

East Pond Data 2008

1 2008 East Pond Secchi

2 5/3/2008:

3 5/14/2008:

4 5/22/2008

5 6/6/2008

6 6/10/2008

7 6/17/2008

8 6/24/2008

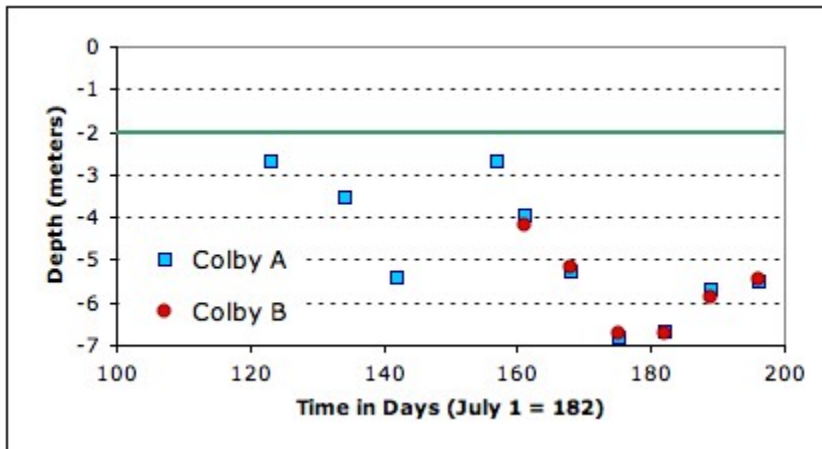
9 7/1/2008

10 7/8/2008

11 7/15/2008

2008 East Pond Secchi

The following graph shows the East Pond secchi depths taken in two locations. The Secchi depths track at both stations indicating that the lake is well mixed horizontally. The green line at two meters represents the standard secchi depth for algal blooms. The data used in the graph can be seen in the following: [Secchi depths vs. time.xls](#)

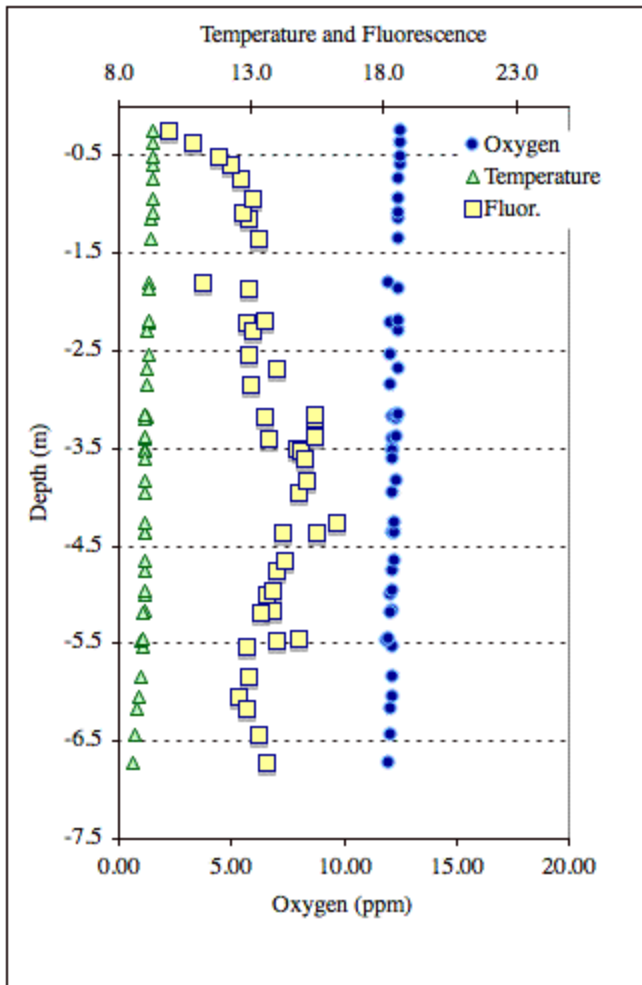


5/3/2008:

King launched the Colby pontoon boat. Sampled for nutrients 69.76657 W, 44.5964 N in stream outflow near boat launch, and took a lake profile at Colby A (DEP1).

| | | Notes |
|---------|---------|--|
| Profile | Colby A | Bottles 4, 5 - 1 meter; 6, 7 - 3 meter; 8, 9 - 6 meter. Whole samples. |
| | Colby A | CTD profile |
| | Colby A | Secchi Depth: 2.67 Meters |
| | Colby A | Wind calm, light rain |
| | | |

On 5/3 East Pond is well mixed from top to bottom as illustrated by the uniform temperature and oxygen profiles shown below. The fluorescence is high in the lake, consistent with the shallow Secchi depth. The lake is relatively cold, but could warm up quickly with a few warm, sunny days. Given the shallow Secchi depth, we expect most of the warming to occur in the top 2-3 meters. Significant rain or wind events will distribute the heat deeper in the lake.

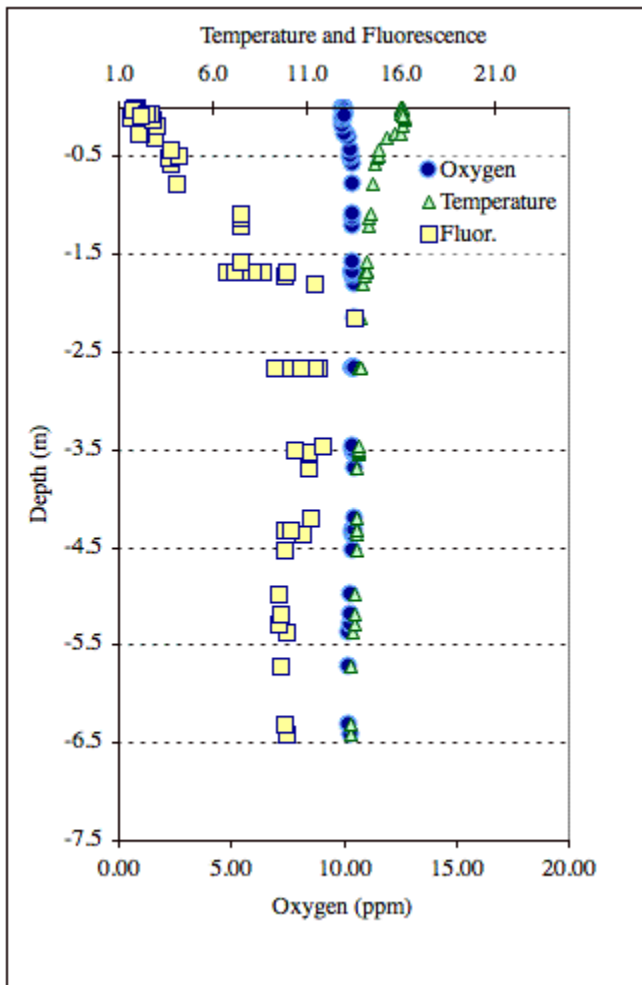


5/14/2008:

King installed the weather station and sampled Colby A (DEP1) for nutrients and measured O₂, T, FL, and pH

| Activity | Location | Notes |
|----------|----------|------------------------------------|
| Profile | Colby A | 1 meter filtered - 1A |
| | | 1 meter unfiltered - 2B |
| | | 5 meter filtered - 3C |
| | | 5 meter unfiltered - 4D |
| | Colby A | EP ColbyA0514a.xls |
| | Colby A | Secchi Depth: 3.5 Meters |
| | Colby A | Wind calm, sun |
| | | |

On 5/14 East Pond is generally mixed with a hint of surface warming in the top 0.5 meters of the lake. The profile was taken at 3 PM so the warming is a normal daily event due to absorption of sunlight. The Secchi depth has deepened by 0.6 meters to 3.5 meters in the last 11 days. This deepening is consistent with the fluorescence profile that shows significantly less chlorophyll in the top 2 meters.

