Division of Nature Preserves

2019 Annual Report

DNR
Indiana Department
of Natural Resources

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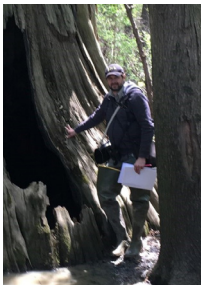
New Staff Introductions

My name is Laura Minzes, and I am the Operations and Contract Manager for Nature Preserves, having started in July 2019. I come to the division with over 26 years of experience with the State of Indiana and DNR, having worked closely with Nature Preserves over the course of my career. My background in facilities management, budgeting and contracting has been beneficial in my position, and I am thrilled to work with an awesome group of talented co-workers. I also oversee the ginseng program as Indiana's ginseng coordinator, working closely with DNR Division of Law Enforcement. I've been leading the ginseng program in a new direction, a more contemporary way of accomplishing the goals of the program, and I look forward to seeing that take effect with the 2020-21 season. On a personal note, my husband and I have two grown children and a black lab fur baby. We look forward to many trips to enjoy more of the unique areas of Indiana.

I'm Jenny Orsburn, the new program manager for the Indiana Lake Michigan Coastal Program (LMCP). I'm not exactly new to the LMCP. I worked in the program from 2001 to 2012 as program specialist. Before returning to DNR as program manager, I was the park superintendent for the City of Portage, where we implemented numerous park improvements. I received a Bachelor's Degree in Biology from North Central College, Naperville, Illinois, and a master's degree in Business Administration from Purdue University. I was born and raised in Michigan City and currently reside in Chesterton, close to Lake Michigan and the Indiana Dunes. I am a Certified Park and Recreation Professional as well as a Red Carded Wildland Firefighter, having served on engine crews on Western wildfire assignments. On a personal note, my husband Nate and I are parents to three children. Our son attends Princeton University. I am grateful for the opportunity to serve as the program manager for the LMCP. Nineteen years ago we worked tirelessly on getting the program approved, and today it is seen as an essential partner in the protection of coastal resources. It's exciting to continue that momentum and lead the program to its 20th year and beyond.

Hello, my name is Taylor Davis and I am the new data manager with the Heritage Program. I am an Indiana native. I attended Hanover College, where I received my bachelor's degree in Biology and was a part of the women's soccer team. I then completed my master's degree at Ball State University where I was able to research the herbaceous layer of two old-growth forests in east central Indiana. Now, I am excited and honored to contribute in part to an organization that is dedicated to protecting Indiana's native species and natural areas. I enjoy exploring the outdoors and am looking forward to visiting as many of the state's nature preserves as possible.



Hello, I'm Scott Namestnik, and I'm trying to fill the enormous shoes left by Mike Homoya when he retired as the Natural Heritage Data Center Botanist in spring 2019. After over 20 years of working in the private sector as an ecological consultant at JFNew (which became a part of Cardno) and at Orbis Environmental Consulting (the company I helped to found in 2014), I started my tenure with the Division of Nature Preserves in August 2019. While working as a consultant, I regularly submitted reports on rare plant species to the Natural Heritage Data Center, and now, in my current capacity, I continue to hunt down and report on rare plant species around the state, focusing on records that haven't been updated in more than 20 years. Another project I am involved in is calculating and assigning S-ranks (subnational conservation status ranks) to all of Indiana's native plant species based on factors including known distribution and abundance and known or perceived threats to each species. I also frequently present on aspects of flora of Indiana at various locations around the state. Before joining the Indiana Department of Natural Resources, most of my experience was in Indiana's northern counties, particularly in the Northwestern Morainal Natural Region, the Grand Prairie Natural Region, and the Northern Lakes Natural Region, and I am excited about seeing the rest of the state, in particular those areas where glaciation has had little to no impact on the landscape. My wife Lindsay and Australian cattledog, Cooper, are patient and supportive of my occupational endeavors.

Final Thoughts

Tom Post

My career with the DNR spanned 38 years, enough time to see things change, to learn some things, and to realize that there is still more to do.

At the start of that span, I was part of the Indiana Heritage Program, charged with locating and tracking rare plants, animals, and communities found here. It was four years of traveling the state from one end to the other conducting inventories, county by county, and making discoveries of rare organisms and outstanding natural areas. Along the way, priorities as to which areas to protect as nature preserves were set. Quite often these lists were developed at a meeting of the Prairie Chicken Chowder Club along with colleagues from The Nature Conservancy. It was an exciting time as the Division of Nature Preserves was growing and maturing in its mission.

As the division became the actual owner of an increasing number of nature preserves, there also came the realization that the preserves, while protected in legal ownership, also faced challenges from external sources. At this point I became a regional ecologist in the northwestern part of the state, charged with managing these gems of natural resources that we had searched for across the state.

Rhetorically, one could ask "If they contain such good natural resources, what is there to manage?" Many of these nature preserves contain dynamic communities that require the use of fire to maintain the open, sunlit conditions many plants and animals need. Think of our prairies or savannas. In some situations, contracts for vegetation management are used in place of fire. Both options require either personnel or contracts with their attendant costs to carry out the necessary work.

