Buffalo Creek Clean Water Partnership

Stakeholder Meeting #4
January 16, 2013

Presentation Outline

1. Watershed Planning Process – Where are we?
2. Coordinated Pollutant Monitoring Program
3. Presentation on Pollutant Load Reductions
4. Vision Statement
5. Wrap Up

Watershed Planning Process

Watershed planning is an iterative, adaptive, collaborative and participatory process.

Steps:

- Build partnerships.
- Characterize the watershed to identify problems.
- Set goals and identify solutions.
- Design an implementation program.
- Implement the watershed plan.
- Measure progress and make adjustments.

From: USEPA Handbook for Developing Watershed Plans to Restore and Protect Our Waters

Coordinated Pollutant Monitoring Program

#1 priority voted by our members was water quality

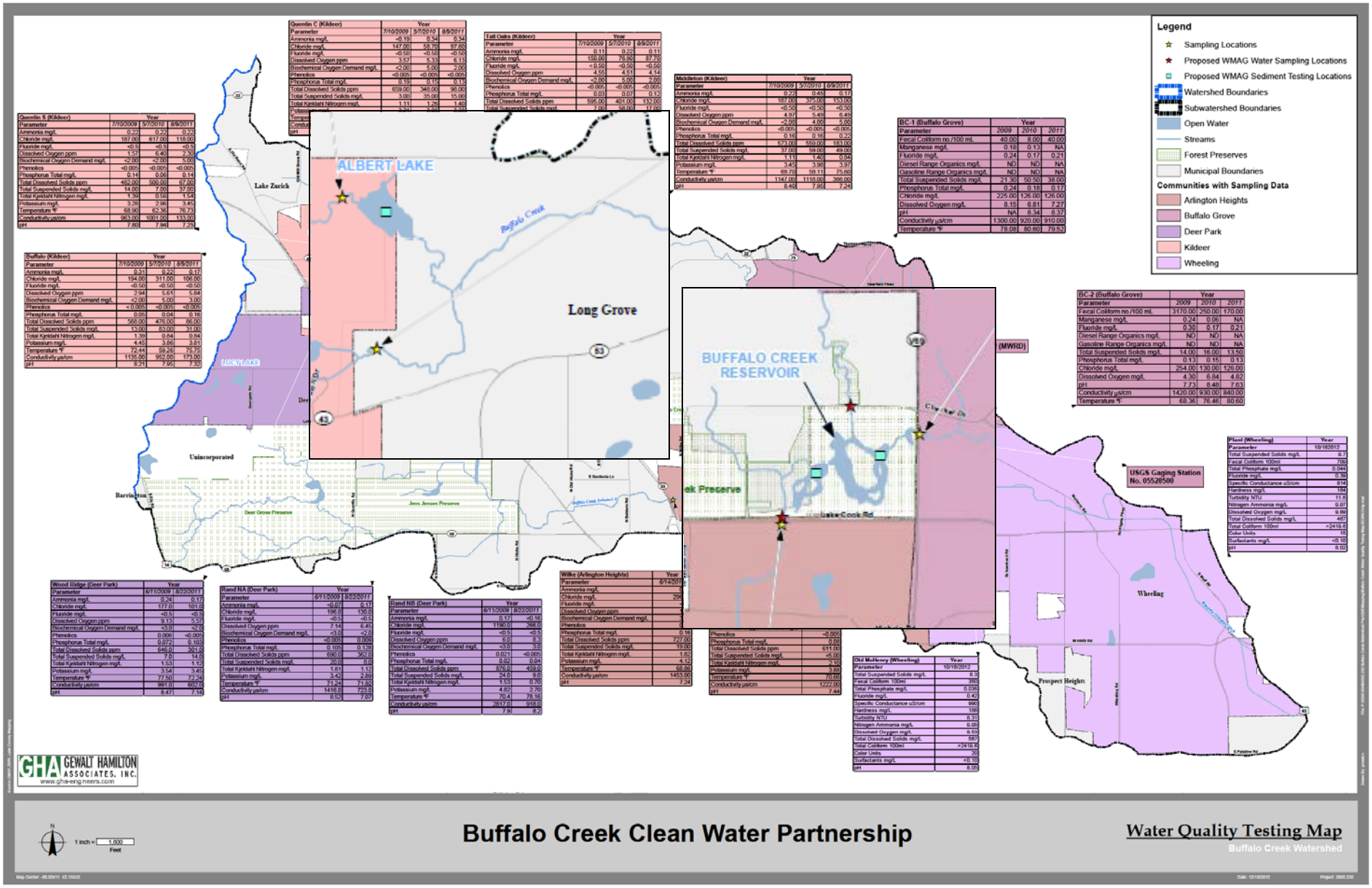
Project: Conduct sediment and water quality sampling.
Coordinate MS4 water quality testing.

Goal: To pinpoint sources of impairments.

