2017 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: April 4, 2018

Table of Contents

Supporting Tabular Data: View tabular data for all maps included in this report, as well as program funding descriptions at http://www.in.gov/isda/2991.htm.

Methodology - USEPA Region 5 Load Reduction Modeling of Completed Conservation Practices in Indiana: View methodology used to compile this report at http://www.in.gov/isda/2991.htm.

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

Cover photo: Dave Pluimer, a winner of the ISDA photo contest

Indiana Conservation Partnership:

Indiana Conservation Partnership - http://icp.iaswcd.org/

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

Indiana Department of Environmental Management - http://www.in.gov/idem/

Indiana Department of Natural Resources - http://www.in.gov/dnr/

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

Purdue Cooperative Extension Service - https://www.extension.purdue.edu

State Soil Conservation Board - 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

USDA Natural Resources Conservation Service - 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.

2017 Key Highlights

- Indiana landowners supported by the Indiana Conservation Partnership (ICP) installed over 19,000 new conservation practices in 2017. 11,911 of these practices had associated sediment and nutrient load reductions to Indiana waterways reducing:
    - 889,768 tons of sediment, enough to fill 8,898 fifty-foot freight cars stretching end to end from Indianapolis to Huntington.
    - 1,846,473 lbs. of Nitrogen, enough to fill 9 fifty-foot freight cars
    - 923,119 lbs. of Phosphorus, enough to fill 4.6 fifty-foot freight cars
- Indiana landowners increased no-till acres on corn and soybean fields by 379% since 1990[1]
- Indiana landowners increased conservation tillage acres on corn and soybean fields by 297% since 1990[1]
- Indiana landowners increased cover crop acres on corn and soybean fields by 466% since 2011[1]
- Indiana leads the nation in acres planted to cover crops[2], second only to Texas[3]

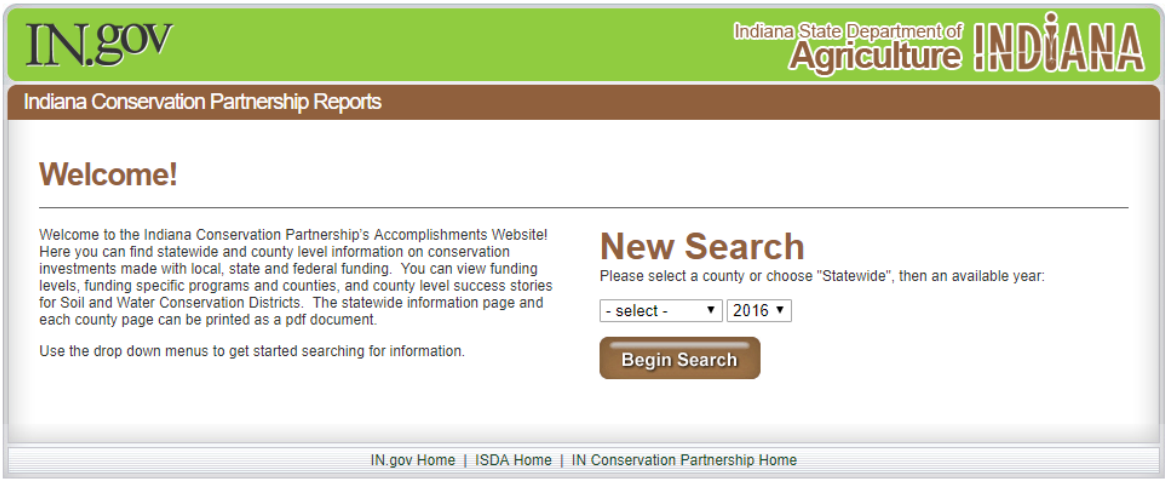
Completed Conservation Projects

ICP entities that work with private landowners to provide direct technical and/or financial assistance for conservation projects share data (page 6) with necessary formal agreements in place (1619 compliance, MOU's, etc.) to exchange information while always protecting personally identifiable information. The map on page 8 highlights calendar year 2017 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.

Financial Investments

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 (screenshot below).



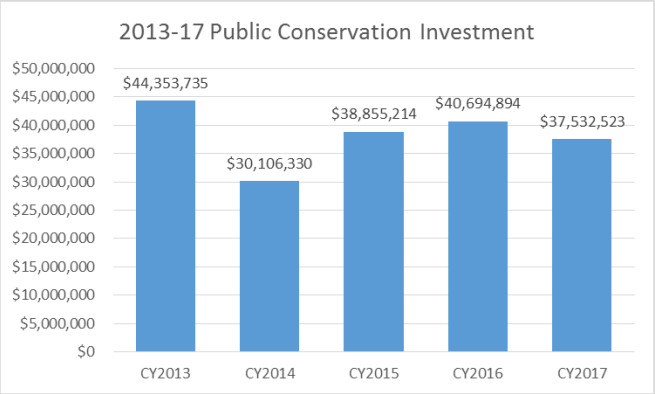
[1] Indiana Tillage and Cover Crop Transect 1990-2017: http://www.in.gov/isda/2383.htm

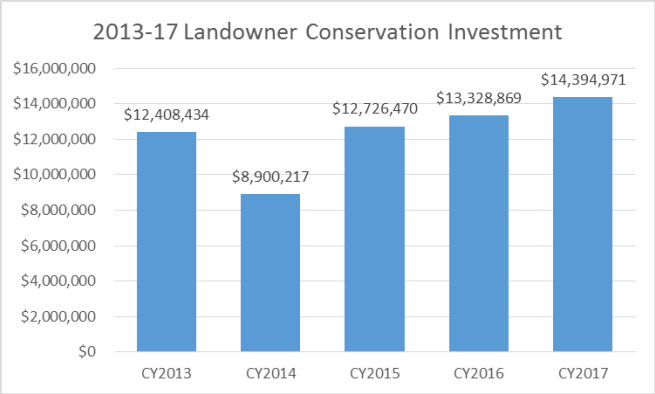
[2] Environmental Working Group: http://www.ewg.org/research/mapping-cover-crops-corn-and-soybeans-illinois-indiana-and-iowa-2015-2016

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

Public and Private Conservation Investment

The ICP tracks investment in assisted conservation practices by calandar year. This investment detailed below is specific to cost share and/or incentive payments for completed conservation practices. Please see disclaimers below for further detail of what expenses are and are not included. Public investment is defined as portion of project covered by government programs. Landowner investment is defined as portion of project covered by out of pocket expenses. Public + Landowner = Total Investment.