Or consider the increasing pressure our native plants and animals face from introduced, non-native plants and animals, such as buckthorn or emerald ash borer. Left unchecked, these pests can overwhelm our native plants and animals so that they may disappear from the preserves, thus potentially negating the reason these areas were purchased. This would be a double whammy, as the money used to purchase the preserves could be considered a lost investment as the plants and animals themselves disappear.

It becomes apparent that there is an ongoing need for vigilance to identify existing and new threats to Indiana's nature preserves. We need to continue to be diligent in managing the preserves for the natural resources they protect. In the long run, the costs to manage a preserve can actually exceed the initial acquisition cost. An example is Hoosier Prairie Nature Preserve in Lake County. Initial land acquisition costs were around $1 million when the property was purchased in the late 1970s. Since then, costs in labor, materials and contracts has exceeded that amount. Fortunately, some of the cost has been defrayed by grants from outside sources.

The preserves also face threats from development pressures, pollution of various kinds, encroachment from adjacent land owners, and increased use from people wanting to get outside into nature.

Over my career I have seen changes in our state's natural resources, not always for the better, learned that the preserves will also face many threats and will always require vigilance and diligence, and realized that while I tried hard to protect the preserves there will always be more to do and that others who follow will have their work cut out for them.

The return on my efforts has been working in some of the most outstanding natural areas in the state and marveling at the resiliency of nature when given a helping hand.

Heritage Coordinator Address

Teresa Clark, Coordinator
IN Natural Heritage Data Center

Since 1978, the Indiana Natural Heritage Data Center has been surveying the biodiversity of Indiana and cataloging and maintaining the records of thousands of occurrences of rare species and high-quality natural areas. This has been accomplished by a dedicated staff of ecologists and data professionals. While there has always been relentless forward pursuit within the program for staff to survey new places and gain additional expertise, this year brought many high achievements and major changes.

In 2019, we experienced an immeasurable alteration within the program through the departure of two long-term Heritage staff members. Michael Homoya, heritage botanist since 1984, retired in April 2019, and Ronald Hellmich moved into the position of director of Nature Preserves. To continue to fulfil our goals and missions, these positions were filled by Scott Namestnik as the heritage botanist and Taylor Davis as data manager, with Teresa Clark moving from that role to the coordinator position.

While times and staff have changed over the years, the base mission of the Heritage Network has not, and we continue to maintain the resources acquired in years past while forging into the future by expanding our breadth of biodiversity information. In the past few years we have added to the knowledge base records of more than 4,000 species that are known to currently exist within Indiana. Many of these were pollinators and aquatic invertebrates. These groups function as indicators of ecosystem health and are instrumental in measuring anthropogenic effects throughout the state. We continue to encourage and support further research and study into these and lesser-known taxa such as arachnids and fungi associates.

Through partnered contracts with experts in particular taxa, we were able to update insect state conservation ranks and identify species that needed to be added to the Indiana Roster of Endangered and Threatened Species at the end of the year. With the continued concern about pollinator decreases worldwide, we realize we need a baseline knowledge of the rarity and population counts of these groups within the state.

In addition to local projects, by collaborating with other Heritage Programs across the country in consultation with NatureServe scientists, we were able to contribute to a nationwide effort to produce habitat suitability models for thousands of imperiled species. We provided the initial distribution data and subsequent expert review of the models for Indiana in order to help refine and update the results. The range-wide models are freely accessible online at limited scale resolution through Esri's World Atlas and can be used for conservation planning. Finer scale modeling can be obtained through licensing agreements for detailed on-the-ground avoidance of probable appropriate habitat used by the species.

The Indiana Natural Heritage Data Center is enthusiastically moving into our next 40 years of biodiversity inventory and protection activities with new staff and continued analysis of our missions and purposes.

Nature Preserve System

Thomas Swinford, Assistant Director
Division of Nature Preserves

As assistant director with over 27 years of service with the Department of Natural Resources, I must express a sincere and humble thanks to our state's leadership, and a big thank you to the communities in which we serve. Together we are continuing, and expanding, the work to preserve Indiana's unique and beautiful native habitats, rare wildlife, trees, and plants.

Indiana's Nature Preserve program remains focused on our commitments to:

- Restore and protect from harm the nature preserves in our care.
- Recover and maintain populations of rare plants and animals on our properties.
- Create and maintain outstanding trails for wonderful local nature experiences for our Indiana communities.
- Provide expert technical advice to partners, industry, and community groups to advance our mission of preserving nature across Indiana.

We thank you all for your generous support in this endeavor, and we look forward to announcing continued successes as we grow our understanding and ability in all aspects of our shared work.

Director Address

Ron Hellmich, Director
Division of Nature Preserves

The year 2019 saw a monumental change in the Division of Nature Preserves as John Bacone, the long-time division director, retired after over 40 years of service. His wise guidance and vast experience and knowledge guided the division through tough times and many, many successes. The retirement of Mike Homoya, longtime heritage botanist, from the Heritage Program was another big change. His work in finding and documenting many of Indiana's rarest plants was a key driving force for the protection of many of our nature preserves. For this work, he was rightly made a Sagamore of the Wabash, by Gov. Eric Holcomb. Maggie Byrne also left us for an opportunity to work with The Nature Conservancy.

However, we have brought on some talented people in Laura Minzes, Scott Namestnik, Jenny Orsburn and Taylor Davis. With the people on staff with the division, we will continue to pursue the goal of protecting the best natural areas in the state.

