awarded to Dawn Snyder (Education Programs Director), Woodbury County Conservation Board, Sioux City IA.

The Woodbury County Conservation Board (WCCB) was able to maximize its efforts this past year with the addition of the Stihl FS 560 C-EM

professional grade clearing saw. The clearing saw was purchased with funds from this INPS grant in the amount of \$1,250. Although impacted by COVID-19, WCCB did hire a seasonal employee to assist with habitat stewardship work. We were able to spend a large amount of time outdoors while socially distant to remove large amounts of woody vegetation such as gray dogwood (*Cornus racemosa*), smooth sumac (*Rhus glabra*) and ironwood (*Ostrya virginiana*); prepare sites for more productive prescribed burns; and restore bur oak (*Quercus macrocarpa*) savannas.

WCCB did not have volunteer workdays as usual, but the combined efforts of summer interns, full-time employees and a Conservation Corps of Iowa crew, we were able to conduct substantial habitat improvements on the steep prairie ridges. With use of the new clearing saw, employees primarily cleared dogwood and woody invasive species that could not be reached with larger equipment. Herbicide was applied to the cut stumps to prevent future sprouting.



WCCB benefitted when an AmeriCorps intern couldn't conduct his usual research at Lakeside Lab because of COVID-19 restrictions, so the intern conducted a plant survey of our prairie ridges instead. Ethan Rose provided 300 hours in the field conducting quadrant studies and transects and was able to map and catalog several plant species. This will be useful for future reference. We have established a new partnership with Lakeside Lab, and we anticipate future interns following up with continued surveys and research. New or increased numbers of these key species were observed: butterfly milkweed (*Asclepias tuberosa*), yucca (*Yucca glauca*), green milkweed (*Asclepias viridiflora*), prairie larkspur (*Delphinium carolinianum* ssp. *virescens*), round-headed bush clover (*Lespedeza capitata*), and large-flowered beardtongue (*Penstemon grandiflorus*).

After a full summer of field work, there was



enough brush and dried vegetation that WCCB conducted a fall burn on approximately 5 acres of prairie. A link to additional photos can be viewed at: <https://photos.app.goo.gl/uCXLKvKavtFGdZt6A>. Thank you to INPS for the funding support and continued collective efforts to restore and preserve native plants in our state.

**Ashton Cross Country Course Prairie Signage Project**, \$500 Education proposal awarded to Megan Lenss (UI student) and Stratis Giannakouros (Director, The University of Iowa Office of Sustainability and Environment)

Through the University of Iowa Office of Sustainability, students involved in creating the Ashton Research Prairie on the University campus were awarded \$500 to manufacture an educational sign for this prairie (information about this UI course project is available at <https://prairierestoration.course.uiowa.edu/about>).

Students worked with the University of Iowa Machine Shop to develop a laser-etched metal sign which will be manufactured and installed in early 2021. The purpose of the sign is to educate community members and visitors on the important role of native plants in the natural history and cultural legacy of Iowa. To do this, the sign outlines the numerous ecosystem services of native plants, the unique adaptations of prairie plants, the diversity of plant types in a prairie, and the variety of animals that find habitat in a prairie. The signage text also includes a land acknowledgment statement, which discusses the numerous Native American Nations who call the tallgrass prairie home. We students hope that visitors will read the sign and leave the prairie with a deeper understanding, heightened appreciation, and renewed curiosity for native plants.

The sign also includes a scannable QR code which will link to our website <https://prairierestoration.course.uiowa.edu>. That website gives readers considerably more information on prairie plants, including a seed list with photos to help visitors find and identify species in the prairie. Additionally, we collaborated with student translators through the UI Language Media Center to translate the signage text into multiple languages, including Chinese, Spanish, Arabic, and more, which will be accessible on our

website. We believe these translations will broaden our audience and enable us to educate more people on the topic of native plants.



We are grateful to INPS for its generous funding of our project; the educational signage afforded to us by the grant will help educate the thousands of yearly visitors to Ashton Cross Country Course on the benefits and wonders of Iowa native plants.

**Iowa Native Plant Society Small Grants Funded to Date**

As we continue our celebration of INPS's 25<sup>th</sup> anniversary, we recognize that the grants program has been a major strength of the Society. Molly McNicoll, INPS contact for grants, has compiled lists of both the Small Grants (below) and Restore Iowa! Grants (next article).