2013-17 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
CY2017	19,295	$37,532,523	$14,394,971	$51,927,494	11,911	$31,027,663	$12,723,097	$43,750,760

NLR: Nutrient Load Reduction
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 and Private Landowner Conservation Investment: Values are based on estimated project costs where available (CRP), or based on incentive payment rates for the region (NRCS). 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.).

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.

Water Quality Outcomes

Members of the Indiana Conservation Partnership (ICP) use the United States Environmental Protection Agency's (USEPA) Region 5 Nutrient Load Reduction Model[4] to determine the impact of completed 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 local, state, and federal programs. This process is outlined on page 6. View further methodology.

Multiyear benefits:

Load 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-'17 are highlighted by watershed on pages 12-14. Some ICP practices were not modeled because they were not associated with sediment loss, and therefore not covered by the EPA Region 5 Model. The calendar year 2017 load reductions are highlighted by watershed on pages 9-11. 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.

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 identify what watershed you live in, find out the positive impacts farmers are having on water sources, and to learn about the most popular conservation practices visit Indiana's Nutrient Reduction Strategy website.

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.

Incorporating 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.

[4] Region 5 Model Training Webinar: https://engineering.purdue.edu/watersheds/webinars/Region5/

Collaboration with Other States

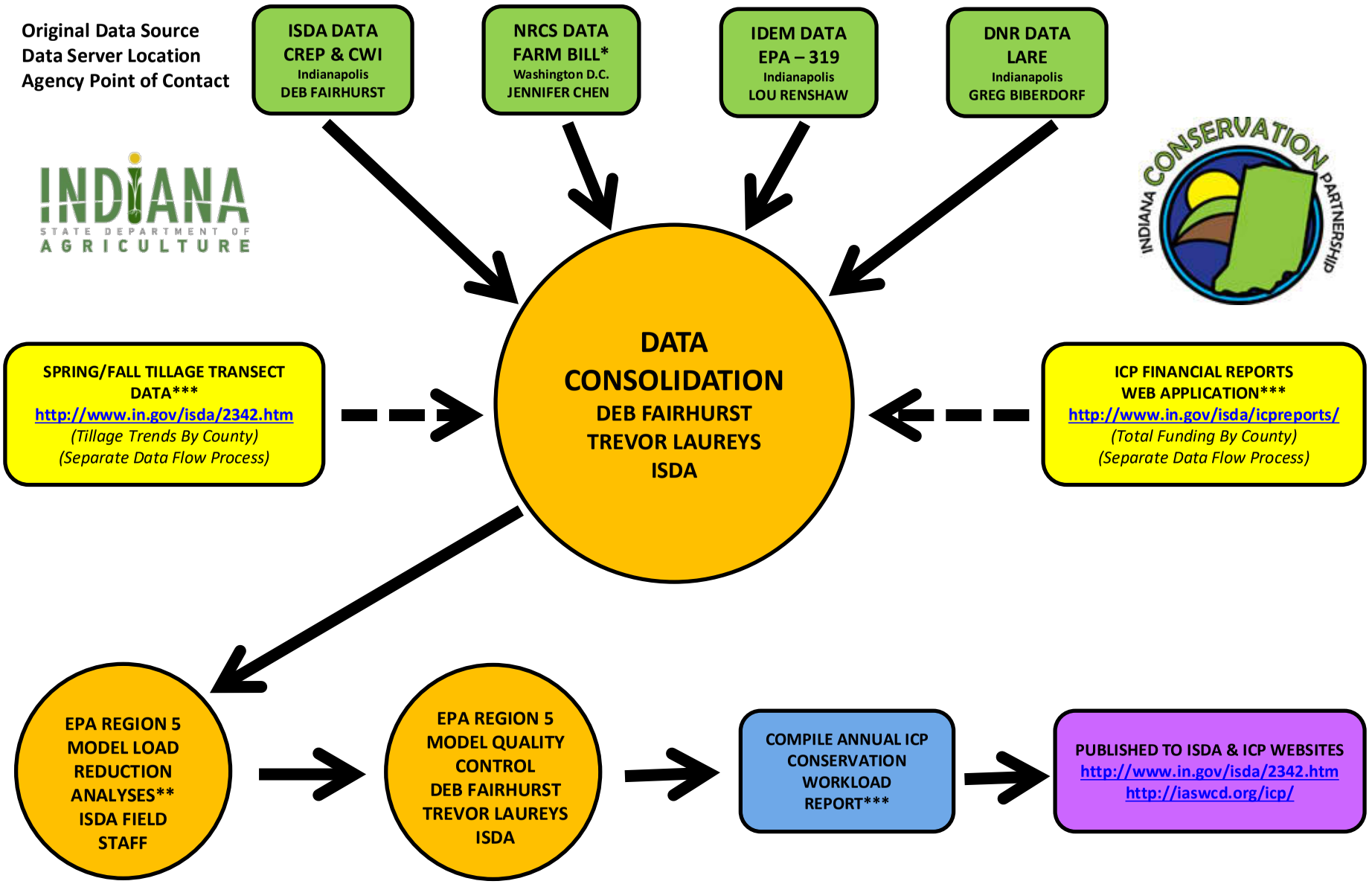
As a member of the Gulf of Mexico Hypoxia Task Force and participant in Indiana's Great Lakes Water Quality Agreement (GLWQA) Domestic Action Plan (DAP) and Great Lakes conservation (Tri-State Watershed Alliance), Indiana is proud to collaboratively work with other states in the Midwest and across the 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 a collective reporting mechanism 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 will 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.