The nature preserve system is more than the nature preserves themselves, but also includes the people of the state and organizations that care about these natural areas. Quite simply, there would not be nature preserves without all the people who are devoted to these areas.

As we move forward, we will be looking for, devising, and implementing new strategies for the protection and management of natural areas. While we continue in our core mission of preserving and protecting the finest natural areas of Indiana, we are always looking for effective ways to meet the needs of these special places.

Visit a nature preserve, a perfect way to enjoy getting outside.

Executive Summary

In March 1967, the Indiana General Assembly passed the Nature Preserves Act, creating the Division of Nature Preserves (DNP) and charging it with finding, protecting, and managing Indiana's remaining natural areas. Since then, working with partners, 289 nature preserves have been dedicated, encompassing more than 54,000 acres. Nature preserves are owned by numerous DNR divisions, land trusts, city/county park boards, and colleges and universities. During 2019, we hosted a series of hikes and events, and published articles encouraging Hoosiers to visit these special areas.

The DNP is charged with finding, protecting, and managing examples of Indiana's natural communities, coastal resources, and rarest species for the benefit of present and future generations. 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 one-third of the full-time staff is paid by non-General Fund sources, and all of the remaining staff receives a portion of their funding from non-General Fund sources. Division staff work from nine locations scattered around the state, including the central office in Indianapolis.

There were several changes to the staff in 2019, including the retirement of director John Bacone and botanist Mike Homoya. Maggie Byrnes left her position as director of the Lake Michigan Coastal Program and was replaced by Jenny Orsburn. Teresa Clark moved from her role as data manager into the role of heritage coordinator. She replaced Ron Hellmich, who now serves as the director of Nature Preserves. The role of data manager has been filled by Taylor Davis. Laura Minzes has replaced Cary Floyd as operations manager. Scott Namestnik now serves as heritage biologist.

Division staff was involved with numerous publications and outreach activities. These included 40 presentations, 77 partner projects, 18 technical assists to partners, 93 interagency projects, 10 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 LMCP coordinates Coastal Awareness Month during June. This effort featured a variety of events hosted by partners and organizations across the Coastal Region that month.

During 2019, the Indiana Heritage Data Center collaborated with other heritage programs throughout the United States under the guidance of NatureServe scientists in an effort to complete and produce habitat suitability models for thousands of imperiled species. By providing distribution data throughout the state, the Indiana Heritage Data Center was able to contribute to this significant conservation tool. Other ongoing projects included the preliminary site selection for a Karner blue butterfly survey to be completed in 2020 as well as ongoing plant and community surveys completed by Heritage field staff.

The Natural Heritage Database now contains 19,067 element occurrences (rare plants, animals, natural communities), and during 2019, a total of 514 new records were entered and 3,441 more were updated. Staff answered 1,013 information requests, conducted 915 environmental reviews, and reviewed 116 floodway permit applications, 136 public lake permit applications, and 19 coal permit applications.

The certified ginseng harvest was 3,503 pounds and 9.4 ounces. A total of 19 ginseng dealers were licensed.

Regional ecologists managed and performed habitat restoration and invasive species control at numerous sites across the state. This year also featured a successful 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 2019. A total of 5,046 acres were treated, including burn acres and contracts.

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 247 state-endangered plants, there is at least one protected example of 222 of them. All but 10 of the 194 state-threatened plant species have at least one population protected, and 83 of the 141 watch-listed plant species have protected populations.

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. There were two nature preserves dedicated in 2019, comprising a total of 360.46 acres. This brings

the total number of dedicated acres to 54,040.43.

The sites dedicated in 2019 included Lydick Bog Nature Preserve, owned by Shirley Heinze Land Trust and located in St. Joseph County, as well as Perfect Lake Nature Preserve, owned by ACRES Land Trust and located in Steuben County. Among these new dedications, protection has included several high-quality natural communities, including an acid bog, upland forest and mesic forest, as well as wetlands containing a fen, sedge meadow, and marl flat. The new preserves also include 17 plants that are endangered, threatened, or on the watch list; and four vertebrates that are state ranked.

Introduction

The 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.

The preserve management program takes care of DNP-owned nature preserves and assists partners with their nature preserves 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. This data is used to guide conservation in multiple ways and aid both governmental agencies and private enterprise in their decision making. The species and community data provide a basis to inform projects during the planning phase by being used in 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. It also provides grant funding for a variety of projects, and serves 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. At least one example of 79 out of 81 types of natural communities found in Indiana at the time of settlement is included in Indiana's nature preserve system. Ninety percent of the 423 plants considered endangered, threatened, or rare have viable populations in Indiana nature preserves.

The DNP mission is to identify, protect, and manage an array of nature preserves and natural areas in sufficient numbers and 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 a number of 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, more alternate funding sources were added. Currently, 29% of division staff is paid through a variety of non-General Fund sources: the INHPC Endowment, Coastal Program, Natural Resources Damages Account, Lands Unsuitable, and funds from the federal Pittman- Robertson Act. Seventy-one percent are paid with General Fund monies (Figure 1). For General Fund paid staff, all have a portion of their salaries paid by non-state funds. These funds come from the Office of Surface Mining, the U.S. Fish and Wildlife Service (USFWS), and other sources, because a portion of the work being done by these employees is for projects desired by both the Division of Nature Preserves and those entities. Additionally, all seasonal division employees have at least a portion of their salaries paid for by federally funded projects, which further enhances taxpayer funds, enabling more natural resources work to be accomplished with less state funding.

