



# Otsego Lake Water Quality

## Biological Field Station Monitoring



Otsego Lake monitoring is conducted bi-weekly during the summer months at the deepest part of the lake ("TR<sub>4</sub>C"). ✨

### TRANSPARENCY – SECCHI DISK



secchi disk

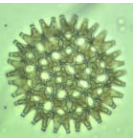
U of Wisconsin-Extension  
WI Dept of Natural Resources

Transparency is measured by lowering a Secchi Disk to the depth at which it disappears. This information is useful in assessing general clarity issues over time, and correlates strongly with algal population dynamics.

### WATER QUALITY PROFILES

Dissolved oxygen, temperature, pH, and conductivity are collected in profile at TR<sub>4</sub>C. Readings are recorded at regular intervals from the surface to the bottom. Dissolved oxygen is necessary for most organisms in Otsego Lake, and can limit available habitats for sensitive fish if concentrations drop below critical levels.

### ALGAE COMMUNITY



Algal populations are assessed by analyzing the concentration of chlorophyll *a* in a water sample. Chlorophyll *a* is a common pigment used by algae in photosynthesis & provides an estimate of algal standing crop, or mass of living cells.

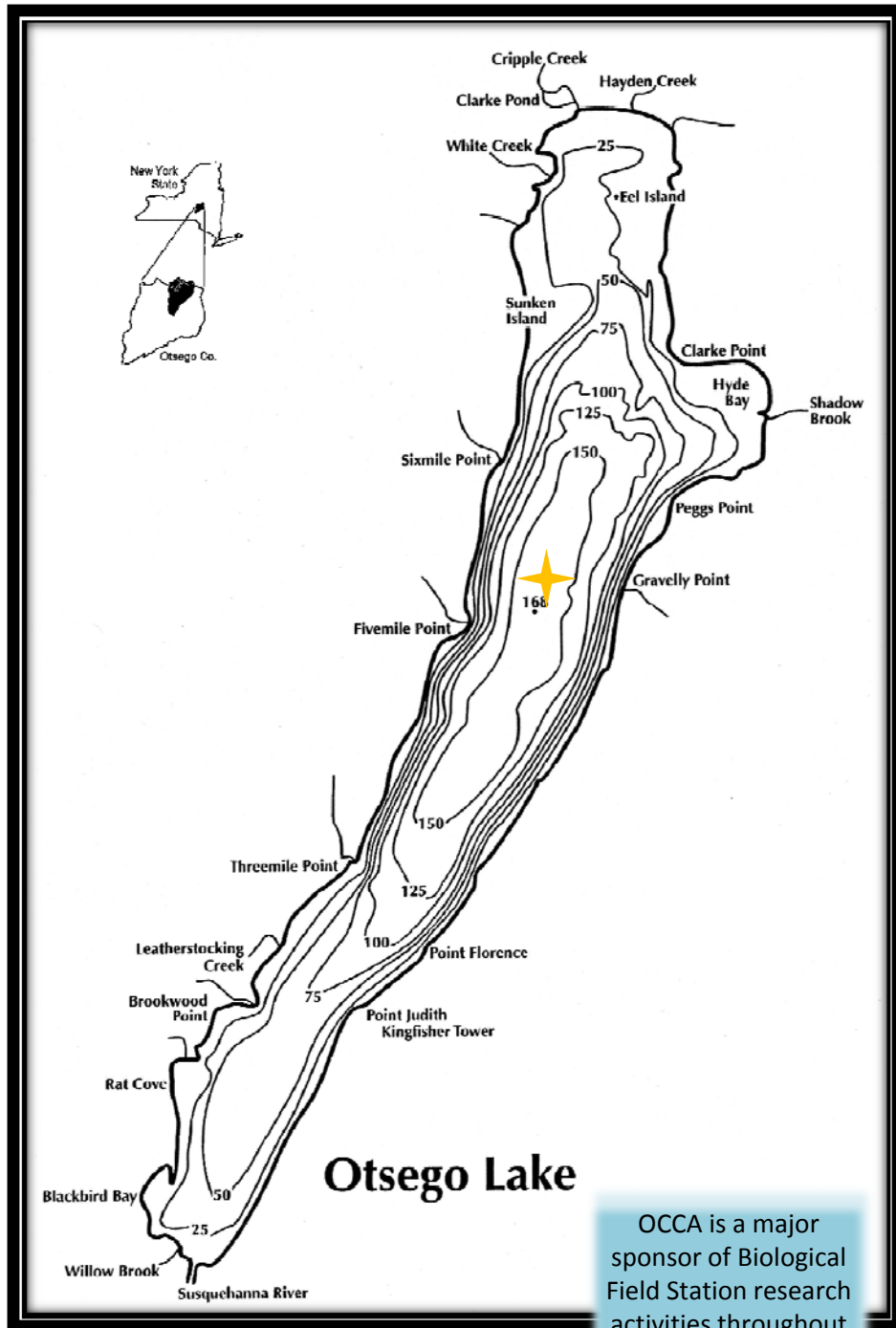
### ZOOPLANKTON COMMUNITY



Zooplankton are microscopic crustaceans, rotifers and mussel larvae that graze on algae in open waters. Samples are collected with a small-mesh net, and individuals are identified to assess species diversity and abundance.

### NUTRIENT & ION CONCENTRATIONS

Water samples are collected at 4-meter intervals and analyzed for nutrients and major ion concentrations. Total phosphorus, nitrates, ammonia, and total nitrogen concentrations are used to assess nutrient cycling within the lake. Chlorides can be used to indicate salt runoff from roads, wastewater, and other watershed-derived salts. Alkalinity measures the ability of water to resist pH change (as from acid rain). Calcium can influence the types of organisms that are apt to thrive in a body of water; for example, zebra mussels are able to thrive in calcium-rich waters.



OCCA is a major sponsor of Biological Field Station research activities throughout Otsego County. The generous support of The Clark Foundation, OCCA and other donors allows the BFS to continue to monitor the state of Otsego County's natural resources.