Indiana Conservation Partnership Annual (CY) Workload Accountability Data Flow



Data Sharing Privacy Agreements are in place

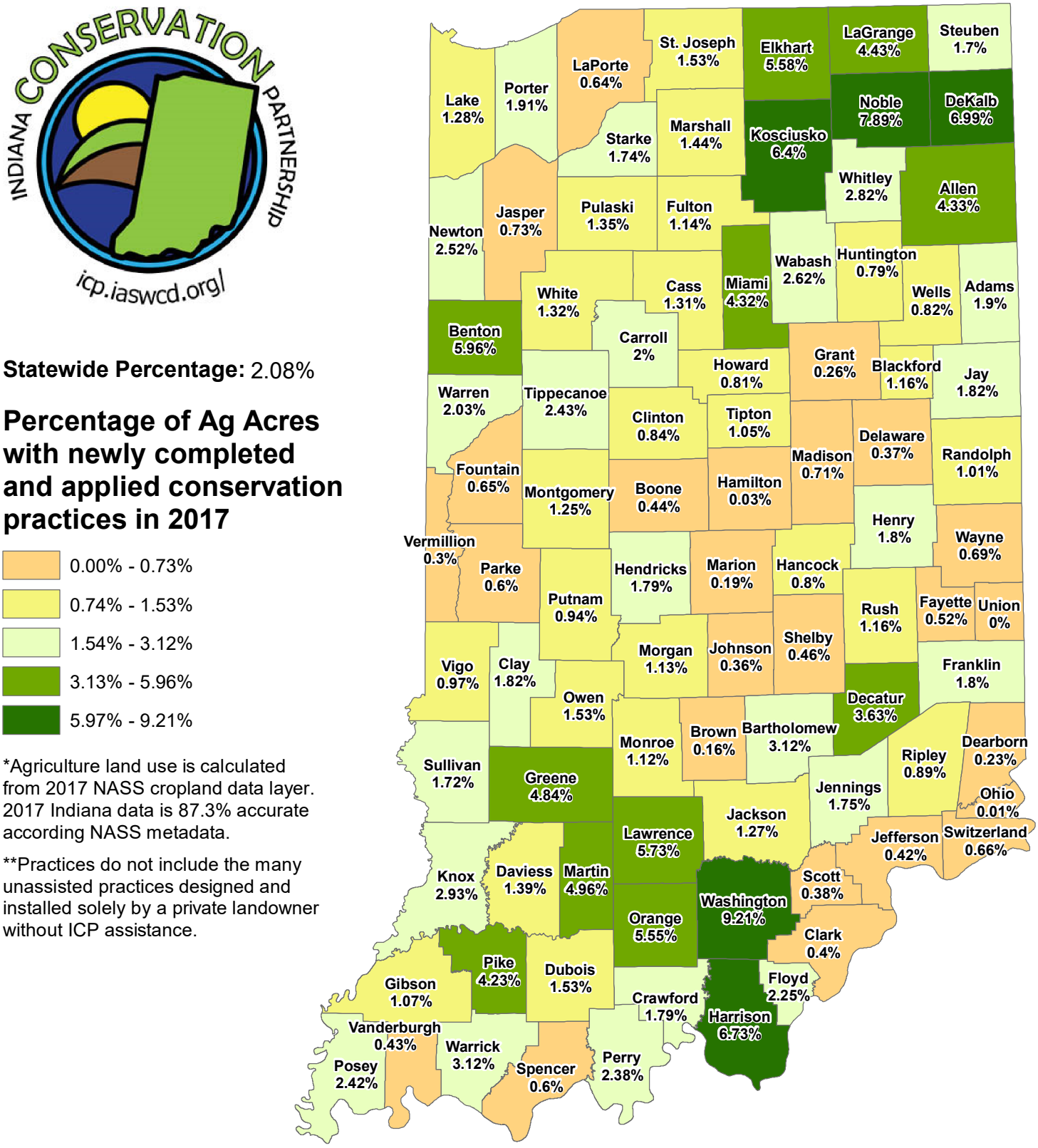
** http://it.tetratech-ffx.com/steplweb/models$docs.htm

***Incorporated into the Indiana Nutrient Reduction Strategy*

Last updated 2/7/2018

2017 Conservation Acreage by County

*Percentage of Ag acres with newly completed and applied conservation practices in 2017***



icp.iaswcd.org/

Statewide Percentage: 2.08%

Percentage of Ag Acres with newly completed and applied conservation practices in 2017

- 0.00% - 0.73%
- 0.74% - 1.53%
- 1.54% - 3.12%
- 3.13% - 5.96%
- 5.97% - 9.21%

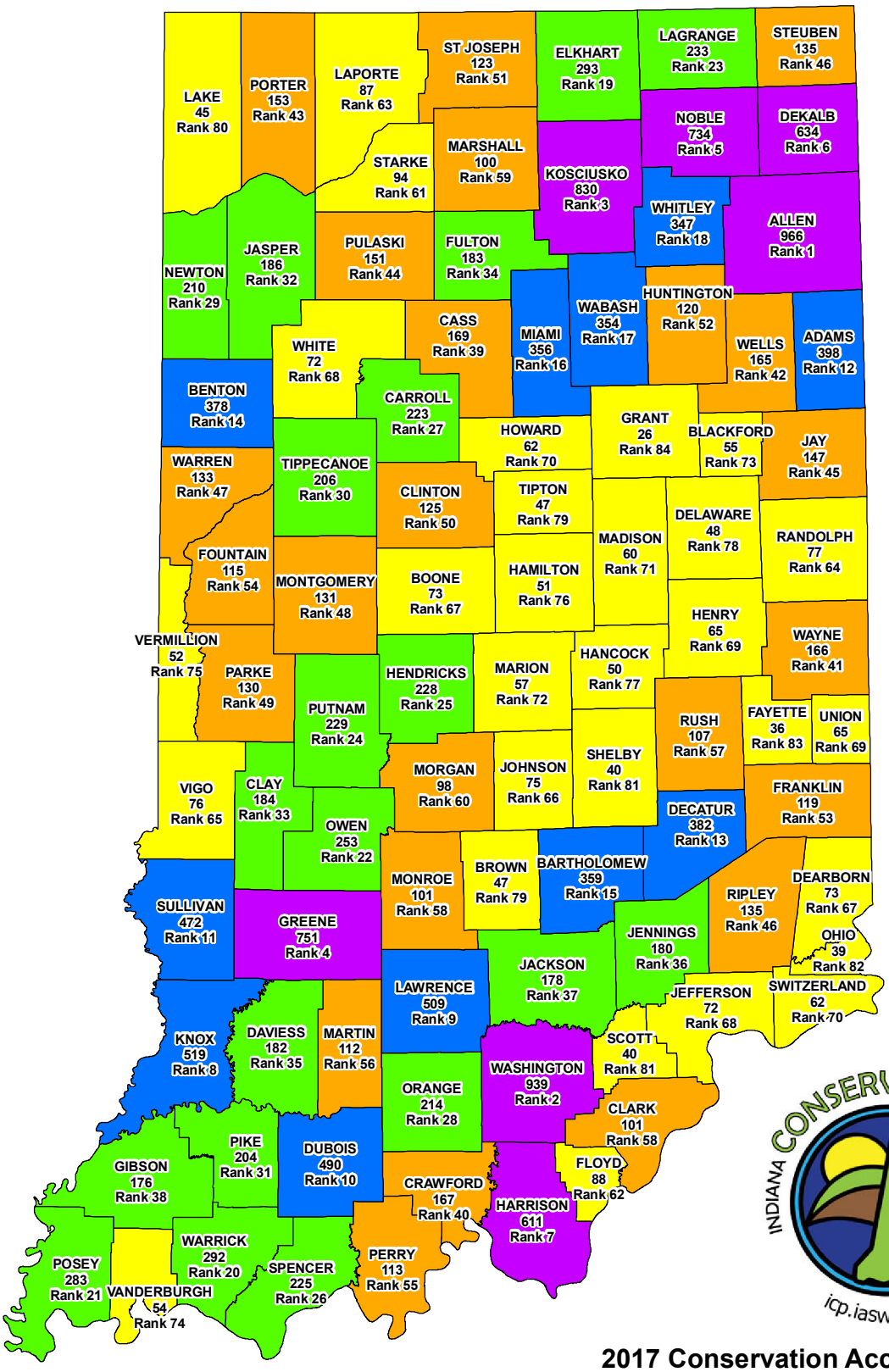
*Agriculture land use is calculated from 2017 NASS cropland data layer. 2017 Indiana data is 87.3% accurate according NASS metadata.

