KARUK TRIBE OF CALIFORNIA

DEPARTMENT OF NATURAL RESOURCES
P.O. Box 282 * Orleans, California 95556

WATER YEAR 2002 WATER QUALITY MONITORING REPORT

Klamath River at Iron Gate, Klamath River at Seiad Valley, Klamath River at Orleans, Indian & Steinacher Creeks

Karuk Tribe of California

Water Quality Monitoring Report
Water Years 2002

Prepared by
Karuk Tribe of California
Water Resources
March 2003

Technical Staff

Scott Quinn	Water Resources Coordinator
Luana Hillman	Water Quality Technician II
Wheat Cenname	Water Quality Technician I

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KARUK TRIBE OF CALIFORNIA

KLAMATH RIVER MAINSTEM & STEINACHER CREEK
WATER QUALITY MONITORING REPORT

Water Year 2002
(October 1st to September 30th)

1.0 BACKGROUND

The Karuk Tribe began monitoring daily water quality conditions on the Klamath River mainstem in January of 2000 and Klamath River tributaries in 1998. Monitoring efforts were expanded this year to include the Klamath River at Orleans and Steinacher Creek.

During water years (WY) 2002, Karuk tribal members performed all data collection and quality assurance processes, as well as administrative oversight and report writing. Funding for this project has come mainly through the Karuk Tribe's EPA 106 Water Pollution Control Program.

2.0 WATER QUALITY STATIONS

All Karuk water quality stations along the Klamath River are located near U.S. Geological Survey (USGS) flow gauges. The relationship of flow to a measured pollutant at the same location is important. This relationship allows the observer to determine the total volume of the pollutant being passed through the system. Flow data for the water quality stations on the Klamath can be accessed through the USGS web site.

The water quality station on Steinacher Creek was monitored to help evaluate the affects of the Steinacher road-decommissioning project. Steinacher Creek flows into Wooley Creek, a tributary to the Salmon River.

2.1 Klamath River at Iron Gate

The water quality station at Iron Gate is located on the Klamath River approximately 767 meters below the Iron Gate Reservoir spillway, and about 150 meters below the influence of Bogus Creek. The exact location is:

Latitude: 41° 55.664' 0'' N
Longitude: 122° 26.615' 0'' W
Elevation: 2176 ft.

The drainage area for the Iron Gate water quality gauge is 5,194,092 acres. The Bureau of Reclamation's Klamath Project, and subsequent operations plan, regulates Klamath River flows at Iron Gate.

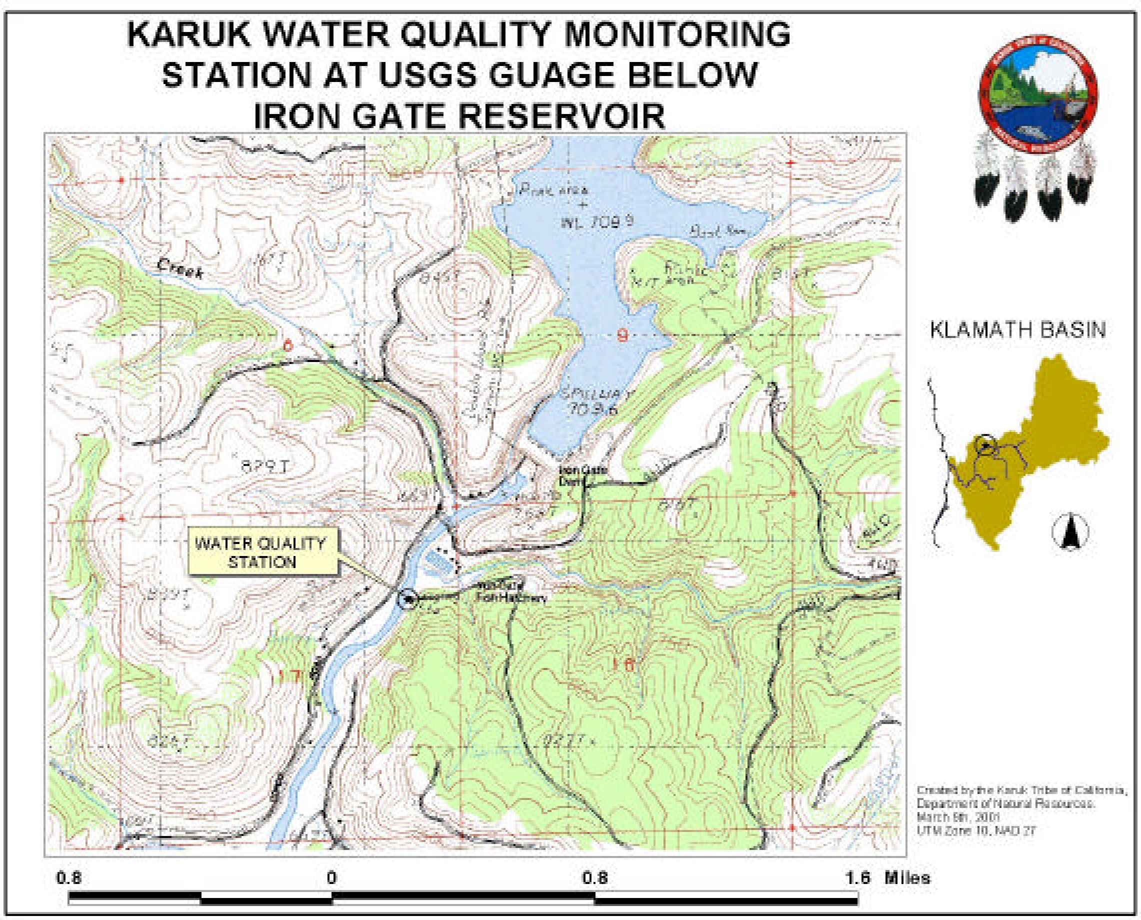

Fig. 1. Iron Gate water quality station.

2.2 Klamath River at Seiad Valley

The Seiad Valley water quality gauge is located 2.2 miles west of the town of Seiad on the Klamath River. The drainage area for the Seiad Valley water quality gauge is 6,672,492 acres. The exact location of this station is:

Latitude: 41° 51.227' 0'' N
Longitude: 123° 13.944' 0'' W
Elevation: 1350 ft.

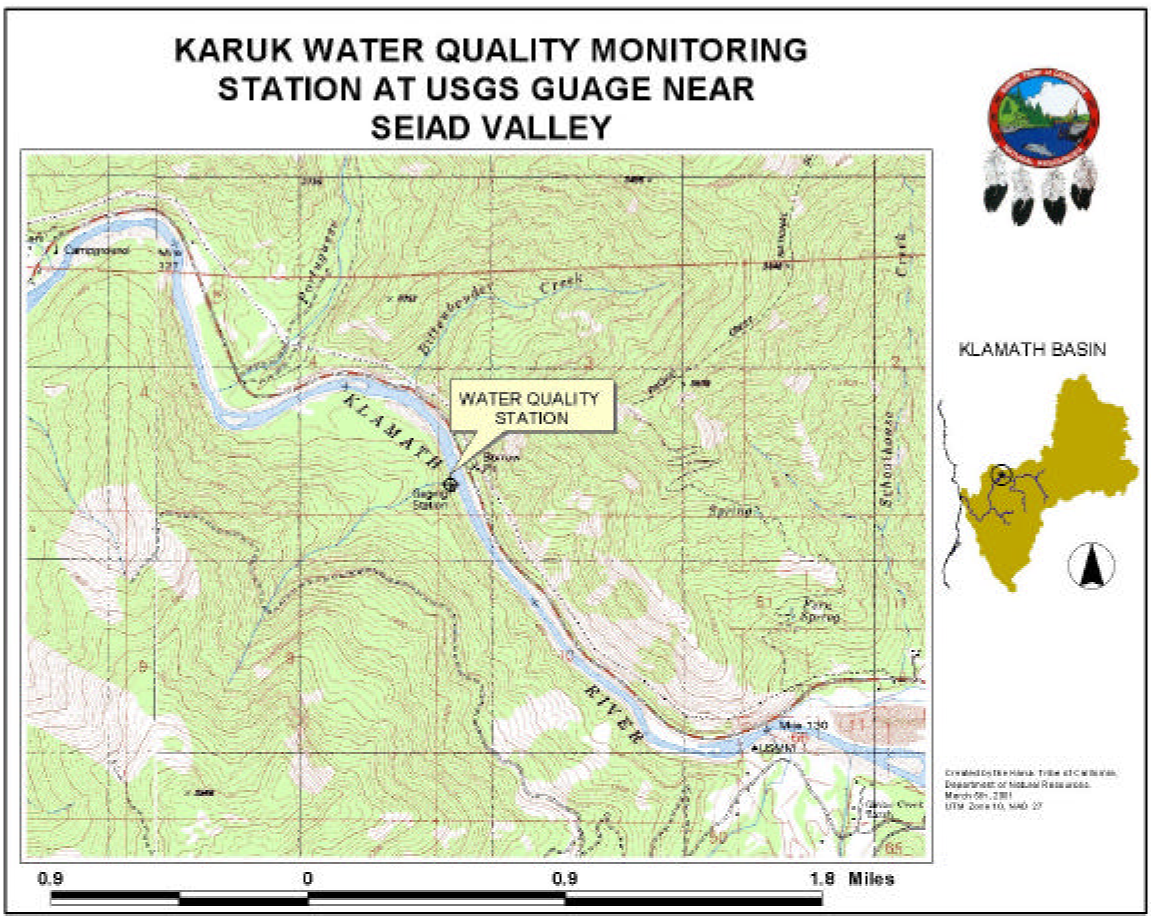

Fig. 2. Seiad Valley water quality station.

2.3 Klamath River at Orleans

The Orleans water quality gauge is located on the Klamath River under the Klamath River Bridge in the town of Orleans. The drainage area for the Orleans water quality gauge is 7,654,982 acres. The exact location of this station is:

Latitude: 41° 18.204' 0'' N
Longitude: 123° 32.069' 0'' W
Elevation: 389 ft.

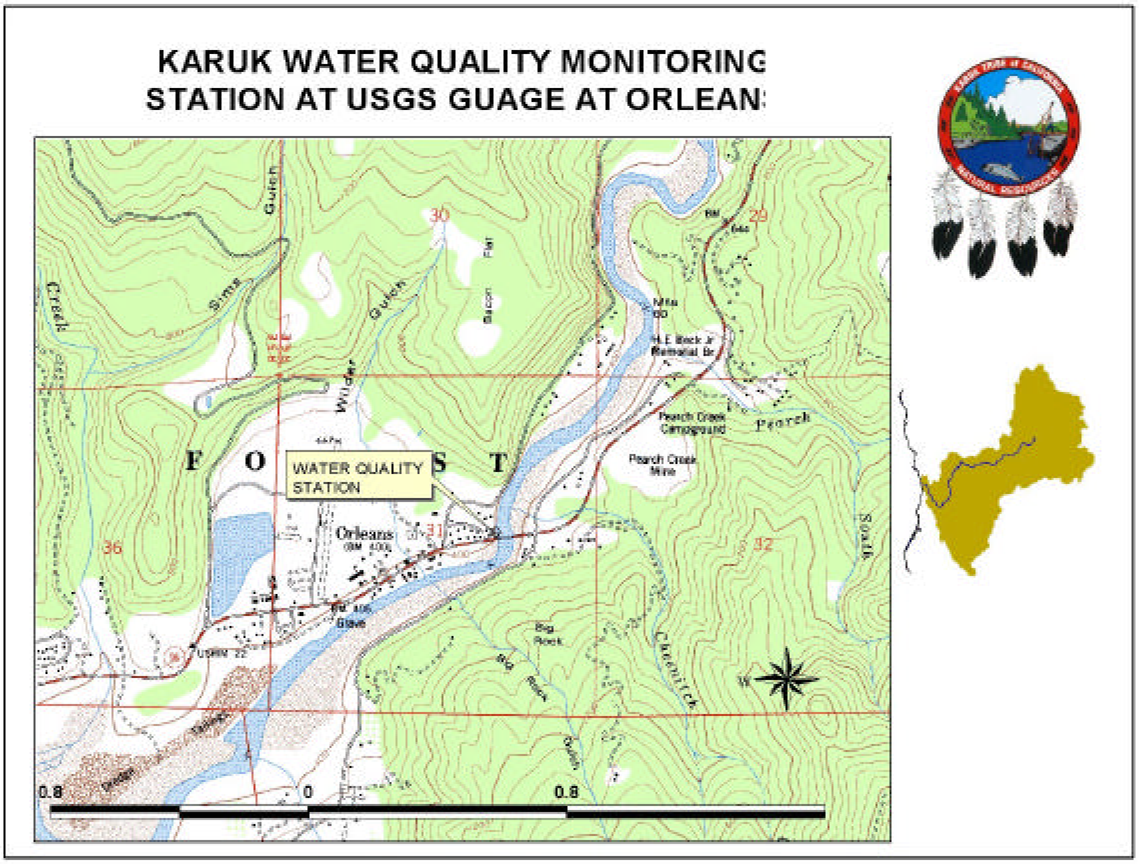

Fig. 3. Orleans water quality station.

2.4 Indian Creek

The Indian Creek flow gauge is located near the town of Happy Camp. Indian Creek is a minor tributary to the Klamath River. The drainage area for the Indian Creek flow gauge is 76,800 acres. The exact location of this station is:

Latitude: 41° 50' 07'' N
Longitude: 123° 22' 58'' W
Elevation: 1213 ft.

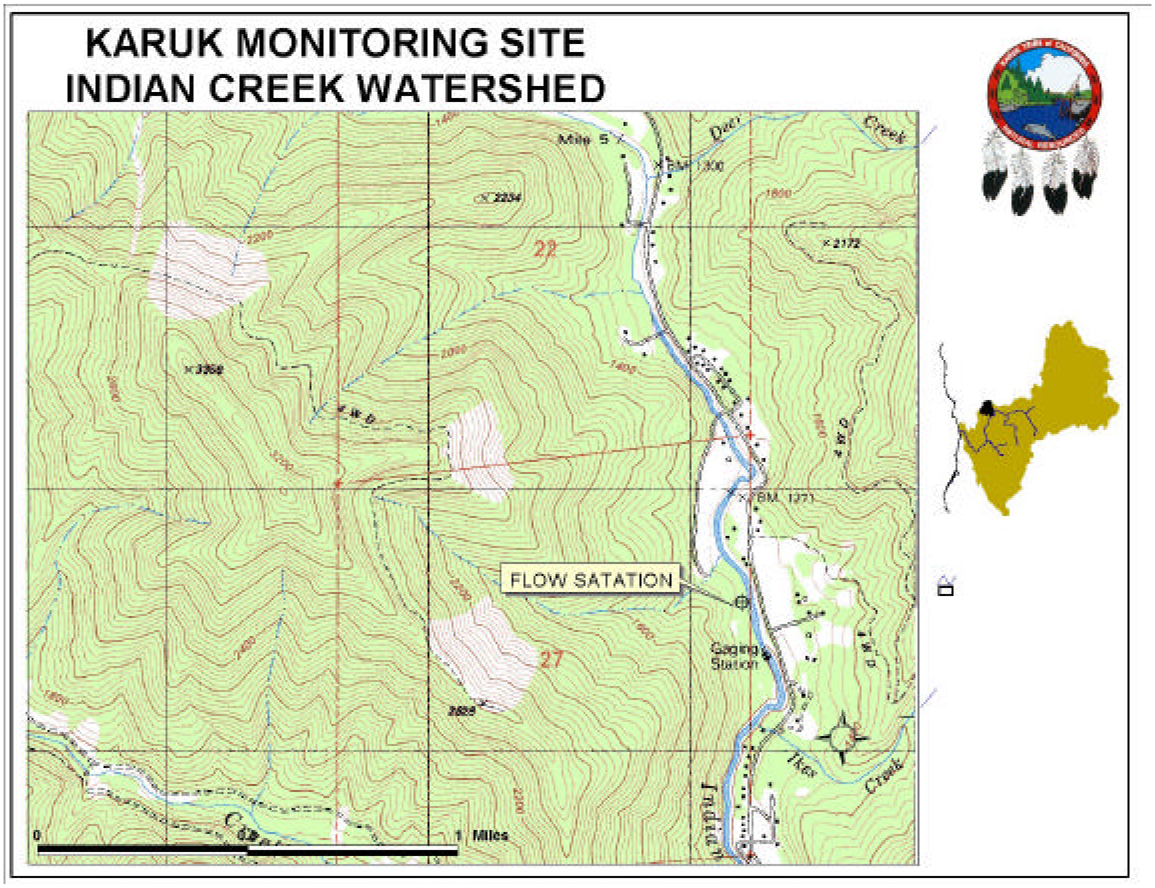

Fig. 4. Indian Creek flow gauge.

2.5 Steinacher Creek

The Steinacher Creek water quality gauge is located 0.6 miles up Wooley Creek and 500 feet up Steinacher creek. Wooley Creek flows into the Salmon River, which is a major tributary to the Klamath. The drainage area for the Steinacher water quality station is 9,180 acres. The exact location of this station is:

Latitude: 41° 23' 00'' N
Longitude: 123° 25' 06'' W
Elevation: 739 ft.

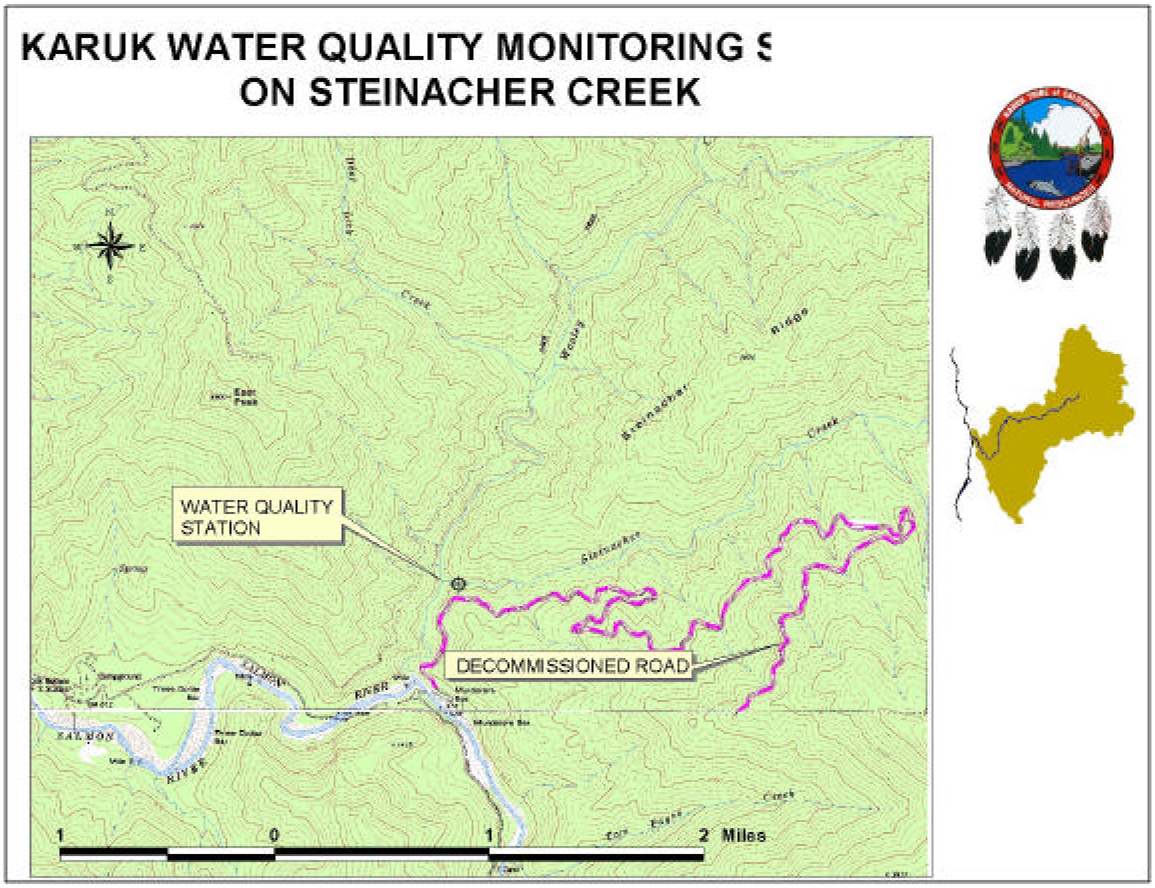

Fig. 5. Steinacher Creek water quality station.

