



Webcast Sponsored by EPA's Watershed Academy



# Watershed Central: A New Gateway to Watershed Information

April 15, 2009 1–3 PM Eastern

- Stuart Lehman – Office of Water
- Kim Balassiano – Office of Environmental Information
- Joe Williams – Office of Research & Development

The image displays three screenshots from the Watershed Central web application. The leftmost screenshot shows the main dashboard with a navigation menu on the left and a central content area. The middle screenshot shows a detailed view of a watershed, including a map and various data tables. The rightmost screenshot is a flowchart illustrating the watershed management process, starting with 'Define the Condition of the Aquatic Resource' and ending with 'Monitor'.



## Guide to Our Webcasts

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- **To Ask a Question** - Type your question in the text box located in the lower left-hand corner of your screen and click on the "Submit Question" button
- **To Answer Poll Question** – Click on the radio button to the left of your choice and click submit. Do not type your answer in the "Ask a Question" box
- **To See Closed Captioning** – Turn your pop-up blocker off and click on the "closed captioning" button
- **To Complete the Survey** – Turn off your pop-up blocker





## Topics for Today's Webcast

- Watershed Central
- A Wiki for Watersheds
- Science Perspectives for Watershed Central



## Watershed Central Introduction

**Stuart Lehman,**  
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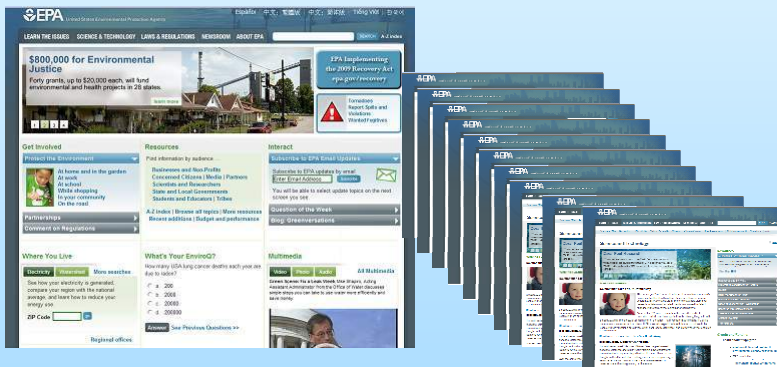


## Presentation Outline

- Watershed Planning and Management Needs
- Resources at EPA for Watershed Managers
- Introduction to Watershed Central



## Why Another Web site?



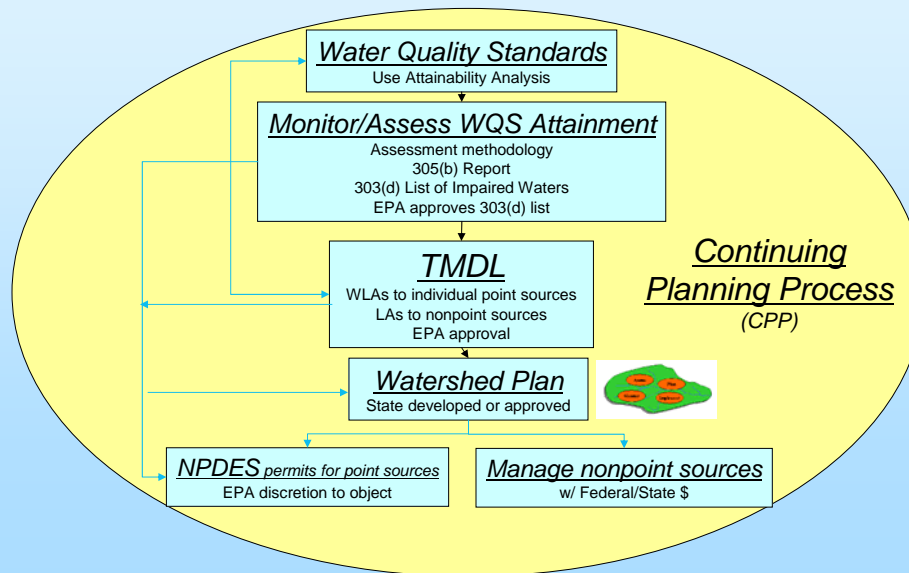


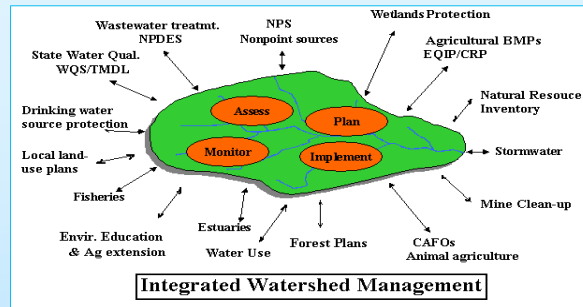
## And, Why “Watershed Central”?

- There is so much information out there!
- What is the task at hand? What tools will make this task easier?
- The best source of some information may be your neighbor, state agency, soil and water district, town planning agency, or nearby local watershed group
- Promote strong science and identify gaps
- Other agencies have critical information
- Feedback!



## CWA Watershed Framework





- Better meet everyone's environmental goals
- Facilitate the successful watershed approach that maximizes collaboration across all levels of government, the private sector & NGOs
- Create more effective watershed efforts using appropriate tools
- Better accountability for achieving EPA's goals  
(Congress, OMB (PART) and Strategic Plan)



## Nine Elements of Watershed-Based Plans (e.g., for NPS Funding)

1. Identification of causes and sources, listed waters, pollutants, loads by watershed sub-categories, (crops, AFOs, urban, forestry, etc.)
2. Estimate of load reductions by land use (or other) subcategories expected from BMPs
3. Description of BMPs, How they are targeted (map suggested)
4. Estimate of needed technical & financial resources
5. Information/ Education component
6. Schedule (who does what, when)
7. Description of measurable milestones for implementation
8. Criteria to determine if loadings/ targets are being achieved
9. Monitoring component for above criteria



## Importance of Watershed Plans

(Madison Rpt. 2000)

- Convergence of opinion that “watershed plans are necessary precedents for successful watershed management, protection, and restoration interventions...”
- In a recent study,.. “the use of watershed plans was the only factor with a high correlation with potential positive environmental outcomes.” (Trout Unlimited & Pacific Rivers Council)



## Factors that influenced successful watershed project implementation:

(VA Tech Study of TMDL Implementation Success, 2006)

Enhanced Implementation	Hindered Implementation
<ul style="list-style-type: none"><li>✓ Existence of a watershed plan (focused &amp; achievable)</li><li>✓ Active involvement of stakeholders</li><li>✓ Coordination of local and state government</li><li>✓ Diversity of approaches</li><li>✓ Adequate resources for voluntary incentives and technical assistance</li></ul>	<ul style="list-style-type: none"><li>✓ Lack of resources</li><li>✓ Lack of sufficient data to characterize pollutant sources</li><li>✓ Lack of data to characterize WQ improvement</li><li>✓ Lack of communication and coordination between agencies</li><li>✓ Lack of funding particularly mid-project cuts</li></ul>





# Watershed Plan Builder



## PlanBuilder Outline (with links)

Databases/Datasets	Description
<a href="#">Land use and land cover</a>	The vegetation, water, natural surface, and cultural features on the land surface. Provides links to USGS information about land use and land cover and related topics. Provides a topical browse interface into USGS information utilizing controlled vocabularies arranged as formal thesauri.
<a href="#">Natural resources</a>	Stocks of anything naturally occurring that have a beneficial use for man including economic, nutritional, recreational, aesthetic, and other benefits.
<a href="#">Water resources</a>	Stocks of water, the liquid derived from precipitation. A constituent of living matter and necessity for all life, it covers a large proportion of the earth's surface.
<a href="#">MRLC Consortium Data Viewer</a>	MRLC Consortium provides a dynamic online map interface that can be used to view USGS datasets.
<a href="#">Multi-Resolution Land Characteristics Consortium</a>	The Multi-Resolution Land Characteristics (MRLC) Consortium is a group of federal agencies who first joined together in 1995 (MRLC 1992) to purchase Landsat 5 imagery for the conterminous U.S. and to develop a land cover dataset called the National Land C.
<a href="#">Maps, Data, Reports for Gap Analysis</a>	These pages provide access to all GAP data and reports. You can read project Final Reports online, or download them. You can also view or download all GAP data by state, by theme, or by vertebrate species.
<a href="#">National Resources Inventory</a>	A statistical survey of land use and natural resource conditions and trends on U.S. non-Federal lands.
<a href="#">USGS Geographic Data Download</a>	USGS Geographic Data Download. The National Elevation Dataset (NED) 1 Arc Second is a raster product assembled by the U.S. Geological Survey (USGS). 1:250,000 & 1:100,000 Scale Land Use Land Cover (LULC). National Hydrography Dataset (NHD) for streams and delineation.

### 3.2.1 Open space

Describe the location and extent of open space in the watershed. Open space includes natural areas, wildlife and native plant habitat, important wetland or watershed lands, stream corridors, passive or low-impact activities, little or no land disturbance, and/or trails for non-motorized activities. Description of open space can help to characterize your watershed. You can obtain information and data on open space through several government websites. Your state's and city's websites can also be useful resources.

### 3.2.2 Wetlands

Describe the location and extent of wetland areas in the watershed. Identifying wetlands is crucial to protecting natural habitats in your watershed. The National Wetlands Inventory (NWI) is operated by the U.S. Fish and Wildlife Service (USFWS) and provides information on the characteristics, extent, and status of the nation's wetlands, as well as deepwater habitats and other wildlife habitats. The NWI includes a Wetlands Mapper feature that allows you to map wetlands habitat data. US EPA and ACE are other useful sources of wetland data as well as wetland projects and links to other resources.





## Meeting Local Needs




Atlanta, Georgia  
January 8–10, 2007

### USEPA "Watershed Central" Workshop Options for Organizing EPA Information & Tools for Watershed Management



## 310 User "Requirements" - 99 Basic Functions

Process Step	Business Requirement ID	Business Requirement	User Requirement ID	User Requirement	Existing Tools
Overarching	BD01	Develop an analytical framework for considering and using/linking different sources of information	UR01	Develop an analytical framework to characterize problems, i.e., describe how the watershed works and put the framework in a programmatic context so users can access institutional context.	GAP
Build Partnerships	BD02	Need to Facilitate Technical Exchange	UR06	Online Discussion Board-to post questions	Environmental Science Connector-EPA ORD, OEI, collaborative workspace, beta version, FTP site to upload docs.



**U.S. ENVIRONMENTAL PROTECTION AGENCY**

## Watershed Central

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You are here: [EPA Home](#) » [Water](#) » [Wetlands, Oceans, & Watersheds](#) » [Watersheds](#) » [Watershed Central](#) » [Watershed Management Process](#)

Watershed Central

Basic Information

Frequent Questions

Calendars of Events

Collaborative Tools

Watershed Management Process

Models, Tools & Databases

Funding Sources

Training

Outreach & Communication

Guidance, Rules & Regulations

Interactive Wiki

Site Map

### Watershed Management Process

This section of the Watershed Management website is designed to walk you through each step of the watershed planning and implementation process. You may wish to use this information after you have used the [Watershed Plan Builder](#) to create a customized watershed plan outline.