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 con-

tracts. 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 40 presentations to a variety of partners with the majority for Non-Profit 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 77 partner projects that included land trusts, counties, park boards, non-profit groups, and commercial entities. There was 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.

Eighteen partner projects received technical assistance with their own projects from DNP staff. The bulk of these were for invasive species removal or monitoring from all sectors of partnerships. DNP staff also provided comments on restoration plans, mitigation projects, streambank stabilization, and erosion control. There were also several large projects with industry that dealt with construction and installation of infrastructure, like new rail lines, culverts, and sewer and power line placement.

There were at least 93 Inter-Agency 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 10 outreach activities and events in 2019.

DNP staff led 22 hikes on nature preserves, attended more than 150 meetings, wrote several articles, answered numerous public requests for information, and interacted with visitors at nature preserves and with State Fair attendees.

Eight public access projects were completed. These included activities that most directly affect a visitor's experience in a nature preserve: improvement to trails systems and parking lots, and installation of signs at several preserves. Construction was completed for a new 2.5-mile Nubbin Ridge trail at Bluffs of Beaver Bend Nature Preserve. An ADA- accessible boardwalk was completed at Elkhart Bog Nature Preserve. DNP partnered with the Division of State Parks on a major redesign and rehabilitation of a trail to restore fragile ecosystem in a canyon while providing improved access at Rocky Hollow Nature Preserve in Turkey Run State Park. All 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 an excellent opportunity for nature study and outdoor recreation. See our website for information and maps at dnr.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 is used is in the DNR environmental regulatory process to help avoid or minimize impacts to significant natural communities, state-ranked species, and nature preserves. Projects and highlights from 2019 include assisting with the dedication of two nature preserves, completing plant and community surveys on more than 20 sites, assigning Heritage state ranks on the leafhoppers and grasshoppers of Indiana, continuing research on mayflies of Indiana, and finishing and completing a four-year grant to survey special research areas within Hoosier National Forest. Also, Heritage ecologists standardized taxonomy for Indiana's endangered plant list and submitted updated state status assessments to the Indiana Natural Resources Commission resulting from the 2018 review.

NatureServe is an international organization that serves as the umbrella for the network of natural heritage programs and conservation data centers in the United States and Canada, as well as in Central and South America. The organization 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 Occurances

EOs in the INHDC Database	19,067
New Records Entered	514
EO records updated	3,441

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	1,013
Environmental Reviews	915
Coal Mine Permit Reviews	19
Floodway Permit Applications	116
Public Lake Applications	136
Research & Collecting Permits	68

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

Federal Listed Plants

Asclepias meadii (Mead's Milkweed): Federally Threatened

The only occurrence for this species is in a nature preserve in the northwestern part of the state where it was introduced several years ago. Recent studies at this site have tracked the relative survivorship of seedlings in the solitary population in burned and unburned sites, providing empirical data of significantly higher rates of survivorship among areas experiencing controlled burn conditions (60% vs. 5%). A burn conducted in March 2019 covered 13 acres of prairie that contained research plots. Although no plants were located after the burn, in June another research site was checked, and two juvenile plants were located.

Physaria globosa (Globe Bladderpod): Federally Threatened

In Indiana this native mustard is known from a single site in the far southwestern corner of the state. The site has been managed for a number of years in an attempt to encourage the population. It has responded well to past management but was not seen in 2019 and was under water on at least two occasions when it was checked in the spring. Monitoring of the site and plants will continue in 2020.

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

A single precarious occurrence is known in the state for this orchid, which is monitored annually. Two plants were

noted in flower in 2019. Coordination with the USFWS is ongoing, and a historical review has been completed to assess a potential reintroduction plan based on a site suitability study.

Solidago shortii (Short's Goldenrod): Federally Endangered

The single population of Short's goldenrod in Indiana continues to be stable and in good condition as of a recent site inspection in June 2019. In the fall of 2014, seeds were collected for long-term seed storage by staff to encourage the population. It has responded well to past management but was not seen in 2019 and was under water on at least two occasions when it was checked in the spring. Monitoring of the site and plants will continue in 2020.

State Listed Plants

Caulophyllum giganteum (Early or Giant Blue Cohosh): State Endangered

Early or giant blue cohosh is known from only two widely separated occurrences in the state, one in northeast Indiana's Steuben County and the other in the southwestern part of the state in Martin County. The species was first discovered in Indiana in 2017. The southern Indiana occurrence was relocated and monitored on April 2, 2019. This inconspicuous species generally begins flowering earlier than its close relative, *Caulophyllum thalictroides*, the purplish flowers first appearing before the leaves fully expand. Plans are to continue to monitor these occurrences in 2020 and search for additional occurrences.

Carex aureolensis (Goldenfruit Sedge): State Endangered

A lookalike to the widespread *Carex frankii*, goldenfruit sedge is known from a single extant occurrence in southwest Indiana's Vanderburgh County. That occurrence was monitored this year for the first time in more than a decade, and the population appeared secure at its only known location.

