

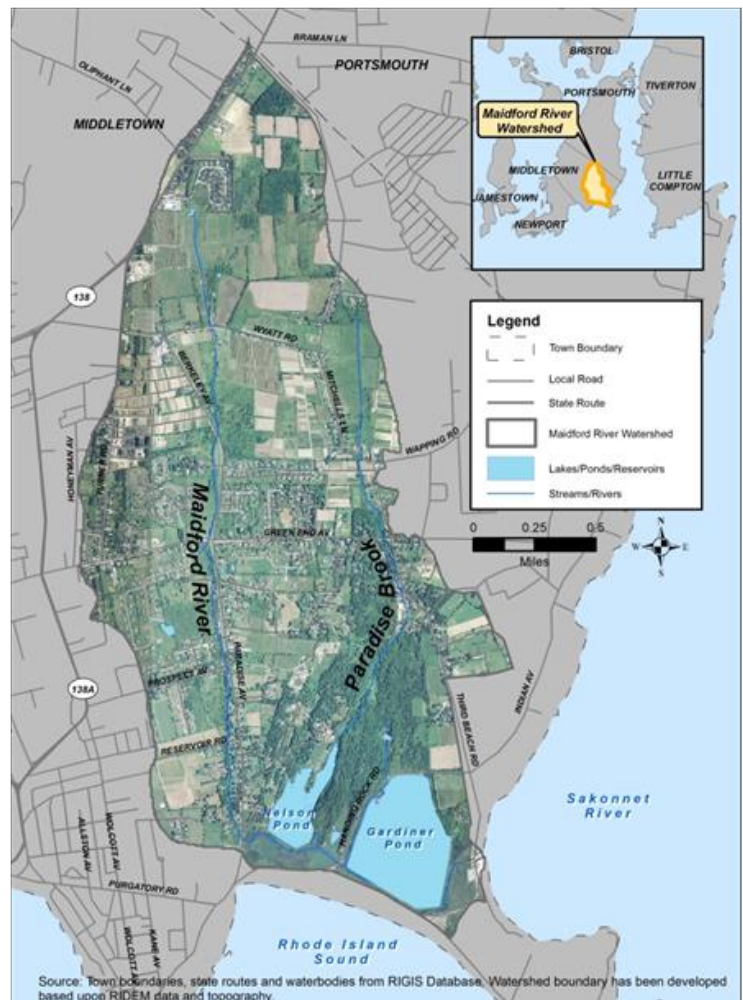
# Maidford River

## Restoration Project

The Maidford River is the primary source of water to Nelson Pond and Gardiner Pond, which are part of the drinking water supply for Aquidneck Island.

The quality of the water in the Maidford River is currently impacted by several forms of pollution, including bacteria, nitrogen, phosphorus, and suspended solids. Nitrogen and phosphorus pollution – also known as “nutrient” pollution – can create algal blooms, including blooms of potentially toxic cyanobacteria. Both Nelson and Gardiner Ponds, as well as most other of Aquidneck Island’s drinking water sources, experience algal and cyanobacteria blooms. (Treatment ensures the water is safe to drink.) Sources of nutrient pollution include agriculture, and runoff from lawns, roads, and parking lots. Tests have also found high bacteria levels that may contribute to beach closures at Third Beach.

Flooding is the most visible issue. It's a problem long in the making due to increased runoff from development, straightening of the river, and culverts (which carry the river under roads) that are no longer big enough to carry the river’s flow. Adding to the problem is the more frequent intense rain storms, and reduced natural floodplain to absorb the water. Flooding of roads, fields, and lawns is a public health and safety concern; it also causes erosion and significantly increases pollution in the river.



## Floodplain Restoration

Recent studies recommended potential solutions to these problems in the Maidford River watershed. The goal of these solutions is to reduce flooding and improve water quality. These include retrofitting existing drainage swales and areas that capture polluted road runoff, planting tree filters, planting native vegetation along the river (buffer), preserving existing river buffers and improving fertilizer management. Middletown has already constructed several of the recommended solutions.

These studies also proposed a two-part project to restore the floodplain in the upper Maidford watershed. The first part of the project will involve recreating historical meanders in the river. The second part will restore and protect river buffers along the length of the river. Floodplain restoration projects are a highly effective strategy for reducing flooding, and increasing resilience due to the impacts of more intense rain events

## PHASE I – BERKELEY AVENUE AT MAIDFORD RIVER TO GREEN END AVENUE (SEE MAPS NEXT PAGE)

This portion of the project would include re-aligning the river away from Berkeley Avenue and adding meanders to the river to improve flood storage capacity. The project would also include upgrading the culvert at Whitehall Lane/Berkeley

Avenue Extension, which is too small and makes flooding worse in the area. Lastly, the project would include grading the land and planting native trees and shrubs to restore natural river buffers, also known as riparian buffers.



## PHASE II – WYATT ROAD TO BERKELEY AVENUE AT MAIDFORD RIVER (SEE MAPS NEXT PAGE)

This portion of the project would include re-aligning the river and adding meanders to the river for additional floodplain storage. Similar to Phase I, enhancements would also be made to the river buffer, primarily in the northern portion of the project.

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## Implementation Plan

Both Phases I and II will have similar paths to implementation, while the timing may differ given the overall cost, location, and properties involved in each phase. The first step for each phase is to meet with affected property owners to explain the project in detail, and to seek written permission from the owners to undertake field assessments. The assessments will be used to gather information and further evaluate the project's feasibility. No site inspections or other work will be undertaken without written permission from property owners. Ideally, field assessments will begin in Spring 2020, and be completed within four to six months. After conducting field assessments, a more detailed plan will be developed. At this point, meetings will be held with affected property owners to explain the proposed project in detail, and to seek permission to proceed with the project. Once written permission or property rights have been secured, with the endorsement of the Middletown Town Council, project partners would then work with the town and regulatory agencies, including the Rhode Island Department of Environmental Management (RIDEM) and the Army Corps of Engineers, to secure necessary permits required for the project. It is likely the permitting process could take a year or more depending on the complexity of the permits required. Once permitting is complete and funding for the project is secured, construction would begin.

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## Project Funding

Consultant services to further evaluate the feasibility of the Maidford River Restoration Project are being provided (at no cost to affected property owners or Middletown taxpayers) as a pilot project of the newly formed Southeast New England Watershed Network, funded by a US EPA grant. The Watershed Network was formed to provide assistance to Southeast New England communities to advance stormwater management and ecological restoration, and develop sustainable revenue streams to support these efforts into the future. Network partners are working closely with Middletown and the Aquidneck Land Trust, to hire consultants to undertake necessary field work and detailed engineering analyses to evaluate the project's feasibility, and if found feasible, to advance planning and the preparation of permits.