



Indiana Conservation Partnership

2016 Conservation Accomplishments

The Partnership is comprised of eight Indiana agencies and organizations who share a common goal of promoting conservation. To that end, the mission of the Indiana Conservation Partnership is to provide technical, financial and educational assistance needed to implement economically and environmentally compatible land and water stewardship decisions, practices and technologies.

This report serves as a compliment to Indiana's Nutrient Reduction Strategy. Both publications can be found online at <http://www.in.gov/isda>.

For more information, contact the Indiana State Department of Agriculture.

ISDANutrientReduction@isda.in.gov

317.232.8770

Published: March 31, 2017

Table of Contents

Indiana Conservation Partnership.....	1
Sharing Conservation Data, Targeting Resources, and Striving for Water Quality Outcomes.....	2-4
Annual Workload Accountability Data Flow	5
2016 ICP Conservation Accomplishments Map.....	6
2016 Sediment and Nutrient Load Reduction Maps.....	7-9
2013-16 Cumulative Sediment and Nutrient Load Reduction Maps.....	10-12
Nutrient and Sediment Load Reductions Infographic.....	13

[Supporting Tabular Data](#): View tabular data for all maps included in this report, as well as program funding descriptions.

[Methodology - USEPA Region 5 Load Reduction Modeling of Completed Conservation Practices in Indiana](#): View methodology used to compile this report.

This document along with information about Indiana’s Nutrient Reduction Strategy can be found online at <http://www.in.gov/isda/2991.htm>.

Indiana Conservation Partnership:



[Indiana Conservation Partnership - http://icp.iaswcd.org/](http://icp.iaswcd.org/)



INDIANA ASSOCIATION OF
soil and water conservation
DISTRICTS

[Indiana Association of Soil and Water Conservation Districts and our 92 SWCDs - http://iaswcd.org/](http://iaswcd.org/)



[Indiana Department of Environmental Management - http://www.in.gov/idem/](http://www.in.gov/idem/)



[Indiana Department of Natural Resources - http://www.in.gov/dnr/](http://www.in.gov/dnr/)



[ISDA Division of Soil Conservation - http://www.in.gov/isda/2342.htm](http://www.in.gov/isda/2342.htm)



[Purdue Cooperative Extension Service - https://www.extension.purdue.edu](https://www.extension.purdue.edu)



[State Soil Conservation Board - http://www.in.gov/isda/2361.htm](http://www.in.gov/isda/2361.htm)



[USDA Farm Service Agency -](http://www.fsa.usda.gov/FSA/stateoffapp?mystate=in&area=home&subject=landing&topic=landing)

<http://www.fsa.usda.gov/FSA/stateoffapp?mystate=in&area=home&subject=landing&topic=landing>



United States Department of Agriculture

Natural Resources Conservation Service

[USDA Natural Resources Conservation Service - http://www.nrcs.usda.gov/wps/portal/nrcs/site/in/home/](http://www.nrcs.usda.gov/wps/portal/nrcs/site/in/home/)

Sharing Conservation Data, Targeting Resources, and Striving for Water Quality Outcomes

The practices highlighted in this report were completed via voluntary conservation efforts from private landowners in Indiana with support from the Indiana Conservation Partnership. This report does not capture the many unassisted in field and edge of field practices landowners install and pay for themselves.

2016 Key Highlights:

- Indiana landowners supported by the Indiana Conservation Partnership (ICP) installed nearly 18,000 new conservation practices in 2016. 10,780 of these practices had associated sediment and nutrient load reductions to Indiana waterways reducing:
 - 802,976 tons of sediment, enough to fill 8,029 fifty-foot freight cars stretching end to end from Terre Haute to French Lick.
 - 1,672,067 lbs. of Nitrogen, enough to fill 8.25 fifty-foot freight cars
 - 832,929 lbs. of Phosphorus, enough to fill 4 fifty-foot freight cars
- Indiana landowners increased no-till acres on corn and soybean fields by 466% since 1990¹
- Indiana landowners increased conservation tillage acres on corn and soybean fields by 311% since 1990¹
- Indiana landowners increased cover crop acres on corn and soybean fields by 466% since 2011¹
- Indiana leads the nation in acres planted to cover crops², second only to Texas³

2013-16 ICP Conservation Investment								
	Total Practices Installed	Total Public Conservation Investment	Total Private Landowner Conservation Investment	Total Investment	NLR Practices Installed	NLR Public Conservation Investment	NLR Private Landowner Conservation Investment	Total NLR Investment
CY2013	26,042	\$44,353,735	\$12,408,434	\$56,762,169	13,172	\$24,907,442	\$7,304,561	\$32,212,003
CY2014	19,564	\$30,106,330	\$8,900,217	\$39,006,547	12,958	\$18,205,125	\$5,904,048	\$24,109,173
CY2015	19,296	\$38,855,214	\$12,726,470	\$51,581,684	11,758	\$26,713,414	\$9,579,771	\$36,293,185
CY2016	17,767	\$40,694,894	\$13,328,869	\$54,023,763	10,602	\$26,112,548	\$9,588,988	\$35,701,536

Total practices installed – Includes all calendar year installed/completed conservation practices associated with installation costs.

NLR practices installed – Includes all calendar year installed/completed nutrient load reduction practices associated with installation costs.

Public Conservation Investment– Value reflects total cost of practices. Investment only includes incentive payments and actual practice construction/implementation costs (earth moving, rock, erosion control blanket, grade stabilization structures, cover crop seed and planting costs, grass seed, tree seedlings, exclusion fencing, planter equipment modification costs, private construction contractor costs including fuel and labor, etc.). Costs do not include administration and public labor (NRCS, FSA, ISDA, IDEM, SWCD, DNR employee salaries, survey/planning/design costs, etc.).

Private Landowner Conservation Investment – Value reflects total cost of practices. Investment only includes actual practice construction/implementation costs.

2013-14 DNR Lake and River Enhancement (LARE) and 2013 Conservation Reserve Enhancement Program (CREP) public or private conservation investments were not available.

Conservation Reserve Enhancement Program (CREP) wetland or midland contract management practices were not included in the public or private conservation investments.

¹ Indiana Tillage and Cover Crop Transect 1990-2016: <http://www.in.gov/isda/2383.htm>

² Environmental Working Group: <http://www.ewg.org/research/mapping-cover-crops-corn-and-soybeans-illinois-indiana-and-iowa-2015-2016>

³ 2012 USDA NASS Census of Agriculture: http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Conservation/Highlights_Consevation.pdf

Reporting Completed Conservation Projects

ICP entities that work with private landowners to provide direct technical and/or financial assistance for conservation projects share data (page 5) with necessary formal agreements in place (1619 compliance, MOU's, etc.) to exchange information while always protecting personally identifiable information. The map on page 6 highlights calendar year 2016 completed conservation projects by county.

Note: this report highlights only assisted, completed practices, while noting some practices underway near completion. It does not detail the many new contracts initiated or practices approved to begin construction.

