

Indiana DNR Division of Nature Preserves

# 2022 ANNUAL REPORT



**DNR**  
Indiana Department  
of Natural Resources



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## DIRECTOR ADDRESS

Ron Hellmich

In 2022, the Division of Nature Preserves had several key staff move on to other opportunities. These included Tom Swinford, Teresa Clark, and Taylor Lehman.

These vacancies allowed the division to promote Andrew Reuter to assistant director and bring in new staff. Dawn Johnson is the new heritage coordinator, and Ryan Smith is the east central regional ecologist. Other staff picked up the slack and took on new responsibilities to keep the division pursuing its purpose, which is the protection of Indiana's best natural areas.

While Scott Namestnik was named the Division of Nature Preserves 2022 Employee of the Year award, all staff have done incredible work worthy of great honor. I am continually humbled by their exploits and accomplishments. The depth of knowledge they possess makes them leaders in the state for land management, biological sciences, and coastal resources.

Several specific examples of staff accomplishments include the opening a new trail at Elkhart Bog Nature Preserve by Rich Dunbar. Ryan Smith took over in the east central region on day one of his career with the division, with that its many duties and responsibilities, and is still dreaming up new initiatives. Jason Larson led forest stand management projects at Brock Sampson Nature Preserve and Sherman Minton Nature Preserve, allowing for oak and Virginia pine regeneration. The division got to listen to Joe Exl talk about Lake Michigan and watch Ashley Sharkey wrangle several different governmental agencies and private contractors to successfully start the Coastal Atlas website.

This state is fortunate to have the dedicated staff working to protect Indiana's natural areas and coastal resources. Their accomplishments will leave a lasting legacy for all.



## HERITAGE PROGRAM

Dawn Johnson, *Coordinator*

Indiana Natural Heritage Data Center



The Indiana Natural Heritage Data Center has been surveying the biodiversity of Indiana since 1978. Our dedicated botanists and ecologists conduct field surveys to gather data on occurrences of rare species and high-quality natural areas throughout the state. Our data professionals catalog and maintain this database, which now contains over 20,000 occurrences.

The Heritage Program implemented a Data Request Portal, which allows users to submit data requests and pay invoices electronically. This significantly streamlined this process for both users and staff. More than 500 new records were entered into the database, and nearly 600 existing element occurrences were updated. We confirmed the presence of *Solidago rupestris* (Rock Goldenrod) in Indiana, which was previously thought to be extirpated from the state. Our botanist and community ecologist updated the subnational (state) conservation status ranks for more than 400 plants and natural communities in Indiana.

In addition to our work with plants and natural communities, the Heritage Program continues to work to increase our understanding of the status and distribution of invertebrate species in the state. We completed a multi-year survey to determine the status of Karner blue butterfly in Indiana. We contracted with taxa experts to build an updated checklist of caddisflies in Indiana, which included nine state records. This work will continue into 2023 with the contractors assessing subnational conservation status ranks for these species.

The Indiana Natural Heritage Data Center will continue to build on the successes of 2022 to increase our knowledge of Indiana's rare species and guide the protection of the natural communities they inhabit.

## NEW STAFF

### Dawn Johnson – *Natural Heritage Program Coordinator*



I am based out of central office. I grew up in Michigan and originally came to Indiana to get my undergraduate degree from Purdue University. I attended the University of Tennessee for graduate school and lived and worked in the southeast for almost 20 years. I moved back to Indiana seven years ago and began working for the state as a biologist for the Indiana National Guard at Camp Atterbury. I also have worked for the Division of Fish & Wildlife as a federal aid coordinator. I'm looking forward to working with all of the dedicated staff in the division and doing my part to conserve Indiana's natural heritage.

### Ryan Smith – *East-Central Regional*



I am based out of Geneva, where I am surrounded by restored remnants of the historic Lamberlost swamp. I grew up in Fort Wayne and obtained my undergraduate and graduate degrees from Purdue University Fort Wayne. My first three years after graduation were spent with Heartland Restoration Services. There I had the opportunity to get hands on experience with native plants and work with wetland and prairie restorations from beginning to end. After that, I stepped away from natural resource conservation to work in utility forestry and ensure my wife was able to stay home with our newborn son. I am happy to be with the Division of Nature Preserves and back in the field I am passionate about. I now live in Bluffton with my wife Lizzy and two sons. We enjoy playing board games and being outdoors; however, my favorite pastime is bird-watching and I can't help but keep track of the birds I encounter every time I am out.

### Danielle Williams – *Central Regional Ecologist*



I am originally from Logansport (the northern end of my region) and now live in Bloomington (the south end of my region). For the past three years, I worked for Purdue University as the field coordinator for the Hardwood Ecosystem Experiment, where I studied how timber harvest and prescribed fire affect everything from moths to birds to mammals. My experience before that included private lands management, outreach, and bird research with a variety of organizations. I have a bachelor's degree in Biology from Indiana University and a master's degree in Wildlife and Fisheries Science from Penn State University. When I'm not working, I enjoy writing, kayaking, knitting, and hiking with my husband and our dog. I am excited to put my experience and passion for Indiana's natural resources to use managing some of the state's finest natural areas.



## EXECUTIVE SUMMARY

In March 1967 the General Assembly passed the Nature Preserves Act, creating the Division of Nature Preserves and charging it with finding, protecting, and managing Indiana's remaining natural areas. Since then, working with partners, 297 nature preserves have been dedicated. This encompasses 54,904.47 acres. Nature preserves are owned by numerous DNR divisions, land trusts, city/county park boards, and colleges and universities.

DNP comprises four primary components: nature preserve protection, nature preserve management, the Indiana Natural Heritage Data Center, and the Lake Michigan Coastal Program (LMCP). The division is funded by a variety of sources, including trust funds, grants, and general funds. Approximately 90% of staff time is paid by non-general fund sources. Division staff work from nine locations scattered around the state, including the central office in Indianapolis.

There is at least one nature preserve in every natural region in Indiana. Nature preserves contain at least one example of all but two of the 81 natural community types known to occur in the state. Of the 252 state-endangered plants, there is at least one protected example of 235 of them.

