

THE Pedestal



2025 Fall Tour

Indiana Association of Professional Soil Classifiers (IAPSC)

Indiana Association of Professional Soil Classifiers

Fall Tour

Friday – September 12th, 2025

Location: O'Bannon Woods State Park
7234 Old Forest Road SW
Corydon, IN 47112

Agenda (Eastern Time Zone)***

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|---------------|---|
| 8:30 – 9:15 | Registration |
| 9:15 – 9:30 | Welcome and Introductions
<i>John Allen – President</i> |
| 9:30 – 10:00 | NRCS Updates:
<i>John Allen- NRCS State Soil Scientist</i>
<i>Scot Haley- NRCS SE Area Conservationist</i> |
| 10:00-10:30 | IDOH Updates & Rule 410 Revisions
<i>Alice Quinn- IDOH</i> |
| 10:30 – 10:45 | BREAK |
| 10:45 – 11:00 | Soils & Soil Survey Update of Harrison County
<i>Steve Neyhouse- Retired NRCS Soil Survey Project Leader</i> |
| 11:00 - 11:40 | Hellbender Restoration, Reintroduction & Water Quality
<i>Eliza Hudson- Farmers Helping Hellbenders RCPP Project Coordinator</i> |

11:40-12:00 Oak Regeneration/Harrison-Crawford State Forest
Ryan Barnes- NRCS SW Area Forester

12:00-1:00 LUNCH

1:00-1:45 Hay Press, Barn & Property History
Hay Press Demo (If times allows)
Dawn Banks, IDNR

1:45 – 2:00 High School Soil Judging Updates
Ron Wamsley

2:00-3:00 IAPSC Business Meeting & Door Prizes!

****Potential Business Meeting Topics:**
Letter of Support for Soils Program at Purdue University
Future Fall Tour Planning Committees
2026 Fall Tour- Joint Meeting with IL in the NW??

3:00 Adjourn – SAFE TRAVELS!

The Indiana Association of Professional Soil Classifiers (IAPSC) is a not-for-profit organization of soil scientists who are interested in the field study and evaluation of soils.

John Allen, President
Tiffani Gibson, Past President
Dena Anderson, Secretary-Treasurer
Sarah Bolinger, Pedestal Editor
Tim Porter, Website Administrator

<https://www.oisc.purdue.edu/irss/iapsc.html>

<https://www.iapsc-in.com/>

Indiana Registry of Soil Scientists

(As written on the IRSS web site.)

The Indiana Registry of Soil Scientists is a program that establishes ethical standards and education, examination, and work experience criteria for Indiana Registered Soil Scientists.

<http://www.oisc.purdue.edu/irss/>

Pedestal

We need your stories and photographs for the Winter 2026 Pedestal! Having them submitted by December 1st 2025 would be much appreciated. Please email them to:

saletsinger@gmail.com

Or mail them to:

Sarah Bolinger
14715 N 100 E
North Manchester, IN 46962

See the Pedestal in color:

Electronic copies of Pedestal will eventually be found at:

<http://www.iapsc-in.com/#!/documents/clpo4>



Membership Email Addresses

If you did not get an email notification of the electronic Pedestal it means we no longer have a valid email address for you. Please submit your current email address to Sarah Bolinger:

saletsinger@gmail.com

Email is the most cost-effective way the IAPSC can keep you informed of any last-minute changes in meeting plans, or time sensitive notifications of importance to the group.

Soil Classifiers:

Alice Quinn of the IDOH sends a monthly email newsletter, the On-site Sewage System (OSS) update. This newsletter features any pertinent information for soil scientists including upcoming dates of importance, local health department staff changes, interesting (sometimes head shaking) stories and more! If you are not on her email list, please contact Alice.