Status: $10,000 Watershed Management Assistance Grant from SMC.
March 2013 – October 2014

Water Quality Monitoring Data Collection Summary

- Arlington Heights
- Buffalo Grove
- Deer Park
- Kildeer
- Wheeling
- Lake Zurich
- Long Grove
- Palatine
- Prospect Heights
- Ela Township
- MWRD
- Forest Preserve Districts
- LCDOT
- IDOT
- Palatine Township
- Vernon Township
- Wheeling Township

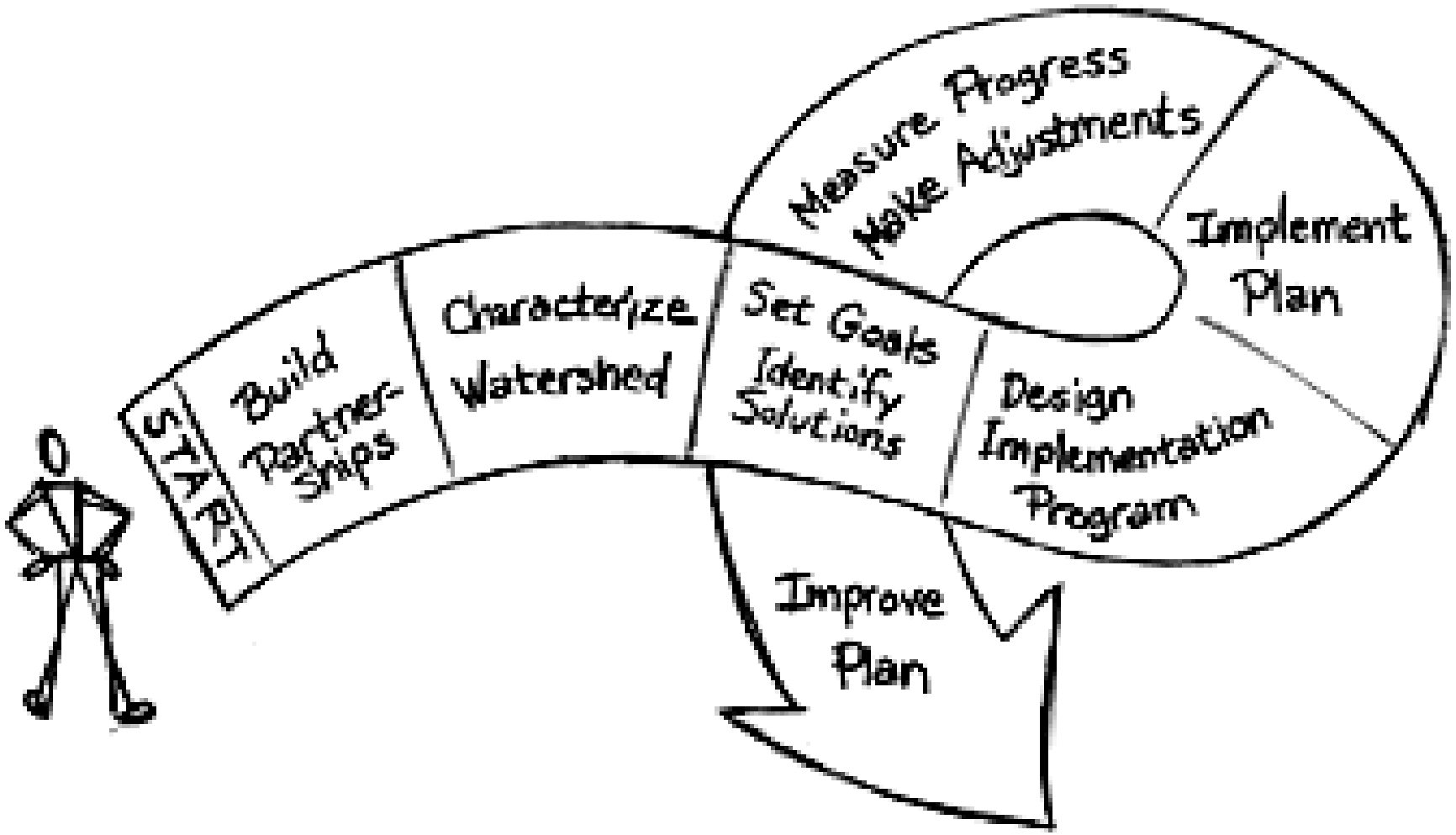

Legend
Sampling Locations
Proposed WMAG Water Sampling Locations
Proposed WMAG Sediment Testing Locations
Watershed Boundaries
Subwatershed Boundaries
Open Water
Streams
Forest Preserves
Municipal Boundaries
Communities with Sampling Data
Arlington Heights
Buffalo Grove
Deer Park
Kildeer
Wheeling
ALBERT LAKE
Long Grove
BUFFALO CREEK RESERVOIR