Nature preserves protect some of Indiana's most diverse landscapes including dunes, sand prairies and savanna, wetland complexes, lakes, rivers, forested ecosystems, glades, karst features, prairies, fens, bogs, swamps, and geologic features. Three new nature preserves and two additions were dedicated adding a total of 335.47 acres. This brings the total number of dedicated acres to 54,904.47.

Regional ecologists managed and performed habitat restoration and invasive species control at numerous sites across the state. This year featured a productive prescribed burn season, as regional ecologists performed prescribed burns on high-priority sites across the state with the help of the efficient mobilization of crews and assistance from partners and other divisions. Habitat restoration and invasive species

control were continued in 2022. A total of 5,139.60 acres were treated, including prescribed burn acres and contracts.

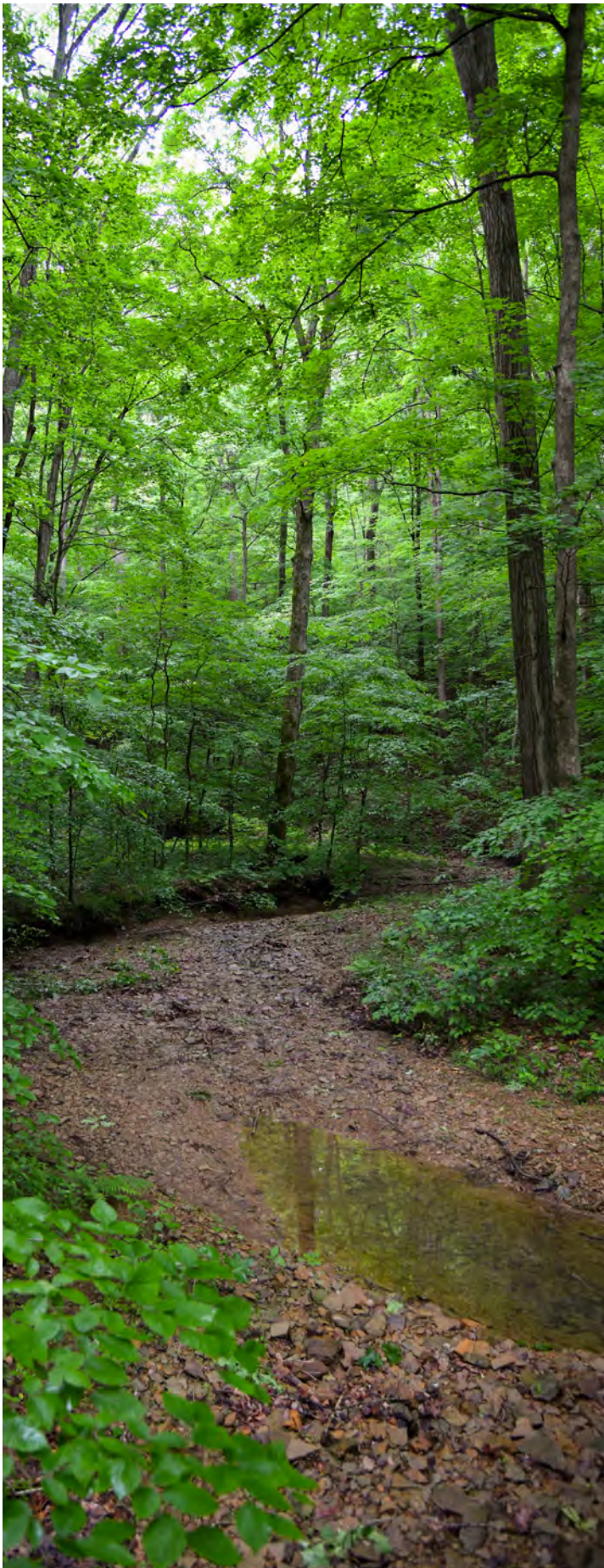
Division staff were involved with numerous publications and outreach activities. These included 19 presentations, 103 technical assists to partner projects, 20 interagency projects, 67 outreach activities and numerous projects to improve access and trails for visitors. The division hosted 22 hikes at nature preserves throughout the state. DNP staff also attended more than 150 meetings and wrote several articles.

The Natural Heritage Database now contains 20,839 element occurrences (rare plants, animals, natural communities), and during 2022 a total of 530 new records were entered, and 588 more were updated. Staff answered 1,222 information requests, conducted 768 environmental reviews, and reviewed 55 floodway permit applications, 121 public lake permit applications, 96 research and collecting permits, and 18 coal permit applications.

The LMCP launched six coastal grant projects in the 2022 funding cycle. Activities largely centered on community efforts to restore, preserve, and improve public access to natural areas throughout the Lake Michigan Watershed and reinvigorate outdoor education programs that service residents of the coastal region.

In 2022, the LMCP special project coordinator completed phase one of the Coastal Atlas. It covers several different areas of interest and concern regarding northwest Indiana, including wetlands, flooding and coastal hazards, and aerial imagery. The LMCP coordinates the Septic System Maintenance and Care Awareness effort.

The 2022 ginseng selling season closed on March 31, 2023, while the harvesting season ended Dec. 31, 2022. A review of the numbers so far shows that Indiana will have a healthy harvest for 2022, as there has been 3,183 pounds purchased compared to entire season amounts of 2,500 pounds for 2020 and 2021. We had 19 dealers.



## INTRODUCTION

The Division of Nature Preserves (DNP) is made up of four components: the nature preserve program, preserve management program, the Natural Heritage Data Center, and the Lake Michigan Coastal Program (LMCP). The nature preserve program works with numerous partners to protect natural areas through acquisition and other protection actions and dedicate them into the state nature preserve system. The preserve management program takes care of DNP- owned nature preserves and assists partners with them by using many restoration and management activities, including prescribed burning and control of invasive species. The program also provides access to DNP-managed nature preserves by providing parking and trails, where appropriate. The Natural Heritage Data Center collects and manages statewide biodiversity data and tracks occurrences of rare species and high-quality natural communities. These information resources are used to guide conservation in multiple ways and aid both governmental agencies and private enterprises in their decision making. The species and community data provide a basis to inform projects during the planning phase by providing information for environmental reviews and permit applications. The LMCP is responsible for coastal activities, including natural, cultural, and historic resource activities in the Indiana Lake Michigan Coastal Zone, providing grant funding for a variety of projects, and serving as a central clearinghouse for natural resource conservation and planning.

