

Senate Enrolled Act 389

Wetlands Task Force Report

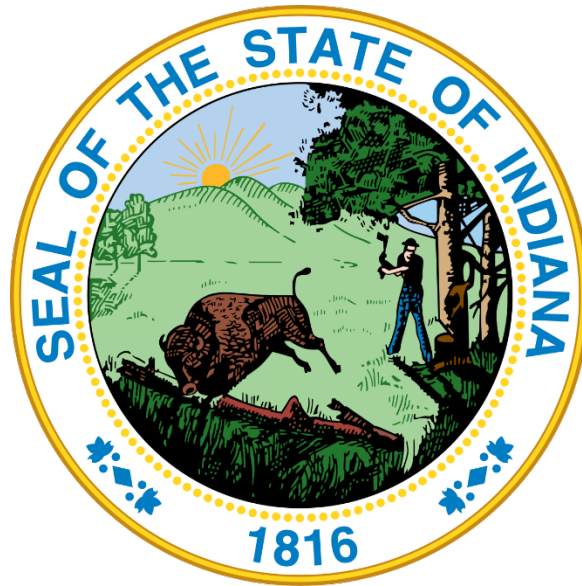


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Executive Summary

The Indiana Wetlands Task Force met a total of five times in 2022 with broad participation by the task force members as well as strong public participation. Each meeting was held live at Fort Benjamin Harrison State Park and was available for observation via Zoom. The Indiana Department of Environmental Management (IDEM) provided technical support for each meeting. The report details each of these meetings, the presenters invited, and the findings and recommendations in each of the areas the task force was charged with. All presentations as well as meeting minutes are available upon request as noted in the Appendix.

The commitment and participation by the task force was strong with excellent attendance and participation in the meetings. The one exception to this was Jeff Thomas of Oakmont Development who was the representative from the homebuilding industry who did not attend a meeting or provide any input. This left our task force without a critical industry voice from a special interest group who was one of the driving forces behind the legislation that created the wetlands task force. We were able to get an indirect perspective from public comments from the Indiana Builders Association and consultants on our task force, along with presenters at the meetings.

The charges handed down via Senate Enrolled Act 389 are addressed in the Legislative Directives. Task force members opted to prioritize four areas that are a blend of these directives and reflect the most critical charges identified via members. The priority areas as voted on and established by the task force members are as follows:

- (1) Review existing state isolated permitting processes including wetland classifications and mitigation ratios and recommend improvements, efficiencies, and alignment with the United States Army Corps of Engineers.
- (2) Strategies to incentivize the avoidance of isolated wetland impacts during development.
- (3) Strategies to incentivize the preservation of existing isolated wetlands and the voluntary restoration and creation of wetlands to offset historical losses and replace functions and values.
- (4) Review the current Indiana Stream and Wetland Mitigation Program (In Lieu Fee) compensatory mitigation program and make recommendations on how to reduce the costs and improve the effectiveness of the program.

In summarizing highlights from our meetings, report, and recommendations we offer the following as some of the most significant issues, opportunities, and findings from our work:

- Flooding frequency and costs are increasing due to the historical and cumulative loss of Indiana wetlands including isolated wetlands.
- The cumulative loss of wetlands along with the increase in annual precipitation and changes to our weather and rainfall patterns with climate change are a critical issue that requires more than a regulatory program approach. We need to stop the loss of existing wetlands while restoring or replacing wetlands on the landscape through both regulatory and non-regulatory approaches and incentives. Pro-active interventions upstream in watersheds are more effective than mitigation alone.
- Public support for protection of wetlands is strong as evidenced by the Audubon public poll in the appendix.
- The In Lieu Fee mitigation program is popular with the regulated public, saves time for developers, and allows for larger pooled mitigation areas but is under-resourced and behind in fulfilling mitigation obligations. The Indiana DNR (IDNR) currently has sold over \$60,000,000 in mitigation credits to date and spent and/or obligated over \$8,000,000 on consultant contracts to assist the IDNR's program staff with finding potential sites, planning, designing, and permitting projects through the project review and approval process. Currently, IDNR has one project that is ready to begin construction, and a second project in design. The IDNR program is required to initiate construction within three years of a credit sale, which is a challenge. In the meantime, wetlands and streams are being filled without a timely replacement of the functions and values to the watershed as are required.
- Streamlining regulatory processes and paperwork are important to improve efficiencies. However, caution should be used in development of these processes to avoid eliminating critical elements required for regulatory reviews, such as analysis of inherent complexity of hydrology that varies from site to site.
- The U.S. Army Corps of Engineers (USACE) regulations are not within the state's control and these regulations change frequently with political winds so our ability to align with them is not practical nor cost

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effective. Indiana needs to focus our efforts on state program improvements and efficiencies and address our needs at the state level.

- The practical implications of SEA 389 were subsequently impacted by changes to federal regulation, limiting the impact of the bill on the loss of isolated wetlands from a mitigation ratios and exemptions standpoint. The exception to this is with the larger exemptions for low quality isolated wetlands of smaller acreage in active agricultural landscapes. This has reduced mitigation and increased the loss of these wetlands which although of lower ecological value, still contribute to water storage capacity on the landscape. This change has provided short-term economic benefit to farmers and developers at the cost of long-term flooding issues.
- State agencies are significantly understaffed and resourced and have a compensation and turnover problem. Without corrective actions in this area all aspects of the regulatory programs are negatively impacted including quality, costs, and timing. Last year, Governor Holcomb announced a series of new workforce policies designed to enhance the experience of state employees and address the unique hiring challenges facing state agencies. The goal of this multi-phase effort is to ensure that state employees feel valued and that their contributions are appreciated. The state is undertaking an evaluation of its nearly nine hundred job classifications to ensure that state employment remains competitive in this rapidly changing job market. The results of this study are expected to be released in the fall. Additionally, it is important the state invests in technology to streamline and enhance current programs.

In summary, despite the diversity of views and perspectives on the task force there is a consensus that isolated wetlands do need prioritization at the state level. The functions and values that wetlands provide are clear and significant, and Indiana is at a point where the cumulative loss of wetlands is having a measurable negative impact on residents, particularly from a water quality and flooding standpoint. Members heard professional and public testimony on the real-life impacts of increased frequency and levels of flooding and the loss of agricultural income, damage to infrastructure, and significant economic hardship. The data and scientific evidence presented was compelling and concerning. The issue of flooding alone is of significant concern to builders, local governments, farmers, and all residents in the State. Although there will always be disagreement on the approaches to addressing the issues, regulatory approaches alone will not produce results at a scale needed for the future. Our representatives need to truly understand the issues and be willing to listen and learn about how regulatory programs can be improved while also looking for innovative and proactive approaches to the issue of wetlands and invest resources in education, competitive salaries for wetland professionals, voluntary incentives, and creative opportunities to restore and protect more wetlands on our landscape.

SEA 389 (2021) Legislative Directives

No later than November 1, 2022, the task force shall issue a report setting forth the recommendations required or authorized by section 4 and submit the report to the legislative services agency, the Governor, and the Commissioner of the Department of Environmental Management.

Section 4 (A) The task force shall research and develop recommendations on the following:

- (1) Strategies to mitigate the costs incurred by builders to comply with the state regulation of wetland activity under IC 13-18-22 while maintain the integrity of those environmental safeguards
- (2) The flood reduction benefits of isolated wetlands, including the use of isolated wetlands to aid in quantifying flood risk mitigation
- (3) The role of isolated wetlands in storing carbon dioxide and how to strengthen the carbon markets in Indiana
- (4) Strategies to incentivize the avoidance of isolated wetland impact during development
- (5) Strategies to incentivize the preservation of existing isolated wetlands
- (6) Improvements to the isolated wetlands permitting process under IC 13-18-22

(B) The task force shall also do the following: Review existing state isolated wetland classifications and recommend new isolated wetland classifications and nomenclature that are in alignment with those used by the United States Army Corps of Engineers.