Lake Zurich
Unincorporated
Barrington
Wheeling
Prospect Heights
USGS Gaging Station No. 05528500
Buffalo Creek
Deer Grove Preserve
Jens Jensen Preserve
Lake Cook Rd
(MWRD)
Quentin C (Kildeer)
Tall Oaks (Kildeer)
Middleton (Kildeer)
Quentin S (Kildeer)
BC-1 (Buffalo Grove)
Buffalo (Kildeer)
BC-2 (Buffalo Grove)
Plant (Wheeling)
Wood Ridge (Deer Park)
Rand NA (Deer Park)
Rand NB (Deer Park)
Wilke (Arlington Heights)
Old McHenry (Wheeling)
GHA GEWALT HAMILTON ASSOCIATES, INC.
www.gha-engineers.com
1 inch = 1,000 Feet
Buffalo Creek Clean Water Partnership
Water Quality Testing Map
Buffalo Creek Watershed

Presentation on Pollutant Load Reductions

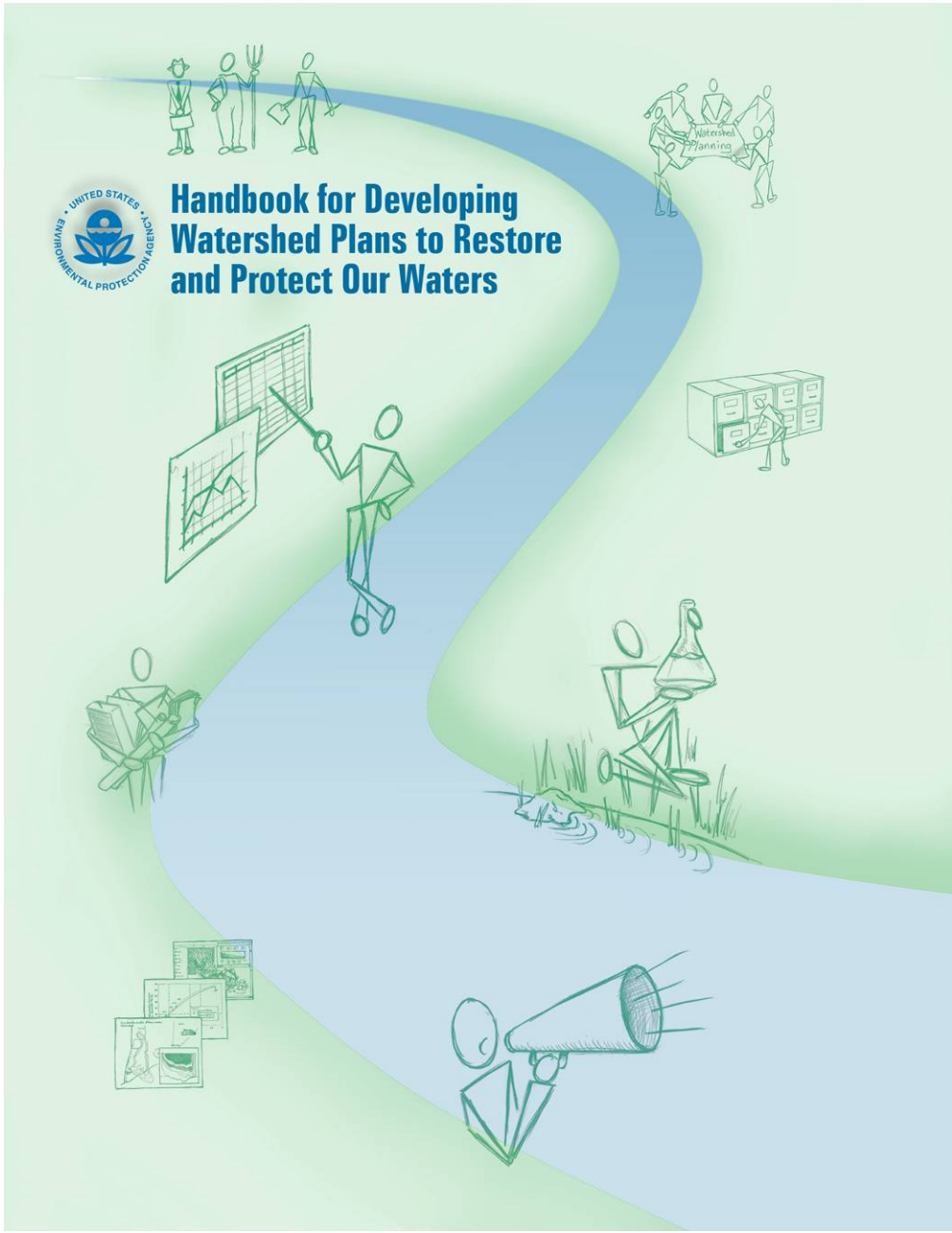
EPA's Watershed Management Planning Approach – Using Data to Solve Problems

