



Department of  
Environmental  
Conservation



New York State  
Water Resources Institute  
Cornell University

# Introduction to Watershed Planning

**Emily Vail**

Hudson River Estuary Program,  
NYS Department of Environmental Conservation  
NYS Water Resources Institute  
at Cornell University

April 12, 2018

# Presentation Outline

- Hudson River Estuary Program
- Why watershed planning?
- Goals for today's workshop
- Types of watershed plans
- Key steps
- Opportunities & next steps



Photo from Hudson River Watershed Alliance

# Hudson River Estuary Program

## Six Benefits:

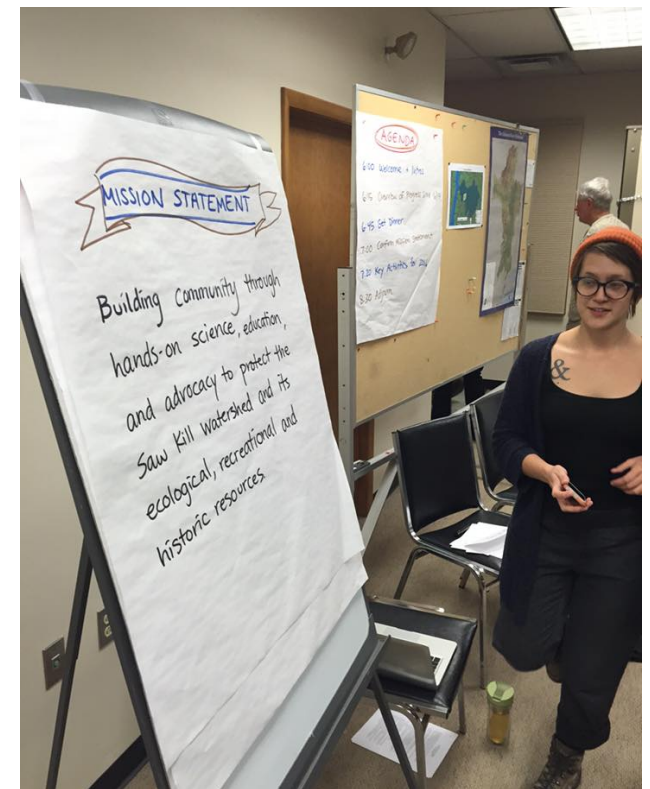
- Clean water
- Resilient communities
- Vital estuary ecosystem
- Estuary fish, wildlife, and their habitats
- Scenic river landscape
- Education, river access, recreation, and inspiration



Department of  
Environmental  
Conservation

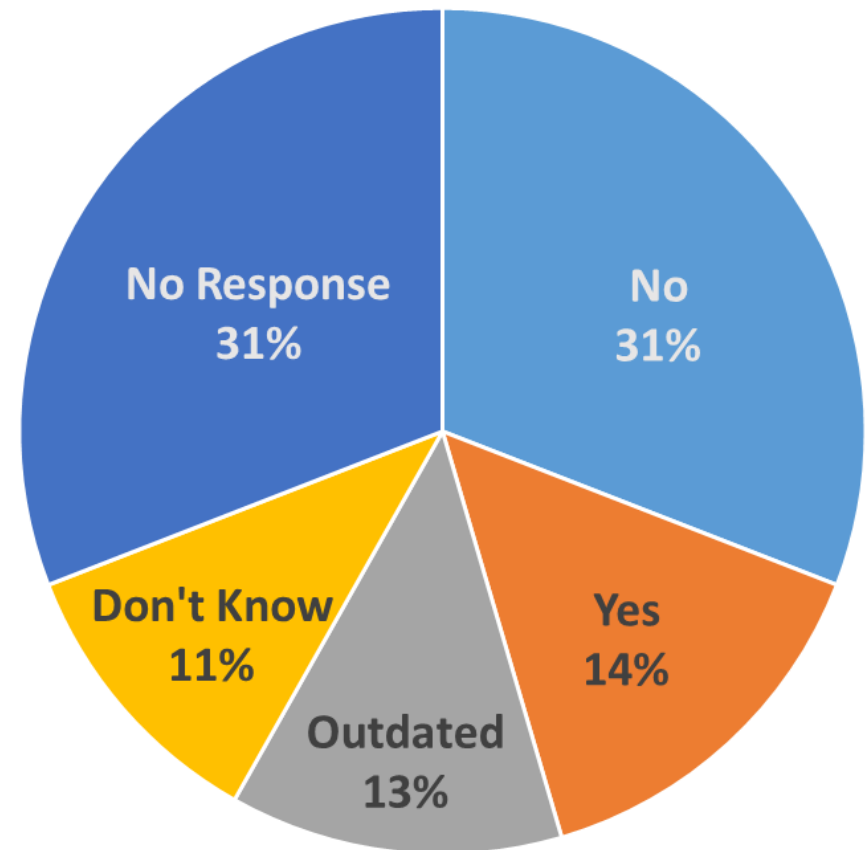
# Why watershed planning?

