Indiana Conservation Partnership Region 5 Model Load Reductions

Introduction

The Indiana Conservation 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.

In 2013, members of the Indiana Conservation Partnership (ICP) began using the Environmental Protection Agency's (EPA) Region 5 Nutrient Load Reduction model to determine the impact of installed conservation practices implemented by the ICP Conservation Implementation Teams 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 Program.

For calendar year 2013, the ICP Conservation Implementation Teams installed 30,775 conservation practices. A total of 15,322 of those practices could be analyzed using the Region 5 Nutrient Load Reduction Model, which estimated annual reductions of sediment, as well as nitrogen and phosphorus tied to sediment erosion (brown, green and blue maps, respectively). 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). Reductions in dissolved nutrients, such as dissolved reactive phosphorus (DRP) and nitrate (NO3), are not accounted for by the region 5 model. The remaining ICP practices were not modeled because they were not associated with sediment loss or were not covered by the EPA Region 5 model. This effort represents ICP-assisted conservation in Indiana.

Indiana is the only state in the country to adopt a model among so many partners to estimate conservation impact on a statewide scale. 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 at all levels of government within and across Indiana.

Data Provided By:

Indiana's Soil and Water Conservation Districts

ICP Website: http://icp.iaswcd.org
ISDA Website: http://www.in.gov/isda
IDEM Website: http://www.in.gov/idem
NRCS Website: http://www.nrcs.usda.gov/wps/portal/nrcs/site/in/home

Poster Created By:

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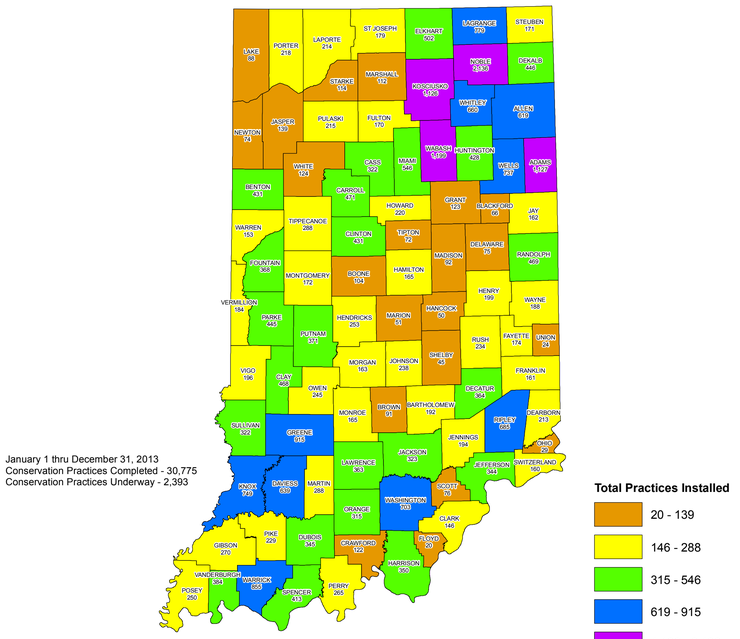
2013 Conservation Workload

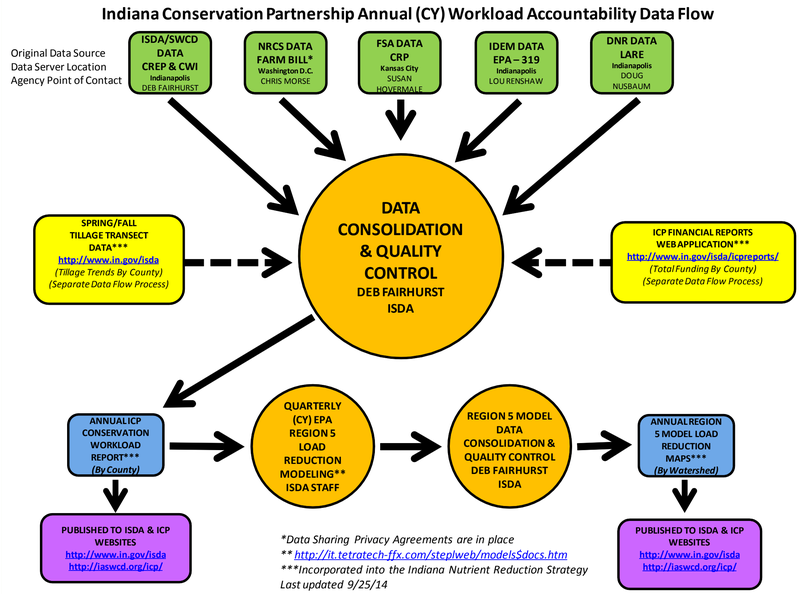


January 1 thru December 31, 2013
Conservation Practices Completed - 30,775
Conservation Practices Underway - 2,393

