9-Element Nonpoint Source Implementation Strategies:

Status Update, What they Are and Why they Matter

September 12, 2019

Rick Wilson, Ohio EPA—Division of Surface Water

Ohio Environmental Protection Agency

2013 NPS National Program Guidance

"…a strong emphasis on taking a watershed-based approach to restore impaired waters"

Strategic planning with focus water quality impairment at local HUC-12 Scale

- What's impaired?
- What needs to be done?
- What can be done?
- Are we there yet?
- How much further?

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What are the 9 Elements?

1) Identify the causes and sources of pollution (impairment) that need controlled	2) Determine the load reductions needed *(and improvements biological metric needed)— (Goals)	3) Describe management measures to achieve improvements in targeted critical areas — (Objectives)
4) Identify technical and financial assistance and authorities needed to implement the plan	5) Develop an information/education component	6) Develop an implementation schedule
7) Describe the interim, measurable milestones (e.g., progress on load reduction)	8) Identify indicators to measure progress	9) Develop a monitoring component

EPA 841-B-08-002, March 2008 —"Handbook for Developing Watershed Plans to Restore and Protect Our Waters"

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9-Element Process—Keeping it Simple

Summarize Watershed Characteristics

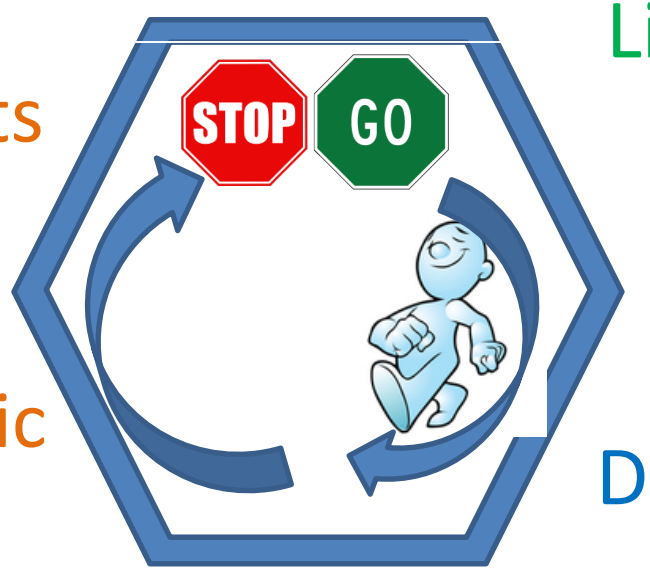
List Causes and Sources of Impairment

Develop and Describe Critical Areas

Establish Strategic Goals

Establish Strategic Objectives

Develop Projects



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9-Element Plan—Public Participation

- Strategic planning is facilitated and developed through local stakeholder leadership
  - local SWCD, municipality
- Involves outreach to all potential interested parties, maximizing buy-in.
  - local industry, agricultural co-ops and commodity groups, conservancies, land-owners, townships, Health Department)

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9-Element Plan—Watershed Characterization

- Reference and Summarize available data and information sources to clearly document understanding of:
  - Biological Trends
  - Loading Assessment
  - Causes and Sources of Water Quality Impairment*
    - Near-field
    - Far-field

Big Muddy Bottom River – 09080904					
HUC12	Phosphorus Load in Pounds				
	Agricultural Land	Developed Land	Natural Land	Ohio HSTS Land	Landscape Total
02 03	19,000	880	180	550	21,000

EXAMPLE

*Beneficial Use Designations that determine water quality impairment status:

- Aquatic Life Use (ALU),
- Recreational Use (RU); and
- Public Drinking Water Supply (PDWS)

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Near-Field Impairment

- **Near Field:**

  —where Biological Assessments do not meet threshold water quality threshold metrics:

  - E.g., channelization, absence of riparian habitat, sedimentation

  —where a Pollutant is measured to be in excess of Water Quality Standards:

  - E.g., Point Source-related loading and is addressed through permitting

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Far-Field Impairment

—Impairment that is downstream from multiple watershed units; and

—Usually involves prominent water resources including:

- Lake Erie,
- Gulf of Mexico, and
- other inland reservoirs and lakes

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9-Element Plan—Goals

- Outline Specific Goals
  - Attain or maintain **Aquatic life use (ALU) designation** by meeting threshold biological water quality **index values**
  - Attain or maintain **Public Drinking Water and/or Recreational use designations**
    - Includes downstream lakes and reservoirs that are impaired by algae and **where nutrient (e.g., phosphorus) load reductions** are needed.

