

A photograph of a paved road curving through a wooded area. The road is on the left, and a drainage ditch runs along the right edge. The ditch contains some water and is lined with rocks and fallen leaves. The trees are mostly bare, suggesting a late autumn or winter setting. The text is overlaid in yellow on the image.

# **Acton Wakefield Watersheds Alliance**

## **Road Improvement Projects**

**Dustin Johnson – Program Manager**

**Protecting Your Lakes Workshop: Unique Tools to Protect and Restore Water Quality**

**June 1, 2013**

# Camp Roads and Lake Water Quality

Similar approach to urban roads

- Get the water off the road
- Into a ditch
- Into a waterbody

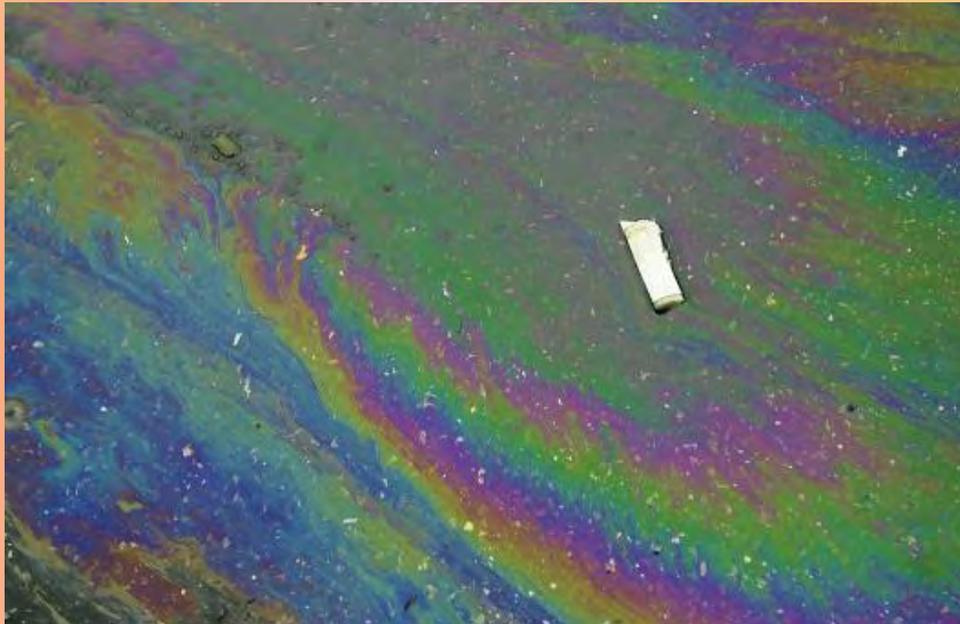
**“Out of sight...Out of mind”**



# Camp Roads and Lake Water Quality

## What is in the runoff?

- Tons of sediment
- Pounds and pounds of phosphorus
- Petroleum products
- Trash
- Dog poop
- Etc. etc. etc.



# A Perspective on Scale

## YCC Projects and Private Properties

- Attack many small scale erosion problems
- Cost ranges from a couple hundred to a thousand dollars
- Prevent
  - 0.5 – 5 tons of sediment/year
  - 0.4 – 4 pounds of phosphorus/year



## Road Fixes

- Stop large-scale erosion issues
- Cost tens of thousands of dollars
- Prevent
  - Up to and potentially over 100 tons of sediment/year
  - Similar phosphorus prevention