Alice Quinn |
Residential On-site Sewage Systems Manager
Environmental Public Health Division
office: 317-233-7179 • mobile: 317-518-4388 •
fax: 317-233-7047
alquinn@health.in.gov

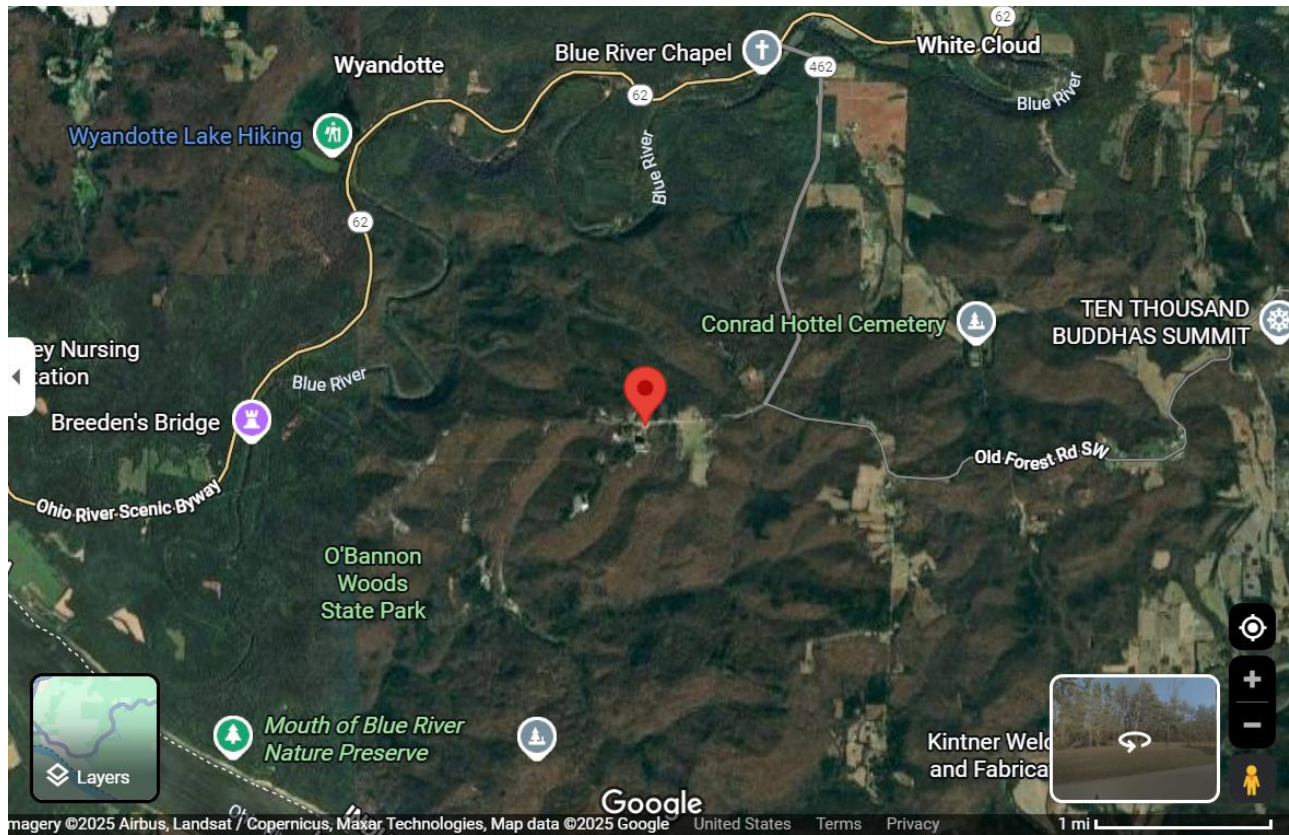
IRSS Soil Pits CEUf

The Fall 2025 Soil Pit Exercise will be held on Thursday September 11, 2025 at 1:00pm
2247 IN-62, Corydon, IN 47112