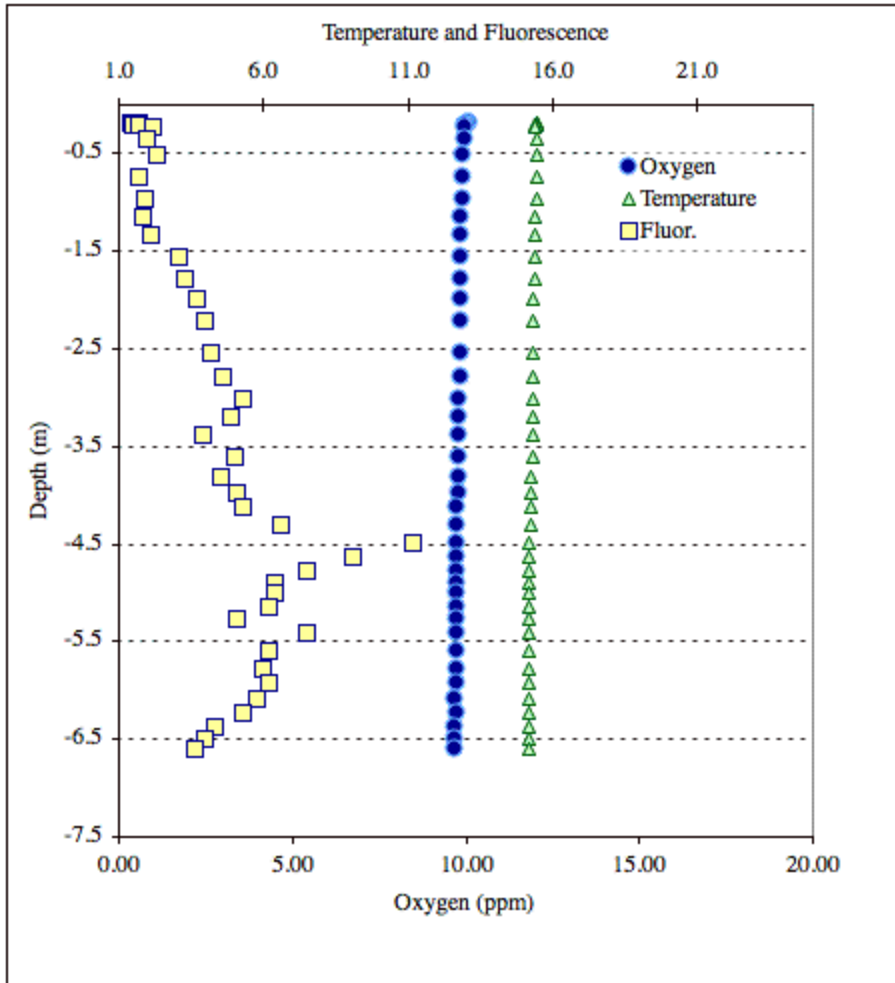


5/22/2008

Colby and UMO groups sampled both East and North Pond.

| Activity | Location | Notes |
|----------|----------|----------------------------|
| Profile | Colby | EP ColbyA0522a.xls |
| | UMO | UMO 522 North and East.xls |
| | | |

On 5/22 East Pond and North Ponds are mixed at 15 oC. The Secchi depth in East Pond has deepened by almost two meters to 5.4 meters in the last 8 days. This deepening is consistent with the fluorescence profile that shows significantly less chlorophyll above 4.5 meters.



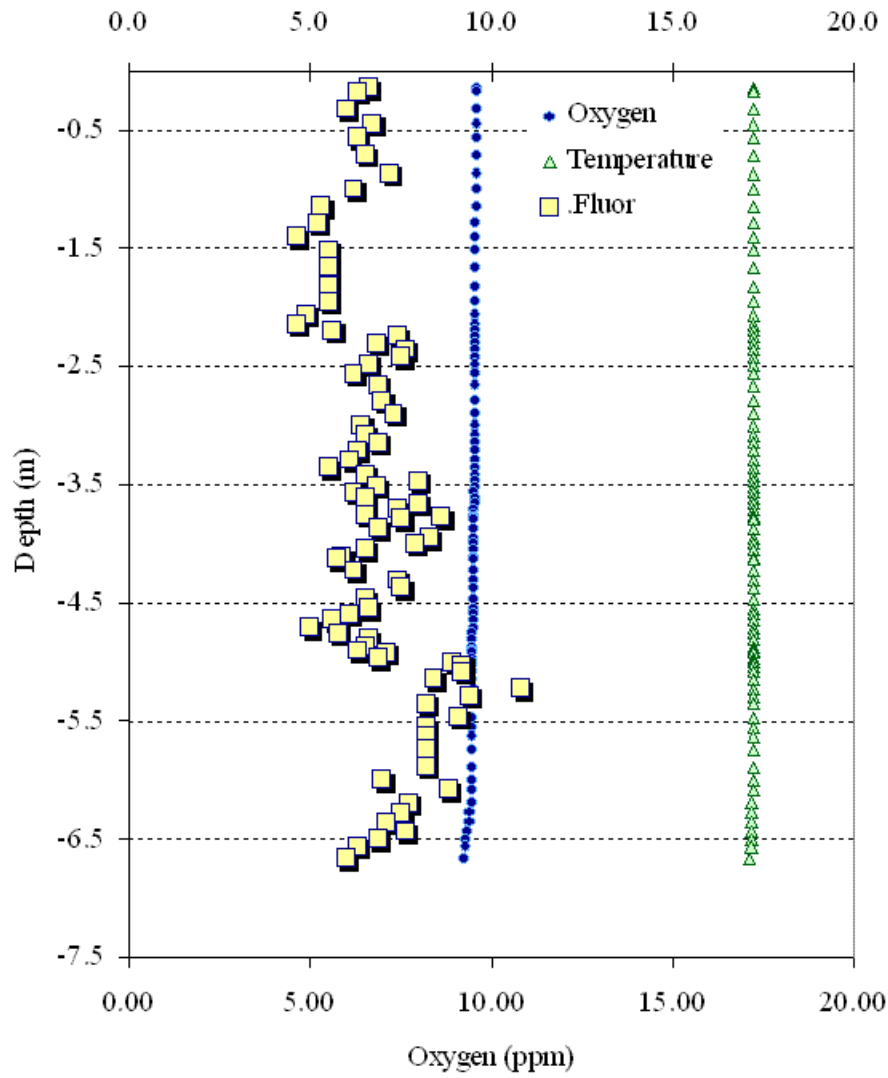
6/6/2008

Colby sampled East Pond and found moorings for temperature sensors.

| Activity | Location | Notes |
|----------|----------|--------------------|
| Profile | Colby | EP ColbyA0606b.xls |
| | | |
| | | |

On 6/6/2008 East Pond and North Ponds are mixed at 17 oC. The Secchi depth in East Pond is shallower again with a depth of 2.5 meters. The lake is experiencing a moderate bloom as illustrated by the uniform fluorescence profile. Oxygen concentrations remain at saturation throughout the water column.

