



# Biological Monitoring in Lakes



# Current Indicators

- As part of the Lake sampling conducted by the OWRB biological indicators are collected. The current indicators are:
  - Chlorophyll-a,
  - Zooplankton,
  - Phytoplankton
- Habitat information is also collected and recorded during the summer months.

# Chlorophyll-a

- Chlorophyll-a
  - Long-term parameter
  - Commonly used trophic indicator
    - Easy to collect
    - Estimate biomass
  - Used to classify lakes based on productivity

# Zooplankton/Phytoplankton

- Zooplankton and phytoplankton sampling began in 2010.
- Zooplankton are collected using a 243- $\mu\text{m}$  mesh Wisconsin-style plankton net .
- Phytoplankton are collected as a grab sample.
- Both are sensitive to changes or stressors in the system such as nutrient enrichment

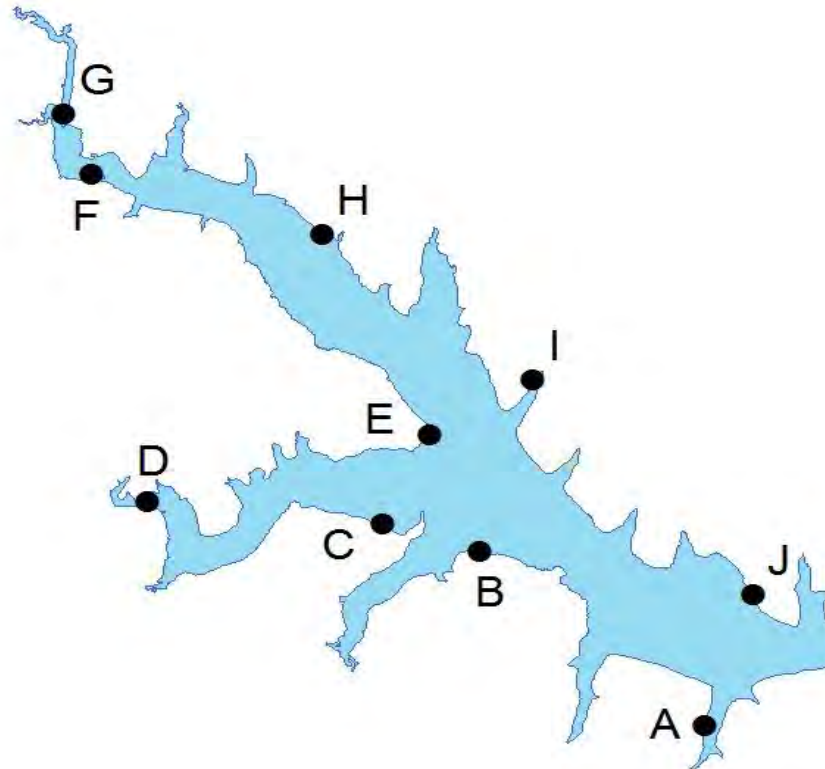


# Habitat

- Identify potential stressors
- Human Influence & disturbance
- Habitat characterization



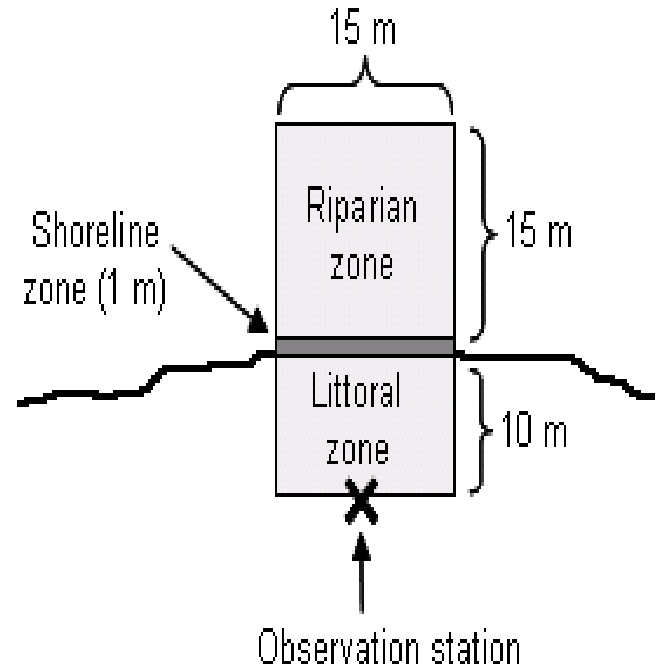
# Bluestem



Site	Latitude	Longitude
A	36.691039	-96.403565
B	36.700394	-96.417320
C	36.701869	-96.423262
D	36.703069	-96.437563
E	36.706743	-96.420343
F	36.720716	-96.441098
G	36.723979	-96.442804
H	36.717553	-96.426989
I	36.709743	-96.414082
J	36.698157	-96.400617

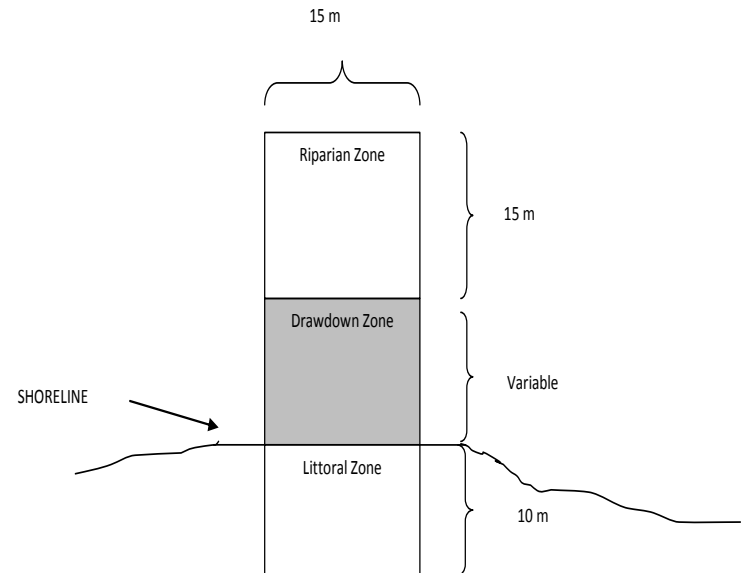
# Habitat

- Littoral observations
  - 10m offshore
  - Bottom substrate
  - Macrophyte coverage
  - Fish Cover



# Habitat

- Riparian
  - Vegetation cover
  - Shoreline substrate
  - Bank features
  - Human influences
  - Presence of drawdown







# Habitat

- Whole-lake observations
- Shoreline characteristics
- Aquatic Vegetation Present
  - Invasive species encountered
  - Wildlife

# Questions

A scenic view of a lake with lily pads in the foreground, trees on the left, and mountains in the distance under a blue sky with clouds.

I can be reached at 405-530-8800 or  
[julie.chambers@owrb.ok.gov](mailto:julie.chambers@owrb.ok.gov)