

Indiana's State Nutrient Reduction Strategy – Milestones and Action Items Table

Last updated on December 3rd, 2018

Objectives/Goals	Action/Activity	Tools/Resources	Responsible Party	Timeframe	Target Date	Status & Results (as applicable)
Prepare a progress report of the SNRS every two years	SNRS will be updated as necessary; keep track of accomplishments and adaptive management changes	-SNRS -Annual ICP Accomplishment Reports	ISDA, IDEM and SNRS Workgroup	11/2018 - 11/2020	11/2020	In process
Update Milestones and Action Items table	SNRS Workgroup will meet at least annually to review and discuss this table and make necessary changes.	-SNRS -Milestones and Action Items table -Partnership efforts	ISDA, IDEM and SNRS Workgroup	Annually	Dec. 2019 Dec. 2020	In process
Watershed Prioritization						
Watersheds with drinking water reservoirs	Map Drinking water areas	GIS	IDEM	NA	NA	Completed
Groundwater sources	Groundwater Vulnerability Maps	Ground Water Monitoring Network (GWMN); GW staff	IDEM GW staff	NA	NA	Completed -Page 23-24 of SNRS
Watershed Prioritization within the nine major river basins	Analyze fixed station data for the period of the last 10 years for each of the nine basins in this order: <ol style="list-style-type: none"> 1. Great Lakes <ol style="list-style-type: none"> a. Lake Erie b. Lake Michigan 2. Upper Wabash 3. White River, West Fork 4. White River, East Fork 5. Lower Wabash 6. Upper Illinois 7. Ohio River Tributaries 8. Great Miami 9. Patoka 	- P and N data from AIMS II will be modeled for the period of the last 10 years using Load Duration Curves and LOADEST - WQ monitoring data - Drinking water maps - GW Vulnerability maps - State Resource Assessment (SRA) - WQ Monitoring Data from USGS and other organizations	IDEM WAPB staff; ISDA; USGS; monitoring agencies	December 2020	December 2020	1(a) 100% completed 1(b) in process 2-9: in process
Select critical watersheds at the HUC 12 level within the nine basins.	Identify the intersection of monitoring data, maps of critical areas from WMPs, NRCS modeling, etc. to determine the 12 digit HUC priority areas.	- Monitoring Data - IDEM Watershed Management Plans (WMPs) - Drinking water maps - GW Vulnerability maps - Modeling Data	SNRS Workgroup; Indiana Conservation Partnership (ICP)	On-going	December 2020	In process

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Measuring Impacts						
List what type of management will <u>need</u> to be done in the newly selected HUC12 critical areas/priority watersheds to address issues	Identify BMPs that could be implemented based on type of management needed to address resource issues	<ul style="list-style-type: none"> - Monitoring Data - IDEM WMPs - Drinking water maps - GW Vulnerability maps - Modeling Data - Indiana Science Assessment 	SNRS Workgroup; ICP	On-going	December 2020	In process
Inventory the new BMPs that <u>are</u> implemented in the newly selected critical areas/priority watersheds at the HUC 12 level, and show impacts of this BMP implementation.	Use Region 5 Model to analyze and show sediment and nutrient load reductions	<ul style="list-style-type: none"> - Performance Measures Monitoring - Region 5 Model 	ICP	March 2017-December 2020	December 2020	In process http://www.in.gov/idem/nps/3360.htm
Continue to inventory BMPs implemented through conservation programs and show impacts of the <i>assisted</i> BMP implementation statewide.	Use Region 5 Model to analyze and show sediment and nutrient load reductions	<ul style="list-style-type: none"> - Region 5 Model - Tillage Transects - Cover Crop Transects 	ICP	On-going annually	March of every year	ICP Accomplishments Report https://www.in.gov/isda/2991.htm
Continue to conduct the spring tillage transect survey statewide, and to use the data results from these transects.	Partnership staff in each county will conduct this transect in the spring following planting on a bi-annual basis.	Conservation Partnership Staff	ICP	Every two years April-June	NA	https://www.in.gov/isda/2383.htm
Continue to conduct the fall cover crop and tillage transect survey statewide, and to use the data results from these transects.	Partnership staff in each county will conduct this transect in the fall following harvest each year.	Conservation Partnership Staff	ICP	Annually from Oct.-December	NA	https://www.in.gov/isda/2383.htm
Monitoring						
Use monitoring gaps determined by the InWMC Whitepaper titled An Assessment for Optimization of Water-Quality Monitoring in Indiana, 2017 to prioritize new monitoring sites (statewide)	Determine scale of new monitoring sites: compare the SNRS 12-digit priority HUCs with 8-digit pour points	<i>Integrated Water Monitoring Network Optimization Taskforce; An Assessment for Optimization of Water-Quality Monitoring in Indiana, 2017</i> ; GIS; HUC maps	InWMC, ISDA and IDEM, and USGS	On-going	NA	In process