**2021:**

- Melanie Schmidt, Iowa Natural Heritage Foundation, \$675, "Supplemental tools for INHF's volunteer program" (inventory/restoration/management grant)

- Rod Marlatt, Fayette County Conservation Board, Fayette IA, \$1250, “Hackman Tract and Sand Prairie” (land acquisition grant)
- Brandon Clough, Story County Conservation Board, \$1250, “Restoration of a Prairie remnant at West Peterson Park” (inventory/restoration/management grant)
- Cassandra Cook, Polk County Conservation Board, \$1250, “Yellow Banks Park Savanna habitat restoration” (inventory/restoration/management grant)

#### 2020:

- Megan Lenss and Stratis Giannakouros, The University of Iowa Office of Sustainability and Environment, Iowa City IA, \$500, “Ashton Cross Country Course Prairie Signage Project” (education grant)
- Dawn Snyder, Woodbury County Conservation Board, Sioux City IA, \$1250, “Woodbury County Conservation Board Prairie Rescue Equipment” (inventory/restoration/management grant)
- William Norris, Dept. of Natural Sciences, Western New Mexico University, Silver City, NM, \$850, “Floristic Inventory of Mossy Glen State Preserve, Clayton Co., IA (1994-2020): Final Phase” (research grant) *This research project is postponed to 2021.*
- Karen Phelps, Benton County Conservation, Vinton IA, \$1250, “Benton County Fen Acquisition Project” (land acquisition grant)

#### 2019:

- Cecilia Hagen and Phil DeJarnatt, Iowa County Conservation, \$1250, “Inventory of Prairie Remnants on County-Owned Lands” (inventory/restoration/management grant)
- Jason Taylor, Bur Oak Land Trust (Iowa City IA ), \$1250, “Land Management Equipment for Invasive Species Removal” (inventory/restoration/management grant)
- Michelle Biodrowski, Hitchcock Nature Center, Pottawattamie County Conservation, \$500, “BioBlitz at Hitchcock Nature Center” (education grant) Funded by residual funds from the Iowa Natural History Association. *The BioBlitz is postponed to 2021.*
- Paul Readhead, Friends of Ames High Prairie, Pohl Prairie, Ames IA, \$1000, “Management Endowment for Ames High Prairie” (inventory/restoration/management grant)

#### 2018:

- Jennifer L. Stoffel and Scott Figdore, Upper Iowa University, Fayette, IA, \$1034, “Continued management of university-owned prairie remnant used for conservation and plant research and instruction” (inventory/restoration/management grant)
- Molly McNicoll, Luther College, and Barb Schroeder, Winneshiek County Conservation Board, \$760, “Brush management at Chipera Prairie, Winneshiek County” (inventory/restoration/management grant)
- Melanie Louis, Iowa Natural Heritage Foundation, \$700, “Land Management Kits for Land Ambassadors (Volunteer Program)” (inventory/restoration/management grant)
- Veronica Mecko and Rich Erke, Southern Iowa Oak Savanna Alliance, Leon IA, \$250, “Workshops and Education Events in 2018” (education grant)

#### 2017:

- Jack Phillips, Loess Hills Nature School/Golden Hills RC&D, \$500, “Bryophytes, Lichens, and Fungi of the Southern Loess Hills” (education grant)
- Mike Fallon, Backyard Abundance, Iowa City IA, \$217, “Fire, Seed & Soil; Exploring the Relationship between Fire and Iowa's Native Flora” (education grant)
- Amy Yoakum, Story County Conservation, \$760, “Prairie lily (*Lilium philadelphicum*) in a Cemetery Prairie Remnant, Story County” (inventory/restoration/management grant)
- Rob Davis, Whiterock Conservancy, Coon Rapids IA, \$1000, “A toolbox for volunteers – Connecting recreational trail users with the land” (inventory/restoration/management grant)
- Bill Norris, Western New Mexico University, \$1000, “Floristic Inventory of Backbone State Park (1994-2017): Final Phase” (inventory/restoration/management grant)
- Carl Kurtz, landowner, and Ryan Schmidt, Iowa Natural Heritage Foundation, \$1000, “Plant Species Inventory of Spring Hill Prairie” (inventory/restoration/management grant)

NOTE: Both the Kurtz and Norris inventories were funded by the gift received last year from the former Iowa Natural History Association.