3.0 PURPOSE

The value of water is determined by its potential uses, by both man and environment. In turn, the uses that can be made of water are determined by its quality. The Klamath River supports the Karuk Tribal fishery located at Ishi Pishi Falls, near Somes Bar California. The Karuk fishery once consisted of over a hundred families owned fishing areas that supported a population of over 2500 people. Today only the sacred fishery at Ishi Pishi Falls, near the world renew site of Katamin, can be legally fished.

The purpose of this study is to collect essential water quality data, and to continue the goals of the Karuk Tribe of California and it's water resources program. The information produced allows the Karuk Tribe to give valuable input on land management decisions and demonstrates Karuk Tribe's commitment to sound resource management. The data produced is essential in helping to prove the degraded water quality conditions that exist within the Klamath River.

4.0 IMPLEMENTATION DATA COLLECTION

The Karuk Tribe's water quality stations at Iron Gate, Seiad Valley, Orleans, and Steinacher Creek collect water temperature, dissolved oxygen (DO), pH, specific conductance, and in some instances, air temperature. This information provides interested stakeholders with sub-daily response of multiple water quality parameters. This data is critical to interpretation and definition of water quality response throughout the river system, as well as valuable maximum, minimum, mean values, and the rate of change of constituents.

The USGS and Karuk Tribe have provided staff to maintain and calibrate the water quality stations. Quality Assurance procedures are followed, and a high level confidence in the quality of the data is obtained before it is published.

5.0 WATER QUALITY MONITORING/QUALITY ASSURANCE

The Karuk Tribe has an interim Quality Assurance Project Plan (QAPP) for monitoring water quality conditions throughout the Karuk Tribes Ancestral Waters. The QAPP documents the best available scientific methods for testing water quality. During WY 2002 water quality probes were calibrated and serviced according to U.S. Fish & Wildlife Service (USF&W) QA/QC protocol. These calibrations followed the manufacturer's instructions as outlined in the ***Maintenance/Calibration/Logging Procedures*** for that specific probe. Standards or reference solutions were used for calibration of equipment that measured a particular environmental parameter. Use of reference standards is an integral component of quality control. Both water quality field equipment and laboratory equipment must be periodically calibrated to assure the instrument's accuracy. Automated water quality field equipment requires regular calibration.
During WY 2002 water quality probes were maintained at weekly intervals during the summer months (May-September) when water temperatures are high. This procedure helped to minimize lost DO data due to bio fouling of the DO membrane. During the winter months (October to April), the probes were maintained bi-weekly. The Karuk Tribes current Quality Assurance Protocol is based on past experience working with both the USGS and USF&W water quality staff.

6.0 WATER QUALITY PARAMETERS

Data for the water quality parameters listed below was collected using YSI 6820 multi-parameter probes at the Iron Gate and Seiad sites. A Hydrolab Datasonde 4a was used in Orleans and at the Steinacher Creek water quality station.

6.1 Flow

Through a cooperative agreement with the U.S. Geological Survey, discharge was measured at Indian Creek during water year 2002.

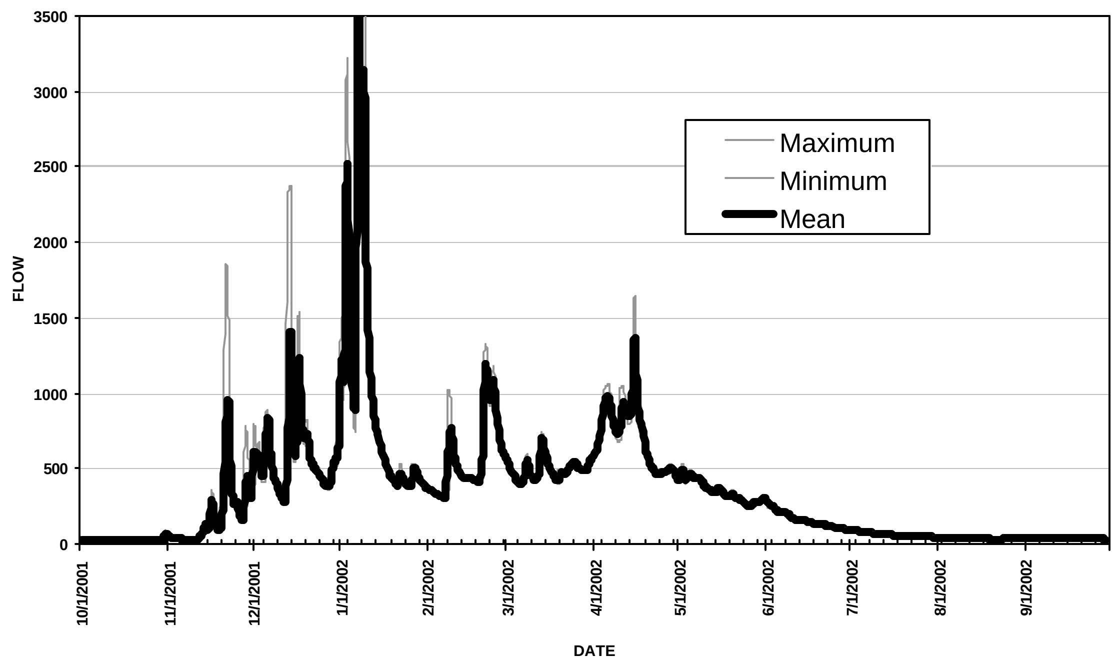

Fig. 6. Maximum, Minimum and Mean discharge at Indian Creek for WY 2002.

6.2 Water Temperature

Water temperature varies through space and time, both seasonally and diurnally (within a twenty-four hour period). Elevated temperatures may lead to increased metabolic rates in organisms and algal growth. Stream temperature is neither uniform in space nor time. Many factors can affect stream temperature, including air temperature, the amount of shaded cover (which significantly influences smaller streams), contribution of snow melt and springs (or cold water tributaries), aspect, amount of runoff from human influenced areas, and the length the stream must travel, which gives it the potential to heat up.

The most common method to assess water temperature for streams that support salmonids is to compare the temperature to an acute (lethal) and chronic (sub-lethal) temperature standard. The acute standard represents the temperature at which life cannot continue for the salmonids. The chronic temperature standard represents the maximum weekly average (mean) temperature (MWAT). This number represents an upper limit for optimum growth for salmonids. The Karuk Tribe's interim water quality objectives have set chronic and lethal temperatures at 15.5°C and 21°C respectively. The state of California currently has no numeric temperature objectives on the Klamath, although it is on their 303(d) list.

The Karuk Tribe's interim water quality objectives were violated at Iron Gate numerous times and for extended periods. The Chronic objective was violated in the beginning of the 2002 water year from October 1st, 2001 to October 13th, 2001 and from May 29th, 2002 to September 25th, 2002. . The lethal objective was violated continually from June 27th, 2002 until September 3rd, 2002. The characterization of water temperature below was conducted to assess the number of days of violation to the Karuk Tribe's interim water quality objectives. The violations are based on the available data. In cases where there was no data, a violation was not recorded.

Klamath River at Iron Gate Water Temperature Characterization

Days of Temperature Violation (Chronic) = 134 (119 measured)
Days of Temperature Violation (Lethal) = 51 (44 measured)

Klamath River at Seiad Valley Water Temperature Characterization

Days of Temperature Violation (Chronic) = 112 (74 measured)
Days of Temperature Violation (Lethal) = 56 (46 measured)

Klamath River at Orleans Water Temperature Characterization

Days of Temperature Violation (Chronic) = 136 (126 measured)
Days of Temperature Violation (Lethal) = 72 (69 measured)

Steinacher Creek Water Temperature Characterization

Days of Temperature Violation (Chronic) = 36 (36 measured)
Days of Temperature Violation (Lethal) = 0 (0 measured)

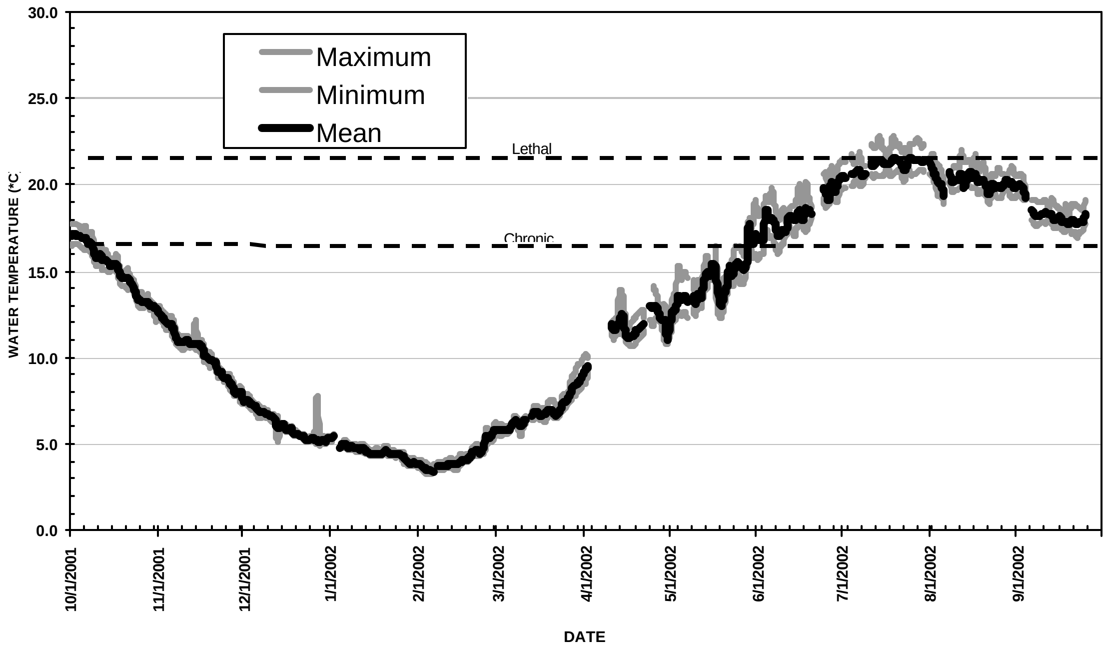

Fig. 7. Maximum, minimum and mean water temperature at Iron Gate for WY 2002.

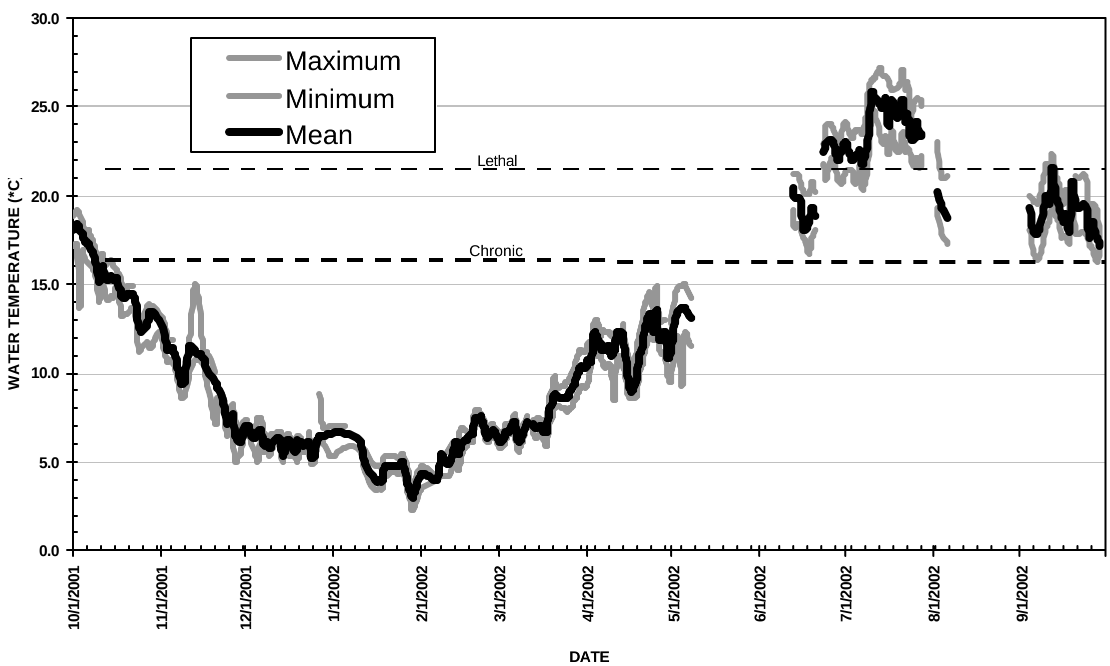

Fig. 8. Maximum minimum and mean water temperature near Seiad Valley WY 2002.

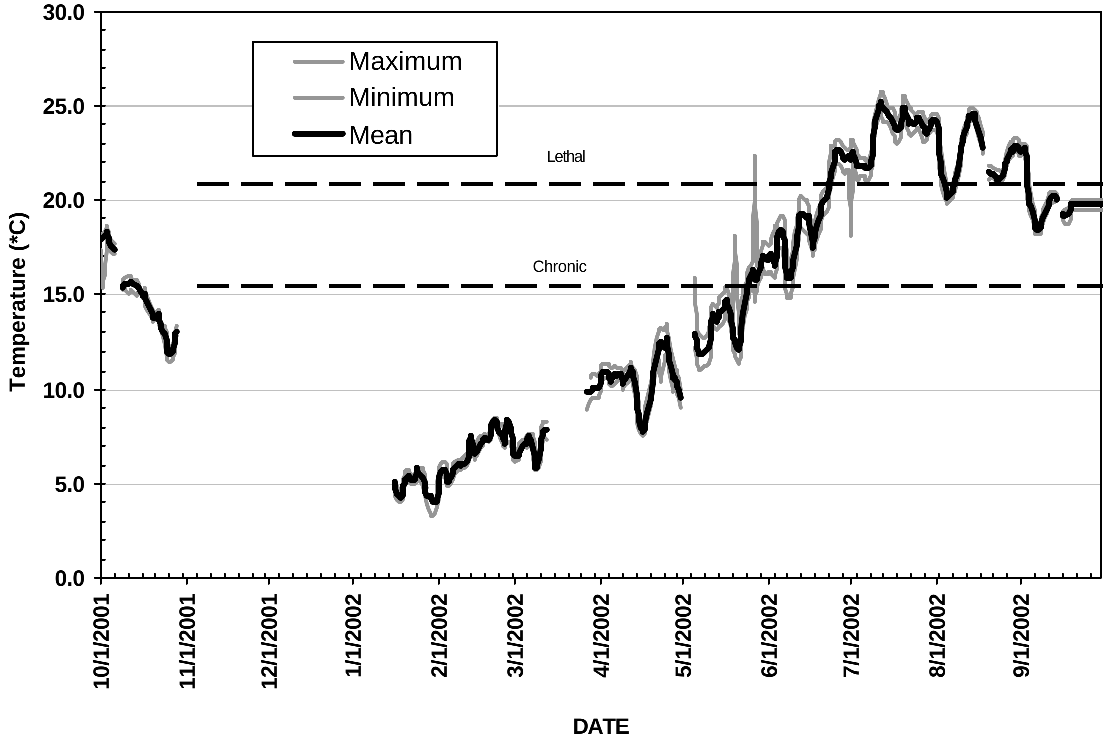

Fig. 9. Maximum minimum and mean water temperature at Orleans WY 2002.

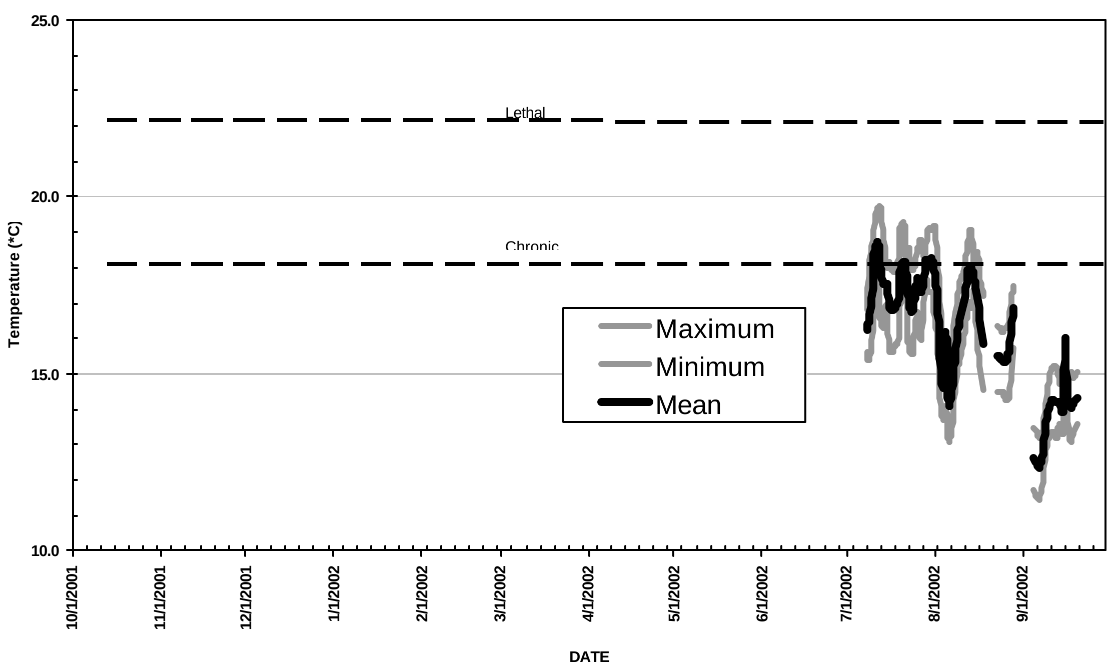

Fig. 10. Maximum minimum and mean water temperature on Steinacher WY 2002.