- Consolidates information
- Brings together stakeholders (including municipalities)
- Creates a shared vision, builds consensus
- Identifies strategic projects
- Helps justify grants and other funding
- Protects or restores our waters



## Does your watershed have a plan in place?

- New plans – where to get started?
- Outdated plans – how to revise?
- Existing plans – how to add elements or implement?



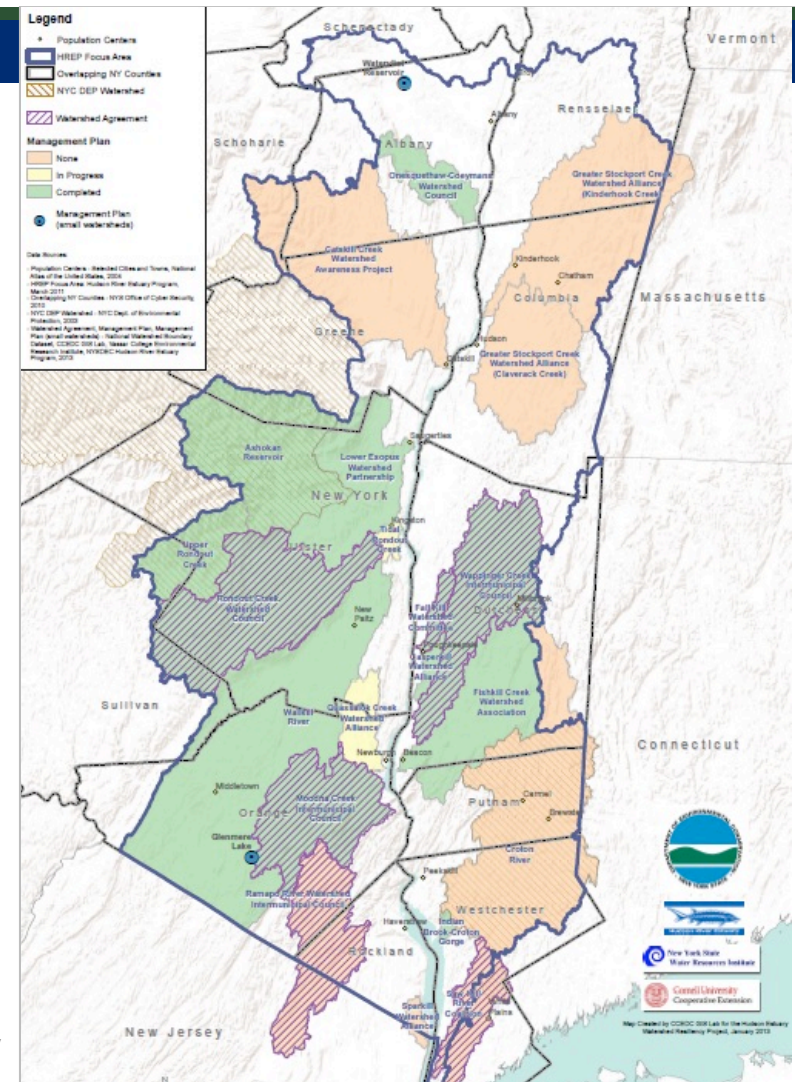


# Existing watershed plans

- Don't know? (11%!)