### Mission

The Indiana Legislature passed the Nature Preserves Act in 1967, creating the DNP and charging it to work with partners to set aside and preserve areas of unusual natural significance for the benefit of present and future generations. Since that time, DNP staff has worked with DNR colleagues as well as partners throughout Indiana to catalog Indiana's flora, fauna, and natural areas, striving to set up a system of nature preserves that includes examples of all of the natural areas and rare species habitats that occur in Indiana. While not complete, much progress has been made. A total of 355 of the 437 plants considered endangered or threatened have viable populations in Indiana nature preserves.

The DNP's mission is to identify, protect, and manage an array of nature preserves and natural areas in sufficient numbers and sufficient sizes to maintain viable examples of all of Indiana's natural communities. DNP also manages and maintains viable populations of endangered, threatened, and rare species. These activities are conducted for the benefit of the natural communities and their representative species, as well as for the benefit of present and future generations.



The purpose of the Indiana LMCP is to enhance the state's role in planning for and managing natural and cultural resources in the coastal region and to support partnerships between federal, state, and local agencies and organizations. The LMCP relies upon existing laws and programs as the basis for achieving its purposes.

### Funding

For many years the division's operating budget was funded solely through Indiana's General Fund, and its capital funds alternately were either from the Cigarette Tax or the General Fund. Starting in the 1980s, as new staff positions were added to meet increasing demands, they were paid for with alternate funding sources. Currently, roughly 90% of division staff time is paid through a variety of non-General Fund sources: INHPC Endowment, Coastal Program, Natural Resources Damages Account, Lands Unsuitable, and the Pittman-Robertson Act. The remaining 10% are paid with General Fund monies (Figure 1). These funds come from Office of Surface Mining, U.S. Fish and Wildlife Service (USFWS), and other sources, since a portion of the work done by these employees is for projects desired by both the Division of Nature Preserves and those entities. A portion of the time of most of these employees work also serves as match for employees paid for with NOAA Coastal Program funds.

The responsibilities of purchasing and operations include everything from making small repairs, training, and snowplowing using claim vouchers to making purchase requests for buying larger equipment such as UTVs, mowers, and some contracts. Most Quantity Purchase Agreements (QPAs) were completed using requisitions, and these included purchases from Fastenal, NAPA, Goodyear, and Blackjack uniforms.

### Public Relations and Outreach Activities

Divisional public relations efforts are divided into six broad categories: presentations, partner projects, technical support, inter-agency projects, public access projects, and outreach activities.

Nature Preserves staff made 19 presentations to a variety of partners with the majority made for nonprofit environmental groups. Those groups included our partner land trusts, wildflower groups, and community organizations. Topics included conservation design, multi-use trail design, Indiana wildflowers, and invasive species control.

Nature Preserves regional ecologists were involved in 103 partner projects, providing technical assistance to land trusts, counties, park boards, nonprofit groups, and commercial entities. There were a wide variety of projects, including habitat restoration, public dedications of nature preserves, trail construction and maintenance, invasive species management, and monitoring of endangered, threatened, or rare species.

There were 20 interagency projects.

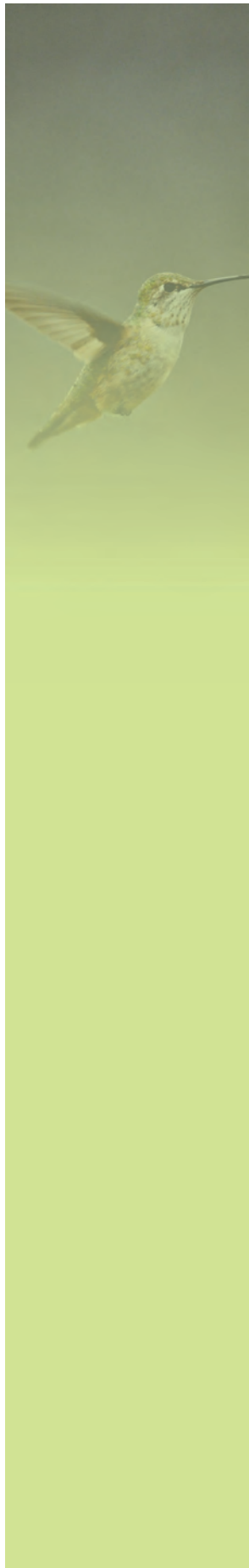
DNP staff also worked with various state agency personnel on invasive species control, placement of trails, rare plant surveys, forestry inventory, prescribed burns, breeding bird counts, deer monitoring and reduction, and storm damage clean-up on several properties.

There were 67 outreach activities and events in 2022.

DNP staff led 22 hikes on nature preserves, attended more than 150 meetings, wrote several articles, answered numerous public requests for information, and participated in the State Fair.

Ten public access projects were completed. These included activities that most directly affect a visitor's experience in a nature preserve: improvement to trails systems, parking lots, and installation of signs at several preserves. Trail structures, boardwalk systems, and access roads were maintained, hunter registration stations were staffed, and deer reduction hunts were held. Many nature preserves, in a variety of ownership types, are open and have trails that provide excellent opportunities for nature study and outdoor recreation. See our website for information and maps at [on.IN.gov/naturepreserves](http://on.IN.gov/naturepreserves).





## INDIANA NATURAL HERITAGE DATA CENTER

The Indiana Natural Heritage Data Center collects and manages biodiversity information concerning rare plants and animals and high-quality natural communities throughout the state. In order to continually update our knowledge base, our division botanist and ecologists conduct field surveys to locate and monitor these imperiled plants and communities. Additional biologists, conservation groups, and citizen scientists submit species records that are vetted and then managed using the program’s Biotics software. The products of the biodiversity data are used to inform and aid conservation activities throughout the state by public and private entities. One of the ways the data are used is in the DNR environmental regulatory process to help avoid or minimize impacts to significant natural communities, state-ranked species, and nature preserves.

