

The Role of Integrated Planning in Stormwater

2018 Ohio Stormwater Conference

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Historic CWA Enforcement

Endpoints

- Eliminate discharges of pollutants
- 100% compliance with CWA, 100% of the time

Schedule

- Within 5 years
- No more than 20-years

Affordability

- 2% of MHI
- Other CWA & SDWA mandates ignored

“Siloed” Enforcement



A dumpster fire?



The Problems

- Regulatory inflexibility
- Overspending
- Focused on elimination of overflows
- Questionable environmental benefits
- 2% of MHI
- 20 years or less
- Green is good, but not at the expense of gray
- Inflexible endpoints result in civil penalties and SEPs
- Impact of other community needs not considered (pension liability, loss of industry, impact on middle class)



12 Angry Men



Integrated Planning Timeline

2009

US Conference of Mayors

- Water Council and others express frustration with the siloed approach

2011

The “Stoner Memo”

- Achieving Water Quality Through Integrated Municipal Stormwater and Wastewater Plans

2012

Integrated Planning Framework

- Lays out the components of integrated plans

2014

Environmental Financial Advisory Board

- Evaluates 1997 guidance & Integrated Planning Framework



Integrated Planning Timeline (cont'd)

2014

Financial Capability Assessment Framework

- Explicitly provides for the incorporation of community specific economic factors

2017

National Academy of Public Administrators

- Comprehensive evaluation of community-specific economic factors

2018

Water Research Foundation: Users' Guide

- Toolbox for considering and completing integrated plans

2018

EPA Guide to Long-term Planning for Stormwater

- In progress



Integrated Planning - not just wastewater...





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN - 5 2012

MEMORANDUM

SUBJECT: Integrated Municipal Stormwater and Wastewater Planning Approach Framework

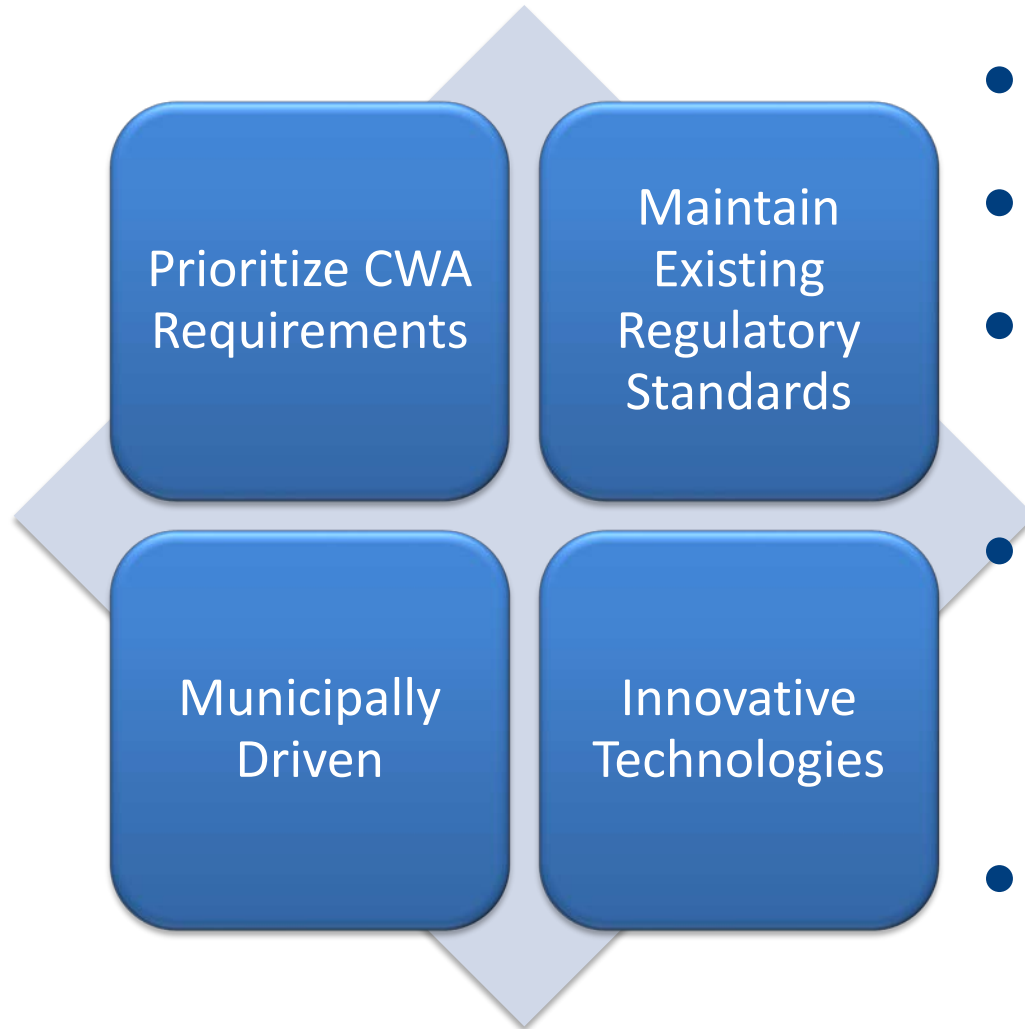
FROM: Nancy Stoner 
Acting Assistant Administrator
Office of Water