Solidago squarrosa (Stout-ragged Goldenrod): State Endangered

Indiana's only occurrences of stout-ragged goldenrod, a more Northeastern species, are from Clark and Scott counties. Heritage botanists and DNP staff have determined that populations are on the decline. In an effort to save the species, seedlings were propagated from the few remaining plants in the wild. The propagation was successful, with hundreds of seedlings resulting. From these seedlings, 150 newly grown plants were planted at multiple sites where they were previously known to occur. Monitoring in 2019 of these plantings suggests that the restoration efforts were successful. Plans for bolstering these populations with additional plants are in the works for 2020.

Danthonia compressa (Flattened Oatgrass): State Endangered

This grass was discovered this year in Porter County, representing a new state record. The species was found along trail edges and openings. This is an eastern U.S. grass species that has been observed spreading westward (pers. comm. A. Reznicek).

Fimbristylis puberula (Carolina Fimbry): State Endangered

It had been 40 years since this interesting sedge had been reported in the state. It was found at a new site in Porter County. Other rare plants at this site include the state endangered Hall's Bulrush (see below).

Orobanche riparia (Bottomland Broomrape): State Endangered

This interesting non-green vascular plant lacks chlorophyll. Instead of producing its own food, it parasitizes the roots of *Ambrosia trifida* (giant ragweed). A new occurrence for this endangered species was found this year along the Wabash River in Tippecanoe County. Although there are several other older records for this species, the only other recent report in the state is from the floodplain of the Ohio River in far southern Indiana, in Harrison County.

Piptatherum pungens (Mountain Rice Grass): State Endangered

Mountain rice grass had not been reported for decades in Indiana when it was found this year in Porter County. This discovery may be attributed to the area having been managed recently with prescribed fire.

Cirsium hillii (Hill's Thistle): State Endangered

The Nature Conservancy has been monitoring this state endangered plant at two sites in Newton County for several years in an effort to bolster populations. Both cuttings and seeds were collected from these populations for propagation and later return to the wild. Although propagation was successful, none of the plants flowered in 2019. Plans for the future are to document the success of the reciprocal transplanting in 2020. The ultimate goal is that there will be flowering plants, cross pollination, and seed set in the near future.

Schoenoplectiella hallii (Hall's Bulrush): State Endangered

This is a very rare sedge throughout its U.S. range. It is known in only four sites in Indiana. It was relocated at a known Porter County site after a long absence, having not been seen there since 1993. We speculate that its reappearance may be due to cessation of mowing in the area, coupled with ideal hydrologic conditions. Indiana's largest known population of this species occurs at another site, this one in southwest Indiana in Daviess County. It too was monitored and thousands of plants were found to occupy this privately owned farm field.

Schoenoplectiella smithii (Smith's Bulrush): State Threatened

A new county record was discovered for this species when it was found on a high-quality wetland floating mat in St. Joseph County.

Schoenoplectus torreyi (Torrey's Bulrush): State Endangered

This sedge was relocated at a high-quality marsh in Jasper County from where it had not been reported for more than a year.

This is a very rare sedge throughout its U.S. range. It is known in only four sites in Indiana. It was relocated at a known Porter County site after a long absence, having not been seen there since 1993. We speculate that its reappearance may be due to cessation of mowing in the area, coupled with ideal hydrologic conditions. Indiana's largest known population of this species occurs at another site, this one in southwest Indiana in Daviess County. It too was monitored, and thousands of plants were found to occupy this privately owned farm field.

Ginseng

There was a total of 3,503 pounds, 9.4 ounces of wild ginseng certified in Indiana this year. No cultivated ginseng was reported. This season Indiana had 19 licensed dealers.

Nature Preserve Dedication and Land Acquisition

As 2019 closed, there were 289 nature preserves dedicated under state law, Indiana Code 14-31-1. This represents 54,040.43 acres spread throughout Indiana. We work closely with many others in dedicating significant natural areas, including the DNR divisions of State Parks, Forestry, and Fish & Wildlife, as well as with Indiana State Museum and Historic Sites, The Nature Conservancy, 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 preserve system has grown to be the most widely distributed system of protected lands in the state. Seventy-one counties contain a nature preserve. For more than any other reason, 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 visit our website dnr.IN.gov/naturepreserve.

Lydick Bog Nature Preserve

The Lydick Bog Nature Preserve was acquired by Shirley Heinze Land Trust in 2015. The property is 176.46 acres total in St. Joseph County and contains approximately 85 acres of upland forest, 65 acres of wetlands including a bog community, and 20 acres of former agricultural land.

The bog portion of the property provides an extremely rare habitat in northern Indiana. The bog is characterized by a floating mat of vegetation with sphagnum moss hummocks surrounded by a brushy moat area. Several conservative plant species characteristic of acidic bog habitats identified on site include gray bog sedge, round leaved sundew, pitcher plant, winterberry, tamarack, poison sumac, bog willow, and large cranberry. A variety of conservative, rare, and desirable native plant species further indicate a high conservation value.

Upland forest surrounds the south and east edges of the wetland areas with relatively steep ridges nearer the bog. The forests are presumably second growth with trees of various age classes. Most of the trees are estimated to be more than 20-30 years in age. These forests are dominated by red and silver maple with some oak, hickory, and cherry throughout. A few pin oaks were found near the northern portion of the property.