Temperature and Fluorescence



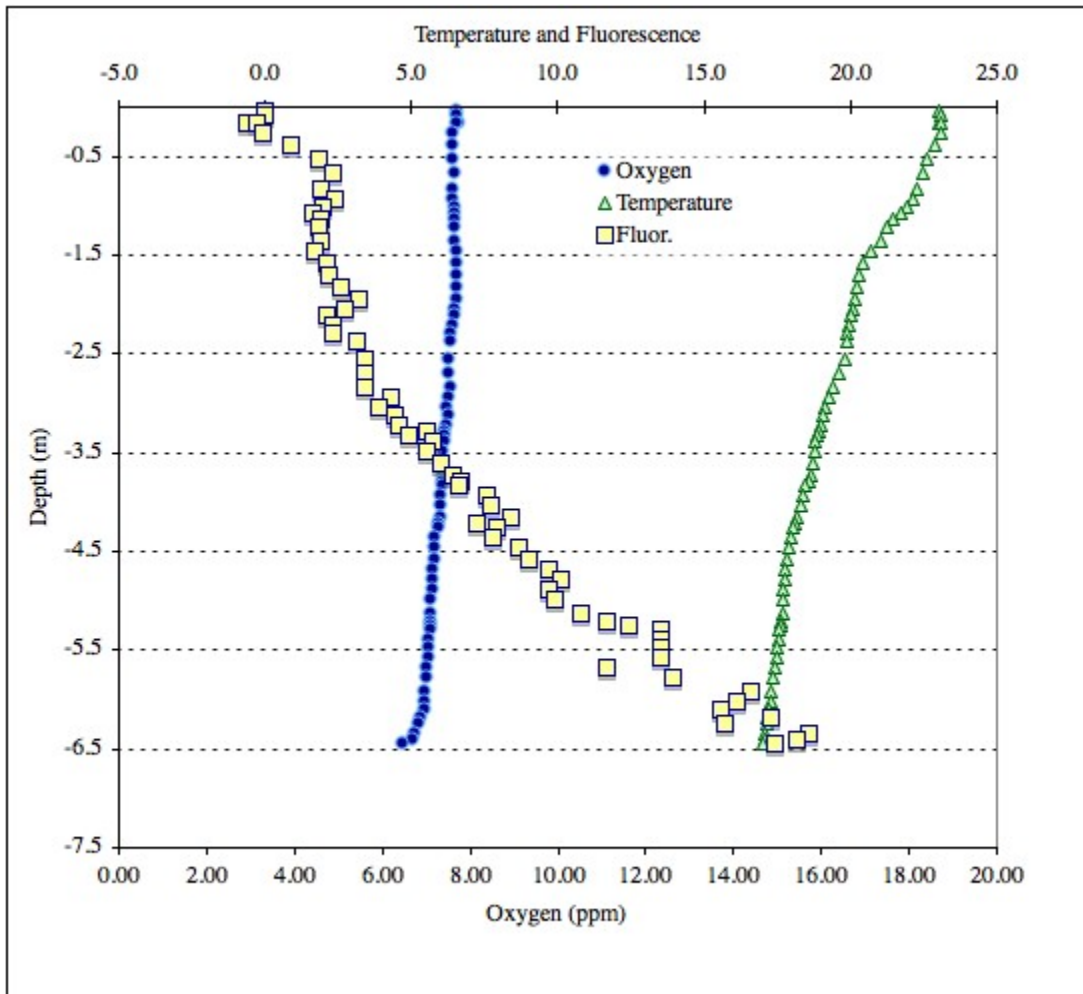
6/10/2008

Profiles at north and south stations.

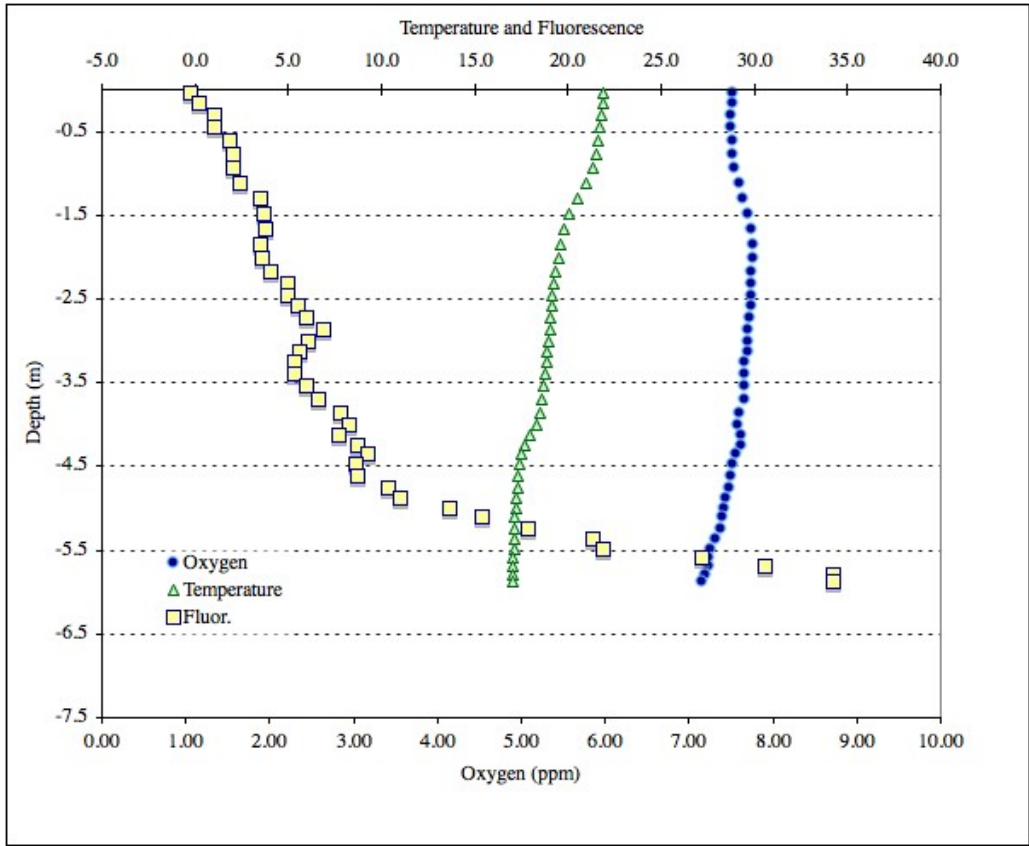
| Activity | Location | Notes |
|----------|----------|--------------------------------|
| Profile | Colby A | Secchi 3.95, EP061008DEP1a.xls |
| | Colby B | Secchi 4.2, EP061008DEP2b.xls |
| | | |

East Pond is well mixed with a moderate bloom at both stations.

