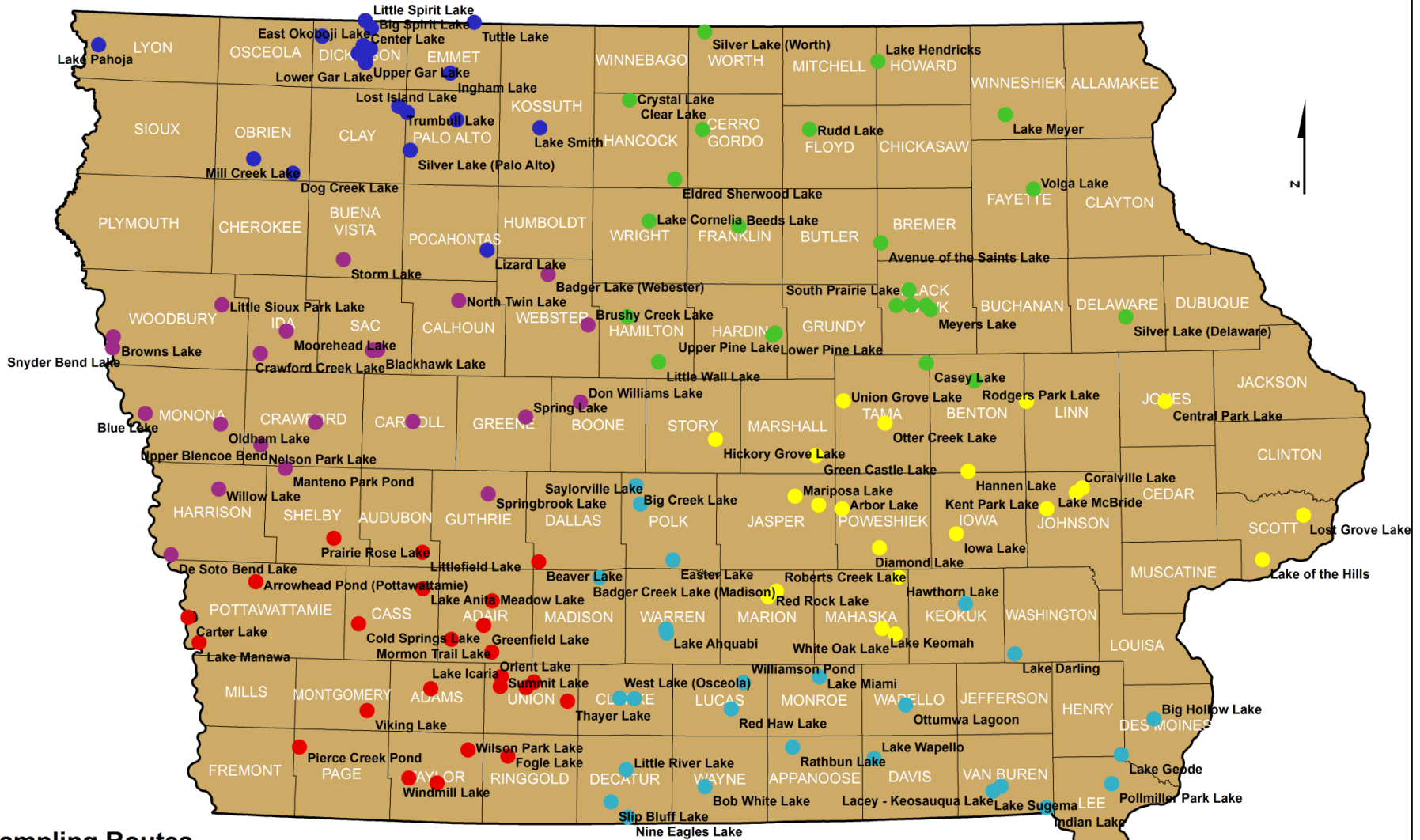


Ambient Lake Monitoring Program Sampling Locations



Sampling Routes

- Week 1 - Western
- Week 2 - Southeastern
- Week 3 - Northwestern
- Week 4 - Southwestern
- Week 5 - Northeastern
- Week 6 - Eastern