Dean Maraldo, Chief
Water Enforcement Branch
U.S. Environmental Protection Agency, Region 5
maraldo.dean@epa.gov

Watershed Management Planning



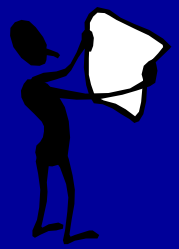
Watershed Planning Handbook



http://www.epa.gov/owow/nps/watershed_handbook/

The Process:

Watershed Planning Steps

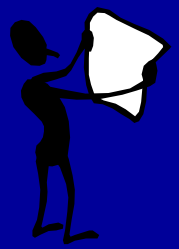


STEP 1

BUILD PARTNERSHIPS

- –ID stakeholders & issues of concern
- –ID scope of effort & planning area
- –Set preliminary goals

Watershed Planning Steps



STEP 1
BUILD I
–ID stake
–ID issue
–ID scop
–Set pre
–Conduc

STEP 2
CHARACTERIZE WATERSHED
–Gather existing data
–ID data gaps
–Collect additional data, if needed
–ID causes and sources
–Estimate pollutant loads

Problem Solving Framework

Practical Approach

- **Connect data with actions …**
  - ***WHY* the concern**
  - ***WHAT* reductions are needed**
  - ***WHERE* are the sources**
  - ***WHO* needs to be involved**
  - ***WHEN* will actions occur**

Problem Solving Framework

Here's one way…
(there are many)