**2016:**

- Tammy Wright, Bur Oak Land Trust (Iowa City, IA), \$1,000, "Tool Kits for Bur Oak Land Trust Volunteer Work Crews"
- Michael Cimprich, City of Marion Parks Dept., \$1,000, "Faulkes Heritage Woods Invasive Restoration"
- Penny Perkins, F.T.F. Restoration (Granger, IA), \$500, "Using Goats for Ecological Rehabilitation for Invasive Species Management and Replacement of Historical Regimes"
- Jean Eells, E Resources Group (Webster City, IA), \$500, "Iowa's Native Plant Leaders"

**2015:**

- Victoria Pocius, ISU, \$500, "Oviposition Preference and Larval Survival of the Monarch Butterfly, *Danaus plexippus*, on Eight Species of Native Milkweeds"
- Emily Zimmerman, ISU, \$500, "Does Diversity Matter? Evaluating the Relationship between Native Prairie Plant Species Diversity on Nitrogen Retention"
- Veronica Mecko, Southern Iowa Oak Savanna Alliance, \$250, "Burn Workshop at Springer Woods"

**2014:**

- Dawn Snyder, Woodbury County Conservation Board, \$994, "Woodbury County Conservation Board Prairie Rescue and Safety Equipment"
- Jean Wiedenheft, Indian Creek Nature Center (Cedar Rapids), \$1250, "Bena Brook Woodland Restoration"
- Amy Yoakum, Story County Conservation Board, \$1170, "Dakins Lake Restoration Project"
- Christine Kaldenberg, Willowwind School, Iowa City, \$250, "Community Awareness of Native Plantings"

**2013:**

- Lee Goldsmith, Brenton Arboretum, \$1000, "Natives for Stormwater Management"
- Nick Stoyhoff, independent taxonomist, \$500, "Digitization of the Putnam Museum Herbarium: Another Step towards a Complete Inventory of the Specimens in Iowa's Small Herbaria"

**2012:**

- Philip Bice and Aubrie James, ISU - Dept of Natural Resource Ecology and Management, \$500, "Plant

Inventory of the Vascular Plants of Anderson Prairie State Preserve"

- Marlene Ehresman, Iowa Wildlife Center, \$500, "Bioblitzes to Assess Natural Features of the Iowa Wildlife Center Property"
- Jennifer Anderson-Cruz, ISU - Dept of Ecology, Evolution, and Organismal Biology, \$500, "Evaluation of the Effect of Various Prairie Restoration Planting Methods on the Development of a Diverse Sedge Meadow Community"
- Casey Koht and Pete Kollasch, Friends of Rochester Cemetery, \$500, "Funding for Prescribed Fire in Sections of Rochester Cemetery"

NOTE: The grant for prescribed fire in Rochester Cemetery was extended for two additional burns in honor of Professor Diana Horton, long-time member of INPS.

**2011:**

- Peter Eyheralde, ISU - Department of Natural Resource Ecology and Management, \$500, "Role of Bison in a Tallgrass Prairie Reconstruction: Seed Dispersal and Small-scale Disturbance"
- Diane Debinski, ISU - Dept of Ecology, Evolution, and Organismal Biology, \$500, "Effects of fire and grazing on reintroduction of prairie violet (*Viola pedatifida*) to Iowa grasslands"
- Elizabeth Bach, ISU - Dept of Ecology, Evolution, and Organismal Biology, \$500, "Effects of diversity on the prairie experience"

**2010:**

- Tony Jelsma, Dordt College - Department of Biology, \$500, "Genetic Diversity of butterfly milkweed (*Asclepias tuberosa*) in Iowa native prairies"

**2009:**

- Craig Hemsath, Union High School (LaPorte City, IA), \$250, "Exploration, Identification, and Recording of the Flora of Southeast Black Hawk County and Adjacent Areas by Union High School Students"
- Iowa Natural Heritage Foundation, \$1250, "Story County Prairie Acquisition and Stewardship"

**2008:**

- Chris Anderson, Woodbury County Conservation Board, \$644, "Woodbury County Conservation Board Prairie Rescue Equipment"

## 2007:

- Craig Hemsath, UNI, \$500, "Enhancement of a Recovering Native Prairie"
- Kathryn Yurkonis, ISU, \$500, "Prairie Plant Distributions and their Consequences for Diversity and Exotic Species Invasion"

## 2006:

- Lars Brudvig, ISU, \$500, "Effect of Restoration on Oak Savanna Biodiversity, Structure, and Oak Regeneration."
- Glenn Pollock, Independent, \$1,020, "Vincent Bluff Savanna Restoration."

## 2005 (first year grants were awarded):

- Iowa Natural Heritage Foundation, \$1,250, "Marietta Expansion and Buffer: A Marshall County Sand Prairie and Fen Acquisition and Restoration Project."
- Amy Carolan, UNI, \$500, "Enhancement of a Recovering Native Prairie"
- Renae Schmitt, ISU, \$497, "The Effects of Nitrogen on the Competitive Ability and Establishment of Garlic Mustard (*Alliaria petiolata*) versus Native Herbaceous Plants."

