

Using a Watershed Framework to Develop and Implement Sustainable Practices

Charlie MacPherson, Tetra Tech, Inc.

Watershed Management Process



PARTNERSHIP



What do you need to make something sustainable?

Components of Sustainability

Regulations/policy
Non-regulatory drivers (quality of life, economic growth)
Funding \$
Tools/capacity
Technical assistance
Organizational structure

Watershed Framework							
Orgs	Build Partnerships	Characterize watershed	set goal ID sol it	ls & tions	Develop Plan	Implement Plan	Monntor and improve
Feds	\$	\$	<u> </u>		\$	\$ \$	<u>ب</u> \$
State	\$ *	\$			\$	\$	
Local					<i>₫</i>		1 A
Watershed groups		, e t				₽ [±]	Ř
Land- owners		, And			Å ↓	Å ▲	
Univer- sities		1 A	A	>			



Guidance for Developing Watershed Action Plans in Illinois





Getting in Step: Engaging and Involving Stakeholders in Your Watershed



vame:					[
hone:							
E-mail:							
Skills/resources	lf you poss skills or ha to these r	sess these ave access resources	Comme	nts			
Skills in Stakeholder Group							
Accounting							
Graphic design							
Computer support		<i>∕</i> ₹Wo	ksheet /	4-4 Tdentifiin	a Concerns Ca	uses Goals and	d Tudicators
Fund-raising				- sourceiore	<i>j concorres, ca</i>		A DIVICAULTS
Public relations	What		re the	What do you	How can we	What would you	How will we measure
Technical expertise (e.g., geographic information systems, water sampling)		concern watersh	is in the ied?	think caused the problems?	conditions? (Indicators)	your watershed? (Goals)	meeting those goals (Indicators)
niormation systems, water sampling)							
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Facilitation Other Other							
Facilitation Other Other Resources Available							
Facilitation Other Other Resources Available Contacts with media							

Why Organize a River Group?

There are many reasons to organize a river group. Some citizens organize to protect their stream from an imminent threat—a dam, dredging, or clear-cutting of trees along its corridor, for example. Others organize because they perceive a future threat to their stream or the creatures who make their homes in it. Perhaps they know that in the next few years a municipality, to accommodate growing













2. Characterize the Watershed Gather existing data and create a watershed inventory Identify data gaps and collect additional data if needed Analyze data Identify causes and sources of pollution that need to be controlled Estimate pollutant loads 3. Finalize Goals and Identify Solutions Incorporation Set overall goals and management objectives of the Nine Develop indicators/targets **Key Elements** Determine load reductions needed Identify critical areas Develop management measures to achieve goals 4. Design an Implementation Program

- Develop implementation schedule
- Develop interim milestones to track implementation of management measure:
- Develop criteria to measure progress toward meeting watershed goals
- Develop monitoring component
- Develop information/education component
- Develop evaluation process
- Identify technical and financial assistance needed to implement plan
- Assign responsibility for reviewing and revising the plan

What it says	What it means
a. Identify causes and sources that need to be controlled to achieve load reductions (see b)	What are the problems and where are they coming from?
b. Estimate load reductions expected from mgt measures	How much do you need to clean up the water so it's ok and how will you clean it up? (see below)
c. Describe mgt measures and targeted critical areas	What are you going to do to clean it up and where are you going to do it?
d. Estimate financial and technical assistance needed	Who is going to pay for it and do you know how to do it?
e. Develop education component	How to let people know what they need to do to help clean up the water?
f. Develop schedule	When are you going to do things?
g. Develop interim milestones	Break out your BMPs into smaller chunks.
h. Identify criteria to measure progress and evaluate the plan	How will you know you're moving in the right direction?
i. Develop monitoring component	Used to answer h.

a. Identify causes & sources of pollution

i.e., Cause=high total dissolved solids, salinity. Source=road salt







Use/Goal	Impairment(s)	Causes	Sources
Primary-Contact Recreation	Water Quality Degradation	1. E.coli bacteria	1a. Failing Septic Systems
			1b. Urban Runoff
		2. Nutrients	2a. Failing Septic Systems
			2b. Urban Runoff
			2c. Erosion

b. Estimate load reductions expected from implementation of management measures

•75 tons of sediment will be kept out of the stream annually,
62% of the load reduction needed to meet full use support.





d. Estimate technical and financial assistance needed

Management Measures	Site or Target Area	Estimated Cost	Financial/ Technical Assistance	Responsible Party	Priority
Public education on fertilizer use	Entire watershed	\$700 per 1,000 flyers; 5,000 flyers total	Secured: 319 grant 60% Secured: Local match from watershed project volunteers 40%	Rlanning Committee	High
Identify and inspect failing septic systems	Country Club Hills subdivision	\$200 per inspection for 150 sites		Country Club H IIs Homeowners Association	Medium
Vegetated swale	Main St. between 1st and 4th Avenues	\$25 per foot for 5,000 ft	Potential: City of Steubenville 40% Potential: 319 Grant 60%	Steubenville Department of Public Works	Low

e. Develop education component to help implement BMPs effectively







f. Develop schedule

When will the work begin? End?**



g. Describe interim, measurable milestones

Short-term (<1 yr)</p>

 Achieve 5% reduction in sediment load on 1,000 acres of ag land in the Cross Creek watershed by implementing rotational grazing practices.

Mid-term (1-4 yrs)

 Reduce streambank erosion and sediment loading rate by 15% by reestablishing vegetation along 3,600 feet of Cross Creek.

Long-term (>5 yrs)

 Install 4 stormwater detention ponds to reduce sedimentation by 50% into Falls lake.

h. Identify criteria to determine if load reductions are being achieved

Issue	Suite of Indicators
Eutrophication	 P load # of nuisance algae blooms Transparency Frequency of taste and odor problems in water supply Hypolimnetic DO in a lake/reservoir Soil test P in agricultural fields
Pathogens (related to recreational use)	 Bacteria counts Compliance with WQS (single sample or geometric mean) # and duration of beach closings # of shellfish bed reopenings Incidence of illness reported during recreation season
Sediment	 TSS concentration and load Raw water quality at drinking water intake Frequency and degree of dredging of agricultural ditches, impoundments, water supply intake structures

i. Develop a monitoring component to evaluate the effectiveness of the implementation efforts, measured against the milestones established.





Adjust and Adapt