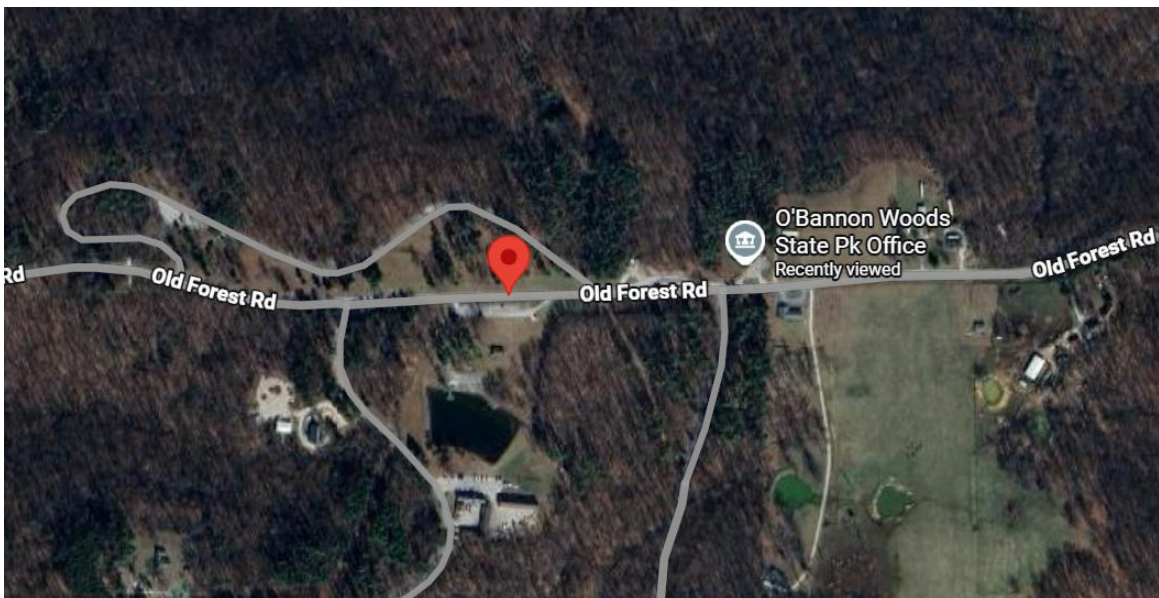
Please RSVP to Lisa Mermoud at
lmermoud@purdue.edu or (765)-494-1548

Meeting Location

O'Bannon Woods State Park
7234 Old Forest Road SW
Corydon, IN 47112



Meeting Site



Karst Features and the Dissolution of Carbonate Rocks in Harrison County

*By Gerald A. Unterreiner Division of Water, Resource Assessment Section
December 2005*

Over a long period of time limestone, and to a lesser extent dolomite, will gradually dissolve in the presence of ground water that was derived from precipitation. Carbon dioxide from the atmosphere and from the soil is incorporated into the precipitation as it changes from atmospheric moisture to ground water. Ground water containing dissolved carbon dioxide forms a mild acid, which can slowly dissolve alkaline materials. The alkaline carbonate bedrock units are affected by this process when the slightly acidic ground water moves through the units and is neutralized by the carbonate. A portion of the carbonate unit is dissolved in this neutralization process thus increasing the size of the fracture in which the water is flowing. As this process continues through time larger openings, solution features, form in the rock allowing for increased ground-water flow.

Many types of solution features can result from this process, some subtle and others quite large. The most common features develop along preexisting fractures, joints, and bedding planes, which represent the initial flow path of the water through the rock. Over time, a variety of larger features can develop leading to cave systems with sinkholes and deep valleys as surface expressions.

The near-surface bedrock aquifers in the Mississippian carbonates contain a highly variable fracture pattern, which greatly affects ground-water flow through the bedrock. Fractured rock represents one of the most complex types of hydrogeologic systems known. While regional ground-water flow can be very predictable, local flow can be highly varied in terms of both quantity and direction. Consequently, determining the local direction of ground-water flow in fractured bedrock at the scale of a specific site may require elaborate instrumentation, monitoring, and dye tracing.

The dissolution of carbonate rocks results in karst topography and other karst features. These include closed depressions on the land surface (e.g., sinkholes and sinking streams), caves, and underground drainage channels or conduits, some of which are several feet in height and width. Karst areas are extremely vulnerable to contamination from point sources (e.g., spills, leaking underground storage tanks, and individual household septic systems) and broad area contamination (e.g., road salts, vehicle emissions, pesticides, and fertilizers). The karst features of subterranean conduits or streams are in many cases connected for great distances. These connected conduits create a potential for widespread contamination downstream of a contaminant source. In places the flow rates can be similar to surface streams, with some contaminants flowing through the system rapidly (especially after a rain or snow-melt event), while in other parts of the system contaminants may be trapped in pools, sediments, or minor fractures for much longer periods of time.