Duration Curve Method:
Back to Basics - using hydrology to develop solutions

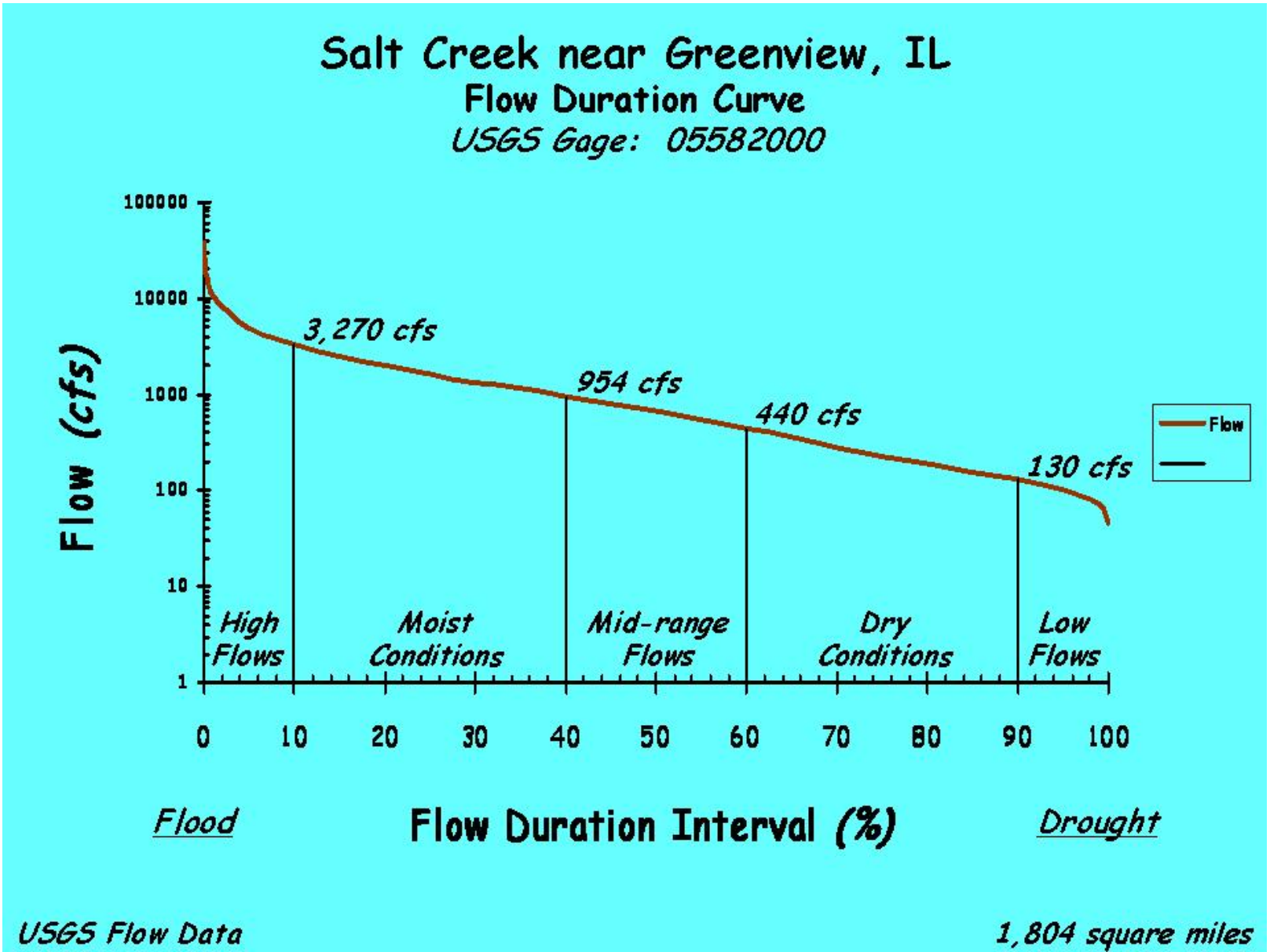
Duration Curve Analysis

Advantages

- **Context to interpret monitoring data**
- **Help guide implementation**
  - ***Targeted Participants***
  - ***Targeted Programs***
  - ***Targeted Activities***
  - ***Targeted Areas***