- (1) Review the current mitigation ratios set forth in IC 13-18-22-6 and provide recommendations to:
 - a. Improve the methodology used in applying those mitigation ratios; and
 - b. Possibly better align those mitigation ratios with the mitigation ratio determination methods used by the United States Army Corps of Engineers
 - c. Review the current “In Lieu Fee” compensatory mitigation program and make recommendations on how to reduce the costs and improve the transparency of that program
 - d. Study and make recommendations concerning any other wetland related issues that the task force determines should be addressed by the general assembly

Task Force Membership

Will Ditzler, Chair

Zach Beasley, Tippecanoe County Surveyor

Jill Hoffmann, White River Alliance

Jared Kakasuleff, Indiana Farm Bureau

Jeremy Kieffner, Lochmueller Group

Dr. Sara McMillan, Purdue University

Matt Meersman, St. Joseph River Basin Commission

Michael Novotney, Porter County Engineer

Brian Rockensuess, Indiana Department of Environmental Management

Kyle Rorah, Ducks Unlimited

Joe Schmees, Indiana Association of Soil & Water Conservation Districts

Mayor Richard Strick, City of Huntington

Jeff Thomas, Oakmont Development

Sam Whiteleather, Indiana Department of Natural Resources

Summary of Task Force Meetings and Presenters

Presentations are available upon request. Please contact Caitlin Smith (caismith1@dnr.in.gov) at the IN Department of Natural Resources if you would like to access or receive a copy of a presentation.

February 15, 2022 – Meeting #1

The task force held its first meeting on Tuesday, February 15th at Fort Harrison State Park. Members met from 10:00 a.m. - 3:00 p.m. and discussed the following:

- Introductions and review task force's mission
- Federal Update and Indiana SEA 389 Legislative Changes – Marth Clark Mettler, IDEM
- Practical application of SEA 389 – Jeff Spicer, wetland consultant presentation with comments from Farm Bureau and IDEM
- Indiana Stream and Wetland Mitigation Program (In Lieu Fee) – Carl Wodrich, IDNR
- Waters of the United States (WOTUS) Update – Brian Wolff, IDEM

March 23, 2022 – Meeting #2

The task force held its second meeting on Wednesday, March 23rd at Fort Harrison State Park. Members met from 10:00 a.m.-3:00 p.m. and discussed the following:

- Energy Sector view of SB 389 – Steve Barker, NIPSCO
- Transportation Sector view of SB 389 – Sandy Bowman, INDOT
- Flood Reduction Benefits of Isolated Wetlands – Robert Barr, IUPUI and Dr. Heather Golden, USEPA
- Iowa flood center and watershed approach – Martha Clark Mettler, IDEM
- The Role of Isolated Wetlands in Storing Carbon – Dr. Jacob Hosen, Purdue University

May 11, 2022 – Meeting #3

The task force held its third meeting on Wednesday, May 11th at Fort Harrison State Park. Members met from 10:00 a.m. - 3:00 p.m. and discussed the following:

- Review and approve task force priority rankings
- Legal Drains and Stream Mitigation Challenges and Opportunities–Jarrod Hahn, County Surveyors Assoc.
- In Lieu Fee program update – Carl Wodrich, IDEM
- Voluntary Restoration and Constructions of Isolated Wetlands – Scott Fetters, USFWS

August 3, 2022 – Meeting #4

The task force held its fourth meeting on Wednesday, August 3rd at Fort Harrison State Park. Members met from 10:00 a.m.-3:00 p.m. and discussed the following:

- Review established task force priority areas and discussed drafting the report
- Joint presentation from IDEM and USACE – Sarah Keller, USACE and Heather Parsons, IDEM
- Practical Recommendations and Options for Wetland's Task Force – Jeremy Kieffner, Lochmueller Group

September 14, 2022 – Meeting #5

The task force held its fifth and final meeting on Wednesday, September 14th at Fort Harrison State Park with all members present except Jeff Thomas. The task force heard public comments from Jeff Cummins from Indiana Farm Bureau complimenting the task force on addressing voluntary incentives and housing density, from Indra Frank from Hoosier Environmental Council who complimented the task force and reinforced Bob Barr's urgent message on flooding, and John Ketzenberger from The Nature Conservancy who complimented the task force and reinforced the need for clean and adequate water in Indiana. The rest of the meeting was spent reviewing and editing the report, unanimously voting on its approval.

Findings and Recommendations

The Wetlands Task Force has the following recommendations organized per the Legislative Directives in Senate Enrolled Act 389. The key findings and recommendations for each directive are pulled from the text for each section.

Legislative Directive #1: Strategies to mitigate the costs incurred by builders to comply with the state regulation of wetland activity under IC 13-18-22 while maintain the integrity of those environmental safeguards.

Key findings and recommendations:

- It is important to consider and recognize the magnitude of the value of the various ecosystem services that existing wetlands provide and the cumulative loss of wetlands in the state.
- State and local communities should incentivize preservation and avoidance of existing wetlands by allowing developers to receive improved density of homes per acre and tax incentives to avoid and enhance wetlands within developments. Such incentives could be funded at the state-level and administered in coordination with local communities.
- One of the most effective ways to reduce the costs incurred by developers and builders while complying with the state's wetland protection regulations is to avoid and/or minimize those impacts to isolated wetlands that will require mitigation.
- State agencies need to develop well-organized and easy to understand guidance documents.
- It is imperative that IDEM and IDNR state regulated wetlands program be provided with adequate staffing and resources to support the efficiency and quality of the state's regulated wetland law.

This directive focuses on both the cost of regulations and the integrity of the environmental resources. In starting with the value of wetlands, they provide many functions and ecosystem services, yet the economic value of such functions and services is seldom appreciated by society at large. While the task force was charged with providing recommendations on strategies to mitigate the costs incurred by developers and builders while complying with the state's wetland protection regulations, we also believe that it is important to provide information about the economic value of wetlands and the costs incurred by society if such wetlands were not protected by existing state and federal regulations. As outlined below, replacing the functions and services provided by lost or degraded wetlands can be quite costly to society, if such services can be replaced at all. In general, we found that the biggest cost to developers is often lost time. The actual cost of the mitigation itself is ultimately paid for by the homebuyer as those costs are built into the total cost of the development. The question is whether there is a cost benefit to the residents of Indiana for those additional costs. Although there are diverse perspectives on this question and considerable debate, the task force presentations made a compelling case that the costs to society are significant and growing and that we have already crossed a tipping point in terms of the economic costs of flooding that will only get worse without significant investment in putting more wetlands back in our watersheds.

As the task force heard from various presenters, the precise functions and services provided by wetlands depend on their scale, setting, and other characteristics. For example, wetlands located in urban and developing areas can protect water quality by removing pollutants, minimize flood damage by storing floodwaters, and minimize erosion by slowing storm water runoff. Wetlands located in rural and agricultural areas can work to protect water quality by processing excess nutrients and pesticides, recharge shallow groundwater, reduce flooding and prevent loss of valuable topsoil. Wetlands can also provide other valuable ecosystem services including habitat for wildlife, plant species, and a variety of recreational and aesthetic benefits.

Cost associated with lost or degraded wetland services are significant and occurs as wetlands themselves are lost or degraded because of land development and agricultural process. For example, the loss of the flood storage and water quality treatment services once provided by wetlands will result in the need for increased storm water management, including conveyance, treatment, and storage improvements. Without such improvements, property owners may face increased flood risk, increased flood insurance premiums, and reduced recreational opportunities on local lakes, rivers, and streams due to water quality degradation.

Richardson (1995) found that when less than 10% of the land surface is covered by wetlands, increased storm water runoff rates and volumes will occur, resulting in the need for increased storm water management. Increased storm water management comes at an increased cost to society as part of an effort to replace those storm water management functions provided by wetlands lost. Similarly, Mitsch and Gosselink (2000) estimated that a minimum of 3% to 7% wetland cover is necessary to maintain adequate flood control, while perhaps a minimum of 15% wetland cover is needed to maintain adequate water quality treatment. Again, the loss of flood control and water quality treatment comes at an increased cost to society as part of an effort to replace those storm water management functions provided by wetlands lost.

Admittedly, preventing the loss or degradation of wetlands and the various functions and services they provide can be tenuous, particularly when the financial gains for communities resulting from the land development process and the financial impact for developers and builders to comply with wetland protection regulations seemingly greatly outweigh, at any given moment, particularly at the moments that land development decisions are being made, the non-market value of the various functions and services provided by such wetlands. The task force does believe it important to consider and recognize the magnitude of the value of the various ecosystem services that existing wetlands provide and the cumulative loss of wetlands in state.

As the task force heard from Robert Barr, research scientist for the Center of Earth and Environmental Sciences at Indiana University Purdue University Indianapolis, since the 1780's, Indiana is estimated to have lost approximately 85% of the state's original wetlands and all the functions and services they provided. The federal government bears a significant responsibility for protecting the state's remaining wetlands, primarily through the Section 404 Program, which originated in 1972, when Congress substantially amended the Federal Water Pollution Control Act. However, as detailed elsewhere in this report, isolated wetlands are generally not regulated under the Section 404 Program. Following the creation of the Section 404 Program, states became more active in protecting these isolated wetlands to preserve the valuable benefits they provide to society. In 2004, the state of Indiana joined these states in effort to protect more existing wetlands and the functions and services they provide, by enacting the state's regulated wetland law.