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Determine funding needs for the new priority monitoring sites	Identify various funding sources	Federal, State and Local funding; Foundation funding; NGO funding	SNRS Workgroup; ICP	On-going	NA	On-going
Add capacity to sample for DRP in the following areas: 1. Laboratory analysis 2. Monitoring resources beginning in the WLEB with Fixed Stations	1. Secure laboratory equipment for the ISDH; 2. Investigate necessary resources for collecting and analyzing for DRP	1. MOU between IDEM & ISDH; IDEM lab account funding 2. Time/travel study	IDEM & ISDH	October 2016 – June 2017	1. 1/2017 2. 3/2017	1. 100%-Funds secured, 100% complete 2. 100% complete
Diurnal Dissolved Oxygen Pilot project planning for development of TP multi-parameter numeric criteria	Develop work plan and secure funding for sampling in 2017	Scientific literature; OH EPA personnel; USGS personnel; equipment manufacturers	IDEM and USGS	April 2016 – December 2016	December 31, 2016	100% complete
Implement Diurnal Oxygen Pilot project	Monitoring of approximately 28 sites	IDEM and USGD staff and equipment	IDEM	March 2017- Oct. 2017	October 2017	100% complete
Plan the project for Performance Measures monitoring for 2017 to determine if BMP implementation has improved water quality	Based on information/data from ICP and the AIMS II database, determine the 12-digit HUC for follow-up sampling	AIMS II database; cost-share information from ICP; Region 5 model outputs	IDEM	October 2016 – Feb. 2017	February 2017	100% complete
Implement performance measures monitoring	Develop work plan, conduct recon	GIS mapping; AIMS II database; field survey	IDEM	April 2017 – Oct. 2017	October 2017	100% complete
Education and Outreach						
Explore opportunities to work with Certified Crop Advisors (CCAs) and private sector to help promote agronomic conservation practices and technologies.	-Support CCA Annual Meeting in December -Hold field days and invite CCAs -Develop possible grant opportunities to work with CCAs	ICP staff	State Soil Conservation Board (SSCB)	On-going	NA	On-going
Promote 4R Nutrient Stewardship Certification Program in the Western Lake Erie Basin working with Indiana Ag Retailers and CCAs	-Certify more Indiana Ag Retailers and CCAs within the Indiana WLEB watershed -ISDA and ICP to support Agribusiness Council (ACI) and Ag retailers in promotion of 4Rs	ICP staff; WLEB Partnership; TNC; Purdue Extension	WLEB Partnership, ISDA	On-going	2020	On-going