Total Practices Installed

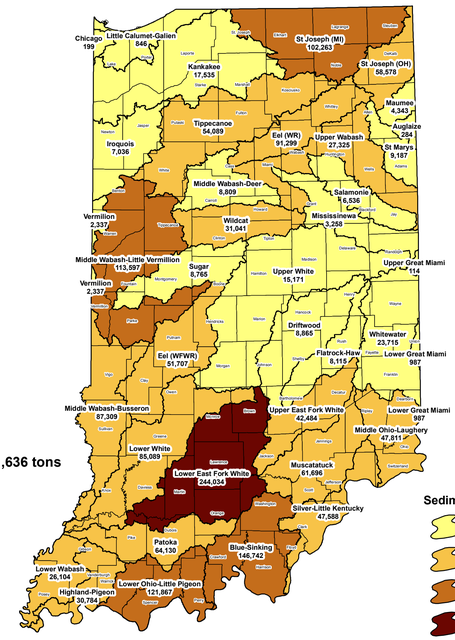
- 20 - 139
- 146 - 288
- 315 - 546
- 619 - 915
- 1,126 - 2,136

Methodology



*Data Sharing Privacy Agreements are in place
**http://it.tetratech-ffx.com/steplweb/models5docs.htm
***Incorporated into the Indiana Nutrient Reduction Strategy
Last updated 9/25/14

2013 Sediment Reductions

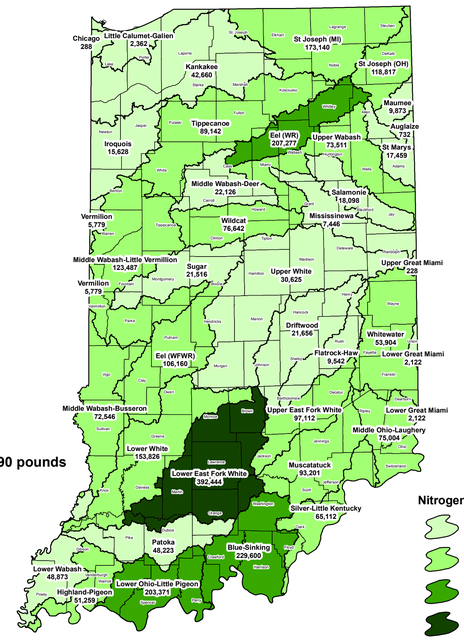


A total reduction of 1,661,636 tons of sediment statewide.

Sediment Reduction (tons\year)

- 1 - 25,000
- 25,001 - 100,000
- 100,001 - 175,000
- 175,001 - 250,000

2013 Nitrogen Reductions

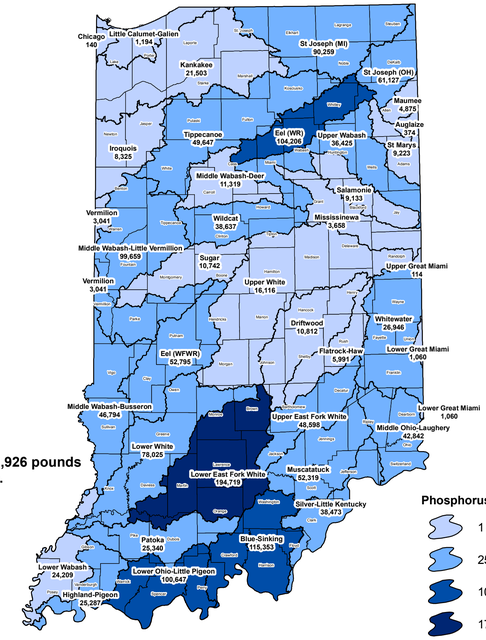


A total reduction of 2,780,790 pounds of nitrogen statewide.

Nitrogen Reduction (lbs.\year)

- 1 - 50,000
- 50,001 - 200,000
- 200,001 - 300,000
- 300,001 - 400,000

2013 Phosphorus Reductions



A total reduction of 1,469,926 pounds of phosphorus statewide.

Phosphorus Reduction (lbs.\year)

- 1 - 25,000
- 25,001 - 100,000
- 100,001 - 175,000
- 175,001 - 250,000