Traditional environmental regulations, like the state's regulated wetland law and the Section 404 Program are often used to address an identified environmental issue or problem, in this case, the continued loss of wetlands and the ecosystem services they provide. The challenge for government is to ensure that the regulations it uses to achieve the protection of the environment for the good of the many are both effective and efficient. Effective meaning that they continue to address the issue that they were and are intended to address and efficient meaning that they minimize both the compliance costs borne by those subject to the regulations and other, often indirect costs imposed on the public, both current and future generations. As shown above, the indirect costs imposed on the public by the loss of wetlands and the functions and services they provide are significant. The recommendations provided below are intended to assist the reader in working to continue to ensure that the state's regulated wetland approach is both effective and efficient.

Cost offsets and incentives for developers to avoid impacting wetlands

Although mitigation theoretically offsets loss, it is often better to avoid the impacts in the first place. One recommendation we make is for the State and local communities to incentivize preservation and avoidance of existing wetlands by allowing developers to receive improved density of homes per acre and tax incentives to avoid and enhance wetlands within developments. This is a non-regulatory approach that is not partisan and results in reduced time and costs for developers. Increased cost of housing is a real issue in society, and we heard from the Indiana Builders Association that more density is one of the primary solutions to provide cost effective housing.

While IDEM staff may be able to provide information and education on the use of Better Site Design techniques, local communities and their development-related ordinances have a much more significant influence over the planning, design, and construction of development projects. While the purpose of this report is to focus on the state's regulated wetland law and program, this task force would be missing an opportunity without pointing out the link between local development-related ordinances and processes and the influence that those have on the way that development projects are planned and designed and, therefore, the impact that they may have on wetlands and the functions and services they provide. To increase the effectiveness and efficiency of the state's regulated wetland law, local development-related ordinances and processes must work in concert with such law.

In practical terms, this includes local communities encouraging or requiring the use of better site design techniques on new development projects to avoid and/or minimize wetland impacts. It may also include offering incentives, such as property value allowances, tax rebates, improved densities, or other incentives, to developers and builders to further encourage them to protect wetlands and the functions and services that they provide during the land development process. Such incentives must be of sufficient amount to offset the cost of not developing isolated wetland areas that could otherwise be developed, with or without mitigation requirements. Such incentives could be funded at the state-level and administered in coordination with local communities. This is an example of where our states strong budget surplus could be used to reinvest in the quality of life for residents and prioritize the functions and wetlands by investing in conservation in addition to regulatory approaches. Until residents and legislators truly understand and value wetlands, these innovative approaches continue to be missed and ignored.

Information & Education

To be both effective and efficient, traditional environmental regulations require both those subject to the regulations and those involved in the administration and enforcement of such regulations to be well educated and informed about such regulations. In the case of the state's regulated wetland law, this includes, but is certainly not limited to, developers and builders, site design and wetland professionals, and IDEM staff.

As stated above in the first recommendation, one of the most effective ways to reduce the costs incurred by developers and builders while complying with the state's wetland protection regulations is to avoid and/or minimize those impacts to isolated wetlands that will require mitigation. This requires the developers and builders, and their site design and wetland professionals, to be well educated on the details of the state's regulated wetland law, including isolated wetland classifications and nomenclature, mitigation requirements, and mitigation options. Such education requires the cooperation of both the developers and builders, and their site design and wetland professionals, as well as IDEM staff. A recent example of such cooperation is the round table discussion on the mechanics of the State Regulated Classification Form that IDEM staff recently held on June 8, 2022, with consultants and other interested parties. Such communication and collaboration are imperative to improving the efficiency of the state's regulated wetland law. To foster such communication and collaboration, the task force recommends regular, perhaps annual, training and education opportunities for those subject to and involved with the state's regulated wetland law. Further, the task force recommends that well-organized and easy to understand guidance documents be developed and made available to developers and builders, and their site design and wetland professionals, clearly explaining the isolated wetland classifications and nomenclature, mitigation requirements, mitigation options, and options that may be available during the site planning and design process to avoid and minimize impacts to isolated wetlands to avoid costly mitigation. Such guidance documents may include a link to the Indiana Waterways Inquiry Request website. The document should include a list of qualified consultants throughout the state that can help developers and builders with isolated wetland identification and permitting requirements, a list of isolated wetland exemptions that can reduce costly mitigation, and the current cost of wetland mitigation based on In Lieu Fee program credit costs.

Wetland Program Staff

The task force heard from the IDNR and IDEM about challenges that both regulatory organizations have recently faced with difficulties in hiring and retaining staff. This results in increased permit application review and approval times and regulatory program inefficiencies. To ensure that the state's regulated wetland law continues to be efficient, the task force recommends that IDEM's state regulated wetlands programs be provided with sufficient financial resources to hire, train, and retain talented and dedicated staff. This includes a review of pay classifications and competitiveness with adjacent states and the private sector. As with all regulatory programs, the state's regulated wetland program can only be as effective and efficient as those involved in its administrative and enforcement are allowed to be. This includes ensuring that program staff are paid competitive salaries, are provided with competitive benefits, and are provided with ample opportunities for professional development.

Legislative Directive #2: The flood reduction benefits of isolated wetlands, including the use of isolated wetlands to aid in quantifying flood risk mitigation

Key findings and recommendations:

- Isolated wetlands play a pivotal role in decreasing flood magnitudes and their elimination has a direct and significant negative impact on communities and agricultural lands.
- Climate change is a threat to existing wetlands with projected changes leading to increased drying, reduction in wetland size, and loss of supporting ecosystem services like flood prevention.
- Flood risk can be reduced by storing runoff and reducing peak flows in isolated wetlands before reaching downstream cities and innovative partnerships between agricultural users and cities.
- To have a measurable impact on flooding in Indiana, isolated wetlands should continue to be regulated at the state level with effective and efficient mitigation.
- An investment by the state in non-regulatory incentives will be required to accomplish wetland construction and restoration at a scale that will have a measurable impact on flooding and quality of life.

This area was in many ways the most enlightening to the task force. The data on flooding and the costs were very compelling and the scientists we heard from including task force member Dr. Sara McMillan of Purdue University made a very compelling case that the continued and cumulative elimination of isolated wetlands in the upper portions of our watersheds have a direct and significant negative impact on the flooding problems that are worsening every decade. We also heard passionate public testimony from a farmer on the economic cost of increased flooding in the White River watershed that is jeopardizing the economic viability of his family farm that is in its 3rd generation.

Indiana's average annual precipitation has increased by approximately 5.6 inches based on data from 1895 to 2016 and this trend is projected to continue (Widhalm et al., 2018). Future climate models project increases in precipitation during the spring and winter with declines in summer and fall precipitation, especially under higher emission scenarios. This increased precipitation means that runoff is also increasing. Wetter conditions during the winter and spring lead to greater risk of flooding in rural areas and cities alike when agricultural fields are fallow and other perennial vegetation is dormant. While wetlands play an important role in retaining and storing this water, patterns of climate change are also a threat to existing wetlands with projected climate changes leading to increased drying, reduction in wetland size, and loss of supporting ecosystem services such as biodiversity for wildlife, groundwater/low flow support, and emission of greenhouse gases (Burkett and Kusler 2000; Johnson et al 2005).

Isolated wetlands capture precipitation driven runoff and shallow subsurface flows during storms. Short-term retention lengthens the flow path through the watershed while long-term storage in isolated wetlands contributes to groundwater recharge and cycling through plants and soil (Rains et al 2016). While the singular effect of an isolated wetland on these processes is small, the cumulative effect of the network of isolated wetlands affects both amount and timing of downstream flow and therefore decreases flood magnitudes (Golden et al 2021; Cohen et al 2016).

Both isolated and riparian wetlands play important roles in regulating flood risk and hydrologic models are an important tool in guiding our understanding of these impacts (Golden et al 2021). It is often not feasible to account for all temporal variations in storm dynamics or spatial differences in soils, vegetation, or land use in data collection efforts and models us to determine their effect at the landscape scale. In Central Indiana, modeling results show that while larger isolated wetlands served as "gatekeepers" of watershed-scale storage and overall flood detention but that this affect is amplified when smaller wetlands in the headwaters are protected also (Fossey et al 2015; Evenson et al 2018). Smaller networks of isolated wetlands in the headwaters also contribute to low flow support by sustaining shallow groundwater aquifers and thereby contributing to water supplies for agricultural uses and biodiversity (Fossey et al 2015; Cohen et al 2016).