Reporting Financial Inputs

The ICP shares financial data for all conservation practices at the county level, on an annual basis, per conservation program published online. Find out how much local, state, and federal conservation dollars came to your county on the [ICP Accomplishments Report](#) web application.

Reporting Water Quality Benefits

In 2013, members of the Indiana Conservation Partnership (ICP) began using the United States Environmental Protection Agency's (USEPA) [Region 5 Nutrient Load Reduction Model](#) to determine the impact of installed conservation practices implemented by the ICP on Indiana's water quality. The ICP adopted the Region 5 Nutrient Load Reduction Model to analyze conservation practices funded by state programs such as the Indiana State Department of Agriculture's Clean Water Indiana Program and the Indiana Department of Natural Resources' Lake and River Enhancement Program, as well as federally funded programs including EPA's Section-319 Program and USDA's Farm Bill Programs. This process is outlined on page 6. View [further methodology](#).

These reductions continue for the life of the practices modeled (e.g., grassed waterways are designed to be 10-year practices, while cover crops are 1-year practices, established annually). These cumulative reductions for calendar years '13-'16 are highlighted by watershed on pages 10-12. Some ICP practices were not modeled because they were not associated with sediment loss, or were not covered by the EPA Region 5 Model. The calendar year 2016 load reductions are highlighted by watershed on pages 7-9. This effort represents ICP-assisted conservation in Indiana. **Data does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance. Reductions in dissolved nutrients, such as dissolved reactive phosphorus (DRP) and nitrate (NO₃), are not accounted for by the Region 5 Model.**

As part of [Indiana's Nutrient Reduction Strategy](#), this modeling effort illustrates the continued success and challenges of conservation and serves as a tool to help set watershed priority and reduction targets, manage conservation resources, and to further stakeholder involvement across Indiana.

Reporting Positive Impacts to Drinking Water Sources and Targeting Conservation Efforts

The ICP focuses on reporting the positive impacts of conservation practices to key drinking water sources throughout the state that have significant percentages of agricultural land use within their watershed. To view these reports and find out the positive impacts farmers are having on water sources, as well as learn about the most popular conservation practices visit [Indiana's Nutrient Reduction Strategy](#) website.

The ICP will continue to focus on these significant watersheds and water bodies to further target technical and financial conservation assistance to grow conservation practice adoption.

Identifying Trends to Customize Conservation Delivery

The ICP utilizes multiple trend analysis techniques to identify rates of conservation practice implementation on the watershed, county, and state levels to identify adoption rates, most popular practices, newly emerging practices, practices dwindling in use, policy, weather, and economic effects on practice adoption, conservation culture, etc. These trends will allow the ICP to target resources and adapt conservation delivery geographically based on landowner needs and attitudes while preparing for spikes or dips in conservation demand due to weather and economic drivers. Visit the [Cover Crop and Conservation Tillage Transect Data](#) web page to view trends in the use of No-till, Conservation Tillage and Cover Crops in your county. *Note: Transect data includes all assisted and unassisted tillage and cover crop management.*

Incorporating in Other Data Sources (tillage and cover crop transects, social indicators, edge of field monitoring, in stream water quality monitoring, 303(d) list of impaired water bodies, privately funded and installed conservation practices, LIDAR, etc.)

The ICP leads many other efforts that measure practice adoption, social trends, edge of field and in stream water quality in addition to working with partners in the private agricultural industry on various projects. These data sources are being evaluated for integration into this report to further demonstrate and visualize the cause and effect relationship of conservation practices (or lack thereof) and water quality improvements; in addition to societal attitudes towards conservation and in-stream water quality.

Collaboration with Other States

As a member of the [Gulf of Mexico Hypoxia Task Force](#) and participant in Great Lakes conservation ([Tri-State Watershed Alliance](#)) Indiana is proud to collaboratively work with other states in the Midwest and across the country to improve water quality and grow adoption of science based, nutrient runoff reducing, Best Management Practices which build soil health. The ICP is hungry to learn what is working in other states and willing to share their own experiences.

Conclusion

The primary value in ICP adoption of the EPA Region 5 model lies in benchmarking conservation impact and management of conservation resources across the state. As an additional result, the Indiana State Department of Agriculture has tied Key Performance Indicators and Performance Measures to the [Indiana State Office of Management and Budget](#). On a larger scale, The ICP utilizes this model to set program/project goals, quantify impacts and estimate load reductions before a project ever begins.

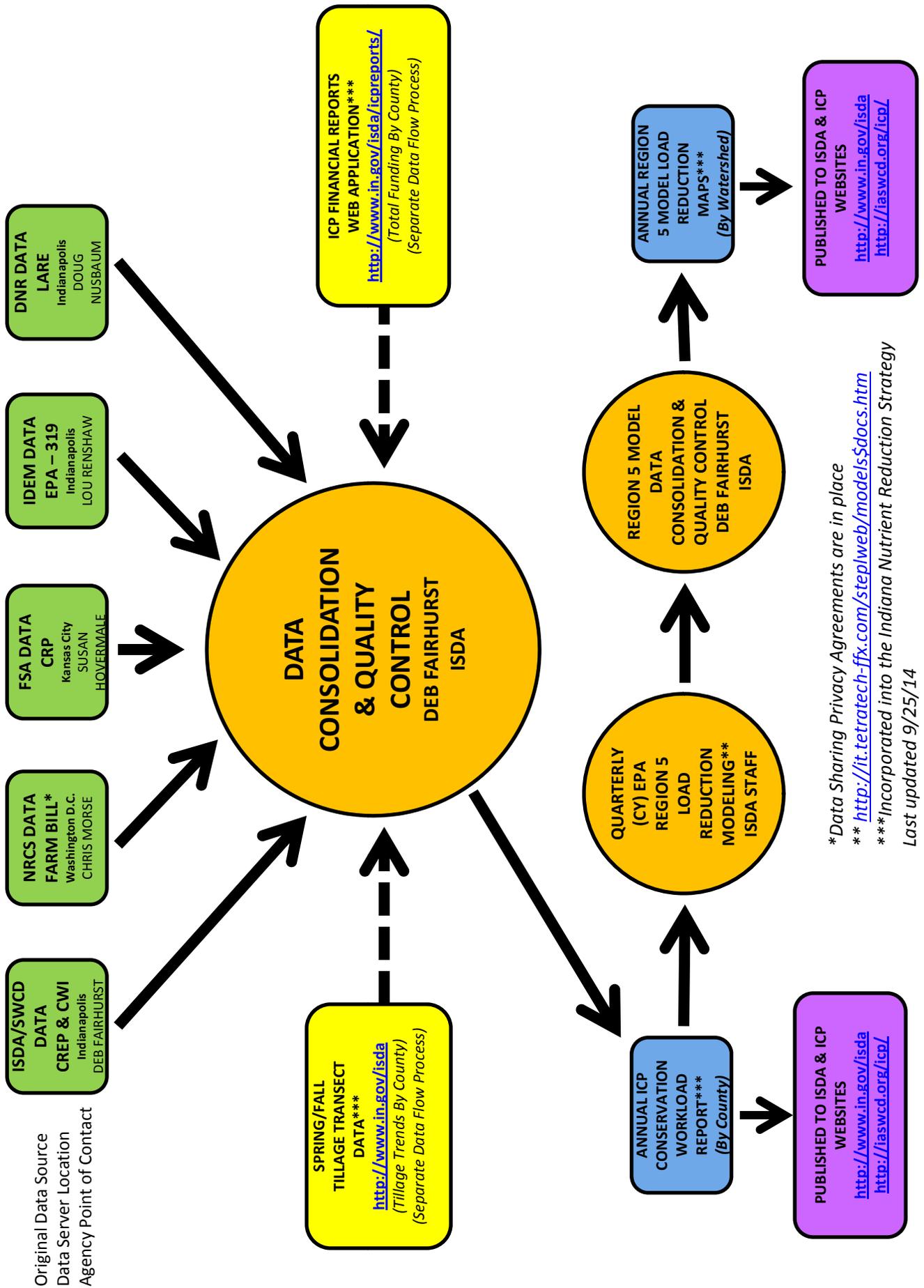
The ICP plans to continue utilizing the Region 5 Model and methodology for future years to come with the goal to assemble similar reports in March of each year while building further upon this process so the many benefits and trends of voluntary conservation projects can be shared in a timely and transparent manner.

