### 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.