

Chelan County PUD Lake Wenatchee Water Quality Sampling 2008-2009

SUMMARY OF 2008 SAMPLING

➤ Overview

- ❖ Sampled every other week while fish were on site (July – early November)
- ❖ Two sample events when fish were not on site
- ❖ Six locations (mouth of Little Wenatchee and White rivers, two sites near the net pens, center of lake, and lake outlet)
- ❖ Parameters sampled: Total Phosphorus (TP), Total Nitrogen (TN), Dissolved Oxygen (DO), temperature, pH
- ❖ Collected samples for TP and TN at multiple depths (surface, 15', then at increments of 25' thereafter to depths of 90', as depths allow)
- ❖ Collected samples for DO, temperature, and pH at multiple depths (surface, then every 10' thereafter to 90')
- ❖ Aquatic Research, Inc. conducted sample analysis

➤ Analysis and Results (focusing on TP)

- ❖ Lake Wenatchee has been classified as an oligotrophic lake. Water quality standards for TP in oligotrophic lakes in the Cascades eco-region should be set at 10 µg/L or less when the ambient TP range in the lake is between 4 and 10 µg/L (Ecology 2006).
- ❖ With two exceptions, TP did not exceed 10 µg/L at the lake locations during the sampling season when fish were present.
- ❖ Statistical analysis included:
 - Box and whisker plots
 - ANOVA
 - Analysis indicated there are no differences in TN and TP levels between the net pen locations and other lake locations. These data suggest the presence of the net pens in lake does not adversely affect nutrient loading in the lake.

➤ Conclusions

- ❖ If the net pens were a source of TP and TN in the lake, elevated levels would be seen near (shoreside and lakeside) the net pens as compared to far away locations (center of lake and lake outlet) once mixing and dilution has taken place.
- ❖ Cannot make firm conclusions based on a single year of sampling, so continue with the same program into the future.

2009 SAMPLING PLAN

- Sampling will be conducted as per the 2008 QAPP (Quality Assurance Project Plan) developed by Anchor Environmental.
- Sampling program will mirror what was done in 2008, with one exception: Sampling will be conducted by Chelan PUD staff.
- Anticipated to begin end of June prior to fish being brought to the site