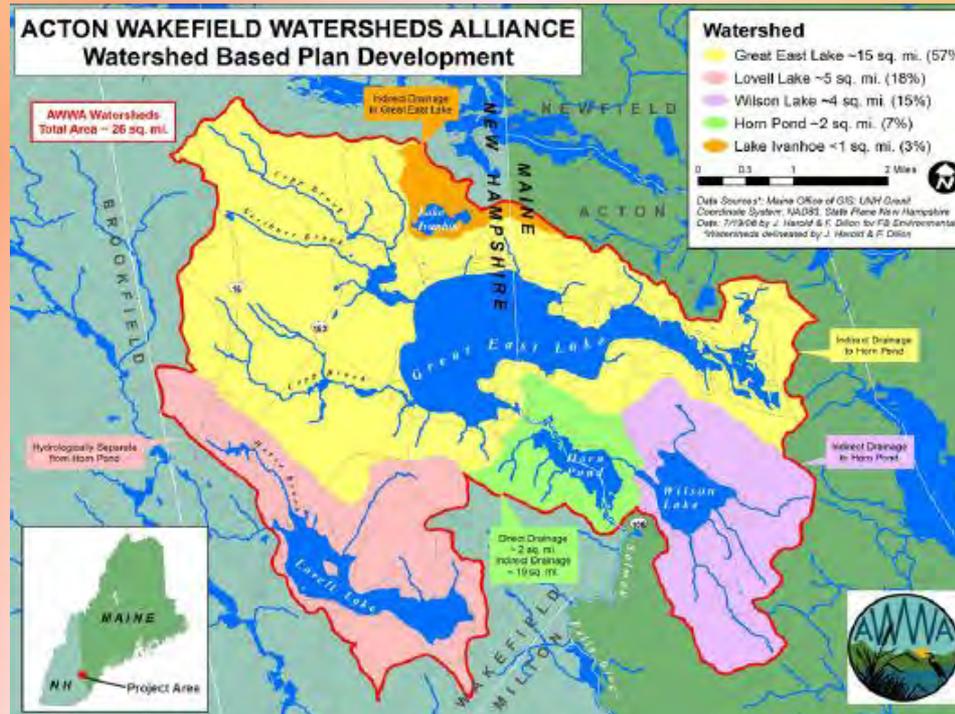
# Where to Begin!

The process to managing roads and fixing chronic erosion problems can start in several places.

Here is the AWWA story...

# Where to Begin!

In 2008, AWWA received a grant from the NH DES to develop the Salmon Falls Headwater Lakes Watershed Management Plan



**FB**  
environmental



# Where to Begin!

In 2008, AWWA received a grant from the NH DES to develop the Salmon Falls Headwater Lakes Watershed Management Plan

- Performed watershed surveys on 5 lakes to identify potential pollution sources
  - Identified 12 sites along town owned Brackett and Pond Roads on Lovell Lake
  - Identified numerous private gravel road issues on Great East and Wilson Lake in Acton, ME



# Continuing Momentum

In 2010, the NH DES awarded AWWA a grant to develop the Road Management Plan for Brackett and Pond Roads, Wakefield, NH

# Continuing Momentum

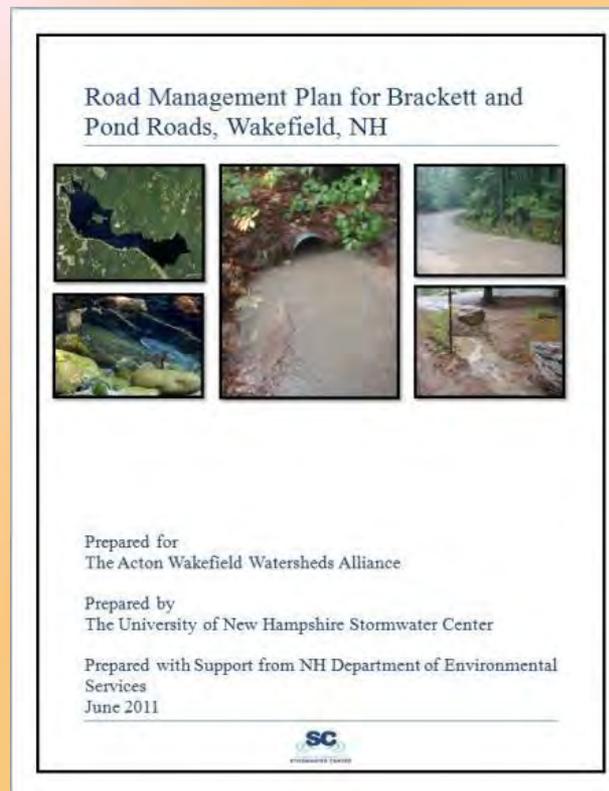
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- Partnered with the Town of Wakefield and the UNH Stormwater Center to develop a plan and make recommendations