## Iowa Native Plant Society Restore Iowa! Grants Funded

These grants award \$1000 to engage Iowa's youth in innovative ecological restoration efforts.

**2021:** Tony Vorwald (Jackson County Conservation) "Engaging High School and College Students in Jackson County Conservation's People Prairie Project" - \$1000

**2020:** Casey Kohrt (Friends of Hickory Hill, Iowa City IA), "Friends of Hickory Hill Restore Iowa! Grant" - \$730 *This project is postponed to 2021.*

**2019:** Chad Graeve (Hitchcock Nature Center, Pottawattamie County Conservation), "Hitchcock Nature Center Invasives Removal by Students" - \$1000. Funded in part by Linda Scarth memorial funds

**2018:** Erika Schoenberg (Polk County Conservation), "2018 Summer Youth Corps Activities" - \$925. Funded by Linda Scarth memorial funds

**2017:** Kenneth Slocum (Clayton County Conservation), "Clayton County Conservation Youth Conservationist Program" - \$537

**2017:** Shaun Vecera (Hawkeye Area Council Conservation Committee, Iowa City IA), "Boy Scouts of America - Invasive Removal and Education" - \$845

**2016:** Jennifer Stoffel, Upper Iowa University (Fayette, IA), \$1,000, Management of university owned prairie remnant used for conservation and plant research and instruction

**2015:** Ann Burns (Jackson County Conservation Board), "Working with at-risk high school students (My Community, My Future Summer Youth Corps) on woodland restoration and plant identification" - \$1000

**2015:** Nancy Forrest (For Lands Sake! landowners association), "Signage to educate the public about ongoing woodland restorations" - \$300

**2013:** Mike Todd (Ames High School, work to be done on Ames Prairie), "Students Engaging Other Students in Prairie Restoration" - \$1000

**2013:** Jake Hart (Johnson County Heritage Trust, based in Iowa City), "Pappy Dickens Preserve [Savanna] Timber Restoration" - \$1000

**2012:** Beverly Grindeman-Adams (Metro Alternative High School) and Jean Wiedenheft (Indian Creek Nature Center), Cedar Rapids, "High School Students Restore a Bog at Indian Creek Nature Center" - \$1000



## Native Plant Spotlight – *Pedicularis canadensis*

by Tom Rosburg

It is not unusual for us Iowans to develop a biased view of a plant that we mainly see in our remnant prairies. A good example is wood betony (*Pedicularis canadensis*). In *Iowa Prairie Plants*, Paul Christensen describes its habitat as “frequent on dry, sandy, and rocky prairies.” It occurs throughout the state and has been observed at many well-known prairies – Anderson (Emmet), Steele (Cherokee), Kalsow (Pocahontas), Kirchner (Clay), Doolittle (Story), Hayden (Howard), Clay (Butler), Sheeder (Guthrie), Woodside (Adair) and Manikowski (Clinton).

However, one of the first times I saw it, and the location of the photo, was Slip Bluff Park in Decatur County under the thin canopy of a woodland on a north-facing slope. Paul Christensen knew this, as he added under habitat “also in open woods on thin soils.” This is easily confirmed by observations of

populations at sites like White Pine Hollow, Bixby State Preserve, Ledges State Park, and Maquoketa Caves State Park.



Wood betony is clearly not exclusively a prairie plant. Its biogeographical range is the eastern half of the U.S. Remarkably, it occurs uniformly east of the 97<sup>th</sup> meridian, which is approximately the western boundary for the tallgrass prairie ecosystem. The only eastern region it seems to avoid is Georgia and Florida. In New York, it occurs in utility rights-of-way, dry to dry-mesic woodlands and thin canopied hardwood forests, forest openings, and on bluffs. In Michigan, you can find it in dry forests and savanna (for example oak, pine, aspen, and red maple) as well as in openings of rich beech-maple forest. It is seen, but less commonly, in conifer swamps, meadows, and grasslands. Further south in Louisiana, its habitat includes open moist woodland, forest margins and prairies. There are disjunct populations in Colorado and New Mexico at elevations between 7,000 and 10,000 feet in habitats ranging from dry Douglas-fir forests to moist aspen woodland to boggy alpine meadows.

