



PROTECTING OUR WATERSHEDS

Factsheet #2 About the Eno River Watershed Improvement Project

WHAT PROGRESS HAS BEEN MADE ON THE WATERSHED PLAN?

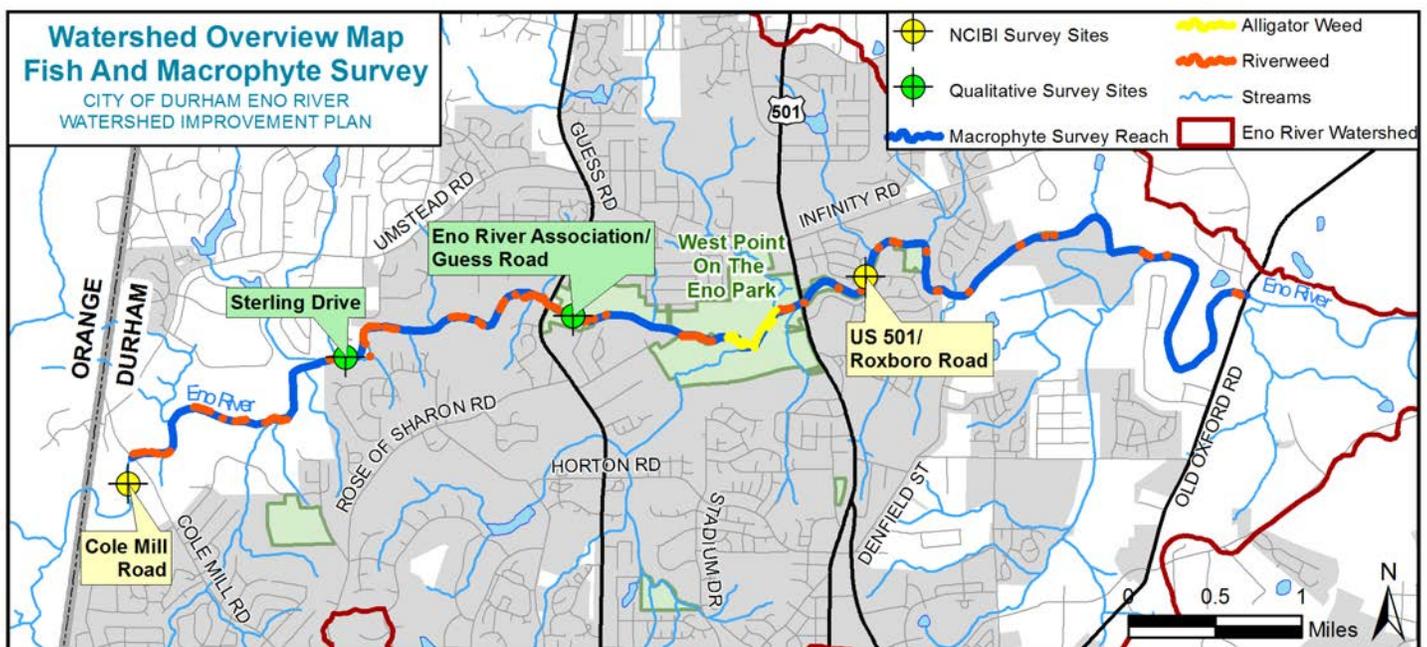
The Stormwater and GIS Services Division within the City of Durham’s Public Works Department is developing a Watershed Improvement Plan (WIP) to assess watershed health and identify water quality improvement projects in the Eno River watershed. This WIP is part of the City of Durham’s continued efforts to improve the health of our creeks, protect our regional water supply, and comply with water quality regulations. As part of this effort, the City has completed an assessment of watershed health looking at existing and projected future land use conditions. Scientists and engineers visited and inspected stormwater control measures, walked along the Eno River and its tributaries to examine their health, evaluated existing water quality data, and completed fish and plant surveys on the Eno River.

WHAT DO WE KNOW ABOUT WATER QUALITY IN THE ENO RIVER?