**Practices do not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

*Acres in Agriculture are calculated using the 2017 NASS Cropland Data Layer: https://nassgeodata.gmu.edu/CropScape/
*Practices not measured in acres were converted using NRCS FOTG (https://efotg.sc.egov.usda.gov/) minimum standards, or from suggestions and professional input by ISDA-DSC Field Staff.
*WASCOBs were assumed to be 1/10th of an acre, due to a lack of drainage information.
*Watering Facilities were matched with respective HUAP sizes, or in some cases, defaulted to 1/10th of an acre.
*Fences were calculated by converting length to square feet using a width of 1 foot.

2017 Indiana Conservation Accomplishments

Implemented by Indiana Conservation Partnership



January 1 thru December 31, 2017
Conservation Practices Completed - 19,295
Conservation Practices Underway - 2,680

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.

February 5, 2018
Deb Fairhurst, ISDA Program Manager
Trevor Laureys, ISDA Program Manager

2017 Conservation Accomplishments

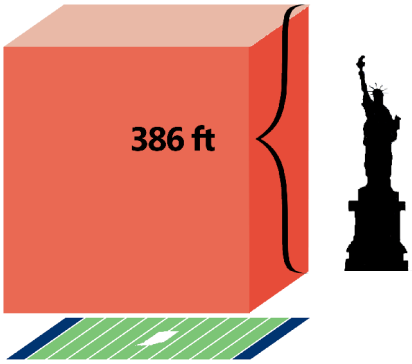
Total Practices

- 26 - 94
- 95 - 169
- 170 - 293
- 294 - 519
- 520 - 966

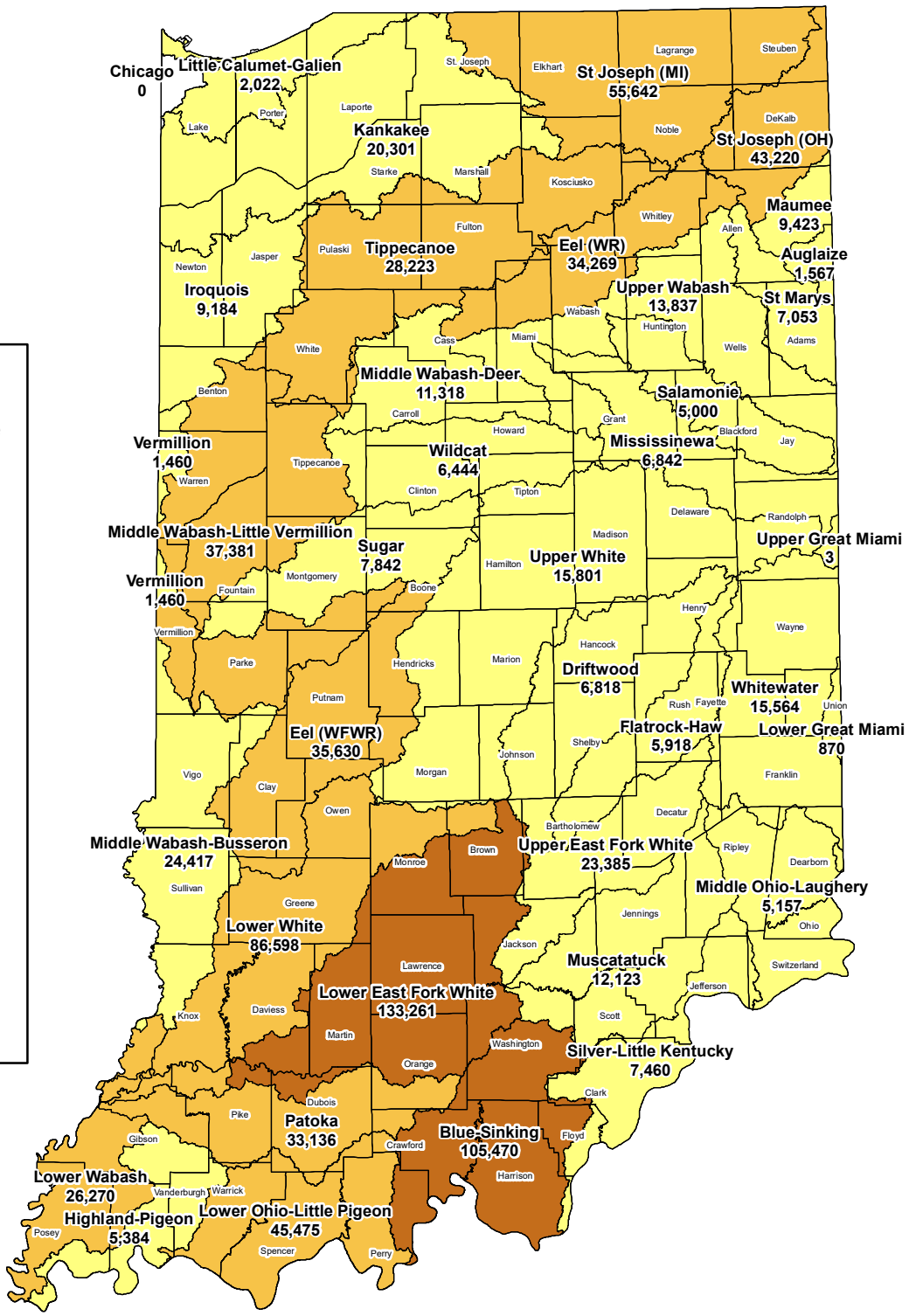
See breakdown of practice by county based on program funding along with program descriptions in Supporting Tabular Data for 2017 ICP Accomplishments at http://www.in.gov/isda/2991.htm.

2017 Sediment Load Reductions
889,768 Tons

In 2017, voluntary conservation efforts from Indiana's private landowners, with support from the ICP, have reduced sediment and nutrients from entering Indiana's waterways.