Colby A



Colby B



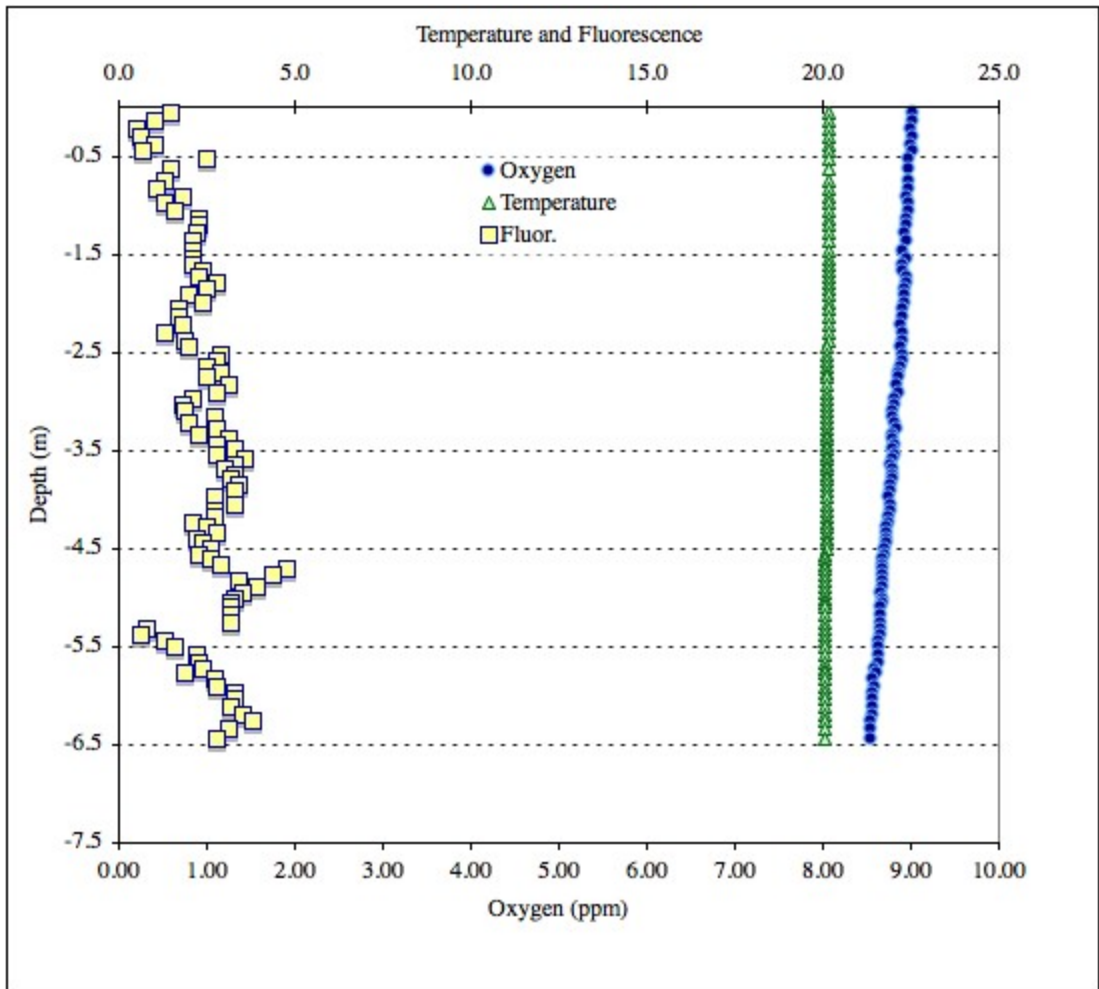
6/17/2008

Colby took profiles at north and south station, and found the mooring at south station.

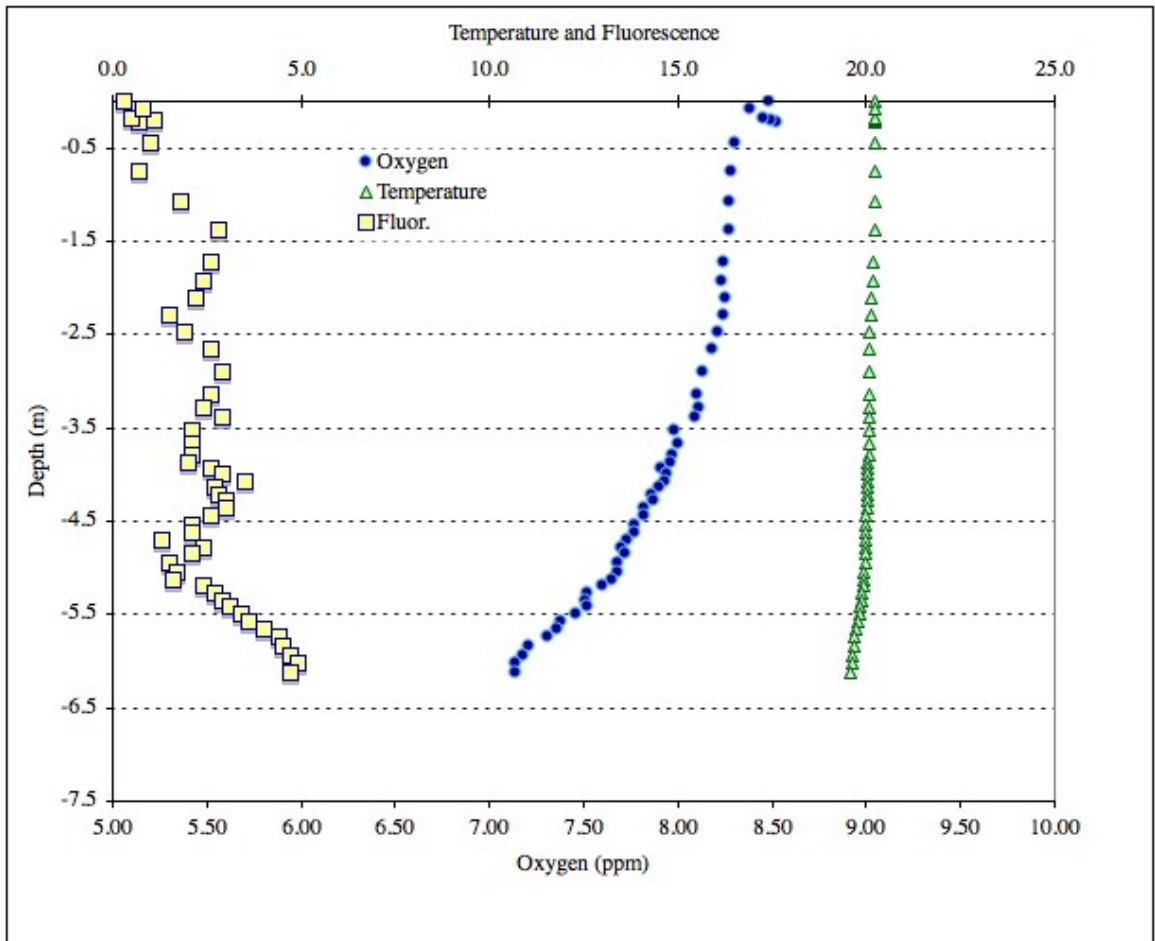
| Activity | Location | Notes |
|----------|----------|--------------------------------|
| Profile | Colby A | Secchi 5.25m EP061708DEP1b.xls |
| | Colby B | Secchi 5.19m EP061708DEP2a.xls |
| | | |