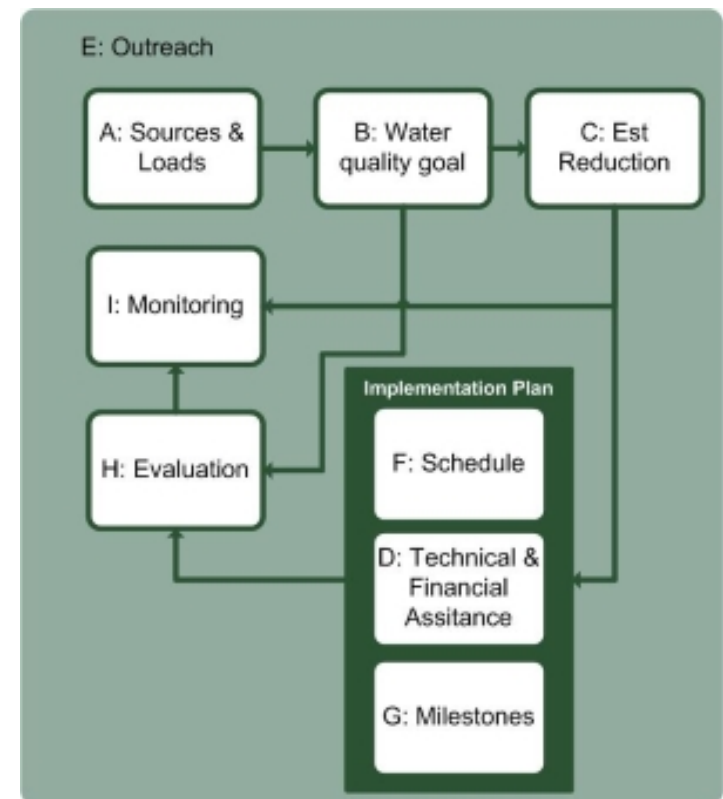
<http://www.hudsonwatershed.org/local-watershed-groups/watershed-management-plans.html>

Map by Cornell  
Cooperative Extension  
Dutchess County



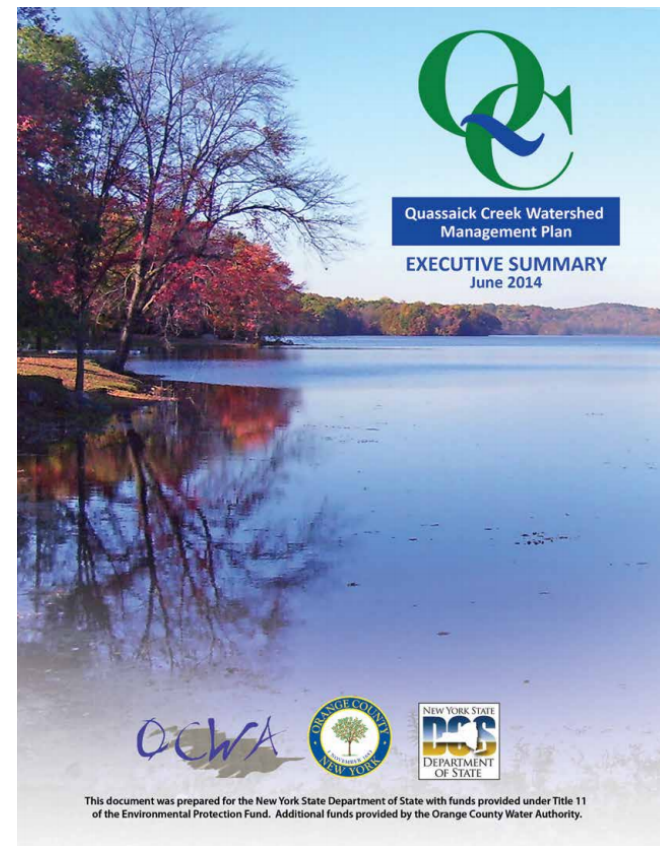
# Types of watershed plans

- Total Maximum Daily Load – TMDL/303(d) list
  - Approved by EPA, reduce pollutant loads in impaired watersheds
  - Example: [Chesapeake Bay](#)
- EPA 9 element watershed plan
  - Approved by DEC, well-suited for non-point source
  - Example: [Genesee River](#)



# Types of watershed plans

- DOS watershed plan
  - Example: [Quassaick Creek](#)
- Assessment or characterization
  - Example: [Health of the Casperkill](#)
- Planning at watershed scale (flooding, source water, culverts, stormwater, riparian buffers, habitat, etc.)
  - Example: [Moodna Creek Watershed and Flood Mitigation Assessment Final Report](#)





