

# Portsmouth's Stormwater System



# Portsmouth's Stormwater Program



- The City of Portsmouth's Stormwater Program is dedicated to improving water quality in our drainage together with reducing flooding hazards through comprehensive planning, public education, and management of our stormwater and combined sewer/stormwater systems.



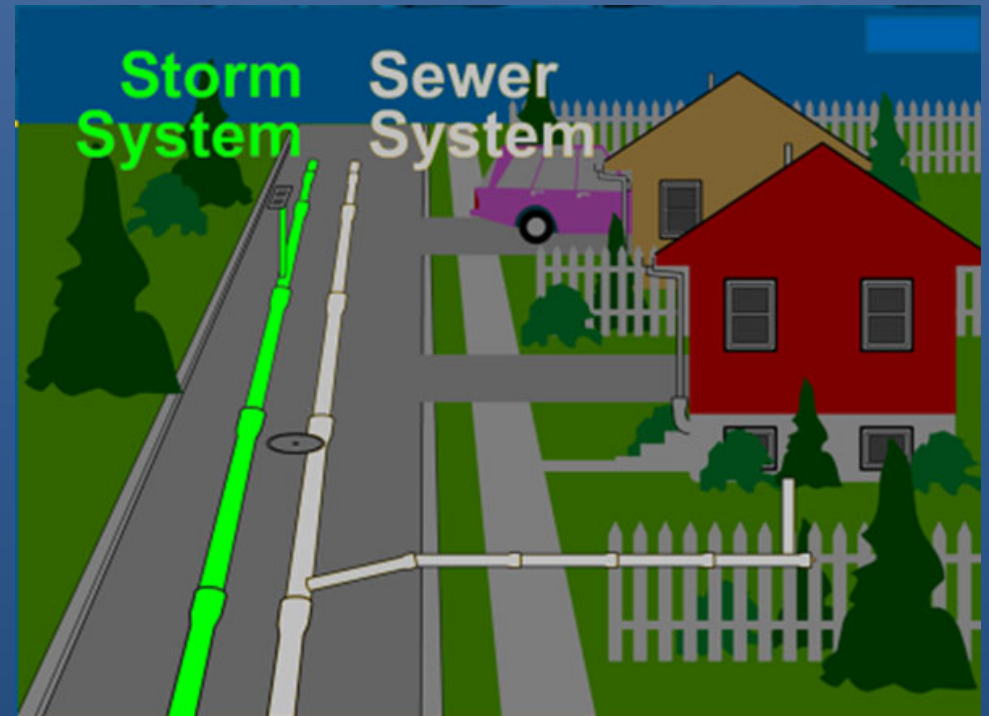
# Stormwater Funding

- Set up Special Revenue Fund in FY19
  - 50% funding from General Fund, 50% from Sewer Fund
  - Improved Tracking of Work Effort for Regulatory Reporting