Secchi depth continues to increase. The lake is very well mixed and saturated with oxygen. Watch the units on the graphs when comparing dates.

Colby A



Colby B



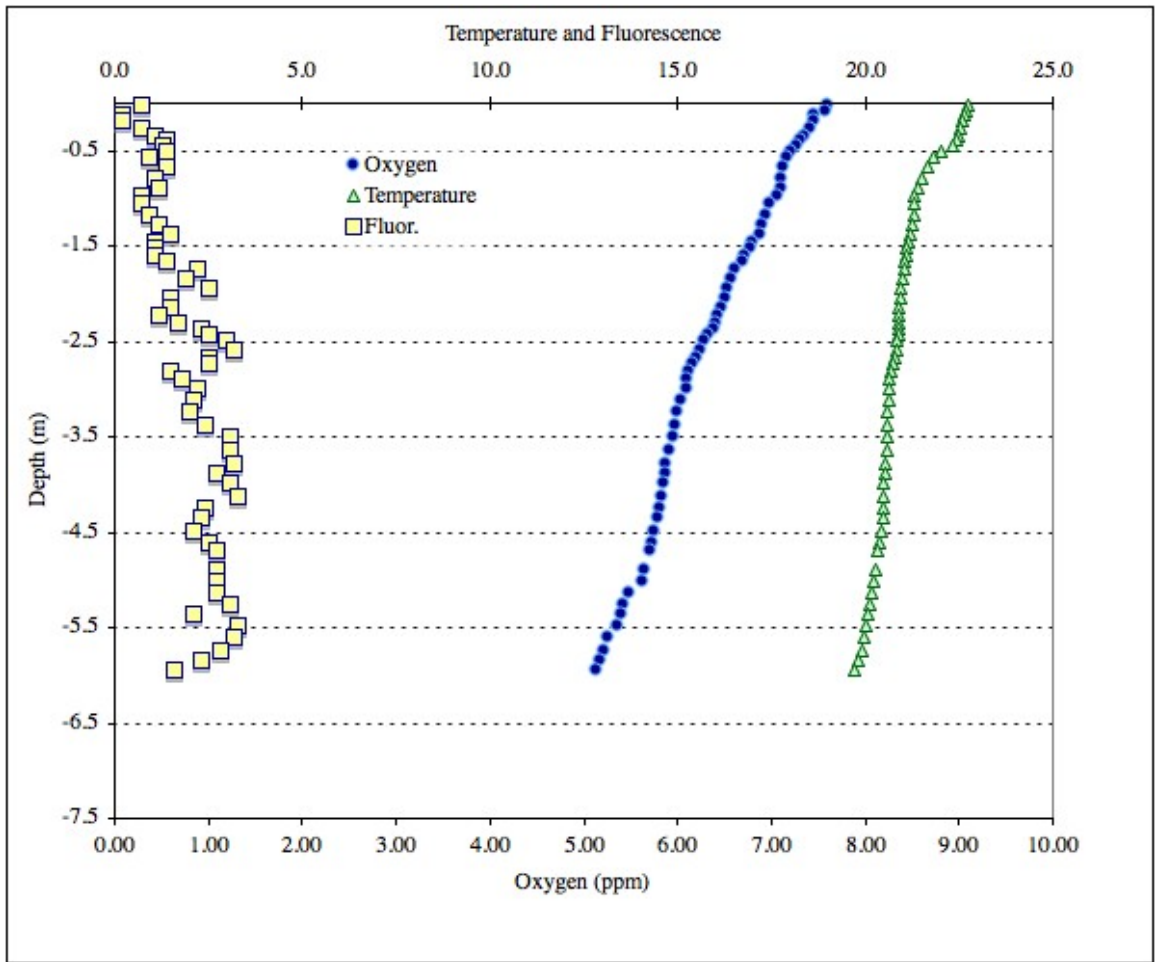
6/24/2008

Colby took profiles at north and south station.