6.3 Dissolved Oxygen

Dissolved oxygen varies both seasonally and diurnally, particularly in the spring and summer when photosynthesis adds oxygen to the system during the day and respiration consumes it at night (Clawson, 1986). In cold water, oxygen is more soluble; therefore the amount of available oxygen for salmonids is greater. Oxygen levels become reduced when water temperatures are elevated. A supersaturated (very high DO) environment may exist during daytime hours, but at night DO levels may drop to lethal levels due to microbial respiration and lack of photosynthesis.

The Karuk Tribe's interim water quality objectives have established minimum DO levels for waters designated as COLD Waters to be 6.0 mg/L, and SPWN (spawning) Waters to be 9.0 mg/L during egg incubation of tribal trust aquatic species. The state of California has established a minimum DO level of 8.0 mg/L, and put the Klamath on their 303(d) list for having DO levels that do not meet their Basin Plan Objectives.

Klamath River at Iron Gate Dissolved Oxygen Characterization

Days of DO Violation (COLD) = 63 (53 measured)
Days of DO Violation (SPAWN) = 213 (187 measured)

Klamath River at Seiad Valley Dissolved Oxygen Characterization

Days of DO Violation (COLD) = 3 (3 measured)
Days of DO Violation (SPAWN) = 192 (144 measured)

Klamath River at Orleans Dissolved Oxygen Characterization

Days of DO Violation (COLD) = 5 (5 measured)
Days of DO Violation (SPAWN) = 148 (143 measured)

Steinacher Creek Dissolved Oxygen Characterization

Days of DO Violation (COLD) = 0 (0 measured)
Days of DO Violation (SPAWN) = 60

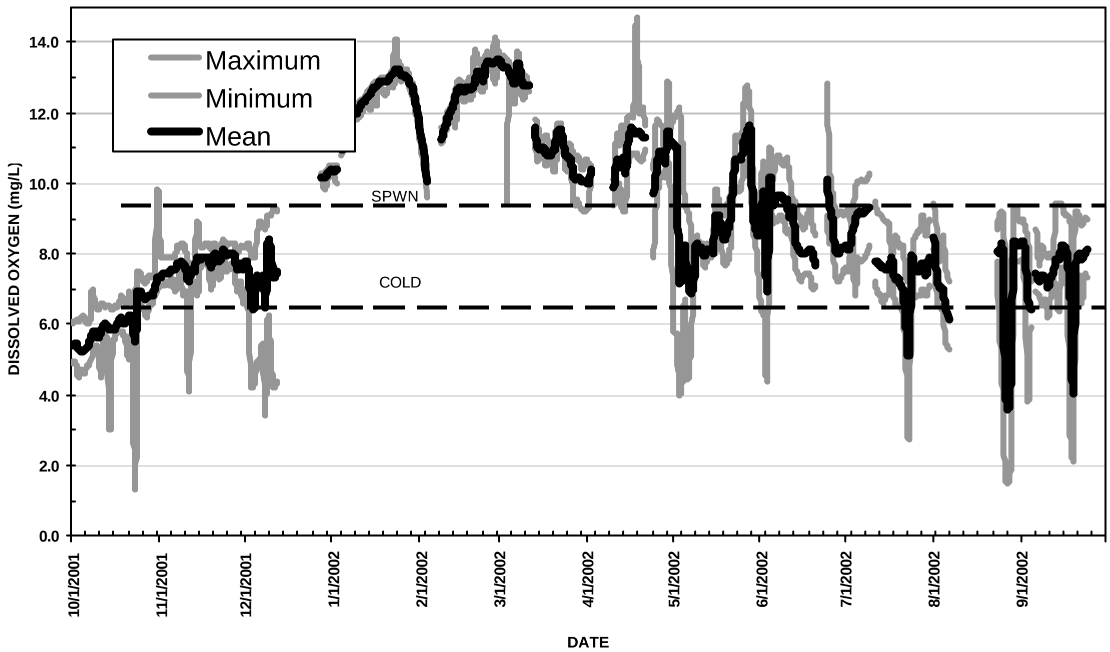

Fig. 11. Maximum, minimum, and mean dissolved oxygen at Iron Gate for WY 2002.

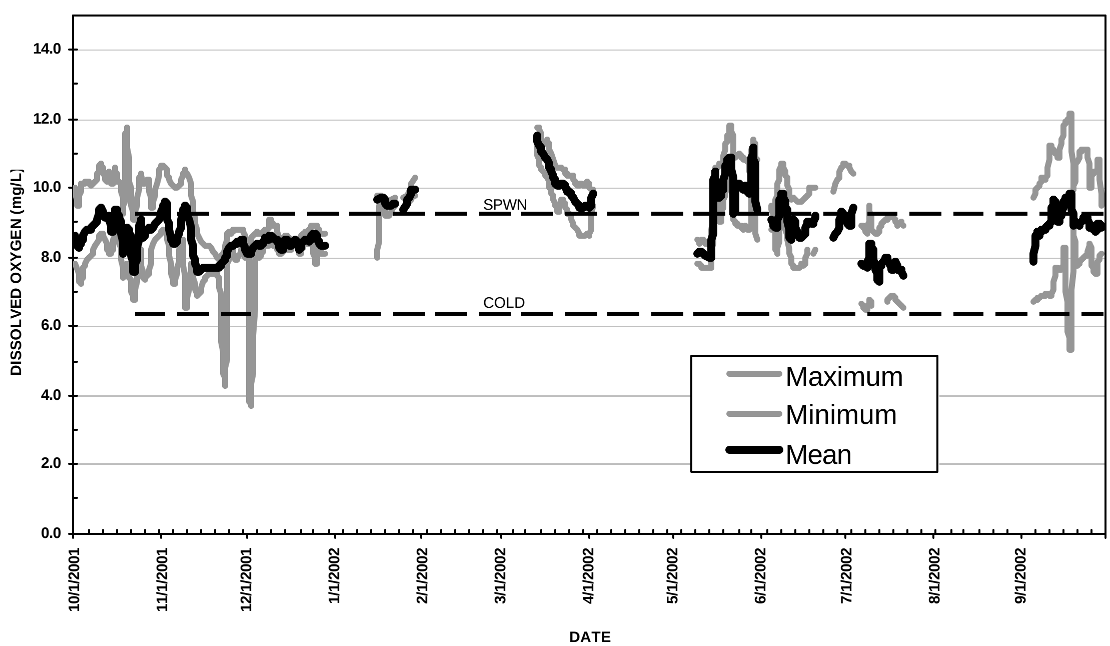

Fig. 12. Maximum, minimum, and mean dissolved oxygen at Seiad Valley for WY 2002.

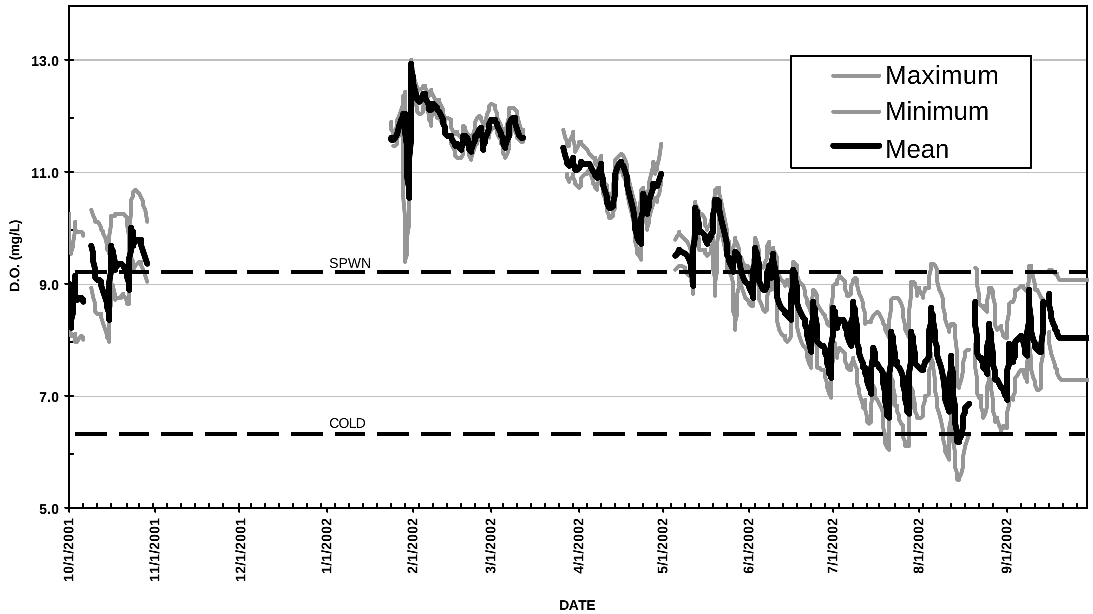

Fig. 13. Maximum, minimum, and mean dissolved oxygen at Orleans for WY 2002.

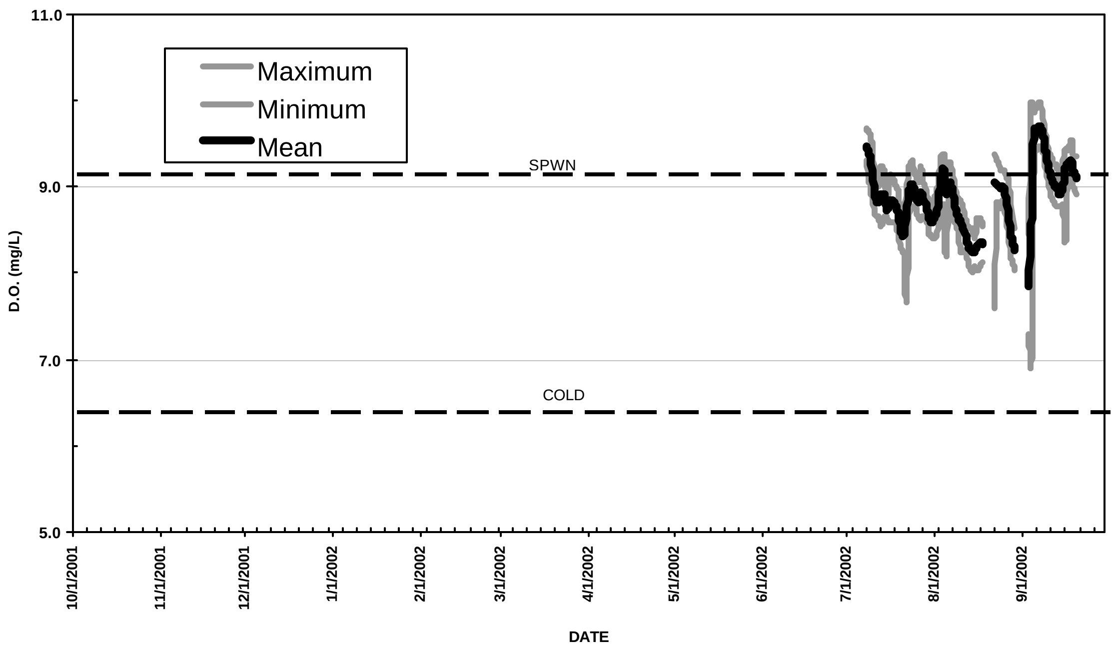

Fig. 14 Maximum, minimum, and mean dissolved oxygen at Steinacher Cr. for WY 2002.

6.4 pH/Alkalinity

Alkalinity of water refers to an ability to accept hydrogen ions, to neutralize acid, and is a direct counterpart to acidity. High alkalinity has the effect of buffering or resisting pH change, and consequently reducing effects on pH from biological sources (Gwynne, 1993). Buffering occurs in the presence of carbon monoxide (CO). CO enters the water through decomposition, plant and algal respiration, and from the atmosphere. Diel fluctuations are caused by increased photosynthesis during the day, removing CO from the water, and allowing the pH to rise. The reverse occurs at night, with plant respiration and decomposition releasing CO to the water and driving pH downward (Gwynne, 1993). The Karuk Tribe has established a minimum pH objective of 7 and a maximum of 8.5. These objectives reflect the State of California's numeric standard for pH.

Klamath River at Iron Gate pH Characterization

Days of pH Violation (Maximum) = 50 (42 measured)
Days of pH Violation (Minimum) = 6 (1 measured)

Klamath River at Seiad Valley pH Characterization

Days of pH Violation (Maximum) = 80 (30 measured)
Days of pH Violation (Minimum) = 7 (7 measured)

Klamath River at Orleans pH Characterization

Days of pH Violation (Maximum) = 50 (49 measured)
Days of pH Violation (Minimum) = 0 (0 measured)

Steinacher Creek pH Characterization

Days of pH Violation (Maximum) = 0 (0 measured)
Days of pH Violation (Minimum) = 0 (0 measured)

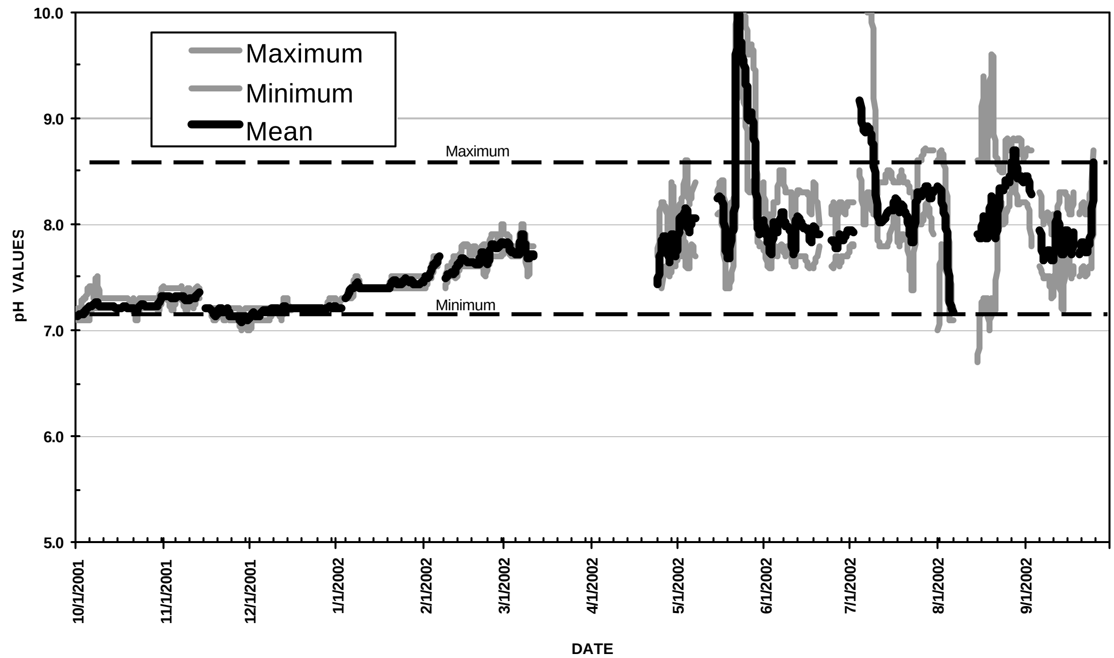

Fig. 15. Maximum, minimum and mean pH values at Iron Gate for WY 2002.

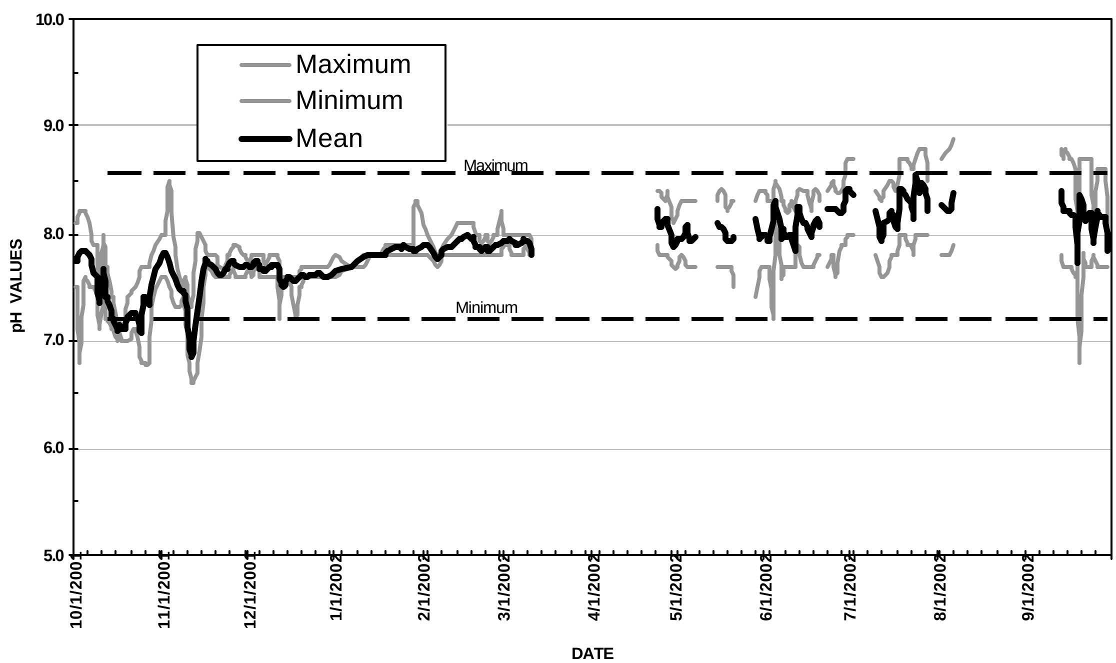

Fig. 16. Maximum, minimum and mean pH values at Seiad Valley for WY 2002.

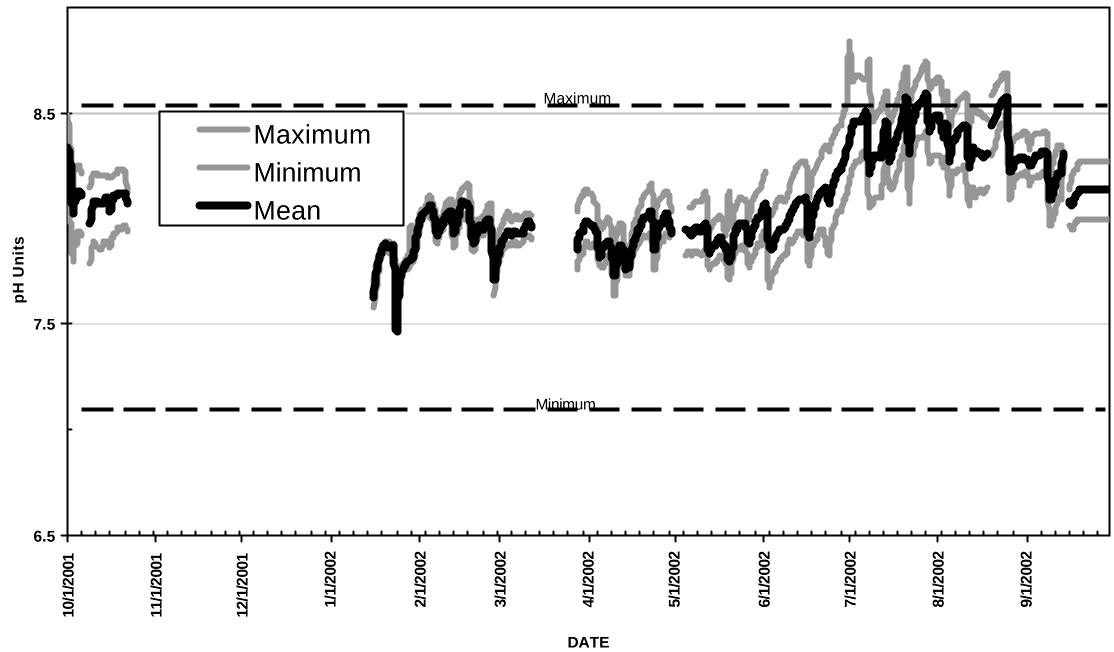

Fig. 17. Maximum, minimum and mean pH values at Orleans for WY 2002.