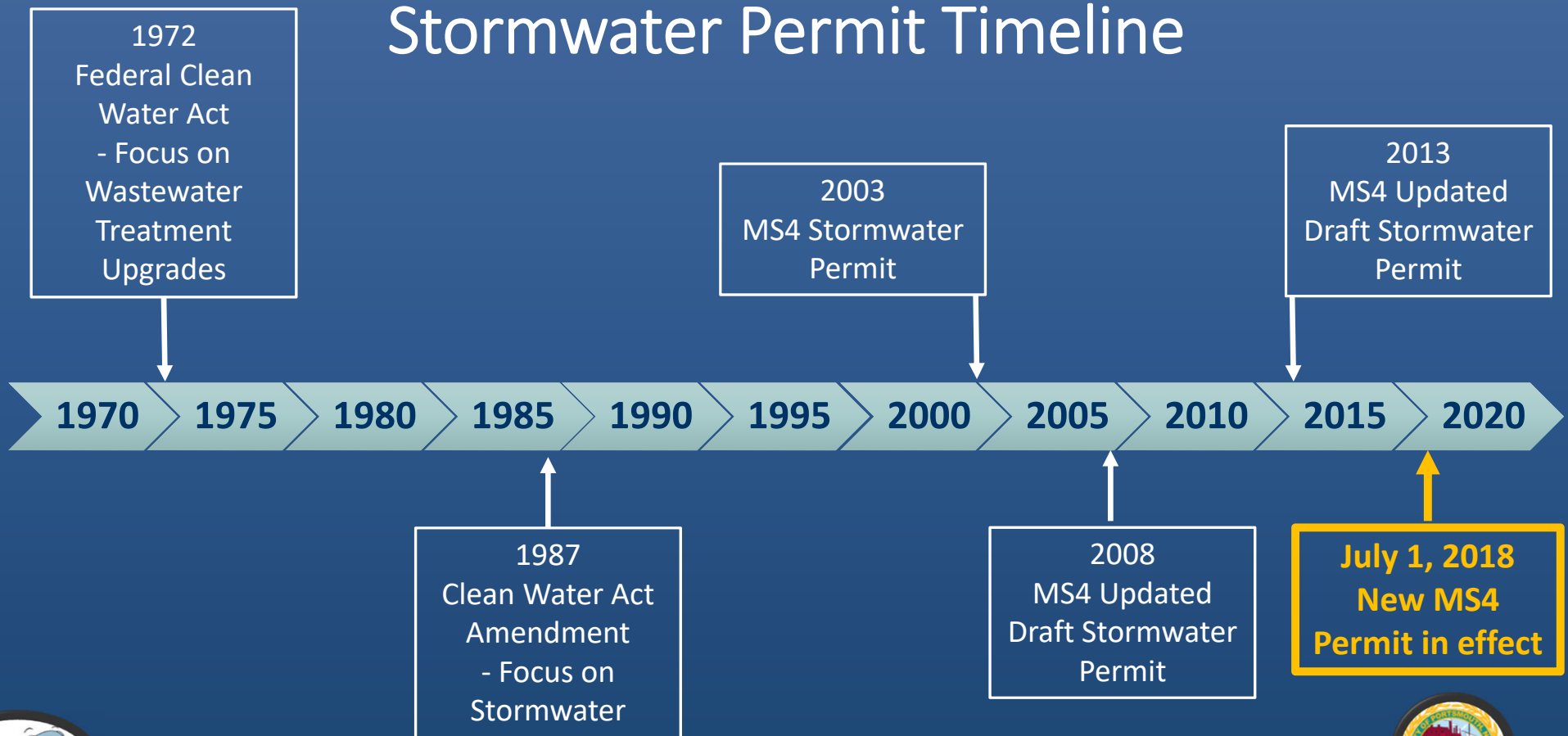


# Portsmouth's Stormwater System

- 64 Miles of piping
- 2,701 Catch Basins
- 676 Manholes
- 74 Stormwater Treatment Units
- 202 Outfalls