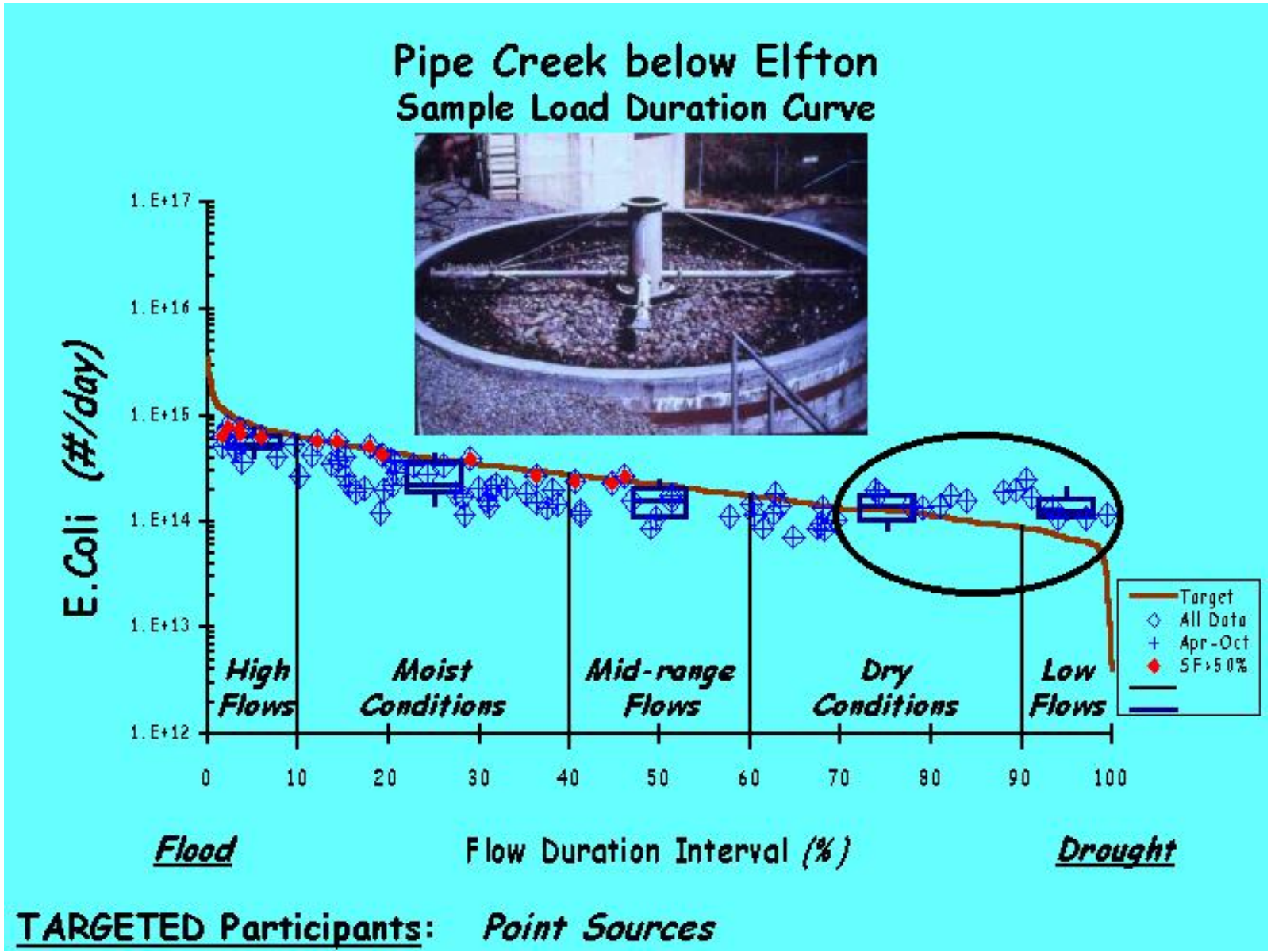
Flow Duration Curves

Basic Form



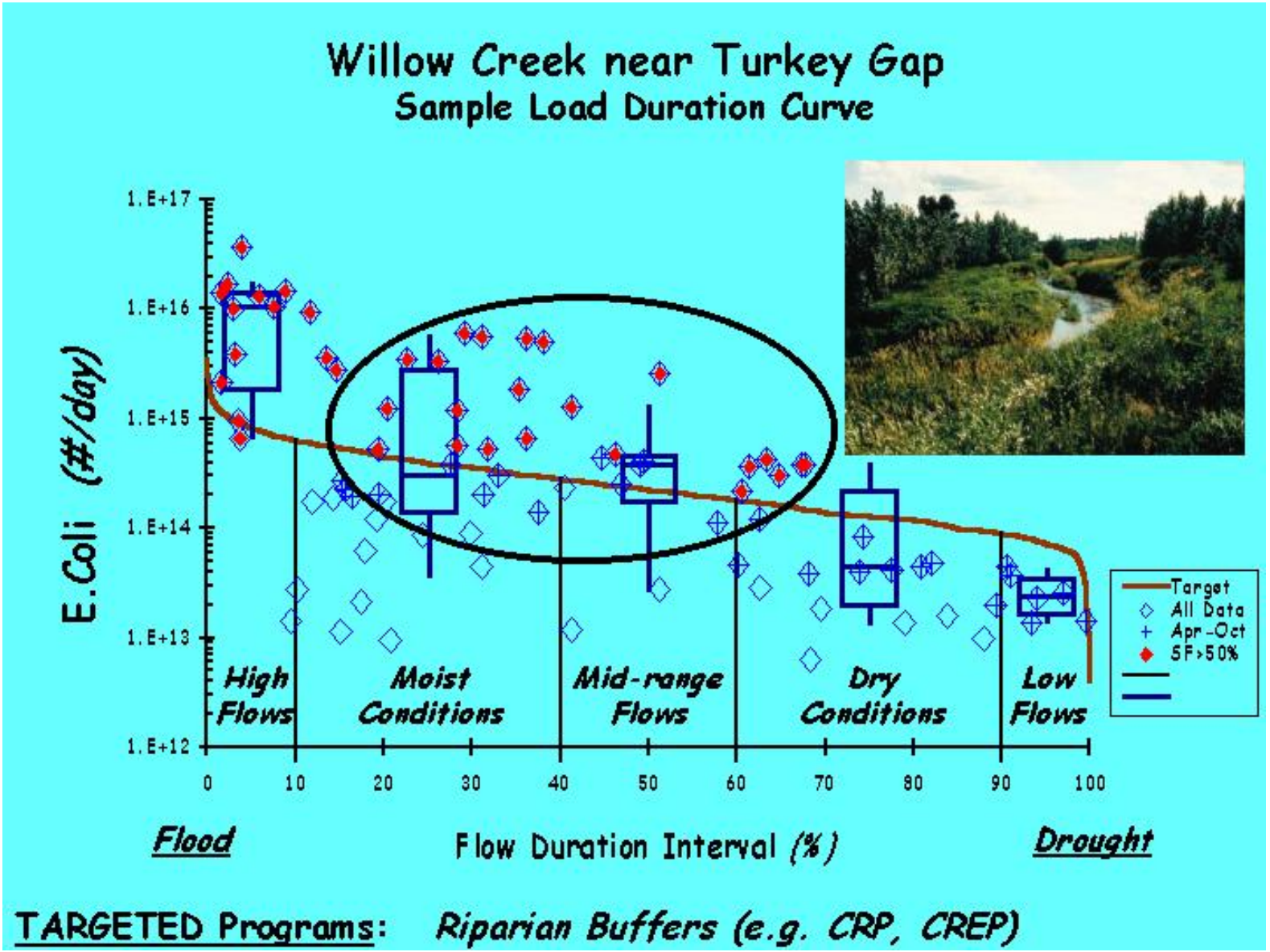
Water Quality Patterns

Watershed Condition -- Hydrologic



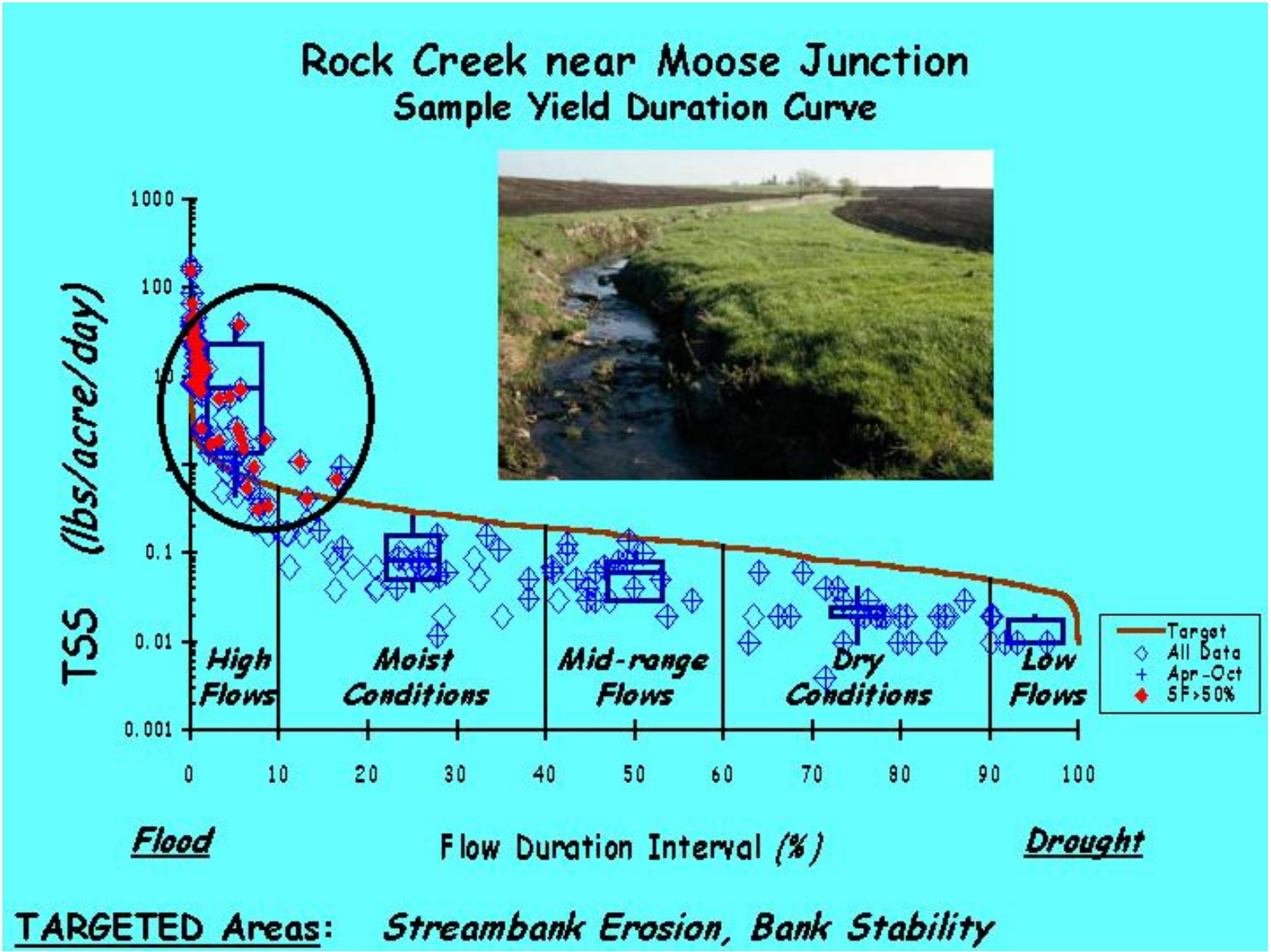
Water Quality Patterns

Contributing Areas



Water Quality Patterns

Delivery Mechanisms



Watershed Management Planning

Success Stories

Watershed Management Plan

Success Story – Carrier Creek, Michigan

U.S. ENVIRONMENTAL PROTECTION AGENCY

Section 319 Nonpoint Source Success Stories Share

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Polluted Runoff Home

Success Stories Home

Michigan: Carrier Creek

Stabilizing Streambanks and Restoring Wetlands Improves Habitat

Waterbody | Problem | Project Highlights | Results | Partners & Funding

Waterbody Improved

Carrier Creek, a tributary to the Grand River, flows through a rapidly developing area near Lansing, Michigan. Historic channelization and more recent urban runoff resulted in eroding stream banks, high sedimentation rates, and degraded aquatic habitat for fish and macroinvertebrate communities. Extensive stream restoration and storm water retention activities have resulted in increased fish taxa at two monitoring locations.

Physical Assessments

Carrier Creek, Michigan

- Stagnant water
- Flow obstructions
- Loss of natural morphology
- Lack of understory vegetation

Erosion Assessments

Carrier Creek, Michigan

- Majority of erosion in previously dredged stretches
- Culverts, discharge pipes causing erosion
- Adjacent construction