The name *Pedicularis* originates from the Latin noun “pediculus” meaning louse. It references the belief that livestock feeding on species in this genus became susceptible to lice infestations. That also explains one of the alternative common names – lousewort. Wood betony is a perennial arising from a woody caudex and producing short rhizomes that facilitate clonal patches. Plants range from 5 to 50 cm tall. Basal leaves are lance-shaped and petiolate, 2 to 10 cm long, and pinnatifid (meaning relatively deeply pinnately dissected into lobes). Cauline (stem) leaves are similar but somewhat reduced in size and mostly alternate. Flowers are bilaterally symmetrical and strongly bilabiate (two-lipped). The upper lip is formed from two fused petals and obviously galeate (hooded or helmet-shaped). The lower lip is represented by three fused petals. The corolla is usually yellow, but variation resulting in reddish or maroon petals, or bicolored flowers where the lower lip is yellow and the galea reddish are the distinguishing characteristics for different taxonomic forms. Here in Iowa, flowering begins in early May and lasts into June.

Most *Pedicularis* species are pollinated by *Bombus* species. Several floral features exhibit adaptive accommodations for bees. The lower lip offers a landing or departing platform; the yellow color, the presence of nectar, and pleasant scent are attractive to bees; the entrance to the corolla throat and nectar (secreted at the base of the corolla) is concealed and restricts access; contact with anthers and stigma requires that the base of the galea be distended laterally (accomplished by a bee forcing its head into the corolla tube); and a flower size that correlates with size of the local *Bombus* populations. In wood betony, some pollen is deposited in the bee’s pronotum crevice (between the head and scutum) which makes it inaccessible to a grooming bee. As a bee probes deeply into the corolla, the stigma is forced into the pronotum crevice, the location on a bee where pollen is most likely to be present. Although ruby-throated hummingbirds and bumblebee hawkmoths have been observed foraging on *Pedicularis*, only bumblebee queens and the very intermittent visits by workers provide consistent and effective pollination.

Thanks to the bilabiate flowers, *Pedicularis* has long been placed in the Scrophulariaceae. However, recent genetic work confirms that it belongs in the



Orobanchaceae. Orobanchaceae are now defined to include both the holoparasitic members traditionally included in the family and the hemiparasitic genera formerly included in Scrophulariaceae. In general, parasitic plants utilize specialized roots called haustoria to attach to their hosts. In hemiparasitic species such as *Pedicularis*, the haustoria normally extract water and mineral nutrients from their host's xylem. Holoparasitic taxa derive all of their growth requirements, especially carbohydrates, from the host's phloem tissue.

In theory, the hemiparasitism exhibited by *Pedicularis* may provide a keystone effect to prairie communities. For example, if wood betony parasitizes grasses or other dominant species in the community, it might usurp sufficient resources from those plants to cause them stress, thereby reducing their competitive ability. This in turn creates a more equitable environment and one that favors less competitive species. A keystone species facilitates higher diversity. It sounds good and makes perfect sense, but does it happen? Research suggests it is possible, but in the world of ecology, things are hardly ever simple and straightforward. A positive correlation has been documented between the abundance of hemiparasites such as wood betony and bastard toadflax and the floristic quality of prairie communities. However, the same study did not find a reduction in the growth of warm-season grasses where hemiparasites were present. In an experiment on a reconstructed prairie in Illinois, the removal of wood betony almost doubled the biomass of grasses compared to control plots where wood betony was present.

In a greenhouse experimental study, wood betony reduced tall goldenrod shoot mass, marginally affected big bluestem shoot mass, had no effect on the root mass of these two-host species, and had no effect on the shoot and root mass of showy tick trefoil. During the 2020 growing season, I conducted an observational study of the potential keystone effect of *Pedicularis lanceolata*, known also as swamp lousewort, a species of wetlands or wet prairie. Because it was an observational study, cause and effect cannot be established. But I did find an association between the density of swamp lousewort and decreased growth of grasses in general. In particular, the results from both correlation and two sample comparisons indicated a clear pattern between

a reduction of reed canary grass and the presence of swamp lousewort. However, there was no direct evidence in this study to support the keystone hypothesis, as there was no difference in forb diversity between swamp lousewort quadrats and control quadrats. Nor was there a positive correlation between the density of swamp lousewort ramets and forb diversity. Ecology is complex. There are many simultaneous interactions and processes affecting the growth of plant species. As ecologists often say when trying to explain how something in nature works – “it depends.” But I think it is absolutely clear that wood betony makes a great addition to a prairie garden or reconstruction. It may provide an important ecosystem function that enhances forb richness. It can be planted in any region of the state in the appropriate habitat. Seed is relatively expensive so you may want to try to collect some seed. The large capsules can contain from 10 to 100 seeds each. And the next time you are hiking a trail in the Pikes Peak region west of Colorado Springs, don't be surprised if you find a yellow-flowered friend from the Iowa prairie.