Tile drainage in poorly drained soils in row crop agriculture and stormwater collection pipes in cities rapidly route runoff to receiving waters minimizing the opportunity for infiltration and storage thereby exacerbating flood risk downstream. Increasingly, more cities are looking for creative ways to reduce flood risks and enhance resilience. One such approach is through partnership and investment in nature-based solutions. By protecting and restoring isolated wetlands in upstream contributing watersheds, flood risk can be reduced by storing runoff and reduce peak flows before reaching downstream cities (Aerts et al 2014; McPhearson et al 2016). To have a measurable impact on flooding in Indiana, the task force believes isolated wetlands should continue to be regulated at the state level with effective

and efficient mitigation. Additionally, an investment by the State in non-regulatory incentives will be required to accomplish wetland construction and restoration at a scale that will have a measurable impact on flooding and quality of life.

Legislative Directive #3: The role of isolated wetlands in storing carbon dioxide and how to strengthen the carbon markets in Indiana

Key findings and recommendations:

- Isolated wetlands accumulate and store carbon.
- The loss of isolated wetlands results in the release of carbon into the atmosphere and the reduction of the overall carbon storage capability of Indiana's landscape.
- The state should pursue and support carbon markets at the both the state and federal level.
- State, federal and university researchers should develop research projects related to establishing methods for quantifying the level of carbon storage for individual and cumulative isolated wetlands.
- The state should evaluate the development of a carbon sequestration program and give credits to people that have wetlands and do not impact them.

This topic was of great interest to the task force and was another area in which wetlands provide benefits to society. We learned that in the lower 48 states alone, wetlands are estimated to store 11.5 billion tons of carbon. Isolated wetlands are extremely effective at storing carbon for several reasons. Isolated wetlands that lack flow and connection to rivers allow for organic material (dead plant material) to accumulate thus trapping carbon within the wetland and they quickly lose oxygen which prevents carbon from being degraded to CO₂ and released into the atmosphere. Therefore, the loss of isolated wetlands results in the release of carbon into the atmosphere and the reduction of the overall carbon storage capability of Indiana's landscape. Voluntary carbon markets are operational in Indiana, but demand and participation are lacking. Despite the high rates of carbon sequestration, freshwater wetlands are largely unused in carbon markets because it is currently difficult to estimate the actual sequestration rates of individual projects. This uncertainty leads market participants to select other forms of carbon sequestration that may be less efficient and cost effective but produce more predictable outcomes.

The role of isolated wetlands in storing carbon should be considered when evaluating the value of isolated wetlands and measures to preserve them. State, Federal and University researchers should develop research projects related to establishing methods for quantifying the level of carbon storage for individual isolated wetlands. Data collection should include studies that identify wetland features that are predictors of successful restoration projects. Development of new methodologies for assessing carbon wetland stocks and carbon sequestration rates are also needed.

Carbon Markets

We recommend the state pursue and support carbon markets at the both the state and federal level. We believe there will ultimately be a cost on carbon and market-based approaches to a low carbon economy. For the benefit of Indiana's farmers, landowners, and residents, we believe Indiana should be innovative and out in front of this opportunity and that wetlands along with conservation farming and sustainable forestry and reforestation practices can all be a part of the solutions while providing voluntary economic opportunity. Specifically relative to wetlands, this would provide additional monetary incentives for private landowners to preserve and restore wetlands.

Legislative Directive #4: Strategies to incentivize the avoidance of isolated wetland impact during development

Key findings and recommendations:

- The value of the land in developing areas results in significant impacts to wetlands despite the time and cost of the regulatory process and mitigation.
- Provide tax abatements and incentives on land being developed where wetlands are avoided and preserved by developers and then passed on to the homeowner's association with protective covenants.
- Work with local communities to develop statewide requirements around greenspace, housing density benefits for avoidance, and retention/detention.

- Evaluate the creation of a system to compensate developers for avoiding wetland impacts through a state fund dedicated to wetland preservation.

The functional value of existing isolated wetlands exceeds that of restored or created wetlands as carbon accumulation, invasive species, and loss of biodiversity connectivity create time lags in restoring ecosystem services. Therefore, avoidance of wetlands and other aquatic resources on a development site provides its own incentive. If there are no impacts, no permits are required. Avoiding impacts minimizes costly delays due to permitting, possible plan changes which require going back to county planning and zoning for approvals and avoids the need for costly mitigation and is a prerequisite to the issuance of a permit (IC 13-18-22-5(a)(1)). The reality is the value of the land in developing areas still result in significant impacts to wetlands despite the time and cost of the regulatory process and mitigation.

Some possible strategies are mentioned below but may require legislative directive since these would affect local planning and zoning as well as local tax assessment. It is important to note, that in cases where wetlands are avoided it is imperative to ensure the development design still allows proper hydrologic connection to the wetlands. Providing tax abatements and incentives on land being developed where wetlands are avoided and preserved by developers and then passed on to the homeowner's association with protective covenants. One example is expanding the IDNR Classified Forest or Wildlife Habitat Programs to include wetlands with lower acreage requirements. Some municipalities have greenspace requirements while others do not. A consistent minimum greenspace requirement could allow developers ease in developing similar models in different areas and would incentivize the avoidance of wetlands as they would then have value to meet greenspace requirements. Our task force discussed the development of a statewide requirement that incentivizes avoidance by increasing home density on developed land when wetlands are avoided. Most planning and zoning regulations have a density requirement that cannot be exceeded. Wetland impacts often result from the need to maximize the number of units/lots on a parcel of land to make new development profitable. We also discussed the development of a statewide retention/detention requirement that incorporates wetlands into the overall storage system. Local drainage boards or planning and zoning requirements dictate the pre and post discharge from a site. If basin size is minimized and allowed to flow through wetlands via bioswales and other BMPs that initially treat stormwater, then that minimizes the overall amount of development land dedicated to detention basins and more building pads may be added. Porter County Storm Water Infrastructure User Fees are based partially by the amount of stormwater runoff the property is expected to generate. Wetland storage would reduce the amount of runoff and therefore the fees associated. Additionally, the task force saw potential value in the creation of a system to compensate developers for avoiding wetland impacts through a state fund dedicated to wetland preservation like the Excess Liability Trust Fund. This would require development of a new program to develop the guidelines and oversee the compensation.

Legislative Directive #5: Strategies to incentivize the preservation and voluntary restoration of isolated wetlands

Key findings and recommendations:

- Financial support is needed to realize the preservation of wetlands, the enhancement of degraded wetlands, or the creation of new wetlands. Many state managed funding programs receive demand well beyond their ability to fund. Therefore, the Indiana General Assembly should consider additional investment in funding voluntary conservation programs that assist landowners.
- An adequate one-time investment by the state to comprehensively update Indiana's statewide wetland map would advise and inform both development and resource conservation decisions to further many of the recommendations contained in this report.
- Establish a Classified Wetlands Program like the IDNR's Classified Forest and Wildlife Habitat programs but with a lower acreage threshold.
- Use The President Benjamin Harrison Conservation Trust Fund or other monies for the outright purchase of large wetland systems or conservation easements. Federal monies can be leveraged with state investments.
- Increase the service areas available to the Conservation Reserve Enhancement Program (CREP) through the Indiana State Department of Agriculture (ISDA).
- Provide tools and educational resources to assist local governments with identifying wetlands and accounting for their benefits when collecting fees/taxes for the maintenance of drainage water infrastructure.