Some of the larger karst features (sinkholes and sinking streams) in Harrison County are shown on the map. These features are based on digital coverages from the Indiana Geological Survey. The overwhelming majority of these depressions are associated with karst development.

The most extensive karst development in Harrison County occurs in the outcrop area of the Blue River Group. The Sanders Group has a few isolated sinkholes, primarily within the dissected uplands of eastern Harrison County. The Blue River Group consists mainly of carbonates and some evaporite deposits. The majority of the sinkholes or depressions are within the Mitchell Plateau physiographic region, primarily in the central portion of the county, extending from north to south through the towns of Palmyra, Corydon, and Laconia. Most of the Mitchell Plateau is underlain by Blue River Group carbonates. Typically, above the solid bedrock lie 20 to 50 feet of broken limestone and reddish-brown clay (terra rosa). However, a thickness up to 90 feet has been reported in a few locations in Harrison County. The areas of thickest clays tend to occur on the Mitchell Plateau. Additionally, water well records on file at the Division of Water indicate many caves or mud-

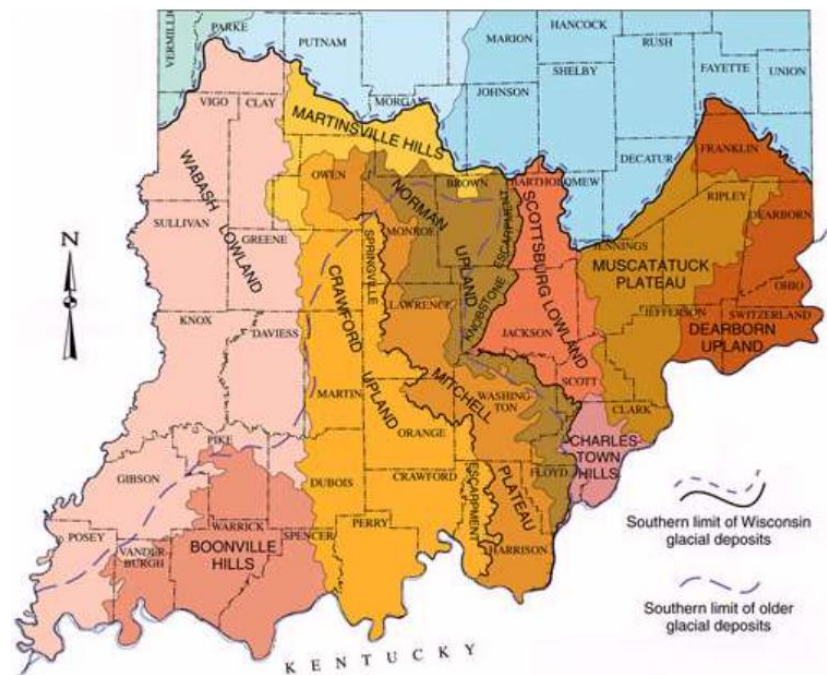
filled cavities in this group. The height of the caves may be as much as 15 feet, but are typically 1 to 5 feet. Most of the water wells showing such cavities are also in the same general area as the surface karst features.

In Harrison County, the West Baden Group occurs only on isolated ridge tops, primarily within the western portion of the county. This group consists primarily of shale and sandstone, but has some limestone units that show limited karst development. The karst features in the West Baden Group are not as extensive or as connected as the features in the Blue River Group. The limestone formations are not as thick and are separated by shale or sandstone strata. Thus, fractures and joints are not as continuous.

The West Baden Group is not as vulnerable to widespread contamination as the Blue River Group. This is because the limestone units are relatively thin, they are separated by shale or sandstone, and the steep topography limits the size of areas contaminated.



