



View of BMP water treatment feature W. Young

view east along the restored shoreline June 2019 M. McHugh

Overview

Sylvan lake is one of a series nine "coastal lakes" which historically discharged into the Atlantic Ocean. Along a strip of Monmouth County, NJ, these lakes form the boundaries of the towns. Sylvan Lake divides Avon on the south with Bradley Beach to the north. A valve is shut to the ocean, so the lake has reverted to freshwater. The town of Avon bid this project to convert hard retaining wall to natural living shoreline.

Project Details

Lead Entity:

SumCo Eco-Contracting

Lead entity types:

- Private Sector

Partner Organizations:

SumCo partnered with The Dawson Corporation on this project.

Adaptive management

Describe adaptive management processes and mid-course corrections taken to address unforeseen challenges and improve outcomes in each of the following categories:

Other:

Living shoreline better than hard wall. Better to install the outer toe (biolog) prior to grading to capture all loose earth and create new wider littoral shelf.

State of Progress:

- Closed/completed, no further follow-up

Project Start:

2019-03-01

Project End:

2019-07-01

Global Regions:

- Americas
- Northern America
- World

Countries:

- United States of America

Ecosystem Functional Groups / Biomes:

- Lakes biome

Extent of project:

- Other

Extent of restoration:

- Other

Degradations:

- Contamination (biological, chemical, physical or radiological)
- Drainage and hydrologic changes
- Urbanization, Transportation & Industry

Description:

The lake is degraded by poor water quality. The entire watershed upstream discharges into the lake, which acts as a "forebay" to capture sediments and contaminants. Since the discharge to the ocean is closed, all the pollutants are confined in the lake. Development in the watershed has added more impervious cover, more runoff, and more pollution. Some years ago, the town installed two aerating fountains. The fountains improve water quality, but our 368 meters of living shoreline provide superior water quality improvements.

Planning and Review**Goals and Objectives****Was a baseline assessment conducted:**

unsure

Was a reference model used:

OTHER

Other reference models used::

The reference ecosystem is primarily based on <u>historical information</u> about ecological attributes at the site prior to degradation.

were_goals_identified:

YES

Goals and objectives:

- Other

Goals Description::

Ecological goals: improve habitat, improve water quality function. socio-economic: the project provided public access for kayak/canoe launch, and better recreational asset with improved fishery.

Stakeholder Engagement

Were Stakeholders engaged?:

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Description of Stakeholder Involvement:

Town of Avon-by-the-Sea Sylvan Lake Commission American Littoral Society

Ecosystem Activities and Approaches

1) eliminate existing threats to the ecosystem: Remove wooden and stone retaining walls along project shoreline. Remove all threats of erosion/sediment Capture runoff in treatment train prior to discharge Remove dense stand of Japanese knotweed 2) reinstate appropriate physical conditions (e.g. hydrology, substrate): Biologs were added to extend the shoreline and provide more aquatic bench habitat. 3) achieve a desirable species composition : A wealth of species were deployed for each band of wetland/lake edge. All shrubs were wetland indicators such as Buttonbush, Silky dogwood, Winterberry holly, and Bayberry. Aquatics include Pickerelweed, Duck potato, Softstem bulrush, Soft rush, Lizard tail, Spatterdock, and White water lily. 6) reestablish external exchanges with the surrounding landscape (e.g. migration, gene flow, hydrology): All point sources were intercepted at point of discharge and routed to a treatment train with some detention, and then discharge. What activities were undertaken to address any socio-economic aspects of the project?: Public access was provided for recreation activities.

Project Outcomes

Recover ecosystem functionality: the living shoreline improved water quality. Monitoring data is forthcoming, but anecdotally there is improvement. Factors limiting recovery of the ecosystem: Complete build out of the watershed contributing to the lake.

Monitoring and Data Sharing**Does the project have a defined monitoring plan?:**

NO

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Long Term Management**STAPER****Assessment of opportunities for ecosystem restoration:**

- A3. Involve all relevant stakeholders
- A6. Identify options to reduce the drivers biodiversity loss and ecosystem degradation

Planning and implementation of ecosystem restoration activities:

- C5. Implement the measures

Monitoring, evaluation, feedback, and disseminating results:

- D2. Adjust plans, expectations, procedures, and monitoring through adaptive management