The task force added the voluntary restoration of wetlands to the directive on preservation of existing isolated wetlands as we have lost so many wetlands that we need to not only preserve what we have but voluntarily build more. Wetland preservation, enhancement, and restoration has broad appeal across all stakeholder groups and is another non-regulatory option to keep and put more wetlands on Indiana's landscapes. For this strategy to work, landowners require technical assistance from trained staff, and often financial support is needed to realize the preservation of wetlands, the enhancement of degraded wetlands, or the creation of new wetlands. While many state managed programs provide potential routes for financial support, these programs often receive demand well beyond their ability to fund. Similarly, federal programs, like those through the USDA Farm Bill (USDA Natural Resources Conservation Service and Farm Service Agency) and U.S. Fish and Wildlife Services (USFWS) have more demand on an annual basis than can be fulfilled. If Indiana is to offset wetland loss due to land use demands and the subsequent costs to society, then additional financial investment is needed. Scott Fetters from the USFWS presented on this issue and provided data indicating that in just the last 10 years the USFWS has helped landowners voluntarily restore over 2000 acres of wetlands through the USFWS Partners for Fish and Wildlife program that provides easement payments, cost share and technical assistance to private landowners wanting to voluntarily restore wetlands. The USDA has helped landowners restore over 7000 acres of wetlands in that same 10-year period. These programs can make a substantial non regulatory based impact on wetlands as evidenced by the success of the Goose Pond project in Southern Indiana which has resulted in one of the largest wetland restoration projects in the United States with over 6000 acres of wetlands. This project was a partnership with a private landowner, conservation organizations including The Nature Conservancy and Ducks Unlimited, as well as federal and state agencies. It is nationally recognized for rare threatened and endangered birds and has even altered migratory bird patterns due to its scale. This project is also a significant economic resource for Greene County and communities in the area who benefit from thousands of hunters and birders who travel to this wetland annually. The task force recommends the Indiana General Assembly consider additional investment in funding voluntary conservation programs that assist landowners with wetland preservation, enhancement, and creation. Any additional state-level investment can be used to leverage federal funding sources, current or future. Furthermore, an adequate one-time investment by the state to comprehensively update Indiana's statewide wetland map would advise and inform both development and resource conservation decisions to further many of the recommendations contained in this report. We also recommend establishing a Classified Wetlands Program like the IDNR's Classified Forest and Wildlife Habitat programs but with a lower acreage threshold. This will grant property tax incentives to wetland landowners. Additionally, or alternatively, establish a statewide property tax calculator for wetland landowners that significantly reduces their property tax to something lower than what typical agricultural land is taxed. State funds could also be used for the outright purchase of large wetland systems or conservation easements. This would be a combined effort between state, federal, and nongovernmental partners and could be evaluated in a summer study committee. We also discussed and recommend evaluating an increase in the service areas available to the Conservation Reserve Enhancement Program (CREP) and working with FSA and NRCS to financially incentivize wetland conservation, creation, and restoration. Another innovative option for state and local governments is the differentiation of water management fees collected by local governments to recognize the presence of existing wetlands and their functional value for water storage. We also mention state laws governing drainage boards and the assessment of landowners who benefit from the maintenance of regulated drains make it challenging to regularly update tax rolls based on changes in land cover, use and management. There is value to the state providing tools and educational resources to assist local governments with identifying wetlands and accounting for their benefits when collecting fees/taxes for the maintenance of drainage water infrastructure. Updating drainage laws would make it easier to account for changes in the presence of wetlands and other "green infrastructure" when determining and updating tax rolls.

Legislative Directive #6: Improvements to the isolated wetlands permitting process under IC 13-18-22

Key findings and recommendations:

- IDEM should develop Isolated Wetland General Permit(s) that can be used for all projects that have minimal impacts to isolated wetlands and do not require mitigation. This would be more efficient and timelier for the staff and the permit applicant.
- IDEM Office of Water Quality should routinely update wetland professionals and hold an annual meeting to communicate changes and determine the need for adjustments to the isolated wetland permitting process.
- Indiana currently has limited wetland mitigation banking options. Incentives for the development of mitigation banks would help to promote more wetland mitigation options and supply.

- IDEM should evaluate and study the pros and cons of developing a wetland delineation certification program.

The Wetlands Task Force recognizes that pressure from agricultural production and development will continue to result in impacts to Indiana's isolated wetlands. The goal is for the state to find a balance between protecting our isolated wetland resources and supporting agricultural production and development. The following are recommendations from the Wetlands Task Force that have been developed in response to improving the isolated wetland permitting process.

Develop an Indiana Isolated Wetland General Permit:

General permits for minimal impacts to isolated wetlands can improve the efficiency for receiving approval of an isolated wetland permit. A general permit process for Indiana's isolated wetlands should be considered like the United States Army Corp of Engineers Nationwide permitting process. The Isolated Wetland General Permit(s) could allow certain types of projects with minimal impacts to water resources go through the permitting process in a shortened timeframe. Setting up a general permit process for isolated wetlands will reduce approval times and amount of work on the regulators by eliminating the public notice process. The Wetlands Task Force recommends that IDEM develop an Isolated Wetland General Permit(s) that can be used for all projects that have minimal impacts to isolated wetlands and do not require mitigation. Set the limit at 0.25 acre and require they use a bank or the ILF program for their compensatory mitigation. This would speed up permitting since there would be no public notice and no site-specific mitigation plan requirement.

Study the feasibility and benefits of a Certification Program for Wetland Professionals:

A certification program for wetland professionals could potentially provide the Isolated Wetland regulators the ability to have more reliability in the information about wetlands that is being provided with the Isolated Wetland Permit applications. The certification program would need to be developed by qualified wetland professionals with at least 10 or more years of documented experience in delineating wetlands. The certification program, once established, could be administered by the IDEM Office of Water Quality. The certification program should be developed with some type of training and testing. The list of certified wetland professionals could be placed on the IDEM Office of Water Quality webpage for a reference for land developers. It may ultimately be determined by the IDEM that anyone submitting an Indiana Isolated Wetland Permit must use a Certified Wetland Professional from the IDEM list to delineate isolated wetlands on their site which may result in increased permitting times and cost. This certification program could only be used for Indiana Isolated Wetland permitting. The Wetlands Task Force recommends that IDEM evaluate the pros and cons of developing a wetland delineation certification program.

Developing an Online Portal of Indiana Isolated Wetland Permit Application submittals:

IDEM currently uses paper copies for submission of any Indiana Isolated Wetland permit applications. Deficient applications are often one of the greatest consumers of review times by the IDEM for Isolated Wetland Permit applications. Preventing the submittal of an incomplete application via an electronic system that requires all application materials be included to submit would result in more timely processing of permits. Having an electronic submittal system for isolated wetlands in Indiana will also allow better tracking of permitted locations for both IDEM and the public. The Wetlands Task Force recommends that an electronic portal for submitting Isolated Wetland Permit applications be developed and implemented.

Annual Meetings to Discuss the Indiana Isolated Wetland Permitting Process:

The regulations of wetlands and isolated wetlands are changing now more than ever before; therefore, it is important for the IDEM Office of Water Quality to routinely update the wetland professionals in the state of Indiana on these changes and how best to move forward as efficiently as possible. The IDEM Office of Water Quality could hold working meetings a minimum of once a year with the wetland professionals that work in Indiana so that both parties can come together and improve the processes on a more routine basis. The Wetlands Task Force recommends that the IDEM Office of Water Quality hold at least one meeting each year with wetland professionals to communicate changes and determine if any adjustments to the isolated wetland permitting process are needed.

Promote more wetland mitigation banking in Indiana:

Indiana currently has limited wetland mitigation banking options. Wetland banks allow for a lower mitigation ratio for impacts, often 1:1, which would lower the cost of mitigation for developers. Start-up costs are very expensive for bankers and maintenance costs can be large for poorly designed wetland bank systems. Therefore, any incentive programs or funding assistance to help offset the cost of developing mitigation banks would help to promote more wetland mitigation banks in Indiana.

Legislative Directive #7: Review existing state isolated wetland classifications and recommend new isolated wetland classifications and nomenclature that are in alignment with those used by the United States Army Corps of Engineers**Key findings and recommendations:**

- The Wetlands Task Force does not recommend aligning the Indiana Isolated Wetland Classification System with the United States Army Corps of Engineers nomenclature
- IDEM should evaluate adding an additional class to the classification system that would exclude the lowest quality wetlands that have very little functions and values (i.e., Class 0) and then identify Class 1 isolated wetlands as wetlands that have specific higher functions than Class 0 isolated wetlands, such as flood storage
- IDEM Office of Water Quality should continually review the worksheet and update as needed.
- A wetland rapid assessment protocol be considered for development for the entire state (which could include some regional variations) to be used to assist in the classification of Indiana's Isolated Wetlands.

The U.S. Army Corps of Engineers classification system does not require any qualitative assessments on wetlands and simply breaks wetlands out by dominant vegetative type of wetland. The mitigation ratios are then determined based on the wetland type and generally not quality. A permittee may complete a qualitative assessment on jurisdictional wetlands and submit it to the U.S. Army Corps of Engineers to attempt to reduce the mitigation ratio, but this is not required for Section 404 permitting. By comparison, the IDEM Regulated Wetland Law requires an additional quality assessment on isolated wetlands to classify each isolated wetland into categories: Class 1, Class 2, or Class 3. This allows IDEM to determine permitting requirements based on both the type of wetland and the quality of the functions the wetland provides. To better align with the U.S. Army Corp of Engineers nomenclature, the quality assessment / classification process for isolated wetlands would no longer exist and all isolated wetlands would simply be classified out by wetland type. This may result in higher mitigation ratios for wetlands which do not provide more than minimal functions. Beyond nomenclature alignment, other classification categories and methods changes should be considered as recommended below.