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Promote 4R Initiative and Nutrient Stewardship Certification Program across Indiana.	-Work with Indiana ACI, Ag Retailers and CCAs statewide. -Learn from Ohio's statewide program. -Customize Ohio's standards for Indiana's program to include nitrogen	ICP staff; TNC Purdue Extension	Indiana Agribusiness Council; ISDA	On-going	2020	In process
Program Goals						
Enroll 26,250 acres into the Indiana CREP program within all 11 CREP watersheds.	Annually enroll at least 750 acres of new eligible practices within the 11 Indiana CREP watersheds.	CREP promotional materials; CREP staff	ISDA CREP Program Manager and CREP Leaders, FSA, NRCS	August 2005 until acreage enrollment goal is attained	NA	On-going, 65%. Enrollment is 17,183 acres. http://www.in.gov/isda/2377.htm
Annual Nutrient Load Reduction goal within CREP	2,450 tons/yr of sediment 2,400 lbs./yr of phosphorus 4,700 lbs./yr of nitrogen	Use Region 5 Model to analyze reduction numbers	CREP Leaders and CREP Program Manager	Calendar year	December 31, 2018	Sed. - 201% Phos. - 259% Nitr. - 262%
Expand growth of the INfield Advantage (INFA) program with a goal of at least 60,000 acres enrollment each year.	This goal was met in 2018 with 73,220 acre enrollment statewide.	INFA Group Leaders INFA promotional materials	INFA Program Manager, INFA Group Leaders, Indiana Corn and Soy, Purdue Univ.	Calendar year 2018	September 2018	Completed 122% -Page 58 of strategy
ISDA and Soil and Water Conservation Districts (SWCDs) have annual goal to reduce nitrogen from entering waters of the State by	275,000 lbs. of Nitrogen reduced	CREP; Clean Water Indiana (CWI); DNR, Lake and River Enhancement Program; Technical Assistance	ISDA SWCD	Calendar year 2018	December 31, 2018	41%
ISDA and SWCDs have an annual goal to reduce phosphorus from entering waters of the State by	150,000 lbs. of Phosphorus reduced	CREP; Clean Water Indiana; DNR, Lake and River Enhancement Program; Technical Assistance	ISDA SWCD	Calendar year 2018	December 31, 2018	38%
ISDA and SWCDs have an annual goal to see at least 1,000 new conservation BMPs installed.	1,000 new conservation BMPs installed or implemented	CREP; CWI; DNR, LARE Program; Technical Assistance	ISDA SWCD	Calendar year 2018	December 31, 2018	94%

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Indiana NRCS had a goal to write stewardship plans on 57,902 acres through the Conservation Stewardship Program (CSP) in FY2018. The goal for FY2019 will be set when a new farm bill is approved and this table will be updated at that time.	This goal for FY2018 was met and exceeded with CSP stewardship plans written on 98,353 acres.	Conservation Stewardship Program; NRCS Staff	NRCS	Federal Fiscal Year 2018	September 30, 2018	Completed 169% -Page 70 in SNRS
Indiana NRCS: write Conservation Plans for landowners in Indiana in 2018 through technical assistance. The goal for FY2019 will be set when a new farm bill is approved and this table will be updated at that time.	This goal was met as plans were written on 263,909 acres.	Federal Farm Bill Programs; NRCS Staff	NRCS	Federal Fiscal Year 2018	September 30, 2018	Completed -Page 70 in SNRS
Conservation Implementation						
Increase acres of cover crops planted statewide	<ul style="list-style-type: none"> -Provide continued technical assistance to farmers who have used Cover crops, and new TA to those who have not. -Increase contacts with seed sales/companies -Educate on the benefits of cover crops -Assess results of the Cover Crop Transect done by the ICP 	<ul style="list-style-type: none"> -Cover Crop and Tillage Transect data by ICP -Federal Farm bill programs; State Conservation Programs; Technical assistance 	SSCB; ICP	Calendar Year 2018	December 31, 2018	On-going, Link to Transect Data
Increase no-till implementation statewide based on tillage transect results	<ul style="list-style-type: none"> -Provide technical assistance -Continue to work with those who have a negative opinion of no-till. High residue systems have benefits. -Increase the promotion of strip-till since it has many of the same benefits as no-till and can get nutrients injected below ground, and is better suited for some areas of the state. -Assess results of Tillage Transects done by ICP 	<ul style="list-style-type: none"> -Tillage Transect data by ICP -Federal Farm bill programs; State Conservation Programs; Technical assistance 	SSCB; ICP	Calendar Year 2018	December 31, 2018	On-going, Link to Transect Data