# Municipal Separate Stormwater Sewer System (MS4) Permit Stormwater Permit Timeline



City of Portsmouth's Stormwater System

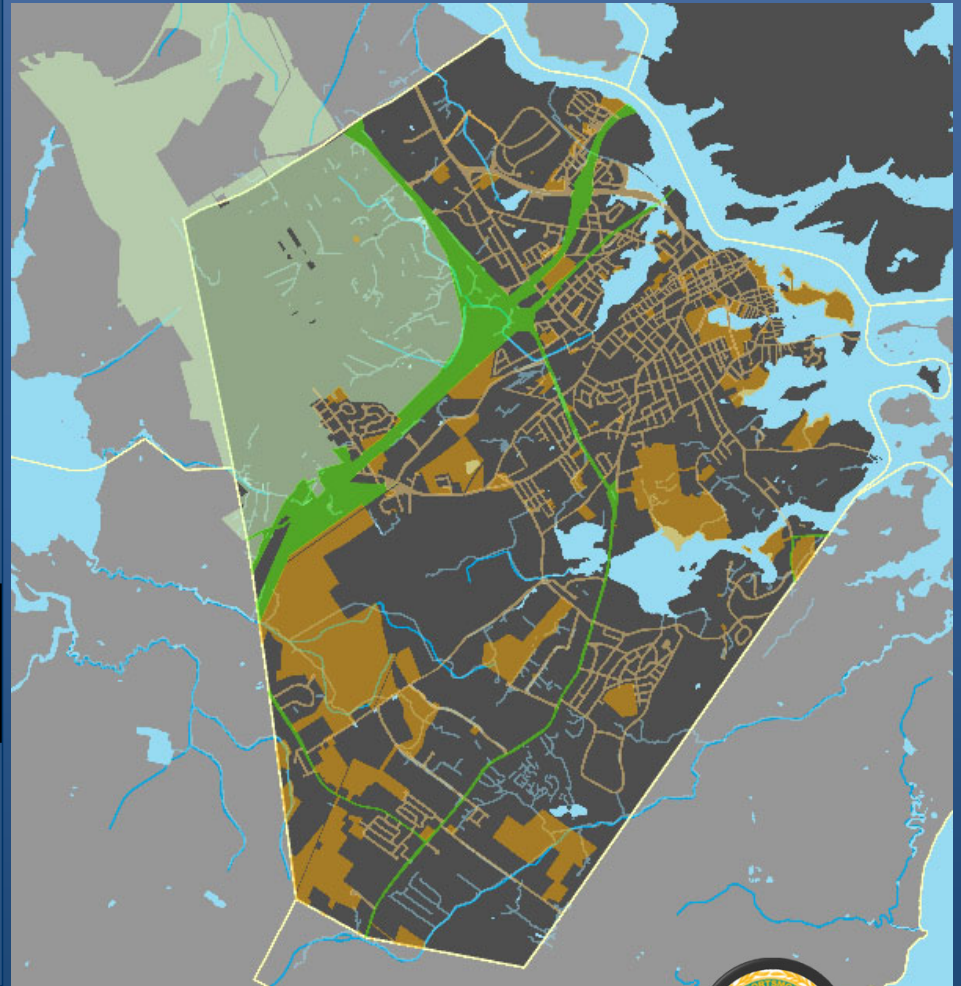
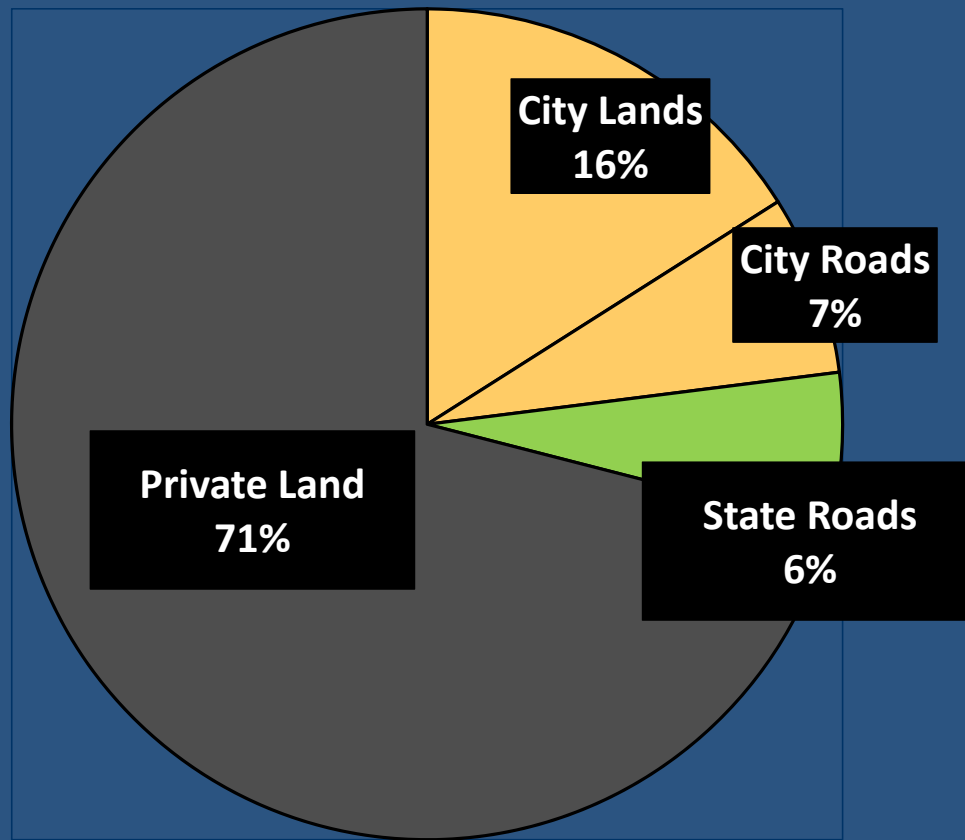


