

Draft Small MS4 General Permit

An Overview of the Permit Requirements

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Presentation Overview

Effects of stormwater runoff

Stormwater regulatory framework

Status of Permits

Permit Requirements

Notice of Intent/SWMP

TMDLs

Illicit Discharge Program

LID Provisions

Questions

Effects of Runoff

Hey, water quality and quantity are impacted ...



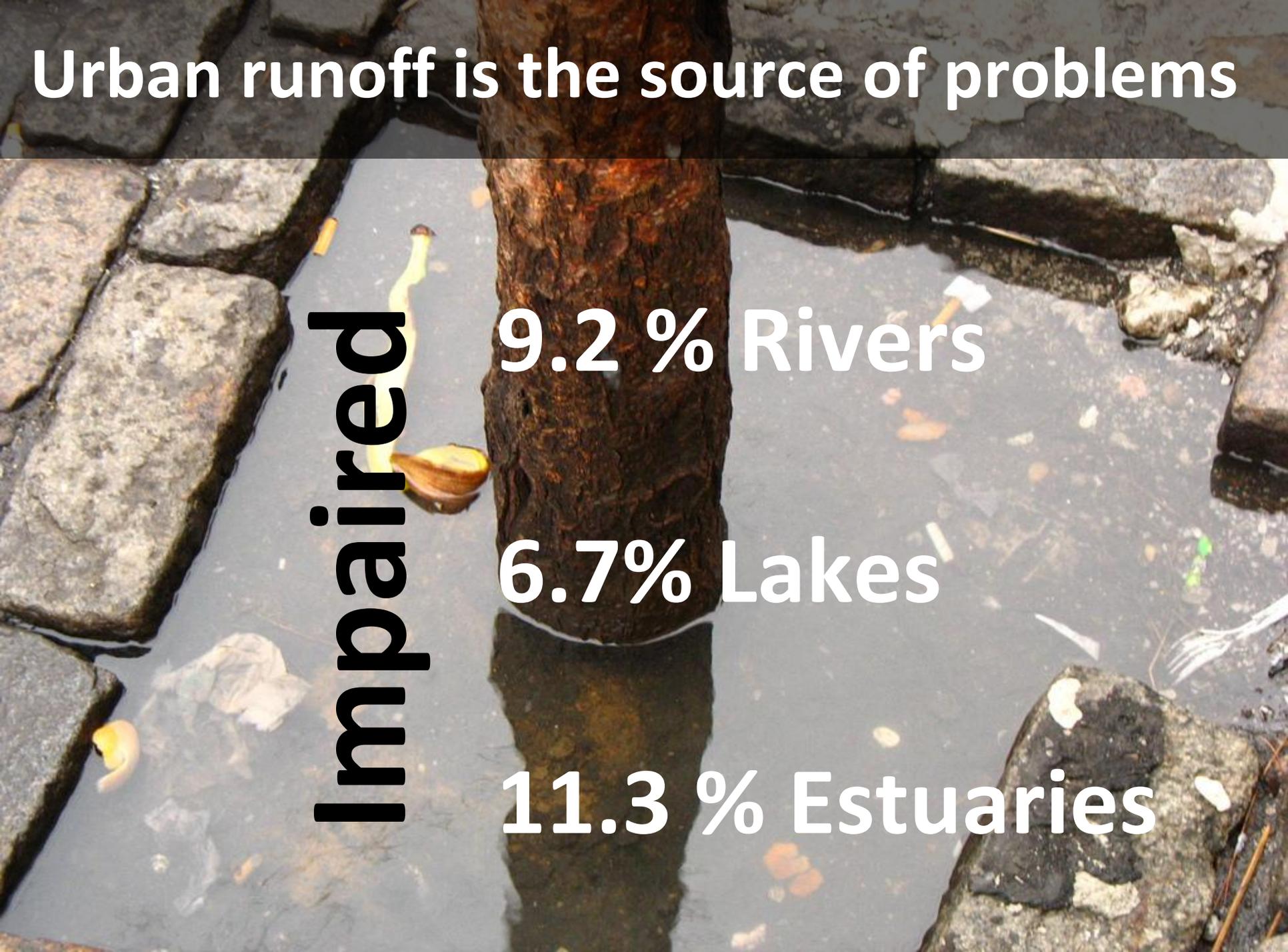
Urban runoff is the source of problems

Impaired

9.2 % Rivers

6.7% Lakes

11.3 % Estuaries



Water Quality Impacts

Pollutant Sources



Pollutants



Trash



Heavy Metals



Nutrients



Sediment



Pathogens



Oil & Grease

**Attention
Dog Guardians**

Pick up after your
dogs. Thank you.

