



THREATS ADDRESSED

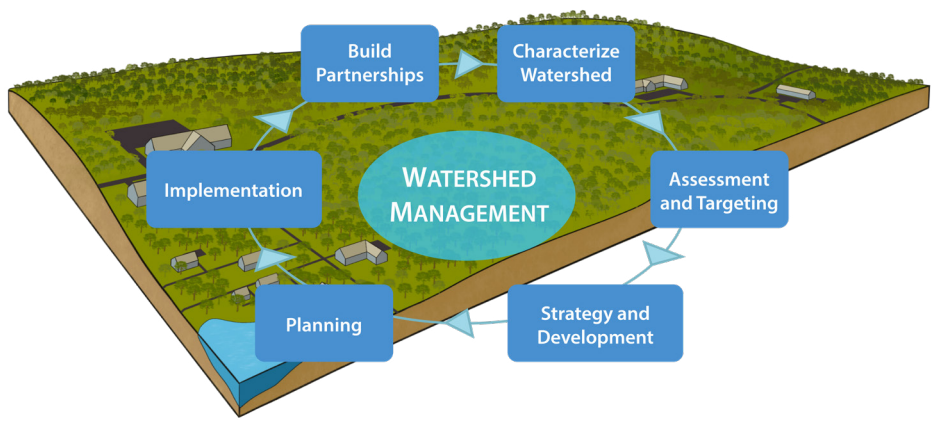
- Excess Nutrients
- Pollutant Inputs
- Algal Blooms
- Erosion
- Invasive/Nuisance Species

STRATEGY GOALS

- Protect
- Manage
- Rehabilitate

STRATEGY CO-BENEFITS

- Habitat (Neutral)
- Aesthetics (Neutral)
- Recreation (Neutral)



- Permittable in Massachusetts**
Watershed Plans and Permits require local and MassDEP approval and must be deemed consistent with Cape Cod's 208 Plan. List of potential permits available [here](#).
- Implemented on Cape Cod**
See examples of pond projects implemented on Cape Cod [here](#).
- Listed in 208 Plan Technologies Matrix**
Learn more about the nutrient management strategies in the Tech Matrix [here](#).
- Can be Performed at Homeowner Scale**
- Nature-based Solution**

DURATION OF BENEFITS

- Less than one month
- One season or year
- Multiple seasons or years

MAINTENANCE REQUIREMENTS

- Monthly
- Annually
- Infrequent

DESCRIPTION

A Watershed Based Plan (WBP) is developed by convening stakeholders and building local partnerships to understand and address freshwater ponds in the context of the larger watershed. It provides a framework for managing efforts to restore water quality in degraded areas and protect overall watershed health. WBPs identify broad goals and objectives, describe environmental problems, outline alternatives for restoration, management and protection, and document where, how and by whom actions will be evaluated, selected and implemented. A WBP is required for towns to be eligible for MassDEP grants and may be the basis for a MassDEP Watershed Permit that establishes performance standards, authorized activities, and the time frames to meet water quality and habitat restoration goals. A Watershed Permit is a 20-year permit which utilizes an adaptive management approach, requiring permittees to monitor, evaluate and report results, and adjust and modify the strategies and practices as needed to address conditions that are causing water quality impairments.

ADVANTAGES

- Comprehensive planning has the potential to address all or most adverse impacts to freshwater ponds throughout a watershed
- Watershed management designed to protect healthy ponds may be effective, especially for small watersheds that do not exceed about 10x the pond's surface area, where significant areas remain undeveloped

CONSTRAINTS

- Depending on how different waterbodies and problems are addressed in the plan, freshwater ponds and threats to ponds may not be prioritized
- Watersheds may cross jurisdictional boundaries, and all towns within the watershed need to be engaged and committed
- Watershed management alone is too often insufficient or unreliable for mitigating existing impairments in ponds



IMPLEMENTATION

POTENTIAL ACTORS

- Towns:** In general, Towns develop watershed plans in collaboration with local stakeholders
- Pond Groups:** May propose or support watershed planning
- Private Landowners:** May propose or support watershed planning
- Land Trusts:** May propose or support watershed planning

SITING REQUIREMENTS

- All ponds within a pond watershed
- For a MassDEP Watershed Permit, all ponds within a Natural Resource Area Nitrogen Sensitive Area

INFORMATION NEEDS

- Identification of stakeholders and partners
- Watershed delineation and characterization
- Identification of causes and sources of pollution
- Quantification of pollutant load and load reductions needed
- Develop management measures and implementation program
- Adaptive management plan

IMPLEMENTATION EXAMPLES

The [Pleasant Bay Watershed Plan and Permit](#) were developed to help the towns of Orleans, Chatham, Harwich, and Brewster meet nitrogen reduction targets in Pleasant Bay. The plan includes traditional and non-traditional nitrogen removal strategies. The permit outlines individual and collective steps for the Towns.

The Town of Brewster and partners prepared a [Namskaket Creek / Little Namskaket Creek Watershed Based Plan](#) focused on protecting and improving water quality in the estuary and the six freshwater ponds within the watershed.

The Mashpee Wampanoag Tribe, Town of Mashpee, and partners prepared the [Santuit Pond Watershed Based Plan](#) focused on the control of phosphorus within Santuit Pond and its associated watershed.

RESOURCES

- The U.S. Environmental Protection Agency has [Resources for Watershed Planning](#) to help communities develop and implement watershed plans to meet water quality standards and protect water resources
- MassDEP also has [Watershed-Based Plan Information](#) to help communities develop plans to address water quality problems in impaired waters and protect water quality in healthy waters.
- The Massachusetts Department of Conservation and Recreation's [Lakes and Ponds Program](#) provides related resources.

COST ESTIMATE

Variable

Variable depending on scope



ADDITIONAL FINANCIAL CONSIDERATIONS

Assessment: Planning and information gathering including researching and mapping watershed characteristics

Implementation: Public process including presenting at meetings, developing and posting informational materials, and implementing plan/permit

Maintenance: Information will need to be kept up-to-date and plan goals or permit conditions met



POTENTIAL FUNDING SOURCES

- Community Preservation Act
- Capital Budget
- Grants

Additional information regarding potential funding sources is available [here](#).