# What Has Happened?

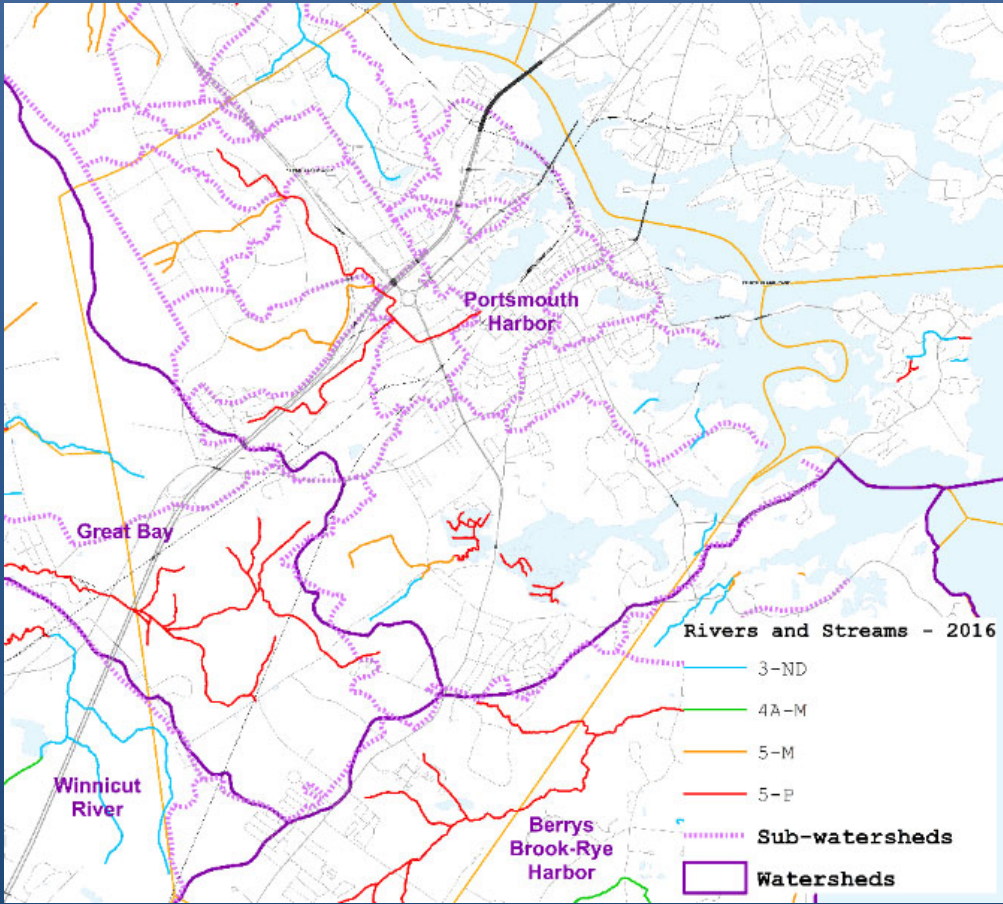
- Initial 2003 MS4 Permit limited impact to City Operations (5 Year Permit)
  - Stormwater Master Plan 2007
  - City Council voted to establish Stormwater Ordinance - Chapter 16, Article II
  - Mapping
  - Field Inspections
  - Establish Cleaning and Maintenance Programs
- EPA issued draft MS4 permit in 2008 finally issued in 2017
- Most recent MS4 Permit effective July 2018 significant Impact to City Operations
  - Additional monitoring, studies, data collection and operational changes
  - Reorganization of DPW staffing to address regulatory requirements for stormwater management
  - 2019 City Council created special revenue fund to track stormwater management activity costs