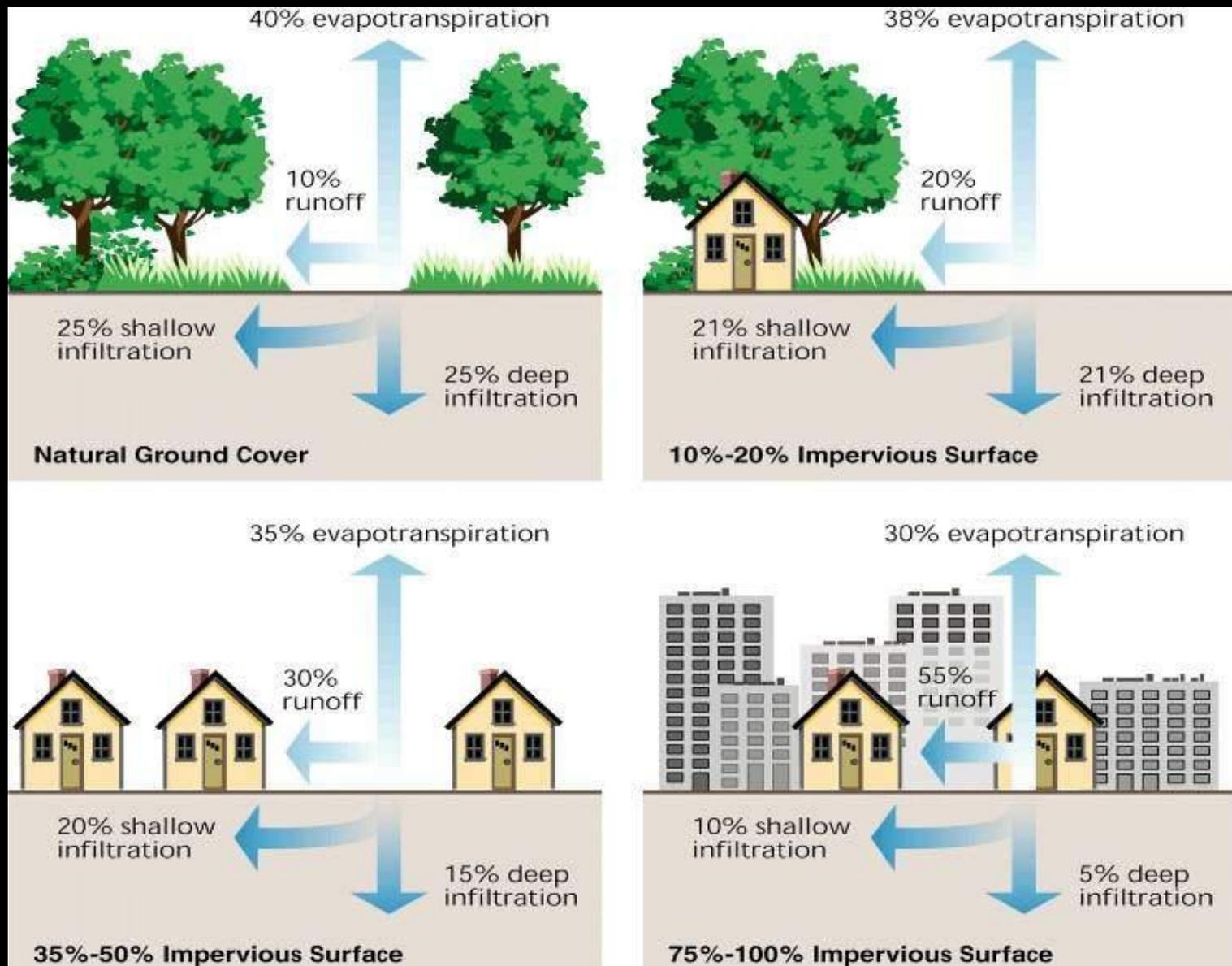
Attention Dogs

Grrrrr, bark, woof.
Good dog.

District of North Vancouver.
Bylaw 5981-11(i)

Increased Runoff

Reduced Infiltration



Water Quantity Impacts



Increased stormwater volume & velocity

Stream widening & down-cutting

Decreased baseflow

And . . . more flooding!

Changes to Stream Geomorphology

Regulatory Framework

Clean Water Act, Section 402(p)

National

EPA NPDES Regulations, 40 CFR 122

← **Authorized States** → ← **Unauthorized States** →

State Laws and Regulations
(45 States and PR)

EPA NPDES Permits
(5 states, most territories and Indian country lands)

State by State

State NPDES Permits

Regulated Universe

MS4s, Construction Sites, Industrial Facilities

Regulatory History

CWA Section 402(p)

Phase I regulations

Phase II regulations



Availability of Draft Permits

MA North Coastal Draft

Public Noticed 2/4/10 – 3/31/10

www.epa.gov/region1/npdes/stormwater/draft_manc_sms4gp.html

MA Interstate, Merrimack, South Coastal Draft

Public Noticed 11/4/10 – 3/11/11

www.epa.gov/region1/npdes/stormwater/mimsc_sms4.html

700+ comment letters & emails

Cities & towns

Citizens

Legislators – state and federal

**Environmental and watershed
organizations**



LETTERS

Types of Comments

Costs & funding

Timing of requirements

Clarifications & tools

Next Steps

Response to comments

Notice of availability

Effective date



Permit Requirements

Getting Started

A photograph of a wet urban street scene. A person in a light blue shirt and dark pants is standing on a concrete sidewalk, looking down. To the right of the sidewalk is a grassy area with a black and yellow striped sign on a metal post. The street is wet and reflects the overcast sky. In the background, there are trees and a building.

Phase II Coverage

MS4s

Urban areas

Designated non urban

Non-traditional MS4s

So, what's an MS4?



Notice of Intent - NOI

Due 90 days from effective date of permit
Information required on NOI
Public notice of the NOI
Authorization to discharge

PUBLIC NOTICES

SPONSORED BY THE REEPHAM SOCIETY

The public notice board features several posters and advertisements:

- NEPHAM & DISTRICT GARDENING CLUB**: Includes information about a 'WINTER PLANT SALE' on Saturday 17th May and a 'NEW MEMBERS VERY WELCOME' notice.
- AYLSHAM**: A yellow poster for a 'NELSON STRING TRIO' performance by Ross Murray, Viola Schubert, and James Francis Brown.
- Join the Reepham Car Club**: An advertisement for a car club with contact number 0845 478 6396 and website www.reephamcarclub.com.
- Win a New signed Norwich City F.C. Shirt**: A competition poster for a signed football shirt.
- SAFER NEIGHBOURHOODS**: A notice from Reepham regarding current priorities.
- ROBOTS TEAM CHAMPIONS**: A poster for 'ROBOTS FROM TV'S ROBOT WARS' at UEA Sportspark Norwich on 22nd & 23rd May.
- SHOPPING?**: A notice for 'LOOKING FOR FAIR TRADE ITEMS LOCALLY' from 'Drop Inn'.
- NASHVILLE COMES TO NORTH WALSHAM**: A notice for a 'FRIDAY APRIL 24TH' event.
- Buster's Family**: A notice for 'THE DIRTY TRICKS' on Sunday 17th May 2010.