Based on the analysis of the water data collected since 2004, the Eno River is in good condition overall. Nitrogen and phosphorus concentrations are a concern downstream in Falls Lake, but remain consistently low and are not considered to be a problem in the Eno River watershed. Water quality concerns include elevated fecal coliform bacteria concentrations in Warren Creek and Crooked Run Creek and low dissolved oxygen levels in Warren Creek. Though no sections of the Eno River or its tributaries within the City are designated by the State as “impaired”, the degraded water quality in Warren Creek and Crooked Run Creek provide the City with areas to focus water quality improvement projects.

WHAT DO WE KNOW ABOUT AQUATIC PLANTS AND ANIMALS IN THE ENO RIVER?

Biologists conducted fish surveys at four sites on the Eno River to document the amount and type of fish species present. Habitat assessments were also completed at two sites. The fish surveys indicate high quality habitat and healthy fish communities are present in the Eno River. Four of the species observed during these surveys are included on the 2016 North Carolina Natural Heritage Program rare animal list.



Aquatic plant and fish survey locations along the Eno River.



Eno Watershed
webpage on City
of Durham site



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Left: EXCELLENT habitat in the Eno River supports a diversity of fish species. Right: White Shiner Fish's Spawning Colors

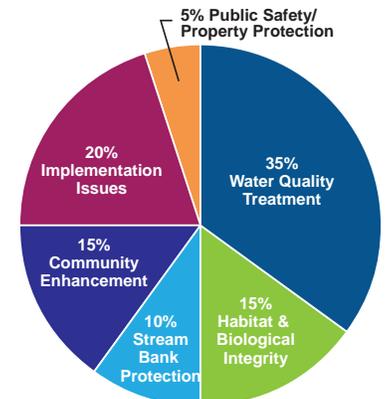
Biologists surveyed approximately 10 miles of the Eno River for four aquatic plant species. Riverweed is a native species that provides good habitat for both fish and aquatic bugs. Three of the species, hydrilla, parrot feather and alligator weed are invasive species which can out-compete native species. Survey results indicate that the number of riverweed beds increased between 2013 and 2016; however, the total linear coverage decreased. Biologists did not document any hydrilla or parrot feather, but did document the presence of alligator weed.



HOW WILL THE CITY DETERMINE THE MOST EFFECTIVE PROJECTS?

Field assessments were used to identify 41 existing stormwater control measures that may be modified to improve water quality. They also identified 25 new stormwater stormwater control measures and 35 stream projects. These projects will be evaluated for water quality and other benefits. Previous watershed plans have used methodologies to rank the potential projects using several environmental and economic criteria, such as:

- 1. Water Quality Treatment** – the pollutant removal and cost effectiveness of a potential project.
- 2. Habitat and Biological Integrity** – the benefit that a potential project can have on the ecological function of a stream and its ability to support aquatic life.
- 3. Stream Bank Protection** – the ability of a potential project to reduce erosion of stream banks during high flows.
- 4. Community Enhancement** – the benefits a potential project has on the surrounding community.
- 5. Implementation Issues** – the difficulty and cost with implementing a potential project.
- 6. Public Safety and Public Property Considerations** – the amount of flood protection or reduction a potential project can have on public streets and property.



Existing Ranking Criteria of Environmental and Economic Factors

WHAT ARE THE NEXT STEPS?

Now that the watershed assessment is complete and several measures that can improve water quality have been identified, the next steps of the project include:

1. Use computer models to evaluate a series of watershed scenarios to determine the most effective water quality improvement projects.
2. Evaluate and prioritize each potential water quality improvement project or measure using the above criteria.
3. Prepare a draft Watershed Improvement Plan for review and feedback from Durham residents.

More information on the Eno River Watershed Improvement Plan can be found on the City of Durham website: <https://durhamnc.gov/2890>. You can also join the discussion on Facebook (www.facebook.com/durhamncstormwater) and Twitter ([@durhamstormH2O](https://twitter.com/durhamstormH2O))!

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