# LAND IN PORTSMOUTH



# Watersheds & GIS Mapping

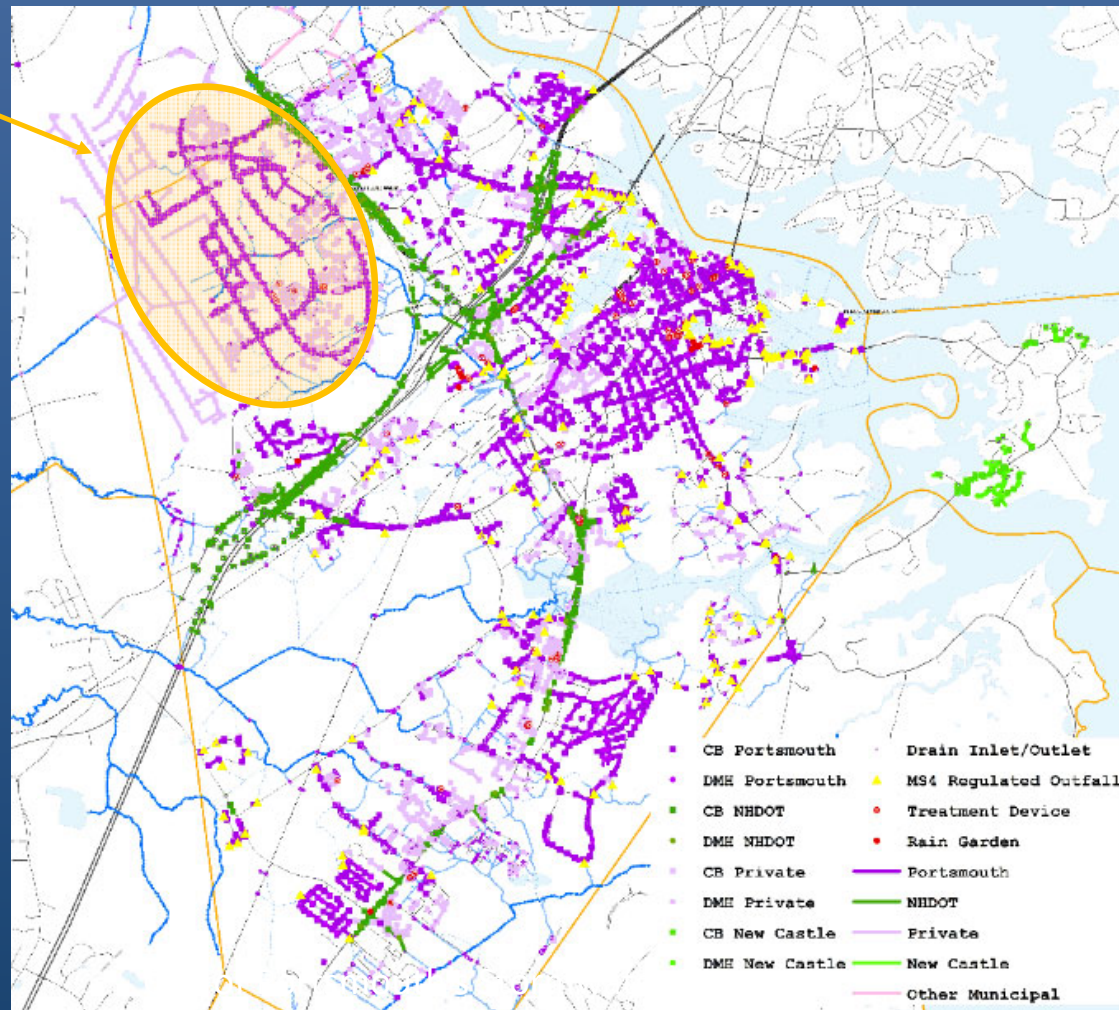


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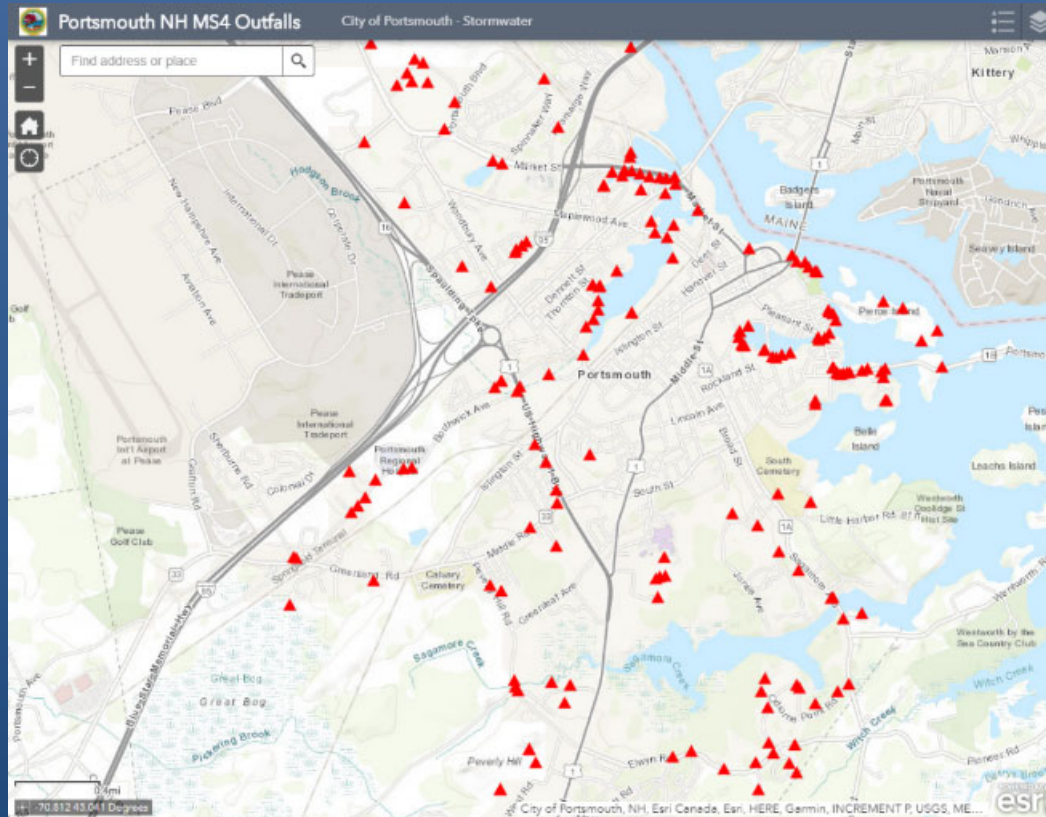


