Lake Howell Nutrient Budget Study and Management Plan

PROJECT DESCRIPTION

Seminole County Watershed Management Division (SCWMD) engaged Applied Ecology, Inc. (AEI) to conduct a study of hydrologic and nutrient budget inputs to Lake Howell and develop a restoration plan including recommendations for Best Management Practices (BMPs) to achieve regulatory compliance and improve recreational uses. This ongoing effort includes an extensive review of existing data and studies of the lake and contributing watershed, a combination of water quality, flow, and sediment field monitoring tasks, development of nutrient loading estimates from temporal analyses of nutrient loading and development of conceptual BMPs for lake restoration.

OUTCOMES

This project is currently underway with the goal of providing SCWMD with an accurate and reliable management plan and constructible projects that will create long-term restoration for Lake Howell. The SAP was developed and is being implemented to include external hydrologic and nutrient inputs and internal inputs.

Data from previous studies will be incorporated to develop a hydrological and nutrient budget for the lake. Watershed loading estimates will be developed based on land use, topography, soils, stormwater treatment areas, impervious areas, and rainfall. Loads will be mapped using high resolution spatial grids to determine nutrient contributing hotspots. The results will be used to guide the development of conceptual BMPs with nutrient reduction and cost estimates to continue to restore water quality and biology of the lake and comply with FDEP 4e requirements. The final report will guide SCWMD management and restoration of Lake Howell to the benefit of current and future residents and guests of the region.

PROJECT DETAILS

PROJECT CLIENT:
Seminole County Watershed Management Division

PROJECT LOCATION:
Casselberry, FL

SERVICE LINE AREAS:
- Environmental Compliance
- Engineering & Water Resources
- Ecological Services

EXPERTISE:
- Water Quality Monitoring
- Sediment Sampling
- Sediment P-Flux Analysis
- Pollutant Load Modeling
- BMP Development
- Lake Restoration