**Steps**


- Build Partnerships
- Characterize the Watershed
- Set Goals and Identify Solutions
- Design an Implementation Program
- Develop Watershed Plan Outline
- Implement the Watershed Plan
- Measure Progress and Make Adjustments

Effective watershed management includes both planning and implementation components. While the development of a watershed plan is a critical step in the process, the plan must be successfully implemented before results can be seen. The watershed management process uses a series of cooperative, iterative steps to characterize existing conditions, identify and prioritize problems, define management objectives, and develop and implement protection or remediation strategies as necessary. To get more information on the planning and implementation process see the [Handbook for Developing Watershed Plans to Restore and Protect Our Waters](#).

Move through each step of the watershed management process by clicking on the steps listed in the box on the right side of the screen. Each topic is divided into subsections that can be viewed by clicking on the appropriate heading in the right hand topics box. The topics box will show the name of the section you are currently working in.


Bookmark this page so you can return to this section of the Watershed Management site as often as you need to as you progress in developing and implementing your watershed plan.

[EPA Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

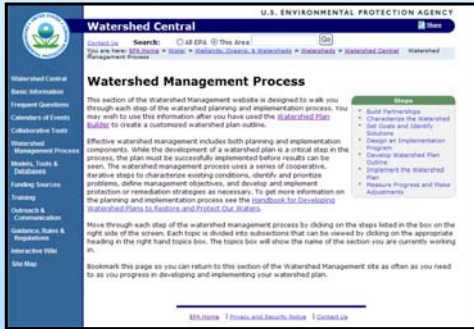


**Wiki Articles, Discussion, & Ratings Feed**

## Watershed Central Web Site



The screenshot shows the 'Main Page' of the Watershed Central website. It features a navigation menu on the left, a central content area with a 'Welcome to the Watershed Central Web Site' message, and a 'Calendar of Events' section on the right. A large arrow points from this page towards the right-hand page.



This screenshot shows the 'Watershed Management Process' page, which is identical to the one shown in the top image. It details the steps of the watershed management process and provides a link to the 'Handbook for Developing Watershed Plans to Restore and Protect Our Waters'.

## Questions for Stuart Lehman?



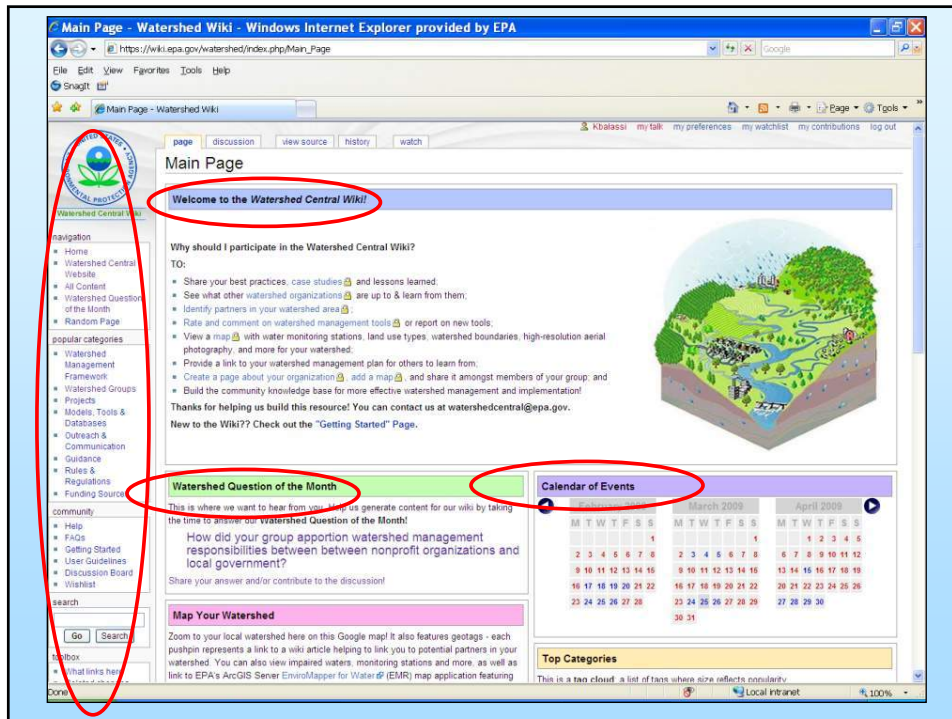
## A Wiki for Watersheds

**Kim Balassiano**  
US EPA, Office of Environmental Information  
[balassiano.kim@epa.gov](mailto:balassiano.kim@epa.gov)



## Presentation Outline

- Finding Content
- Adding Content
- Tool Rating
- Collaboration and Mapping



**Main Page**

Welcome to the Watershed Central Wiki!

Why should I participate in the Watershed Central Wiki?

TO:

- Share your best practices, case studies and lessons learned.
- See what other watershed organizations are up to & learn from them.
- Identify partners in your watershed area.
- Rate and comment on watershed management tools or report on new tools.
- View a map with water monitoring stations, land use types, watershed boundaries, high-resolution aerial photography, and more for your watershed.
- Provide a link to your watershed management plan for others to learn from.
- Create a page about your organization, add a map, and share it amongst members of your group; and
- Build the community knowledge base for more effective watershed management and implementation!

Thank for helping us build this resource! You can contact us at [watershedcentral@epa.gov](mailto:watershedcentral@epa.gov).

New to the Wiki?? Check out the "Getting Started" Page.

**Watershed Question of the Month**

This is where we want to hear from you. Help us generate content for our wiki by taking the time to answer our Watershed Question of the Month!

**How did your group apportion watershed management responsibilities between nonprofit organizations and local government?**

Share your answer and/or contribute to the discussion!

**Map Your Watershed**

Zoom to your local watershed here on this Google map! It also features geotags - each pushpin represents a link to a wiki article helping to link you to potential partners in your watershed. You can also view impaired waters, monitoring stations and more, as well as link to EPA's ArcGIS Server EInfoMapper for Water (EMR) map application featuring

**Calendar of Events**

March 2009							April 2009											
M	T	W	T	F	S	S	M	T	W	T	F	S	S					
					1						1	2	3	4	5			
2	3	4	5	6	7	8	2	3	4	5	6	7	8	9	10	11	12	
9	10	11	12	13	14	15	9	10	11	12	13	14	15	16	17	18	19	
16	17	18	19	20	21	22	16	17	18	19	20	21	22	23	24	25	26	
23	24	25	26	27	28		23	24	25	26	27	28	29	27	28	29	30	31

**Top Categories**

This is a tan cloud, a list of fans whose alpha reflects comradery.

Main Page - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Main\_Page

Map Satellite Hybrid Terrain

Inventory Mapped Projects Projects by state  
 Tools Tools for Setting Goals and Identifying Solutions  
 Water Watershed Characterization Tools Watershed  
 Group Watershed Management Framework

**Top 10 Rated Pages**

Page Title	Avg Rating	Votes
Causal Analysis / Diagnosis Decision Information System (CADDIS)	5.0	2
USGS StreamStats	5.0	2
LSPC	5.0	2
EPA Rapid Reassessment Protocols	5.0	1
EPA Adapt your Watershed	5.0	1
Maryland Biological Stream Survey (MBSS)	5.0	1
BAHTUB	5.0	1
Causal Analysis/Diagnosis Decision Information System (CADDIS)	5.0	1
GIS-Based Phosphorus Loading Model (GISPLM)	5.0	1
USACE CorpsMap	5.0	1

**Top 10 Active Users**

User	Revision Count	Content Length
Meloroj	1732	69998
Tierckhof	1022	198361
Jsturman	675	1990583
Milburd	423	1650073
Tierckko	389	855236
Adam	386	1137332
Stuhelman	213	342645
Cocoper	207	365134
Maggill	147	460406
Watershed	137	424287

**Latest Additions/Updates**

Page Title	Added/Updated
Cuyahoga River	03/25/2009
Cuyahoga River Reports by Ohio EPA	03/25/2009
Dam Removal	03/25/2009
Colorado Watershed Assembly	03/24/2009
Watershed Central Wiki Wishlist	03/24/2009
ProjectDix Portland	03/24/2009
Four Mile Run (Arlington, Virginia)	03/23/2009
Tualatin River Watershed Oregon	03/20/2009
Water Quality Trading - EPA Web Site	03/20/2009
EPA's Water Quality Trading Policy	03/20/2009

**5 Newest Users**



## Watershed Central Wiki

- Finding Content & Collecting Content for the Watershed Central Web site
  - Share watershed plans
  - Share info about watershed organizations
  - Share info on new tools, databases, models
- Collect tool ratings from the user community so that we may later publish summary ratings to the WC Web site
- Build partnerships (wiki map)



# Finding Content

Search results - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Special:Search/search/runoff&fulltext=Search

Search results - Watershed Wiki

special

### Search results

You searched for **runoff**

For more information about searching Watershed Wiki, see [Help](#).

Showing below up to 20 results starting with #1.

View (previous 20) (next 20) (20 | 50 | 100 | 250 | 500)

#### Page title matches

1. Kinematic Runoff and Erosion Model (KINEROS2) (1,186 bytes)
2. Using Economic Incentives to Manage Stormwater Runoff in the Shepherd Creek Watershed (2,376 bytes)

#### Page text matches

1. Identify Causes and Sources That Need to Be Controlled (1,646 bytes)
2. Set Overall Goals and Management Objectives (4,120 bytes)
3. Develop Indicators/Targets (4,141 bytes)
4. Case Studies (1,260 bytes)
5. Develop Management Practices to Achieve Goals (3,027 bytes)
6. Tools list (133,505 bytes)
7. GSSHA (1,392 bytes)
8. Watershed models (1,079 bytes)



Category:Watershed Group - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Category:Watershed\_Group

Category:Watershed Group

Please add a page for your watershed organization here. Or share a description and links to a watershed project that you think others could learn from.

Subcategories

There are 3 subcategories to this category

- C
  - [\*] Category:Case Study
- N
  - [\*] Category:Non Profit Organization Resources
- W
  - [\*] Category:Water Resources Council

Pages in category "Watershed Group"

There are 36 pages in this category.