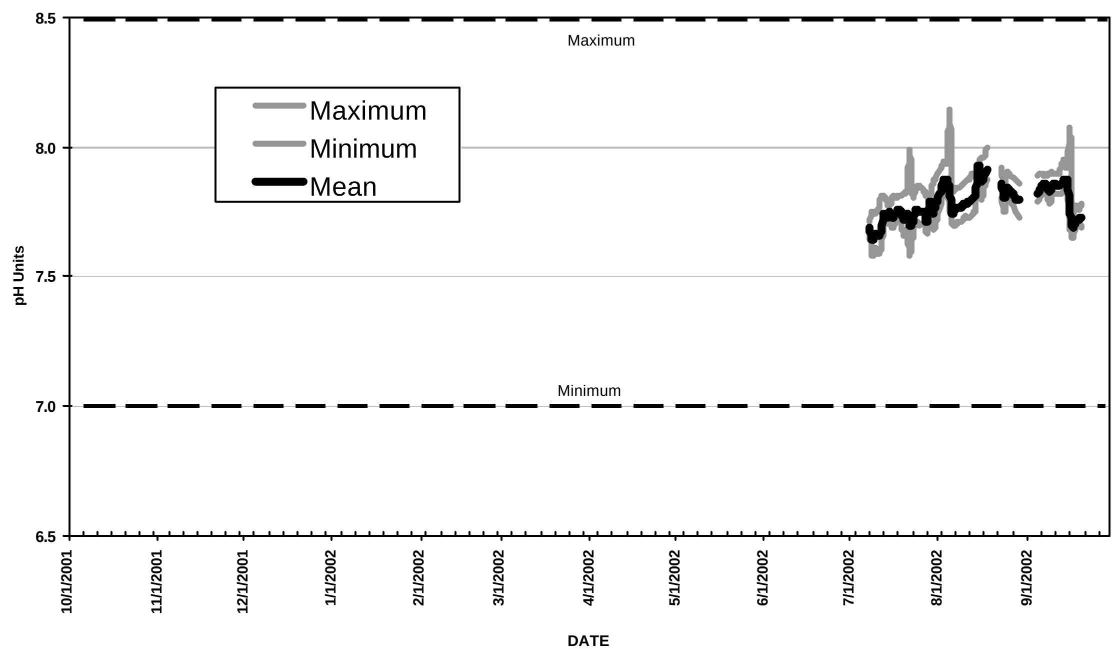

Fig. 18. Maximum, minimum and mean pH values on Steinacher Creek for WY 2002.

6.5 Specific Conductance

Specific conductance (SC) is a measure of the electrical conductance by water at 25°C, and is a function of the concentration of dissolved solids in solution. The higher the concentration of dissolved solids in solution, the higher the SC of the water (Gwynne, 1993). SC measures how well water can conducts an electrical current across a particular length.

Conductivity increases with increasing amount and mobility of ions. These ions, which come from the breakdown of compounds, conduct electricity because they are negatively or positively charged when dissolved in water. Therefore, SC is an indirect measure of the presence of dissolved solids such as chloride, nitrate, sulfate, phosphate, sodium, magnesium, calcium, and iron, and can be used as an indicator of water pollution. The Karuk Tribe's pH objective is consistent with the state of California's, which is 350 µmhos/cm for a 90% upper limit and 275µmhos/cm for a 50% upper limit. The 90% upper and lower limits represent the 90 percentile values for a calendar year. 90% or more of the values must be less than or equal to an upper limit and greater than or equal to a lower limit. The 50% upper and lower limits represent the 50 percentile values of the monthly means for a calendar year. 50% or more of the monthly means must be less than or equal to an upper limit and greater than or equal to a lower limit.

Klamath River at Iron Gate Conductivity Characterization

Upper 90% for Calendar Year = 192 (In Compliance)
Upper 50% for Monthly Means = 172 (In Compliance)

Klamath River at Seiad Valley Conductivity Characterization

Upper 90% for Calendar Year = 216 (In Compliance)
Upper 50% for Monthly Means = 187 (In Compliance)

Klamath River at Orleans Conductivity Characterization

Upper 90% for Calendar Year = 188 (In Compliance, but with incomplete data set)
Upper 50% for Monthly Means = 139 (In Compliance, but with incomplete data set)

Steinacher Creek Conductivity Characterization

Upper 90% for Calendar Year = 107 (In Compliance, but with incomplete data set) Upper 50% for Monthly Means = 101 (In Compliance, but with incomplete data set)

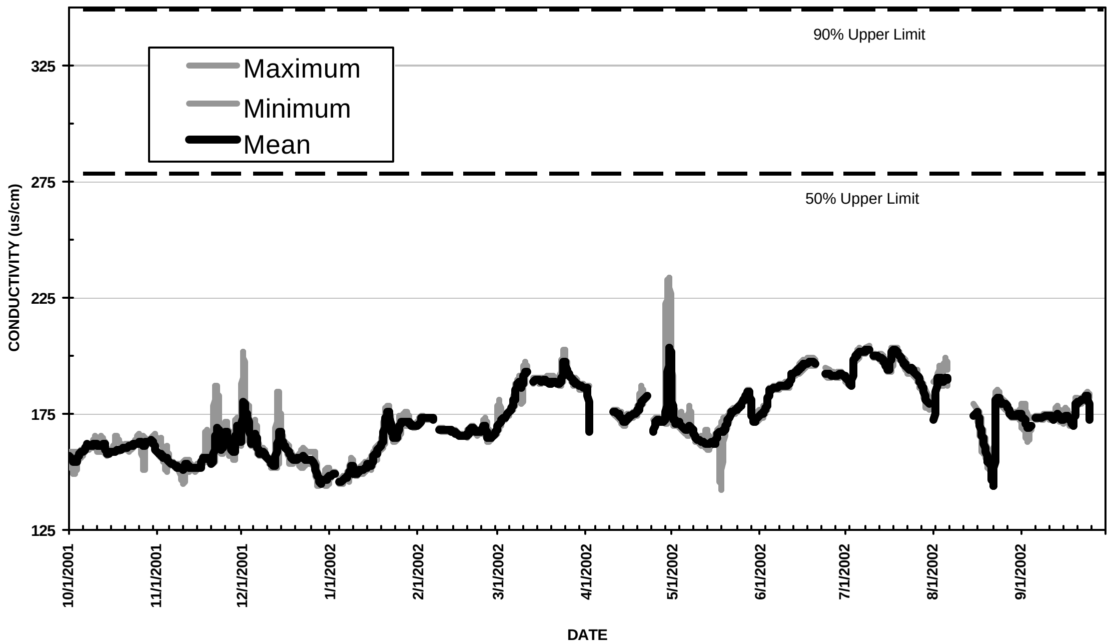

Fig. 19. Maximum, minimum, and mean conductivity values at Iron Gate for WY 2002.

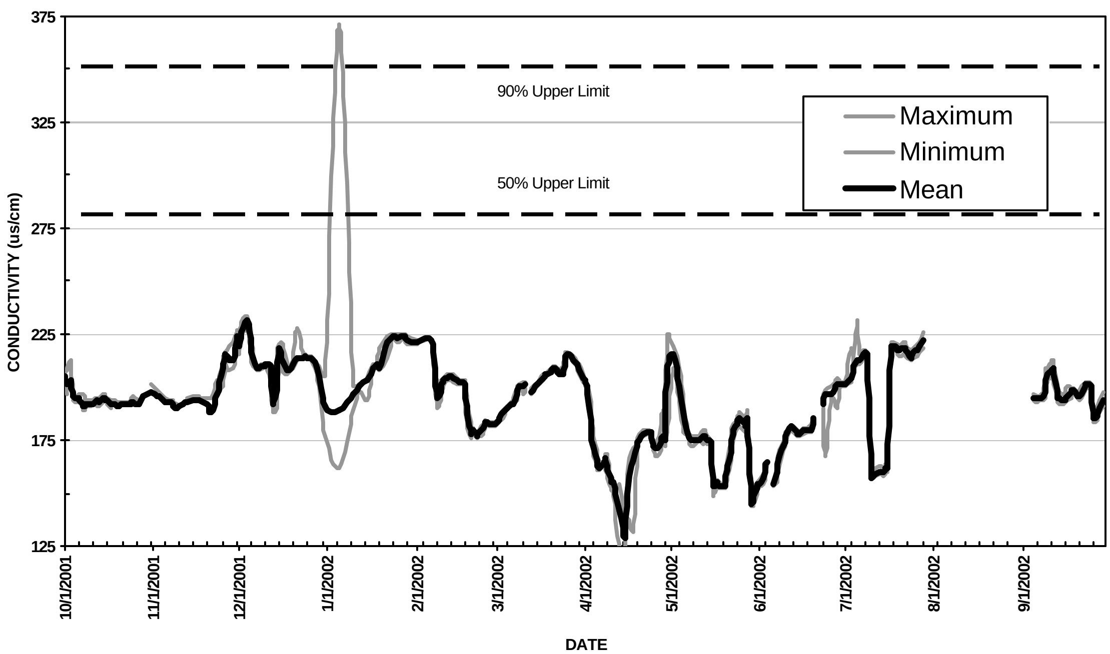

Fig. 20. Maximum, minimum, and mean conductivity values at Seiad Valley for WY 2002.

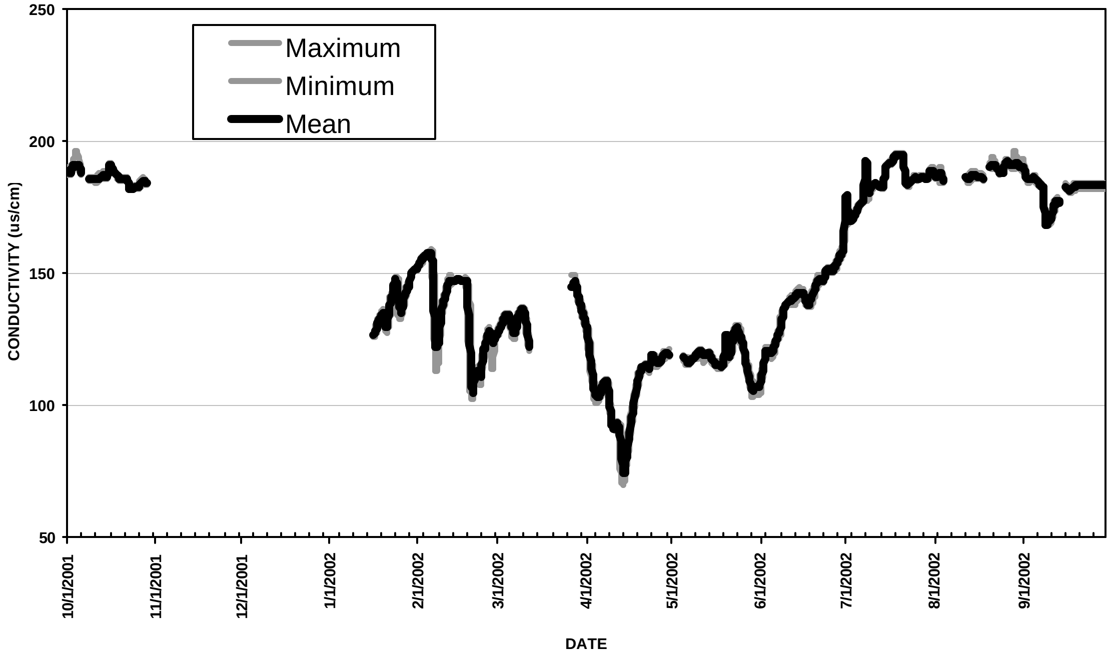

Fig. 21. Maximum, minimum, and mean conductivity values at Orleans for WY 2002.

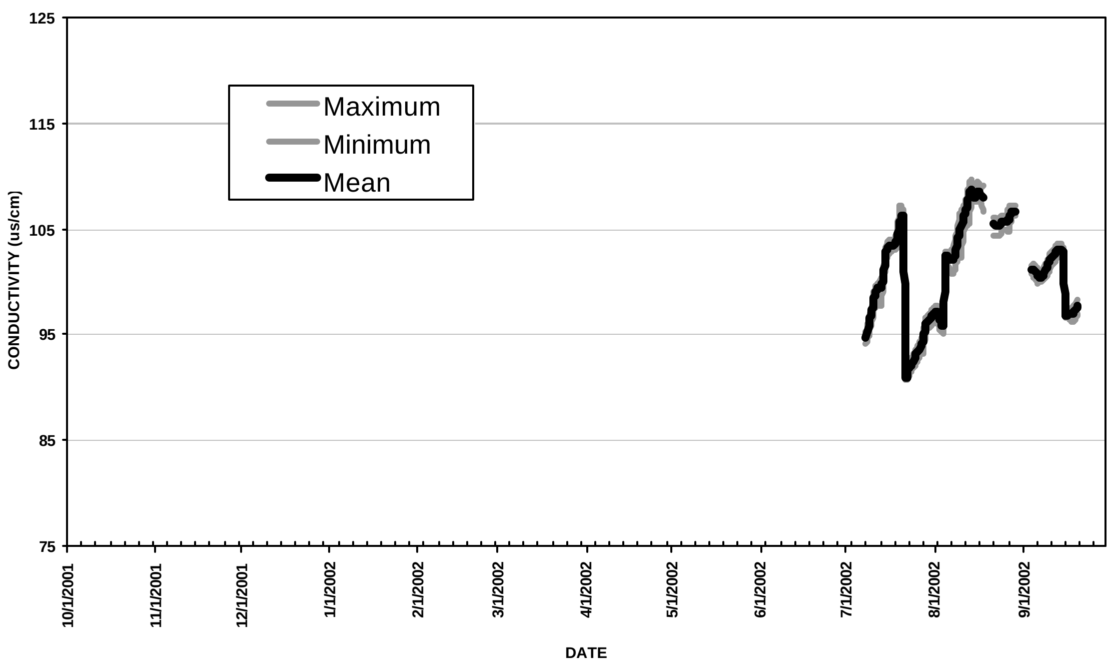

Fig. 22. Maximum, minimum, and mean conductivity on Steinacher Cr. for WY 2002.

6.6 Air Temperature

Air temperature has a direct and substantial effect on the temperature of water. Aside from possible global warming, most air temperature fluctuations can be thought of as natural. Water possesses many important thermal qualities. For instance, water has a high specific heat, which means water is not subject to rapid temperature fluctuations because it can absorb or lose large amounts of heat with relatively small changes in temperature. Small water bodies will be influenced by air temperature more quickly than larger water bodies. This attribute causes water temperature to change gradually in response to seasonal changes. Water temperature is most influenced by the temperature of the air during the summer season, when we have both long and hot days and nights.

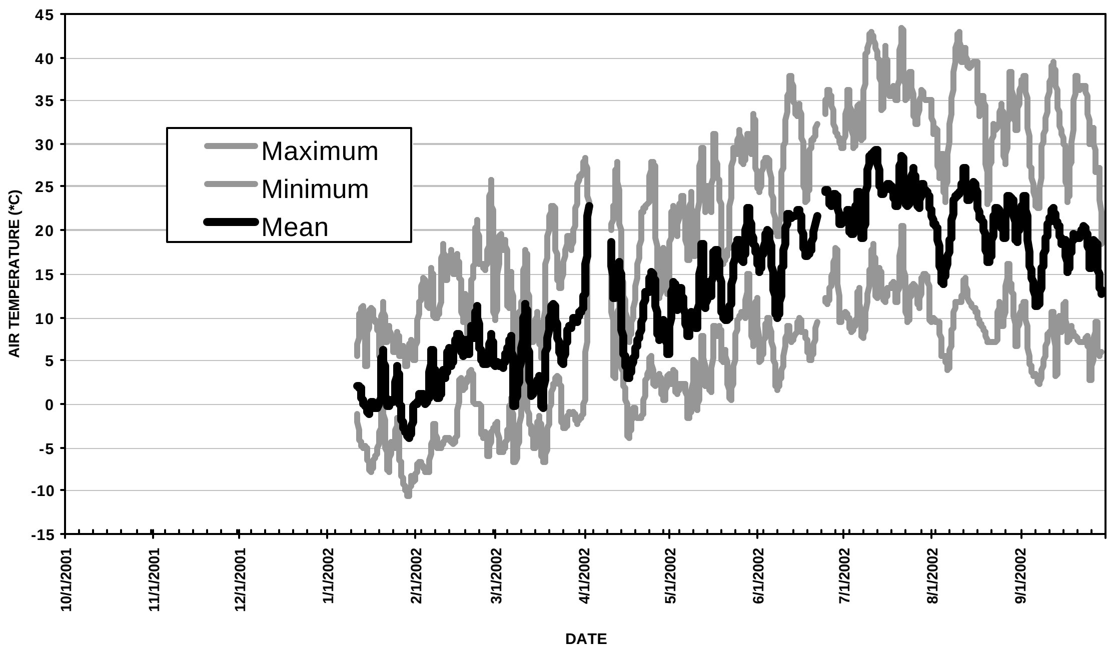

Fig. 23. Maximum, minimum, and mean air temperature at Iron Gate for WY 2002.

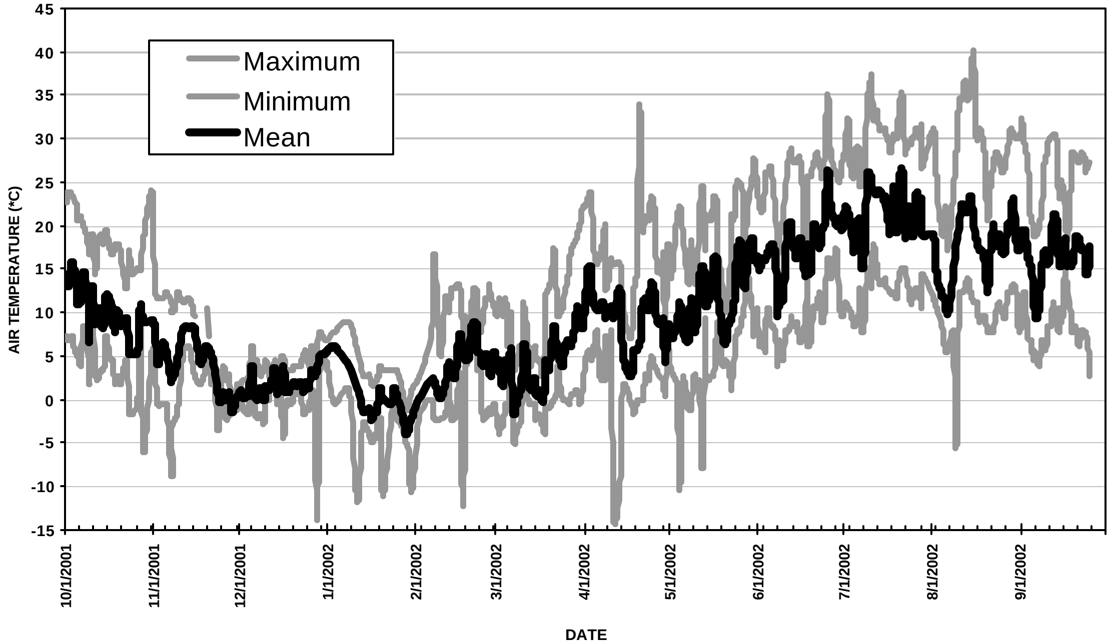

Fig. 24. Maximum, minimum, and mean air temperature at Seiad Valley for WY 2002.