Cynthia Giles 
Assistant Administrator
Office of Enforcement and Compliance Assurance

TO: EPA Regional Administrators
Regional Permit and Enforcement Division Directors



Principals of Integrated Planning



- Prioritization
- Inherent flexibilities in the CWA
- Address the most pressing health and environmental issues first
- Considers public health concerns, water quality, and financial capabilities
- Voluntary

Elements of Integrated Planning

Water Quality, Human Health & Regulatory Issues

- Description of challenges to be addressed
- Identification of human health threats, WLAs, TMDLs, etc

Existing Systems and Performance

- Description of existing wastewater and stormwater systems
- Evaluation of current performance

Stakeholder Involvement

- Open channels of communication with relevant stakeholders
- Allows for public input

Evaluating and Selecting Alternatives

- Prioritizing investments and renewal of systems
- Green infrastructure for more sustainable solutions

Measuring Success

- Identified performance criteria
- Monitoring and evaluation program

Improving the Plan

- Identification of new projects or modifications
- Changing circumstances



Benefits of Integrated Planning

- Communities can determine how to maximize the environmental benefit of their CWA actions given limited resources
- Extended schedules
- Sustainability
- Flexibility



" Bad news . . . we've run out of unlimited resources. "

- Interim goals ok
- Adaptive management
- Green and/or gray
- Coordination between enforcement authorities
- Reopener clauses for enforcement actions



- Wastewater and stormwater costs
- Expands the use of benchmark indicators
- Infrastructure rehabilitation costs
- Incorporates community specific factors

MEMORANDUM

NOV 24 2014

SUBJECT: Financial Capability Assessment Framework for Municipal Clean Water Act Requirements

FROM: Ken Kopocis *Keneth Kopocis*
Deputy Assistant Administrator
Office of Water (OW)

Cynthia Giles *Cynthia Giles*
Assistant Administrator
Office of Enforcement and Compliance Assurance (OECA)

TO: Regional Administrators
Regional Water Division Directors
Regional Enforcement Division Directors