NatureServe is an international organization that serves as an umbrella for the network of natural heritage programs and conservation data centers in the United States, Canada, Central and South America. It helps to ensure data consistency across the network and serves to provide natural heritage data to clients who need it across state and county boundaries. NatureServe’s Explorer website is broadly recognized as the best source of summary data on plant associations, plant, animal and insect species, and their global significance.

### DATABASE STATISTICS

#### Lands Unsuitable Database Element Occurrences

EOs in the INHDC Database ..	20,839
New Records Entered .....	530
EO records updated .....	588

The Natural Heritage Database serves as DNR’s Lands Unsuitable Database, for the Division of Reclamation. We continuously update and quality control the database.

#### Natural Heritage Database Usage

Information Requests .....	1,222
Environmental Reviews .....	768
Coal Mine Permit Reviews .....	18
Floodway Permit Applications .....	55
Public Lake Applications .....	121
Research & Collecting Permits .....	96

The database is used for permit reviews in several DNR Programs and aids in planning and site development, while minimizing impacts to sensitive natural resource features.

## RARE PLANT INVENTORY AND MONITORING HIGHLIGHTS

Documenting rare plant species is exciting, but finding rare plants at sites where they have not been seen for 20 or more years is a real highlight. In many cases this shows that our management efforts and partnerships with other conservation organizations are having a positive impact. Even more exhilarating is finding previously unknown populations of rare plant species, especially when they occur in counties from which they were not previously documented.

In 2022, Indiana Natural Heritage Data Center staff submitted over 400 element occurrence reports for rare plant species. We monitored populations of all the federally endangered and threatened plant species known to occur in Indiana. We also confirmed the presence of one species previously thought to be extirpated from the state. In addition, four new element occurrences of rare plant species were documented in counties from which they were previously unknown. These new records further our understanding of the natural history of Indiana and provide us with additional focus for management efforts on already protected properties. When new records of rare plants are found on private properties or unprotected public lands, they can also help to guide future protection priorities.

Our most exciting 2022 rare plant finds are highlighted below.

**Federal Listed Plants**

*Asclepias meadii* (Mead's Milkweed): Federally Threatened

The only naturally occurring population of this species in Indiana was documented through a collection from Crown Point in 1888. It was reintroduced in a nearby nature preserve in 1994, and that remains the state's only extant occurrence of the species. Heritage Program staff now monitor this population annually. More plants (though none flowering) were found this year than in recent years, but the population remains very small.

*Cirsium pitcheri* (Dune Thistle): Federally Threatened

This plant endemic to the Great Lakes has more than 20 occurrences in Indiana in dunes along Lake Michigan, but the number of individuals and extant occurrences in the state are thought to be decreasing due to a number of threats. Heritage Program and other Division of Nature Preserves staff worked with National Park Service and USGS staff to monitor several populations of this rare thistle, including two populations not updated in the Heritage database since 2009. The Heritage Program is attempting to work more closely with partners to regularly update information on this species in the database.

*Helenium virginicum* (Virginia Sneezeweed): Federally Threatened

The only known Indiana population of Virginia sneezeweed is in a former mitigation wetland in Hamilton County. The population seems to be stable or increasing, with an increase from 68 in 2021 to 107 in 2022. Heritage Program staff are still hopeful to turn up this rare species elsewhere in Indiana. Note: This species is in the process of being removed from the federal list of threatened and endangered species.

*Physaria globosa* (Globe Bladderpod): Federally Endangered

Globe bladderpod is only known to exist in Indiana, Kentucky, and Tennessee, and in Indiana it grows in just a single site in the far southwestern corner of the state. That site has been managed for a number of years in an attempt to maintain the population. It has generally responded well to management efforts that remove vegetation competition through mechanical scraping. The population was monitored in 2022. Recent surveys have shown that the population seems to fluctuate in numbers; fewer plants were observed in 2022 than in 2021, but the population appears relatively stable overall.

*Platanthera leucophaea* (Eastern Prairie White-Fringed Orchid): Federally Threatened

This rare orchid is still in existence in Indiana at a single site. After not finding it at the site in 2021, Heritage Program staff found six stems during the 2022 survey (four in bloom, one in bud, and one vegetative). With 20 records of this species in the state from the 1880s through the 1930s, we are lucky that this lone extant population hasn't vanished.

*Solidago shortii* (Short's Goldenrod): Federally Endangered

Indiana's only population of this Indiana/Kentucky endemic was monitored and found to be comparable in numbers and size to years past. It was noted during the survey that native grasses were denser along the river scour habitat where the species occurs than they had been in the past, and that this may be a threat in the future. The USFWS species lead joined for this survey in 2022.

**State Listed Plants**

*Agalinis auriculata* (Earleaf False Foxglove): State Threatened

Considered a species of conservation concern in every state in which it occurs and extirpated from three states, this globally vulnerable prairie annual was monitored at several known locations in northwest Indiana in 2022. It seems to be absent in remnant prairies that are not being actively managed, but reliably appears in those that are.

*Carex gigantea* (Large Sedge): State Endangered

Restricted largely to the Atlantic coastal plain and the Mississippi River embayment, a small population of this sedge was discovered in a Scott County floodplain in 2022, the first record of the species for the county.

*Carex limosa* (Mud Sedge): State Endangered

A small but new population of this rare bog sedge was discovered in 2022 in Steuben County, where it had not been documented before. Of the eight occurrences of this species in Indiana, less than half (and possibly only two) are thought to be in existence, making this new discovery an important record.

*Caulophyllum giganteum* (Giant Blue Cohosh): State Endangered

First reported in Indiana in 2017, a new population of this endangered spring ephemeral was discovered in 2022 on a rich, steep slope in the knobs of Floyd County. With populations known from Steuben, Martin, and now Floyd counties, we anticipate locating more of this species in the future.

