

Watershed Management

流域管理

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WATERSHED MANAGEMENT

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“ The Watershed Approach Should be the fulcrum of our restoration and protection efforts, and those of our many stakeholders, private and public. Failure to fully incorporate the Watershed Approach into program implementation will result in failure to achieve our environmental objectives in many of our Nation’s waters.”

G. Tracy Mehan
Assistant Administrator for Water
December 3, 2002



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Pollutants

- Nutrients
- Sediment
- Metals
- Organics
- Pathogens
- Temperature



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Other Water Quality Stressors

- Habitat Alteration
- Invasive Species
- In-place Contaminated Sediments



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SOURCES

-Point Source	Storm Water	Non-Point Source
-Municipal	-Municipal	-Run-off
- Treatment Plants	-Industrial	- Urban
- CSOs	-Construction	- Suburban
- Industrial		- Rural
		- Agriculture
		- Air



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STAKEHOLDERS

- Federal Government
- State Government
- Local Government
- Local Organizations



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PROGRAMS

- Water Quality Standards



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Total Maximum Daily Loads

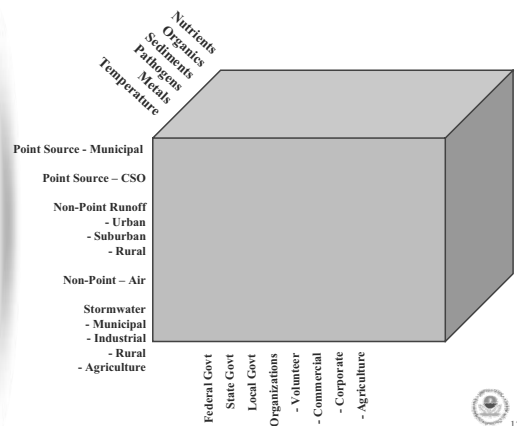
- Monitoring
- NPDES Permit
- Drinking Water Protection
- Non-Point Source Controls

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(A) Pollutants	(B) Other Water Quality Stressors	(C) Sources	(D) Stake Holders	(E) Programs
Nutrients	Habitat Alteration	Storm Water - Municipal - Industrial - Construction	Federal Government	Water Quality Standards
Sediment	Invasive Species		State Government	Total Maximum
Metals	In-place Contaminated Sediments	Point Sources - Municipal Treatment Plants - Combined Sewer Overflows - Industrial	Local Government	Daily Loads
Organics		Run-off - Urban - Suburban - Rural - Agriculture	Local Organizations	Monitoring
Pathogens				NPDES Permit
Temperature				Drinking Water Protection
				Non-Point Source Controls
		Air		



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ROLES

Regulatory

- Rules
- Implementation
- Guidance

Incentives

- Financial
- Recognition

Voluntary

- Convening
- Shared Value

Technical

- Tools
- Guidance

Project

Implementation



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WATERSHED ROLES VS. STAKEHOLDERS

		Federal Govt	State Govt	Local Govt	Local Organization	Volunteer	Commercial	Corporate	Agriculture
Regulatory	Rules	A	A	A		P	P	P	P
	Implementation	A	A	P		P	P	P	P
Incentives	Financial	A	B	P		P	B	B	P
	Recognition	A	A	A		B	B	B	B
Voluntary	Convening	B	A	A		A	P	P	A
	Shared Value	P	P	A		A	A	A	A
Technical	Tools	A	B	P		P	P	P	P
	Guidance	A	B	P		P	P	P	P
Project Implementation		P	B	A		A	B	B	B

A - Lead Role
B - Secondary Role
P - Participation



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CLEAN WATER PROGRAMS

- Monitoring
- Water Quality Standards
- Total Maximum Daily Loads
- National Pollutants Discharge Elimination Systems (NPDES) Permits
- Non-Point Source Controls
- Source Water Protection



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WATERSHED PROGRAMS VS. STAKEHOLDERS

		Federal Govt	State Govt	Local Govt	Organization	Volunteer	Commercial	Corporate	Agriculture
Monitoring		A	A	A		P	P	P	P
Water Quality Standards		A	A	P		P	P	P	P
Total Maximum Daily Loads		A	A	P		P	B	B	P
NPDES Permits		A	A	P		B	B	P	B
Non-Point Source Controls		B	A	A		A	P	P	A
Source Water Protection		B	A	A		P	P	P	P

A - Lead Role
B - Secondary
P - Participation



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EPA ACTION IN SUPPORT OF WATERSHED PROTECTION

Nutrients	-	Criteria: Methods and Guidance (1998)	
		- Lakes	
		- Rivers	
		- Streams	
Monitoring	-	Elements Guidance Document (2003)	
	-	Storet Enhancements (2004)	
	-	Budget Initiative (2005)	
Permitting	-	Phase II Stormwater Program (1999)	
	-	Conc. Animal Feeding Ops (2003)	
	-	Watershed Based Permitting (2003)	
Voluntary	-	Trading Policy and Pilots (2003)	
	-	Watershed Grants (2003-2004)	



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THE WATERSHED APPROACH

- Represents EPA's preferred approach to watershed problem solving
- Must be supported by appropriate data and science
- Must include all relevant stakeholders



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More Information:

www.epa.gov/water

www.usawaterquality.org

www.epa.gov/owow/watershed



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