Required NOI Info

Basic Info

2003 permit items

Endangered Species

Historic Properties

BMPs

Cert & signature



Species of concern

- Northern Red-bellied Cooter
- Dwarf Wedge Mussel
- Bog Turtle
- Shortnose Sturgeon



More >>

www.fws.gov/newengland/index.htm

Historic Properties

National Register

www.nps.gov/nr

Massachusetts Register

www.sec.state.ma.us/MHC

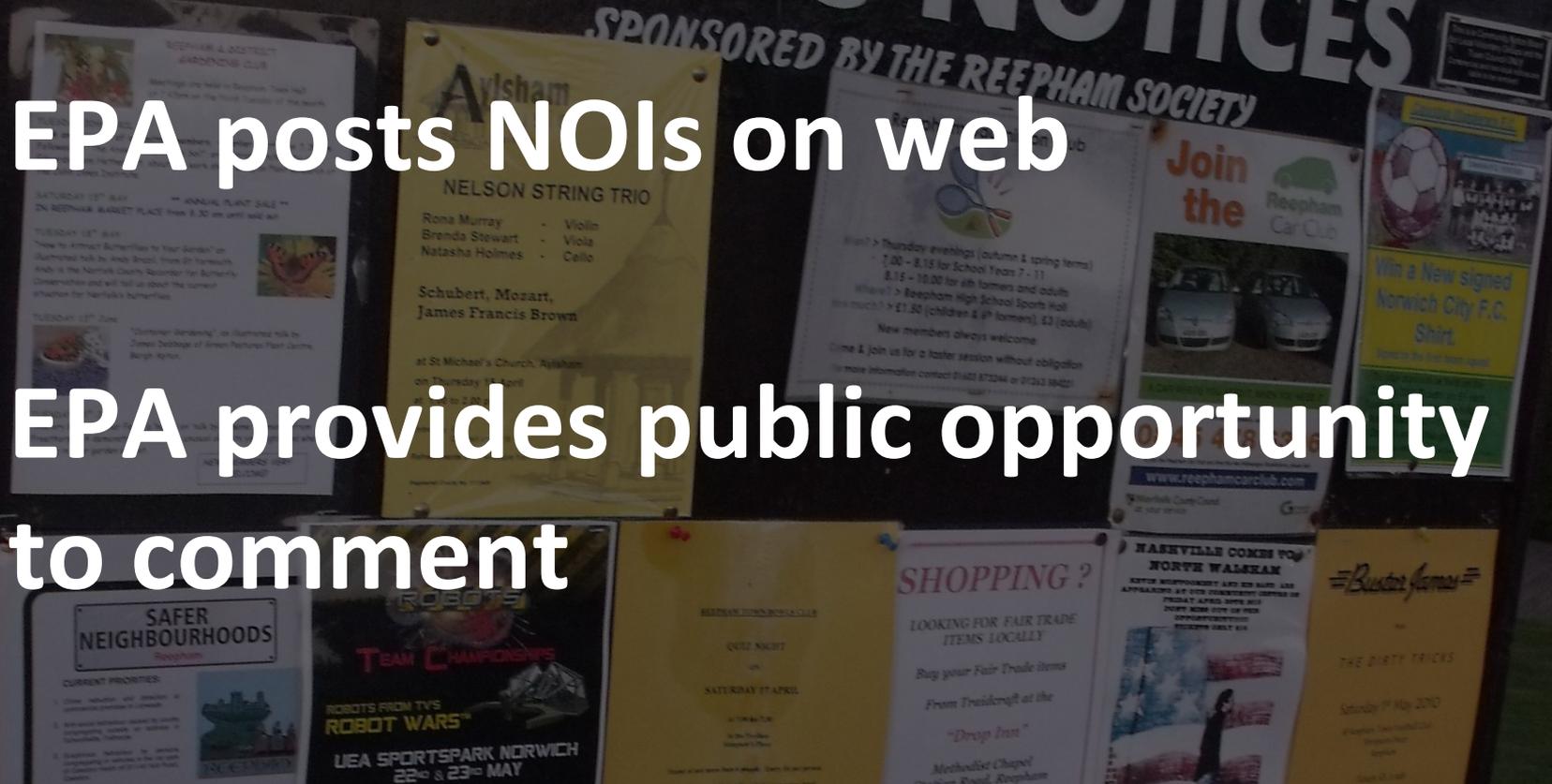
Public Notice of NOI

EPA posts NOIs on web

EPA provides public opportunity to comment

PUBLIC NOTICES

SPONSORED BY THE REEPHAM SOCIETY





Stormwater Management Program

What is it?

Where to keep it

Making it available

Elements of SWMP

Description & details

Map

Annual evaluation





Permit Requirements

Water Quality

TMDLs

What is it?

The connection?

Phosphorous

Bacteria/pathogen

Requirements in the permit

What is a TMDL?