*Didiplis diandra* (Water-purslane): State Endangered

Indiana has 11 occurrences of this inconspicuous aquatic to mudflat species, but several of these are considered historical. In 2022, two new populations near an existing

occurrence were documented in Spencer and Warrick counties. This species is of conservation concern in most of the states from which it is known, and western Indiana is at the eastern edge of the northern geographical range of the species.

*Eurybia shreberi* (Schreber's Aster): State Endangered

This northern Appalachians and New England species is at the edge of its range in southeastern Indiana. One of five Indiana occurrences was monitored in 2022. This aster had not previously been documented in Franklin County, where monitoring took place. A specimen was taken and will be deposited at the Deam Herbarium at Indiana University.

*Gentiana villosa* (Striped Gentian): State Endangered

Three of the five Indiana occurrences of this species were monitored in 2022. Although one of the occurrences could not be relocated (likely due to increasing shade and maturation of the formerly early successional site), flowering individuals were observed at one occurrence, and 15 vegetative individuals were found at the other. This species is at the edge of its southeastern United States range in extreme southern Indiana. It seems to require specific levels of disturbance in Indiana and may be somewhat transient as a result. This species is currently a target for conservation activities for the Indiana Plant Conservation Alliance.

*Itea virginica* (Virginia Sweetspire): State Endangered

Previously known from only five locations in southern Indiana swamps, a sixth population was discovered in a floodplain forest in Dubois County in 2022. With very specific hydrological requirements, this showy shrub has likely always been rare in Indiana.

*Minuartia patula* (Pitcher's Stitchwort): State Endangered

Occurring in the globally rare gravel hill prairie natural community, all three Indiana occurrences of this minute annual were monitored in 2022. Two populations are thriving with the third appearing to be in decline.

*Perideridia americana* (Wild Dill): State Endangered

This overlooked plant of remnant prairies was relocated for the first time since 1937 at one location and for the first time since 1988 at three locations, in Jasper and Newton counties. In addition, two new populations were discovered in 2022 near the existing populations.

*Platanthera flava* var. *flava* (Southern Rein Orchid): State Endangered

Thought to occur at four southeastern Indiana sites and historically at two southwest Indiana sites, two occurrences of this rare orchid were monitored and documented for the first time in over 20 years in 2022. Plants were found at both sites, with a population numbering in the range of 1,000 to 10,000 occurrences at a site on private property.

*Ranunculus harveyi* (Harvey's Buttercup): State Endangered

With nearly all records of this plant in the Ozark Mountains, Indiana's three populations in the knobs region of Floyd County are mysterious but stable. In 2022, two of the three populations were monitored by Heritage Program staff for the first time since 1988, with the third monitored by a partnering land trust.

*Solidago rupestris* (Rock Goldenrod): State Extirpated

Rock goldenrod was collected in 2021 from a river scour in a Harrison County nature preserve, and its identity was confirmed in 2022. This species is known globally from scattered Appalachian counties in four states and is endangered in three of them. In Indiana, it was known only from few historic collections. The status of the species in Indiana is being changed from State Extirpated to State Endangered.

*Styrax americanus* (American Snowbell): State Threatened

This shrub reaches the northern extent of its range within the Mississippi embayment in southwestern Indiana, with a few disjunct records from the northwestern part of the state. In Indiana, eight of the 29 documented occurrences are thought to be historical or extirpated, and others of the 21 occurrences may also fall into these categories, having not been searched for in many years. Two populations of American snowbell in Dubois County that had not been documented since the early 1980s were observed and monitored in 2022.

*Woodwardia areolata* (Netted Chainfern): State Threatened

Known from a handful of extreme southern Indiana counties and historically from one location in the Indiana Dunes, a small population of this fern was discovered by Heritage Program staff in Marshall County in 2022.

## Ginseng

The 2022 ginseng selling season closed on March 31, while the harvesting season ended Dec. 31. A review of the numbers shows that Indiana will have a healthy harvest for 2022. A total of 3,183 pounds were purchased in 2022, compared to 2020 and 2021 harvests, which were 2,500 pounds each. We had 19 dealers for the season handling more than 6,000 transactions. Ginseng averaged \$750 per pound, and root counts were steady at 276 roots per pound. The harvest total seems to be running at the 2019 season harvest numbers, which is typical for Indiana. Weather is always a factor, but anecdotally, with the pandemic, ginseng dealers had reported substantially less harvesters bringing in ginseng during 2020 and 2021. We compared the numbers for 2020 and 2021 to each other and to other years, indeed proving the pandemic was a factor. The use of the computer-based Ginseng Portal continues for the third season. By now, we know this system has helped eliminate errors, reduce duplication, and made the information in it available immediately to both administrators and conservation officers.

The ginseng team continues to make small adjustments to the portal each year. Finally, the ginseng administrative code, 312 IAC 19, was readopted in 2022. In 2023-2024, we hope to pursue rule and ginseng code adjustments to comply with other fish and wildlife code and further enforce landowner permission requirements.



## Karner Blue Butterfly Survey

The INHDC completed a multi-year survey for Karner blue butterfly (Kbb) funded by NOAA through the Lake Michigan Coastal Program. During the course of the survey, no Kbb were observed. State extirpation had already been considered likely but it was important to revisit historical populations where wild lupine remains abundant. Initial site selection started back in 2018 and focused on sites in northwest Indiana. During the survey, potential feeding evidence had been identified but ultimately did not lead to any sightings. The evidence was determined to be similar but likely the result of another species. Several partners were involved in the project, including the DNR Division of Fish & Wildlife, the National Parks Service, Shirley Heinze Land Trust, Lake County Parks, and The Nature Conservancy.