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9-Element Plan: Objectives

- Outline of Quantifiable Objectives
  - What are the **technical solutions?**
  - What are the activities, conservation practices*, administrative measures?; and
  - How many of each can be reasonably accomplished in the near term?

State is working to provide guidance to planners (especially SWCDs) for strategic planning and implementation of load reduction BMPs

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Objectives— Agriculture

- Develop and implement nutrient management and conservation planning for crop producers on and additional 8000 acres of row-crop
- Install or restore at least 5000 linear feet of grassed waterways
- Install drainage water controls and implement drainage water management on at least 500 acres of subsurface drainage
- Install practices that impound or retain surface drainage water from at least 500 acres cropland including: wetlands, conservation basins, WASCOBs, infiltration areas, saturated buffers, others

Objectives are quantifiable —What can be accomplished in near term so that **incremental progress toward water quality goal(s)** will occur.

ADAPTIVE

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Objectives—Urban and Suburban

- Restore at least 500 feet of severely eroded streambank
- Daylight 2000 linear feet of Catfish Creek
- Restore 4000 linear feet of stream using Natural Channel Design principles
- Reconnect Catfish Creek to at least 50 acres of floodplain
- Manage stormwater w/ LID practices handle at least 10 impermeable acres
- Establish Permanent Conservation Easements along 30 acres of riparian
- Plant at least 10 acres of wooded Riparian and/or wetland Buffer

ADAPTIVE

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Project Overview Table Example

Table 24. Critical Area #3: Overview table for *Lower East Branch and Stickney Creek*

Goal	Objective	Project	Project title	Lead organization (criteria d)	Timeframe (criteria f)	Estimated cost (criteria d)	Potential/actual funding sources (criteria d)
Urban sediment and nutrient reduction strategies							
none identified (yet)							
Altered stream and habitat restoration strategies							
4, 5	3	1	Ridge Road (Stickney Creek) Bank Stabilization and Utility Repair (asset ST00209; project SWC2016-003)	NEORSD	Medium	$1,000,000	NEORSD (funded)
1, 2	3	2	Cleveland Metroparks Memphis Picnic Area Floodplain Reconnection	BCC, CM	Medium	TBD	Ohio EPA §319, CM, GLRI
1, 2	3	3	Sam's Club Stream Channel Restoration and Bridge Replacement to Reduce Flooding	BCC, TBD	Medium-Long	TBD	TBD
4, 5	3	4	Stickney Creek Restoration at Brooklyn City Center	BCC, Brooklyn	Short	$300,000	Ohio EPA §319, GLRI
4, 5	2, 3	5	Biddulph Plaza Stream Daylighting	BCC, NEORSD	Long	TBD	TBD
4, 5	2, 3	6	Old Brooklyn Stream Daylighting and Restoration	BCC, Cleveland, WCC	Long	TBD	GLRI
4, 5	2, 3	7	Walters Grove Stream Daylighting and Restoration	BCC, Parma, WCC	Long	TBD	GLRI
Agricultural nonpoint source reduction strategies							
not applicable							
High quality waters protection strategies							
1, 2	3, 4	8	Floodplain Conservation and Restoration of	BCC, WCC	Medium	TBD	TBD

For Load Reduction Ag practices, could include:

- USDA-NRCS-EQIP
- USDA-FSA-CREP
- SB-299
- OEPA-§319
- US EPA-GLRI
- Great Lakes Commission
- Trading Organization
- H_2Ohio

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Projects

A Project Summary Sheet is developed for each viable, short-term, shovel-ready project

Each project is now ready and eligible for selection dependent upon available state, federal, local and/or private funding

The project "bookshelf" can be filled over time as projects are pulled-together and developed; and emptied as projects are implemented and installed

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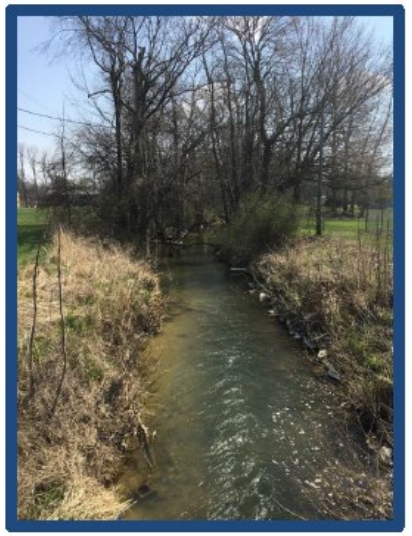
All plans (new and updated) go to the State for review by both:

- Ohio EPA-Division of Surface Water; and
- Ohio Dept. of Agriculture-Division of Soil and Water Conservation

An interactive map of approved 9-Element plans is NOW Available!

