Final Report - SWCD River Corridor Project

Dr. Christie Shee and Robert Suseland

NRES 497

Purdue University

May 4th, 2025

By: Alexus Arvin, Tucker Ensmenger, Cormac Hall, Naomi Michael, and Sabrina Parks

I. Introduction

As senior students in Environmental Science, our team worked with Robert Suseland from the Tippecanoe County Soil & Water Conservation District. The SWCD currently is having trouble getting landowners around the Wabash River Corridor to take part in the conservation easement program and enlisted our help in developing improved communication with them. Our project focused on a present conservation issue concerning conservation easements and connecting with the landowners along the Wabash River.

II. Background/literature review

We initially researched the impact that local agricultural practices have on water quality. After more review with our contact, Robert, we pivoted our research to highlight specific information on agricultural land easement programs. From this information, we reached out to Dr. Prokopy to gather an expert's opinion on what would better resonate with landowners to increase easement program participation. She highlighted that the primary concerns for landowners are their property rights, monetary compensation, and leaving a legacy. She also referred us to the Natural Resource Social Science Lab, where we gathered information on pamphlets that were created in the past and a national survey that analyzed landowners' satisfaction with land easement programs. Our research allowed us to provide essential information in our deliverables as to the utility and benefits of easements that would resonate with our target audience, the landowners themselves.

Literature Review Introduction

The National Conservation Easement Database defines a conservation easement as a voluntary, legal agreement that permanently limits uses of the land to protect its conservation values and is one option to protect property for future generations. Conservation easements are mutually beneficial agreements that can result in overall environmental and economic wealth when implemented correctly. Landowners often seek easements in moments of decline in land quality and receive assistance with personal goals, reducing friction among heirs and ensuring a home life for future generations (Merendlender et al., 2004). When programs like these are implemented, landowners have the opportunity to keep ownership of their land while also protecting it from development and receiving financial incentives at the same time. Currently, in Tippecanoe County, there is a perceived lack of conservation easement program adoption. This literature review examines the different factors that go into a landowner’s decision to adopt conservation easements.

Section 1: Benefits of Wetlands

Wetlands and waterways along river systems such as the Wabash River in Tippecanoe County have significant benefits; they provide habitats and can even sequester carbon (Dajud, 2022). The Wabash River has faced a significant number of threats, such as habitat loss, native fish extinction, mussel species loss, and nutrient pollution. Farm operations and agriculture, while important, do contribute to the nutrient and pollutant runoff within a waterway, while also being the largest source of wetland loss (Dajud, 2022). An article in the Nature Conservancy also describes in detail the ecosystem functions of wetlands to reduce pollutant concentration within connected waterways. Participating in the easement program would reduce the pollution associated with agriculture coming from an individual's farmland (Armitage & Rankin, 2009). This would, in turn, contribute to the conservation of the water quality and the different

mussel and fish species that have been impacted and fled the river. In the "Journal of Ecology and Evolution," Lewis et al. (2020) explain that in their study, which evaluates 24 wetlands in an agricultural conservation easement plan in Virginia, their results show the wetlands provide early successional and forested wetland cover. The benefits of wetlands are further explained in "The Journal of the Society of Wetland Scientists". King et al. (2021) discuss the importance of wetlands and the competition between wetlands and agriculture. Specifically, the excessive use of water by agriculture can alter the volume and timing of surface and groundwater inputs. This can negatively impact wetlands by decreasing their size.