<b>A</b>	<b>F</b>	<b>S</b>
<ul style="list-style-type: none"> <li>American Rivers</li> </ul>	<ul style="list-style-type: none"> <li>Friends of Rock Creek's Environment</li> </ul>	<ul style="list-style-type: none"> <li>Southeast Watershed Assistance Network</li> <li>Spa Creek Conservancy</li> <li>Sustainable Environment for Quality of Life (SEQL)</li> </ul>
<b>B</b>	<b>G</b>	<b>T</b>
<ul style="list-style-type: none"> <li>Back Creek</li> <li>Blue River</li> </ul>	<ul style="list-style-type: none"> <li>Great Lakes Wiki</li> <li>Greater Lansing Regional Committee for Stormwater Management</li> </ul>	<ul style="list-style-type: none"> <li>Toward Understanding New Watershed Initiatives : A Report from the Madison Watershed Workshop</li> </ul>
<b>C</b>	<b>H</b>	<b>W</b>
<ul style="list-style-type: none"> <li>Canaan Valley Institute (CVI)</li> <li>Center for Land &amp; Water</li> <li>Central Minnesota Water Education Alliance (CMW/EA)</li> <li>Charles River</li> <li>Christina River</li> <li>Citizen Based Monitoring Network of Wisconsin</li> <li>Cumberland River Compact</li> </ul>	<ul style="list-style-type: none"> <li>Herring Run Watershed Association</li> </ul>	<ul style="list-style-type: none"> <li>WATERSHED PLAN DEVELOPMENT: LESSONS LEARNED IN BEAVER CREEK</li> <li>Water Wiki</li> <li>Watershed Conservation Resource Center (WCRC)</li> <li>Watershed Groups in Arkansas</li> <li>Weems Creek Watershed</li> <li>WikiWatershed (TM)</li> <li>Wobegone lake</li> </ul>

Spa Creek Conservancy - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Spa\_Creek\_Conservancy

Spa Creek Conservancy - Watershed Wiki

Spa Creek Conservancy



This page was created using the recommended template for case studies. If you wish to add a case study to the watershed central wiki, you should use this case study template. It's easy, just cut and paste text that follows this paragraph into the new article and fill in the information (case study name, abstract text, etc.).

```
[[Case Study|abstract=|keywords=|authors=|date=|location=|body=]]
```

**Abstract**

Spa Creek watershed group in Annapolis, MD monitoring water quality and working with local organizations to clean up the Creek

**Keywords:** citizen monitoring, stormwater management, habitat restoration

**Author(s):** S. Lehman / stulehman@comcast.net

**Publication Date:** March 26, 2008

Spa Creek Conservancy(SCC) is a nonprofit watershed organization in Annapolis, Maryland working on improving stormwater management and protecting critical habitats. SCC believes that these are two keys to protecting water quality in Spa Creek. SCC started in 2004 and has monitored the creek and improved shoreline habitats since 2005. It has received funding from its 80 members, the Chesapeake Bay Trust, and the National Fish and Wildlife Foundation. In 2007, SCC worked with the City of Annapolis and private landowners to install a rain garden on Lincoln Drive. In 2008, SCC is working with local partner organizations, including St. Mary's Church/School, to improve stormwater controls in 3 other sites in the watershed. Contact: stulehman@comcast.net

Map of Spa Creek area

Category:Case Study - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Category:Case\_Study

Category:Case Study

Subcategories

There is one subcategory to this category.

P

- [-] Category Projects for Vermont

Pages in category "Case Study"

There are 20 pages in this category.

<b>A</b>	<b>C cont.</b>	<b>S</b>
<ul style="list-style-type: none"> <li>A Program for Identifying and Eliminating Failing Septic Systems</li> </ul>	<ul style="list-style-type: none"> <li>Clark Fork-Pand Oreille Cumbefland River</li> <li>Dunkard Creek</li> </ul>	<ul style="list-style-type: none"> <li>Schuykill Watershed Source Water Protection</li> </ul>
<b>B</b>	<b>D</b>	<b>T</b>
<ul style="list-style-type: none"> <li>Bayou Batholomew</li> <li>Bear River</li> </ul>	<ul style="list-style-type: none"> <li>EPA Section 319 Nonpoint Source Success Stories</li> </ul>	<ul style="list-style-type: none"> <li>The Natural Resource Projects Inventory</li> <li>Toward Understanding New Watershed Initiatives: A Report from the Madison Watershed Workshop</li> <li>Tualatin River Watershed, Oregon</li> </ul>
<b>C</b>	<b>E</b>	<b>U</b>
<ul style="list-style-type: none"> <li>Cape Fear River</li> <li>Case Studies</li> <li>Cheat River</li> </ul>	<ul style="list-style-type: none"> <li>Fairfax County Stream Quality Assessment Program</li> </ul>	<ul style="list-style-type: none"> <li>Upper Klamath River</li> <li>Using Economic Incentives to Manage Stormwater Runoff in the Shepherd Creek Watershed</li> </ul>
	<b>O</b>	<b>W</b>
	<ul style="list-style-type: none"> <li>Oregon McKenzie River Watershed</li> </ul>	<ul style="list-style-type: none"> <li>WATERSHED PLAN DEVELOPMENT: LESSONS LEARNED IN BEAVER CREEK</li> </ul>
	<b>P</b>	
	<ul style="list-style-type: none"> <li>Potomac Drinking Water Source Protection</li> </ul>	

Category: Watershed Group

WATERSHED PLAN DEVELOPMENT: LESSONS LEARNED IN BEAVER CREEK - Watershed Wiki - Windows Internet Explorer provided...

https://wiki.epa.gov/watershed/index.php/WATERSHED\_PLAN\_DEVELOPMENT:\_LESSONS\_LEARNED\_IN\_BEAVER\_CREEK

WATERSHED PLAN DEVELOPMENT: LESSON...

WATERSHED PLAN DEVELOPMENT: LESSONS LEARNED IN BEAVER CREEK "THE GOOD, THE BAD AND THE UGLY"

Roy A. Arthur \* and Ruth Anne Hanahan

Contents (hide)

- 1 Purpose
- 2 Background
- 3 Lessons Learned
- 4 Partnerships
- 5 Administrative Considerations
- 6 Public Participation
- 7 Technical Issues
- 8 Summary

**Purpose** [edit]

In 2006, the Beaver Creek Task Force completed a watershed restoration plan for the Beaver Creek Watershed (HUC TN-06010207-011). The Task Force, formed in 1998, is comprised of 19 agencies, utilities, institutions, and non-profits, its mission to protect and restore the health of Beaver Creek. The development of the plan was unquestionably a tremendous learning experience for Task Force members. The purpose of this paper is to share our lessons learned: "the good, the bad and the ugly."

**Background** [edit]

The Beaver Creek Watershed is located in the 630-square-mile Lower Clinch River Watershed, covering 86 square miles in the northern portion of Knox County. The main stem of Beaver Creek is 44 miles long and flows through five different communities before emptying into the Clinch River. The watershed is rapidly urbanizing with a current population of approximately 75,000 residents and a projected one of 108,000 by the year 2030; an increase of 45%.

Nearly all of Beaver Creek and its major tributaries are on the State of Tennessee's 303(d) list of impaired streams. Causes of impairment include phosphorus, nitrates, E. coli, low dissolved oxygen, loss of biological integrity due to siltation, and physical substrate habitat alteration. Pollution sources include major municipal point sources, pasture grazing and discharges from Knox County's NPDES-permitted Municipal Separate Storm Sewer System (MS4). The Tennessee Department of Environment and Conservation (TDEC) developed and US Environmental Protection Agency (EPA) approved Total Maximum Daily Loads (TMDLs) for siltation and habitat alteration and pathogens for the Lower Clinch River Watershed. The primary impacts addressed by the restoration plan are siltation and habitat alteration.

The Beaver Creek Restoration Plan was developed over an 18 month period, with funds provided by TDEC through a 604(b) grant. The process used to develop the plan followed the steps described in the new US EPA Handbook for Developing Watershed Plans to Restore and Protect our Water (EPA841-B-05-005). Its content encompasses the nine elements required by the US EPA Section 319 Nonpoint Management Program.

**Lessons Learned** [edit]

The development of the Beaver Creek Restoration Plan offered the Task Force an opportunity to evaluate our strengths and limitations in light of the challenges associated with taking on such a project. We have categorized these experiences ("learning opportunities") under four primary areas:

- Partnerships



International Stormwater Best Management Practices (BMP) Database - Watershed Wiki - Windows Internet Explorer provided by...

https://wiki.epa.gov/watershed/index.php/International\_Stormwater\_Best\_Management\_Practices\_%20BMP%29\_Database

International Stormwater Best Management Practices (BMP) Database

The International Stormwater Best Management Practices (BMP) Database is a web-based database that contains a database of over 300 BMP studies, performance analysis results, tools for use in BMP performance studies, monitoring guidance and other study-related publications. The overall purpose of the project is to provide scientifically sound information to improve the design, selection and performance of BMPs. Continued population of the database and assessment of its data will ultimately lead to a better understanding of factors influencing BMP performance and help to promote improvements in BMP design, selection and implementation.

Experience Required	Low
Time Needed for Application	Hours
Data Needs	None
Support available	Low
Software requirements	None
Cost to purchase	Public Domain

Rating: 0.05 (0 votes cast)

Comment on this tool

Categories: Tools | Tools for Designing an Implementation Program | Databases | Technical Information | White Papers | Water Pollution | Best Management Practices | Stormwater | Main Inventory

Category:Tools - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Category:Tools

Category:Tools

There are many tools available to aid watershed planners and managers. Registered users are welcome to add new tools, add comments, suggestions, & feature requests to existing tools, and rate the usefulness of the tools. When adding new tools, consider the following questions as criteria for tools and resources to add: 1) Does it address a recurring need identified by watershed management practitioners? 2) Does it fill an important gap with regard to watershed management or watershed science? 3) Is it a standard method, publication, or tool of known good quality that substantially furthers the goals of human health, clean water, and ecological integrity, and 4) Does it deal with an emerging issue hindering effective watershed management. Tools and resources which should not be included are: 1) Those tools, resources and information that are outdated (including old statutes or programs, technology that has clearly been superseded by new methods, statutes, etc.) and 2) Those tools that represent brand-name technology, proprietary tools or resources, or for-profit consultancies. Take a look at the Watershed Central FAQ for guidance on how to add a new tool to the wiki.

Subcategories

There are 22 subcategories to this category.

<b>D</b>	<b>T</b>	<b>T cont.</b>
<ul style="list-style-type: none"><li>[+] Category Data</li><li>[+] Category Data Provider</li></ul>	<ul style="list-style-type: none"><li>[+] Category Tools by state</li><li>[+] Category Tools for Assessing Future Conditions or Threats</li><li>[+] Category Tools for California</li><li>[+] Category Tools for Conducting Information/Education Activities</li><li>[+] Category Tools for Designing an Implementation Program</li><li>[+] Category Tools for Developing Watershed Plans</li><li>[+] Category Tools for Kentucky</li><li>[+] Category Tools for Measuring Progress</li></ul>	<ul style="list-style-type: none"><li>[+] Category Tools for Setting Goals and Identifying Solutions</li><li>[+] Category Tools to Estimate Pollutant Loads</li><li>[+] Category Tools to Identify Causes and Sources of Pollution</li><li>[+] Category Training</li></ul>
<b>H</b>		<b>W</b>
<ul style="list-style-type: none"><li>[+] Category Hydrodynamic Models</li></ul>		<ul style="list-style-type: none"><li>[+] Category Water Quality Models</li><li>[+] Category Watershed Characterization Tools</li><li>[+] Category Watershed Models</li></ul>
<b>M</b>		
<ul style="list-style-type: none"><li>[+] Category Mapping tools</li><li>[+] Category Midwest</li><li>[+] Category Models</li></ul>		
<b>P</b>		
<ul style="list-style-type: none"><li>[+] Category Portal</li></ul>		

Pages in category "Tools"

There are 144 pages in this category.