The Wetlands Task Force does not recommend aligning the Indiana Isolated Wetland Classification System with the United States Army Corps of Engineers nomenclature because knowing both the type of a wetland and the functions of a wetland are important in terms of how it should be regulated and mitigated. Wetlands with higher functions should be more strongly regulated than wetlands with lower functions and the United States Army Corps of Engineers classification system does not consider this in the evaluation of regulated wetlands.

The United States Army Corps of Engineers does not have a wetland classification system that explicitly incorporates wetland functions. The United States Army Corps of Engineers Wetland Delineation Manual identifies wetlands based on the dominance of vegetation and what contributes most to the overall character of the wetland. Typically, these fall into three categories: Emergent, Scrub/Shrub, or Forested. Based upon the category, the United States Army Corps of Engineers sets the mitigation ratio required.

The IDEM Indiana Isolated Wetland Law separates Indiana's Isolated Wetlands into either forested or non-forested and classifies them into Class I, Class II, or Class III Isolated Wetlands. The Class definitions are based on characteristics of each wetland such as land use disturbance, vegetative species diversity, location on the landscape, hydrologic functions, and habitat functions as well as whether the wetland is one of Indiana's rare wetland types. This shifts the classification more towards a functional evaluation of the wetland unlike the United States Army Corps of Engineers which primarily looks at vegetative dominance types when describing wetlands.

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The task force recommends considering adding an additional classification to the Indiana Isolated Wetland classification system that would allow some Class 1 Isolated Wetlands to not be excluded and/or exempt from regulation under the Indiana Isolated Wetland Law. Some Class 1 isolated wetlands do have higher functions like flood storage, the Wetlands Task Force recommends IDEM look at adding an additional Class to the classification system that would exclude the lowest quality wetlands that have very little functions and values (i.e., Class 0) and then maybe identify Class 1 isolated wetlands as wetlands that have specific higher functions than Class 0 isolated wetlands, such as flood storage. The Class 0 isolated wetlands may be excluded/exempt from permitting and Class 1 wetlands may have a smaller mitigation ratio (i.e., 1:1) since they have limited functions and values but are still important to maintain and/or replace.

The task force recommends regularly reviewing the Isolated Wetland Classification Worksheet which has been developed by IDEM to assist wetland professionals classifying isolated wetlands into three classes (Class I, Class II, and Class III). This worksheet is a great starting point, but there are still some confusing parts of this worksheet that should be looked at for adjustment. One worksheet item that may be considered is adding another category that includes exclusions and/or exemptions so the wetland professional completing the worksheet knows if the wetland falls under one of the allowable exclusions or exemptions. The Wetlands Task Force recommends that the IDEM Office of Water Quality continually review the worksheet and update as needed.

Finally, the task force recommends to further develop an Indiana Specific Rapid Assessment Protocol. Currently there are no wetland rapid assessment protocols specifically developed for use throughout the state of Indiana. The Indiana Wetland Rapid Assessment Method (InWRAP) was developed by Taylor University, but it is only calibrated for wetlands within the northern portion of the state. Further development of InWRAP is needed for it to be used throughout the state. The Wetlands Task Force recommends that a wetland rapid assessment protocol be considered for development for the entire state (which could include some regional variations) to be used to assist in the classification of Indiana's Isolated Wetlands.

Legislative Directive #8: Review the current mitigation ratios set forth in IC 13-18-22-6 and provide recommendations to: Improve the methodology used in applying those mitigation ratios; and possibly better align those mitigation ratios with the mitigation ratio determination methods used by the United States Army Corps of Engineers

Key findings and recommendations:

- There should be a legislative review of the isolated wetland code and modification as needed to clearly explain mitigation requirements for isolated wetlands.
- Alignment of USACE mitigation requirements is not recommended.

IDEM isolated wetland mitigation ratios are based on isolated wetland type and class of isolated wetland being impacted. The lower-class isolated wetlands require less mitigation than higher class isolated wetlands. For example, currently all Class I isolated wetlands are excluded from regulation and Class II wetlands may be exempt up to a certain acreage. This process was put in place to reduce the cost of mitigation required for lower quality isolated wetlands while inciting people to avoid higher quality isolated wetlands. To align the mitigation ratios with the United States Army Corp of Engineers, the mitigation ratios would be primarily based on isolated wetland type at ratios that would mimic the United States Army Corps of Engineers mitigation ratios. This would result in no exclusions or exemptions for isolated wetlands and higher mitigation ratios for lower quality isolated wetlands. The lowest mitigation ratio typically used by the United States Army Corps of Engineers is 2:1, except when using approved credits from an established mitigation bank. IDEM has reduced mitigation ratios to as low as 0.5:1 for low quality wetlands to help reduce the cost of mitigation for wetlands that have minimal functions.

In addition, promoting the development of more mitigation banks in the state of Indiana can result in a reduction in mitigation ratios and cost. Mitigation from an established mitigation bank can reduce the mitigation ratio to 1:1, which would lower the cost of mitigation.

The recommendation from the Wetlands Task Force under this item is for IDEM to review and consider making recommendations on how the Indiana Isolated Wetland Law language can be modified to better explain mitigation requirements for Indiana's Isolated Wetlands and consider revising the mitigation ratios to provide a No Net Loss of

Indiana's Isolated Wetlands. In addition, the Wetlands Task Force recommends additional research be completed on how Indiana can further promote the development of Mitigation Banks. The Wetlands Task Force does not recommend trying to align the mitigation ratios for Indiana's Isolated Wetlands to the ratios used by the United States Army Corps of Engineer for the reasons mentioned above.

Legislative Directive #9: Review the current “in lieu of” compensatory mitigation program and make recommendations on how to reduce the costs and improve the transparency of that program

Key findings and recommendations:

- The task force did not find the In Lieu Fee program to lack transparency nor were the reduction of costs identified to be the most important issue facing the program as it is competitive in the open market.
- Most of the mitigation needs within the programs are stream or riparian mitigation and many potential mitigation sites are county regulated drains. IDNR should work with the County Surveyors Association to find solutions to working in legal drains and create a map of legal regulated drains so it is clear where ILF mitigation cannot occur unless the drain is vacated.
- IDNR does not currently have sufficient staffing to administer the volume of projects and meet the needs for the program. The allotment of mitigation sales for administrative purposes should be used to staff the program at the level needed to fully implement it and succeed in its mandate.
- IDNR needs to work with the state to modify or implement a procurement process for this program that will increase the supply of private sector options.
- IDNR and IDEM should work with all the commenting agencies to streamline and create efficient processing once projects are proposed.
- The success of this program is critical due to its popularity as a mitigation solution, its strategic opportunity for large scale restoration, and to have timely replacement of functions and values in our watersheds.

The task force did not find the programs to lack transparency, in fact the IDNR seems to be fully transparent on all aspects of the program. We had no public testimony or task force members bring up any issues with transparency.

The second area of focus was on reducing costs and although the in lieu of mitigation may seem expensive, we did not find the reduction of costs to be the most important issue facing the program as the cost includes many elements over 10 years of regulatory monitoring and maintenance to achieve performance metrics and is competitive with alternatives. The program must compete with other mitigation options in the market and to date seems to be the mitigation of choice for various reasons. The In Lieu Fee program, like private wetland mitigation banks, is attractive to the builders and regulated public due to its ability to expedite the permitting timeframes and relieve the developer of on-going liability for mitigation. This is of significant economic value and is why it is selected even with the expense. And although there are some tradeoffs environmentally with pooled mitigation, there are several aspects that make it attractive to the environmental community as well including improved efficiency of monitoring compliance, higher success rates of mitigation, long-term management and protection, and the ability to strategically place projects of scale on the landscape. For these reasons as well as the fact that most of the mitigation is now using this vehicle, it is critical that the program succeed. As mentioned in the Executive Summary, the In Lieu Fee mitigation program is administered by the IDNR and is under-resourced and behind in fulfilling mitigation obligations. The IDNR has over \$50,000,000 in unspent revenues to date. To maintain compliance with the USACOE, projects are to have initial construction begin within three years of a credit sale. In the meantime, wetlands and streams are being filled without a timely replacement of the functions and values to the watershed as required. Although the pandemic slowed the program implementation at a critical time in its infancy, there are more systemic issues we identified that are negatively impacting the ability of wetlands to be built at the scale and within the timeframes needed to succeed. Many of these challenges are based on a lack of supply of mitigation options that fit within the regulatory requirements. Most significantly:

1. Most of the mitigation needs within the programs are stream or riparian mitigation. With approximately 2/3 of Indiana's waterways being regulated drains at the County level, these sites are largely ineligible to be considered as mitigation to fulfill IDNR's obligations. The goals of mitigation and the goals of legal drains are inherently in competition with each other and in most cases not compatible due to the drainage easements.
2. The current state procurement process and requirements are potentially limiting the timely supply of projects by eliminating some private mitigation options in the marketplace. Criteria for bidders are restrictive and the

program does not currently allow creative and flexible options such as the ability for the IDNR to contract out turn-key mitigation projects with payment based upon credit generation rather than time and materials consultant services and low-bid construction contracting.