Region 5 Model Training Webinar

[What Is the Region 5 Model and How Do You Use It?](#)

<https://engineering.purdue.edu/watersheds/webinars/Region5/>

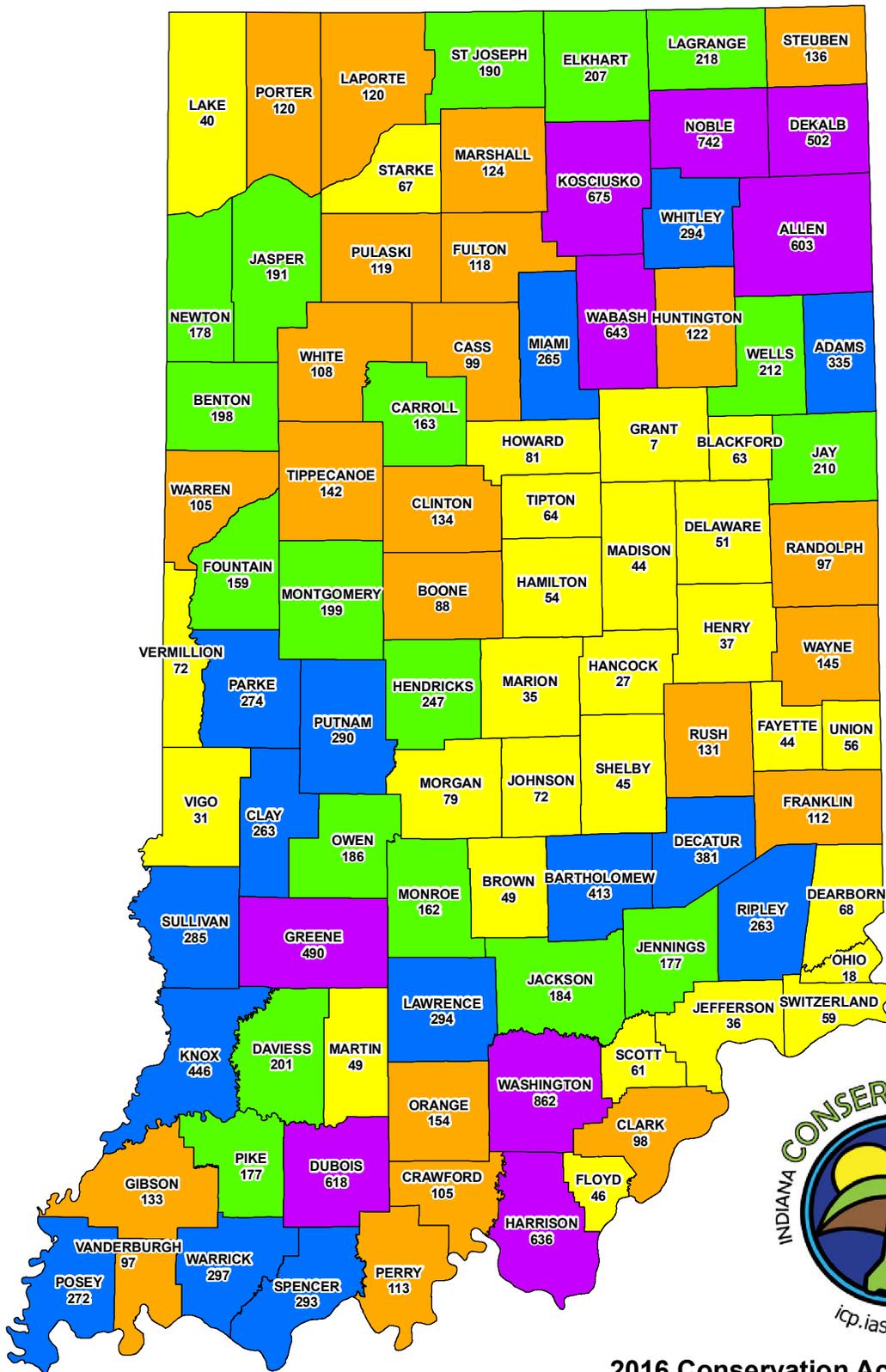
Indiana Conservation Partnership Annual (CY) Workload Accountability Data Flow



*Data Sharing Privacy Agreements are in place
 ** <http://it.tetrattech-ffx.com/step/web/models/docs.htm>
 *** Incorporated into the Indiana Nutrient Reduction Strategy
 Last updated 9/25/14

2016 Indiana Conservation Accomplishments

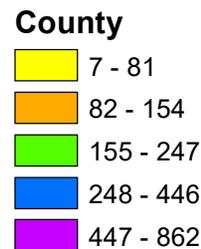
Implemented by Indiana Conservation Partnership



2016 Conservation Accomplishments

January 1 thru December 31, 2016
 Conservation Practices Completed - 17,970
 Conservation Practices Underway - 3,882

Data: Provided by Indiana State Department of Agriculture, Indiana Department of Environmental Management, Indiana Department of Natural Resources, Indiana's Soil and Water Conservations Districts and USDA Natural Resources Conservation Service.