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Increase conservation tillage implementation statewide based on tillage transect results	-Provide technical assistance -This practices can be used as a transition to the use of cover crops and not-till. -Use Tillage Transects done by ICP to look at trends and past accomplishments	-Tillage Transect data by ICP -Federal Farm bill programs; State Conservation Programs; Technical assistance	SSCB; ICP	Calendar Year 2018	December 31, 2018	On-going. Link to Transect Data
Increase acres of wetland restorations	-Provide technical assistance -Look at trends and past accomplishments	CREP, HRI, Federal Farm Bill Programs Technical Assistance	ICP	Calendar Year 2018	December 31, 2018	On-going - CREP Annual Report - HRI website
Increase acres of floodplain restorations (tree plantings)	-Provide technical assistance -Look at trends and past accomplishments	CREP, HRI, Federal Farm Bill Programs Technical Assistance	ICP	Calendar Year 2018	December 31, 2018	On-going - CREP Annual report - HRI website
Increase acres of floodplain restorations (tree plantings)	-Provide technical assistance -Look at trends and past accomplishments	CREP, HRI, Federal Farm Bill Programs Technical Assistance	ICP	Calendar Year 2018	December 31, 2018	On-going - CREP Annual report - HRI website
See a measureable increase in the number of joint sediment and nutrient reduction projects among SWCDs funded through CWI.	SWCDs apply for CWI funding; this is a goal of the State Soil Conservation Board (SSCB)	CWI funding; ISDA District Support Specialists; ISDA Resource Specialists	SSCB	On-going	By 2020	On-going CWI website
Planning						
Conduct an Indiana Science Assessment	-Use information gathered from the Nutrient Reduction Estimation Framework Workshop. -Work with newly formed Workgroup for the assessment.	SNRS; NREF Workshop; Monitoring Data; University research; other states studies	ICP, ISDA, Purdue University, and Science Assessment Workgroup	November 2018- December 2020	December 2020	In process
Strengthen current method for tracking nutrient load reductions on conservation practices to include reductions for dissolved nutrients.	-Use information gathered from the Nutrient Reduction Estimation Framework Workshop. -Work with newly formed Workgroup for the assessment.	SNRS; NREF Workshop; Modeling data; Monitoring Data; University research	ISDA, ICP, SNRS Workgroup, and Science Assessment Workgroup	November 2018- December 2020	December 2020	In process

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Develop list of most effective Nitrogen reduction practices - Urban vs. Rural - Soil Health - Nutrient Management - Agricultural Drained Lands	-Work with members of the SNRS to develop consistent message on the best practices for nitrogen reduction. -Use Indiana Science Assessment	University publications; NRCS publications; expertise of conservation partnership staff; WQ monitoring data	ICP, SNRS Workgroup, and Science Assessment Workgroup	November 2016 – December 2020	December 2020	In process
Develop list of most effective Phosphorus reduction practices - Urban vs. Rural - Soil Health - Nutrient Management - Erosion Control	-Work with members of the SNRS to develop consistent message on the best practices for phosphorus reduction. -Use Indiana Science Assessment	University publications; NRCS publications; expertise of conservation partnership staff; WQ monitoring data	ICP, SNRS Workgroup, and Science Assessment Workgroup	November 2016 - December 2020	December 2020	In process
Assess the Funding needs and Research needs and gaps within Indiana.	-For monitoring needs and costs, both surface and groundwater; -Edge-of-field Research -Science Assessment	-WQ Monitoring Strategy -Ground Water Monitoring Network (GWMN) -University Research	ICP, SNRS Workgroup	January 2019 – December 2019	December 2019	In process