- https://arcg.is/0yCrjO



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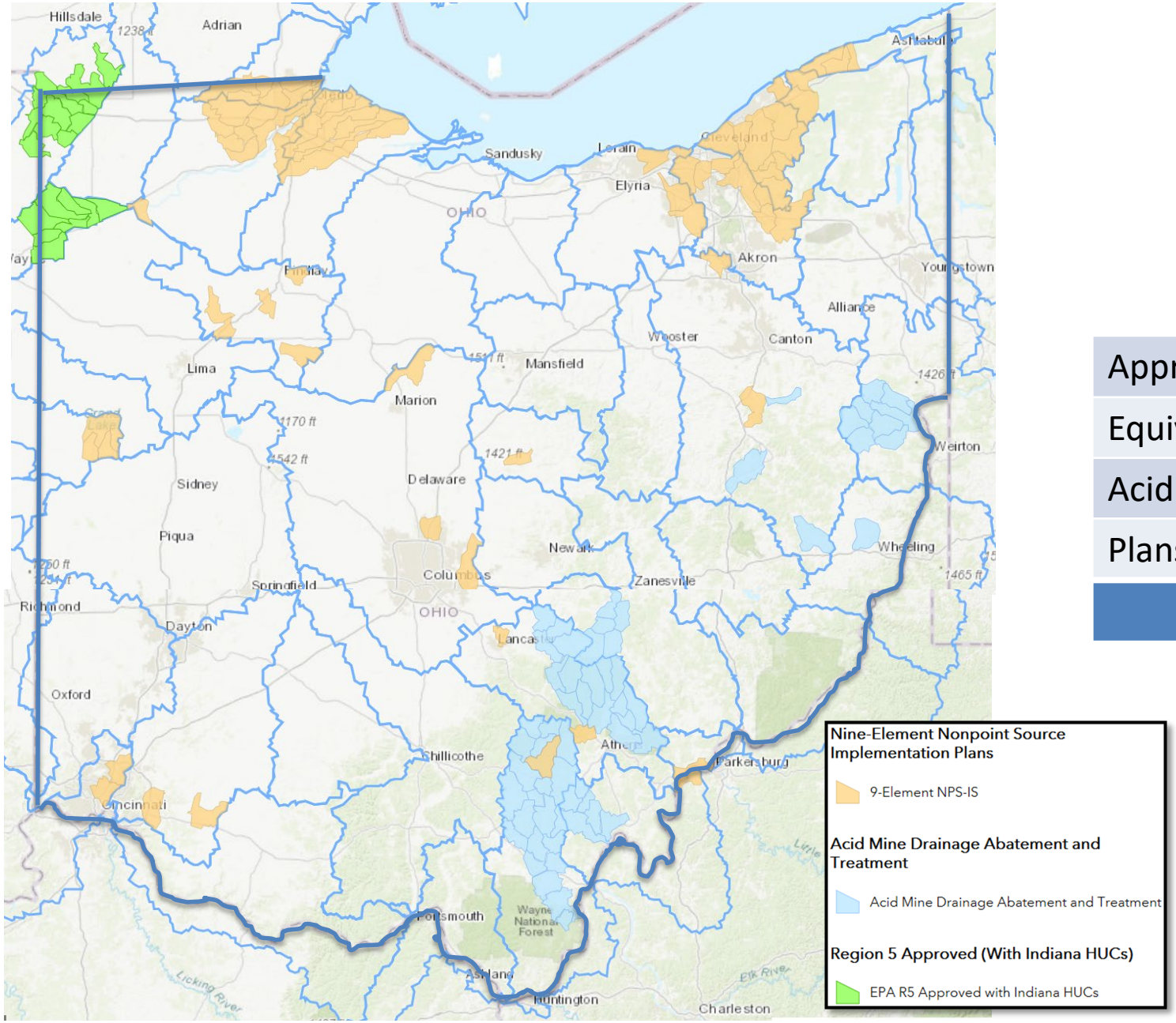

9-Element NPS-IS Planning Status

Approved 9-Element Plans	73
Equivalent Plans (w/ Indiana)	25
Acid Mine Drainage (AMDAT) plans	62
Plans-in-Progress* (at least)	47