## History of Karner Blue in Indiana

Karner blue butterfly populations were considered secure throughout the 1990s into the 2000s, with several sites supporting the species. Wild lupine is an important part of the lifecycle of Kbb and can be found throughout northwest Indiana; however, due to fragmentation of the natural landscape and lupines' dependence on fire, the species began to die out as wild lupine was less available or as sites burned, leaving no habitat. The last confirmed records of Kbb are from 2014, when two adult Karners were reported in then-named Indiana Dunes National Lakeshore. The funding awarded to the INHDC assisted in the attempt to relocate the species and helped to identify suitable sites where Kbb could thrive if reintroduction were ever attempted. This data has been added to the Indiana Natural Heritage Database and will be made available in perpetuity. This database assists in early coordination of environmental review permits.

## NATURE PRESERVE DEDICATIONS

As 2022 closed, 297 nature preserves had been dedicated under state law, Indiana Code 14-31-1. This represents 54,904.47 acres throughout Indiana. We work closely with many others in dedicating significant natural areas, including DNR divisions, local land trusts, local county park systems, and colleges and universities. The first dedicated nature preserve was Pine Hills Nature Preserve in Shades State Park, dedicated in 1969. Since then, the nature preserves system has grown to be the most widely distributed system of protected lands in the state. Seventy-one counties contain a nature preserve. Nature preserves are set aside to protect the plants, animals, and natural communities that are found on them, providing protection in perpetuity for the benefit of future generations. Visitation is allowed to the extent that the features can tolerate it without deterioration. For a list of community types and a nature preserve example, please see on [IN.gov/naturepreserves](http://IN.gov/naturepreserves).



### Elkhart Bog Nature Preserve Addition

This addition to Elkhart Bog Nature Preserve in Elkhart County annexes 12.36 acres to the existing 216.12 acres previously dedicated. This expands the area of protected bog and associated rare species by adding wetland habitat. Elkhart Bog is a large wetland formed on top of an old glacial lake. A mat of sedges and sphagnum moss grows across the top of the glacial lake, creating a floating mat of peat, plants, and plant roots.

It is owned by the Division of Nature Preserves.



### White Oak Cemetery Nature Preserve

This Nature Preserve in Jay County protects 39.64 acres. The main feature of this site is a mesic upland forest and the associate natural community. The site is an open oak woodland dominated primarily by white oak and shagbark hickory. The understory is rich in wildflowers, grasses, and a variety of sedges. The cemetery includes several local Civil War veterans.

It is owned by the Division of Nature Preserves.



### Muskegon Nature Preserve

This nature preserve is a 23-acre property that is located in Lake Michigan, approximately 1,000 feet offshore. The SS Muskegon operated as a wooden American passenger and package freight vessel. It burned on Oct. 6, 1910 off the coast of Michigan City in LaPorte County. On April 26, 1989, the remains of the Muskegon were listed on the National Register of Historic Places.

The preserve is established to protect the Lake Michigan natural area and the associated cultural values embodied by the Muskegon shipwreck. Its boundary includes the shipwreck and associated debris field and serves to promote understanding and appreciation of cultural values by the people of the state. The debris field and the remains of

the ship lie in 32 feet of water. The debris also includes machinery and gears from the engine. This shipwreck tells an important story about past events by providing information regarding our economic, technological, and cultural history, and gives insight into early survival on the Great Lakes.

It is owned by the Division of Nature Preserves.



#### **Bluffs of Beaver Bend Nature Preserve Addition**

This nature preserve addition tacks on 202.47 acres to the 210 acres previously dedicated in Martin County.

This property further extends the protected area of Bluffs of Beaver Bend Nature Preserve and includes mesic and dry-mesic upland forest as well as a portion of the riparian corridor of the East Fork of the White River.

#### **Clemens Place on Clifty Creek Nature Preserve**

This nature preserve contains 58 acres in Greene County. The property was owned by the Clemens family from 1858 until Bill Clemens, Jr. donated it to the Sycamore Land Trust in 2011. It contains a portion of the Clifty Creek canyon, which features towering sandstone bluffs and a karst sink.

This area was identified as a significant natural site by the Indiana Department of Natural Resources' Natural Areas Registry, and its interesting geology was described in the 1921 Handbook of Indiana Geology. In addition to the impressive geology, the preserve also features a mature oak-hickory forest.

It is owned and under the administration of the Sycamore Land Trust.



**335.47 new acres added to the nature preserve system.**

## NATURE PRESERVE PROGRAM

The work done to maintain the long-term viability and ecological health of the nature preserve system is one of the most important functions of the DNP. Toward this goal, the division maintains eight regional field offices that oversee our statewide system of preserves. (Appendix C, Map 1). They care for numerous preserves found across large geographic areas covering many counties.

Habitat restoration and invasive species control were continued in 2022. A total of 5,139.60 acres were treated, which includes prescribed burn acres and contracts.

These regional field offices serve as a base of operations for our ecologists along with their staff and equipment. DNP regional ecologists perform an array of work, including ecological restoration, public land management, conservation planning, monitoring and inspections, environmental reviews, and botanical and natural areas inventory. They also provide many community services, including technical consultation and environmental education. The regional ecologists also perform the important task of maintaining safe public access to the unique and growing DNP trail system.

Regional ecologists integrate expertise in many fields and decades of experience working in natural areas to offer innovative management to Indiana's nature preserve system. They have expertise in subjects such as conservation biology, forest health issues, wildland firefighting, public speaking, wetland restoration, and recreational trail design and installation, among others.

Regional ecologists also supervise and manage a specialized team of stewardship staff. These employees perform the daily work of property management and controlling invasive species. They are experienced with heavy equipment, chainsaws, herbicide application, wildland firefighting, trail maintenance, and safety.

This report addresses nature preserves on public lands that are owned by the DNR, as well as those owned by our private and local government partners.

Regional ecologists work with the private sector to place mitigation projects on existing conservation lands, including nature preserves. Mitigations are required to replace wetlands and forests affected by development. This provides valuable restoration funding for public lands while helping the private sector fulfill the requirements of regulatory permits and settlements. This effort is resulting in significant enhancements at several nature preserves.

Regional staff are heavily involved with land protection, conservation planning, and community outreach. They provide technical assistance to their communities, partner land trusts, federal and municipal agencies, and other DNR divisions and agencies.