7.0 DATA MANAGEMENT

During water year 2002 the Karuk Tribe of California collected all water quality data via a data collection platform located at each water quality station. Data was downloaded through the California Data Exchange Center. Once the data was downloaded, outliers and data associated with maintenance activity were omitted, and daily values were obtained an Excel spreadsheet.

Water quality data, as well as reports and appendixes, are available via the Karuk Tribe's Department of Natural Resources web site at www.pcweb.net/karukdnr, or through the California Data Exchange Center (CDEC) at http://cdec.water.ca.gov/. Search for KIW for the Iron Gate water quality station, and KSW for the Seiad Valley water quality station.

8.0 SUMMARY

The purpose of this study is to develop baseline information that the Tribe, other agencies, and interested groups, can utilize in assessing the condition of the Klamath River. During this ongoing water quality monitoring effort, a significant amount of resources have been expended to produce the data. Included are the Karuk Tribe's "Draft", as well as the state of California's numeric, Water Quality Control Control Plan objectives, where appropriate.

Figure 25 below shows that both the state of California as well as the Karuk Tribe's water quality objectives were violated numerous times during this study. The most alarming violations were to lethal and chronic water temperatures, dissolved oxygen for spawning (SPWN) waters, and pH maximums. These objectives are continually exceeded between May and October at the Iron Gate, Seiad Valley and Orleans gauges.

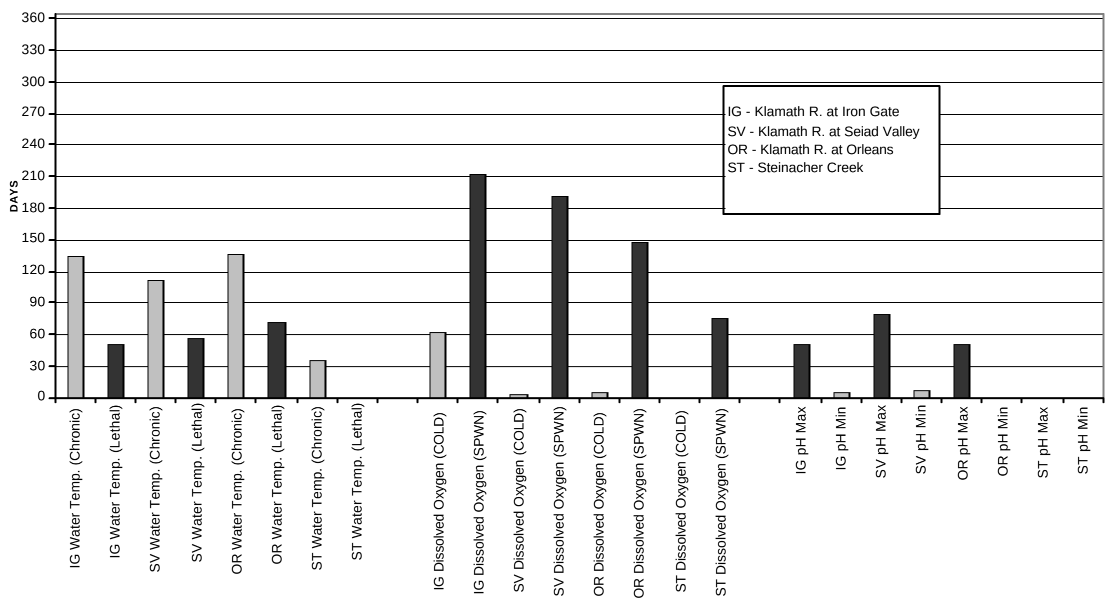

Fig. 25. Days of Karuk water quality objective violations during WY 2002

The data within this document should help the reader develop an opinion as to the water quality conditions that exist along the middle portion of the Klamath River. It is the intention of the Karuk Tribe's Water Resources staff to paint an accurate picture as possible of the condition of our water resources, using the best available science.

Appendix A

Klamath River at Iron Gate Water Quality Data

Water Year 2002

KLAMATH RIVER AT IRON GATE
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
10/1/2001	17.7	16.5	17.1	7.2	7.1	7.1	6.0	4.9	5.4	158	157	157			
10/2/2001	17.7	16.6	17.1	7.2	7.1	7.1	6.1	4.9	5.5	158	149	155			
10/3/2001	17.7	16.6	17.1	7.3	7.1	7.1	6.1	4.5	5.3	158	149	154			
10/4/2001	17.6	16.5	17.0	7.3	7.1	7.2	6.2	4.7	5.3	158	156	157			
10/5/2001	17.4	16.4	16.9	7.4	7.1	7.2	6.2	4.6	5.3	159	156	158			
10/6/2001	17.6	16.2	16.9	7.4	7.2	7.2	6.0	4.8	5.3	160	158	159			
10/7/2001	17.0	16.2	16.6	7.3	7.2	7.2	6.1	4.9	5.5	162	159	161			
10/8/2001	17.3	16.1	16.6	7.5	7.2	7.3	7.0	5.1	5.7	162	160	161			
10/9/2001	16.7	15.7	16.1	7.3	7.2	7.2	6.5	5.4	5.8	162	160	161			
10/10/2001	16.2	15.3	15.8	7.3	7.2	7.2	6.4	5.2	5.6	165	161	162			
10/11/2001	16.5	15.6	16.0	7.3	7.2	7.2	6.6	4.5	5.8	163	158	161			
10/12/2001	16.3	15.1	15.7	7.3	7.2	7.2	6.5	5.7	6.0	165	159	161			
10/13/2001	16.2	15.1	15.7	7.3	7.2	7.2	6.5	5.6	5.9	163	158	162			
10/14/2001	16.0	14.9	15.5	7.3	7.2	7.2	6.5	3.0	5.9	159	157	158			
10/15/2001	15.7	15.0	15.3	7.3	7.2	7.2	6.4	5.4	5.8	159	158	158			
10/16/2001	15.7	15.2	15.4	7.3	7.2	7.2	6.5	5.6	5.8	159	158	158			
10/17/2001	15.9	15.1	15.4	7.3	7.2	7.2	6.5	5.8	6.1	165	158	159			
10/18/2001	15.3	14.4	14.9	7.3	7.2	7.2	6.8	5.8	6.2	164	158	159			
10/19/2001	14.9	14.1	14.6	7.3	7.2	7.2	6.7	5.7	6.1	161	159	160			
10/20/2001	15.0	14.2	14.6	7.2	7.2	7.2	6.6	5.3	6.1	161	160	160			
10/21/2001	15.1	13.9	14.5	7.3	7.2	7.2	6.9	5.0	6.3	162	159	160			
10/22/2001	14.6	14.0	14.4	7.2	7.1	7.2	6.6	5.6	6.2	162	159	161			
10/23/2001	14.4	13.8	14.1	7.3	7.2	7.2	6.8	1.3	5.5	162	160	161			
10/24/2001	13.9	13.3	13.6	7.3	7.2	7.2	7.5	6.6	6.9	163	161	162			
10/25/2001	13.8	12.9	13.3	7.3	7.2	7.2	7.4	6.5	6.9	166	162	162			
10/26/2001	13.7	12.8	13.3	7.3	7.2	7.2	7.2	6.4	6.8	164	162	163			
10/27/2001	13.5	12.9	13.2	7.3	7.2	7.2	7.2	6.2	6.7	165	151	161			
10/28/2001	13.6	13.1	13.2	7.3	7.2	7.2	7.4	6.5	6.8	164	163	163			
10/29/2001	13.3	12.8	13.0	7.3	7.2	7.2	7.3	6.6	6.8	163	162	163			
10/30/2001	13.1	12.8	12.9	7.3	7.2	7.3	7.5	6.8	7.1	165	162	163			
10/31/2001	13.0	12.0	12.8	7.4	7.3	7.3	9.8	7.0	7.3	166		160			
11/1/2001	13.0	12.4	12.7	7.4	7.3	7.3	7.9	7.1	7.4	162	157	158			
11/2/2001	12.7	12.2	12.4	7.4	7.3	7.3	7.9	7.1	7.4	164	156	157			
11/3/2001	12.6	11.8	12.1	7.4	7.2	7.3	7.9	7.2	7.5	157	155	156			
11/4/2001	12.3	11.6	11.9	7.4	7.2	7.3	7.9	7.1	7.5	161	150	156			
11/5/2001	12.4	11.6	12.0	7.4	7.3	7.3	7.9	7.3	7.5	155	154	154			
11/6/2001	12.2	11.2	11.7	7.4	7.3	7.3	7.9	6.9	7.5	154	153	153			
11/7/2001	11.6	10.8	11.2	7.4	7.3	7.3	8.2	7.2	7.7	153	152	153			
11/8/2001	11.3	10.7	10.9	7.3	7.2	7.3	8.2	7.4	7.8	153	152	152			
11/9/2001	11.2	10.5	10.9	7.4	7.2	7.3	8.3	6.8	7.7	153	147	152			
11/10/2001	11.2	10.5	10.9	7.3	7.3	7.3	8.0	6.9	7.5	154	145	151			
11/11/2001	11.3	10.8	11.0	7.3	7.2	7.3	7.7	4.1	7.2	155	152	153			
11/12/2001	10.9	10.6	10.8	7.4	7.3	7.3	7.7	7.2	7.5	155	150	152			
11/13/2001	10.9	10.6	10.8	7.4	7.3	7.4	7.8	7.2	7.5	152	151	152			
11/14/2001	12.2	10.5	10.8				8.9	6.8	7.9	152	150	152			
11/15/2001	10.8	10.4	10.8	7.2	7.2	7.2	8.2	7.7	7.9	153	151	152			
11/16/2001	11.0	10.2	10.6	7.2	7.2	7.2	8.2	7.7	7.9	154	152	152			
11/17/2001	10.6	9.7	10.2	7.2	7.2	7.2	8.3	7.7	7.9	156	154	156			
11/18/2001	10.3	9.8	10.1	7.2	7.1	7.2	8.3	7.6	7.9	168	154	156			
11/19/2001	10.3	9.4	9.8	7.2	7.1	7.1	8.1	7.0	7.6	158	154	155			
11/20/2001	9.9	9.6	9.8	7.2	7.2	7.2	8.3	7.8	8.0	155	153	154			
11/21/2001	9.8	9.4	9.7	7.2	7.2	7.2	8.1	7.5	7.9	187	155	162			
11/22/2001	9.5	8.9	9.2	7.2	7.1	7.2	8.2	7.3	7.8	186	161	168			
11/23/2001	9.3	8.9	9.2	7.2	7.2	7.2	8.4	7.9	8.1	161	158	160			
11/24/2001	9.0	8.6	8.8	7.2	7.1	7.1	8.2	7.5	7.9	168	158	161			
11/25/2001	9.1	8.7	8.8	7.2	7.1	7.1	8.3	7.6	8.0	171	165	167			
11/26/2001	9.1	8.3	8.6	7.2	7.1	7.1	8.3	7.7	8.0	166	157	163			
11/27/2001	8.7	8.0	8.4	7.2	7.1	7.1	8.3	7.5	7.9	160	157	159			
11/28/2001	8.2	7.7	7.9	7.1	7.0	7.1	8.0	6.9	7.5	169	155	159			
11/29/2001	8.3	7.8	8.0	7.2	7.1	7.1	8.2	7.2	7.7	173	167	170			
11/30/2001	8.3	7.4	8.0	7.2	7.0	7.1	8.2	6.6	7.6	167	161	163			
12/1/2001	7.6	7.3	7.5	7.2	7.0	7.1	8.2	7.0	7.8	201	164	179			
12/2/2001	7.9	7.4	7.6	7.2	7.1	7.2	8.3	6.2	7.6	179	169	175			
12/3/2001	7.8	7.2	7.4	7.2	7.1	7.1	7.9	4.2	6.6	178	164	170			
12/4/2001	7.6	7.0	7.3	7.2	7.1	7.1	7.9	4.3	6.5	164	161	162			
12/5/2001	7.3	6.9	7.2	7.2	7.1	7.2	8.5	4.9	7.4	172	161	166			
12/6/2001	7.3	6.5	6.9	7.2	7.1	7.2	8.9	5.0	7.1	166	158	161			
12/7/2001	7.1	6.5	6.8	7.2	7.1	7.2	8.8	5.4	7.4	158	157	158			
12/8/2001	7.1	6.7	6.9	7.2	7.1	7.2	8.7	3.4	6.5	160	158	159			
12/9/2001	7.0	6.6	6.7	7.2	7.2	7.2	9.1	6.2	8.4	158	156	157			
12/10/2001	6.7	6.6	6.6	7.2	7.2	7.2	9.1	4.9	7.9	156	154	155			
12/11/2001	6.8	6.3	6.6	7.2	7.2	7.2	9.3	4.2	7.4	154	152	153			
12/12/2001	6.6	6.3	6.5	7.2	7.1	7.2	9.2	4.4	7.5	153	152	153			
12/13/2001	6.6	5.1	5.9	7.3	7.2	7.2				184	152	162			
12/14/2001	6.1	5.7	6.0	7.3	7.2	7.2				173	163	167			
12/15/2001	6.2	6.1	6.1	7.2	7.2	7.2				164	160	162			
12/16/2001	6.2	5.7	5.9	7.2	7.2	7.2				162	160	160			
12/17/2001	5.9	5.8	5.9	7.2	7.2	7.2				161	155	159			