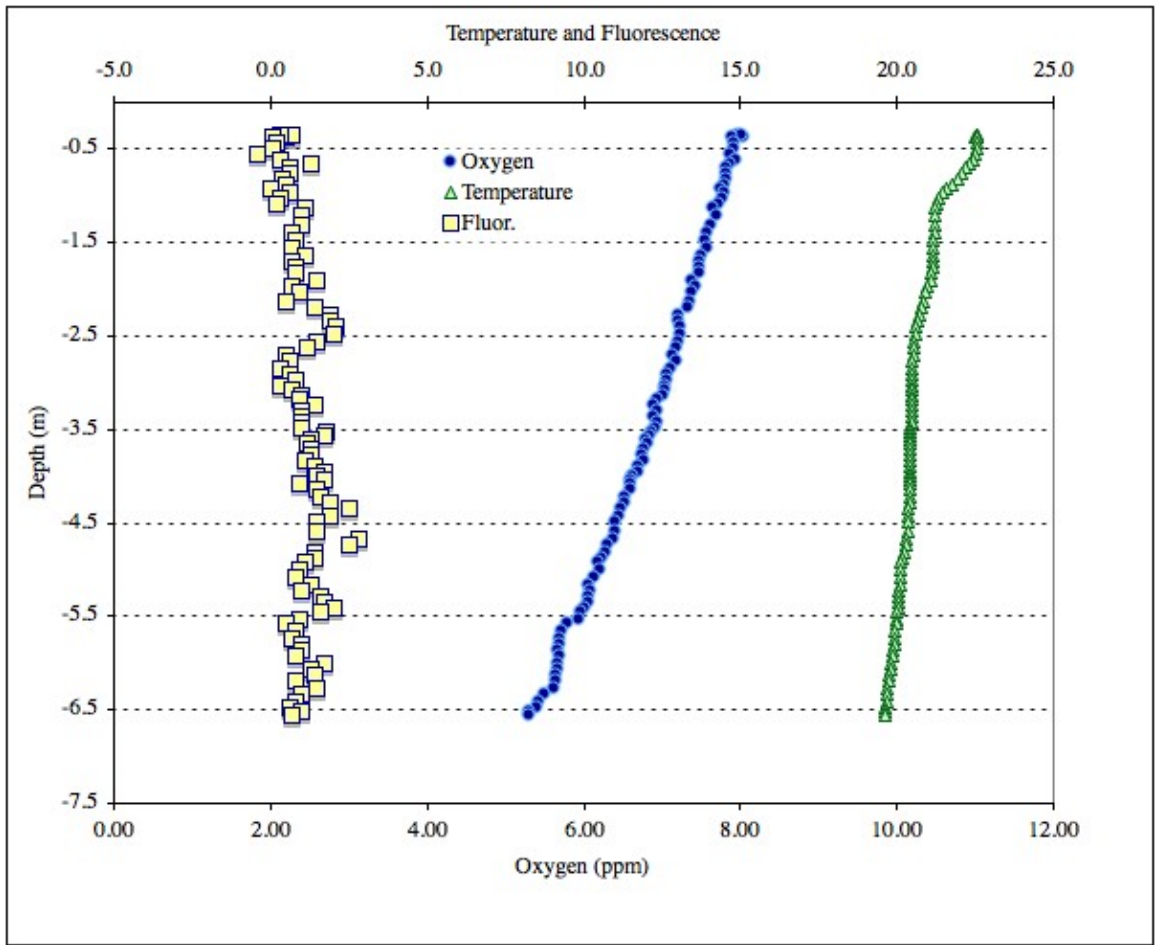
| Activity | Location | Notes |
|----------|----------|--|
| Profile | Colby A | Secchi 6.80m EPcolby6242008sitea.xls |
| | Colby B | Secchi 6.70m EPcolby6242008siteb.xls |
| | | |

The secchi depth has increased all the way to the bottom of the lake at both stations. Oxygen is starting to drop. Notice the surface warming in the top 0.5 meters.

Colby A



Colby B



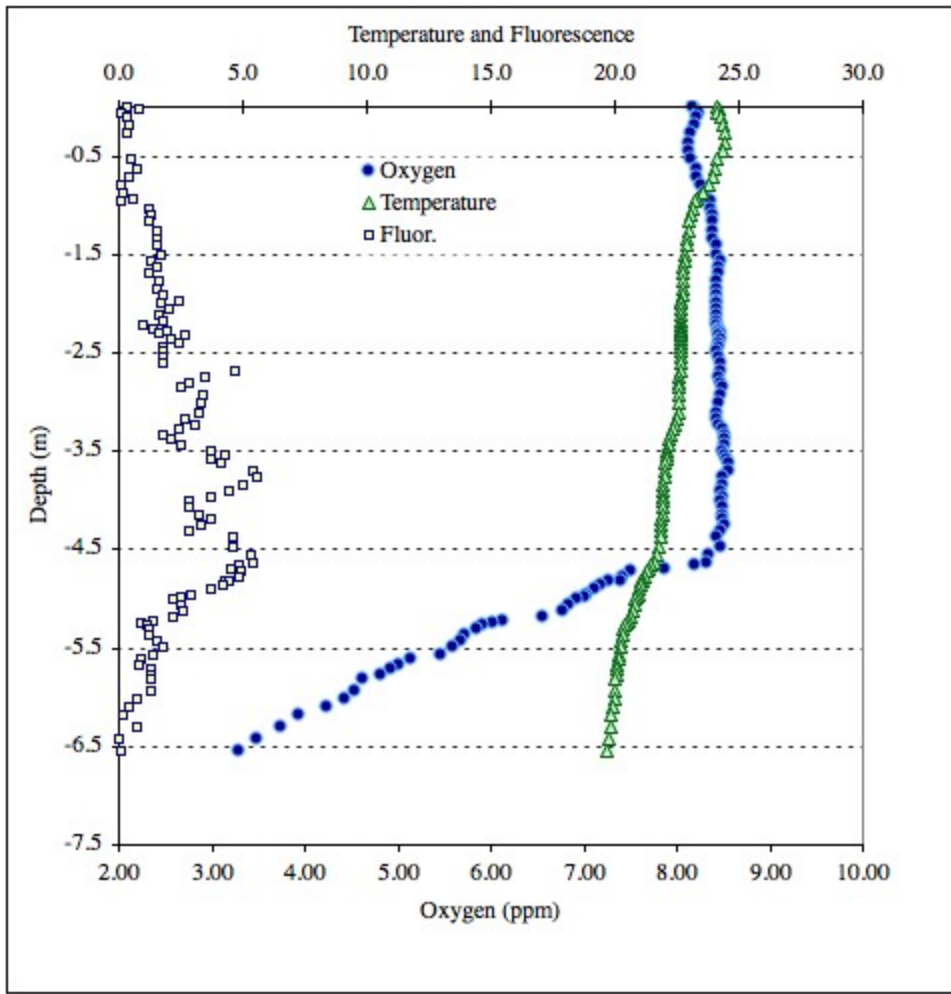
7/1/2008

Colby took profiles at north and south station, and took images of the benthos of the lake heading east from Colby A.