3. IDNR does not have sufficient staffing to administer the volume of projects and meet the needs for the program.

IDNR has significant money from the credit sales to administer the program. This money needs to be used to immediately staff IDNR at the level needed to fully implement it and succeed in its mandate. Additionally, IDNR needs to work with the state to modify or implement a procurement process for this program that will increase the supply of private sector options to improve program efficiencies to meet required regulatory timeframes and increase the availability of quality projects. The private sector will provide supply if the process allows for it. The state needs to use the private sector more creatively and proactively to meet the supply needs. IDNR and IDEM should also work with all the commenting agencies to streamline and create efficient processing once projects are proposed.

Regarding supply of sites, IDNR should work with the County Surveyors association to find solutions to working in legal drains. IDNR should create a map of legal regulated drains so it is clear where In Lieu Fee mitigation cannot occur and compare this with In Lieu Fee available credits and miles of permitted impacts. Additionally, collaborate with county surveyors to use In Lieu Fee projects to help solve drainage/flooding challenges via off-line detention opportunities in flood prone areas. Some of the riparian mitigation will need to utilize off-line or bypass design solutions to have enough mitigation sites to meet demand. In addition to the most urgent and critical above recommendations, the task force has two suggestions for longer-term on-going improvements to the program. To ensure wetlands are being replaced with enough diversity in location, it is recommended that improved mapping be implemented to track permitted impacts by In Lieu Fee watersheds (service areas). Improved mapping could showcase the location of pending or implemented mitigation. This will help with public transparency and overall mitigation strategy when it comes to functional loss. State agencies also need to collaborate and map wetlands lost by watershed. This map should be compared with flood data and water quality data. Additionally, staff should determine hot spots where restoration is essential and target In Lieu Fee dollars to those areas. Finally, its recommended to have a proactive strategy that raises the value and reputation of the In Lieu Fee program and to communicate those hotspots to local officials so they can work to restore or protect wetlands in those locations strategically.

Legislative Directive #10: Study and make recommendations concerning any other wetland related issues that the task force determines should be addressed by the general assembly.

Key findings and recommendations:

- Revisit the 2015 State Wetland Program Plan and seek EPA and external funding for its implementation.
- Offer widespread training to local public officials about how to engage in targeted wetland protection (provide maps and model ordinances) and how to help direct local mitigation opportunities so that they best serve their larger communities aims.
- Engage university partners or national organizations in determining the monetary value of wetlands to assess the full cost-benefit of wetlands.
- Explore opportunities within the new federal water infrastructure funding (administered by IFA) to restore wetlands as part of stormwater and drinking water management.
- Support and fund statewide regional planning and organizations (i.e., basin commissions) so issues associated with wetland loss and mitigation are managed regionally at a table of diverse interests.

Appendix

Presentations

These presentations and reports are available upon request. Please contact Caitlin Smith (caismith1@dnr.in.gov) at the Indiana Department of Natural Resources if you would like to access a presentation.

Reports

- Audubon Great Lakes report
- Wetlands 2015 report: https://www.in.gov/idem/wetlands/files/program_plan.pdf

Meeting minutes

February 15, 2022 – Meeting #1

The task force held its first meeting on Tuesday, February 15th at Fort Harrison State Park. Members met from 10:00 a.m. - 3:00 p.m. and discussed the following:

- Introduction of task force members
- Introduction and review of task force mission and charges as handed down via SEA 389-Wetlands
- Federal wetland regulatory update
 - The task force heard from Martha Clark Metter, Deputy Assistant Commissioner for the Indiana Department of Environmental Management Office of Water Quality. Ms. Mettler’s presentation focused on updating members on the August 30th, 2021 ruling which vacated and remanded the Navigable Waters Protection Rule. Considering this order, agencies have halted implementation of the Navigable Waters Protection Rule and are interpreting “waters of the United States” (WOTUS) consistent with pre-2015 regulatory regime until further notice. A summary of the key points of the guidance is that federal agencies will assert jurisdiction over the following waters, making them WOTUS and subject to 401/404 permitting rules:
 - Traditional navigable waters
 - Wetlands adjacent to traditional navigable waters
 - Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonably
 - Wetlands that directly abut such tributaries
 - Additionally, federal agencies will determine jurisdiction over the following waters based on a fact-specific analysis to determine whether they have significant nexus with a traditional navigable water:
 - Non-navigable tributaries that are not relatively permanent
 - Wetlands adjacent to non-navigable tributaries that are not relatively permanent
 - Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary
 - Overall, the outcome of the recent WOTUS ruling makes it more imperative for project proponents to get a jurisdictional determination from the USACE to ensure the appropriate regulations are applied and correct permits and/or certificates are received prior to impacting waters with dredge and fill.
 - More waters will be federally jurisdictional (WOTUS) and less waters will be classified as waters of the state. This means that many of the exemptions from permitting and mitigation afforded via SEA 389 (2021) apply to fewer wetlands.

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- The ever-changing Waters of the United States interpretation creates confusion for permittees as well as unstable protections for many wetlands in Indiana, particularly those in upper reaches of the watersheds (headwaters).
- Update on practical application and implementation of SEA 389 Wetlands
 - o The task force heard from the following individuals –
 - Brian Wolff, Chief of Surface Waters and Operations Branch with the Indiana Department of Environmental Management gave a presentation highlighting the regulatory and permit changes SEA 389 brought forth and how the department has implemented guidance since the law went into effect.
 - IDEM remains the lead agency on isolated wetland permitting. SEA 389 added and revised wetland definitions, changed classifications, added exemptions, created a new general permit for tile maintenance, clarified ratios for In Lieu Fee mitigation, and established the task force.
 - The department created and issued a wetlands classification worksheet which contains a set of measurable questions that individuals are required to fill out and submit to department for each isolated wetland site.
 - o The purpose of this form is to create consistency and give direction for individuals who are seeking guidance on what classification or permits are needed
 - Jeff Spicer with Cardno gave a presentation on how SEA 389 and WOTUS changes have been implemented in the private consultant/developer industry. Overall, Mr. Spicer agreed that there have been positive strides in streamlining the permitting process, standardizing the review process, and creating pathways forward but acknowledged that there is still more work to be done from a regulatory standpoint when it comes to easing administrative burdens. Many of the burdens stem from USACE staffing and response time, not IDEM permitting procedures. IDEM staffing levels and uncompetitive pay structure is however a challenge.
 - Lastly, the task force heard from Indiana Farm Bureau (INFB) member Jared Kakasuleff (also Wetlands Task force member and Legislative and Policy Director Jeff Cummins (public participant) on the practical impacts farmers and agricultural industry members have seen with the implementation of SEA 389.
 - INFB strongly believes that the jurisdictional oversight of wetlands should be left up to the states to decide, oversee and regulate. INFB opposes the pre-2015 definitions and believes that the state should have ultimate authority.
 - o The biggest challenge INFB membership identified is lack of clarity when regulations or definitions shift. How does INFB inform their members of change and help them navigate the new process that must be followed
 - o Carl Wodrich with the Indiana Department of Natural Resources gave an overview of the state's in-lieu fee mitigation program and walked task force members through the process of creation and implementation.
- Review of current In Lieu Fee compensatory mitigation program
 - o Carl Wodrich with the Indiana Department of Natural Resources gave an overview of the state's in-lieu fee mitigation program and walked task force members through the process of creation and implementation.