KLAMATH RIVER AT IRON GATE
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
12/18/2001	6.0	5.8	5.9	7.2	7.2	7.2				158	153	156			
12/19/2001	5.8	5.4	5.6	7.2	7.2	7.2				156	154	155			
12/20/2001	5.7	5.6	5.6	7.2	7.2	7.2				156	155	156			
12/21/2001	5.6	5.4	5.5	7.2	7.2	7.2				158	152	156			
12/22/2001	5.6	5.3	5.4	7.2	7.2	7.2				160	152	156			
12/23/2001	5.4	5.1	5.2	7.2	7.2	7.2				159	153	155			
12/25/2001	5.4	5.2	5.3	7.2	7.2	7.2				158	153	155			
12/26/2001	5.4	5.2	5.3	7.2	7.2	7.2				158	152	153			
12/27/2001	7.7	5.0	5.2	7.2		7.2				152	144	149			
12/28/2001	5.3	4.9	5.1	7.2	7.2	7.2	10.3	10.1	10.2	146	145	145			
12/29/2001	5.5	5.2	5.3	7.3	7.2	7.2	10.3	9.8	10.2	147	145	146			
12/30/2001	5.3	5.0	5.2	7.3	7.2	7.2	10.4	10.1	10.3	151	144	146			
12/31/2001	5.4	5.2	5.3	7.3	7.2	7.2	10.5	10.2	10.4	152	145	148			
1/1/2002	5.5	5.2	5.3	7.2	7.2	7.2	10.5	10.2	10.3	149	148	148			
1/2/2002	5.6	5.4	5.5	7.3	7.2	7.2	10.5	10.0	10.4	150	149	149			
1/3/2002															
1/4/2002	4.9	4.7	4.8	7.3	7.3	7.3	11.2	10.8	10.9	146	145	145			
1/5/2002	5.1	4.8	5.0	7.4	7.3	7.4	11.1	11.0	11.0	148	145	146			
1/6/2002	5.2	4.8	5.0	7.4	7.3	7.4	11.6	11.1	11.3	148	147	148			
1/7/2002	5.1	4.7	4.8	7.5	7.4	7.4	11.9	11.5	11.7	151	146	149			
1/8/2002	5.1	4.7	4.9	7.5	7.4	7.4	12.1	11.9	12.0	156	150	153			
1/9/2002	4.9	4.6	4.8	7.4	7.4	7.4	12.1	11.8	12.0	151	149	149			
1/10/2002	4.9	4.6	4.8	7.4	7.4	7.4	12.3	11.9	12.1	150	148	149			
1/11/2002	4.8	4.6	4.7	7.4	7.4	7.4	12.4	12.0	12.3	152	150	151	5.6	-1.1	2.0
1/12/2002	5.1	4.5	4.7	7.4	7.4	7.4	12.4	12.2	12.3	152	149	150	10.6	-4.4	1.8
1/13/2002	4.8	4.4	4.6	7.4	7.4	7.4	12.6	12.2	12.4	154	150	152	11.1	-5.0	0.2
1/14/2002	4.7	4.4	4.6	7.4	7.4	7.4	12.7	12.1	12.5	154	152	153	4.4	-5.0	-0.3
1/15/2002	4.6	4.3	4.4	7.4	7.4	7.4	12.8	12.6	12.7	156	151	153	10.0	-7.2	-1.2
1/16/2002	4.7	4.3	4.5	7.4	7.4	7.4	12.9	12.2	12.7	159	156	157	11.1	-7.8	0.2
1/17/2002	4.7	4.3	4.5	7.4	7.4	7.4	12.9	12.7	12.8	161	155	158	9.4	-6.1	-0.6
1/18/2002	4.7	4.3	4.5	7.4	7.4	7.4	13.0	12.7	12.9	162	159	161	9.4	-5.6	-0.5
1/19/2002	4.6	4.3	4.4	7.4	7.4	7.4	13.0	12.5	12.9	166	160	163	5.6	-2.8	0.6
1/20/2002	4.9	4.4	4.6	7.5	7.4	7.4	13.0	12.6	12.9	177	163	172	11.7	0.0	6.3
1/21/2002	4.8	4.3	4.5	7.5	7.4	7.5	13.1	12.8	13.0	178	173	176	7.2	-4.4	0.8
1/22/2002	4.5	4.3	4.4	7.5	7.4	7.4	13.3	12.7	13.1	173	167	169	8.9	-7.8	-0.3
1/23/2002	4.6	4.3	4.4	7.5	7.4	7.4	14.1	13.0	13.2	167	163	165	7.8	-4.4	0.4
1/24/2002	4.6	4.2	4.4	7.5	7.4	7.4	13.4	13.1	13.2	166	164	165	6.1	-5.0	0.3
1/25/2002	4.5	4.3	4.4	7.5	7.4	7.5	13.3	12.9	13.1	174	165	170	8.3	-1.7	4.3
1/26/2002	4.6	4.1	4.3	7.5	7.4	7.5	13.2	13.0	13.0	173	171	172	5.6	-6.7	-0.1
1/27/2002	4.4	3.9	4.2	7.5	7.4	7.5	13.2	12.9	13.0	176	170	172	6.7	-8.9	-2.6
1/28/2002	4.2	3.7	4.0	7.5	7.4	7.4	13.0	12.7	12.8	174	170	172	4.4	-10.0	-3.2
1/29/2002	4.1	3.7	3.8	7.5	7.4	7.4	12.8	12.4	12.6	170	170	170	6.7	-10.6	-3.9
1/30/2002	4.2	3.7	3.9	7.5	7.4	7.4	12.5	12.0	12.3	170	169	170	7.2	-8.3	-2.8
1/31/2002	4.1	3.8	3.9	7.5	7.4	7.5	12.0	11.5	11.8	171	170	170	5.0	-8.9	0.0
2/1/2002	4.1	3.6	3.9	7.5	7.4	7.5	11.5	11.0	11.3	173	170	171	8.9	-7.2	-0.1
2/2/2002	4.0	3.6	3.8	7.5	7.5	7.5	11.0	10.3	10.7	174	172	173	11.7	-6.7	1.1
2/3/2002	3.9	3.3	3.6	7.6	7.5	7.6	10.3	9.6	10.0	173	172	173	14.4	-7.2	1.1
2/4/2002	3.8	3.2	3.5	7.7	7.6	7.6				173	172	173	13.9	-7.8	0.1
2/5/2002	3.7	3.2	3.5	7.7	7.6	7.6				173	172	173	11.1	-7.8	0.8
2/6/2002	3.8	3.3	3.4	7.7	7.7	7.7				173	172	172	15.6	-5.0	6.3
2/7/2002													10.0	-2.2	3.9
2/8/2002	4.0	3.5	3.7	7.5	7.4	7.5	11.6	11.1	11.2	169	168	168	10.0	-5.0	0.8
2/9/2002	3.9	3.4	3.7	7.6	7.5	7.5	11.6	11.3	11.5	169	167	168	11.7	-5.0	1.2
2/10/2002	4.0	3.5	3.7	7.6	7.5	7.5	12.0	11.6	11.8	168	167	168	18.3	-4.4	3.9
2/11/2002	4.1	3.6	3.8	7.7	7.5	7.5	12.1	11.8	12.0	168	167	168	14.4	-3.9	3.1
2/12/2002	4.2	3.6	3.8	7.7	7.5	7.6	12.3	12.0	12.1	168	167	168	15.6	-3.9	6.4
2/13/2002	4.1	3.6	3.8	7.7	7.6	7.6	12.6	11.6	12.4	168	167	167	17.8	-4.4	4.5
2/14/2002	4.1	3.5	3.8	7.8	7.6	7.7	12.9	12.5	12.7	167	166	166	15.0	-4.4	6.4
2/15/2002	4.2	3.6	3.9	7.8	7.6	7.7	12.9	12.6	12.7	166	165	166	17.2	-2.8	8.0
2/16/2002	4.4	3.8	4.0	7.8	7.6	7.6	12.8	12.3	12.6	166	165	166	14.4	2.8	7.7
2/17/2002	4.2	3.9	4.0	7.7	7.6	7.6	12.8	12.6	12.7	166	165	166	9.4	1.7	5.4
2/18/2002	4.4	3.9	4.1	7.8	7.6	7.6	13.0	12.4	12.7	168	165	166	12.8	2.2	7.5
2/19/2002	4.3	4.1	4.2	7.7	7.6	7.6	12.8	12.5	12.7	169	167	168	7.8	3.3	5.7
2/20/2002	4.7	4.3	4.5	7.7	7.6	7.6	13.8	12.7	12.9	170	167	169	13.9	3.9	9.0
2/21/2002	4.9	4.3	4.6	7.8	7.6	7.7	13.4	12.8	13.2	168	166	167	16.1	0.0	7.6
2/22/2002	5.0	4.3	4.6	7.8	7.5	7.7	13.5	12.6	13.0	168	166	167	21.1	0.0	11.3
2/23/2002	4.7	4.4	4.5	7.7	7.6	7.6	13.2	12.6	12.9	169	167	168	16.1	0.0	6.5
2/24/2002	5.1	4.5	4.9	7.9	7.7	7.8	13.7	13.2	13.4	173	166	169	16.1	-3.9	4.7
2/25/2002	5.9	4.9	5.4	7.9	7.7	7.8	13.6	13.3	13.4	169	163	165	15.6	-3.3	4.6
2/26/2002	5.7	5.2	5.4	7.9	7.7	7.8	13.5	13.3	13.4	165	164	165	18.9	-6.1	5.4
2/27/2002	5.8	5.2	5.6	7.8	7.7	7.8	14.1	12.8	13.4	166	165	165	25.6	-3.3	8.0
2/28/2002	6.2	5.4	5.8	8.0	7.7	7.8	13.8	13.3	13.5	169	166	168	10.0	-2.8	4.4
3/1/2002	6.1	5.6	5.8	7.9	7.8	7.8	13.5	13.3	13.4	181	169	171	12.2	-2.2	4.7
3/2/2002	6.2	5.5	5.8	7.9	7.8	7.8	13.6		13.3	173	171	172	19.4	-5.6	4.5
3/3/2002	6.1	5.6	5.8	7.8	7.7	7.8	13.5	9.4	13.3	174	173	173	17.8	-5.6	4.3
3/4/2002	6.1	5.6	5.8	7.8	7.7	7.7	13.4	13.0	13.2	176	174	175	18.9	-4.4	5.7
3/5/2002	6.0	5.7	5.9	7.8	7.7	7.7	13.2	12.5	13.0	177	176	177	11.1	-2.8	6.6
3/6/2002	6.2	5.9	6.1	7.8	7.7	7.7	13.0	12.3	12.8	181	177	179	15.0	0.6	7.6

KLAMATH RIVER AT IRON GATE
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
3/7/2002	6.6	6.1	6.3	8.0	7.8	7.9	13.7	13.0	13.4	188	181	186	5.0	-6.7	0.0
3/8/2002	6.4	6.1	6.3	7.9	7.8	7.8	13.3	12.6	13.1	191	187	189	8.3	-6.1	1.4
3/9/2002	6.3	5.5	6.0	7.8	7.5	7.7	13.1	12.4	12.8	191	179	186	10.6	-2.2	4.0
3/10/2002	6.4	6.1	6.3	7.8	7.7	7.7	13.0	12.6	12.8	197	189	192	12.2	1.1	7.5
3/11/2002	6.6	6.2	6.4	7.8	7.7	7.7	12.8	12.6	12.8	195	193	193	17.8	4.4	11.4
3/12/2002													11.7	-1.7	5.2
3/13/2002	6.8	6.4	6.6				11.8	11.4	11.6	190	188	189	7.2	-2.8	1.1
3/14/2002	7.2	6.4	6.8				11.7	10.6	11.0	190	189	189	8.3	-5.0	2.0
3/15/2002	7.1	6.6	6.8				11.1	10.8	11.0	190	188	189	10.6	-2.8	2.6
3/16/2002	6.8	6.4	6.6				11.3	10.9	11.0	190	188	189	7.2	-1.7	3.1
3/17/2002	7.1	6.4	6.7				11.3	10.5	10.8	190	189	189	5.6	-6.7	-0.5
3/18/2002	7.0	6.3	6.8				11.1	10.6	10.8	191	188	189	14.4	-6.7	5.1
3/19/2002	7.4	6.7	6.9				11.0	10.6	10.9	191	188	188	20.0	-2.2	8.4
3/20/2002	7.6	6.8	7.0				11.3	10.3	11.0	191	188	189	22.8	1.1	11.1
3/21/2002	7.4	6.5	6.8				11.7	10.9	11.4	189	188	188	22.8	2.2	11.5
3/22/2002	7.0	6.6	6.7				11.7	11.1	11.5	189	187	188	15.6	3.3	8.3
3/23/2002	7.2	6.8	7.0				11.3	11.1	11.2	197	187	189	13.3	2.2	6.0
3/24/2002	7.9	7.0	7.4				11.1	10.4	10.8	202	194	197	15.0	-2.8	4.7
3/25/2002	7.8	7.1	7.5				11.1	10.4	10.7	194	192	193	17.8	-2.8	6.5
3/26/2002	8.0	7.3	7.7				11.1	10.3	10.6	192	190	191	19.4	-1.1	8.8
3/27/2002	8.8	7.5	8.1				10.7	9.4	10.1	190	187	189	17.8	-1.1	8.8
3/28/2002	9.0	7.7	8.3				10.8	9.5	10.1	190	187	188	20.0	-1.1	9.9
3/29/2002	9.5	8.1	8.5				10.6	9.3	10.1	188	186	187	23.9	-2.2	9.5
3/30/2002	9.6	8.2	8.7				10.4	9.2	10.0	188	185	187	26.1	-1.7	10.5
3/31/2002	9.9	8.3	9.0				10.7	9.2	10.0	187	185	186	26.7	-1.1	11.1
4/1/2002	10.2	8.6	9.3				10.5	9.3	10.0	187	185	186	28.3	2.2	14.4
4/2/2002	10.0	9.1	9.5				10.5	10.3	10.4	187		167	23.3	22.2	22.8
4/3/2002															
4/4/2002															
4/5/2002															
4/6/2002															
4/7/2002															
4/8/2002															
4/9/2002															
4/10/2002	12.0	11.7	11.9				10.1	9.4	9.9	176	176	176	20.0	16.1	18.6
4/11/2002	12.2	11.1	11.5				11.4	10.0	10.7	177	174	176	22.8	3.3	12.2
4/12/2002	12.3	11.4	11.8				11.0	10.0	10.5	176	173	175	27.8	7.2	15.2
4/13/2002	13.9	11.4	12.0				11.6	9.2	10.7	175	171	173	21.7	12.2	16.2
4/14/2002	13.8	11.9	12.5				10.8	9.3	10.3	173	170	171	13.3	2.8	7.0
4/15/2002	12.3	11.0	11.5				11.8	10.5	11.1	175	172	173	11.7	1.7	5.1
4/16/2002	11.7	10.8	11.1				11.9	10.8	11.6	175	173	174	7.2	-3.9	3.1
4/18/2002	12.2	10.6	11.3				11.9	10.8	11.4	176	174	175	11.1	-0.6	5.4
4/19/2002	12.4	10.9	11.5				14.7	10.8	11.4	179	176	177	14.4	-1.7	6.8
4/20/2002	12.6	11.1	11.7				12.0	10.6	11.4	187	178	180	17.8	-1.7	8.0
4/21/2002	12.8	11.3	11.9				12.2	10.7	11.3	183	180	181	22.2	-1.1	10.0
4/22/2002	12.3	11.6	11.9				11.6	10.9	11.3	183	182	182	22.8	2.2	12.9
4/23/2002													23.3	3.9	12.9
4/24/2002		12.2	13.0	7.7		7.4	10.4	7.9	9.7	172		167	27.8	5.6	15.2
4/25/2002	14.1	11.8	12.9	8.2	7.4	7.8	11.8	9.5	10.4	173	171	172	27.8	2.2	14.5
4/26/2002	13.7	12.3	13.0	8.2	7.5	7.9	11.7	10.0	10.8	173	171	172	15.6	2.2	9.4
4/27/2002	12.9	12.2	12.6	8.1	7.6	7.8	11.6	10.3	10.9	172	171	172	12.2	3.3	7.4
4/28/2002	12.5	11.9	12.2	7.8	7.5	7.6	10.9	10.2	10.6	172	171	172	17.8	0.6	9.6
4/29/2002	13.1	11.0	12.2	8.4	7.6	7.9	12.9	10.7	11.4	231	171	178	17.2	0.6	8.7
4/30/2002	11.3	10.8	11.0	7.8	7.6	7.7	11.6	9.6	11.2	233	181	204	12.8	3.3	5.7
5/1/2002	12.7	11.3	12.0	8.0	7.7	7.8	11.9	5.8	11.1	187	170	175	21.1	2.2	11.4
5/2/2002	13.6	12.2	12.7	8.2	7.7	8.1	11.9	5.7	11.0	173	170	171	22.8	3.9	14.1
5/3/2002	14.0	12.2	12.9	8.3	7.9	8.1	12.1	4.0	7.2	173	170	171	19.4	1.1	10.7
5/4/2002	15.3	12.7	13.6	8.6	7.6	8.1	11.2	4.3	8.0	176	168	170	22.8	2.2	13.4
5/5/2002	14.5	12.4	13.3	8.2	7.6	7.9	9.5	6.7	8.2	171	167	169	23.9	2.2	12.1
5/6/2002	14.9	12.7	13.6	8.3	7.8	8.1	9.2	4.5	7.2	169	166	168	20.0	2.2	9.8
5/7/2002	14.6	12.3	13.2	8.4	7.7	8.0	8.8	5.1	6.9	178	166	169	16.7	-1.7	7.7
5/8/2002							7.0	7.0	7.0	168	168	168	24.4	-0.6	10.7
5/9/2002	14.4	12.9	13.6				8.5	8.1	8.3	166	163	165	17.2	5.0	9.4
5/10/2002	13.7	12.4	13.1				8.3	8.0	8.1	164	163	164	18.3	-0.6	8.9
5/11/2002	14.4	13.0	13.6				8.3	8.1	8.2	165	161	163	26.1	1.7	13.6
5/12/2002	14.1	12.8	13.4				8.2	7.6	7.9	165	161	162	29.4	7.8	18.3
5/13/2002	15.3	13.8	14.4				8.3	7.9	8.1	168	160	161	22.2	2.2	11.1
5/14/2002	15.9	14.0	14.9				8.2	7.9	8.1	164	160	162	25.0	3.3	13.9
5/15/2002	14.8	14.8	14.8	8.3	8.1	8.3	8.1	8.0	8.0	163	163	163	22.2	1.7	12.5
5/16/2002		14.5	15.4	8.4	8.1	8.3	9.8	8.1	9.1	166		162	31.1	8.9	17.5
5/17/2002	16.4	14.3	15.2	8.4	7.9	8.2	9.4	8.8	9.1	168	165	167	27.2	7.8	17.8
5/18/2002	14.5	12.5	13.8	8.0	7.4	7.7	9.2	8.1	8.6	170	142	167	24.4	8.9	15.2
5/19/2002	13.9	12.3	13.0	8.0	7.4	7.7	9.1	7.7	8.4	173	163	167	16.1	5.0	10.4
5/20/2002	14.6	12.8	13.5	8.2	7.5	7.9	9.4	7.8	8.6	173	169	171	16.7	6.1	9.7
5/21/2002	14.7	13.7	14.1	8.2	7.9	8.1	9.6	8.1	8.9	175	172	174	17.8	2.2	9.8
5/22/2002	15.3	15.1	15.2	10.4	9.5	10.0	10.1	9.8	10.0	177	175	176	24.4	0.6	11.9
5/23/2002	15.6	14.1	14.8	10.2	9.4	9.7	11.3	9.9	10.7	177	175	176	29.4	3.9	16.0
5/24/2002	16.4	14.7	15.2	10.0	9.2	9.5	11.2	9.8	10.7	178	177	178	28.9	8.9	18.8