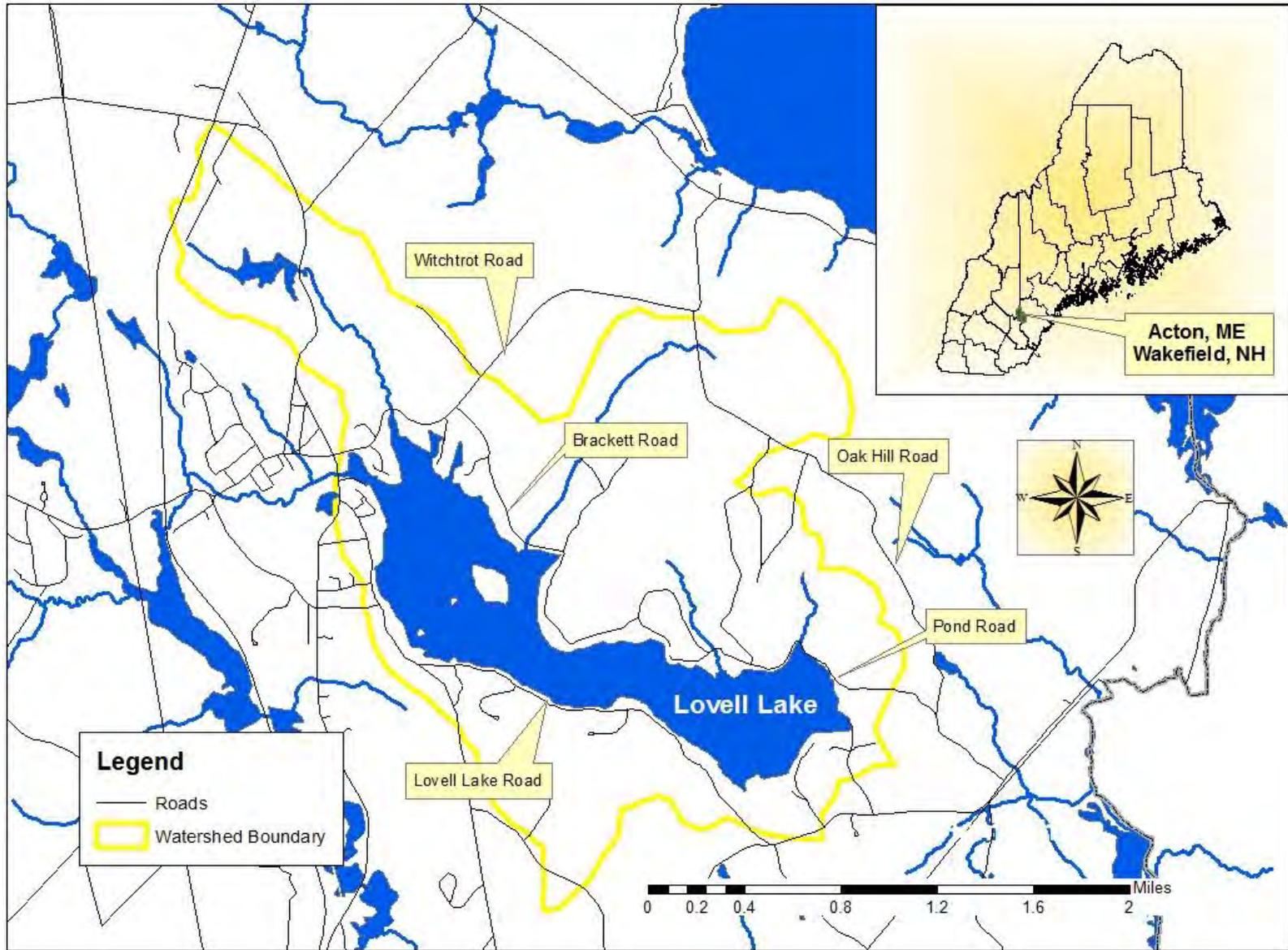
# Continuing Momentum

In 2010, the NH DES awarded AWWA a grant to develop the Road Management Plan for Brackett and Pond Roads, Wakefield, NH