# Infrastructure Jurisdictions

Pease – City  
DPW maintains  
infrastructure in  
streets only



# Dynamic Online Outfall Map



[Outfalls Map - ArcGIS Online Application](#)

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# Stormwater Maintenance in 2019



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# Cleaner Catch Basins and Pipes = Cleaner Water



Catch Basin Cleaning  
- 322 Tons collected in 2019



Pipe Inspections and Cleaning  
- 7,800 Feet in 2019



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# Cleaner Streets = Cleaner Water



Street Sweeping –  
**300 Tons swept in 2018**

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# Green Infrastructure Maintenance = Cleaner Water




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# Infrastructure Upgrades = Cleaner Water




# Public Outreach = Cleaner Water




## What is Stormwater?

Stormwater is precipitation that runs over the land surface (runoff) and does not infiltrate the ground. In the process it may pick up pollutants and deposit them into surface waters (i.e. rivers, lakes and oceans), which may create water quality impacts and siltation that could potentially damage aquatic habitats.

Why should we care? As a result of stormwater and the increase in volume of surface water, flooding can also occur. With flooding comes property and infrastructure damages. Stormwater pollution creates water quality impacts to swimming, boating and aquatic habitats that can be mitigated or prevented with awareness and new approaches to stormwater management.



Close-up of the City's Stormwater System




Drains in Waterways

## How can you help?

What can you do as a resident or homeowner in Portsmouth and surrounding areas?

- Never pour hazardous materials into a storm drain
- Dispose of used motor oil, gasoline, antifreeze, cleaning agents, pesticides or fertilizers, paint and other hazardous agents in an appropriate manner - such as taking them to Household Hazardous Waste Days (held at Portsmouth's Department of Public Works)
- Do not sweep litter, sand, leaves or other materials into storm drains. Dispose of them in the trash or compost the material.
- Never hose down a spill into a storm drain. Use absorbent towels or cat litter to clean up the spill and dispose of the material in the trash if it is not hazardous
- Detergents and chemical cleaners should not be used to wash sidewalks or driveways
- If you see a storm drain that is clogged please contact your respective Public Works Department and dispose of the material in the trash if it is not hazardous

For additional information, please scan the QR code or visit the City's website:  
Portsmouth Public Works - 650 Poverty Hill Road - Portsmouth, NH - (603) 427-1230



## What is the City doing?

The City has put in place a Stormwater Management Program to address stormwater in Portsmouth:

- Completed a Stormwater Master Plan
- Created Stand Alone Stormwater Ordinance to Protect Our Waterways
- Incorporated Green Infrastructure into City Projects - Examples Below
- Site Review and Zoning Ordinance Revisions That Include Low-Impact Development Requirements

### Portsmouth's Stormwater Program: Green Infrastructure



Rain Barrel Program

Funded with ARRA money, the City was able to get a discount purchasing rain barrels and purchased 1,000 to sell to Portsmouth water customers at a discount. Not only do these barrels reduce stormwater runoff, they provide for reduced water demand during hot summer days.



Rain Garden at Portsmouth High School

The City has planted rain gardens throughout Portsmouth to help reduce rain runoff by allowing stormwater to soak into the ground. The plants take up excess water flowing into the rain garden. The water filters through soil layers before entering the groundwater system.