889,768 tons of sediment. A football field covered to a depth of 386 feet, which is 81 feet taller than the Statue of Liberty.



Sediment Reduction (tons/year)

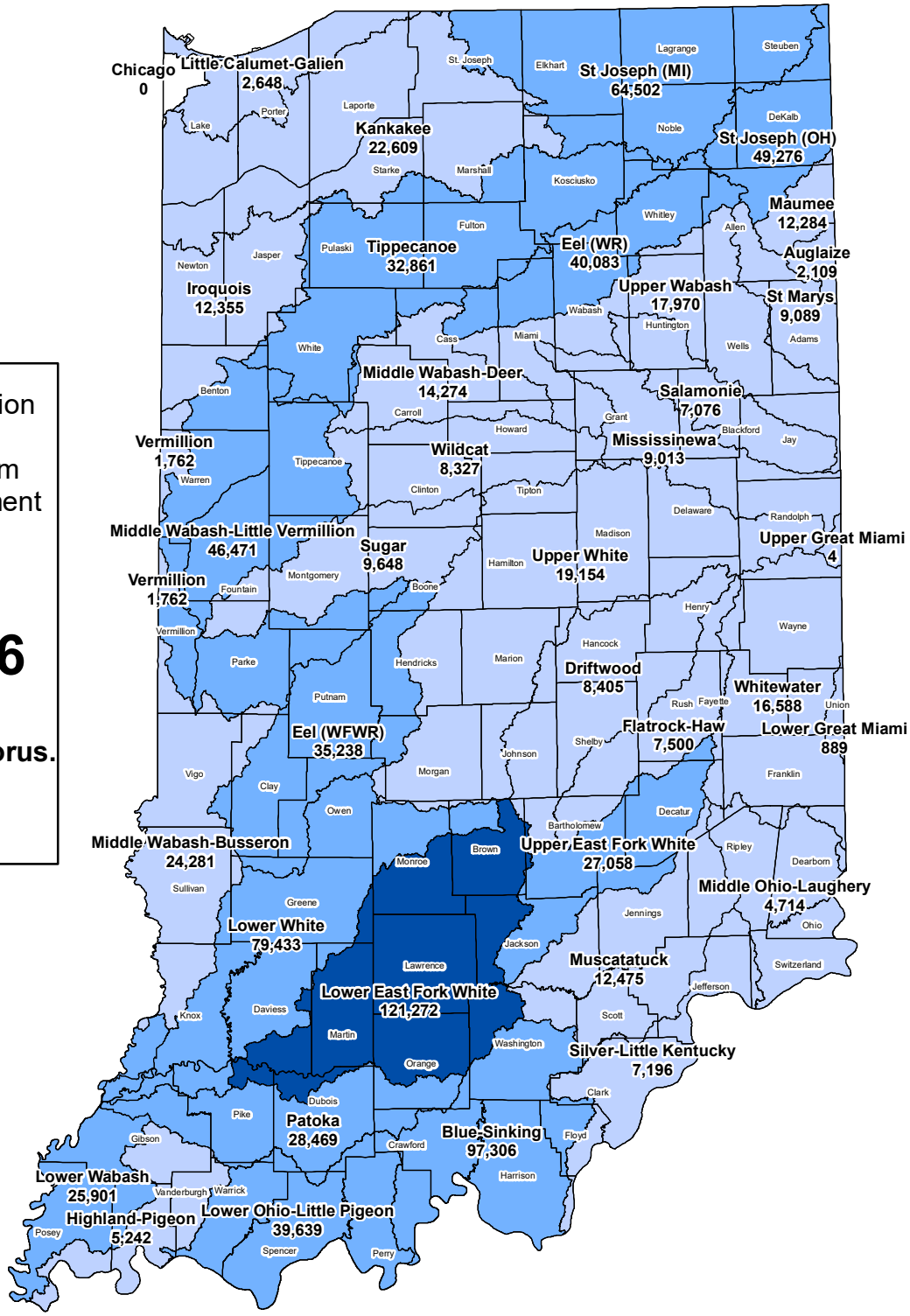
- No Reported Reductions
- 1 - 25,000
- 25,001 - 100,000
- 100,001 - 175,000

Based on EPA Region 5 Model analyses conducted on 11,911 conservation practices installed by the Indiana Conservation Partnership January 2017 thru December 2017. This effort does not include the many unassisted practices designed and installed solely by a private landowner without ICP assistance.

February 28, 2018
Deb Fairhurst, ISDA Program Manager
Trevor Laureys, 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

2017 Phosphorus Load Reductions

923,119 Pounds



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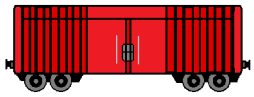

X 4.6

923,119 pounds of phosphorus. That's enough to fill 4.6 freight cars.

Based on EPA Region 5 Model analyses conducted on 11,911 conservation practices installed by the Indiana Conservation Partnership January 2017 thru December 2017. 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.

Phosphorus Reduction (lbs./year)