- Partnered with the Town of Wakefield and the UNH Stormwater Center to develop a plan and make recommendations
- Steering committee included residents along the road, Wakefield DPW, NHDES, and UNHSC



# Lovell Lake

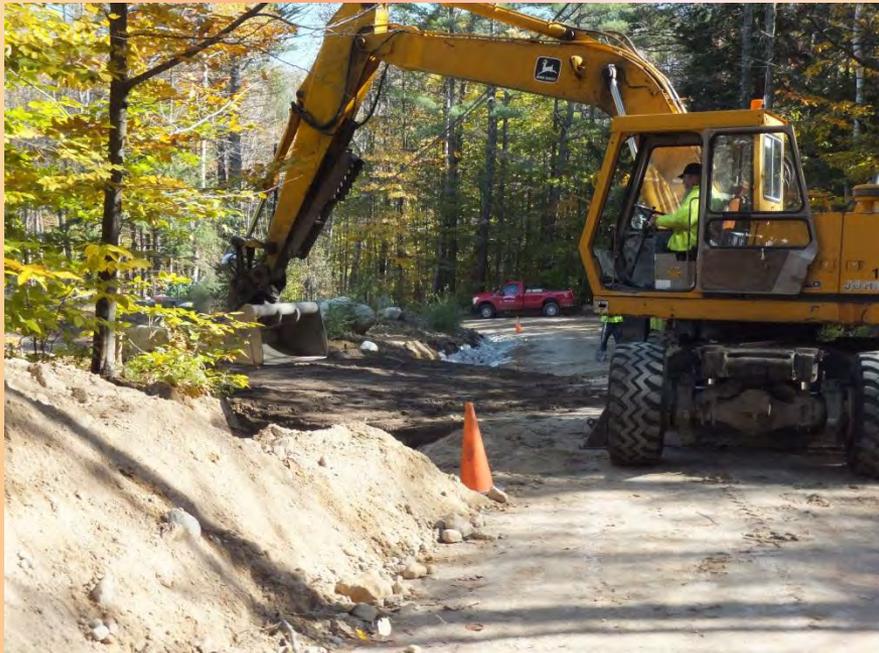


# Implementation

In 2012 AWWA was awarded an implementation grant from the NHDES to begin installation of erosion control solutions on 8 sites on Brackett and Pond Roads.

The Town of Wakefield provided match in the form of labor and equipment.

UNHSC oversight and materials were paid for by the grant.



# Implementation



# Implementation

To date, the Wakefield DPW and UNHSC have installed three fixes on Brackett Road and intend to complete at least 3 more this spring and fall.