Tree Box Filter

This tree box filter was purchased and installed through a partnership with a local watershed group and the City's Department of Public Works. Tree box filters are mini water quality filters installed beneath trees to control runoff and in turn help irrigate the trees.



Recent Example: State Street Project

A commitment to a number of stormwater improvements helps from an aesthetic standpoint making stormwater infrastructure more attractive, while also helping the City comply with new, more stringent, stormwater regulations of the Clean Water Act.

Water/Sewer Billing  
Insert and Handout at  
Household Hazardous  
Waste Day

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# Picking Up Pet Waste = Cleaner Water



Handout with  
Dog Licenses -  
2019

## Why It's Important:

- ⦿ Dog waste can be contaminated and carry a number of different diseases including giardia, E. coli, salmonella, roundworms and tapeworms that can infect other dogs who come in contact with the contaminated waste
- ⦿ Contaminated dog waste can make its way into major waterways and pollute the water
- ⦿ Leaving your dog's waste creates an opportunity for someone to step in it
- ⦿ Forgotten waste emits an awful stench that will make spending time in the dog park unpleasant for others
- ⦿ Bugs, parasites and even rats are attracted to areas with forgotten dog waste. This contributes to the spread of parasites to other pets and possibly humans
- ⦿ Ordinance 9.401 Pooper Scooper Law requires you to clean up after your dog. Ordinance 9.402 results in a \$100.00 fine
- ⦿ Picking up your dog's waste is simply the right thing to do as a courtesy to other dogs, humans and the environment



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# Leaf Collection = Cleaner Water



**RAKE IT OR  
LEAVE IT**

WHAT TO DO WITH YOUR LEAVES AND GRASS CLIPPINGS

**WHY DOES IT MATTER?**      **WHAT YOU CAN DO:**

This graphic features a large white maple leaf shape in the center with the text 'RAKE IT OR LEAVE IT' in a serif font. Below the leaf, the text 'WHAT TO DO WITH YOUR LEAVES AND GRASS CLIPPINGS' is written in a smaller, sans-serif font. At the bottom, there are two columns of text: 'WHY DOES IT MATTER?' on the left and 'WHAT YOU CAN DO:' on the right. The background shows a residential street with autumn trees and a white house.



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# Public Participation Household Hazardous Waste Collection Day = Cleaner Water



