

Exhibit A

# Dissolved Oxygen

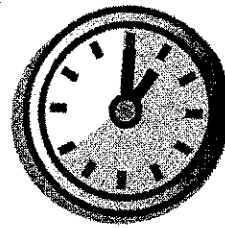
## Aquatic Life Depends on It

### Why are we concerned?

- Both aquatic plants and animals depend on dissolved oxygen (D.O.) for survival.
- D.O. concentrations are influenced by many factors including water temperature, the rate of photosynthesis, the degree of light penetration (turbidity and water depth), the degree of water turbulence or wave action, and the amount of oxygen used by respiration and decay of organic matter.

#### Time Needed: Equipment Needed

40 minutes



- Hip Boots
- Each dissolved oxygen water test kit
- Thermometer
- Safety goggles, disposable plastic/latex gloves
- Form to record data
- Pen/pencil

#### When to Measure:

Check with your local coordinator for scheduling.

### DEFINITION OF TERMS

**Cold-blooded:** Animals whose body temperatures match that of their surroundings. Fish, invertebrates, snakes, frogs and toads are cold-blooded.

**Diffusion:** The movement of molecules, for example oxygen molecules, from an area of high concentration (e.g. the air) to an area of lower concentration (e.g. the water).

**Endpoint:** The completion of a chemical reaction. It is often determined by the change in color of an indicator solution.

**Floc:** Short for flocculent precipitate. These fine, suspended particles look like heavy cream.

**Photosynthesis:** The process in which green plants convert carbon dioxide and water, using energy, into simple sugars and oxygen.

**Respiration:** The cellular process in which plants and animals use oxygen and release carbon dioxide. Basically, it is the reverse of photosynthesis because carbon dioxide is released in the process.

**Supersaturation:** An indication that more oxygen is dissolved in water than is in equilibrium. Supersaturation could indicate that some process has occurred out of balance found in the state of equilibrium.

**Titrant:** The solution of known strength used for measuring the amount of a substance. In this case either sodium thiosulfate or PAO titrant.



**LAKE CREEK  
DEMONSTRATION PROJECT**

**OCC Tasks 18 and 19  
FY 1990 319(h) Sub-Task 200(B)  
EPA Grant # C9-006704-90-0**

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Funding  
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