- Prioritize
- Extend
- Re-prioritize



Status of Integrated Planning



WRF SIWM9R14 Project



QUALITY
ASSURANCE
PROJECT
PLAN



69 COMMUNITIES



COMMUNITY
INSIGHT
SURVEY

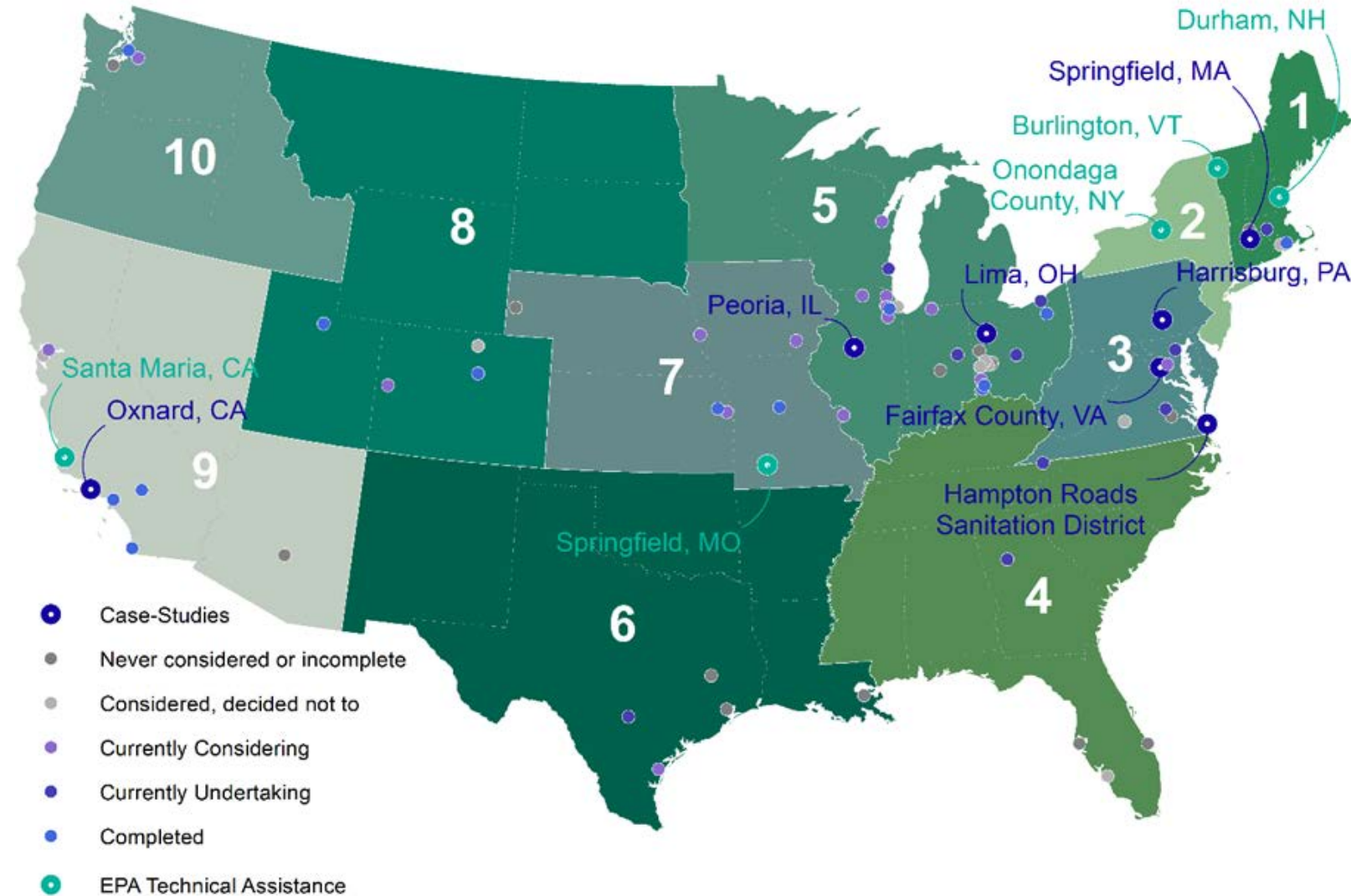


7



User's Guide to Integrated Wastewater and Stormwater Planning

Introduction to
Integrated Planning
Integrated Planning
Considerations Tool
Community Insights
Survey
Integrated Planning
Case Studies