TMDL Total Maximum Daily Load

$$\text{TMDL} = \sum \text{WLA} + \sum \text{LA} + \text{MOS}$$

WLA = Wasteload allocation

LA = Load allocation

MOS = Margin of safety

TMDLs and MS4 Permits

A photograph of a person fishing in a river. The person is on the left side of the frame, wearing a white t-shirt and dark pants, holding a fishing rod. The river is calm, reflecting the surrounding greenery. The background shows a dense forest of trees along the riverbank. The text is overlaid on the image in white and green colors.

Implementation plan

BMPs to meet LA and WLA

Permit limits

A scenic view of a city skyline across a body of water. In the foreground, a row of white rowing shells with red stripes is lined up on a wooden dock. The water is calm, and the sky is clear blue. The city skyline in the background features several prominent skyscrapers, including a tall, thin one on the left and a cluster of buildings on the right.

Approved TMDLs

North Coastal

Interstate Merrimack South Coastal

TMDL Provisions



The Charles River

Phosphorus Control Plan

Objective

Elements

Timeframes

Tools

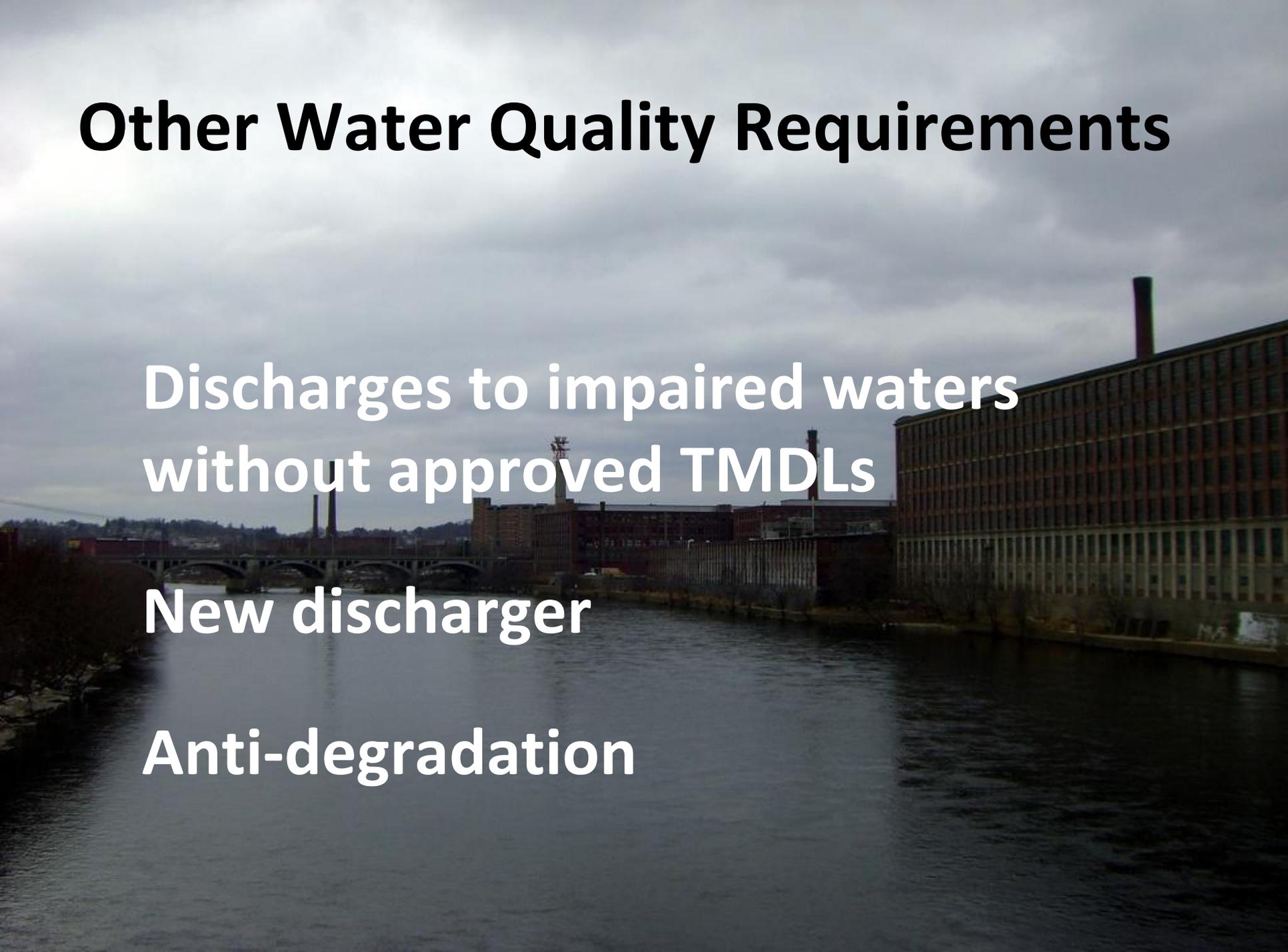




End Result
A Cleaner Charles

Polishing an Urban Jewel

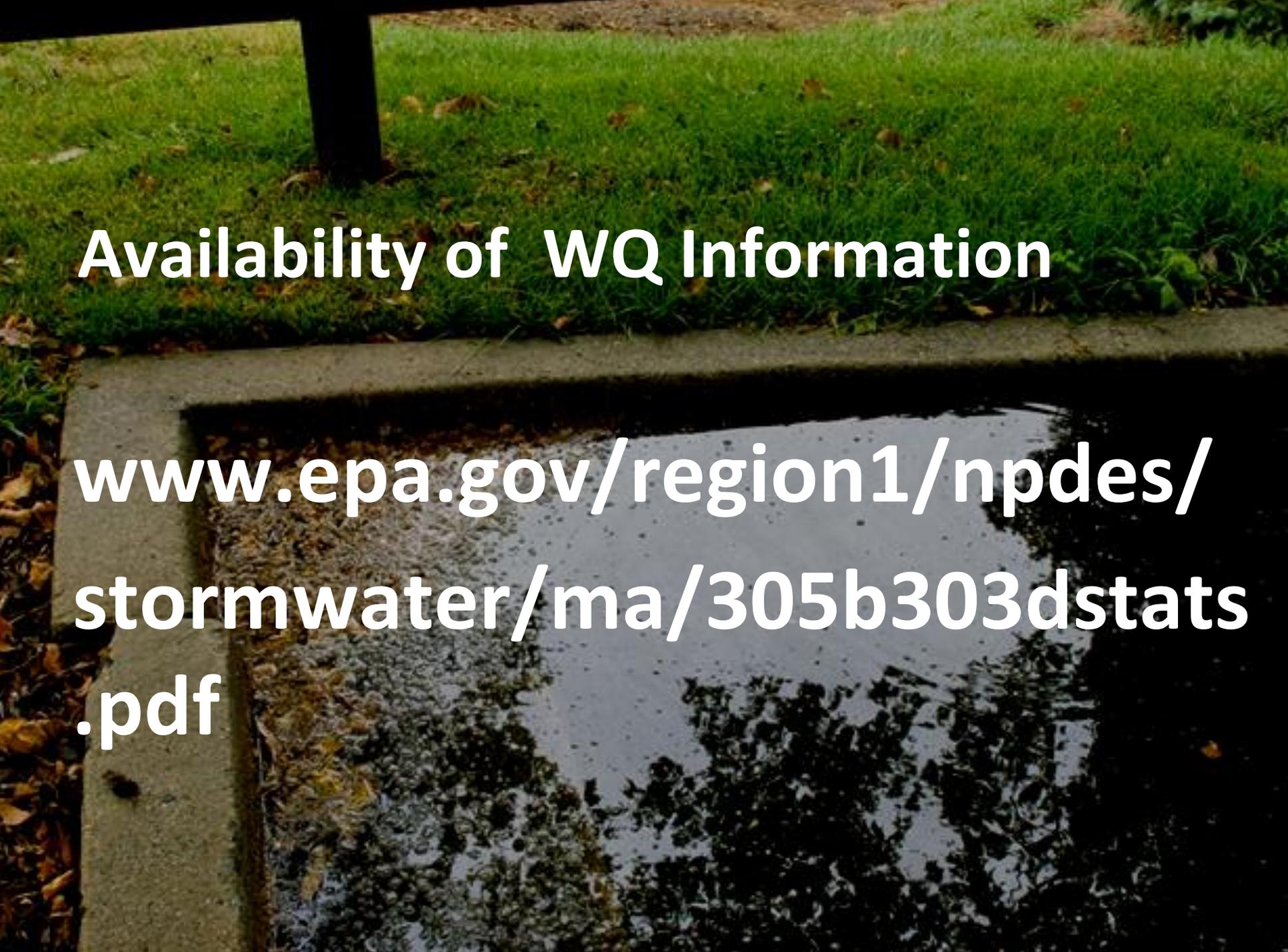
Other Water Quality Requirements

A photograph of an industrial river scene under a cloudy sky. In the foreground, a dark river flows. In the middle ground, a bridge spans the river. In the background, several industrial buildings with smokestacks are visible. The text is overlaid on the image.