### Invasive Species Control

Numerous invasive species continue to invade natural areas, and the list of species of concern grows every year. Control means to maintain invasive species at a level at which they do not threaten the natural communities of the preserve, but does not mean eradication, since that is practically impossible. Eradication is prohibitively expensive unless the population to be controlled is relatively small.

This year regional ecologists aimed their invasive control efforts at garlic mustard, Canada thistle, glossy buckthorn, bush honeysuckle, Japanese honeysuckle, teasel, phragmites, white sweet clover, yellow sweet clover, autumn olive, knapweed, crown vetch, sericea lespedeza, Japanese stiltgrass, reed canary grass, moneywort, bouncing bet, brome grass, ground ivy, privet, purple loosestrife, oriental bittersweet, multiflora rose, amur cork tree, tall fescue, Johnson grass, scurf pea, burning bush, hybrid cattail, and Japanese chaff flower.

A total of  
**5,139.60**  
acres were  
treated...including  
prescribed burn  
acres and contracts



### **Invasive Species Management**

DNP staff are involved across the state in leading efforts to control invasive plants. These cause extensive degradation of our natural habitats including forests, prairies, and wetlands. With decades of experience in habitat restoration and invasive weed control, the DNP is a recognized authority on early detection of invasives as well as the techniques used to control them and restore healthy native habitats.

DNP staff collaborate with many partner organizations seeking to develop and implement their own successful strategies and programs to control invasive weeds on nature preserves across Indiana. Technical assistance, educational materials, and site assessments promoting early detection and effective control measures are important aspects of the division's work.

Southeast regional ecologist Jason Larson serves on the leadership of the Southern Indiana Conservation Weed Management Area (SICWMA). Such groups are being formed across the United States as landowners, private groups and government agencies look for more effective ways to limit the growing economic and environmental damage caused by invasive species. These community coalitions work through sharing knowledge, people, and other resources in an effort to improve public education, prevention and eradication/containment programs across a given geographic area.

Coastal regional ecologist Derek Nimetz serves on the steering committee of the Indiana Coastal Weed Management Area, providing technical assistance to northwest Indiana coastal communities on limiting the spread of invasive species.

### **Mitigation Projects on Natural Areas**

The DNP works with diverse partners and funding sources to deliver effective conservation in Indiana. Mitigation funds are increasingly being used for habitat restoration, providing an important opportunity to further protect nature preserves in need.

When wetland, stream, or forest habitats is impacted or destroyed due to infrastructure needs or other development, federal law (under the Clean Water Act or United States Fish and Wildlife Service) requires that the lost habitat be mitigated through the construction and restoration of similar habitat within the geographic area. The DNP then works closely with industry and regulators in a mutually beneficial process of performing these needed mitigations on DNR-owned public conservation lands.

Through these collaborations, the division is able to perform reforestation projects and restore and enhance impaired wetlands while providing future stewardship of them.

A number of conservation lands have benefited from significant restoration projects conducted by DNP staff and consultants helping private-sector entities fulfill regulatory requirements. These projects are helping to improve biodiversity at significant savings to the division.

### **Pittman-Robertson Wildlife Restoration Grant**

Thanks to the Division of Fish & Wildlife, the DNP received additional funds from the Pittman-Robertson Act grant that started in July 2022 and ends in June 2024. The grant, titled "Wildlife Restoration Activities on Natural Areas", focuses on wildlife habitat restoration activities, including prescribed burning as well as invasive species and woody-plant succession control methods on nature preserves as part of their management plans.

This grant funds divisional activities including preserve management, surveys, and outreach efforts for the two-year grant duration and helps the DFW meet grant match goals. Much needed management work is being accomplished throughout the state because of this federal funding.



Using prescribed fire  
safely and effectively  
for more than  
**30 YEARS**

### **Burn Program**

The DNP's burn program is one of the oldest prescribed fire programs in the state. We have been safely and effectively using prescribed fire to manage Indiana ecosystems for more than 30 years. These fires range in size from those on tiny prairie remnants to landscape-scale fires covering hundreds of acres.

Prescribed fire is a land management tool that provides benefits that no other technique offers. It is crucial for maintaining rare and declining habitats that depend on periodic fires. Our carefully planned and managed prescribed burns maintain natural processes such as plant germination, forest succession, and control of weedy and invasive species in Indiana's prairies, oak woodlands, and wetlands.

While healthy native habitats are the primary goal of DNP's burn program, prescribed fire is also an important part of reducing hazardous fuel loads of woody debris and brush on our public lands.

DNP ecologists spend much time training and planning for prescribed fire application. This effort includes several disciplines such as ecology, weather, wildland firefighting, incident command, communications, and logistics. A profound knowledge of fire ecology informs our planning and use of fire. Important ecological factors include targeted native plant and animal communities, seasonal timing of burns, fire return intervals, and forest regeneration (e.g., oaks). Much planning and consideration goes into sensitive species such as Eastern box turtle (*Terrapene c. carolina*), Eastern massasauga rattlesnake (*Sistrurus c. catenatus*), and Indiana bat (*Myotis sodalis*).

Crucial to the continued success and growth in our burn program is cooperation among partners to field effective wildland fire crews. DNP staff frequently works within multi-divisional DNR prescribed burn teams that include representatives from DNR's divisions of Forestry, State Parks, and Fish & Wildlife. Collaboration with non-DNR partners such as municipalities (city and county), as well as nonprofit conservation groups (e.g., The Nature Conservancy, Shirley Heinze Land Trust, ACRES, and NICHES), enable us to assemble larger, more capable crews, and the interaction contributes to exchange of ideas and crew cohesion.

The most important work our ecologists do involves managing their staff of 20 part-time and intermittent stewardship employees who are trained and experienced in conducting prescribed burns. Having this capacity, along with our partners' support, enables us to safely conduct multiple prescribed burns simultaneously during a given window of ideal prescribed burn weather.