<b>A</b>	<b>G cont.</b>	<b>S cont.</b>
<ul style="list-style-type: none"><li>AGNES</li><li>Automated Geospatial Watershed Assessment (AGWA)</li></ul>	<ul style="list-style-type: none"><li>Generalized Watershed Loading Functions and BasinSim (GWL/F)</li><li>Global Earth Observation System of Systems (GEOS)</li><li>Goddard Space Center Global Change Master Directory</li><li>Gulf of Maine Ocean Data Partnership (GoMOOP)</li></ul>	<ul style="list-style-type: none"><li>SET (HC Spreadsheet Site Evaluation Tool)</li><li>SMART+</li><li>STARMAP (Space-Time Aquatic Resources Modeling and Analysis Program)</li><li>STREAM Modules</li></ul>

AGNPS - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/AGNPS

AGNPS

AGNPS® is a tool for use in evaluating the effect of management decisions impacting a watershed system. Agricultural Non-Point Source Pollution Model (AGNPS) is a joint USDA - Agricultural Research Service (ARS) and - Natural Resources Conservation Service system of computer models developed to predict non point source pollutant loadings within agricultural watersheds. It contains a continuous simulation surface runoff model designed to assist with determining BMPs, the setting of TMDLs, and for risk & cost/benefit analyses.

The set of computer programs consist of: (1) input generation & editing as well as associated databases; (2) the "annualized" science & technology pollutant loading model for agricultural-related watersheds (AnnAGNPS); (3) output reformatting & analysis; and (4) the integration of more comprehensive routines (CHe-1D) for the stream network processes; (5) a stream corridor model (CONCEPTS); (6) an in-stream water temperature model (SITEMP); and (7) several related salmonid models (SIO, Fry Emergence, Salmonid Total Life Stage, & Salmonid Economics). Not all of the models are electronically linked but there are paths of common input/output that, with the use of standard text editors, can be linked.

Summaries of the capabilities of the components of AGNPS are provided through the menu links on the index page. More detailed descriptions of the components, with example datasets, and the programs can be found at the AGNPS download page.

Experience Required:	Substantial
Time needed for Application:	Weeks
Data Needs:	High
Support available:	Low
Software requirements:	Low
Cost to purchase:	Free
Rating:	0.0/5 (0 votes cast)

Categories: Tools | Tools for Setting Goals and Identifying Solutions | Watershed Models | Test Methods & Models | Water Monitoring | Monitoring / Modeling Methods Development | Agricultural Chemicals | Main Inventory

Category:Watershed Management Framework - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Category:Watershed\_Management\_Framework

Category:Watershed Management Framework

This is a listing of pages that have been tagged with "Watershed Management Framework".

If you want to read more about the steps in the watershed planning and implementation process go to the main Watershed Management Framework page.

Subcategories

There are 23 subcategories to this category.

**B**

- [+] Category:Build Partnerships

**C**

- [+] Category:Characterize the Watershed

**D**

- [+] Category:Decision Support Tools
- [+] Category:Design an Implementation Program

**I**

- [+] Category:Implement the Watershed Plan

**M**

- [+] Category:Measure Progress and Make Adjustments

**S**

- [+] Category:Set Goals & Identify Solutions

**T**

- [+] Category:Tools for Assessing Future Conditions or Threats
- [+] Category:Tools for Conducting Information/Education Activities
- [+] Category:Tools for Conducting Monitoring
- [+] Category:Tools for Designing an Implementation Program
- [+] Category:Tools for Developing Management Practices to Achieve Goals
- [+] Category:Tools for Developing Watershed Plans
- [+] Category:Tools for Identifying Issues of Concern

**T cont.**

- [+] Category:Tools for Identifying Technical and Financial Assistance
- [+] Category:Tools for Measuring Progress
- [+] Category:Tools for Setting Goals and Identifying Solutions
- [+] Category:Tools for Setting Overall Goals and Management Objectives
- [+] Category:Tools to Estimate Pollutant Loads
- [+] Category:Tools to Identify Causes and Sources of Pollution

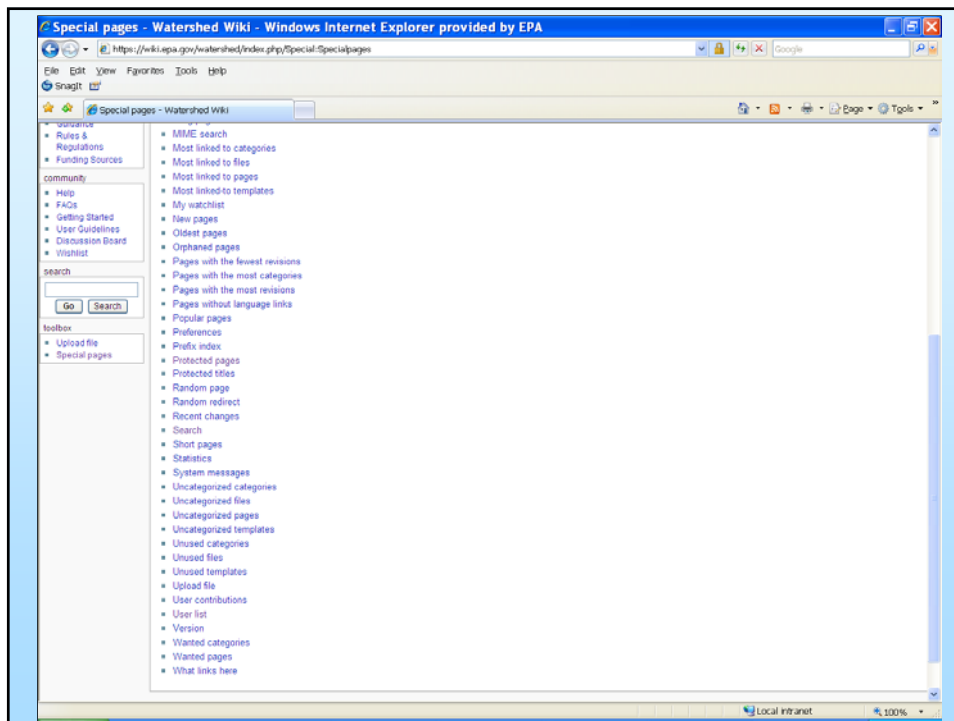
**W**

- [+] Category:Watershed Characterization Tools
- [+] Category:Watershed Plan Development

Pages in category "Watershed Management Framework"

There are 52 pages in this category.

# Adding Content




User:Maggirl - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/User:Maggirl

user page | discussion | edit | history | move | watch

## User:Maggirl



Kim Balassiano  
USEPA  
Washington, DC  
202-566-0709  
balassiano.kim@epa.gov

I was involved in the development of this wiki. My area of expertise is Mapping and GIS. My sister is Katia and she's a land use planner. My stepfather worked for the NY Power Authority.

https://wiki.epa.gov/watershed/index.php/Image:Deck-view.jpg

Revision history of "Main Page" - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php?title=Main\_Page&action=history

view source | history | watch

## Revision history of "Main Page"

(Latest | Earliest) View (newer 50 | older 50) (20 | 50 | 100 | 250 | 500)

Diff selection: mark the radio boxes of the versions to compare and hit enter or the button at the bottom.  
Legend: (cur) = difference with current version, (last) = difference with preceding version, M = minor edit.

Compare selected versions

Revision	Date	Author	Size	Changes
<input type="radio"/>	13:35, 23 March 2009	Tkercchio (Talk   contribs)	m (Protected "Main Page" (ndm=yoop.move+moyoop))	
<input type="radio"/>	12:31, 23 March 2009	Tkercchio (Talk   contribs)	(6,261 bytes)	(Back to main page)
<input type="radio"/>	12:30, 23 March 2009	Tkercchio (Talk   contribs)	(3,613 bytes)	(Undo revision 6165 by Sherril_edwards_owens1 (Talk))
<input type="radio"/>	12:30, 23 March 2009	Tkercchio (Talk   contribs)	(3,693 bytes)	(Undo revision 6166 by Sherril_edwards_owens1 (Talk))
<input type="radio"/>	12:29, 23 March 2009	Tkercchio (Talk   contribs)	(3,695 bytes)	(Undo revision 6167 by Sherril_edwards_owens1 (Talk))
<input type="radio"/>	12:29, 23 March 2009	Tkercchio (Talk   contribs)	(3,696 bytes)	(Undo revision 6168 by Sherril_edwards_owens1 (Talk))
<input type="radio"/>	19:29, 22 March 2009	Sherril_edwards_owens1 (Talk   contribs)	(empty)	(Removing all content from page)
<input type="radio"/>	19:45, 22 March 2009	Sherril_edwards_owens1 (Talk   contribs)	(3,696 bytes)	
<input type="radio"/>	19:44, 22 March 2009	Sherril_edwards_owens1 (Talk   contribs)	(3,696 bytes)	
<input type="radio"/>	19:40, 22 March 2009	Sherril_edwards_owens1 (Talk   contribs)	(3,693 bytes)	
<input type="radio"/>	19:31, 22 March 2009	Sherril_edwards_owens1 (Talk   contribs)	(3,637 bytes)	
<input type="radio"/>	20:58, 16 March 2009	Tkercchio (Talk   contribs)	(6,261 bytes)	(Changed Color on last box)
<input type="radio"/>	15:26, 13 March 2009	Tkercchio (Talk   contribs)	(6,261 bytes)	(colors)
<input type="radio"/>	15:22, 13 March 2009	Tkercchio (Talk   contribs)	(6,261 bytes)	(more colors)
<input type="radio"/>	15:18, 13 March 2009	Tkercchio (Talk   contribs)	(6,261 bytes)	(playing with colors)
<input type="radio"/>	15:36, 9 February 2009	Kbalassi (Talk   contribs)	(6,261 bytes)	(added email address in main box)
<input type="radio"/>	00:23, 3 February 2009	Kbrown06 (Talk   contribs)	(6,213 bytes)	
<input type="radio"/>	21:24, 29 January 2009	Adam deer (Talk   contribs)	(6,213 bytes)	
<input type="radio"/>	16:32, 22 December 2008	Tkercchiof (Talk   contribs)	(6,239 bytes)	
<input type="radio"/>	16:30, 22 December 2008	Tkercchiof (Talk   contribs)	(6,241 bytes)	
<input type="radio"/>	14:19, 22 December 2008	Tkercchiof (Talk   contribs)	(6,869 bytes)	
<input type="radio"/>	14:18, 22 December 2008	Tkercchiof (Talk   contribs)	(6,869 bytes)	
<input type="radio"/>	14:49, 19 December 2008	Maggirl (Talk   contribs)	(6,926 bytes)	
<input type="radio"/>	14:48, 19 December 2008	Maggirl (Talk   contribs)	(6,926 bytes)	
<input type="radio"/>	22:20, 19 December 2008	Adam (Talk   contribs)	(6,926 bytes)	
<input type="radio"/>	22:07, 18 December 2008	Tkercchiof (Talk   contribs)	(6,842 bytes)	
<input type="radio"/>	19:15, 16 December 2008	Stulshman (Talk   contribs)	(6,900 bytes)	

Category:Watershed Group - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Category:Watershed\_Group

Category:Watershed Group - Watershed Wiki

category discussion edit history watch

**Category:Watershed Group**

Please add a page for your watershed organization here. Or share a description and links to a watershed project that you think others could learn from.