KLAMATH RIVER AT IRON GATE
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
5/25/2002	16.3	14.8	15.5	9.9	9.0	9.4	11.3	10.0	10.7	180	178	178	31.7	10.0	18.8
5/26/2002	16.4	14.2	15.3	9.6	8.3	9.0	12.3	10.6	11.3	182	180	181	27.8	10.6	16.4
5/27/2002	15.8	14.3	15.1	9.7	8.3	9.0	12.8	10.2	11.4	184	181	183	28.9	10.0	18.2
5/28/2002	16.1	15.2	15.4	9.5	8.4	8.8	12.1	10.8	11.6	185	183	184	31.1	15.0	22.6
5/29/2002	18.1	17.1	17.7	8.2	7.9	8.1	9.9	8.8	9.3	175	173	173	28.9	9.4	20.1
5/30/2002	17.5	15.8	16.5	8.1	7.8	7.9	9.2	8.3	8.7	174		171	33.3	6.7	18.5
5/31/2002	19.1	16.0	17.1	8.4	7.8	8.0	9.4	7.2	8.5	176	171	173	26.1	12.2	17.2
6/1/2002	18.3	15.7	16.8	8.1	7.7	7.9	10.0	6.4	9.0	176	173	175	24.4	5.0	15.3
6/2/2002	18.3	16.0	16.8	8.1	7.6	7.8	10.6	6.3	9.7	178	174	175	26.7	5.6	17.0
6/3/2002	18.4	16.1	16.8	8.0	7.6	7.7	9.5	4.5	6.9	179	177	178	28.3	8.3	19.1
6/4/2002	19.3	17.4	18.5	8.2	7.8	8.0	11.0	9.8	10.1	186	184	185	28.3	10.0	20.0
6/5/2002	19.0	17.0	17.9	8.2	7.7	7.9	10.1	8.9	9.4	186	185	186	26.1	8.3	18.1
6/6/2002	19.8	16.9	18.0	8.5	7.8	8.0	10.6	8.9	9.6	187	185	186	22.2	5.6	13.6
6/7/2002	18.8	16.6	17.8	8.5	7.8	8.1	10.8	9.0	9.7	187	185	186	19.4	1.7	9.9
6/8/2002	18.2	16.0	17.1	8.3	7.7	8.0	10.6	9.1	9.6	188	186	187	19.4	2.2	10.8
6/9/2002	17.9	16.4	17.1	8.3	7.8	8.0	10.5	8.9	9.5	188	186	187	27.2	4.4	15.9
6/10/2002	18.7	16.6	17.4	8.3	7.7	7.9	10.7	8.6	9.5	189	186	187	31.7	6.7	19.2
6/11/2002	17.9	17.0	17.3	7.9	7.6	7.7	10.2	8.7	9.0	189	186	188	35.6	8.9	21.9
6/12/2002	18.6	17.6	18.2	8.3	7.7	8.1	9.5	8.3	9.3	192	191	192	37.8	7.2	21.5
6/14/2002	18.9	17.1	18.0	8.3	7.7	8.0	9.5	7.6	8.4	195	192	194	33.3	8.3	21.8
6/15/2002	19.2	17.6	18.3	8.3	7.7	8.0	9.1	7.4	8.1	197	193	195	34.4	10.0	22.4
6/16/2002	20.1	17.6	18.5	8.3	7.6	7.9	9.0	7.2	8.0	198	194	196	30.6	8.3	19.9
6/17/2002	18.3	17.6	17.9	8.1	7.6	7.8	8.7	7.4	8.0	198	195	196	23.3	8.3	17.2
6/18/2002	20.2	17.3	18.6	8.4	7.6	8.0	9.3	7.4	8.1	199	196	197	24.4	6.1	17.3
6/19/2002	19.3	17.7	18.5	8.2	7.7	7.9	8.8	7.0	8.0	199	196	197	30.0	5.0	17.8
6/20/2002	18.7	18.1	18.3	8.0	7.8	7.9	8.5	7.1	7.7	198	196	197	30.6	6.7	19.7
6/21/2002													32.2	9.4	21.5
6/22/2002															
6/23/2002															
6/24/2002	20.6	19.2	19.8	8.1	7.6	7.8	12.8	9.1	10.1	195	191	192	33.3	12.2	24.4
6/25/2002	20.7	18.7	19.6	8.2	7.6	7.8	10.6	8.3	9.4	194	190	192	36.1	11.7	24.7
6/26/2002	19.3	18.8	19.1	7.9	7.7	7.8	9.7	8.5	8.9	193	191	192	35.6	13.9	22.8
6/27/2002	21.1	19.3	20.1	8.2	7.6	7.9	9.2	7.4	8.1	192	191	191	32.8	15.6	24.1
6/28/2002	20.2	19.1	19.6	8.2	7.7	7.8	9.1	7.2	8.0	193	190	192	31.1	17.8	23.9
6/29/2002	20.8	19.0	19.9	8.1	7.7	7.9	9.2	7.3	8.1	193	191	192	30.6	9.4	21.0
6/30/2002	21.2	19.6	20.3	8.2	7.7	7.9	9.1	7.5	8.2	192	191	191	29.4	10.0	20.8
7/1/2002	21.4	19.8	20.5	8.2	7.8	8.0	9.2	7.6	8.2	191	189	190	31.7	10.6	21.4
7/2/2002	21.3	19.8	20.3	8.2	7.8	7.9	9.3	7.5	8.1	190	187	189	36.1	10.0	22.4
7/3/2002							8.6	8.5	8.6	187	187	187	33.3	8.3	19.5
7/4/2002	21.8	19.9	20.7	10.7	8.5	9.2	9.9	6.8	9.0	199	197	199	29.4	8.9	19.8
7/5/2002	21.2	20.0	20.6	10.2	8.3	9.0	10.0	7.9	9.1	202	198	200	33.9	10.0	23.1
7/6/2002	21.3	20.4	20.8	10.2	8.0	8.9	10.1	7.8	9.2	203	200	202	34.4	13.3	24.4
7/7/2002	21.8	19.9	20.8	10.0	8.3	8.9	10.1	7.8	9.1	202	201	202	30.6	7.8	19.2
7/8/2002	21.2	19.9	20.5	10.1	8.2	8.9	10.1	7.9	9.3	203	201	202	38.9	8.9	21.6
7/9/2002	21.1	20.3	20.6	9.7	8.1	8.7	10.3	8.2	9.3	204	202	203	41.1	12.8	27.1
7/10/2002				8.3	8.2	8.3							42.8	16.1	28.7
7/11/2002	22.3	20.6	21.3	8.4	7.8	8.0	9.5	7.2	7.8	201	199	200	42.2	18.3	28.8
7/12/2002	22.2	20.4	21.0	8.4	7.8	8.0	9.2	6.9	7.8	200	199	200	40.6	12.2	29.2
7/13/2002	22.2	20.6	21.3	8.4	7.8	8.1	9.1	6.8	7.6	201	198	199	38.9	15.6	25.6
7/14/2002	22.8	20.4	21.4	8.5	7.8	8.1	9.0	6.6	7.6	200	197	198	33.9	13.3	24.1
7/15/2002	22.2	20.5	21.3	8.5	7.9	8.1	8.9	6.8	7.5	197	195	196	41.1	11.7	24.9
7/16/2002	22.0	20.6	21.1	8.4	8.0	8.1	8.8	6.9	7.6	195	193	194	36.1	13.3	25.4
7/17/2002	21.3	21.0	21.1	8.4	8.1	8.3	8.0	7.8	7.9	203	193	201	35.6	13.3	25.1
7/18/2002	22.2	20.5	21.3	8.4	7.8	8.1	8.5	6.6	7.3	203	201	202	36.7	13.9	24.2
7/19/2002	22.8	20.6	21.5	8.5	7.9	8.2	8.4	6.5	7.3	203	200	202	35.0	11.7	22.9
7/20/2002	22.3	20.7	21.5	8.4	7.9	8.1	8.2	6.5	7.2	201	198	200	38.3	14.4	26.1
7/21/2002	22.3	20.8	21.4	8.4	7.8	8.1	8.2	6.2	6.9	199	196	197	43.3	20.6	28.5
7/22/2002	21.9	20.5	21.2	8.3	7.6	7.9	7.3	5.0	6.1	198	194	196	35.0	12.8	23.6
7/23/2002	22.1	20.2	20.8	8.3	7.4	7.8	7.2	2.8	5.2	195	192	194	35.6	9.4	22.8
7/24/2002	21.3	21.1	21.2	8.2	8.2	8.2	7.9	7.9	7.9	195	194	194	38.3	12.8	24.8
7/25/2002	22.3	20.6	21.5	8.6	8.0	8.3	8.4	6.8	7.7	194	191	193	33.9	13.9	27.1
7/26/2002	22.3	20.7	21.4	8.6	8.0	8.3	8.6	6.8	7.5	193	189	191	32.2	12.8	23.2
7/27/2002	22.6	20.6	21.4	8.7	8.1	8.3	8.7	6.8	7.5	190	186	189	34.4	11.1	22.7
7/28/2002	22.6	20.8	21.5	8.7	8.2	8.4	9.1	7.0	7.7	188	185	186	36.1	14.4	25.2
7/29/2002	22.2	20.8	21.3	8.7	8.1	8.3	8.5	6.8	7.4	185	178	182	35.0	15.0	24.6
7/30/2002	22.3	20.8	21.4	8.7	7.9	8.3	9.0	7.1	7.9	182	177	179	35.0	14.4	24.4
7/31/2002													35.0	9.4	22.3
8/1/2002	21.6	20.7	21.3	8.6	7.0	8.4	9.4	8.1	8.5	189		172	31.1	10.0	20.9
8/2/2002	21.8	20.3	20.8	8.7	7.8	8.3	8.5	6.6	7.3	191	188	190	31.7	9.4	20.3
8/3/2002	21.2	19.9	20.5	8.6	7.7	8.1	7.8	6.5	7.1	196	187	191	26.1	9.4	17.3
8/4/2002	21.1	19.3	20.1	8.2	7.5	7.9	8.5	6.4	7.0	193	187	189	28.9	5.6	14.0
8/5/2002	20.7	19.3	20.0	7.6	7.1	7.3	7.7	5.5	6.5	199	188	190	23.3	5.6	15.1
8/6/2002	20.0	18.8	19.4	7.2	7.1	7.2	7.2	5.3	6.1	194	187	190	28.9	3.9	17.0
8/7/2002													33.3	6.7	19.2
8/8/2002		20.2	20.8										37.2	10.0	23.2
8/9/2002	21.0	19.6	20.1										41.1	11.7	23.9
8/10/2002	21.1	19.7	20.3										42.8	11.7	24.4
8/11/2002	20.9	19.7	20.3										39.4	12.2	25.0

KLAMATH RIVER AT IRON GATE
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
8/12/2002	21.9	19.8	20.6										41.1	14.4	27.2
8/13/2002	21.3		19.8										38.9	12.2	23.6
8/15/2002	21.4	19.9	20.7	8.6	6.7				10.2	179		174	39.4	11.1	25.5
8/16/2002	21.1	19.8	20.4	8.6	7.2				10.5	177	174	175	39.4	10.6	24.5
8/17/2002	21.7	19.8	20.6	9.4	7.3				10.2	175	168	172	33.3	9.4	21.5
8/18/2002	20.8	19.5	20.2	8.6	7.3				10.6	168	158	164	35.6	8.9	21.2
8/19/2002	21.2	19.7	20.3	9.1	7.0				10.3	163	157	159	34.4	8.3	19.5
8/20/2002	21.2	19.4	20.2	9.6	7.3				10.1	158	152	154	23.3	7.2	16.4
8/21/2002	20.4	19.3	19.8	8.7	7.2				10.8	158	150	153	27.8	7.2	17.1
8/22/2002	19.6	18.9	19.4	8.6	7.8				11.2	154		145	32.2	7.2	20.7
8/23/2002	20.6	19.7	20.1	8.5	8.2	8.3	8.7	7.8	8.1	185	181	182	31.7	7.2	22.7
8/24/2002	20.4	19.3	19.8	8.5	8.0	8.3	9.1	5.9	8.0	183	180	181	32.8	11.7	22.1
8/25/2002	20.9	19.3	19.9	8.8	8.1	8.4	9.2	4.3	8.2	181	178	179	34.4	8.9	20.4
8/26/2002	20.7	19.3	19.8	8.7	8.2	8.4	7.9	1.6	4.2	180	177	179	27.8	10.6	19.3
8/27/2002	20.6	19.6	20.0	8.8	8.4	8.6	6.6	1.5	3.6	178	176	177	31.7	16.1	24.0
8/28/2002	20.5	19.9	20.2	8.8	8.4	8.7	5.9	1.9	4.3	176	174	175	38.3	13.9	23.8
8/29/2002	20.7	19.4	20.1	8.8	8.2	8.4	9.3	7.7	8.3	175	173	174	34.4	12.2	23.2
8/30/2002	21.1	19.3	20.1	8.8	8.2	8.4	9.3	7.8	8.3	176	173	174	31.7	6.7	18.9
8/31/2002	20.5	19.2	19.8	8.6	8.2	8.4	8.9	7.8	8.2	176	174	175	35.0	9.4	20.2
9/1/2002	20.5	19.5	20.0	8.7	8.2	8.5	9.0	7.8	8.3	179	169	174	37.2	11.1	22.5
9/2/2002	20.6	19.4	20.0	8.7	8.1	8.4	8.7	6.8	8.0	179	167	172	37.8	11.7	23.9
9/3/2002	20.4	19.1	19.7	8.7	7.8	8.3	8.4	3.8	6.7	174	163	169	33.3	7.2	19.9
9/4/2002	19.3	19.1	19.2				7.2	5.9	6.4	173	169	170	27.2	4.4	15.5
9/5/2002													25.0	3.3	13.8
9/6/2002	19.2	18.0	18.5	8.3	7.6	7.9	8.7	6.9	7.4	174	172	173	22.8	3.3	11.4
9/7/2002	19.1	17.6	18.2	8.0	7.5	7.7	7.7	6.8	7.2	174	173	173	22.8	2.2	11.7
9/8/2002	19.0	17.7	18.2	8.1	7.5	7.7	8.2	6.5	7.4	174	172	173	29.4	3.9	15.2
9/9/2002	19.0	17.8	18.2	8.1	7.5	7.8	8.0	6.7	7.4	175	173	174	31.7	5.6	17.6
9/10/2002	19.0	17.8	18.3	7.9	7.3	7.7	7.9	6.2	7.1	175	173	174	34.4	7.8	20.4
9/11/2002	19.1	17.8	18.4	8.1	7.5	7.7	8.0	6.7	7.3	175	172	174	37.2	8.3	21.3
9/12/2002	18.6	17.9	18.3	8.1	8.1	8.1	7.9	7.3	7.5	173	172	172	39.4	10.6	22.6
9/13/2002	19.3	17.8	18.3	8.3	7.4	7.8	9.4	6.9	7.8	178	172	175	36.7	3.3	21.0
9/14/2002	18.9	17.5	18.0	8.3	7.2	7.7	9.4	6.4	7.8	177	172	174	33.3	10.0	20.4
9/15/2002	18.7	17.6	18.1	8.3	7.7	7.9	9.4	7.6	8.2	173	171	172	31.1	8.3	18.5
9/16/2002	18.6	17.8	18.2	8.1	7.7	7.9	9.1	7.2	8.2	177	171	173	29.4	11.7	18.8
9/17/2002	18.2	17.3	17.8	8.1	7.5	7.7	9.1	7.1	7.9	176	172	174	23.3	7.2	15.4
9/18/2002	18.9	17.3	17.9	8.3	7.6	7.9	8.9	2.9	6.8	173	170	172	27.8	8.9	17.5
9/19/2002	17.9	17.6	17.8				7.8	2.2	4.1	170	170	170	32.8	7.8	19.6
9/20/2002	18.9	17.2	17.9	8.1	7.5	7.7	9.2	7.1	7.7	182	178	179	37.8	7.8	19.0
9/21/2002	18.9	17.3	17.9	8.2	7.6	7.8	9.1	7.4	8.0	181	179	180	36.1	7.2	19.2
9/22/2002	18.7	16.9	17.7	8.1	7.5	7.7	8.8	6.6	7.8	182	180	181	36.7	7.2	20.0
9/23/2002	18.6	17.2	17.8	8.1	7.6	7.8	9.0	7.4	8.0	183	180	182	36.7	7.2	20.4
9/24/2002	18.6	17.3	17.8	8.4	7.6	7.9	9.0	7.3	8.1	184	180	183	34.4	7.8	19.1
9/25/2002	19.1	17.8	18.3	8.7	8.4	8.6				182		172	30.0	2.8	15.6
9/26/2002													31.7	6.1	18.7
9/27/2002													26.7	9.4	18.5
9/28/2002													27.2	5.6	14.6
9/29/2002													18.3	6.1	12.6
9/30/2002															

Appendix B

Klamath River at Seiad Valley Water Quality Data

Water Year 2002

KLAMATH RIVER AT SEIAD VALLEY
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
10/1/2001	18.9	17.2	18.1	8.1	7.5	7.8	10.0	7.8	8.6	207	204	206	23.9	6.7	14.6
10/2/2001	19.2	17.3	18.4	8.1	7.5	7.8	9.5	7.5	8.3	208	197	202	23.9	7.2	14.6
10/3/2001	18.9	13.6	18.1	8.2	6.8	7.8	10.1	7.2	8.4	213		204	23.3	6.7	14.2
10/4/2001	18.6	16.8	17.9	8.2	7.5	7.8	10.1	7.7	8.6	198	194	196	22.8	5.6	13.3
10/5/2001	18.0	16.3	17.4	8.2	7.6	7.8	10.2	7.9	8.8	196	193	195	22.2	5.0	12.6
10/6/2001	18.1	16.2	17.3	8.1	7.5	7.8	10.1	8.0	8.8	197	194	196	21.1	5.6	12.8
10/7/2001	17.7	16.0	16.9	8.0	7.5	7.7	10.1	8.1	8.9	197	189	192	20.0	3.9	11.9
10/8/2001	17.3	15.8	16.7	7.9	7.5	7.6	10.2	8.3	9.0	194	190	192	18.9	8.3	12.9
10/9/2001	16.6	15.0	15.9	7.9	7.4	7.6	10.5	8.5	9.2	194	191	193	16.7	1.7	9.0
10/10/2001	15.9	14.1	15.1	7.5	7.1	7.3	10.7	8.7	9.5	194	191	192	18.9	1.7	9.7
10/11/2001	16.7	15.3	16.0	8.0	7.4	7.7	10.4	8.6	9.2	194		192	14.4	5.6	10.9
10/12/2001	16.1	14.5	15.4	7.7	7.2	7.4	10.2	8.4	9.1	195	192	194	18.3	2.2	9.0
10/13/2001	16.2	14.1	15.3	7.7	7.2	7.4	10.5	8.1	9.2	195	191	193	18.9	3.3	10.3
10/14/2001	16.3	14.4	15.5	7.4	7.1	7.2	10.1	8.2	8.8	197	193	195	18.9	3.3	8.7
10/15/2001	16.0	14.3	15.3	7.4	7.1	7.2	10.6	8.7	9.3	197		195	19.4	3.3	11.2
10/16/2001	15.8	14.8	15.3	7.1	7.0	7.1	10.2	8.6	9.3	195	192	194	17.8	5.6	11.2
10/17/2001	15.6	14.1	14.9	7.2	7.1	7.1	10.1	8.1	8.9	194	190	192	16.7	3.3	9.4
10/18/2001	15.1	13.2	14.3	7.2	7.0	7.1	9.3	7.4	8.1	194		192	17.8	1.7	6.8
10/19/2001	14.6	13.3	14.2	7.2	7.0	7.1	11.7	7.8	8.8	193		191	17.8	2.8	11.1
10/20/2001	14.9	13.4	14.5	7.4	7.0	7.2	10.2	7.4	8.7	193		191	17.2	1.7	9.5
10/22/2001	14.9	13.7	14.4	7.5	7.1	7.3	9.1	6.8	7.6	193		192	12.8	1.7	8.4
10/24/2001		11.3	12.7	7.7	6.8	7.1	10.4	8.2	9.0	194		192	17.2	-1.7	4.7
10/25/2001	13.0	11.4	12.3	7.7	6.8	7.4	10.1	7.4	8.6	196		193	15.0	-0.6	5.9
10/27/2001	13.8	11.7	12.8	7.7	6.8	7.3	10.2	7.5	8.8	194		192	15.0	1.1	9.7
10/28/2001	13.8	11.4	13.5	7.8	7.3	7.5	9.4	8.2	8.8			196	18.3	-6.1	9.0
10/31/2001	13.4	12.3	13.0	8.0	7.6	7.8	10.6	8.7	9.2	201		198	23.9	3.3	8.3
11/2/2001	12.8	11.1	12.1	8.0	7.6	7.8	10.6	8.8	9.6	199		196	12.2	0.0	7.2
11/3/2001	11.9	10.7	11.3	8.5	7.5	7.7	10.3	8.3	9.0	198		196	11.7	-0.6	4.5
11/5/2001	11.8	10.6	11.3	7.8	7.3	7.6	10.0	7.2	8.4	195		194	12.2	-2.8	5.1
11/7/2001		9.3	10.0	7.6	7.3	7.5	10.1	8.3	8.8	194		193	11.1	-8.9	1.3
11/8/2001	9.9	8.6	9.4	7.5	7.4	7.5	10.4	8.5	9.3	193		191	10.0	-3.3	2.5
11/9/2001	10.3	8.7	9.5	7.6	7.2	7.4	10.5	6.5	9.5	192		190	12.2	-2.2	5.1
11/11/2001	12.0	10.1	11.5	7.3	6.6	6.8	9.9	7.8	8.6			192	12.2	5.6	8.3
11/13/2001	15.0	10.7	11.2	8.0	6.7	7.3	8.7	6.9	7.6	195		193	11.7	7.2	8.5
11/16/2001	11.3	10.5	10.9	7.9	7.7	7.8	8.3	7.4	7.7	196		194	23.3	2.2	6.3
11/17/2001	11.2	9.5	10.2	7.8	7.7	7.7	8.3	7.5	7.7	195		194	10.6	1.7	5.3
11/20/2001	10.1	7.1	9.6	7.8	7.6	7.7	8.0	7.5	7.7	195		192	7.2	5.0	5.9
11/21/2001		8.6	9.2	7.7	7.6	7.6	7.9	7.2	7.7	195		188	22.2	1.7	3.9
11/23/2001	8.6	7.8	8.3	7.7	7.6	7.7	8.2	4.3	7.9	204		197	4.4	-3.3	2.3
11/24/2001	7.7	6.5	7.2	7.8	7.6	7.7	8.7	7.8	8.2	203	199	201	1.1	-1.7	-0.2
11/25/2001	8.1	7.0	7.4	7.8	7.6	7.7	8.7	8.2	8.3	215	201	211	3.9	0.0	0.8
11/26/2001	8.2	7.1	7.6	7.9	7.7	7.7	8.8	8.1	8.3	217	214	216	2.8	-2.2	0.3
11/27/2001	7.4	5.1	6.5	7.9	7.6	7.7	8.8	7.9	8.4	218	208	214	1.1	-1.7	-0.9
11/29/2001	6.6	5.6	6.1	7.8	7.6	7.7	8.8	8.2	8.5	222	209	213		-1.7	-0.7
11/30/2001	7.2	6.4	6.8	7.8	7.6	7.7	8.6	8.0	8.2	227	218	224	1.7	-1.1	0.3
12/1/2001	7.4	6.7	7.1	7.7	7.7	7.7	8.3	8.0	8.1	226	216	220	1.7	0.0	0.8
12/2/2001		6.4	6.8	7.8	7.6	7.7	8.5	3.7	8.1	233	226	228		-1.7	-0.2
12/4/2001	6.9	5.6	6.3	7.8	7.7	7.7	8.7	8.2	8.4	234	227	232	2.8	-1.7	0.7
12/5/2001	7.4	5.0	6.6	7.8	7.6	7.7	8.7	8.0	8.3	227	216	220	6.1	1.7	3.5
12/6/2001	7.5	6.3	6.8	7.8	7.6	7.7	8.7	8.1	8.4	216	210	214	4.4	-1.1	1.1
12/7/2001	6.7	5.6	6.0	7.7	7.6	7.7	8.8	8.4	8.5	210	208	209	2.8	-2.2	-0.2
12/8/2001	6.4	5.9	6.2	7.8	7.6	7.7	8.8	8.3	8.5	210	208	209	3.3	-2.8	0.7
12/9/2001	6.1	5.3	5.8	7.8	7.6	7.7	9.1	8.4	8.6	211	209	210	3.9	-2.8	0.2
12/10/2001	6.6	5.7	6.0	7.8	7.6	7.7	8.9	8.3	8.5	211	210	211	4.4	0.0	1.6
12/11/2001	6.6	6.1	6.3	7.8	7.6	7.7	8.9	8.3	8.5	211	210	211	2.8	0.0	1.5
12/12/2001	6.7	6.2	6.3	7.7	7.2	7.6	8.5	8.1	8.4	211	202	210	4.4	2.2	3.2
12/13/2001	6.7	5.5	6.2	7.6	7.5	7.5	8.3	8.1	8.2	201	188	192	3.9	-0.6	1.6
12/14/2001	5.6	5.0	5.3	7.6	7.5	7.5	8.6	8.3	8.5	215	190	202	2.2	-0.6	1.0
12/15/2001	6.4	5.7	6.0	7.6	7.6	7.6	8.6	8.2	8.4	221	215	219	5.0	-4.4	3.1
12/16/2001	6.5	5.3	6.2	7.6	7.5	7.6	8.5	8.2	8.3	221	207	213	3.9	-1.1	1.8
12/18/2001	5.9	5.3	5.5	7.6	7.2	7.6	8.5	8.4	8.5	210	206	208	3.3	0.0	0.8
12/19/2001	6.4	5.0	6.2	7.6	7.5	7.6	8.5	8.1	8.2	210	208	209	3.3	-0.6	1.7
12/20/2001	6.4	5.8	6.1	7.7	7.5	7.6	8.6	8.2	8.4	213	209	211	3.9	1.1	1.7
12/21/2001		5.6	5.9	7.7	7.6	7.6	8.7	8.4	8.5	228	213	214	3.9	0.6	1.8
12/23/2001	6.7	5.4	6.0	7.7	7.6	7.6	8.8	8.4	8.5	216	214	214	5.0	-1.7	0.9
12/24/2001	5.7	4.9	5.3	7.7	7.6	7.6	8.9	8.5	8.7	216	215	215	5.6	-1.1	1.7
12/25/2001	5.9	4.9	5.4	7.7	7.6	7.6	8.9	7.8	8.7	215	214	214	6.1	1.1	2.5
12/26/2001		5.9	6.3	7.7	7.6	7.6	8.8	8.3	8.5	215	214	214	5.0	0.0	2.6
12/27/2001	8.8	6.2	6.4	7.7	7.6	7.6	8.7	8.1	8.3	214	211	213	6.1	-13.9	3.5
12/28/2001	6.9	6.1	6.4	7.7	7.6	7.6	8.7	8.1	8.3	211	206	209	7.8	3.9	5.1
12/31/2001	7.1	5.3	6.6	7.8	7.6	7.7				206	177	192	6.7	-0.6	5.5
1/5/2002	7.1	5.8	6.6	7.7	7.7	7.7				371	162	190	8.9	1.1	4.4
1/10/2002		5.7	6.2	7.8	7.7	7.8				202	190	197	7.2	-11.7	1.9
1/12/2002	5.7	4.4	4.9	7.8	7.8	7.8				202	198	201	2.8	-2.8	-1.5
1/15/2002	4.8	3.5	4.2	7.8	7.8	7.8				205	194	204	2.8	-5.0	-2.0
1/16/2002	4.8	3.4	3.9	7.8	7.8	7.8	9.8	8.0	9.7	209	205	207	1.7	-2.2	-0.7
1/17/2002	4.8	3.5	4.0	7.8	7.8	7.8	9.8	9.6	9.7	211	209	210	2.8	-4.4	-1.9
1/18/2002	4.7	3.5	3.9	7.9	7.8	7.8	9.7	9.6	9.7	211	210	211	2.2	-2.8	-0.9