# Implementation



# Implementation



# Implementation



# Implementation



Hurricane Sandy

# Wakefield DPW Honored

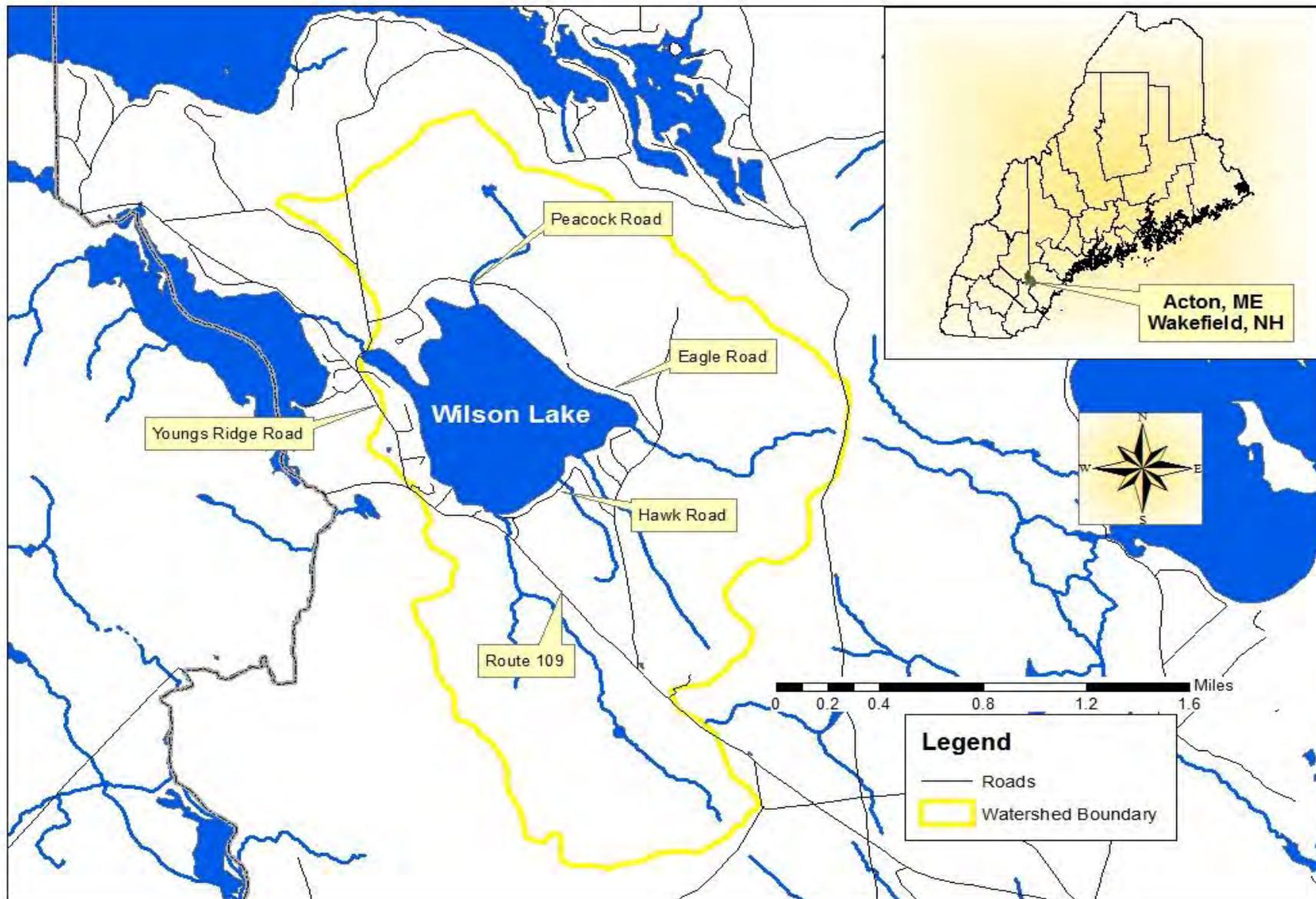


# Similar Work in Maine

In 2012, AWWA was awarded a MEDEP implementation grant to correct erosion control issues on Hawk and Eagle Roads on Wilson Lake and Langley Shores Drive and Abbot Road on Great East Lake.

- Partnered with the road associations and lake associations to fix extensive chronic issues on both lakes