PW

**PUBLIC WORKS TO HOST HOUSEHOLD HAZARDOUS  
WASTE DAY ON SATURDAY, OCTOBER 28TH**

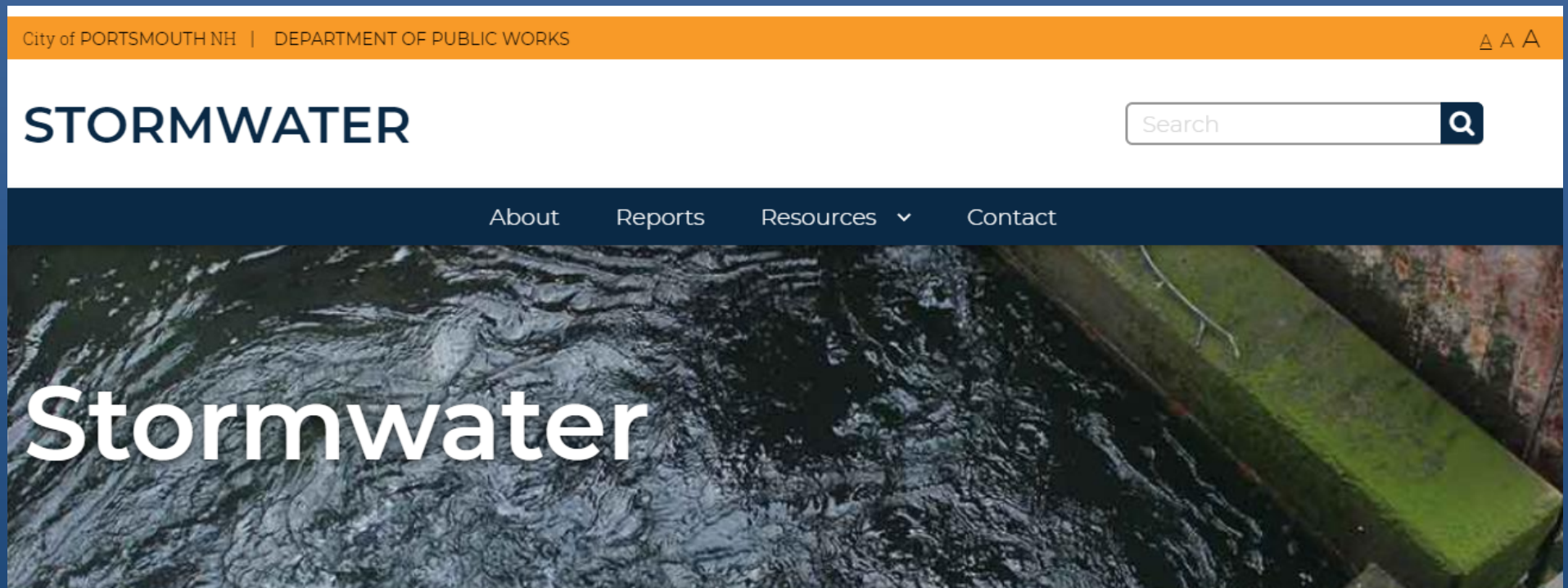
October 28, 2017



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# Continued Outreach = Cleaner Water Website Updates

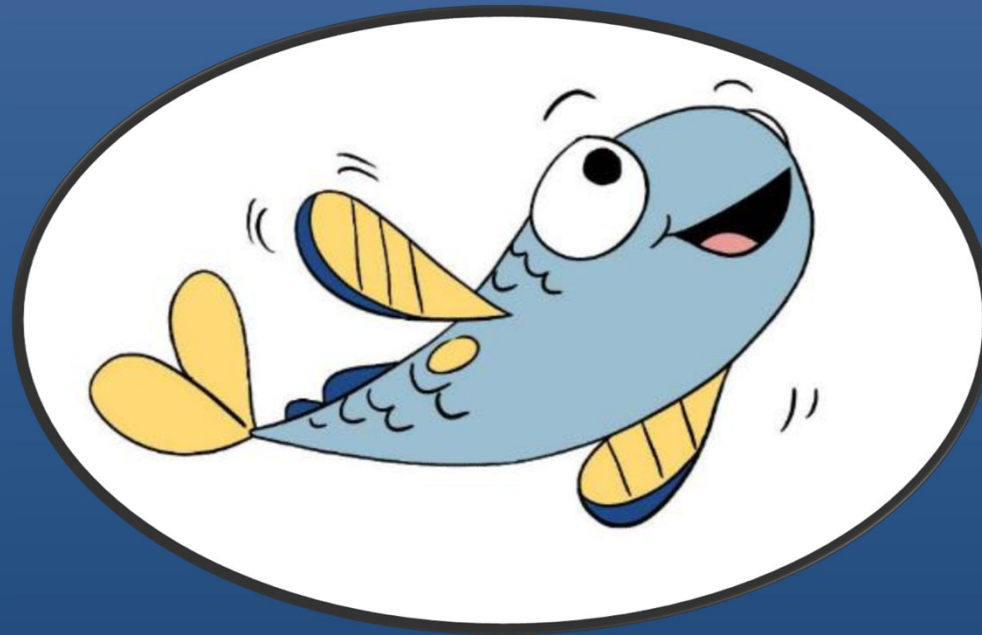


<https://www.cityofportsmouth.com/publicworks/stormwater>

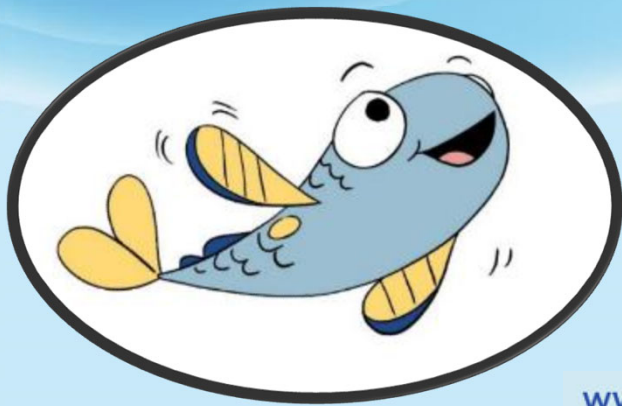
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Cleaner Water =  
Happy and Healthy Sea Life



*Blue*  
*The Happy Fish!*



Blue the Happy Fish  
Graphic by: Jane Almeida

City of Portsmouth  
Department of Public Works  
Stormwater Division

[www.cityofportsmouth.com/publicworks/stormwater](http://www.cityofportsmouth.com/publicworks/stormwater)

