Massachusetts Department of Conservation and Recreation

Ponkapoag Golf Course
Water Supply Development and Ecological Monitoring
Canton, Massachusetts

The Ponkapoag Golf Course, a Donald Ross designed course owned and operated by the Department of Conservation and Recreation (DCR) (formerly the Metropolitan District Commission), withdraws water from Ponkapoag Brook to supplement its irrigation needs. The brook is fed by Ponkapoag Pond, which supports an Atlantic White Cedar swamp and quaking sphagnum bog that is a National Natural Landmark utilized by five state-listed insect species. To avoid potential impacts of proposed additional water withdrawals, the Division of Urban Parks and Recreation is conducting an extensive, multi-year hydrologic and rare species monitoring program.

ESS Group, Inc. performs semimonthly measurements of groundwater piezometers and stream staff gauges installed within the bog and pond, as well as streamflow from the outlet of the pond, in order to assess hydraulic connectivity in the system. In addition, ESS surveys the bog for rare insects and evaluates long-term vegetation monitoring plots and soil and sediment profiles in the wetland system. ESS continues to provide regulatory support and management recommendations based on the data collected.

Ponkapoag Golf Course plans to supplement water for irrigation needs through the development of new groundwater withdrawal locations on the site. ESS performed a field hydrogeologic investigation to identify candidate locations for groundwater withdrawals that would meet the irrigation needs of this 36-hole golf course facility. Monitoring wells were installed and short-term aquifer yield tests were performed to obtain hydrogeologic data used to evaluate the transmissivity of the aquifer sediments and potential yields of wells at each of the candidate sites. ESS developed hydrologic models of the potential irrigation well withdrawal scenarios.

Relevant Services Include:

- Vegetative Cover Type Mapping
- Water Level Management and Monitoring Program
- Rare Species Surveys
- Ecological Studies
- Sediment Profile Characterization
- Data Analysis and Reporting
- Geographic Information Systems (GIS) Mapping
- Hydrogeologic Investigations
- Hydrologic Modeling of Potential Well Locations