Culverts & Discharge Pipes

Carrier Creek, Michigan

Establishing Native Vegetation

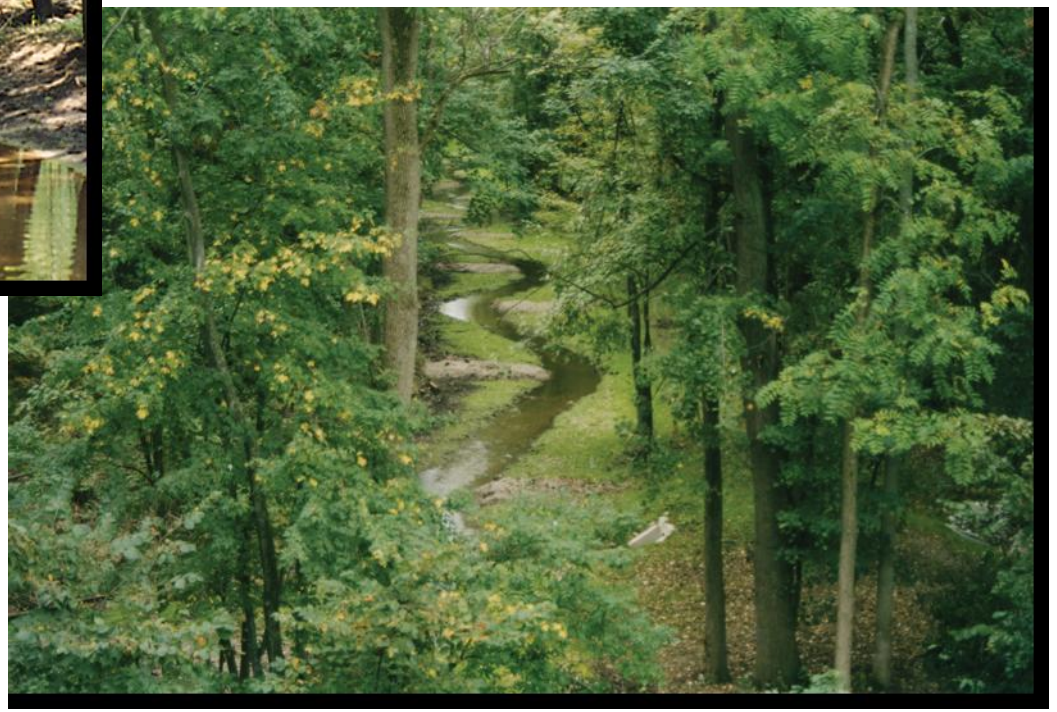
Carrier Creek, Michigan

Removal of Debris

Carrier Creek, Michigan

New Channel (before and after)

Carrier Creek, Michigan



Watershed Management Plan

Success Story - Cuyahoga River Watershed

Cuyahoga River, Ohio

Primary Causes of Impairment:

Low Dissolved Oxygen

Habitat Alteration

Hydromodification

Watershed Management Plan

Success Story - Cuyahoga River Watershed

Cuyahoga River, Ohio

Action Items Needed:

Remove or Modify Dams

Revise WWTP Permits

Re-naturalize modified streams

Watershed Management Plan

Success Story - Cuyahoga River Watershed

Cuyahoga River, Ohio

Results

Middle Cuyahoga River	Pre -Project	Post Project
Index of Biological Integrity (IBI)	28	44
Qualitative Habitat Evaluation Index (QHEI)	51	79

Watershed Management Plan

Success Story - Cuyahoga River Watershed

Cuyahoga River, Ohio

Results

For Watershed Management – Most of All, You Need Patience

BCCWP Watershed Based Plan
Vision Statement

Vision Statement #1

Twenty years from now the Buffalo Creek watershed planning and management efforts will be a water environment success story with reduced erosion, improved water quality, thriving wildlife, decreased flooding and the beauty of native vegetation which will enhance the effective use and preservation of the entire area.

"Buffalo Creek will no longer be an eye sore, but a place that families will be able to enjoy for its beauty and recreational activities"

Vision Statement #2

To achieve a healthy sustainable watershed by improving water quality through refined stormwater management; natural area preservation, restoration and management; groundwater recharge protection; utilization of green infrastructure; and control of invasive species. To achieve improved watershed conditions so all lands and waterways safely receive, store, and release clean water for the good of all people, wildlife and natural resources in the Buffalo Creek Watershed and ultimately the Des Plaines River Watershed. To achieve this vision by 2040 through community led and agency supported implementation of local and watershed-wide plans and projects.

2013 BCCWP Volunteer Activities

- Water quality testing
- Volunteer Lake Monitoring
- Stream Assessments
- RiverWatch Stream Monitoring
- Photo record of Buffalo Creek and tributaries
- Habitat work at Deer Grove FP and Rylko Park

2013 BCCWP Volunteer Activities

- Water quality testing
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- RiverWatch Stream Monitoring
- Photo record of Buffalo Creek and tributaries
- Habitat work at Deer Grove FP and Rylko Park
- Membership
- Surveillance
- Policy and advocacy

Get Involved!

To get involved, contact:

Jeff Weiss (847)224-0965
marjeff1@aol.com

Marcy Knysz (847)732-5172
Marcy.Knysz@cardno.com

www.buffalocreekcleanwater.org

Wrap Up

Next Meeting in Early May

- Volunteers for hosting??

Thank you for participating!