# Wilson Lake



# Hawk Road - Armored Culvert Inlet



# Hawk Road - Armored Culvert Outlet w/ Detention



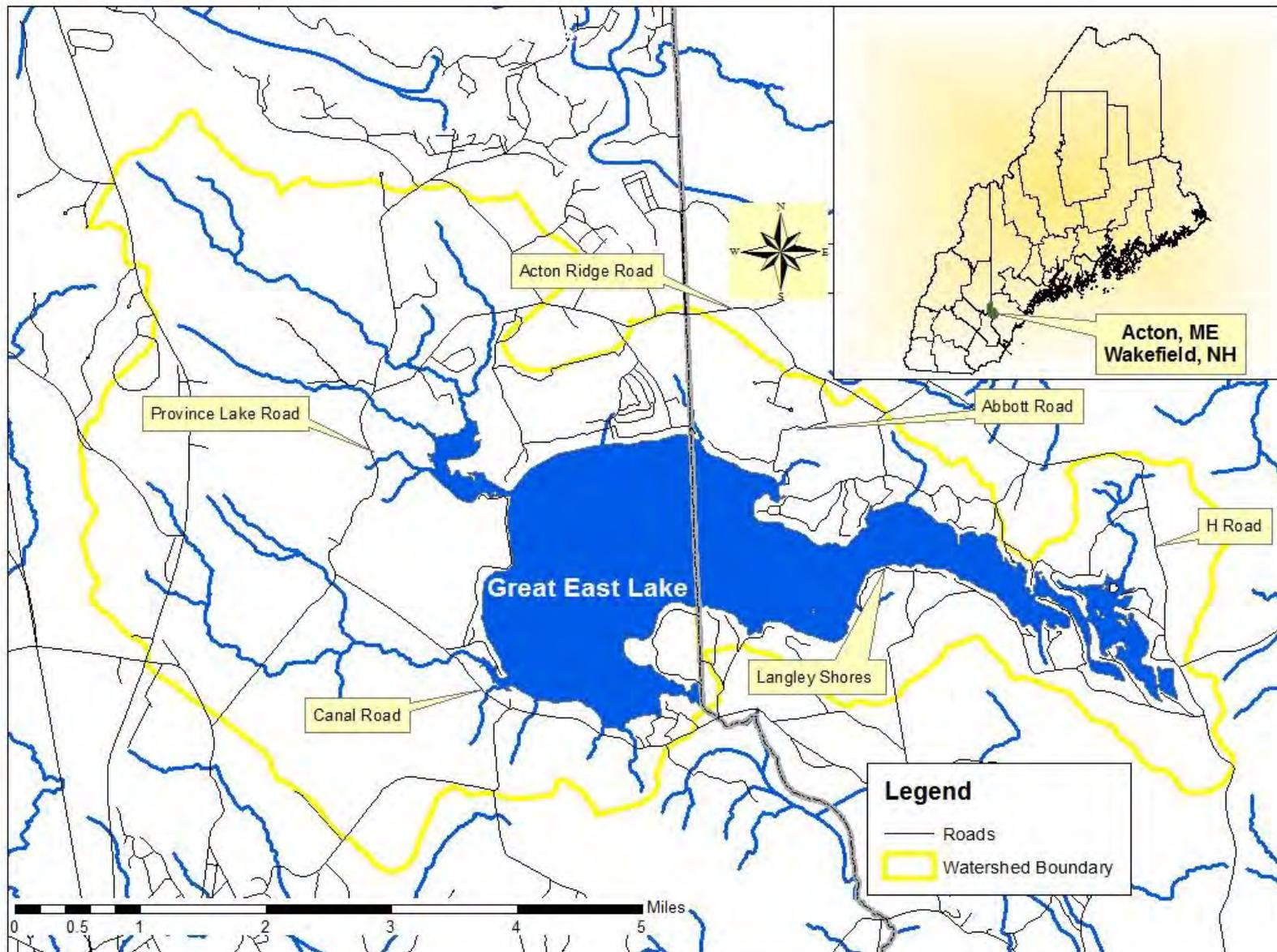
# Hawk Road - Detention Basin & Paving



# Hawk Road - Detention Basin & Paving



# Great East Lake



# Langley Shores Drive – Catch Basin



# Abbott Road – Rock Lined Ditches



# Abbott Road – Rock Lined Ditches



# Abbott Road – Armored Culverts



# Additional Benefits

- Partnership between private property owners and municipal departments
- Seeing tax dollars at work
- Engagement of private property owners and municipal departments
  - Identify Problems
  - Brainstorm Solutions
  - Partner in successes

# Questions?

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