Create an Article to this category Submit

**Subcategories**

There are 3 subcategories to this category:

- C**
  - [+] Category:Case Study
- N**
  - [+] Category:Non Profit Organization Resources
- W**
  - [+] Category:Water Resources Council

**Pages in category "Watershed Group"**

There are 36 pages in this category:

<b>A</b>	<b>F</b>	<b>S</b>
<ul style="list-style-type: none"> <li>American Rivers</li> </ul>	<ul style="list-style-type: none"> <li>Friends of Rock Creek's Environment</li> </ul>	<ul style="list-style-type: none"> <li>Southeast Watershed Assistance Network</li> <li>Spa Creek Conservancy</li> <li>Sustainable Environment for Quality of Life (SEQL)</li> </ul>
<b>B</b>	<b>G</b>	<b>T</b>
<ul style="list-style-type: none"> <li>Back Creek</li> <li>Blue River</li> </ul>	<ul style="list-style-type: none"> <li>Great Lakes Wiki</li> <li>Greater Lansing Regional Committee for Stormwater Management</li> </ul>	<ul style="list-style-type: none"> <li>Toward Understanding New Watershed Initiatives : A Report from the Madison Watershed Workshop</li> </ul>
<b>C</b>	<b>H</b>	<b>W</b>
<ul style="list-style-type: none"> <li>Canaan Valley Institute (CVI)</li> <li>Center for Land &amp; Water</li> <li>Central Minnesota Water Education Alliance (CMWEA)</li> <li>Charles River</li> <li>Christina River</li> <li>Citizen Based Monitoring Network of Wisconsin</li> <li>Cumberland River Compact</li> </ul>	<ul style="list-style-type: none"> <li>Herring Run Watershed Association</li> </ul>	<ul style="list-style-type: none"> <li>WATERSHED PLAN DEVELOPMENT: LESSONS LEARNED IN BEAVER CREEK</li> <li>Water Wiki</li> <li>Watershed Conservation Resource Center (WCRC)</li> <li>Watershed Groups in Arkansas</li> <li>Weems Creek Watershed</li> <li>WikiWatershed (TM)</li> <li>Wobegone lake</li> </ul>

Category:Watershed Group - Watershed Wiki - Windows Internet Explorer provided by EPA

https://wiki.epa.gov/watershed/index.php/Category:Watershed\_Group

Category:Watershed Group - Watershed Wiki

category discussion edit history watch

**Category:Watershed Group**

Please add a page for your watershed organization here. Or share a description and links to a watershed project that you think others could learn from.

Kim's Watershed Group Submit

**Subcategories**

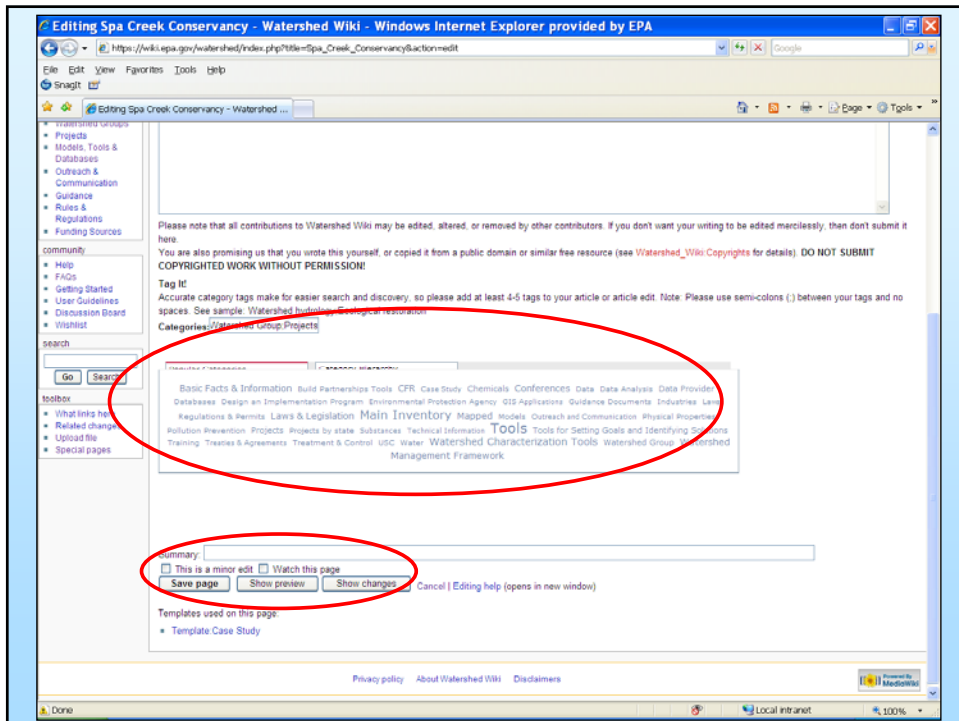
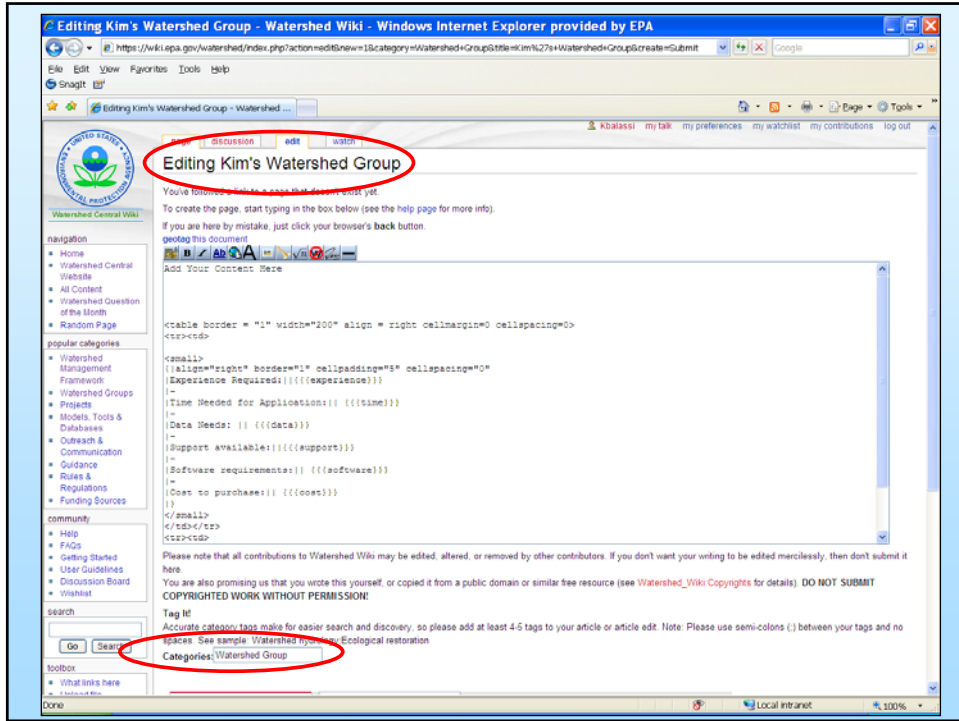
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# Tool Rating

## Top 10 Rated Pages

Page Title	Avg Rating	Votes
<a href="#">Causal Analysis / Diagnosis Decision Information System (CADDIS)</a>	5.0	2
<a href="#">USGS StreamStats</a>	5.0	2
<a href="#">LSPC</a>	5.0	2
<a href="#">EPA Rapid Bioassessment Protocols</a>	5.0	1
<a href="#">EPA Adopt your Watershed</a>	5.0	1
<a href="#">Maryland Biological Stream Survey (MBSS)</a>	5.0	1
<a href="#">BATHTUB</a>	5.0	1
<a href="#">Causal Analysis/Diagnosis Decision Information System (CADDIS)</a>	5.0	1
<a href="#">GIS-Based Phosphorus Loading Model (GISPLM)</a>	5.0	1
<a href="#">USACE CorpsMap</a>	5.0	1



Experience Required:	Moderate
Time Needed for Application:	Months
Data Needs:	Unk
Support available:	Unk
Software requirements:	Unk
Cost to purchase:	Public domain



Rating: 5.0/5 (2 votes cast)

[Comment on this tool](#)

User Comments( 1 messages, page 1 of 1 )

**Khalid:**

It is a great model.

2008-03-31 17:52:29



## Collaboration & Mapping



### Map Your Watershed

Zoom to your local watershed here on this Google map! It also features geotags - each pushpin represents a link to a wiki article helping to link you to potential partners in your watershed. You can also view impaired waters, monitoring stations and more, as well as link to EPA's ArcGIS Server EnviroMapper for Water (EMR) map application featuring many of the Agency's waters-related geospatial data (just click on the small graticule floating over the lower left-hand corner of the mapper). How to Add a Pushpin in the Map Below to Your Wiki Article!

The screenshot shows a Google Map of the United States with a 'Metro WaterShed Partners' popup window. The popup window contains a smaller map of the same area and a list of partners. The list includes:

- 1. Provide municipalities and other MS4s with public education media products and materials for inclusion in Minnesota Pollution Control Agency, and
- 2. Place public stormwater pollution prevention messages in the mass media, and
- 3. Maintain the cleanwater.org website with resources for stormwater educators, students, municipal & wa

The screenshot shows a Google Map of the United States with a 'Map Legend' popup window. The legend includes the following items:

- Tagged documents
- USGS stream gages
- STORET
- PCS
- Impaired streams
- Watersheds
- NLCD

At the bottom of the map, there is a 'Launch EMR' button and a 'Measure' tool. The map also shows a scale bar for 1000 miles and coordinates: -58.5352, 58.9953.