Section 2: Benefits of an Easement Program

Through surveys and interviews, researchers are able to complete a critical analysis of environmental easement programs. The article "To Ease or Not to Ease: Interest in Conservation Easements Among Landowners in Brown County, Indiana" surveyed and analyzed conservation easements in rural areas in Brown County. The researchers examined the different societal aspects one must consider if an easement would be beneficial. This included evaluating the land quality, political, and personal benefits/costs. There were 1,000 surveys sent out. They found that while the tax cut was not as favorable, the easement provided a strong connection with the community, making it the greatest benefit (Farmer et al., 2016). Farmer also discussed his findings stating, "Owner residency research on U.S. farmland, forestland, and rangeland suggests that (1) absentee landowners are more likely to own land for amenity benefits (e.g., recreation, solitude, etc.) and (2) individuals with mixed-use parcels are more likely to participate in voluntary conservation programs than those with single-use parcels not containing a residence." This shows that many outside factors affect the success of easements. The article "Conservation Easements as Tools to Achieve Regulatory Environmental Goals, Law, and Contemporary Problems" by Dr. Wayburn provides background into the potential use cases for easement programs in conservation and insight into how they can be successfully implemented. It focuses primarily on forest conservation and dives into the history of previously implemented conservation methods and regulations. Additionally, through several case studies, it investigates the success rates of these methods across multiple sets of factors and metrics. It then brings in California's use of Working Force Conservation Easement programs in another case study and analyzes this success compared to other methods, saying that "WFCEs provide a complementary tool to regulatory responses to prevent or diminish harm to forest wildlife, habitat, and global climate" (Wayburn, 2011, pp. 197). These articles discuss data collection for easement satisfaction, and both believe surveys are one of the most efficient and easy-to-access forms of data collection. Proposing potential criticisms of easements, the article "Conserving what? Conservation easements and environmental justice in the coastal US South" by L. Van Sant highlights economic and racial discrepancies in the implementation of easement programs in Georgia and South Carolina, and criticizes the potential for easements to provide significant benefit to high-income private landowners and potentially very little benefits towards lower-income residents surrounding the land being considered for easements. It acknowledges the benefits easements can have but presents a more complex way of thinking about the programs in general (Van Sant, 2021).

Section 3: Public Perception of an Easement Program

It is critical to understand the reasoning that goes into landowners' decisions to participate or not participate in an easement program. A survey by Farmer et al (2015) examined landowners who own a variety of land cover types (fields and forests) about their motivations for having a conservation easement. The survey inquired about their level of agreement with aspects such as place attachment, environment, witnessing land development, societal, open-space protection, family heritage and legacy, and financial incentives. It also considered two important factors, receiving monetary vs non-monetary benefits and landowners looking to be permanent vs absentee owners, finding that absentee landowners not living on the property were much less likely to be affected by financial incentives (Farmer et al., 2015). Bastian et al. (2017) in the Landscape and Urban Planning journal evaluated preferences for

conservation easements such as financial compensation, public access, management control, and more for both landowners and land trusts. Overall, this study concluded that concerns related to managerial control, public access, lack of trust, and financial compensation are the most important issues for landowners (Bastian et al., 2017). Caitlin Cooper (2023) further investigated landowners' perceptions of easement programs and attempted to identify landowners' current and preferred methods of learning about easement options. She found that protecting scenic value is very important to landowners for adopting easements and that landowners identified loss of privacy as a highly disincentivizing factor, given that a common misconception is that land with an easement becomes public land (Cooper, 2023). A person's attitude towards an easement could also come from the people representing the easement. The article "*Perpetual conservation easements and landowners: Evaluating easement knowledge, satisfaction, and partner organization relationships*" in the Journal of Environmental Management looks at results from a mail survey asking landowners who own property with easements their opinions on the program (Stroman, 2014). What was found was that landowners who had more contact with the easement holder had much higher satisfaction with the easement program. It was also found that easement holders should have a satisfactory number of staff members available to help the landowner transform their easement, and that federal easement programs were less favorable to landowners.

In addition, there has been recent movement in the Indiana House of Representatives in support of additional funding to the state easement program (Berenda, 2025). As more local representatives demonstrate bipartisan support of a stronger easement program, local landowners may see an opportunity to reach out and learn more about the program. A study from the Biological Conservation Journal evaluates landowners' perceptions of conservation easements but also investigates what motivates landowners to conserve or otherwise choose easement programs. The impacts of conservation easements on landowners' livelihoods and well-being are also assessed. They found that the idea of protecting ecosystems along with financial incentives encourages landowners to conserve (Horton et al., 2017). Also highlighted was the idea of community building and networking that came as a result of participation in easements, with landowners finding that the communal enjoyment of beautiful land, collaboration with neighbors involved in similar programs, as well as simply finding more information about easements from people they know were all benefits of the easement programs (Horton et al., 2017).