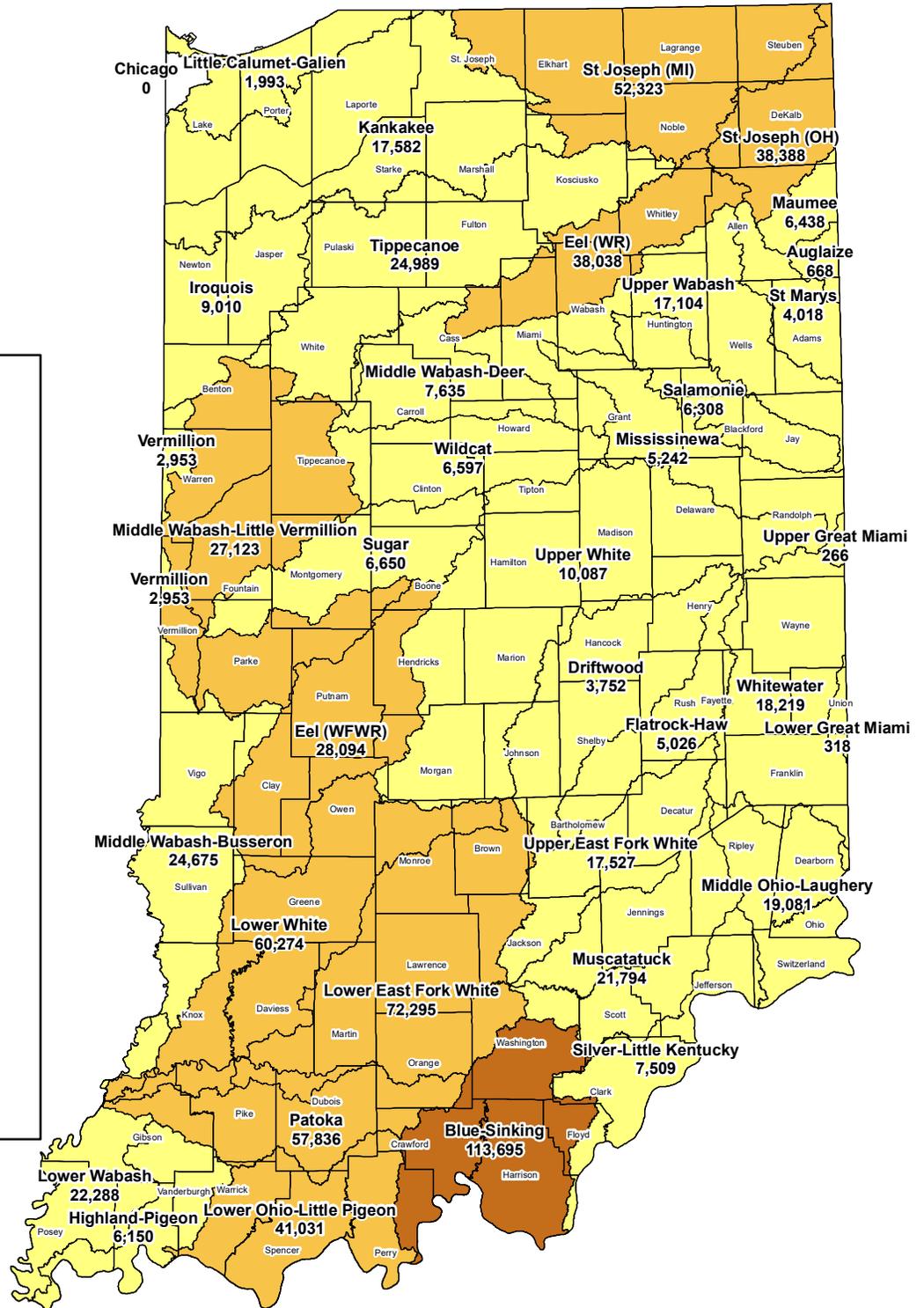
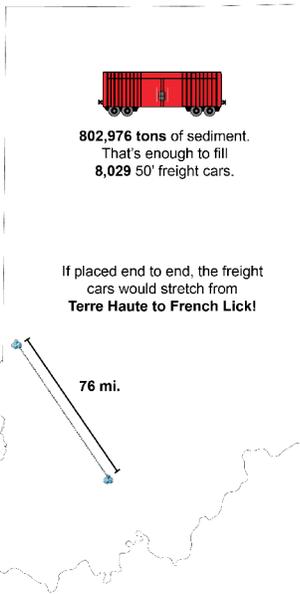


2016 Sediment Load Reductions

802,976 Tons

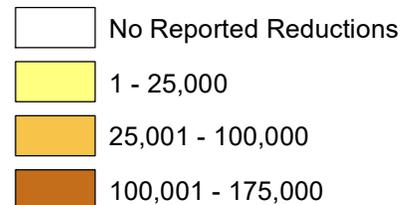


In 2016, voluntary conservation efforts from private landowners in Indiana with support from the ICP have reduced sediment and nutrients from entering Indiana's waterways.



Based on EPA Region 5 Model analyses conducted on 10,788 conservation practices installed by the Indiana Conservation Partnership January 2016 thru December 2016. This effort does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

Sediment Reduction (tons/year)



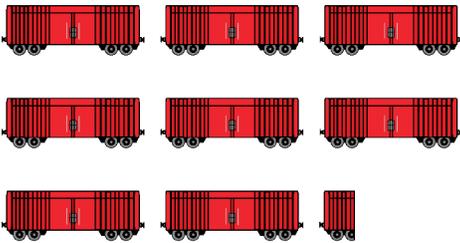
March 29, 2017
 Deb Fairhurst, ISDA Program Manager
 To learn more about Indiana's Nutrient Reduction Strategy visit: <http://www.in.gov/isda/2991.htm>.
 For questions and comments email ISDANutrientReduction@isda.in.gov