Perfect Lake Nature Preserve

The Perfect Lake Nature Preserve contains 84 acres located in Steuben County near Fish Creek. The majority of the property occupies a prominent esker (i.e., a long narrow steep-sided gravel ridge) that offers great vistas over the lake. The upland forest is a relatively young pioneer to early successional mesic forest. About 25% of the property consists of Perfect Lake and adjoining wetlands. Perfect Lake is an undeveloped, mesotrophic lake with a marl bottom and healthy aquatic communities, marsh areas, and wetlands, including a significant portion of high-quality fen/sedge meadow/marl flat.

This site has been protected for 50 years with the help of U.S. Federal Judge William Lee. The dedication of this site as a nature preserve ensures that Perfect Lake will be protected in perpetuity. Lee was awarded the Izaak Walton League of America National Conservation Award in 1972 for his work in conservation.

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

Bicentennial Nature Trust & President Benjamin Harrison Conservation Fund

In 2012 Gov. Mitch Daniels initiated a new conservation program, the Bicentennial Nature Trust (BNT). This program encouraged local conservation projects around Indiana as a way to celebrate Indiana's upcoming bicentennial. The BNT is an excellent companion to the President Benjamin Harrison Conservation Trust (BHCT), an expanded and renamed version of what used to be called the Indiana Heritage Trust. In many cases in 2019, funds from both programs were used to help protect significant areas. Funding from the Environmental License Plate is the source of funds for the BHCT; funding for BNT comes from other sources, including a generous contribution from the Lilly Endowment.

Nature Preserve Program

The work done to maintain the long-term viability and ecological health of our nature preserve system is one of the most important functions of the DNP. Toward this fundamental 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 2019. A total of 5,046 acres were treated at 97 sites, including 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. Importantly, the regional ecologists also maintain safe public access to our 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 many others.

Regional ecologists also supervise and manage a specialized team of stewardship staff. Our stewardship staff performs 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 coordinate 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 seems to grow every year. The DNP seeks to control invasive species, which means to maintain them at a level at which they do not threaten the natural communities of the preserve. Complete eradication is practically impossible and is prohibitively expensive unless the population to be controlled is relatively small. Sometimes, an invasive species is an extreme threat, and risk of control may outweigh cost. An example is the woolly adelgid, a threat to native hemlock stands. Fortunately, woolly adelgid has not been found in Indiana's native hemlock stands.

This year, regional ecologists aimed their invasive eradication efforts at the following species: 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.

Invasive Species Management

DNP staff are leading efforts across the state to control invasive plants that 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 carry out 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 U.S. 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 must be 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 the mitigation projects.

A number of conservation lands have benefited from significant restoration projects conducted via 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 a continuation of a Pittman-Robertson grant that started in July 2018 and ended in June 2020. The grant, titled "Wildlife Restoration Activities on Natural Areas," focused on wildlife habitat restoration activities, including prescribed burning as well as invasive species and woody-plant succession control methods on several nature preserves where hunting is permitted as part of their management plans.

The grant funded activities at several nature preserves, including prescribed fire or mechanical control of invasives and woody-plant succession for the two-year grant duration. Grant funds significantly helped DNP offset budget shortfalls, helped DFW meet grant match goals, and helped to restore some important natural areas throughout the state.

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 dependent on periodic fires. Our carefully planned and managed burns maintain such natural processes 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 the application of prescribed fire. This effort

includes 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 massassauga (*Sistrurus c. catenatus*), and Indiana bat (*Myotis sodalis*).

Crucial to the continued success and growth of our burn program is cooperation among partners to field effective wildland fire crews. DNP staff frequently works within multi-divisional DNR burn teams that include representatives from the divisions of Forestry, State Parks, and Fish & Wildlife. Collaboration with non-DNR partners such as municipalities (city and county), as well as non-profit 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 controlled burns simultaneously during a given window of ideal burn weather.

Summary

The DNP performed prescribed fire on a combined 602 acres at 26 priority sites. Historically, this was the lowest acreage of burns performed in the last five years due to challenges and unfavorable burn conditions.

Regional Highlights

Southwest Region

Construction was completed on the 2.5 mile Nubbin Ridge Trail at Bluffs of Beaver Bend Nature Preserve with help from the Hoosier Hiking Council. A 35-acre canopy thinning was completed at Section 6 Flatwoods using Pittman-Robertson funds. A total of 22 acres of forestry mowing was completed at Section 6 Flatwoods and Twin Swamps. Work began on an additional 50 acres of oak release and is expected to be complete in 2020.

Southeast Region

Assistance was provided for two landscape scale restoration contracts totaling 625 acres. A total of 48 acres of woody succession work was completed on five properties. Heritage updates for the region were provided for most *Penstemon deamii* occurrences, and several new sites were also documented. Invasive treatment at 16 properties treated 213 acres between in-house work and contracts completed.

Central Region

More than 1,400 acres were prepped for burning in 2019. Although much of the acreage was not realized in the 2019 burn season, an additional 500 acres of smaller burn sub-units were established for specific resource and weather criteria. Phase one was completed on 12 acres of woody succession and old field restoration, including tree removal, pile burning, site grading, disking, late spring seeding, and growing season mowing, as well as all preparations for eventual burning and tree planting restoration. Initial clearing work and gate installation for an access lane into Whippoorwill Woods Nature Preserve was also completed. This lane is crucial for restoration management, general access, and emergency access.