- No Reported Reductions
- 1 - 25,000
- 25,001 - 100,000
- 100,001 - 175,000

February 28, 2018
Deb Fairhurst, ISDA Program Manager
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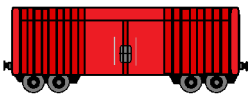
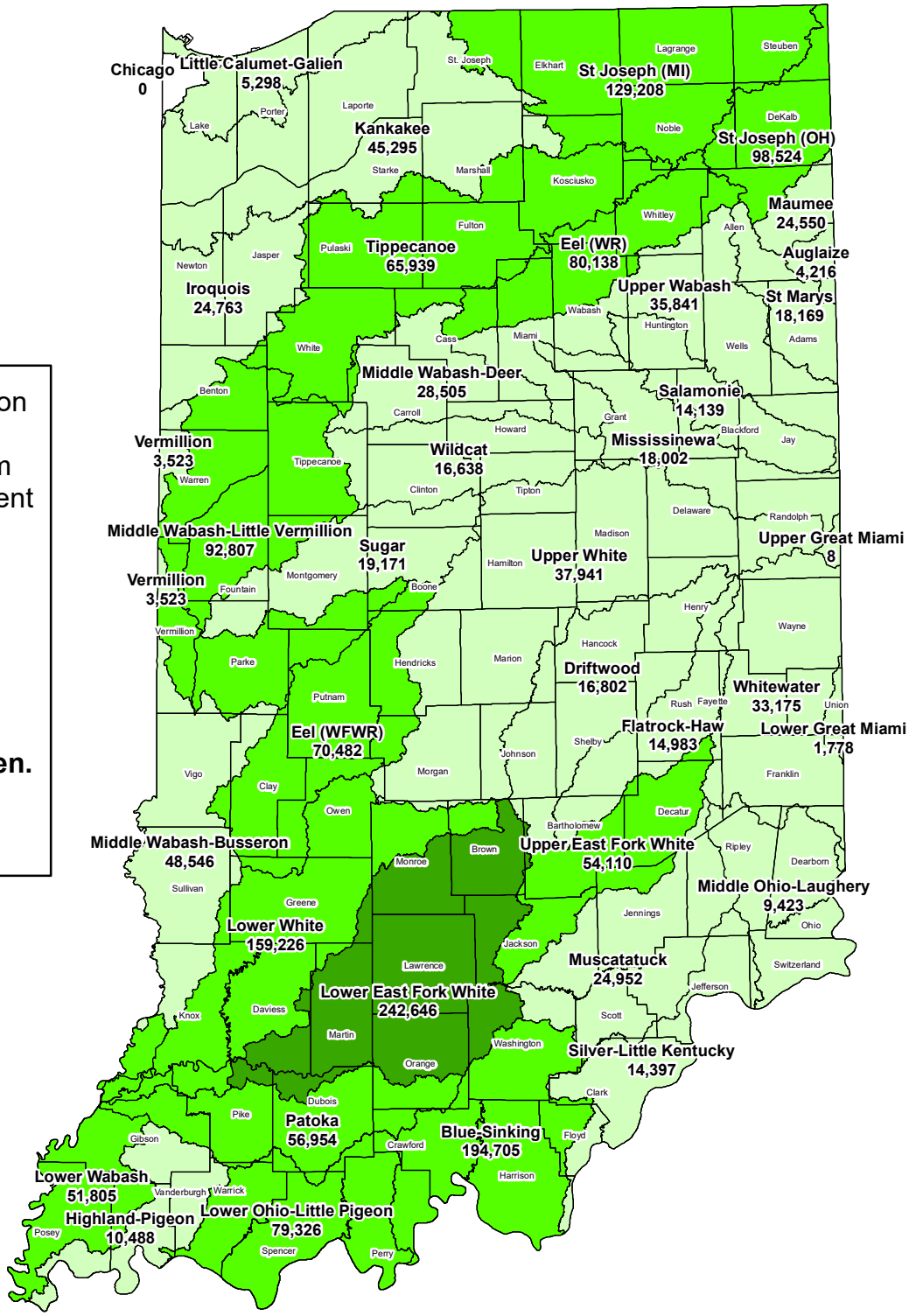
2017 Nitrogen Load Reductions
1,846,473 Pounds

In 2017, voluntary conservation efforts from Indiana's private landowners, with support from the ICP, have reduced sediment and nutrients from entering Indiana's waterways.



X 9

1,846,473 pounds of nitrogen. That's enough to fill 9 freight cars.



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

Nitrogen Reduction (lbs./year)

- No Reported Reductions
- 1 - 50,000
- 50,001 - 200,000
- 200,001 - 300,000

February 28, 2018
Deb Fairhurst, ISDA Program Manager
Trevor Laureys, ISDA Program Manager

To learn more about Indiana's Nutrient Reduction Strategy visit: http://www.in.gov/isda/2991.htm
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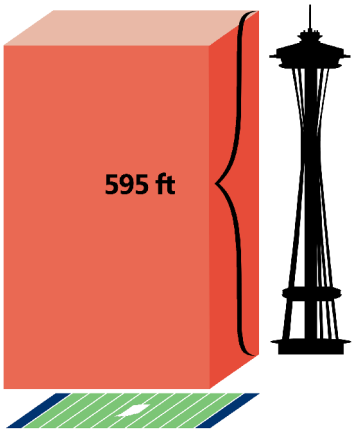
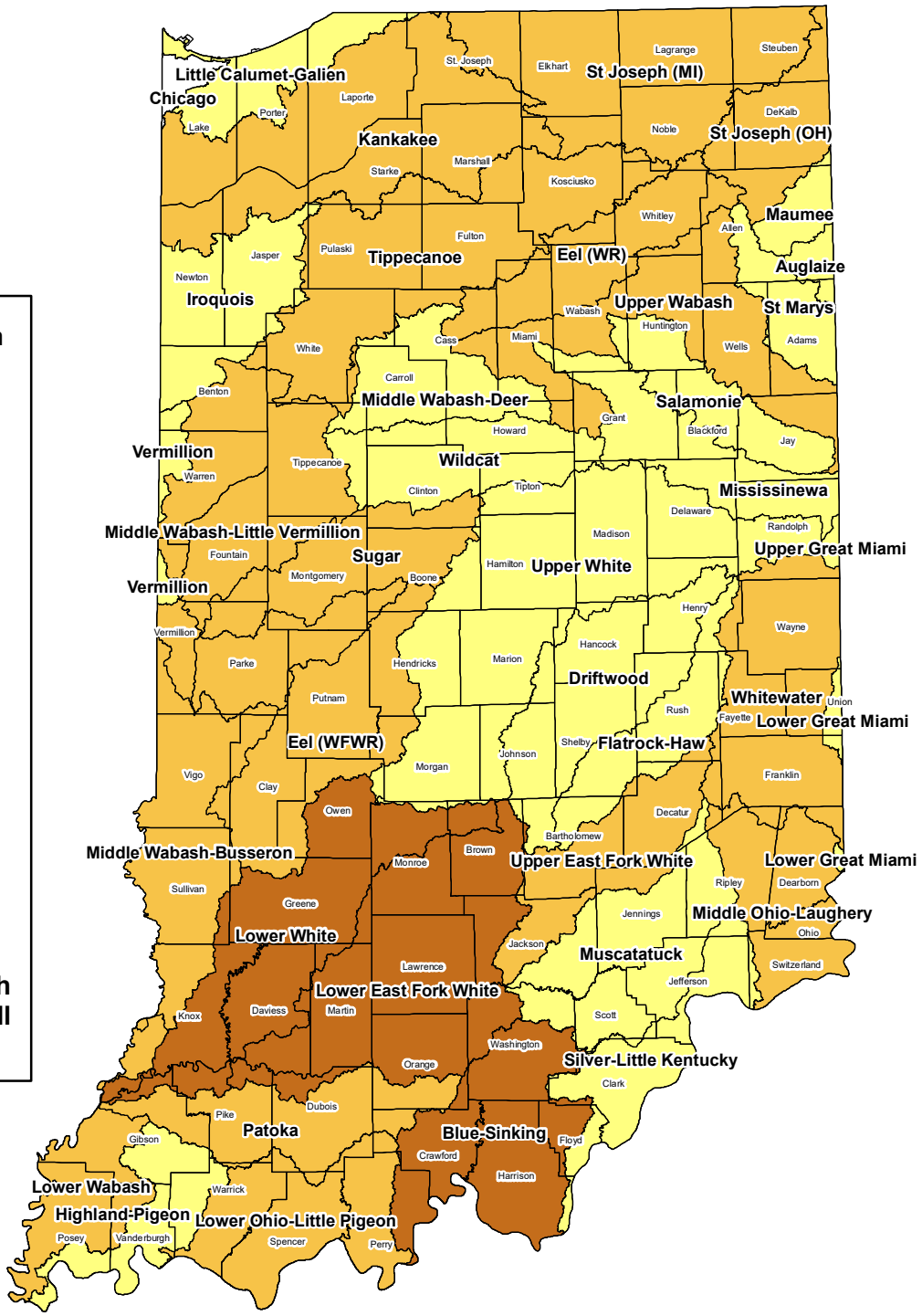
2013-17 Cumulative Sediment Load Reductions