2016 Nitrogen Load Reductions

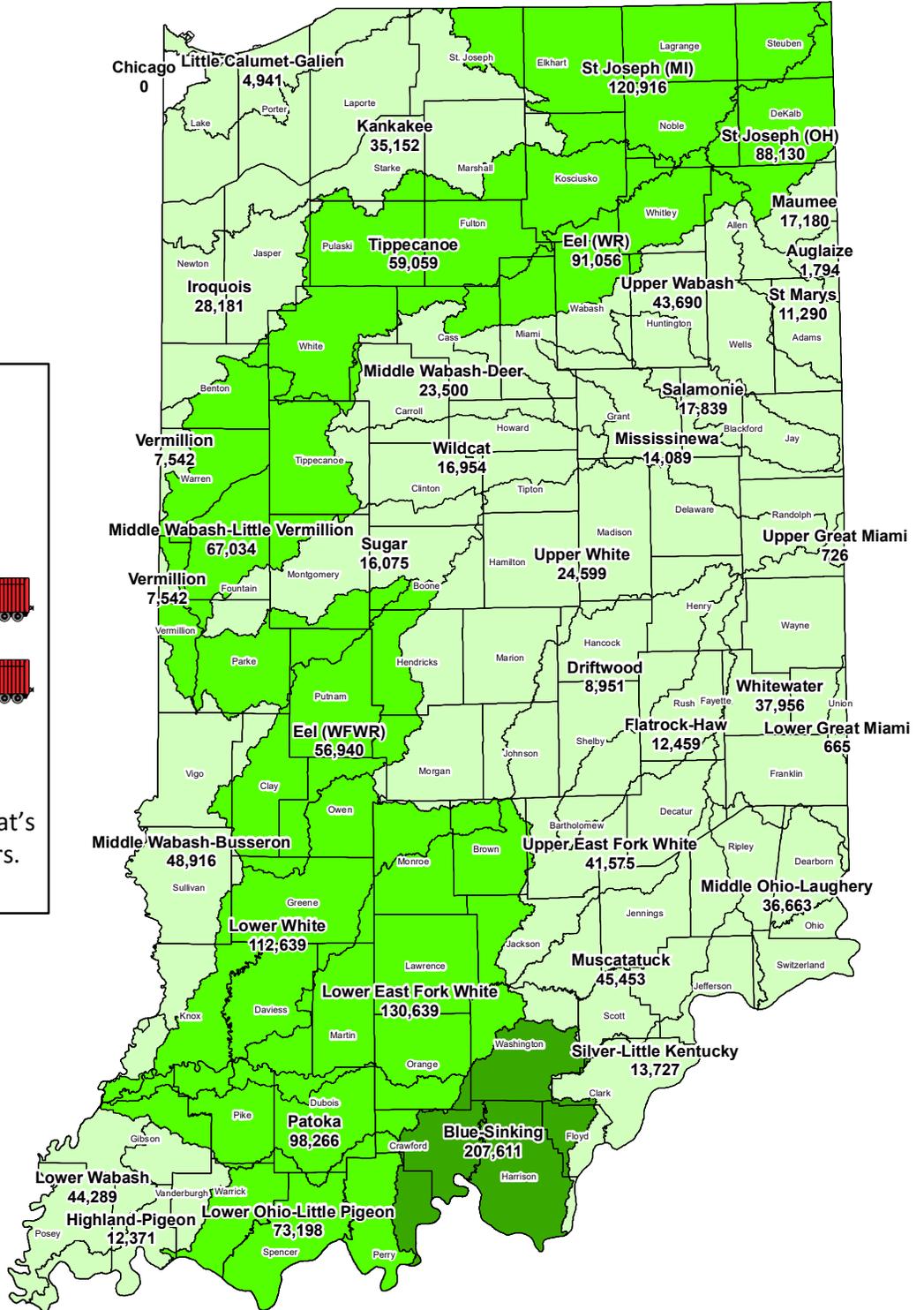
1,672,067 Pounds



In 2016, voluntary conservation efforts from private landowners in Indiana with support from the ICP have reduced nitrogen and nutrients from entering Indiana's waterways.



1,672,067 pounds of nitrogen. That's enough to fill **8.25** 50' freight cars.

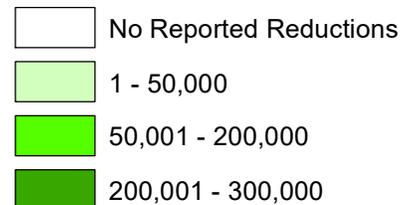


Based on EPA Region 5 Model analyses conducted on 10,780 conservation practices installed by the Indiana Conservation Partnership January 2016 thru December 2016. This effort does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

Reductions in dissolved nutrients, such as dissolved reactive phosphorus (DRP) and nitrate (NO₃), are not accounted for by the Region 5 Model.

March 29, 2017
 Deb Fairhurst, ISDA Program Manager
 To learn more about Indiana's Nutrient Reduction Strategy visit: <http://www.in.gov/isda/2991.htm>.
 For questions and comments email ISDANutrientReduction@isda.in.gov

Nitrogen Reduction (lbs./year)

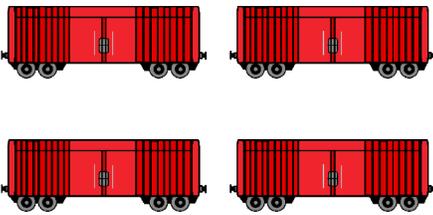


2016 Phosphorus Load Reductions

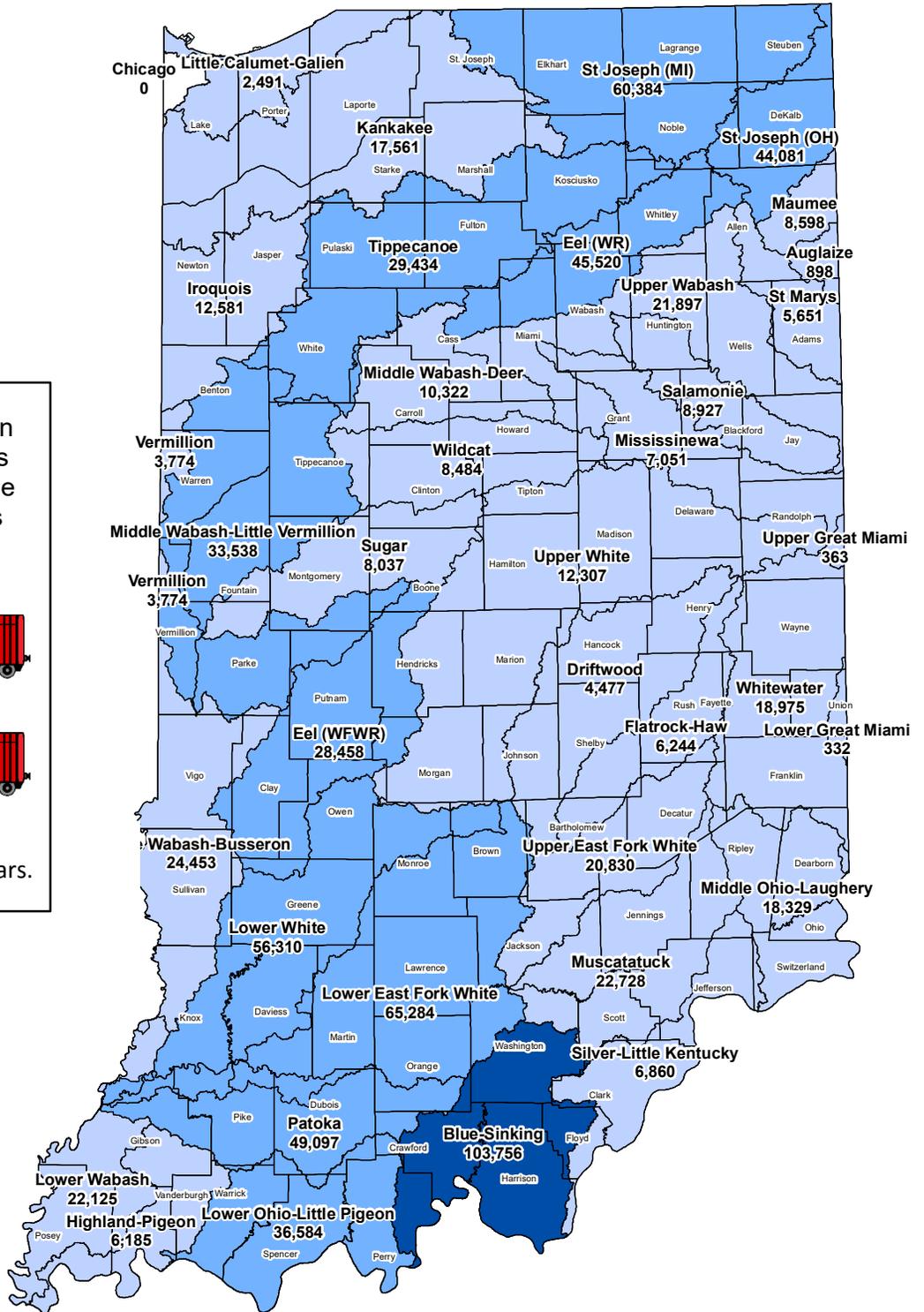
832,929 Pounds



In 2016, voluntary conservation efforts from private landowners in Indiana with support from the ICP have reduced phosphorus and nutrients from entering Indiana's waterways.