Discharges to impaired waters
without approved TMDLs

New discharger

Anti-degradation

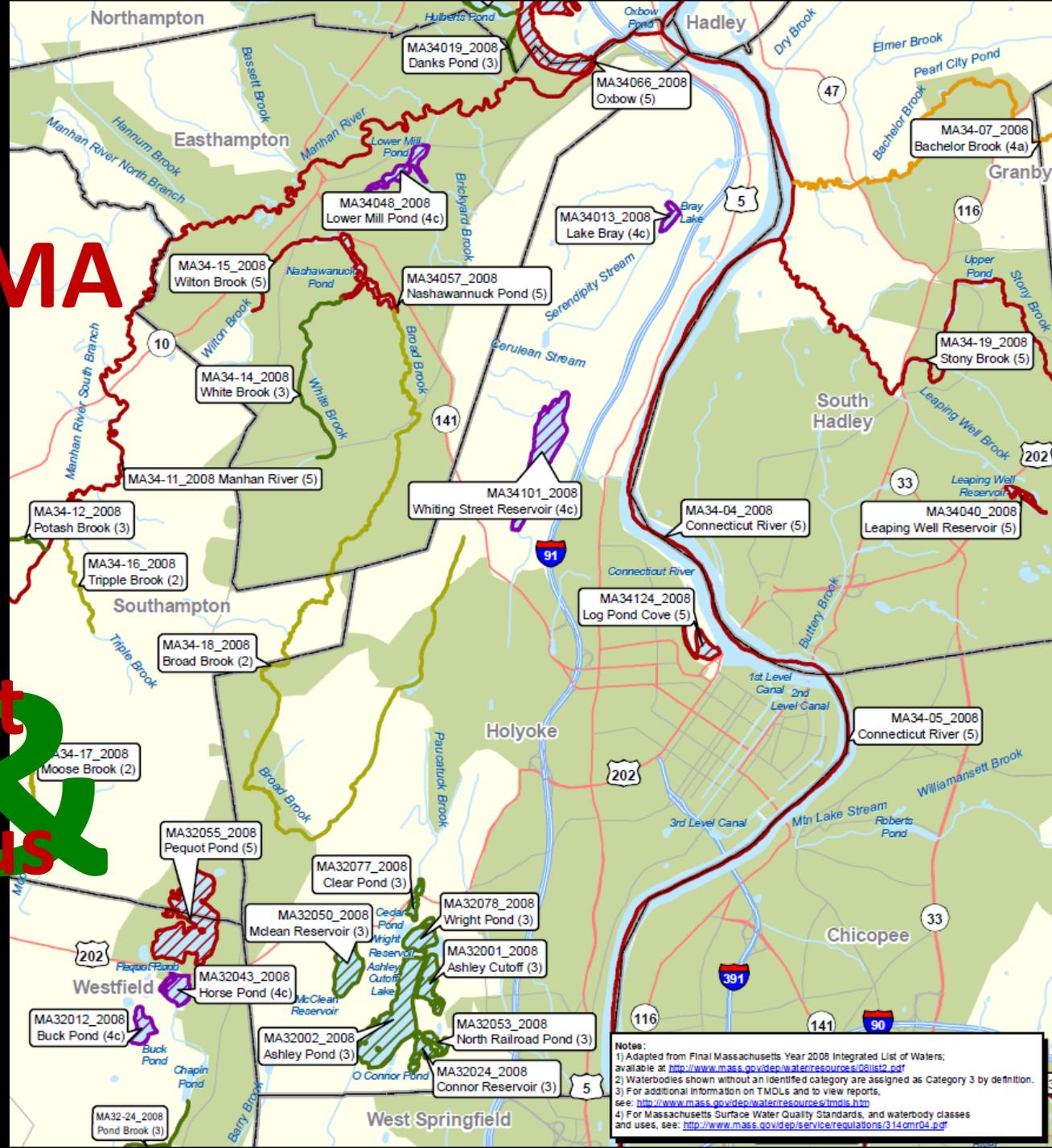


Availability of WQ Information

[www.epa.gov/region1/npdes/
stormwater/ma/305b303dstats
.pdf](http://www.epa.gov/region1/npdes/stormwater/ma/305b303dstats.pdf)

Holyoke, MA

Waterbody Assessment & TMDL Status



Notes:
1) Adapted from Final Massachusetts Year 2008 Integrated List of Waters, available at <http://www.mass.gov/dep/water/resources/08list2.pdf>
2) Waterbodies shown without an identified category are assigned as Category 3 by definition.
3) For additional information on TMDLs and to view reports, see: <http://www.mass.gov/dep/water/resources/tmdl.htm>
4) For Massachusetts Surface Water Quality Standards, and waterbody classes and uses, see: <http://www.mass.gov/dep/service/regulations/314cmr04.pdf>



Permit Requirements

MEP Requirements

Six Minimum Measures

1. Public education
2. Public involvement
3. Illicit discharge detection & elimination
4. Construction runoff
5. Post-construction stormwater management
6. Pollution Prevention

Shared Responsibility

The regulations, 40 CFR 122.35, allow for MS4s to share responsibility for the implementation of the six minimum measures



Illicit Discharge Detection and Elimination (IDDE)

Ordinance

Map

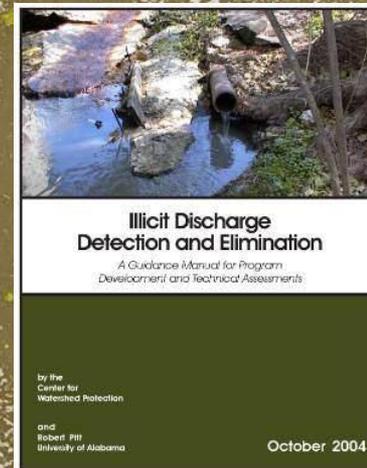
Illicit discharge assessment

Locating and removing

Tracking

Public education

Monitoring



www.cwpp.org

IDDE Ordinance

Required by 2003 permit

Must allow the MS4 to:

**Prohibit non-stormwater
discharges**

Implement enforcement



MS4 Maps

Outfalls and receiving waters

Complete system wide map



Program Components

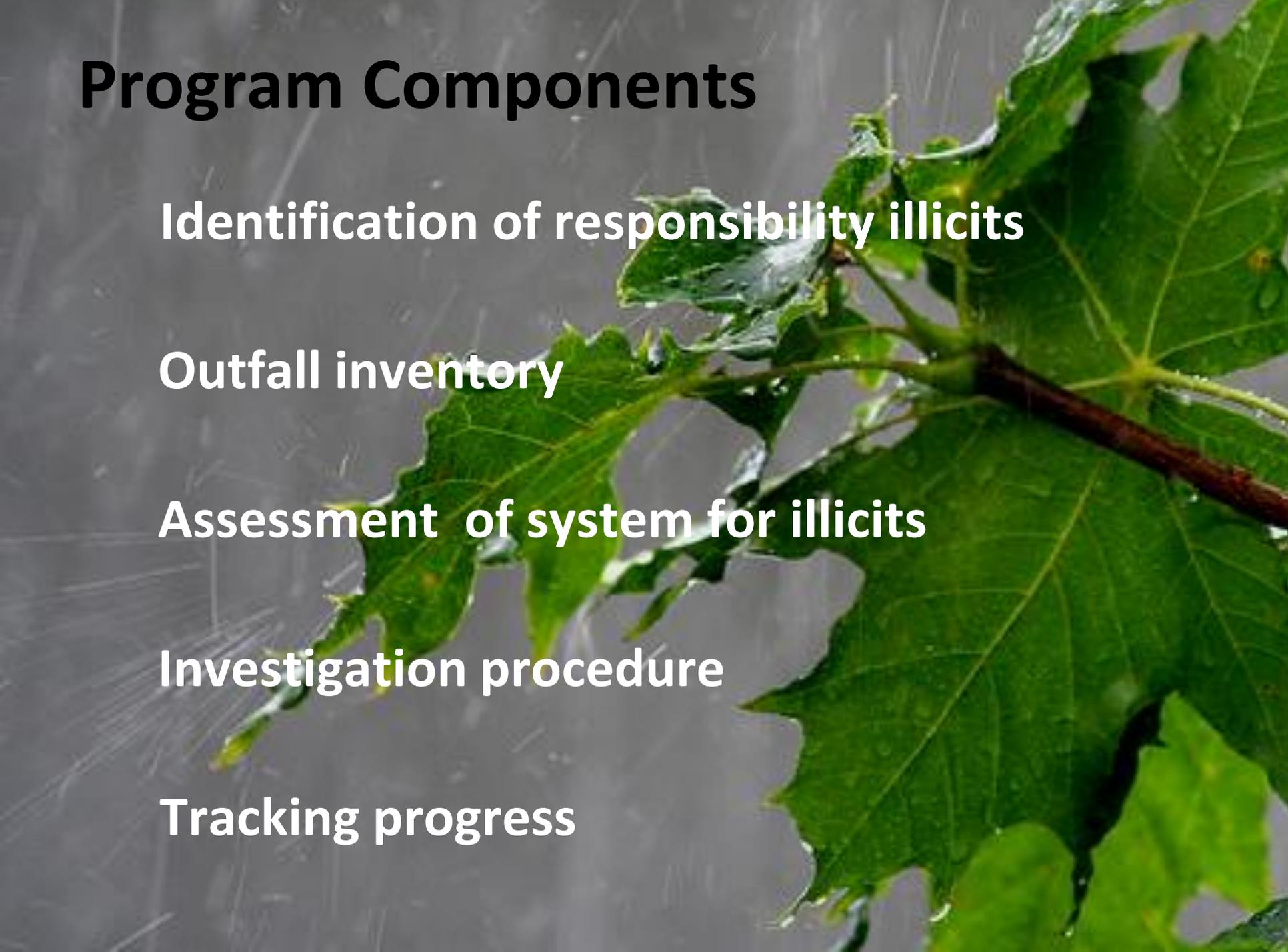
Identification of responsibility illicits

Outfall inventory

Assessment of system for illicits

Investigation procedure

Tracking progress



A photograph of a rainy street scene viewed through a window covered in water droplets. The background is blurred, showing a wet road, a yellow traffic sign, and some distant lights. The text is overlaid in yellow.