1,372,892 Tons

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



1,372,892 tons of sediment. A football field covered to a depth of 596 feet, which is almost as tall as the Space Needle.



Sediment (tons)

- No Reported Reductions
- 1 - 25,000
- 25,001 - 100,000
- 100,001 - 225,000

Based on EPA Region 5 Model analyses conducted on 21,957 conservation practices installed by the Indiana Conservation Partnership January 2013 thru December 2017. 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 2017 conservation practices by lifespan including 1, 5, 10, 15, 20 and 40 years. The map reflects all of the practices minus the 2013 thru 2016 practices with a lifespan of one year and 2013 practices with a lifespan of 5 years.

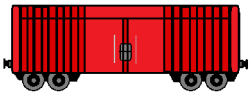
To learn more about Indiana's Nutrient Reduction Strategy visit http://www.in.gov /isda/2991.htm
For questions and comments email ISDANutrientReduction@isda.in.gov

March 1, 2018
Deb Fairhurst, ISDA Program Manager
Trevor Laureys, ISDA Program Manager

2013-17 Cumulative Phosphorus Load Reductions

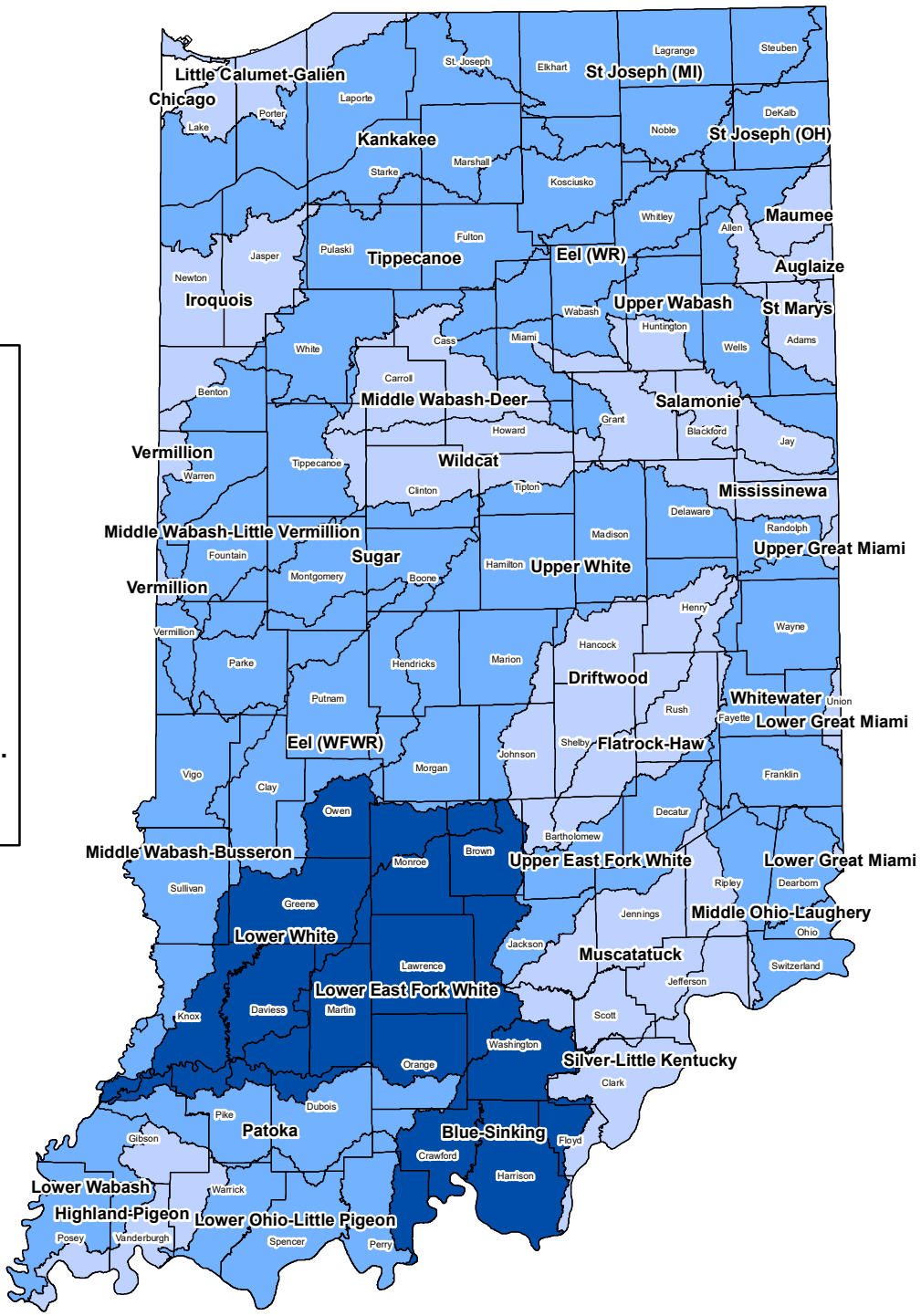
1,407,346 Pounds

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



X 7

1,407,346 pounds of phosphorus. That's enough to fill 7 freight cars.