## Questions Kim Balassiano?



## Science Perspectives for Watershed Central



**Joe Williams**

US EPA Office of Research and Development

[williams.joe@epa.gov](mailto:williams.joe@epa.gov)



## Presentation Outline

- Watershed Approach
- Research Connections
- Examples of Research Efforts
- Communication

## Various Water Management Programs

Program Type/Name	Purpose
<b>305(b) Characterizing the Quality of the Nation's Waters</b>	Under section 305(b) of the Clean Water Act (CWA), states and tribes are required to assess the general status of their waterbodies and identify, in general terms, known or suspected causes of water quality impairments, including biological impairments.
<b>303(d) Listings and TMDLs Identifying Waterbodies and Wetlands that Exceed Water Quality Standards</b>	Under section 303(d) of the CWA, states and tribes are required to prepare and submit to EPA lists of specific waterbodies that currently violate, or have the potential to violate, water quality standards, including designated uses and numeric or narrative criteria such as biocriteria. Wetlands assessment programs are also being developed and wetlands may be listed on 303(d) lists.
<b>State/Local Watershed Management Programs</b>	Managing water resources on a watershed basis involves examining the quality of a waterbody relative to all the stressors within its watershed. Stressors, once identified, are prioritized and controlled through a combination of voluntary and mandatory programs, possibly employing the CWA 402, 319, 404, 401, and other programs.
<b>Nonpoint Source Management Program (Section 319)</b>	The Nonpoint Source program is a voluntary, incentive-based program under which the states develop plans for controlling the impacts of nonpoint sources, coordinate with other government water resource management agencies, and use grants and technical assistance to help local organizations implement management measures.
<b>NPDES Permit Program</b>	Under section 402 of the CWA, it is illegal to discharge pollutants to waters of the United States from any "point source" (a discrete conveyance) unless authorized by a National Pollutant Discharge Elimination System (NPDES) permit issued by either the states or EPA. Water quality-based permit limits are required whenever a discharge is found to be causing a violation of water quality, including biological impairment.
<b>316(b) Cooling Water Intake Program</b>	Under section 316(b) of the CWA, any NPDES permitted discharger that also discharges cooling water must not cause an adverse environmental impact on the waterbody.
<b>401 Water Quality Certifications</b>	Under section 401 of the CWA, different types of federal permitting activities (such as wetlands dredge and fill permitting) require a certification that there will be no adverse impact on water quality as a result of the activity. This certification process is the 401 Water Quality Certification.
<b>Wetlands Permitting</b>	Under section 404 of the CWA, the discharge of dredge and fill materials into a wetland is illegal unless authorized by a 404 Permit. The 404 Permit must receive a 401 Water Quality Certification.
<b>Compliance and Enforcement</b>	Whenever an enforcement action is taken by a regulatory authority, the type of pollution, the source, and other stressors that play a role in causing the violation need to be clearly identified and related to the violating source.
<b>Risk Assessments</b>	Results of bioassessment studies can be used in watershed ecological risk assessments to predict risk from specific stressors and anticipate the success of management actions.
<b>Wetlands Assessments</b>	States are beginning to develop wetlands assessment procedures. In the future, wetlands protection is expected to be increasingly incorporated into state water quality standards.
<b>Preservation Programs</b>	The National Estuary Program (NEP) was established in 1987 by amendments to the Clean Water Act to identify, restore, and protect nationally significant estuaries of the United States. The program focuses on improving water quality in estuaries, and on maintaining the integrity of the whole system, its chemical, physical, and biological properties as well as its economic, recreational, and aesthetic values.
<b>Remediation of Contaminated Resources at Old Waste-handling Sites.</b>	The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted in 1980 (and amended in 1986) for hazardous waste cleanup.
<b>Pollution Control Effectiveness</b>	A key component of any pollution control program or watershed management effort is the ability to ascertain (or predict) the likely effectiveness of pollution control measures or management strategies.



## EPA's Offices of Water, Research and Development, & Environmental Information: Bridging the Recognition of Need

### What Watershed Managers Want:

- Summarized, complete data sets
- Assessments that are clear to a wide variety of stakeholders
- Known levels of uncertainty for decision-making
- Easy-to-use, inexpensive tools
- Political and economic support



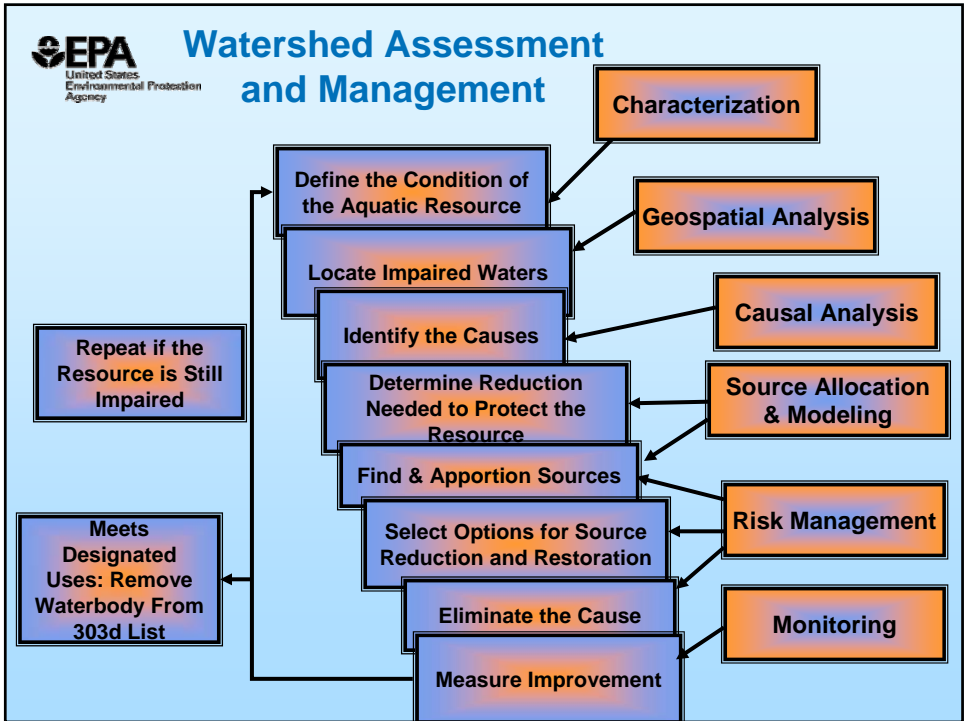
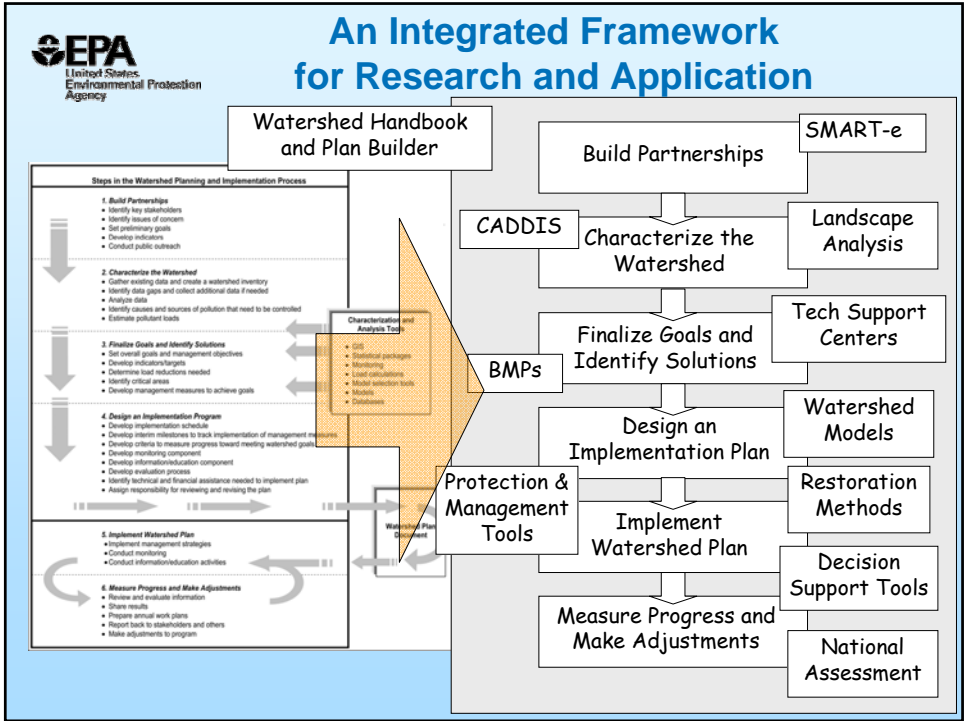
### What Technology and Science can Provide:

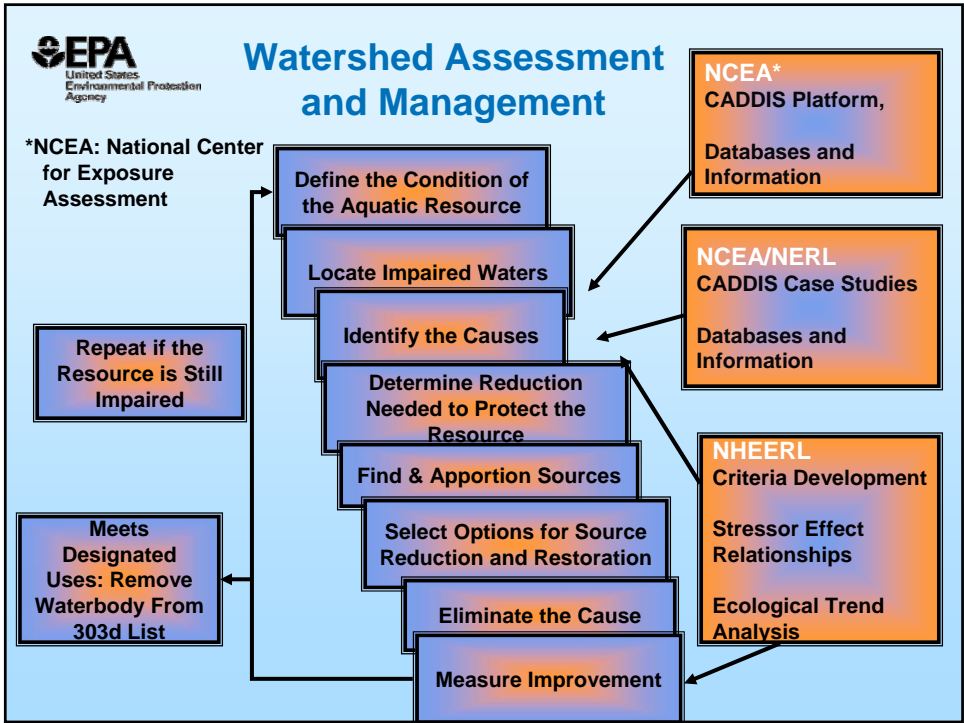
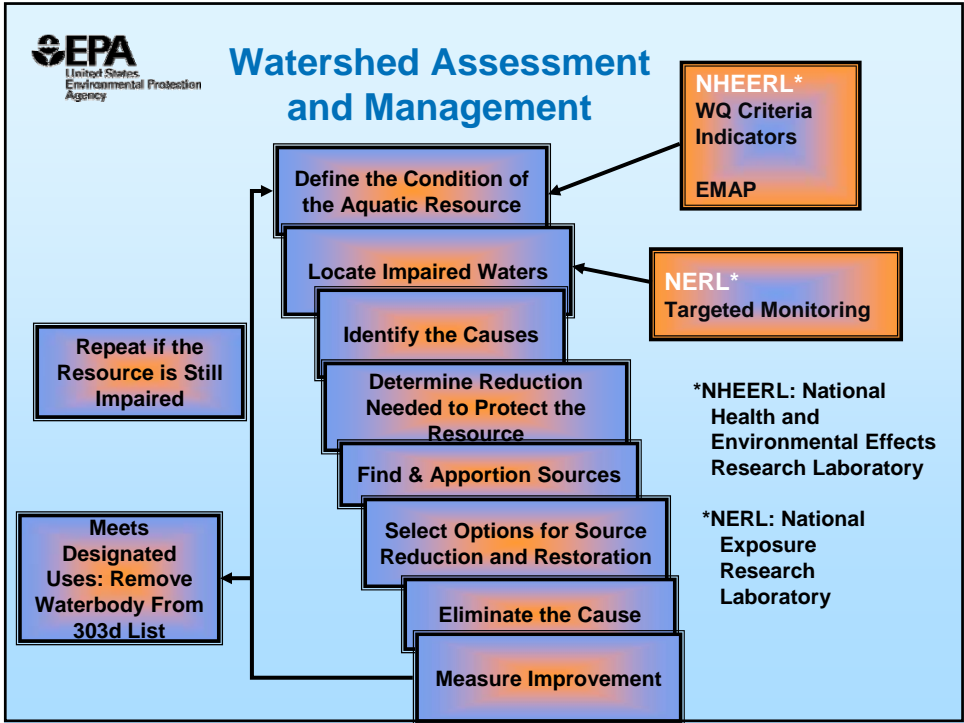
- Web access to models and monitoring tools
- Collaboration tools
- Satellite and aerial data
- Mapping and GIS tools
- Economic and demographic predictive tools
- Information sharing and statistical tools