Wet & dry weather sampling

Many comments

Outfalls from the MS4

Interconnections

Monitoring

Post-Construction

Development ordinance

Mass SW standards

Minimize water quality impacts

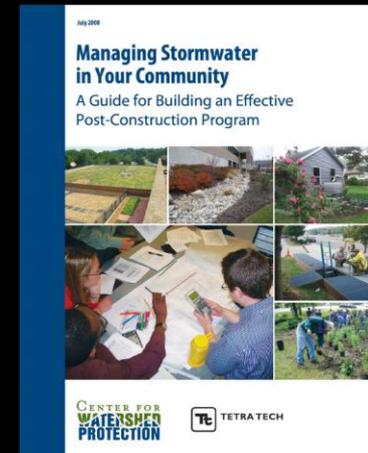
BMP plan review

Built drawings

BMP operation

LID street design

Impervious area



www.cwp.org

Post Construction Ordinance



**Required by 2003
permit – effective
May 1, 2008**

**Amend to include
MA Stormwater
standards 3 - 7**

Minimize Water Quality Impacts

Avoid erosion susceptible areas

Preserve areas with important water quality benefits

Flood control measures

Protect natural resources





Street design &
Parking assessment

Green infrastructure

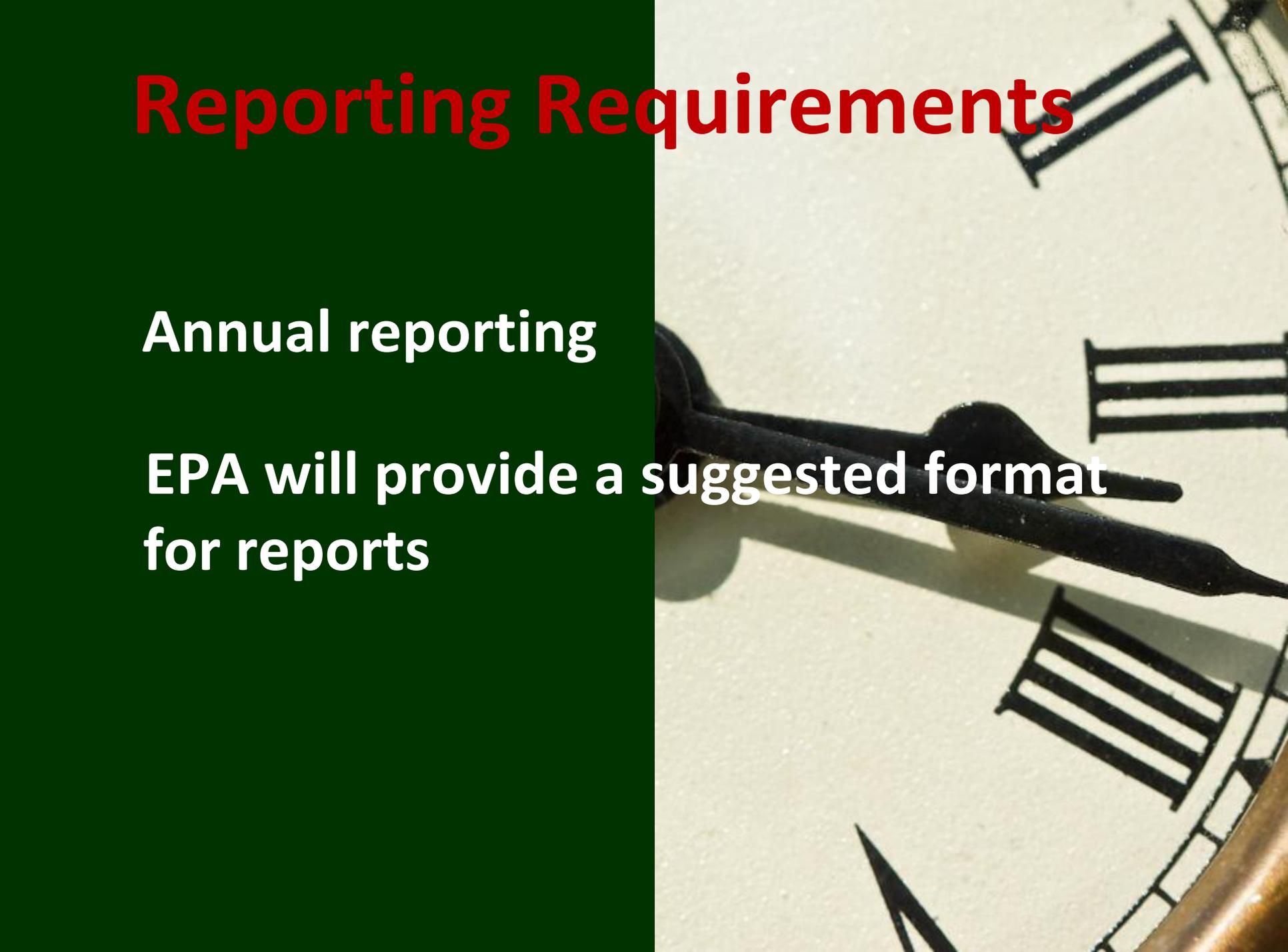
Impervious area



Permit Requirements

Evaluation and Reporting

Reporting Requirements

A close-up photograph of a clock face with Roman numerals and a black hand, set against a dark green background. The clock face is white with black Roman numerals and a black hand. The hand is pointing towards the bottom right. The background is a solid dark green color.

Annual reporting

EPA will provide a suggested format
for reports

Binoculars – Credit: <http://www.flickr.com/photos/gcbb/2465054692/>

Sparrow Dock – Credit:

<http://www.flickr.com/photos/zim2411/3790850184/in/photostream/>

Sidewalk Tree – Credit: <http://www.flickr.com/photos/madmardign777/79436383/>

Pollutant Sources & Types – Credit: EPA HQ

Stream Geomorphology - Credit: EPA HQ

EPA HQ Building – Credit: EPA HQ

Mail Slot – Credit: <http://www.flickr.com/photos/snoodette/3486843495/>

Letters – Credit: <http://www.flickr.com/photos/calliope/234447967/>

Spanish Steps in Rome – Credit:

http://www.flickr.com/photos/lstutler_photo/4965902875/

LID Green Street #1 – Credit: EPA HQ

Image Credits I

Downtown Holyoke - http://www.flickr.com/photos/c_conn/2519167169

Public Notices – Credit: <http://www.flickr.com/photos/ell-r-brown/4555539387/>

Roseate Turn – Credit: http://www.flickr.com/photos/andy_li/4862883387/

Turtle – Credit: <http://www.flickr.com/photos/usfwsnortheast/4924260944/>

Holyoke Church – Credit: http://www.flickr.com/photos/c_conn/2519987172/

3 Ring Binder – Credit: <http://www.flickr.com/photos/jkfid/4333767484/>

Elements Cupcakes – Credit: <http://www.flickr.com/photos/nickbusse/4163894602/>

TMDL Waterbody – Credit: MassDEP

Fishing – Credit: EPA HQ

Charles River Winter Boats – Credit:
<http://www.flickr.com/photos/38117207@N03/4291865942>

Image Credits II

Charles No Swimming – EPA

Image Credits III

Boston's Back Bay & Charles River -

<http://www.flickr.com/photos/andrewjosephkatz/4997444618/>

Merrimack River Lawrence, MA – Credit:

<http://www.flickr.com/photos/phillacombe/4286375063/>

Wet Parking Space – Credit: EPA HQ

GIS Map – Credit: EPA NE

Ruler – Credit: <http://www.flickr.com/photos/vrillusions/5197046091/>

Rowers – Credit: MS Office Clip Art

Dirty Water – Credit: EPA HQ

Enforcement - MS Clip Art

Middle Earth Map – Credit: <http://www.flickr.com/photos/kevan/38944425/>

Image Credits IV

Maple Leaf in Rain – Credit: <http://www.flickr.com/photos/lanier67/184302007>

Rainy Street - Credit: <http://www.flickr.com/photos/aaronknox/3866924142/>

Ribbon Cutting – Credit: <http://www.flickr.com/photos/sanjoselibrary/3870090928/>

Boat Water Sampling – Credit : EPA NE

Green LID Street # 2 – Credit: EPA HQ

Watch – Credit: <http://www.flickr.com/photos/dibytes/4647624108/>

2 Center for Watershed Protection Publications – Credit: <http://www.cwp.org>

All pictograms sourced from EPA HQ



Thank you

Questions ?

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