DLK 05/10/16

Ambient Lake Monitoring Program Summary

Description of Sampling Plan:

- Lake list focuses on SPOLs & other publicly owned lakes of interest for restoration
- 138 Lakes around the state of Iowa sampled 3x between May and September.
- Each lake sampled over a six week period starting in early summer (May – June), mid-summer (July-August), and late summer (late August – September).
- Lakes are sampled at the lakes historic deep point.
- Lake depth profiles of temperature, dissolved oxygen and other parameters are collected and used to determine if a lake is stratified (the presence or absence of a thermocline) during each sampling event.
- Water chemistry and Phytoplankton samples are collected using an upper mixed zone integrated water column sampler (sampled above the thermocline when present, max sampler depth of 2 meters or approximately 6.5 feet).
- Zooplankton samples are collected using a Wisconsin net (sampled above the thermocline when present, max sampler depth of 9 meters or approximately 29.5 feet).

Parameters collected:

Field (Lake):

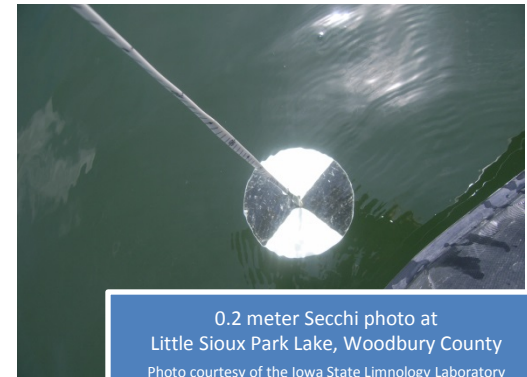
- Temperature
- pH
- Dissolved Oxygen (mg/L and % saturation)
- Specific Conductance
- Total Dissolved Solids (Calculated)
- Turbidity
- Thermocline Depth
- Lake Depth
- Secchi Transparency
- Photo of Secchi disc at 0.2 meters (approximately 7.9 inches)

Laboratory:

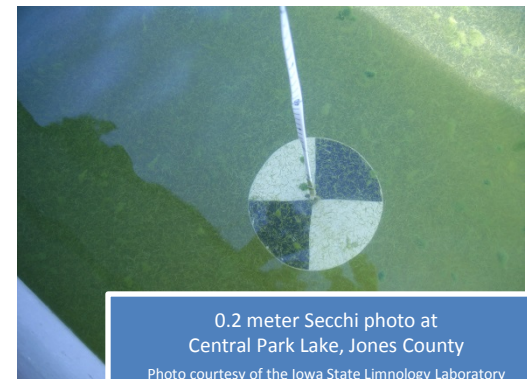
- Ammonia + Ammonium Nitrogen as N
- Unionized Ammonia Nitrogen (Calculated)
- Nitrate + Nitrite Nitrogen as N
- Total Kjeldahl Nitrogen as N
- Soluble Reactive Phosphorus (Orthophosphate)
- Total Phosphorus
- Solids (total, inorganic, and volatile)
- Alkalinity, Total as CaCO₃
- Dissolved Organic Carbon
- Chlorophyll a, free of pheophytin
- Phytoplankton (Identified, enumerated, and measured for weight)
- Zooplankton (Identified, enumerated, and measured for weight)

Data Utilization:

- Biannual Water Quality Assessments, listing and reporting as a part of the 303(d) and 305(b) sections of the Federal Clean Water act.
- Total maximum daily load reporting.
- Annual lake status reports.
- Tracking long term trends.
- Prioritizing lakes for restoration.



0.2 meter Secchi photo at
Little Sioux Park Lake, Woodbury County
Photo courtesy of the Iowa State Limnology Laboratory



0.2 meter Secchi photo at
Central Park Lake, Jones County
Photo courtesy of the Iowa State Limnology Laboratory