Squire Boone Cavern pictured Left



Collegiate Soil Judging News

Purdue University

From the Purdue Agronomy Facebook Page:



“The Purdue Soils Judging Team recently finished the year with a trip to Nationals held in Stevens Point, WI. It was a great contest and the team worked hard through very tough weather conditions. They were also able to enjoy visiting the Farm and Food Museum and Monk's Restaurant while on the trip.

The Team placed 12th Overall
The Team placed 5th in the Group Judging
Emmeline Seest placed 3rd overall as an Individual
Bryce Brown placed 12th overall in the Alternates Contest

Congratulations and best wishes to the graduating seniors from the Soils Team!

*Madilyn Morgan
Emily Harker
Allie McCabe”*



Soil Mapping: Standing on the Shoulders of Giants

Today's agtech stands on decades of soil survey work and detailed manual efforts that paved the way for modern precision tools like SWAT MAPS.

<https://www.farmprogress.com/technology/soil-mapping-standing-on-the-shoulders-of-giants>

Bob Gunzenhauser , Agronomy Scientist, Cromptimistic Technology Inc.

It is a trustworthy statement: We are standing on the shoulders of giants when it comes to Ag Tech. Those who came and went before our current era blazed paths that others turned into roads and others into highways to the point that we take their hard work for granted.

One such example were the efforts to produce United States Soil Surveys at the State level but in coordination with other states as well. Today we have access to relatively detailed soil maps developed, refined and harmonized over many years, that provides soil attributes and locations that are useful for farming, conservation, urban planning, tax assessments, and more. But this came from the labors of many over a long period of time.

An example of the history of these efforts was put together in 1999 to celebrate [100 years of the National Cooperative Soil Survey effort in Nebraska](#). It provides valuable insights into the reasons for the soil survey, how it was performed, and early steps towards digitization.

To create a soil survey at the county level, a soil scientist spent months, if not years in the county, learning about the landscape across farms and ranches. They dug holes and took soil samples to study the soil profile and layers, traveling by Jeeps, trucks or motorcycles. They recorded the characteristics of those soil profiles, looking at texture, acidity, root structure, and more. These observations were then used to classify the observed soils into distinct taxonomic classes that had precisely defined limits. This way their observations could be compared to other mapped soils in other counties and states.

As these observations were made, the soil scientist would start to develop maps with the various soil mapping units shown. They would use aerial imagery with stereoscopic views, making the maps to appear in 3D as the units were drawn by hand. This would be done over thousands of acres for each county. Discussion and agreement would be made between fellow soil scientists to make sure they were mapping distinct soil map units on similar landscapes.



Example of a power probe truck and field hand tools used in the 1950's by Nebraska soil scientists. This unit used by Dean DaMoude, Cuming County, 1957.



L-R: Don Kerl and Dave Lewis collecting soil correlation samples in Dixon County, 1974.

Images courtesy of “National Cooperative Soil Survey Centennial 1899-1999”

Finally, the maps, soil unit descriptions, and narrative would be published into a soil survey report for the county. Local Soil Conservation Service, Natural Resources Conservation Districts, and county extension staff would lead the way towards distributing the soil survey report. This may include an initial release to local VIPs, including realtors, bankers and others who would be using the report extensively, and then later to the public.

In later years, soil maps and the accompanying attributes were digitized into what is called SSURGO, or Soil Survey Geographic Database. This took the efforts made at the local county and scaled them to the state and then to the national level, putting all soil surveys on an equal playing field. The efforts made by these soil scientists and those supporting them allowed the current Ag Tech companies to access this valuable soil information for crop management guidance.

But today, we now have high resolution elevation data in the form of LIDAR (light detection and Ranging) and RTK-GPS (real-time kinematic global positioning system) to capture the elevation and topography. We also have proximal soil sensors, like the SWAT BOX, that can provide indications of variability in soil properties, like texture, salinity, and water availability. Combined, SWAT MAPS provide a highly detailed map of zones within a field that likely have differing effects on crop development, and therefore its management. These zones are at a higher resolution of detail than the SSURGO soil unit maps that came before. This is something that could not have been done with pencil and paper just a few years ago.