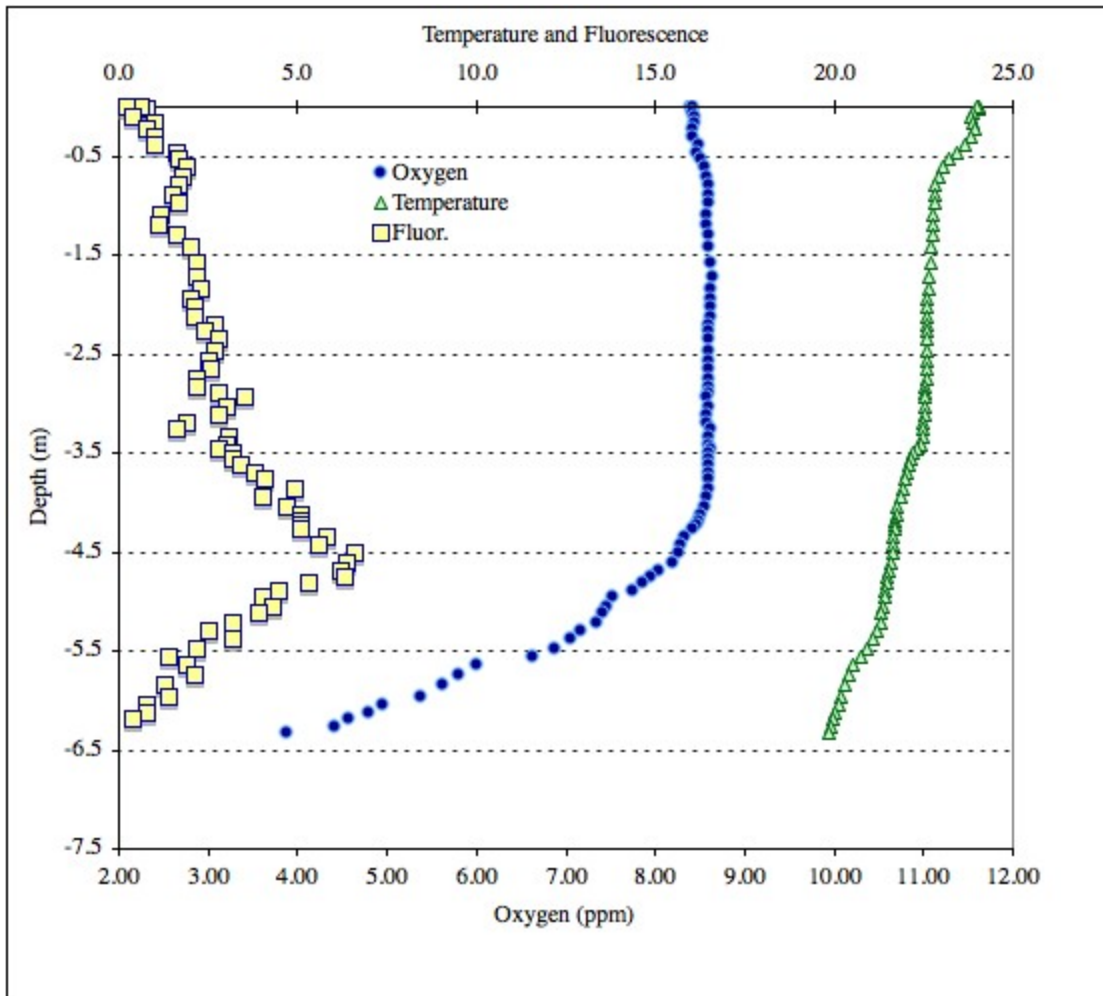
| Activity | Location | Notes |
|----------|----------|--|
| Profile | Colby A | Secchi 6.68m EP070108DEP1a.xls |
| | Colby B | Secchi 6.70m EP070108DEP2b.xls |
| | | |

The Secchi depth remained at or near the bottom at both stations. The lake is becoming stratified at 4.5 meters. The "colder" deep water prevents mixing of surface water with the deep lake water resulting in reduced oxygen input from the surface. Sediment oxygen demand is consuming oxygen in the deep water as shown by the significant decrease in oxygen at both stations below 4.5 meters.

Colby A



Colby B



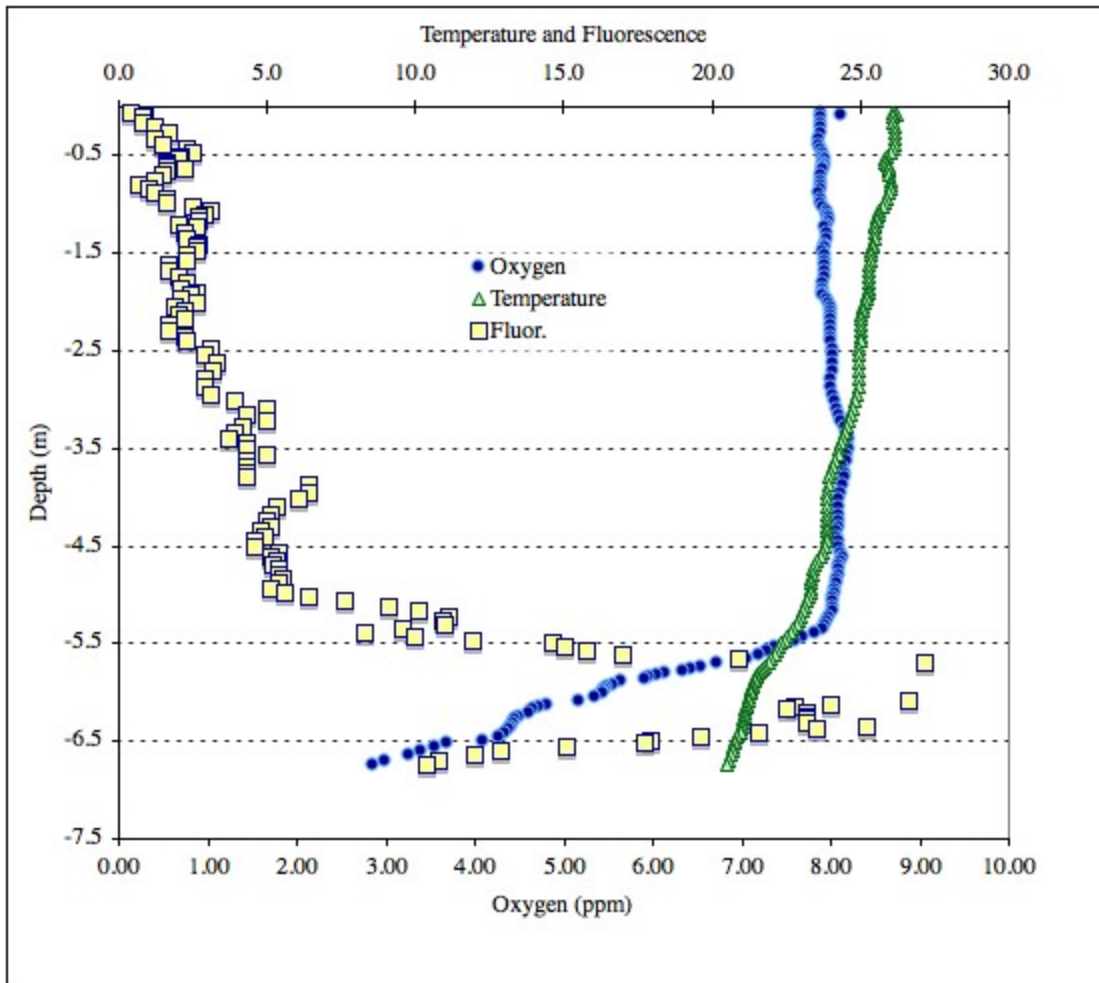
7/8/2008

Colby took profiles at north and south station, and took images of the benthos of the lake heading east from Colby A.