Section 4: Tippecanoe County Easements

It is important to look at location-specific information to gain a better understanding of easements in Tippecanoe County. The survey conducted by the Living Laboratories at Purdue highlights the personal connection that residents of Tippecanoe County feel towards the Wabash River. Understanding the personal sentiments of residents can contribute to an easement program that targets specific interests and better outlines the benefits that landowners are interested in. Importantly, residents value the historical name of the Wabash River and the enhancement of the waterway; however, a significant portion disagrees that the community is doing enough to preserve and enhance it. Understanding this personal connection can increase participation in the easement program, which in turn would reduce the environmental impact of farm water pollutants in the Wabash River (Prokopy, 2006). Additionally, Dr. Prokopy has outlined that landowners primarily value the monetary, legacy, and private property aspects of an easement program (personal conversation, 2025). Individual landowners want to ensure that their land continues to be retained as private property, which is a common misconception with easement programs. Similarly, the article "Perpetual conservation easements and landowners: Evaluating easement knowledge, satisfaction and partner organization relationships" by Stroman et al., describes a survey that went out to landowners with conservation easements in Texas. Stroman found that landowners had viewed their easement more positively when they had higher amounts of contact with their easement-holding institution (2014). Successfully highlighting these main topics within pamphlets and education materially can increase the participation rate of easement programs, which would decrease the amount of runoff pollutants within the Wabash River originating from agricultural land.

Conclusion

The perception of easement programs among landowners is essential to consider when deciding how best to increase participation in Tippecanoe County. Expansion of participation within the easement programs will promote the enhancement of the Wabash River through reduced agricultural land use and, in turn, reduced agricultural pollutants. Tippecanoe County residents view the Wabash River as an essential part of their local identity, and a significant portion have disagreed that the community has taken proper steps to conserve and enhance it. Greater engagement within an easement program will expand the steps the community is taking to protect the Wabash River's heritage and quality.

III. Goals and Objectives

Our primary goal was to assist the Tippecanoe County Soil and Water Conservation District in increasing the engagement with their land easement program and provide greater clarity on key locations to target for their easement program. We aimed to revitalize the existing agricultural land easement program material that was being used by the Tippecanoe County Soil and Water Conservation District. The original USDA informational sheet provided too much information and may have contributed to the reduced engagement in recent years. Therefore, as a group, we concluded that creating a pamphlet and postcard that only highlighted 3 key topics would better resonate with landowners and increase engagement. We also wanted to provide the SWCD with an ArcGIS file that displayed the existing easement programs within a 1-mile buffer of local waterways. This would be used as an internal tool to determine key areas that may not be a part of an easement but should be a primary focus for future participation.

IV. Deliverable Description

1. Pamphlet

   This was a standard tri fold pamphlet designed in Canva. It contains six sections: title, contact, and about on the outside of the pamphlet, and ownership, compensation, and legacy on the inside. It was recommended by Dr. Prokopy that deliverables being sent to landowners emphasize 3-5 main points, as this is more likely to catch landowners' interest.

2. Post Card

   This postcard was created in Canva using a standard postcard layout. It has a backing with lines for a mailing address and a mission statement of the Soil Water Conservation District. The front of the postcard does not display an image, as with traditional postcards, instead, it displays information. The information displayed is the same as the pamphlet; it shows the three main points of easement information for the landowner. Ownership, compensation, and legacy are displayed in three separate rectangular sections to create a clear view of the information. This makes it easy for landowners to see information without having to open any materials.

3. GIS

   The GIS map was created for the Soil Water Conservation District's internal use. The map shows Tippecanoe County. Within Tippecanoe County, it shows a buffer of 0.5 miles around rivers and streams, DNR property with a 1-mile buffer, and NRCS easement buffers with a 1-mile buffer. The purpose of this is for the SWCD to see where existing easements are and where new easements would be most valuable.

