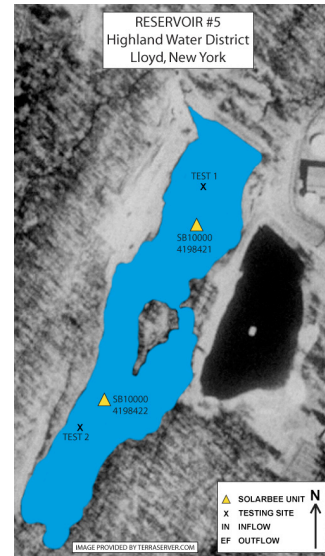


Key words: RW reservoir, blue-green algae, taste and odor, submersed macrophytes, water clarity



Photos: SolarBee in reservoir; aerial photo shows SolarBee locations.

Reservoir or Lake Use: One of five raw water reservoirs managed by the local water district that supply the town with drinking water.



System Overview and Reservoir Data: Surface area is 7.5 acres; volume is 1.4 MG; maximum depth is 15 feet when full; average depth is 7 feet. The lake is relatively long and narrow with an island in the middle.

Reported Problem Before SolarBee Installation: The reservoir had been plagued with Eurasian watermilfoil (EWM) infestations (too thick to get an oar through) and blue-green algae blooms for at least 20 years. It could not be used for drinking water due to taste and odor problems associated with blue-green algae blooms and organic buildup at the sediment layer. Water quality was unsuitable even when mixed at a 1:20 ratio with water from other reservoirs.

SolarBee Installation: Date: July 2002. Two SolarBee SB10000 solar-powered units, one installed at each end of the lake with the island in between; intake hoses were set at 7 ft and 7.5 ft. Installers reported a thick crop of EWM growing throughout reservoir.

Results: By January 2003, owner reported significantly improved water clarity and the ability to use water from the reservoir for first time. By June 2003, owner was able to maximize the use of reservoir water, with EWM growth dramatically reduced for first time in memory. Water quality remained excellent throughout 2003 without EWM infestations. By August 2004, EWM was found only in isolated traces in protected areas, and remaining plants had a sickly, yellowish look consistent with nitrogen deficiency (EWM uses ammonia-N rather than nitrate-N, and SolarBee circulation apparently promotes the removal of ammonia from surface sediments through oxidation and transport). Operator stated that water quality improved even further in 2004 than observed in 2003, and by 2006 water clarity had increased to 9 ft. Furthermore, EWM growth continues to be kept under control – in contrast to neighboring lakes with persistently high EWM infestations. The operator is very pleased with the consistently good water quality resulting from SolarBee-induced circulation.

Last updated: 4-20-07