## Hill's Thistle Upon Codfish Hollow Hill Prairie (continued from page 1)

One of the pleasures of Iowa prairie enthusiasts was the powerful annual event called “The Foray”. The chosen county's natural areas were explored for a week by a wide group of biologically-oriented specialists and grassroots enthusiasts, in order to identify native species and communities. Three decades ago, the target county was Jackson County, home to our native prairie: Codfish Hollow Hill Prairie, near Maquoketa.

I had occasionally noticed unusual thistles on the hilltops of the parcel, and the plant had not yet been identified by foray participants. It was suggested that I gather one specimen for identification and inclusion in one of Iowa's herbaria. I used my fingers to carefully sweep the nearby grasses and flowers to expose the base of the stem anchored in the rocky soil. I pushed the knife blade downward and pulled up the root along with the flowering top. All was intact and satisfactory for inclusion and study. I took it to the Foray headquarters which was in a retreat cabin within the upland woods of the Maquoketa River.

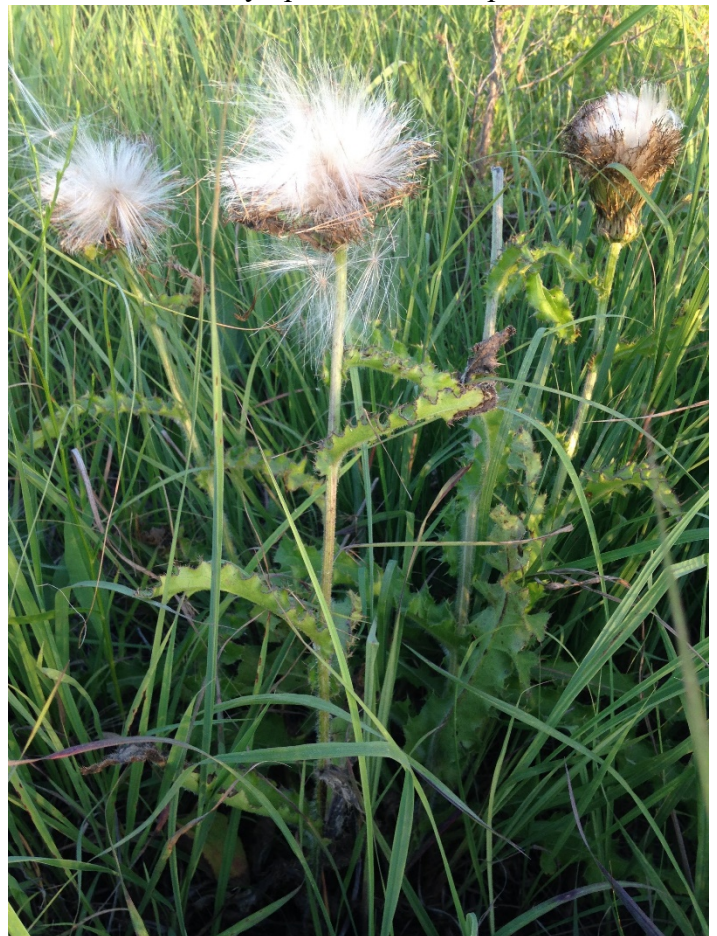
I was greeted by familiar participants and asked by a leader if the specimen I brought with me was a bull thistle. I responded that it was different than a bull thistle, that I did not know what it was, but that it was different than other thistles I knew, and that it was growing among high quality, diverse prairie companions. The species was not well known at the time, and there were no more proposals as to its identity. It was entered into the daily group of voucher specimens which included fungi, plants, water life and documentation of reptiles and mammals and others.



Several days later professional botanist acquaintances visited Codfish Hollow Hill Prairie and keyed the plant as “Undulating Thistle”. This was the name I applied for the next few decades. Over the years, though, I wondered why no one else described encountering an Iowa “undulating thistle”. I looked into this and noted that *Cirsium undulatum* (also called wavyleaf thistle) was described as a western species prone to be pesky and problematic in fields and pastures. The Codfish thistle is smaller and not aggressive. It did not take long to see that it was actually Hill’s thistle (which also has been linked to be considered a variety of the more eastern pasture thistle and as such, may be referred to as *Cirsium*

*pumilum* var. *hillii*). Hill’s thistle is perhaps most commonly referred to in Iowa references by the scientific name *Cirsium hillii*.