832,929 pounds of phosphorus.
That's enough to fill **4** 50' freight cars.



Based on EPA Region 5 Model analyses conducted on 10,780 conservation practices installed by the Indiana Conservation Partnership January 2016 thru December 2016. This effort does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

Reductions in dissolved nutrients, such as dissolved reactive phosphorus (DRP) and nitrate (NO3), are not accounted for by the Region 5 Model.

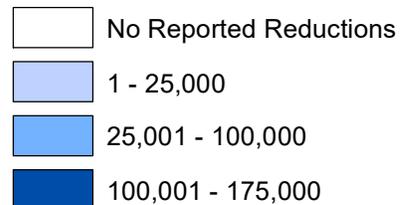
March 29, 2017

Deb Fairhurst, ISDA Program Manager

To learn more about Indiana's Nutrient Reduction Strategy visit: <http://www.in.gov/isda/2991.htm>.

For questions and comments email ISDANutrientReduction@isda.in.gov

Phosphorus Reduction (lbs./year)

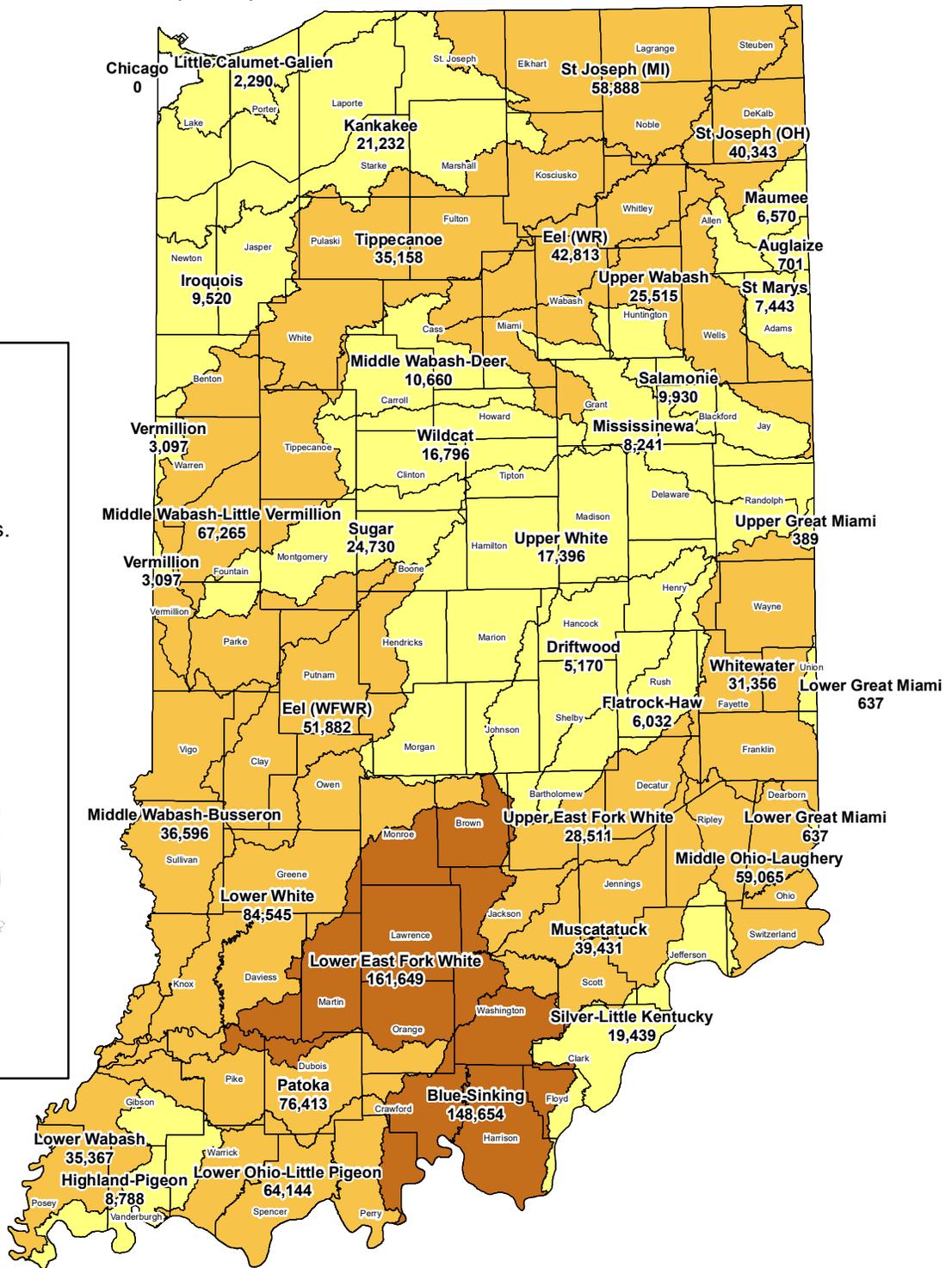
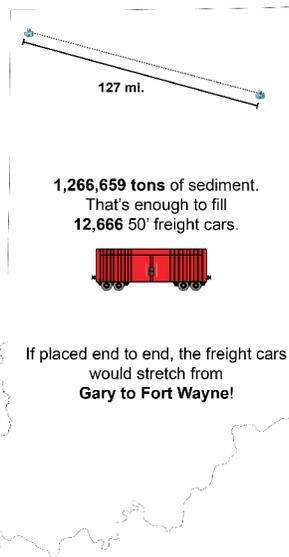


2013-16 Cumulative Sediment Load Reductions

1,266,659 Tons



Since 2013, voluntary conservation efforts from private landowners in Indiana with support from the ICP have reduced nutrients and sediment from entering Indiana's waterways.



Sediment Reduction (tons)



Based on EPA Region 5 Model analyses conducted on 18,510 conservation practices installed by the Indiana Conservation Partnership January 2013 thru December 2016. This effort does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

The cumulative analysis encompassed a breakdown of 2013 thru 2016 conservation practices by lifespan including 1, 5, 10, 15, 20 and 40 years. The map reflects all of the practices minus the 2013 thru 2015 practices with a lifespan of one year.