Soil surveys were performed over many years, sometimes being revised two or three times for a county. Many hours of labor went into the work. We can only imagine how quickly the mapping and soil classification could have been performed if the technology we have today, like SWAT MAPS, were available at the time.

But we do have to appreciate those who came before us. They developed time-tested classifications and techniques that made their effort scalable and produced useful information. They provided the basis for which we operate today. As the National FFA Creed includes in its first paragraph, “...achievements won by the present and past generations of agriculturalists, even as the better things we now enjoy have come to use from the struggle of former years.”

Rebuilding Indiana's Hellbender Habitat

Farmers Helping Hellbenders project to improve water quality, restore hellbender population

PUBLISHED ON **SEPTEMBER 6, 2024**

<https://www.morningagclips.com/rebuilding-indianas-hellbender-habitat/>



The Farmers Helping Hellbenders project, bolstered by the USDA-Natural Resources Conservation Service's (NRCS) Regional Conservation Partnership Program (RCPP), aims to improve water quality and restore the hellbender population in the Blue River-Sinking watershed. (Courtesy Photo)

WASHINGTON — Nestled within the cool, flowing waters of Indiana's Blue River, the elusive hellbender thrives under big, flat rocks, seeking refuge from predators and finding the perfect conditions to lay their eggs. But in recent years, they have become increasingly difficult to find. Hellbenders used to have a much larger range, occurring in most of southeast Indiana's tributaries to the Ohio River and in the Wabash River. Sadly, its population has

dropped drastically due to modification of stream habitats including the accumulation of sediment, agricultural and industrial pollution, warming waters and the channelization of streams and rivers. Because of their decline, these endangered ancient amphibians, with their large, unique flat bodies, have become the focus of an ambitious conservation effort led by Purdue University.

"The significance of the hellbender and its conservation extends beyond the species itself," Purdue Extension Wildlife Specialist, Nick Burgmeier explains. "Hellbenders are an indicator species; their presence reflects the health of the water quality. Historically common and a top predator in streams, their decline has ecological repercussions, particularly on crayfish populations, which can disrupt food webs."

The Farmers Helping Hellbenders project, bolstered by the USDA-Natural Resources Conservation Service's (NRCS) Regional Conservation Partnership Program (RCPP), aims to improve water quality and restore the hellbender population in the Blue River-Sinking watershed. RCPP is a partner-driven approach to conservation that funds solutions to natural resource challenges on agricultural land. By leveraging collective resources and collaborating on common goals, RCPP projects like Farmers Helping Hellbenders, demonstrates the power of public-private partnerships in delivering results for agriculture and conservation. And unlike broader financial assistance programs, RCPP funds are targeted specifically for partner-driven, locally led conservation, like the work happening in the Blue River-Sinking watershed, ensuring a significant, localized impact.

"I think what's really important about having an RCPP project in this area is that the financial incentives are targeted only for land located in the watershed. So only folks in the Blue River-Sinking watershed are eligible to receive this funding," Farmers Helping Hellbenders Project Coordinator, Eliza Hudson explains. "Because of that focused funding, we can have a really big impact on water quality for hellbenders and wildlife in general."

The overarching goals of the Farmers Helping Hellbenders project are twofold: improving hellbender habitat and enhancing local farming operations.

“We want to obviously improve hellbender habitat, which includes improving water quality and making sure that we’re reducing the amount of sediment, nutrients and pesticides that are getting into the river,” Hudson notes. “Secondly, a big goal is to make sure we’re improving local farming operations by keeping soil and nutrients where they are.”

Farmers play a crucial role in this conservation effort by adopting practices that enhance water quality and habitat conditions. Hudson highlights popular agronomy practices like cover crops, nutrient management, field borders, and filter strips. Livestock practices such as heavy use area protection, water facilities and fencing are also commonly used. Moving forward, the project aims to focus on riparian buffers, which research shows are vital for water quality and hellbender reproduction.

Despite being in the early stages, the project has already seen successes. In 2023, four contracts to implement conservation practices within the watershed were obligated. The environmental impact is notable, with an estimated reduction of sediment loading by over 533,000 pounds per year from just one farm that included about 1,400 acres of cover crops and nutrient management.