## What are the key steps?

- Delineate a watershed (scale)
- What are the goals? Values?
- Bring together stakeholders
- Prioritize issues
- Compile existing data, collect new data
- Specify actions
- Implement the plan!
- Measure progress, adapt if necessary



## At the end of the planning process...

- Watershed assessment summarizing current conditions
- Prioritized, specific, and strategic actions to improve watershed health
- Group of stakeholders on board to work on issues/priorities

### Quassaick Creek Watershed Management Plan

#### Priority Action: MUCHATTOES LAKE IMPROVEMENTS

##### Action Description:

Given its central location in the City of Newburgh, Muchattoes Lake is an ideal candidate for public recreation, green infrastructure demonstration projects, and other improvements. This 13-acre lake is adjacent to a large apartment complex but is currently fenced off around most of its perimeter, thus discouraging residents from making contact with the Lake. In of 2013, a [DEC Environmental Justice](#) grant was awarded to the Quassaick Creek Watershed Alliance in partnership with the [Hudson River Sloop Clearwater](#) to plan and construct a series of projects focused on Muchattoes Lake. A primary element will be the development of a walking trail around and in

*(Continued on next page)*



**Figure 1:** Conceptual layout of walking trail connecting the Newburgh Armory Unity Center with residences near Muchattoes Lake, additionally providing access points to the lake for the residents. This concept will be implemented, in part, with the grant funds from the EPA's Environmental Justice Small Grants Program.

## Don't wait for a full plan!

- Trees for Tribes
- Culvert assessments
- Implement green infrastructure
- Natural Resource Inventories
- Climate Smart Communities
- Water quality monitoring, WAVE
- Clean ups like Riverkeeper's Sweep
- Can break up a watershed plan, take it on in parts





## Resources

- Hudson River Estuary Program - [Grants](#) & technical assistance
- NYS DEC - [9 Element Watershed Plans](#)
- NYS Dept of State - [guidebook](#)
- Hudson River Watershed Alliance - [Examples of watershed plans](#)
- Center for Watershed Protection - [Resources on planning](#)



Photo from Hudson River Watershed Alliance

## What you can do

- What is your goal?
- Review existing plans/templates
  - Examples? Lessons learned?
- Who should participate?
- What issues are most important?
- What data or plans are available?
- Where are there gaps?





## In summary...

- Watershed planning brings people together, helps come to consensus on strategic next steps to improve watershed health
- Depends on local priorities
- Grants & other resources available



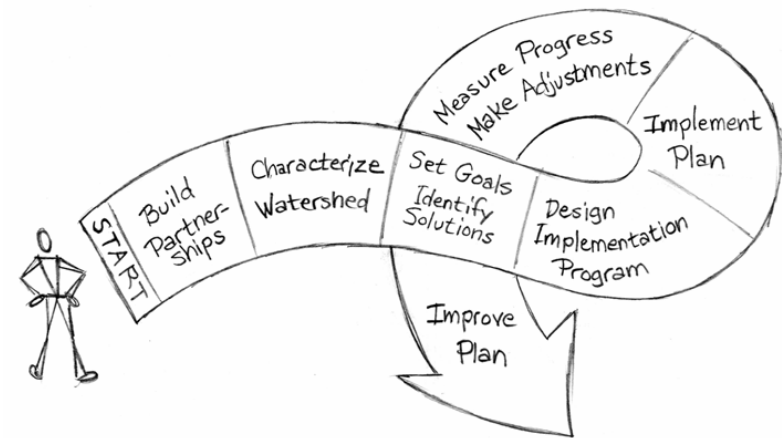
# Thank You!

Emily Vail

Watershed Outreach Specialist  
Hudson River Estuary Program

[emily.vail@dec.ny.gov](mailto:emily.vail@dec.ny.gov)

(845) 256-3145



## Connect with us:

Facebook: [www.facebook.com/NYSDEC](http://www.facebook.com/NYSDEC)

Twitter: [twitter.com/NYSDEC](https://twitter.com/NYSDEC)

Flickr: [www.flickr.com/photos/nysdec](http://www.flickr.com/photos/nysdec)



New York State  
Water Resources Institute  
Cornell University



Department of  
Environmental  
Conservation