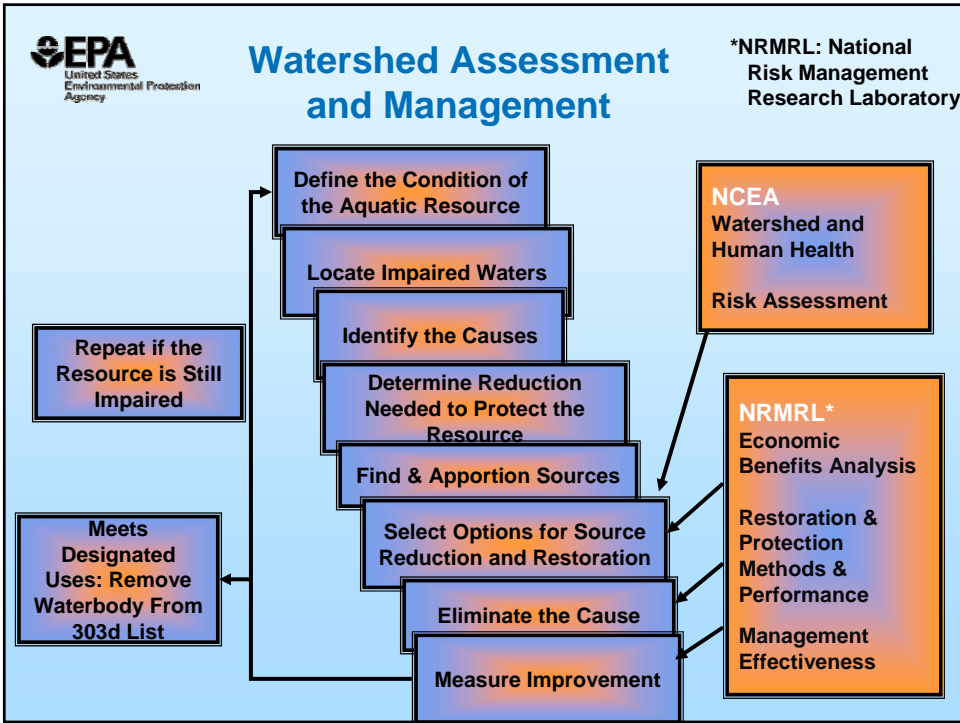
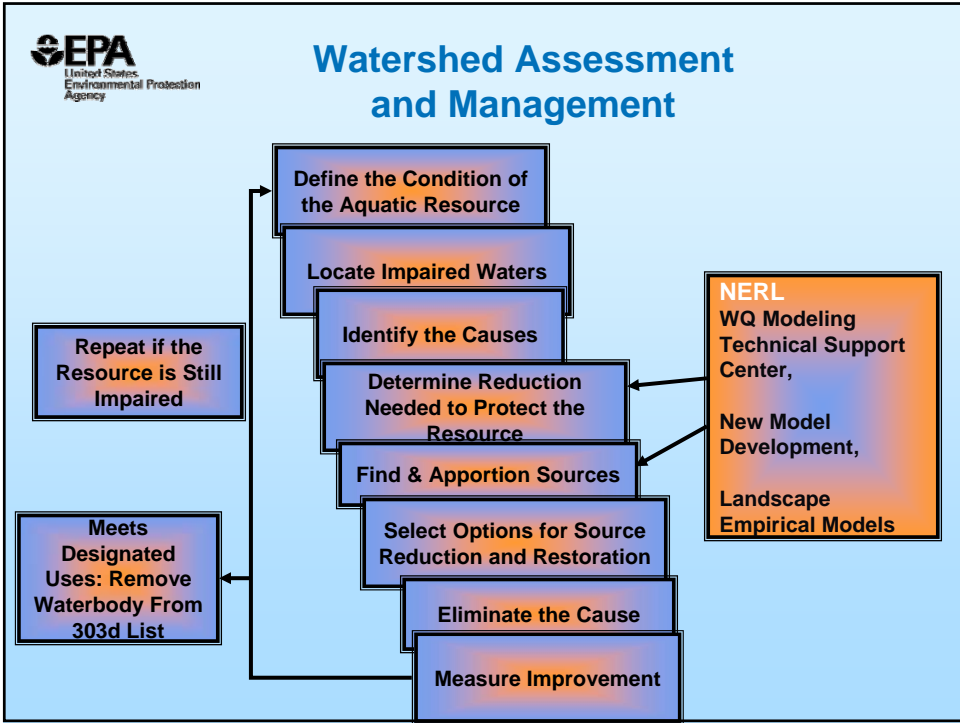
## Steps for Watershed Management

- Build Partnerships
- Characterize the Watershed
- Set Goals and Identify Solutions
- Design an Implementation Program
- Implement the Watershed Plan
- Measure Progress and Make Adjustments











## Causal Analysis/Diagnosis Decision Information System

[www.epa.gov/caddis](http://www.epa.gov/caddis)

- CADDIS helps make causal analysis easier
- Used when a biological impairment is observed and the cause is unknown or uncertain
- Currently focused on streams



## Minebank Run – Before & After Restoration (Towson, Maryland)



- Nutrient control?
- Sediment control?
- Decomposition?
- Biodiversity?



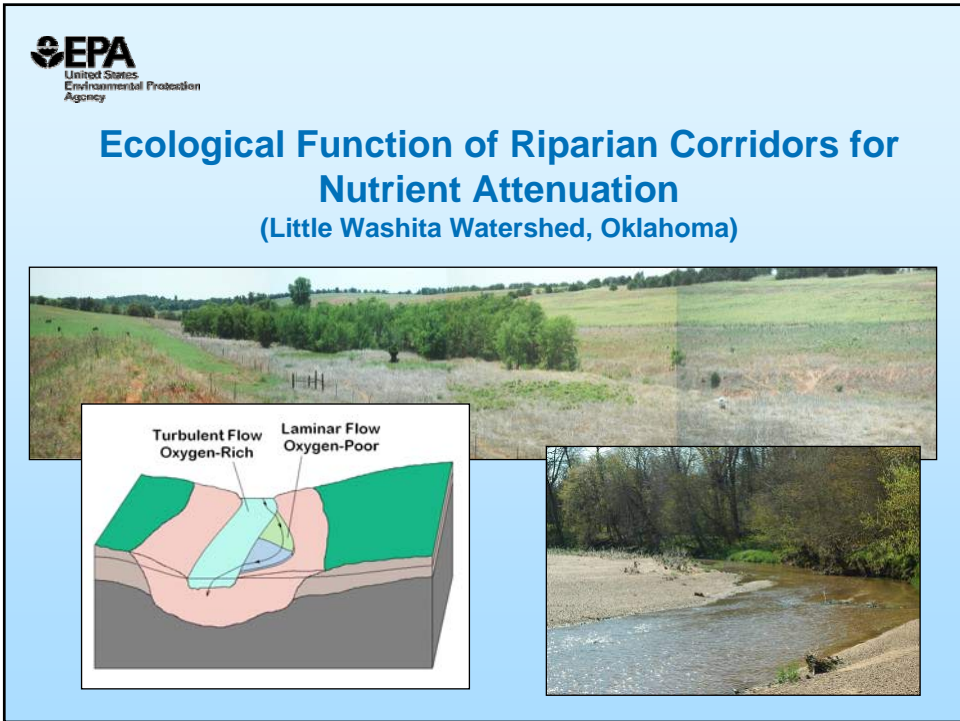
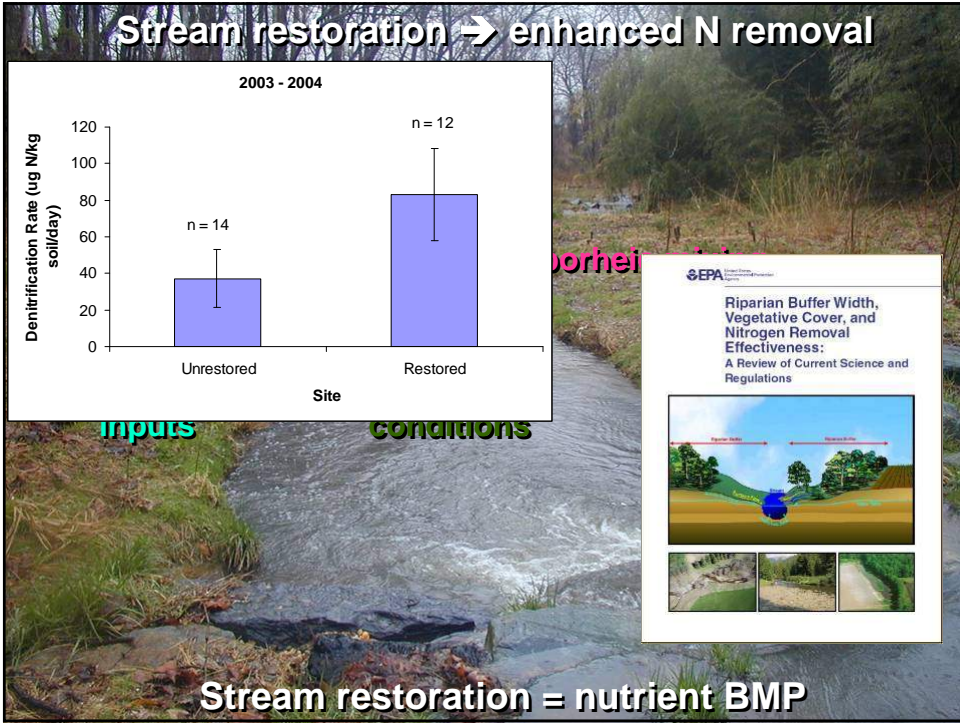
## Restoration Effectiveness Research



Minebank Run Stream Restoration  
Baltimore Co. DEPRM (Maryland)

Stream restoration → enhanced N removal







## Restoration of Small Agricultural Wetlands

Delaware Department of  
Natural Resources  
(RARE Project)



## Restoration of Small Agricultural Wetlands



Delaware Department  
of Natural Resources  
(RARE Project)



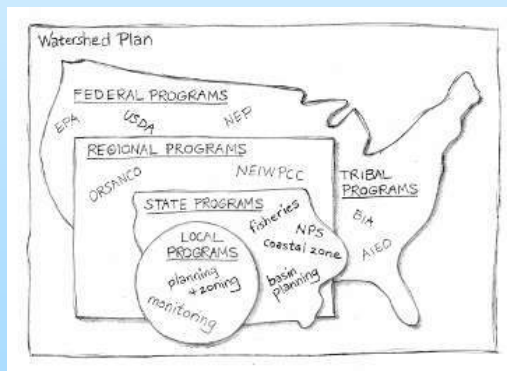
## How do we pull it together, providing the tools, and feedback for the assessment of the impact of our actions?