East Central Region

Work started on several restoration projects to restore the historic homestead at Shrader-Weaver Nature Preserve. A collaborative effort among DNP resulted in the successful removal of an old fence and several undesirable trees. An invasive species contract covering 17.5 acres was completed for Laketon Bog. More than 800 acres were managed for invasive species by DNP staff at seven nature preserves. Botanical plant inventories occurred at Bell-Croft Woods and White Oak Cemetery.

Northeast Region

In addition to ongoing management of the natural features, two new acquisitions have led to some less typical work.

A 25-acre addition to Elkhart Bog Nature Preserve protected a critical piece of the floating mat bog. One edge of the property included a number of buildings that have been removed to provide additional habitat for nesting turtles and other animals that need adjacent upland and wetland habitat. A 25-acre addition to the Crooked Lake Nature Preserve further buffers the lake by protecting upland woods and 380 yards of shoreline. A corner of the property contains buildings that are being removed to return the area to its natural state. A total of 309 acres were burned at four sites in 2019, 299 in spring and 10 in fall.

Northwest Region – Kankakee Region

Two brush control contracts using Pittman-Robertson funds were completed. A total of 78 acres were treated at Stoutsburg Savanna Nature Preserve, and 110 acres were treated at Tefft Savanna. Site enhancements, including replacing a fence, were completed at German Methodist Nature Preserve. A total of 5.56 acres of trees were removed from Hoosier Prairie, Norco West unit as mitigation for wetland impacts caused by construction of the Pennsy Trail in Schererville. This project was funded by the town of Schererville, with additional work planned during the growing season to treat additional trees. Tom Post completed his last professional prescribed burn before he retired after 38 years of service at German Methodist Nature Preserve.

Coastal Region

A 50-acre restoration contract was completed during 2019 at Moraine Nature Preserve, located in Porter County. The contract focused on controlling invasive woody shrubs such as multiflora rose, exotic bush honeysuckle, and autumn olive in old fields and upland forest habitats. This contract was carried out using Pittman-Robertson funding. A 20-acre restoration contract was completed during 2019 at Springfield Fen Nature Preserve, located in LaPorte County. The contract focused on controlling invasive cattails and non-native common reed populations within fen and marsh habitats. Eastern massasauga rattlesnakes will benefit from the restoration of this nature preserve. Staff from the Division of Nature Preserves coastal area and from the Kankakee region worked together to restore and maintain wetlands at Liverpool Nature Preserve in Lake County. Multiple workdays focused staff on controlling invasive cattails and common reed. This project is following up on previous restoration efforts to improve wetland habitats at Liverpool Nature Preserve. This restoration has benefited numerous rare plant species.

Grand Calumet Region

The year 2019 was the fourth of five growing seasons on the Great Lakes Restoration Initiative (GLRI)-funded Grand Calumet River Area of Concern Dune and Swale and Riverine Wetland Habitat Restoration grant from USEPA. This grant funds critical habitat restoration work across all dune and swale remnants owned and/or protected by the Indiana DNR, The Nature Conservancy, Lake County Parks and Recreation Department, Shirley Heinze Land Trust, and Save the Dunes, as well as the associated riverine wetlands that have been dredged and capped under the Great Lakes Legacy Act. More than 900 acres are included in the project area. Our close partnership enabled us to integrate the DNR, TNC, and Lake County Parks crews for training, providing employees of all agencies and organizations involved the opportunity to benefit from cross-training. This effort helped to make each crew member and each crew more effective, thereby improving our collective ability to achieve our invasive plant reduction goals for the season.

DNR Indiana Department of Natural Resources

INDIANA LAKE MICHIGAN COASTAL PROGRAM

Septic System Maintenance and Care Awareness

In 2019, the Indiana DNR Lake Michigan Coastal Program (LMCP) continued to implement a Section 319 grant from the EPA. These funds address the need for greater state focus on local nonpoint source pollution efforts and help meet outstanding 6217 Program management measures such as Onsite Sewage Disposal Systems. Once again LMCP, along with partners, hosted Septic System Awareness Week. Numerous outreach activities were conducted as was an online social media campaign.

Section 6217 Submission

Indiana officially submitted its 6217 OSDS Measure to NOAA for comment. This submission is a requirement by NOAA to maintain a fully funded coastal program as well as a State Nonpoint Source Pollution program implemented by IDEM. This is the final management measure in order for Indiana to receive final program approval. There are two approaches to meeting this management measure:

1. Document how the use of any combination of voluntary and regulatory approaches result in inspections of a significant majority of OSDS in coastal area.
2. Document how a state will implement a targeted approach that systematically identifies criteria for prioritizing the OSDS that will be a focus for inspections should address a vast majority of prioritized systems.

Some of the highlights of the submission include education and outreach, creation of a county inspection ordinance, capacity building for county health departments, and training for pumper/operators.

Section 309 Program Enhancement

Staff finalized draft submission of the 2021-2025 Section 309 Program Enhancement Plan, which allows states to identify strategies to improve its program. This process includes self-analysis and partner outreach for input on priorities. The priorities and strategies include:

Wetlands

- Historical imagery acquisition, upload to Coastal Atlas
- "Decision Support Tool" website to house maps, model ordinance, and additional resources on DNR website in one central location
- Train agency staff in wetland functional assessments analysis

Coastal Hazards

- Great Lakes Coastal Resiliency Study components – shoreline structure inventory assessment and vulnerability modeling, as well as mapping and imagery
- Enhance capacity for Lake Michigan technical assistance in DNR Division of Water
- Historical imagery acquisition and storage
- Federal consistency and/or permitting process review
- Weather and storm modeling for coastal communities, infrastructure, habitats, etc.