- Focused on tools, problems, and data gaps associated with integrated planning
- Look at communities in various stages of integrated planning
- 69-communities provided complete survey responses
- Respondents were categorized:
 - Not Considering
 - Considered – did not pursue
 - Currently Considering
 - Currently Undertaking
 - Completed



Identification of Potential Barriers

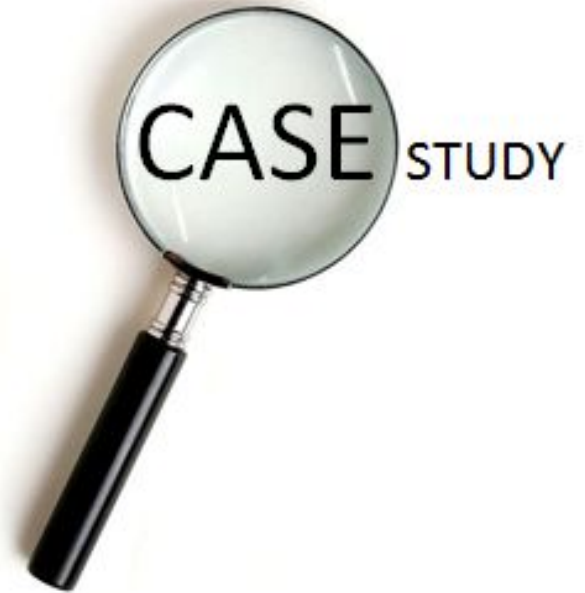
- Concerns of additional obligations
- Increased enforcement risks
- Uncertainty about outcomes
- Lack of knowledge by state regulators
- Lack of state flexibility or support
- Lack of EPA flexibility



- **Environmental and public health benefits**
 - Maximize water quality benefits
 - Address other community needs
- **Utilization of resources**
 - Identify and implement cost-effective solutions
 - Ability to prioritize projects
 - Allow flexibility to revise priorities
 - Achieve efficiencies and better allocate resources
- **Financial capability and affordability**
 - Consider affordability for all, especially low-income groups
 - Raise concerns about rate increases and financial capability



- Seven (7) communities selected to serve as case studies based on survey responses
- 1 community did not pursue
- 1 community is currently considering
- 2 communities are currently conducting
- 1 community completed an integrated plan
- 2 communities completed integrated plans and the regulators have accepted the plan
- Represent the wide range of experiences with integrated planning



- Communities are prioritizing resources and maximizing services provided
- Inconsistent reactions from various regulators may be hampering the process in some communities
- Uncertainty makes it difficult for communities to dedicate the necessary resources to complete the process
- Gaps between the historic enforcement-based approach and today's more flexible integrated planning based process
- If communities invest the resources into the process, integrated planning can lead to widespread, innovative cost-effective solutions



Integrated Planning Resources

Water Quality, Human Health and Regulatory Issues

Existing Systems and Performance

Stakeholder Involvement

Evaluating and Selecting Alternatives

Measuring Success

Improving the Plan



Case Studies

| Community | Status | Utilities Provided | | | | |
|--------------------------|-----------------------------|-----------------------|----------------------|------------|----------------|----------------|
| | | Wastewater Collection | Wastewater Treatment | Stormwater | Drinking Water | Recycled Water |
| City of Peoria, IL | Did not pursue | Y | | Y | | |
| Fairfax County, VA | Currently considering | Y | Y | Y | | |
| Capital Region Water, PA | Currently undertaking | Y | Y | Y | Y | |
| HRSD, VA | Currently undertaking | Y | Y | | | |
| City of Oxnard, CA | Completed integrated plan | Y | Y | Y | Y | Y |
| City of Lima, OH | Plan accepted by regulators | Y | Y | Y* | Y* | |
| City of Springfield, MA | Plan accepted by regulators | Y | Y | | Y* | |

* Utility provides service but did not include in integrated plan.