As of September 11, 2019

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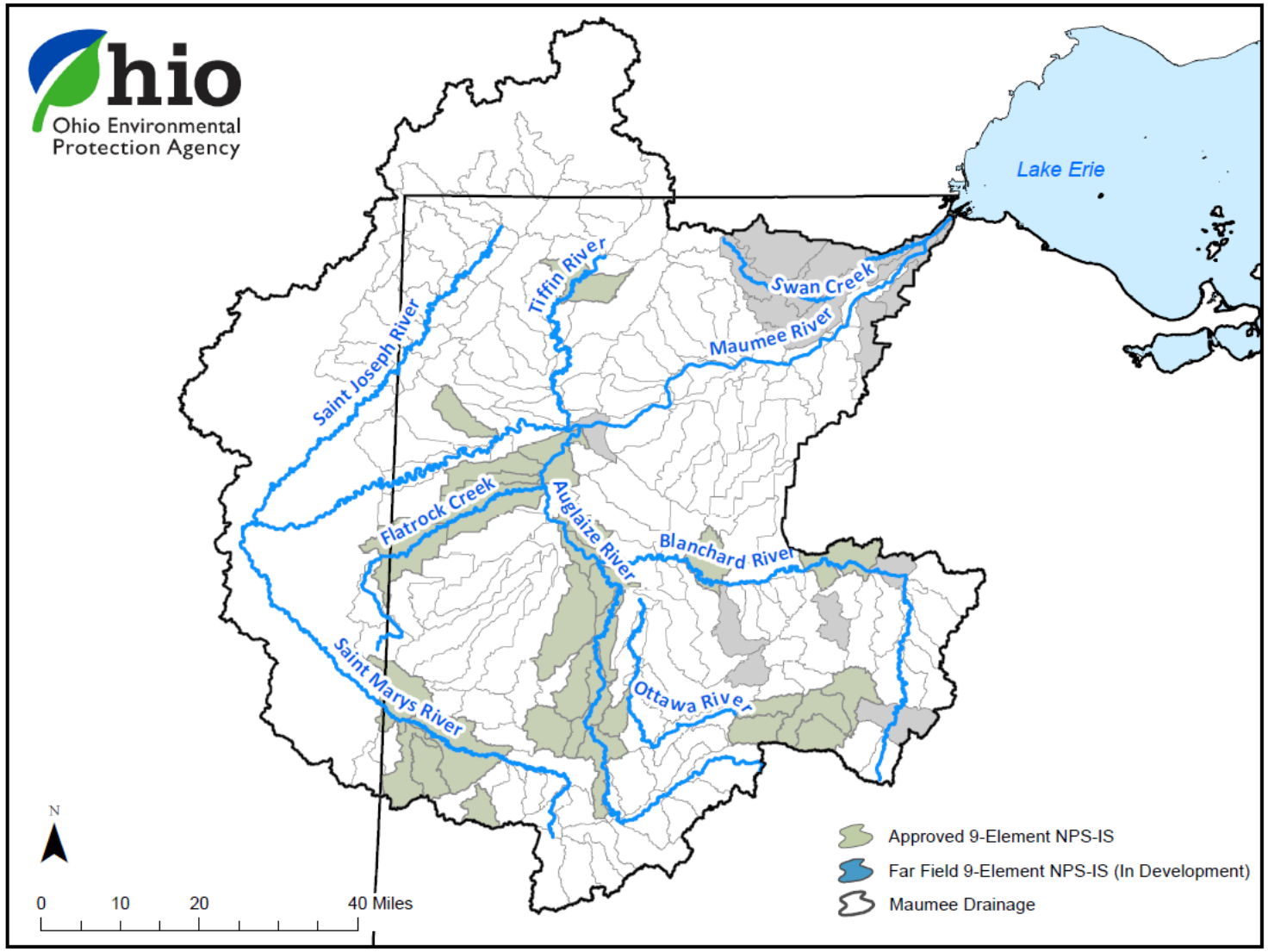
9-Element Plans in Maumee Watershed:



Completed or
In-Progress Plans

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9-Element Implementation Strategies…

- An effective, integrated approach to address the diverse realities and needs of each watershed – HUC-12 scale;
- A vehicle to establish strategic priorities for project implementation;
- a tool to aid with funding prioritization (State); and funding eligibility (Federal); and
- A living, updateable bookshelf of projects aimed to be consistent with established water quality goals and objectives

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Template, Guidance, and Examples Available

- FINAL NPS-IS Template, [PDF] [DOCX]
- Example Ohio Nine-Element Nonpoint Source Implementation Strategic (NPS-IS) Plan (with Template references in margin)
- Guide to Developing Nine-Element Nonpoint Source Implementation Strategic Plans in Ohio
- Critical Source Area Identification and BMP Selection: Supplement to Watershed Planning Handbook
- Historical References — Watershed Action Plans
  These are not equivalent, but may be useful when developing 9-Element NPS-IS.

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