Cumulative and Secondary Impacts

- HETAP cart data collection and public access database updates for open space planning
- Inventory Green Infrastructure project sites in the coastal area

Federal Consistency

The LMCP continued to coordinate Federal Consistency Determination requests throughout 2019. Federal Consistency is an important component of Coastal Zone Management Programs: it is a legal acknowledgement under federal law of the importance of respect for state law and conforms direct and indirect federal activities with state law to the extent practicable. In 2019, the LMCP provided assistance, responded to 24 inquiries, and issued 11 Federal Consistency Determinations for projects across the Coastal Region.

Trail Assessment Training and HETAP/WISP Equipment

In June 2019, the LMCP hosted a two-day trail assessment training for public property managers at Red Mill County Park (LaPorte). Participants included staff from county parks, the Northwestern Indiana Regional Planning Commission, Shirley Heinze Land Trust, DNR Division of State Parks, DNR Division of Nature Preserves, and LMCP. Instructors from Beneficial Designs taught participants how to conduct trail assessments using handheld tools, as well as the High Efficiency Trail Assessment Process (HETAP).

The information collected by this equipment will help land managers to assess their properties and collect data in an efficient and uniform way that will allow them to identify potential access barriers, provide accurate information to trail users about trail conditions, develop parks, maintenance, or constructions plans, and monitor environmental impacts.

Coastal Awareness Month

The LMCP coordinated Coastal Awareness Month during June 2019. In total, 84 Coastal Awareness Month events hosted by 16 organizations were held across the Coastal Region. This marks the most Coastal Awareness Month events since the inception of the annual celebration.

Coastal Grants Program

In 2019, the LMCP grants program held five workshops for past, current, and prospective grantees. Across these workshops, 68 individuals were in attendance representing various organizations and communities within the coastal area. At the end of 2019, the program had a total of 38 open grants. Of these, 12 projects in progress are from the 2017 funding cycle, 20 from 2018, and six are from the 2019 funding cycle. At the close of 2019, 10 projects were selected through a competitive process to receive funding for the 2020 grants cycle.

Several LMCP grant-funded projects were completed during 2019, including eight small grants, three education and outreach projects, one land acquisition, and two planning/coordination/management projects. In total, these projects helped to protect and preserve 11.4 acres of open space in Lake County and educated approximately 15,000 K-12th grade students, 50 lifeguards, and 30 first responders about Indiana beaches and water safety. Overall coastal public access was improved through these projects, and educational opportunities were provided to more than 500 individuals. Visit the Lake Michigan Coastal Grant webpage for more information on past and present Coastal Grant projects: www.in.gov/dnr/lakemich/6044.htm.

Great Lakes Coastal and Shoreline Habitat Assessment Workshop

The LMCP, in collaboration with the Coastal States Organization (CSO), the National Oceanic and Atmospheric Administration (NOAA), and the other seven Great Lakes Coastal Zone Management Programs (Minnesota, Wisconsin, Illinois, Michigan, Ohio, Pennsylvania, and New York), hosted a workshop aimed at identifying shared coastal management principles and goals within each state and across states. The Indiana workshop was held in November 2019 and was host to 36 attendees representing many partners and conservation groups. Throughout the day, the group participated in guided activities intended to help develop a list of available data and resources, as well as data needs, to focus site-specific restoration work and provide a list of potential coastal and nearshore habitat restoration projects.

Appendix A: Division Staff Through 2019

Nature Preserves Management

Ronald Hellmich	*Division Director (replaced John Bacone)*
Tom Swinford	*Assistant Director*
Laura Minzes	*Operations Director*
Gail Riggs	*Office Manager*
Cathy Zajdel	*Administrative Support*

Natural Heritage Data Center

Teresa Clark	*Natural Heritage Coordinator*
Taylor Davis	*Heritage Data Manager*
Matt Wyrick	*Protection Director*
Roger Hedge	*Heritage Ecologist*
Scott Namestnik	*Heritage Botanist (replaced Mike Homoya)*

Regional Ecologists

Andrew Reuter	*Central*
Ryan Keller	*Southwest*
Rich Dunbar	*Northeast*
Tom Post	*Northwest*
Taylor Lehman	*East Central*
Derek Nimetz	*Coastal*
Jason Larson	*Southeast*
Emily Stork	*Grand Calumet*

Lake Michigan Coastal Program

Jenny Orsburn	*Program Manager (replaced Maggie Byrne)*
Sarah Nimetz	*Grant Specialist*
Kathryn Vallis	*Coastal Resource Planner*
Brianna Ciara	*Special Projects Coordinator*
Grace Roman	*Grant Assistant*
Kacey Alexander	*Operations Manager*

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
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

Goshen College
Indiana State University
Purdue University
Wabash College

State Partners

DNR Forestry
DNR Fish & Wildlife
Indiana State Museum and Historic Sites
DNR State Parks
State Board of Health

Land Trust and Non-Profit Partners

ACRES Land Trust, Inc.
Central Indiana Land Trust (CILTI)
Indiana Karst Conservancy
Izaak Walkon 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