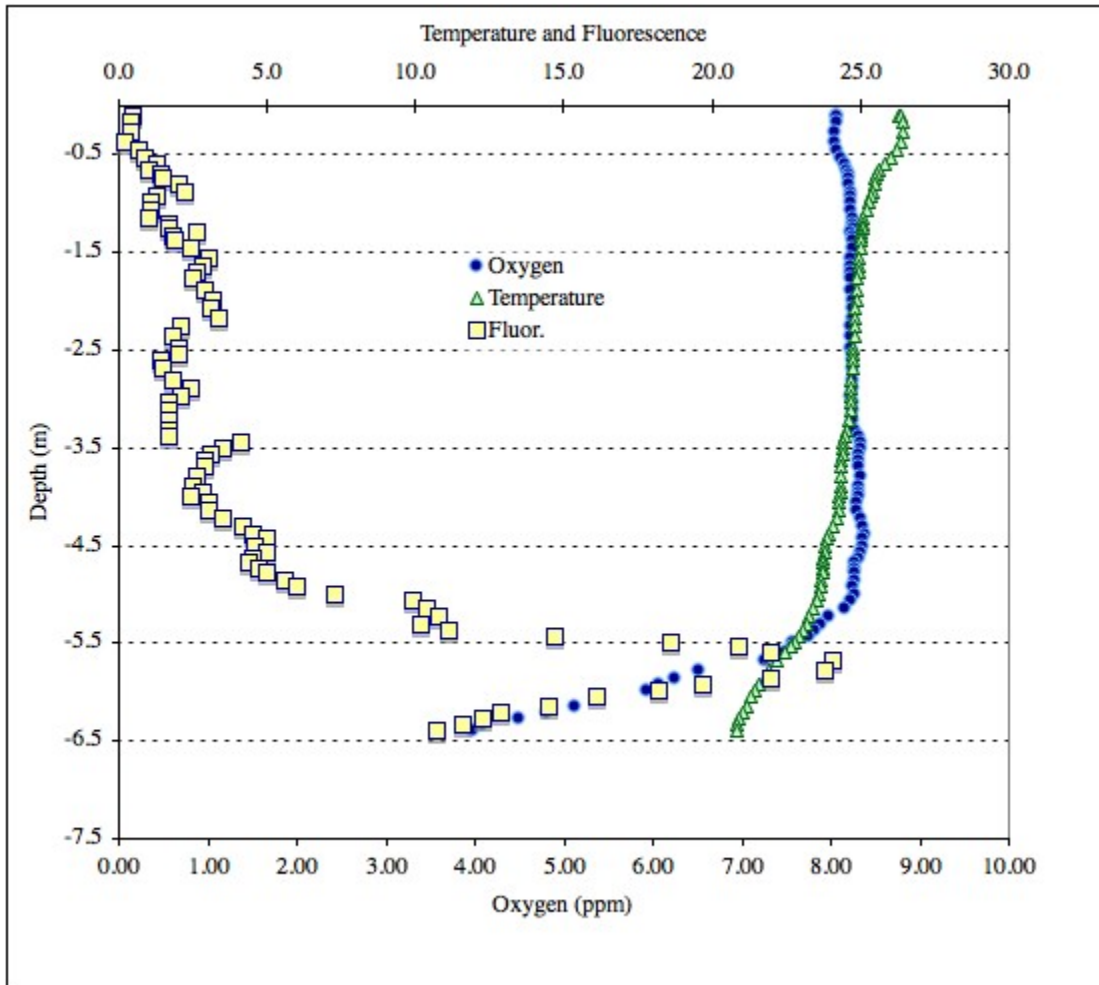
| Activity | Location | Notes |
|----------|----------|---|
| Profile | Colby A | Secchi 5.70m EPcolby070808DEP1a.xls |
| | Colby B | Secchi 5.87m EPcolby070808DEP2a.xls |
| | | |

The Secchi depth decreased nearly a meter at both stations. The lake is now becoming stratified at 5.5 meters.

Colby A



Colby B

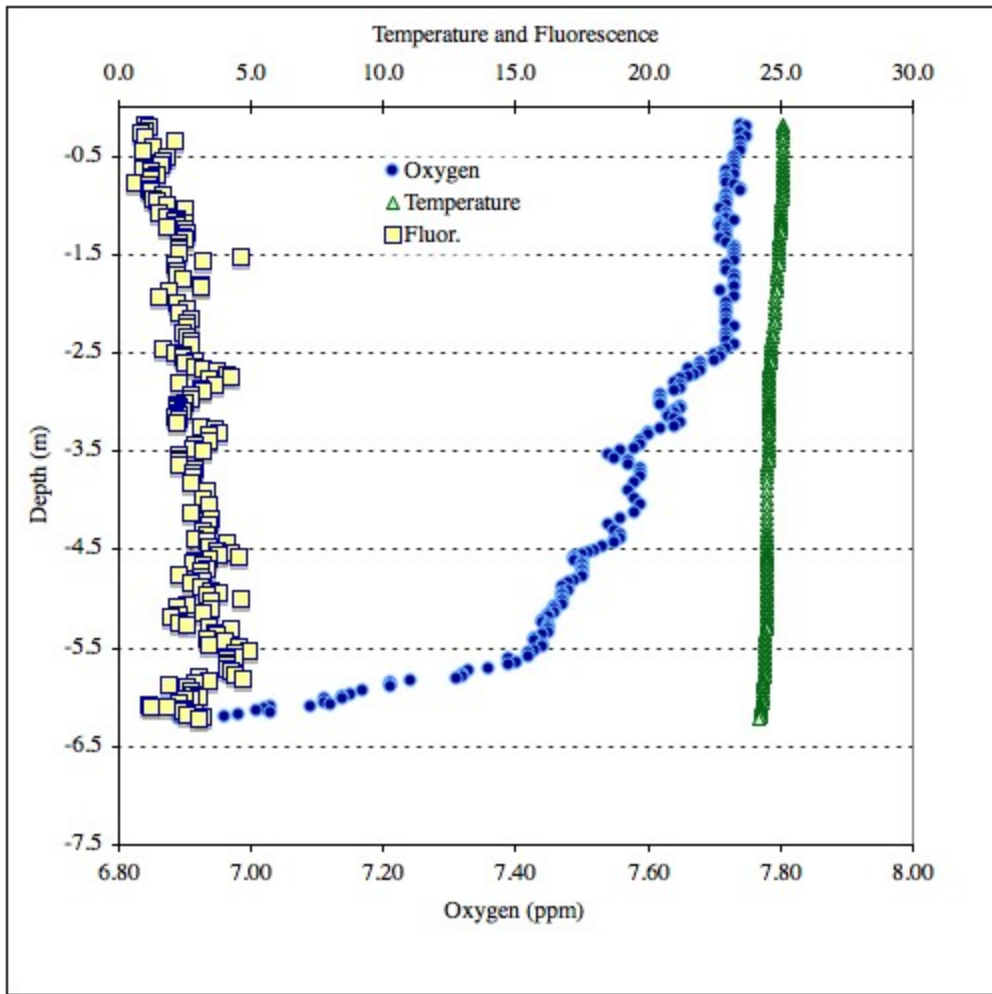


7/15/2008

Colby took profiles at north and south station.

| Activity | Location | Notes |
|----------|----------|-------------------------------------|
| Profile | Colby A | Secchi 5.49m EPcolby071508DEP1b.xls |
| | Colby B | Secchi 5.45m EPcolby071508DEP2a.xls |
| | | |

Colby A



Colby B