To learn more about Indiana's Nutrient Reduction Strategy visit <http://www.in.gov/isda/2991.htm>
For questions and comments email ISDANutrientReduction@isda.in.gov

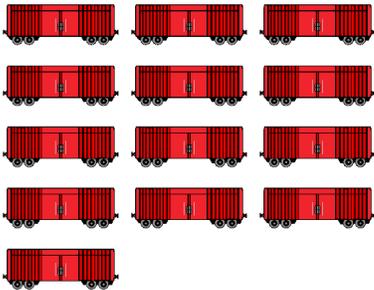
March 29, 2017
Deb Fairhurst, ISDA Program Manager

2013-16 Cumulative Nitrogen Load Reductions

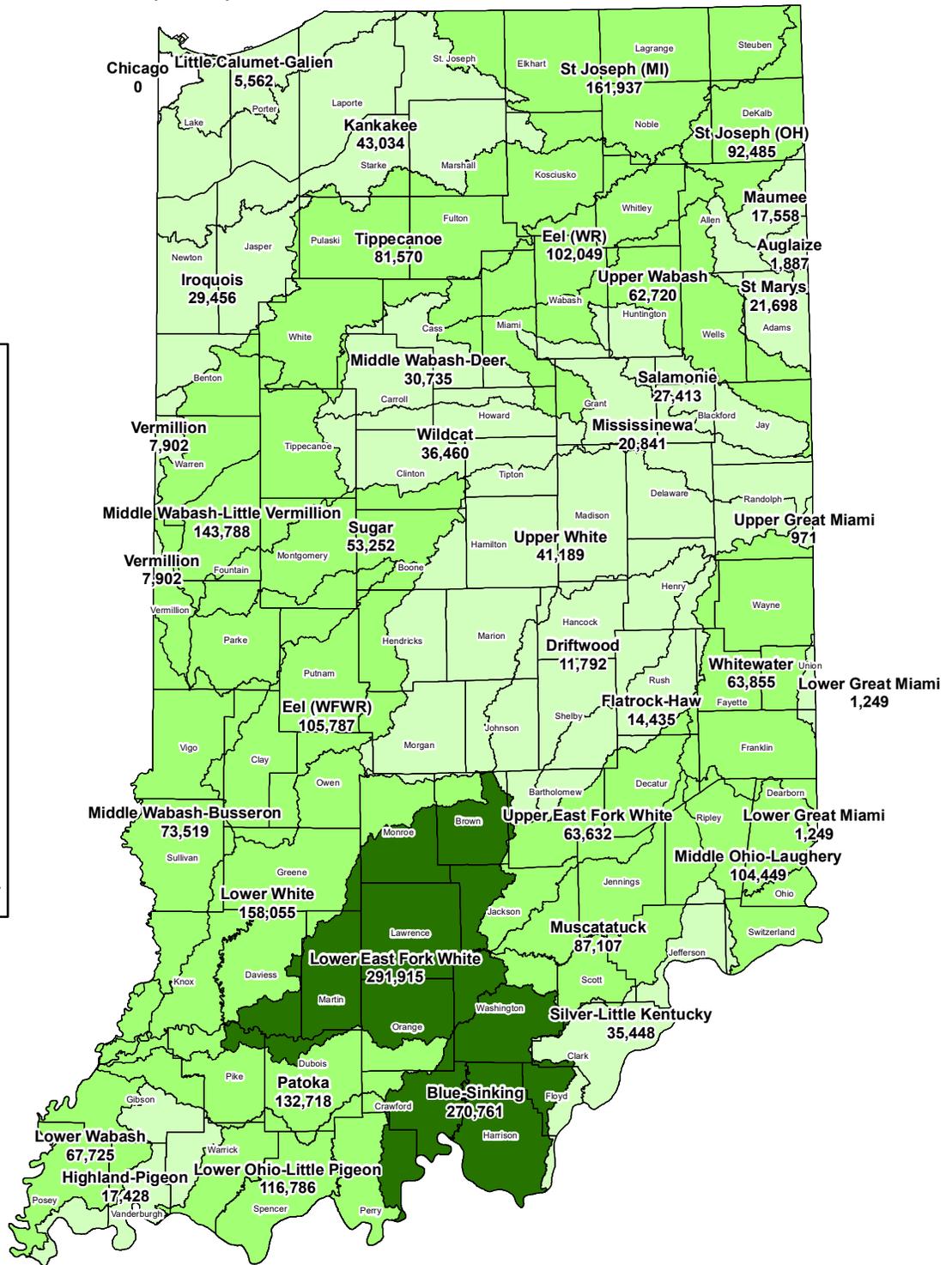
2,599,168 Pounds



Since 2013, voluntary conservation efforts from private landowners in Indiana with support from the ICP have reduced nutrients and sediment from entering Indiana's waterways.



2,599,168 pounds of nitrogen.
That's enough to fill **13** 50' freight cars.



Based on EPA Region 5 Model analyses conducted on 18,510 conservation practices installed by the Indiana Conservation Partnership January 2013 thru December 2016. This effort does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

The cumulative analysis encompassed a breakdown of 2013 thru 2016 conservation practices by lifespan including 1, 5, 10, 15, 20 and 40 years. The map reflects all of the practices minus the 2013 thru 2015 practices with a lifespan of one year.

Reductions in dissolved nutrients, such as dissolved reactive phosphorus (DRP) and nitrate (NO₃), are not accounted for by the Region 5 Model.

To learn more about Indiana's Nutrient Reduction Strategy visit: <http://www.in.gov/isda/2991.htm>. For questions and comments email ISDANutrientReduction@isda.in.gov

Nitrogen Reduction (pounds)



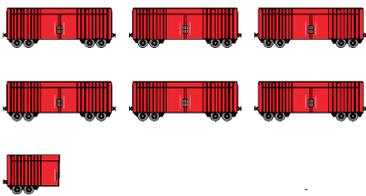
March 29, 2017
Deb Fairhurst, ISDA Program Manager