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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 (pounds)

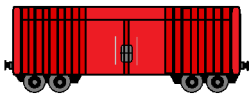
- No Reported Reductions
- 1 - 25,000
- 25,001 - 100,000
- 100,001 - 225,000

March 1, 2018
Deb Fairhurst, ISDA Program Manager
Trevor Laureys, ISDA Program Manager

2013-17 Cumulative Nitrogen Load Reductions

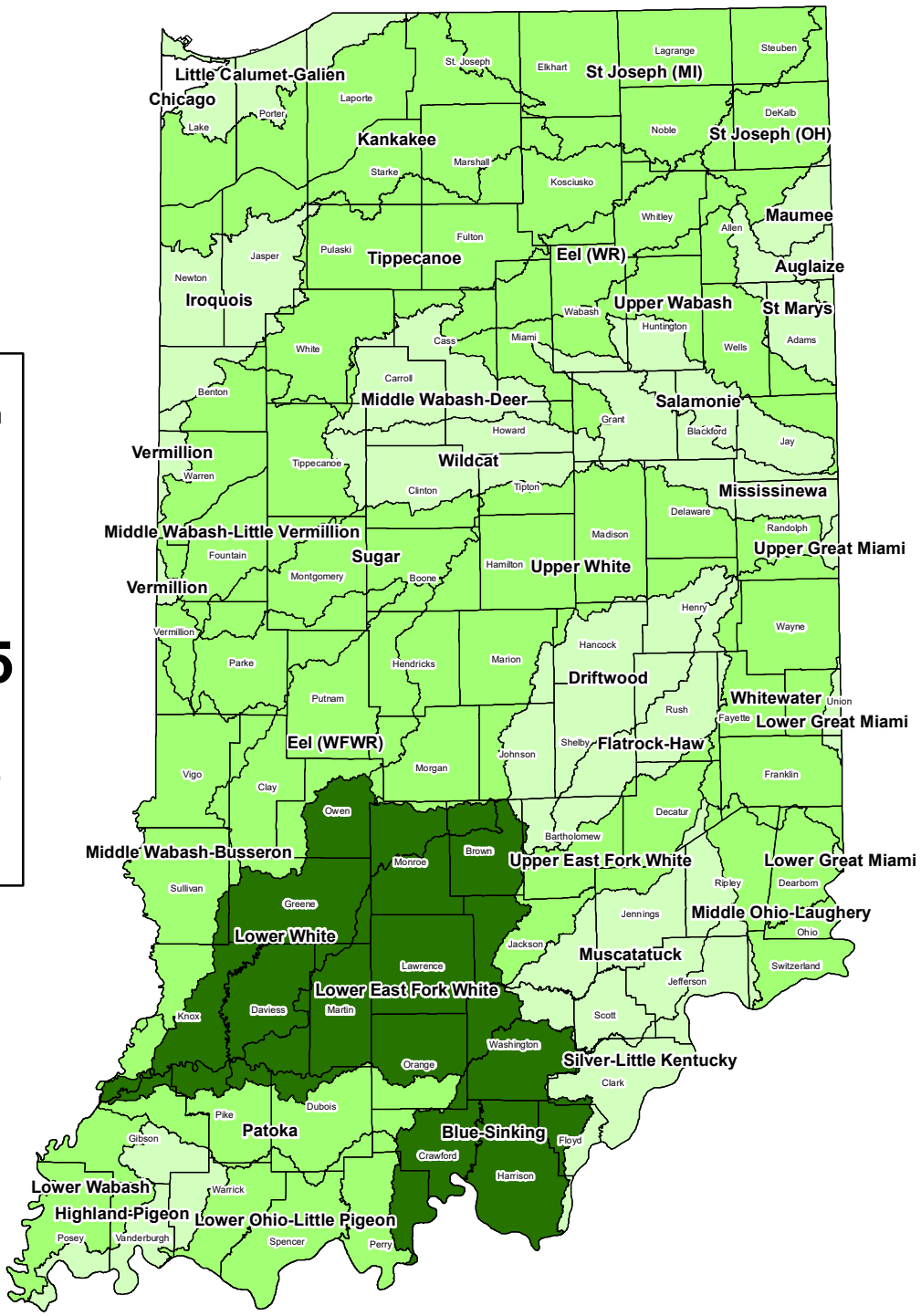
2,841,449 Pounds

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



X 14.25

2,841,449 pounds of nitrogen. That's enough to fill 14.25 freight cars.



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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 (pounds)

- No Reported Reduction
- 1 - 50,000
- 50,001 - 200,000
- 200,001 - 425,000

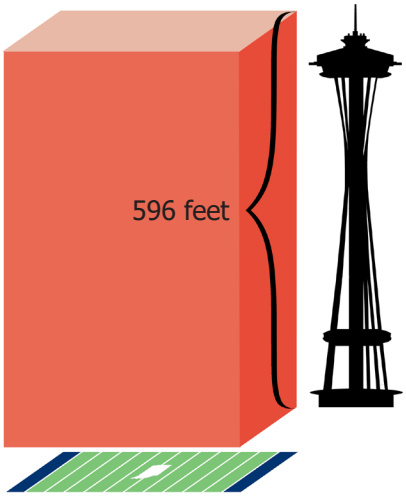
March 1, 2018
Deb Fairhurst, ISDA Program Manager
Trevor Laureys, ISDA Program Manager

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 2017 from conservation practices installed since 2013.*

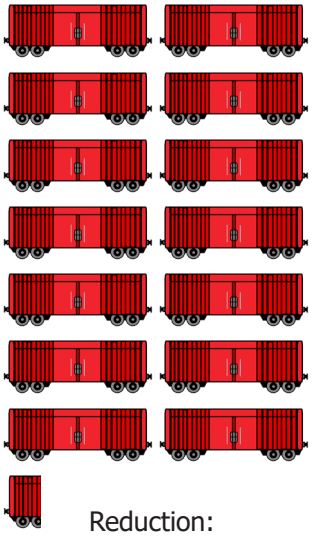
Load Reductions

Sediment
A football field covered to a depth of 596 feet, which is almost as tall as the Space Needle!



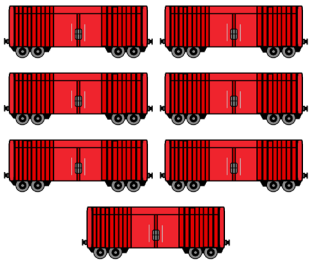
Reduction:
1,372,892 Tons

Nitrogen
14.25 freight cars



Reduction:
2,841,449 Pounds

Phosphorus
7 freight cars



Reduction:
1,407,346 Pounds

Top Conservation Practices

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

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

Indiana Conservation Partnership

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

DNR Indiana Department of Natural Resources

USDA NRCS United States Department of Agriculture Natural Resources Conservation Service

Indiana State Department of Agriculture Division of Soil Conservation

Indiana Conservation Partnership icp.iaswcd.org

Indiana Association of Soil and Water Conservation Districts

IDEM Indiana Department of Environmental Management Est. 1986

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.*

Updated: March 1, 2018

For more information about Indiana's Nutrient Reduction Strategy, please see isda.in.gov