

DATE: October 29, 2004

FILE REF:

TO: Steve Hogler - Fisheries Biologist

FROM: Mary Gansberg - Water Resources Biologist

SUBJECT: Kewaunee River Water Quality Data

WBIC 90700 Station 10038177

Below is a summary and graph of the water quality data that was collected from April 7 to June 14, 2004 on the Kewaunee River just above dam at the Besadny Fish Facility.

Water quality values were good for the entire period.

Dissolved oxygen values ranged from 5.2 to 18.5 mg/l with a mean of 9.6. Normal daily fluctuations occurred with oxygen being the lowest in early morning hours and highest during daylight photosynthesis. During the highest water period (from about May 21 to June 14<sup>th</sup>) dissolved oxygen concentration tended to stabilize. In-stream photosynthesis and respiration does not influence the oxygen concentration in the river during these large runoff events like it does during more normal flows. However, dissolved oxygen concentrations never dropped below the 5 mg/l state standard for warm water streams during the sampling period.

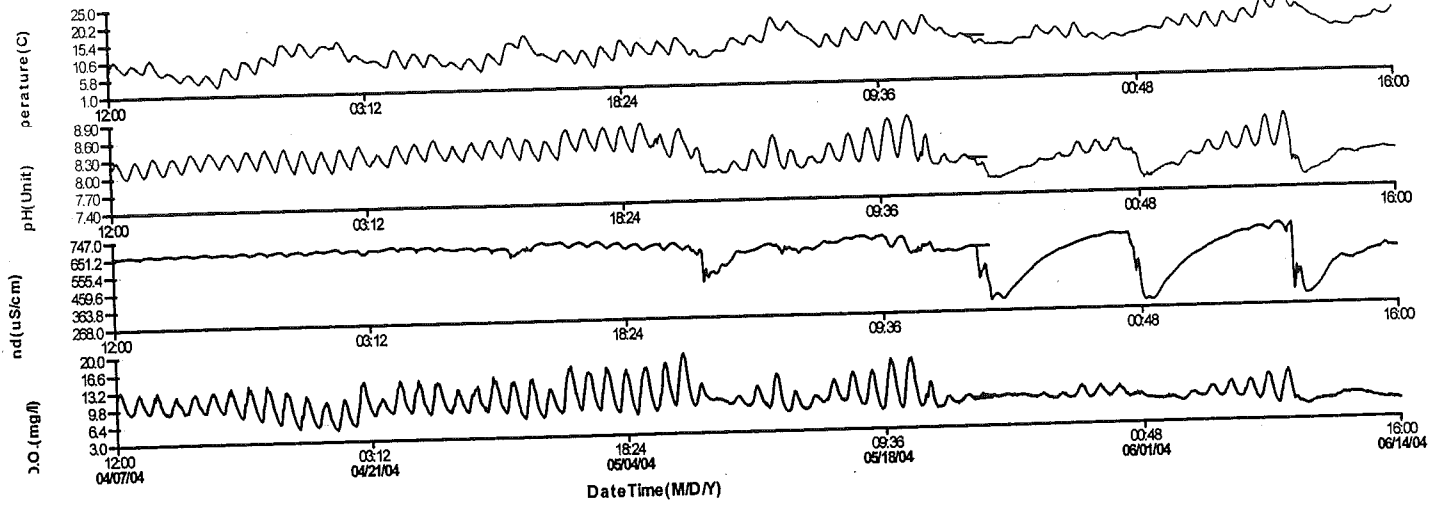
Water temperature values ranged from 38 to 73 degrees F with a mean of 54 degrees F. (3.4 to 22.9 with a mean of 12.3 degrees C). There was a gradual warming trend with the warmest temperatures in June, as to be expected.

pH ranged from 7.6 to 8.7 with a mean of 8.2, which is well within the normal range. pH values fluctuated the most during the highest stream flows between May 21 and June 14<sup>th</sup>.

Specific conductivity ranged from 308 to 707 uS/cm but was normally in the 600's. The mean was 616 uS/cm. As indicated in the graph, specific conductivity values drop significantly because of dilution during the highest runoff then recover as water recedes.

Huge runoff events during the sampling period did not seem to negatively impact the water quality of the Kewaunee River at this time of year. Dissolved oxygen, pH, and specific conductivity values all were influenced by the runoff, but values did not fall below the state standard at any time during the sampling period. I suspect sampling during summer low flow, hot weather would yield different results.

Kewaunee Riv er  
at C.D.Besadny Facility above dam



# Kewaunee River

at C.D. Besadny Facility above dam