Integrated Planning for Stormwater



- Wastewater collection & stormwater
- \$200-\$250M combined sewer overflow plan



Did Not Pursue

- Fear of additional reporting requirements & regulatory oversight
- Need for state experience & trust

- **Fairfax County, VA**
 - Wastewater Collection
 - Wastewater Treatment
 - Stormwater
- **Considering internal IP**
 - Cost benefits of integrated planning
 - Merging stormwater and wastewater



Scope of Integrated Plan

- Sanitary sewer overflows (SSOs)
- Municipal separate storm sewer systems (MS4s)
- Stormwater control measures
- Wastewater treatment plants (WWTPs)
- Wet weather treatment at WWTPs
- Wastewater flow from wholesale customers/satellite communities



- Fairfax County maintains the public storm drainage system
- Uses BMPs to accommodate stormwater runoff and minimize environmental impacts
- Evaluating PS to NPS trading to meet MS4 requirements for total maximum daily loads (TMDLs)



- MS4 permit is very prescriptive and doesn't allow for much creativity
- Regulations and permits are sector specific
- Funding is sector specific
- Uncertainty of long-term stormwater requirements
- Unclear if state regulators will support plan
- Impacts on nutrient credit trading



- Re-prioritizing wastewater and stormwater controls in a comprehensive manner
- Better internal understanding
- Better investment of resources
- Better able to explain comprehensive gains to rate-payers
- Effective use of resources



- Stormwater project performance
 - Nutrients
 - Sediments
- Monitoring program
 - Virginia Tech
 - USGS continuous monitoring



- Currently developing Integrated Plan
- Wastewater collection & treatment, stormwater, and drinking water
- 80% combined sewers, partial consent decree
- Taking over MS4 permit
- TMDLs
- Establish priorities and affordable schedules
- Challenges coordinating across communities
- Regulatory expectations unclear



Scope of Integrated Plan

- SSOs
- CSOs
- MS4s
- Stormwater control measures
- Green infrastructure
- WWTPs
- Wet weather treatment at WWTPs
- Satellite treatment facilities
- Wastewater flow from wholesale customers/satellite communities
- Watershed-based NPDES requirements
- TMDL and Chesapeake Bay load reductions

- 80% of system is combined
- 20% of the system is MS4
- MS4 permit requires reductions in stormwater pollution
- Green Stormwater Infrastructure Plan
- Property protection

- Coordination with other jurisdictions
- City oversight
- Surrounding communities
- Uncertainty regarding regulatory expectations
- Economic and environmental justice
- Prevention of conflicting paths
- CWA requirements are a moving target

Benefits from Integrated Planning

- Inter-departmental teaming relationships
- Most cost-effective approaches to meet CWA obligations
- Building a holistic approach



To Be Determined



- Wastewater collection & treatment
- Stormwater
- Drinking water
- Recycled water
- Uniform planning approach for departments
- Improved council discussions regarding budgets
- Increased staff time

Completed IP



Scope of Integrated Plan

- SSOs
- Stormwater control measures
- Green infrastructure
- WWTPs
- Wastewater flow from wholesale customers/satellite communities
- Watershed-based NPDES requirements

- Operates a network of stormwater facilities
- Collection piping and conveyance channels
- TMDLs



- Integrated planning based on need for updated plan
 - Not based on regulatory pressure
- Kept interaction with regulators at a minimum
- Communication with elected officials
- Public concerns about rate increases

Benefits of Integrated Planning

- Lower operation costs
- Better coordination of capital projects
- Planning flexibility to spread out costs
- Better achieve asset management needs
- Incorporate green infrastructure

Performance Criteria and Measures

- Not yet clearly defined
- Measures of cost-effectiveness of projects
- Ability to pass rates

- Begin with case studies
- Understand it takes time and money (but it is worth it)
- Engage regulatory agencies early on and have a plan
- Understand ultimate goal(s)
- Develop the necessary data
- Be open to engaging a broad group of stakeholders and have a solid plan for engagement
- Understand funding sources and limits



WRF SIWM9R14 Project



<https://www.werf.org/a/ka/Search/ResearchProfile.aspx?ReportId=SIWM9R14>



Questions



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