Hill’s thistle has fine features, with regularly rhythmic, undulating leaves. The plants are much shorter than our familiar invasive thistles, only standing about 1½ feet tall. Hill’s thistle has only 1 or 2 or occasionally up to 3 very large blooms. The blooms are a striking bold and vibrant purple. The pappus of the achene (i.e. fluffy tail of the “seed”) is extremely fine and light and quite long compared to other thistles. Hill’s are almost unmistakable from a distant macro perspective. While some may list them as perennial, my observations are that they seem to be biennial or short-lived perennials, with a first (or second) year flat rosette, then a subsequent year or so with a flowering spike. The length of life and whether flowering causes end of life, needs some observational research. The home range for Hill’s is the upper Midwest within dry upland or barren prairie habitats.



Although Hill’s thistle is generally in decline and an Iowa species of concern, it is doing well and increasing at Codfish Hollow Hill Prairie due to some preferred needs being met. A few decades ago, important management considerations were observed



in regard to the Hill's thistle. I saw that it showed up more in tractor pathways created one or two years previous. As part of the more diverse management plan, and common-sense observations, I started mowing occasional random strips across the compass plant, leadplant, asters, and all the blooming plants. Sure enough, one to two years later, the Hill's thistle would occasionally come up in these locations. I continue to notice Hill's thistle thriving in trampled or mowed areas, which I consider the equivalent of grazing. Last year I even saw two pop up in a distant permanently mowed firebreak and this year in a roughed up cleared fence line. It enjoys a dry, lightly vegetated, somewhat disturbed surface. The briefly trampled and intermittent grazed prairie management strategy is markedly absent in many prairie management plans and actions. The detailed and well-recorded Codfish land use history from 1910 to current reveals very light, mostly cool season grazing on the parcel (no fire at all on the particular Hill's site for way over a century).

Throughout the prairie biome, Hill's thistle is struggling for survival. For Hill's thistle, intermittent goat or bison grazing could well be an answer, however disturbance by tractor travel and mowing seems to work just fine to help out this species.

"Every form in nature is influenced by forces upon it" (attributed to Leonardo da Vinci).

For those interested in learning more about Iowa's native thistles and how to identify them, check out A Guide to Iowa's Native Thistles, found here <https://xerces.org/publications/brochures/guide-to-iowas-native-thistles>



## Gifts Page Replaces Memorial Tab on the Website

by Dianne Blankenship (with the following reports)

The **Memorials** tab on the INPS website has been renamed **Gifts**. It still features a list of those memorialized, followed by obituaries or statements about each one. The article about the gift that established the INPS endowment at the Community Foundation of Johnson County remains, but additional gifts are also possible. This change was motivated in response to several tribute gifts in recent years.

**Gifts** more accurately encompasses the several ways to support Iowa's native plants. The Iowa Native Plant Society is a 501(c)(3) organization, and gifts to INPS are tax-deductible. There is also an endowment that earns donors a 25% state tax credit.

The **Iowa Native Plant Society Endowment** was established in 2015 at the Community Foundation of Johnson County (CFJC). Endowment earnings support our Grants program. INPS receives an annual \$250 check from the endowment.

A **special gift** can be targeted specifically for the Restore Iowa! Grants for youth, or for Grants in general or specifically for these types for projects: land acquisition; inventory, restoration, management; research; or training and education.

**Tribute gifts** recognize someone who is making a difference in native plant conservation. Those honored are announced in *Erythronium*.

**Memorial gifts** are a way to help remember someone who appreciated native plants.

**Contributing Memberships** beyond the basic membership level are also **gifts**, are tax deductible, and they provide extra support for INPS, especially the grants program.

## Tribute Gifts Received\*

Tribute gifts of \$100 or more have been received honoring the following people:  
Bill Blankenship, Dianne Blankenship, Lloyd Crim, Jean Eells, MJ Hatfield, Mark Leoschke, Deb Lewis, Loren Lown, Connie Mutel, John Pearson, Glenn Pollock, Tom Rosburg, and Jimmie Thompson.

## Memorial Gifts Received\*

A few years ago, many gifts were received following the death of Linda Scarth.

Annually, a gift is received in remembrance of Anna Gardner.

\*These include gifts from recent years since they have not been listed in *Erythronium* previously.

## INPS 2021 Dues Now Being Received

INPS Treasurer Bill Blankenship will be happy to receive your 2021 dues! The membership form is available below or can be downloaded from the INPS website: <http://www.iowanativeplants.org/docs/membershipform.pdf>.



## Thank You to Our 2020 Contributors!

In addition to \$250 from the Community Foundation of Johnson County INPS account, we wish to thank all INPS members who joined or renewed their membership in 2020! We hope you continue your support in 2021! We are especially grateful to those who chose to be contributing members. Those whose 2020 memberships were at the \$25 level or higher are listed below.