But landowners are not the only vital players in this project. Partners are also fundamental to the project’s existence and success. Hudson acknowledges the contributions of 14 partnering organizations, ranging from financial support to unique contributions like raising juvenile hellbenders for release. The Indianapolis Zoo, Fort Wayne Children’s Zoo and Mesker Park Zoo and Botanical Gardens are playing a pivotal role in this effort, raising juveniles whose release into the Blue River-Sinking watershed is critical for population recovery. Additionally, although not official partners of the project, the Ohio Department of Natural Resources and the Kentucky Department of Fish and Wildlife Resources play a crucial role in the broader partnership by providing the eggs these zoos rear for eventual release into Indiana.

Beyond being the project’s lead sponsor, Purdue University’s involvement in hellbender research and conservation is extensive. Their efforts include captive rearing research to improve post-release survival and basic science research on the interactions between hellbenders and other aquatic species. This comprehensive approach, with a focus on releasing animals back into streams, aims to restore hellbender populations to self-sustaining levels.

Since 2017, Purdue University has been releasing juvenile hellbenders back into [Indiana](#) waters. The release of hellbenders into the wild is a meticulous process. Burgmeier describes the use of soft releases, where hellbenders are acclimated to their new environment in cages before being set free. This method significantly improves their chances of staying in the release area and successfully integrating into the ecosystem. Since their initial release in 2017, Purdue University has reintroduced approximately 500 juveniles into the Blue River. This year alone, they plan to release over 300 animals and over the next several years, they will release anywhere between 100 to 300 animals annually.

“The hellbender is a very ancient species. Once it’s gone, we don’t get that opportunity to bring it back,” said Burgmeier. “We consider this species an umbrella species, so everything that’s required to protect hellbenders, protects pretty much all the other things.”

As conservationists like Hudson and Burgmeier continue their dedicated efforts to help farmers improve their operations while improving water quality within the Blue River-Sinking watershed, the future of the hellbender in Indiana looks hopeful. Through targeted financial assistance, collaborative partnerships, and innovative research, the hellbender’s habitat is being restored, ensuring that this ancient species can once again thrive in the waters of the Blue River.

“I love the NRCS mission of being able to help people help the land, and I think being able to do that in such a way where we’re focusing on one specific endangered species, it’s incredibly gratifying, because we’re seeing the work that we’re doing make a difference in real-time,” reflected Hudson.

In November 2023, NRCS announced more than \$1 billion for 81 RCPP projects across the country.

— *USDA Natural Resources Conservation Service*

ELIZA HUDSON



Forestry and Natural Resources

RCPP Project Administrator

Phone: 502-930-7802
1855 Gardner Lane NW
Address: Corydon IN, 47112
Email: enudson@purdue.edu

Why Extension?

Tell us about your background?

Eliza is a former Natural Resource Conservation Service (NRCS) Soil Conservationist, and she worked in northern Illinois prior to returning to the southern Indiana area. She is now the Regional Conservation Partnership Program (RCPP) Project Coordinator serving as a liaison between Purdue University and NRCS. We are working together along with several partners across the state to reduce the amount of sediment and agricultural runoff entering the Blue River watershed in order to improve Hellbender habitat. My work in this project involves keeping track of funds provided by partners, using funds to create conservation plans for farmers and landowners in the watershed, and promoting the project through outreach and community events.

2025 FALL TOUR REGISTRATION FORM

For Friday September – 12th

Registration fee includes lunch
Help us keep costs low by registering early.

Send in your check today!
*Registration Fee \$35.00 postmarked before September 5th,
2025.*

**If possible, register Or at LEAST RSVP before September
5th**

**Make checks to I.A.P.S.C. Inc. Clip
and mail to:**

Dena Anderson
IAPSC Secretary/Treasurer 6939
S. Majors Rd.
Hanover, IN 47243

Questions, Call or Text Dena at 812-525-6433, or 812-591-3770

Name(s):

Members, please update the following, IF needed:

Name:

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<https://www.eventbrite.com/e/2025-iapsc-fall-tour-tickets-1607232177709?aff=oddtcreator>