V. Metadata/Technical details

	Software	Printing and Product Editing Information	Contact Information	Valuable Connections from Product
Pamphlet	Canva Pro, access was given to Robert Suseland on Thursday, May 1st, 2025, and all materials were downloaded successfully.	Printing the pamphlets can occur through Canva or other preferred websites.. All drafts were printed on regular printer paper after being downloaded as PDFs and under the CMYK color profile in Canva. If printing through Canva, refer to the Trifolds design shared with Robert on 05/01/2025, which has been adjusted to fit Canva's professional printing sizes. All edits can be made easily through Canva.	We don't expect any issues as everything has already been downloaded onto the servers at the SWCD office, but the owner of the project on Canva Pro is student Alexus Arvin. She can be reached via email at arvin.alexus@gmail.com or 812-830-2274 if there are any issues with the file.	For both the pamphlet and postcard materials, we made valuable connections with Dr. Linda Prokopy, Laura Esman, and Casey Olechnowicz of the Natural Resources Social Science lab. Laura and Casey were the staff members who provided us with all the surveys we used to make our deliverables and the example pamphlets. If any more information is ever needed, they are now familiar with the project and could be reached out to.
Postcard	Canva Pro, access was given to Robert Suseland on Thursday, May 1st, 2025, and all materials were downloaded successfully.	Printing for the postcard can also occur through Canva, or any other preferred provider. As stated above, printing may require a bit of shifting around or elongating text boxes/backgrounds, depending on the selected size of the postcard.	The owner of the project on Canva Pro is student Alexus Arvin. She can be reached via email at arvin.alexus@gmail.com or 812-830-2274 if there are any issues with the file.	Refer to the connections provided for the pamphlet

GIS Project	ArcGIS Pro (most recent version as of 04/28/2025), a hard drive containing all layers, associated files, and the final project was given to Robert Suseland on Tuesday, April 29th, 2025. As of 05/01/2025, the project was successfully downloaded onto their office servers.	All edits can occur through ArcGIS Pro, and all needed layers are within the shared hard drive. As the easement layer is updated over the years, staff in the office can upload the layer into GIS and apply the same 1-mile buffer applied to the current layer.	The SWCD Office has ownership of the hard drive and the project files.	N/A

VI. Conclusions/future work

The GIS component of our deliverables is fully usable. The Soil Water Conservation District has full access to this map, and it can be edited anytime an easement is added or removed. The pamphlet and postcard need a few minor modifications to be fully usable. There is space left on the bottom of the pamphlet where company logos can be added. Dr. Prokopy explained in our meeting that deliverables sent to landowners will be more effective, so several more logos will need to be added to the bottom of the pamphlet. The pamphlet and postcard will also need to be professionally printed onto postcard/pamphlet paper before being mailed to landowners.

A caveat is it is difficult to get logos added to the pamphlet. Robert Suseland at the SWCD explained that he or another SWCD employee would need to reach out to other organizations to get approval to put their logo on the pamphlet, and this approval could take months.

A concern of this project was that it would not be able to be mailed out to landowners because of issues with the Purdue name being involved in a government item being sent out to landowners. However, this concern was addressed, and the pamphlet and postcard could be mailed to landowners as long as the Purdue name is not attached.

VII. Appendices

Electronic copies of all materials created.

(Our completed GIS project is on the hard drive that has already been given to them and downloaded successfully, confirmed via email from Robert with Dr. Shee CC'd on 05/01/2025. No copy of it was made to any group member's personal device before transferring to the SWCD.

Deliverable 1: Pamphlet

Editable Canva Pamphlet Project

About Us

The Soil and Water Conservation District (SWCD) is recognized by the community as Tippecanoe County's foremost conservation organization providing leadership and assistance through promotion of natural resource stewardship and responsible planning.

The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) mission is to deliver conservation solutions so agricultural producers can protect natural resources and feed a growing world. The agencies vision is a world of clean and abundant water, healthy soils, resilient landscapes and thriving agricultural communities through voluntary conservation.

Tippecanoe County Soil & Water Conservation District

USDA is an equal opportunity provider, employer, and lender.

Start the conversation today

Contact Us

765-474-9992, ext. 3
soil.water@tippecanoe.in.gov
tippecanoecountyswcd.org
1812 Troxel Dr, Suite C

Up To $10K Cash Per Acre

Agricultural Conservation Easement Program

Leave A Legacy On Your Land

Ownership

Keep ownership rights

When you decide to participate in the Agricultural Conservation Easement Program, your land will be protected as private property. While there are limits to development, we can work with you to make sure your land is still enjoyable for you and your family.

Compensation

Up to $10K per acre

With the opportunity to earn up to $10,000 per acre of your land, we offer competitive payments to participate in the easement program. Give us a call or stop by to find out how much your land could be worth!

Legacy

Preserve your land for decades to come

Thinking about legacy planning or how to conserve your land for the future? Your participation in this federal program ensures that your land will be protected and maintained for years to come, and that it won't be used for commercial development. Not only could this benefit you, but also the surrounding wildlife.

Deliverable 2: Postcard

Editable Canva Postcard Project