**\$200 - \$500:** Bill and Dianne Blankenship, Cindy Hildebrand, Mary Jane Hatfield, Dr. Stephen R. Johnson

**\$100 - \$199:** Two anonymous donors, Margaret Bailey, Ron and Barb Eckoff, Beverly Foote, Johnson County Conservation Board, Christine and Roger Kirpes, Steve Schomberg, Nick Stoyhoff, Elisa Zappacosta

**\$50 - \$99:** Alice Atkinson, Pegi and Mike Bevins, Lloyd Crim, Mary Damm, Bruce and Marlene Ehresman, Rob Fleming, James Fluck and Julie Scott, Gerald Ford, Gretchen Freed, Ron Gamble, Elizabeth Garst, Ray Hamilton, Joyce Hornstein, Casey Kohrt, Steve and Karen Laughlin, Laura Leben, Richard Lutz, Mark Metelman, Marlene Michel, James and Rose Marie Monagan, Shami Lucena Morse, Connie Mutel, Rosemary Partridge, George and Trish Patrick, Scott Sauer, Marlene and Doug Sullivan, Bill Watson, Mark Widrlechner, Bill and Dotty Zales

**\$25 - \$49:** Dean Abel, Jackie Armstrong, Janine Bennett, Rick Breeding, Anne Burnside, Marily and Bob Caddy, Jean T. Day, Thomas K. Dean, Tom Gust, Lucy Hansen, Suzanne Hawkinson, Ken and Charlene Heiar, Jonathan and Karla Ice, Ben Johnson, Deanna R. Lehl, Katherine and Mark Linda, Leesa McNeil, Veronica Mecko, Bill Muhs, Lael Neal, Donald Nelson, Don Ohde, Sam Overturf, Paul Ovrom, Joan Peterson, Glenn Pollock, Diane Porter, Marsha Readhead, Ruth Rose, Rex Rundquist, Terri Sage, Ann Schneckloth, George and Alliene Schrimper, Leland Searles, Erma Selser, Melissa Serenda, Susan and David Siev, Mary Stark, Peter and Judy van der Linden, Denise Vrchota, Fred Wiegert, Sara Williams, Larry T. Wilson

## Major Gift to INPS Endowment

In 2015, James Fluck and Julie Scott established an endowment for our grants program (see "Gifts" on the INPS website for more information). Since then new gifts to the endowment, including several from James and Julie, have ballooned the original \$5000 to \$13,280 as of March 31, 2021. The latest gift was a generous \$2,500 from James, which we acknowledge with tremendous gratitude.

This endowment is already feeding into our annual grants program and will continue to do so for the indefinite future. Each year we hear from awardees that the grants are indeed making a difference to them, and through them to Iowa's natural lands and native plants.

Thanks so very much, James and Julie, for your ongoing generosity and commitment to a flourishing natural world!



## Mary Jane Hatfield to receive the Iowa Academy of Science Distinguished Iowa Citizen Scientist Award

An announcement was made at this spring's Iowa Academy of Science Annual Meeting that Mary Jane (MJ) Hatfield will be the second recipient of the Distinguished Iowa Citizen Scientist Award! Because the IAS Annual Meeting was held virtually, a presentation will be made in person this summer. She joins Jimmie D. Thompson as the first two recipients of this prestigious award.

It is interesting, and perhaps a bit of symmetry, that it was MJ who first introduced Jimmie to the Ada Hayden Herbarium's staff and associates around 1998. Since then, both of these citizen scientists have excelled in their contributions to Iowa's natural history studies in botany (Jimmie) and entomology (MJ).

Congratulations to MJ!

# Codfish Hollow walk on May 20<sup>th</sup>, led by Ray Hamilton and Tony Vorwald



Photo by Bob Mutel



## Membership Form for Iowa Native Plant Society

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State: \_\_\_\_\_ Zip code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email Address: \_\_\_\_\_

I wish to receive newsletters by  U.S. Mail  Email

\$15 Basic Membership, add \$5 if requesting newsletters by Mail  \$5 Student (one-time payment)

Please consider these Contributing Membership levels (includes mailed or emailed newsletters or both):

\$25 Anemone\*

\$150 Dodecatheon\*

\$50 Botrychium\*

\$200 and up Erythronium\*

\$100 Calamagrostis\*

If donor, prefer to remain anonymous.

Send with your dues to: **INPS Treasurer, 737 Buckwalter Dr., Sioux City, IA 51108**

\*The Iowa Native Plant Society is a non-profit organization under section 501(c)(3) of the Internal Revenue Code. Annual contributions beyond basic membership are tax deductible.