2013-16 Cumulative Phosphorus Load Reductions

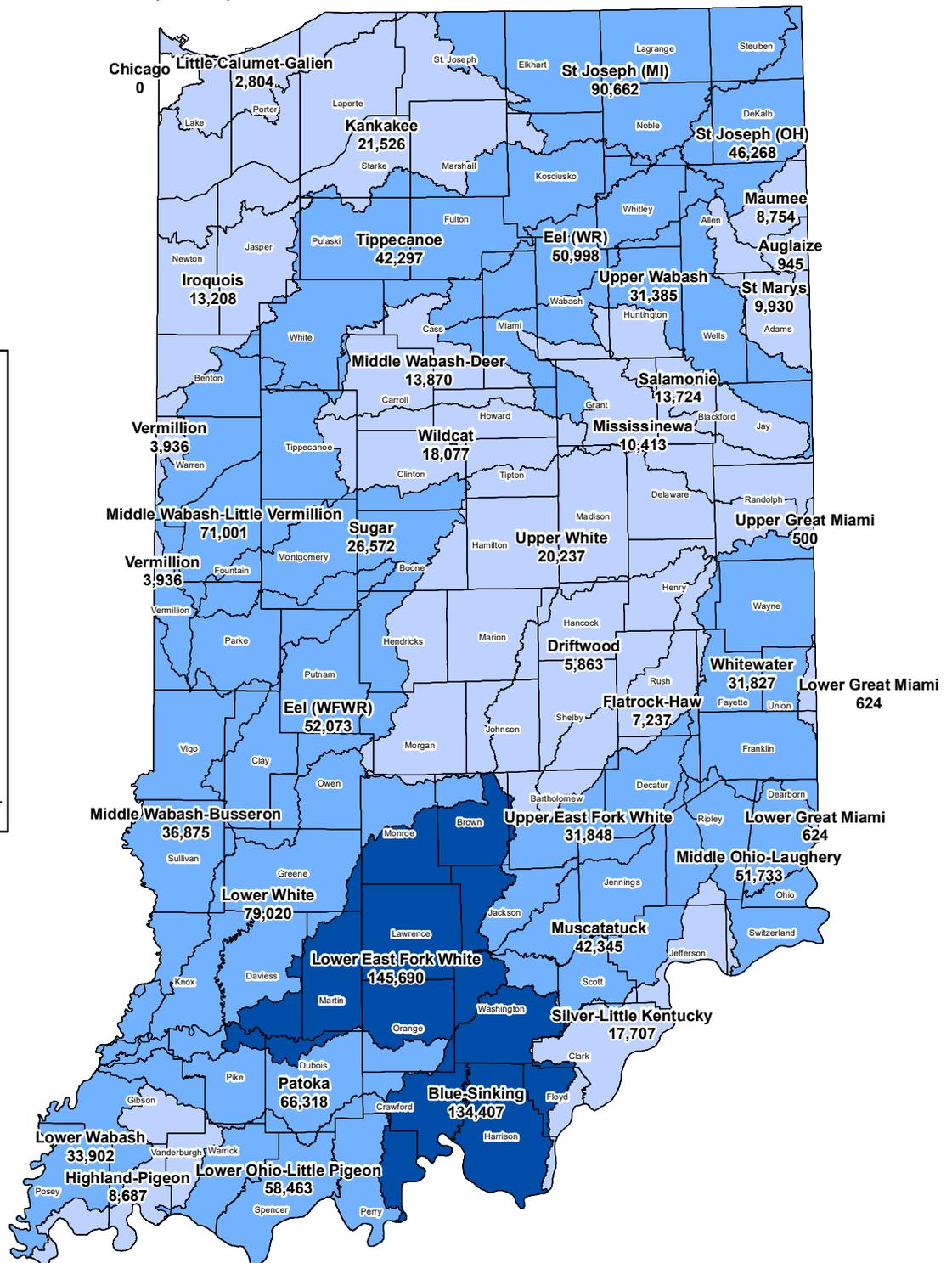
1,301,728 Pounds



Since 2013, voluntary conservation efforts from private landowners in Indiana with support from the ICP have reduced nutrients and sediment from entering Indiana's waterways.



1,301,728 pounds of phosphorus.
That's enough to fill 6.25 50' freight cars.



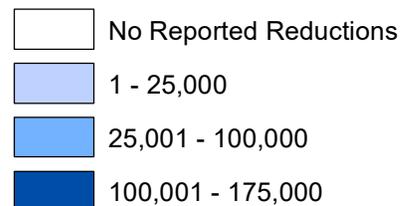
Based on EPA Region 5 Model analyses conducted on 18,510 conservation practices installed by the Indiana Conservation Partnership January 2013 thru December 2016. This effort does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

The cumulative analysis encompassed a breakdown of 2013 thru 2016 conservation practices by lifespan including 1, 5, 10, 15, 20 and 40 years. The map reflects all of the practices minus the 2013 thru 2015 practices with a lifespan of one year.

Reductions in dissolved nutrients, such as dissolved reactive phosphorus (DRP) and nitrate (NO₃), are not accounted for by the Region 5 Model.

To learn more about Indiana's Nutrient Reduction Strategy visit: <http://www.in.gov/isda/2991.htm>. For questions and comments email ISDANutrientReduction@isda.in.gov

Phosphorus Reduction (pounds)



March 29, 2017
Deb Fairhurst, ISDA Program Manager

Indiana Nutrient and Sediment Load Reductions

Voluntary conservation efforts from private landowners in Indiana with support from the Indiana Conservation Partnership have reduced nutrients and sediment from entering Indiana's waterways. The figures below represent these efforts in 2016 from conservation practices installed since 2013.*

Sediment

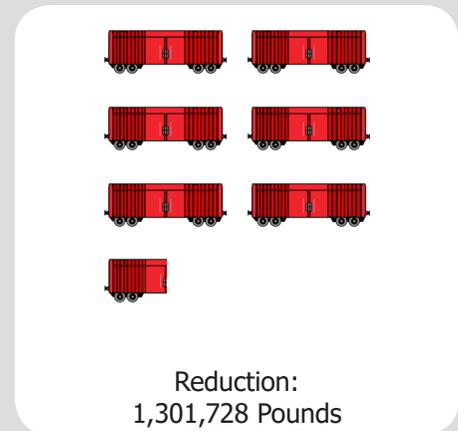
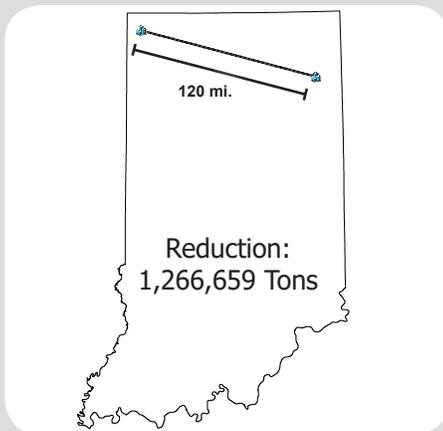
12,666 50' freight cars
If placed end to end, that would stretch from Gary to Fort Wayne!

Nitrogen

13 freight cars

Phosphorus

6.5 freight cars



Top Conservation Practices in Indiana

By quantity of practices installed and reduction per practice:

- No Till
- Reduced Tillage
- Cover Crops
- Grassed Waterways
- Wetland Enhancement
- Filter Strips
- Nutrient Management
- Riparian Buffers

For more information about conservation practices visit: nrcs.usda.gov

Indiana Conservation Partnership (ICP)

Data is collected by Indiana Conservation Partnership Agencies and aggregated using the USEPA's Region 5 Model to show total nutrient and sediment reductions.

INDIANA ASSOCIATION OF soil and water conservation DISTRICTS

DNR INDIANA DEPARTMENT OF NATURAL RESOURCES

IDEM INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT EST. 1986

INDIANA STATE DEPARTMENT DIVISION OF SOIL CONSERVATION OF AGRICULTURE

INDIANA CONSERVATION PARTNERSHIP icp.iaswcd.org/

USDA NRCS United States Department of Agriculture Natural Resources Conservation Service

With Support From: UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

*This effort does not include the many unassisted practices designed and installed solely by a private landowner without Indiana Conservation Partnership assistance.