## INDIANA LAKE MICHIGAN COASTAL PROGRAM

### Indiana Lake Michigan Coastal Management Program



#### Coastal Hazards Resiliency Needs Assessment

The Lake Michigan Coastal Program (LMCP) contracted with the Northwestern Indiana Regional Planning Commission (NIRPC) in 2022 to help administer a community needs assessment focusing on natural hazards and resiliency measures. The multi-year project includes the development of a community self-assessment survey tool, listening sessions, and summary report. The needs assessment will assist the LMCP in identifying, developing, and delivering technical resources to communities to reduce or prevent natural hazard risks. Completing the self-assessment also helps local governments evaluate potential impacts of natural hazards and consider planning and mitigation actions to increase resilience.

#### Grant Update

The LMCP launched six coastal grant projects in the 2022 funding cycle. These activities largely center on community efforts to restore, preserve, and improve public access to natural areas throughout the Lake Michigan watershed and reinvigorate outdoor education programs that service residents of the coastal region. These initiatives are financed by pass-through dollars from our federal partners at NOAA combined with cash and/or in-kind matching funds from municipalities, state funds, and nonprofit organizations.

The 2022 funding supports a variety of protection and restoration projects throughout Porter and LaPorte counties. The Division of Nature Preserves is using 2022 grant funds to finalize the acquisition of the Lindberg property, which consists of roughly 38.5 acres of forest and wetland habitats. Porter County's Indiana Dunes Tourism is employing 2022 funding to construct an Indigenous Cultural Trail in and around the Dunes Visitor Center's property. This will provide an outdoor educational and recreational area for the center as well as celebrate the cultures of the Indigenous peoples that have historically lived in the coastal region. Three Porter County municipalities – the Town of Dune Acres, the Town of Beverly Shores, and the Town of Chesterton – are launching LMCP-funded projects to revitalize their communities in a variety of ways. Dune Acres is working to control populations of various invasive plant species that have begun to overwhelm one of their town parks. Beverly Shores is striving to build an ADA-accessible stairway to facilitate public access to the Lake Michigan in response to the shoreline's severe erosion. And Chesterton intends to construct a new boardwalk and series of corresponding fishing piers along the pond in Coffee Creek Park in an effort to revitalize the area.

The final grant highlight comes from the Dunes Learning Center in Porter County, which is leveraging 2022 grant funding to upgrade and improve existing education programs, mainly by developing pre-and post- lesson experiences and replacing props and costumes for new, more authentic supplies.

#### Special Project Coordinator

In 2022 the LMCP special project coordinator completed phase one of the Coastal Atlas. The Coastal Atlas covers several different areas of interest and concern regarding northwest Indiana including wetlands, flooding and coastal hazards, and aerial imagery. Work continues on the septic coordination work group aimed at increasing education and understanding of septic systems and their impacts in the Lake Michigan coastal area, as well as constructing a digital database for Lake County.

## APPENDIX A: DIVISION STAFF THROUGH 2022

### Nature Preserves Management

Ronald Hellmich	<i>Division Director</i>	
Andrew Reuter*	<i>Assistant Director</i>	<i>*Replaced Tom Swinford</i>
Laura Minzes	<i>Operations Director</i>	
Gail Riggs	<i>Office Manager</i>	
Cathy Zajdel	<i>Administrative Support</i>	

### Natural Heritage Data Center

Dawn Johnson*	<i>Natural Heritage Coordinator</i>	<i>*Replaced Teresa Clark</i>
Taylor Davis	<i>Heritage Data Manager</i>	
Matt Wyrick	<i>Protection Director</i>	
Wyatt Williams	<i>Heritage Ecologist</i>	
Scott Namestnik	<i>Heritage Botanist</i>	

### Regional Ecologists

Vacant*	<i>Central</i>	<i>*Andrew Reuter accepted Assistant Director position</i>
Ryan Keller	<i>Southwest</i>	
Rich Dunbar	<i>Northeast</i>	
Matt Beatty	<i>Northwest</i>	
Ryan Smith*	<i>East Central</i>	<i>*Replaced Taylor Lehman</i>
Derek Nimetz	<i>Coastal</i>	
Jason Larson	<i>Southeast</i>	
Emily Stork	<i>Grand Calumet</i>	

### Lake Michigan Coastal Program

Jenny Orsburn	<i>Program Manager</i>
Katherine Balkema	<i>Grant Specialist</i>
Kathryn Vallis	<i>Coastal Resource Planner</i>
Ashley Sharkey	<i>Special Projects Coordinator</i>
Vacant	<i>Grant Assistant</i>
Kacey Alexander	<i>Operations Manager</i>

## APPENDIX B: OWNERS OF NATURE PRESERVES

### County and City Partners

Allen County Parks and Recreation Bartholomew County  
Parks and Recreation Bloomington Parks Board

Elkhart County Parks

Evansville Park Board

Fort Wayne Park Board

Town of Fishers

Harrison County Parks and Recreation

Indy Parks

Jennings County Community Foundation  
LaGrange County Parks Board

Lake County Parks and Recreation LaPorte County Parks and  
Recreation LaPorte County Conservation Trust Muncie  
YMCA

LaPorte County Parks Foundation

St. Joseph County Parks and Recreation Steuben County  
Parks and Recreation Terre Haute Park Board

Town of DeMotte

Vigo County Parks and Recreation

### Federal Partners

U.S. Fish and Wildlife Service

University Partners

Ball State University

Goshen College

Indiana State University

Purdue University

Wabash College

### State Partners

DNR Division of Forestry

DNR Division of Fish & Wildlife

Indiana State Museum and Historic Sites

DNR Division of State Parks

Indiana State Board of Health

### Land Trust and Non-Profit Partners

ACRES Land Trust, Inc.

Central Indiana Land Trust (CILTI)

Indiana Karst Conservancy

Izaak Walton League

NICHES Land Trust

Red-Tail Land Conservancy, Inc.

Save the Dunes

Shirley Heinze Land Trust

Sycamore Land Trust (SLT)

The Nature Conservancy (TNC)

Whitewater Valley Land Trust

Oak Heritage Conservancy

Ouabache Land Conservancy

**APPENDIX C: NATURE PRESERVE REGIONAL ECOLOGIST DISTRICTS**

# Nature Preserve Regional Ecologist Districts