March 23, 2022 – Meeting #2

The task force held its second meeting on Wednesday, March 23rd at Fort Harrison State Park. Members met from 10:00 a.m.-3:00 p.m. and discussed the following –

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- Indiana Department of Transportation (INDOT) presentation on transportation sector view of SEA 389 and wetland permitting and mitigation
 - o The task force heard from Sandy Bowman, Manage of Ecology and Waterway Permitting Office with the INDOT. Ms. Bowman focused on how the department navigates through the wetland classification process and the important role the In Lieu Fee program has played when it comes to the department’s mitigation efforts.
- Presentation from the energy sector on their view of SEA 389 and the wetland permitting and mitigation efforts
 - o The task force heard from Steve Barker with NIPSCO who outlined the company’s environmental review process and mitigation efforts when it comes to both temporary and permanent impacts. Mr. Barker highlighted the fact that a lot of the company’s impacts to wetlands are temporary in nature, and most of their permanent impacts revolve around wetland conversion. NIPSCO strives to go above and beyond the standards and has developed a comprehensive environmental compliance program that tracks biodiversity and has created partnerships with INDOT and other state agencies to preserve and restore wetlands.
- Flood reduction and mitigation benefits of isolated wetlands
 - o Members of the task force heard from the following presenters on this topic –
 - Robert Barr, research scientist for the Center of Earth and Environmental Sciences at IUPUI gave a presentation on observed trends and the role of geographically isolated wetlands play in flood storage.
 - Since the 1780’s Indiana is estimated to have lost approximately 85% of the state’s original wetlands leaving Hoosiers with about 813,000 acres of existing wetlands
 - o A major concentration of wetlands is in the northeastern portion of Indiana with Noble County containing the greatest number of wetland acres and Ohio County containing the least. Forested wetlands continue to be the most common type of wetland in all 92 counties.
 - Annual precipitation is increasing in Indiana, which means runoff is increasing. This can lead to increased flooding, erosion, and property loss. Losing the remaining isolated wetlands in Indiana will increase potential for flooding due to further reduction in flood storage capacity.
 - o If current wetlands can’t be fully protected, creating replacement storage needs to be looked at. This is where the in-lieu fee program is important.
 - o Indiana is at or past a tipping point – no more wetlands can afford to be lost if flood protection is a priority.
 - Heather Golden, research scientist with the U.S. EPA spoke to the group about how non-floodplain wetlands (NFW), or isolated wetlands, impact the nation’s landscape and flooding. These NFW are primary flood storage features and Ms. Golden spoke about how efforts need to focus on conserving the remaining NFW that exist.
 - Lastly, the task force heard from Marth Clark Mettler with IDEM who gave a presentation on the Iowa flood center and watershed approach. Iowa established the Iowa flood center in 2009 and was able to receive a significant investment to help with proactive work in mitigating flood impacts. Through this, the Iowa Flood Information System was developed which is an adaptive framework that focuses on proactive steps to ensure resiliency.
- The role of isolated wetlands in storing carbon dioxide and how to strengthen carbon markets
 - o The last presentation of the day was given by Jacob Hosen with Purdue University. Mr. Hosen’s presentation focused on the role of isolated wetlands in storing carbon dioxide.
 - Wetlands store approximately 11.52 pentagrams of carbon in the lower 48 states. Inland, or non-coastal wetlands, store 10x more carbon than coastal wetlands. When it comes to

- carbon storage, wetland restoration/creation is not as effective as preserving the nation's existing wetlands.
 - Currently, there are two types of carbon markets – voluntary and mandatory. Almost all of the carbon markets that exist are geared more towards coastal wetlands which is a missed opportunity as many of the inland wetlands are responsible for carbon sequestration.
 - Presentation on voluntary wetland restoration through U.S. Fish & Wildlife Programs
 - o The task force heard from Scott Fetters about the value of isolated wetlands and the voluntary restoration of over 2000 acres of wetlands through the U.S. Fish & Wildlife Service's "Partners" program in the last 10 years. The "Partners" program provides easement payments, cost share and technical assistance to private landowners wanting to voluntarily restore wetlands on their property.

May 11, 2022 – Meeting #3

The task force held its third meeting on Wednesday, May 11th at Fort Harrison State Park. Members met from 10:00 a.m. - 3:00 p.m. and discussed the following:

- Review of the task force's priorities and ranking of charges handed down via SEA 389.
 - o To develop final recommendations and compile a meaningful report, task force members chose to rank the difference charges outlined in the original bill. Four recommendations were ranked distinctly higher than others –
 - Review existing state isolated wetland classifications and recommend new isolated wetland classifications and nomenclature that are in alignment with those used by the United States Army Corps of Engineers
 - Strategies to incentivize preservation of existing isolated wetlands
 - Strategies to incentivize the avoidance of isolated wetland impact during development
 - Strategies to improve the success of In Lieu Fee compensatory mitigation program
- Presentation from the County Surveyor's Association on legal drains and stream mitigation challenges and opportunities
 - o The task force heard from Jarrod Hahn, a county surveyor, on the importance of Indiana's drainage code. Mr. Hahn's presentation focused on the process county surveyors must follow and how that work conflicts with stream and wetland preservation/restoration objectives of the Indiana Department of Natural Resources, U.S. Fish & Wildlife Services, United States Army Corps of Engineers, and other regulatory agencies.
- Presentation on the In Lieu Fee program challenges, opportunities and solutions to supply and demand imbalance
 - o The task force heard from Carl Wodrich, In Lieu Fee program director. Mr. Wodrich discussed the programs challenges including –
 - access and approval for additional program credits. The program is close to maxing out available credits.
 - Finding readily available sites and procuring at a pace to meet the required timeline of three years from sale to turning dirt
 - Lack of staffing within the department's program

August 3, 2022 – Meeting #4

The task force held its fourth meeting on Wednesday, August 3rd at Fort Harrison State Park. Members met from 10:00 a.m.-3:00 p.m. and discussed the following:

- Review of the task force's priorities for the final report including:
 - o Review existing state isolated wetland classifications and recommend new isolated wetland classifications and nomenclature that are in alignment with those used by the United States Army Corps of Engineers
 - o Strategies to incentivize preservation of existing isolated wetlands
 - o Strategies to incentivize the avoidance of isolated wetland impact during development
 - o Strategies to improve the success of In Lieu Fee compensatory mitigation program

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- Received an update on the classification form feedback meeting between consultants and the Indiana Department of Environmental Management
 - o IDEM Commissioner Brian Rockensuess gave an update on the meeting between IDEM staff and field consultants in which they discussed and reviewed the classification form the department requires consultants to use to classify isolated wetlands. A few technical changes were identified and will be made to the form on behalf of the department to facilitate the classification process more efficiently.
- Wetland jurisdiction and mitigation presentation
 - o The task force heard presentations from both Sarah Keller (team leader, United States Army Corp of Engineers) and Heather Parsons (Indiana Department of Environmental Management) on how each entity reviews and classifies wetlands including the process for jurisdiction designation and mitigation requirements. Key takeaways included –
 - The federal jurisdictional determination (JD) process for wetlands is optional and must be requested by the landowner. This can be done alongside a permit or standalone to determine which route an individual may move forward. A standard JD takes anywhere between three to six months to receive a final determination.
 - Many consultants tend to forego this route to save time in permit process and just concede USACE jurisdiction on all wetlands within a given site. This has an impact on mitigation ratios and permit timing.
 - For IDEM to process an Isolated Wetland Permit application, an individual must have an approved JD on record because IDEM does not have the authority to determine if a wetland is jurisdictional or isolated, the USACE must make this determination.
 - The classification system between the state and the USACE differs but each system drives the mitigation review process including which methods are appropriate for each project.
 - The USACE categorizes based on wetland function by type while the state categorizes by class which focuses on hydrological conditions, topographies, rarity, etc.
 - There is no one size fits all approach. Each permit or project is analyzed based on the facts at hand, and each mitigation requirement differs based on the proposed project and classification of wetland being impacted.
 - Mitigation ratios under the USACE and the state are hard to compare
- Practical recommendations and options for Wetlands Task Force to consider
 - o The task force heard from task force member Jeremy Kieffner with Lochmueller Group, who presented his opinion from a consultant standpoint. Mr. Kieffner presented examples of working through the classification and jurisdictional determination process.

September 14, 2022 – Meeting #5

The task force held its fifth and final meeting on Wednesday, September 14th at Fort Harrison State Park with all members present except Jeff Thomas. The task force heard public comments from Jeff Cummins from Indiana Farm bureau complimenting the task force on addressing voluntary incentives and housing density, from Indra Frank from HEC who complimented the task force and reinforced Bob Barr’s urgent message on flooding, and John Ketzenberger from TNC who complimented the task force and reinforced the need for clean and adequate water in Indiana. The rest of the meeting was spent reviewing and editing the report, unanimously voting on its approval.

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