- Communication
- Technology Transfer
- Directed Research
- Feedback
- Other



## Watershed Central

A “developing” Web-based system for organizing information and tools using an integrated watershed management framework





## Review of the Issues

- Multitude of Web sites containing various types of watershed information and many excellent tools, but they are often not provided in an integrated way
- Watershed information and tools are primarily organized by individual programs and organizations. Providing these using a watershed management framework (in addition to programmatically) is proposed as a key strategy to help EPA meet its goals across all water programs more efficiently
- Need for Web-based framework that integrates Federal, State, Local, and Tribal tools and resources
- Need for an integrated approach to tackle key science and technical issues crucial for demonstrating desired environmental outcomes



## How Watershed Central will change the way we protect and restore the environment?

- Enhance the ability of managers (Local, State, Tribal and Federal) to find and use the tools they need to assess and manage watersheds across the United States
- Provide a feedback mechanism for enhancement of science-based resources, and identification of resources yet needed
- Present decision support tools, models, data, and other resources in a coordinated, integrated manner
- Provide a quantitative means of assessing the application of science-based resources



## What informs Watershed Central's content?

- Decision-maker and practitioner needs identified through cross-organizational teams (User, Content and IT/IM)
- Research results (ORD, USDA, USGS, USACE, Universities, Tribes, *et al.*)
- Applications that achieve results (NGOs, State & Local agencies, *et al.*)
- Vetted updates, additions and modifications facilitated via Wiki (approval through Steering Committee with recommendations from teams)



## ORD's National Research Programs

**Research & Development**

Search:  All EPA  This Area

You are here: [EPA Home](#) > [Research and Development](#) > [National Research Programs](#)

### National Research Programs

This site provides information about the national research programs in EPA's Office of Research and Development (ORD), the research arm of the Agency. The research programs coordinate research planning to address EPA's science needs to protect the environment and public health. ORD research reduces uncertainties in environmental decision making and helps develop cost-effective strategies to reduce risk.

The national research programs provide the science to support EPA's goals as outlined in [EPA's strategic plan](#) and [ORD's strategic plan](#).

ORD has identified eight national research programs. They are:

 Clean Air Research Program	 Human Health Research Program
 Drinking Water Research Program	 Land Research Program
 Ecosystem Services Research Program	 Pesticides and Toxic Substances Research Program
 Global Change Research Program	 Water Quality Research Program

**Resources**

- Multi-Year Plans
- ORD Strategic Plan
- EPA Strategic Plan
- Research Strategies
- Science Inventory



# Feedback to ORD's Multi-Year Research Plans

Research Plans | Research & Development | US EPA - Windows Internet Explorer provided by EPA

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## Research Plans

### Multi-Year Plans

EPA's Office of Research and Development (ORD) has a strategic multi-year planning process to guide the direction of its research over five or more years. This approach enables ORD to focus on EPA's highest priority needs for science and promotes coordination of research across its laboratories and centers to achieve research goals. ORD's research program is planned in collaboration with EPA's program and regional offices, and is described in Multi-Year Plans (MYPs).

MYPs identify long-term research goals and outline annual performance goals (APGs) and associated annual performance measures (APMs). The purpose of the plans is to:

- Provide an overview of the direction of the research
- Present significant research accomplishments
- Communicate ORD's research program

MYPs are intended to be living documents and are updated as needed to reflect the current state of the science; input from clients, stakeholders, and advisory groups, resource availability; and Agency priorities.

### Clean Air Research Plan

The Clean Air Research Program in ORD provides the science and develops the tools to support the Agency's statutory responsibilities under the Clean Air Act. The program provides the scientific foundation to develop regulations and advanced tools and models to implement the National Ambient Air Quality Standards (NAAQS) by states, regions and tribes. The program also strives to develop better ways to track progress in achieving health and environmental improvements under EPA's goal for clean air.

The multi-year plan for Clean Air Research defines the research needed by regulatory decision-makers to protect the public health from air pollutants. A primary research focus is on particulate matter (PM) and ozone, as both risk public health. Research is also



# Water Quality & Ecosystem Services Research Programs

Water Quality Research Program | Research & Development | US EPA - Windows Internet Explorer provided by EPA

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## Water Quality Research Program

**Mission:** To protect human health and the environment in support of the methods, approaches, and tools needed to assess, report and provide measurable improvement in water quality.

**Contact:** [WaterQuality@epa.gov](mailto:WaterQuality@epa.gov)  
 Water Quality Research Program  
 313-24-1122

141-year plan - under development

**Science Overview**

The quality of the nation's water resources is vital to coastal, rural and urban water users under the Clean Water Act. EPA has programs and projects that address the quality of our water resources. The Water Quality Research Program provides the scientific knowledge and tools needed to address future environmental issues concerning water quality and associated ecological, cultural, recreational and economic uses.

The program has three main components that address areas:

Ecosystem Services Research Program | Research & Development | US EPA - Windows Internet Explorer provided by EPA

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## Ecosystem Services Research Program

**Objectives:** Research Programs: Ecosystem Research, Watershed Research, Urban Research, Global Change Research, Human Health Research, Land Use Research, National Center for Computational Toxicology, National Exposure Research Laboratory, National Center for Environmental Health Research, National Center for Environmental Health Research

### Ecosystem Services Research

Science to protect and restore the goods and services of nature

This site describes the science objectives, research activities, and accomplishments of the Ecosystem Services Research Program in EPA's Office of Research and Development (ORD) to advance ecosystem services research and improve knowledge to protect, and restore the services of nature.

Ecosystem services are the many life-sustaining benefits we receive from nature—clean air and water, fertile soil for crop production, pollination, and flood control. These ecosystem services are important to our health and well-being, yet they are limited and often taken for granted as being free.

The Ecosystem Services Research Program is transforming the way we account for the true, quality, and magnitude of nature's goods and services so that they can be considered in environmental management decisions. The research is providing the data, methods, models, and tools needed by states, communities, and tribes to understand the costs and benefits of using ecosystem services.

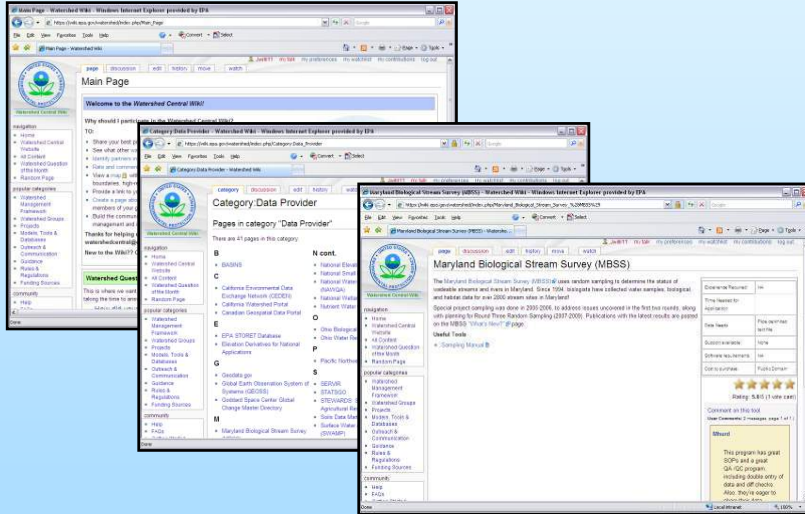
**Laboratories, Centers, and Offices**

- National Center for Computational Toxicology
- National Exposure Research Laboratory
- National Center for Environmental Health Research
- National Center for Environmental Health Research

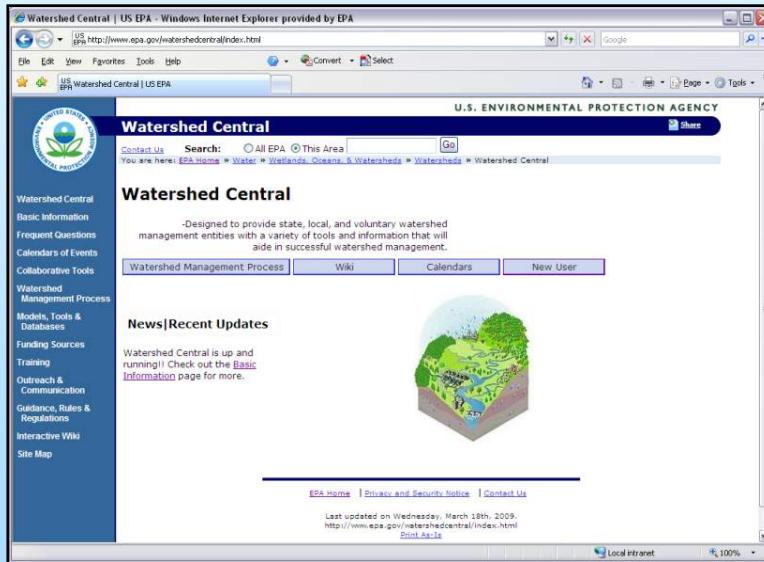




# Wiki to Web site <https://wiki.epa.gov/watershed>



# Web site [www.epa.gov/watershedcentral](http://www.epa.gov/watershedcentral)







## Questions for Joe Williams?



## Next Watershed Academy Webcast

Reconnecting Children with Nature through Wetlands  
Exploration Activities

May 28, 2009 1–3 PM Eastern

Registration will open approximately three  
weeks prior to the Webcast at:

[www.epa.gov/watershedwebcasts](http://www.epa.gov/watershedwebcasts)





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