KLAMATH RIVER AT SEIAD VALLEY
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
1/19/2002	5.3	4.2	4.7	7.9	7.8	7.8	9.6	9.2	9.5	219	208	210	3.9	-11.1	1.0
1/22/2002	5.3	4.4	4.8	7.9	7.8	7.9	9.7	9.5	9.5	224	214	222	3.3	-1.7	-0.2
1/24/2002	5.2	4.4	4.7	7.9	7.8	7.9				225	224	224	3.3	-1.7	0.9
1/25/2002	5.4	4.5	5.0	7.9	7.8	7.9	9.7	9.3	9.4	225	222	223	3.3	-2.8	0.0
1/27/2002	4.6	3.3	3.8	7.9	7.8	7.9	9.9	9.6	9.7	225	224	225	-0.6	-4.4	-2.5
1/28/2002	3.8	2.8	3.3	7.9	7.8	7.9	10.1	9.7	9.9	225	223	224	-1.1	-5.0	-3.6
1/29/2002	3.8	2.3	3.0	8.3	7.8	7.8	10.3	9.8	10.0	224	221	222	1.1	-10.6	-2.8
2/1/2002	4.7	3.6	4.4	8.0	7.8	7.9				223	221	222	7.8	-1.7	0.9
2/6/2002	4.2	3.9	4.0	7.8	7.7	7.8				223	223	223	6.1	0.0	2.0
2/8/2002		4.3	5.4	7.9	7.8	7.9				202	191	196	16.7	-2.2	1.1
2/10/2002	5.6	4.2	4.9	8.0	7.8	7.9				205	201	204	11.7	-1.7	1.1
2/12/2002	6.1	4.7	5.5	8.1	7.8	7.9				206	204	205	10.0	1.7	4.7
2/13/2002		5.1	6.1	8.1	7.8	8.0				206	204	205	12.8	-2.2	4.1
2/14/2002	6.3	4.6	5.4	8.1	7.8	8.0				206	203	205	13.3	-2.2	3.5
2/15/2002	6.9	5.2	6.0	8.1	7.8	8.0				205	202	204	12.8	-1.1	6.0
2/16/2002	6.8	5.8	6.3	8.1	7.8	8.0				204	202	203	8.3	-12.2	4.6
2/17/2002	6.7	5.9	6.3	8.1	7.8	8.0				204	202	203	9.4	2.8	5.4
2/18/2002		6.2	6.6	8.0	7.8	7.9				204	196	201	5.0	3.9	4.6
2/19/2002	7.3	6.2	6.6	8.0	7.8	7.9				196	181	187	11.1	4.4	7.6
2/20/2002	7.8	7.2	7.4	7.9	7.8	7.8				181	176	178	12.8	6.1	8.5
2/21/2002	7.9	7.2	7.5	8.0	7.8	7.9				181	178	180	12.2	4.4	7.7
2/22/2002	7.7	7.2	7.5	8.0	7.8	7.9				178	176	177	7.8	3.3	5.5
2/23/2002	7.3	6.6	6.9	7.9	7.8	7.8				180	177	179	8.9	-1.7	4.3
2/24/2002	6.7	6.1	6.4	8.0	7.8	7.9				183	178	181	11.7	-2.2	4.1
2/25/2002	7.1	6.2	6.6	8.0	7.8	7.9				185	183	184	11.7	-1.1	4.2
2/26/2002	7.1	6.4	6.8	8.0	7.8	7.9				184	183	184	13.3	-1.7	4.6
2/27/2002	6.9	6.4	6.7	8.2	7.8	7.9				184	182	183	10.6	-1.7	4.5
2/28/2002	6.7	5.9	6.3	8.0	7.9	7.9				185	183	184	9.4	-3.3	2.6
3/1/2002	6.6	5.8	6.2	8.0	7.9	7.9				187	185	186	11.1	-3.9	4.0
3/2/2002	6.9	6.0	6.4	8.0	7.9	7.9				189	186	188	11.7	-3.3	3.5
3/3/2002	7.2	6.4	6.7	8.0	7.8	7.9				190	189	189	11.7	-2.8	3.9
3/4/2002	6.9	6.6	6.7	8.0	7.8	7.9				191	190	190	6.1	-1.1	4.0
3/5/2002	7.3	6.7	7.1	8.0	7.8	7.9				193	191	192	10.0	3.3	5.4
3/6/2002	7.6	6.4	7.2	8.0	7.8	7.9				194	192	193	3.3	-4.4	0.6
3/7/2002	6.7	5.6	6.2	8.0	7.8	7.9				201	194	197	4.4	-5.0	-0.4
3/8/2002	6.6	6.0	6.3	8.0	7.9	7.9				202	200	201	6.1	-3.3	0.4
3/9/2002	6.9	6.2	6.6	8.0	7.8	7.9				203	197	201	6.1	0.0	3.9
3/10/2002	7.6	6.9	7.2	7.9	7.8	7.8				203	200	202	11.1	4.4	7.1
3/11/2002													6.7	-0.6	3.0
3/12/2002	7.4	6.9	7.2				11.8	11.2	11.5	198	197	198	3.9	-0.6	0.8
3/13/2002	7.4	6.4	6.9				11.7	10.7	11.2	201	198	199	6.1	-2.2	1.5
3/14/2002	7.5	6.5	7.0				11.4	10.5	11.0	202	201	202	6.1	-2.2	1.3
3/15/2002	7.3	6.6	7.0				11.3	10.4	10.9	204	202	203	4.4	-1.7	1.0
3/16/2002	7.4	6.4	6.7				11.4	10.3	10.8	206	204	205	2.8	-3.9	-0.6
3/17/2002	7.3	5.9	6.7				11.1	10.0	10.6	206	206	206	8.3	-3.9	2.7
3/18/2002	8.5	7.0	7.8				10.8	9.7	10.3	207	206	207	11.7	-1.1	4.8
3/19/2002	9.2	7.6	8.3				10.6	9.5	10.1	209	207	208	13.9	-1.1	5.9
3/20/2002	9.8	8.1	8.8				10.6	9.3	10.1	210	209	209	17.2	-0.6	6.9
3/21/2002	9.2	8.2	8.7				10.6	9.7	10.1	209	208	208	10.6	1.1	5.7
3/23/2002	9.3	8.1	8.6				10.5	9.6	10.1	208	206	207	9.4	2.2	5.6
3/24/2002	9.5	7.8	8.6				10.4	9.3	9.9	210	206	207	10.6	0.0	4.7
3/25/2002	9.5	7.9	8.7				10.3	9.2	9.9	217	210	214	12.8	-0.6	5.2
3/26/2002	10.0	8.1	9.1				10.3	8.9	9.7	217	215	216	14.4	-0.6	5.9
3/27/2002	10.4	8.5	9.4				10.1	8.8	9.6	216	214	215	15.0	-0.6	6.9
3/28/2002	10.8	8.7	9.9				10.1	8.7	9.5	215	212	213	17.8	0.6	8.7
3/29/2002	11.3	9.2	10.3				10.1	8.6	9.4	212	210	211	18.9	0.6	8.8
3/30/2002	11.2	9.3	10.3				10.1	8.6	9.4	211	206	208	20.0	0.0	8.6
3/31/2002	11.3	9.2	10.3				10.2	8.7	9.5	206	203	204	20.0	-0.6	9.4
4/1/2002	11.7	9.6	10.8				10.0	8.6	9.4	204	202	203	22.2	1.1	12.0
4/2/2002	11.1	10.4	10.7				9.9	9.5	9.8	202	200	201	23.3	4.4	13.3
4/3/2002	12.9	11.3	12.3							193	177	180	23.9	4.4	13.6
4/4/2002	13.1	11.0	12.0							177	170	173	22.8	4.4	13.7
4/5/2002	12.2	11.1	11.6							170	161	165	15.6	6.1	10.8
4/6/2002	12.4	10.6	11.3							165	161	162	16.7	2.2	9.8
4/7/2002	12.3	10.3	11.3							165	163	164	17.8	2.2	10.0
4/8/2002	12.3	10.6	11.5							168	165	167	20.0	2.2	11.4
4/9/2002	12.1	10.3	11.0							169	157	163	15.0	6.7	9.3
4/10/2002	12.3	8.4	11.3							157	152	155	16.1	7.8	11.3
4/11/2002		10.9	12.3								151	155	15.6	-13.9	10.5
4/13/2002	12.8	10.8	12.2							154	124	142	14.4	1.7	9.2
4/15/2002	10.8	8.7	9.6							138	123	128	9.4	1.7	5.1
4/16/2002	9.4	8.6	9.0							159	138	150	7.2	-0.6	2.6
4/18/2002	11.2	8.7	9.7							171	132	166	12.8	-1.7	6.5
4/19/2002	12.2	9.9	10.9							173	171	173	33.9	-0.6	6.8
4/20/2002	13.1	10.6	11.5							178	174	176	19.4	0.0	8.5
4/21/2002	13.9	11.4	12.6				11.3	9.7	10.7	180	177	178	21.1	2.2	10.0
4/23/2002	14.5	12.1	13.3							180	178	179	22.2	2.2	11.3
4/24/2002	13.1	11.9	12.3	8.4	7.9	8.2	10.7	9.6	10.1	179	178	179	23.3	4.4	13.7

KLAMATH RIVER AT SEIAD VALLEY
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
4/25/2002	14.9	12.5	13.6	8.4	7.8	8.1				175	170	173	15.0	3.3	9.7
4/26/2002	12.9	11.3	11.9	8.3	7.8	8.1				174	168	172	14.4	2.2	8.2
4/28/2002	13.1	10.9	12.3	8.4	7.8	8.1				189	173	177	16.7	2.2	8.8
4/29/2002		9.9	10.8	8.1	7.7	7.9				179	172	176	6.7	0.6	4.4
4/30/2002	12.7	9.6	11.2	8.2	7.7	8.0				224	179	210	17.8	4.4	9.4
5/2/2002	14.7	12.1	13.3	8.3	7.8	8.0				220	209	216	20.0	1.7	7.4
5/4/2002	14.9	9.3	13.7	8.3	7.7	8.1				209	193	200	22.2	-10.6	12.6
5/5/2002	15.0	12.3	13.6	8.3	7.7	7.9				193	179	188	13.3	1.1	6.6
5/7/2002	14.3	11.5	13.1	8.3	7.7	8.0				180	178	179	18.3	-1.1	7.6
5/8/2002							8.5	7.8	8.1	177	172	175	16.1	2.8	9.5
5/10/2002							8.4	7.8	8.2	177	174	176	18.3	2.2	9.0
5/11/2002							8.5	7.7	8.1	177	175	175	23.9	-7.8	13.8
5/12/2002							8.4	7.7	8.0	180	173	177	24.4	8.9	15.5
5/13/2002							8.4	7.7	8.0	179	175	176	20.6	3.3	11.4
5/14/2002							8.4	7.7	8.0	177	173	175	21.1	2.2	12.9
5/15/2002				8.3	7.7	8.1	10.5	10.1	10.4	174	174	174	23.3	2.8	12.5
5/16/2002				8.4	7.7	8.0	10.6	9.2	9.8	156	150	154	23.3	7.8	15.4
5/17/2002				8.4	7.7	8.0	10.7	9.0	9.7	156	154	155	22.8	8.9	14.6
5/18/2002				8.3	7.7	8.0	10.7	9.4	10.0	155	152	153	17.2	7.2	10.9
5/19/2002				8.2	7.7	7.9	11.2	9.9	10.5	154	152	153	10.6	3.9	7.1
5/20/2002				8.3	7.7	7.9	11.5	10.3	10.8	156	152	154	11.7	4.4	7.2
5/21/2002				8.3	7.5	8.0	11.8	10.1	10.9	166	156	162	16.1	2.2	8.4
5/22/2002							10.9	9.1	9.3	177	166	170	21.1	1.1	10.4
5/23/2002							10.9	9.0	10.1	183	175	180	25.0	3.9	13.7
5/24/2002							11.0	8.9	10.1	184	181	183	25.0	7.8	16.0
5/25/2002							10.8	8.8	10.0	188	182	185	23.9	9.4	16.9
5/26/2002							10.8	8.9	10.0	187	180	184	18.9	9.4	14.0
5/27/2002							10.7	8.8	9.9	184	179	182	22.2	11.7	15.0
5/28/2002							10.4	9.0	10.0	188	183	186	25.0	13.9	17.8
5/29/2002				8.3	7.4	8.1	11.4	10.0	11.2	150	144	145	26.7	9.4	17.1
5/30/2002				8.4	7.6	8.0	10.8	8.5	9.4	150	144	147	27.8	7.2	17.0
5/31/2002				8.4	7.7	8.0				154	150	153	22.2	10.6	17.2
6/1/2002				8.4	7.7	8.0				156	153	155	21.7	6.1	14.6
6/2/2002				8.3	7.7	8.0				159	154	158	24.4	5.6	14.8
6/3/2002				8.3	7.7	7.9				164	159	163	26.1	7.8	17.2
6/4/2002				8.3	7.2	8.2	9.5	8.8	9.1	165	164	164	26.7	10.6	18.8
6/5/2002				8.5	8.1	8.3	9.1	8.8	8.9				23.9	8.3	16.8
6/6/2002				8.3	7.6	8.0	9.9	8.1	8.8	155	153	154	19.4	6.1	13.8
6/7/2002				8.3	7.7	8.0	10.3	8.6	9.3	163	155	160	15.0	3.9	10.0
6/8/2002				8.2	7.7	8.0	10.7	9.2	9.9	170	163	167	18.3	6.7	12.2
6/9/2002				8.2	7.7	8.0	10.5	9.0	9.6	174	170	173	23.9	4.4	14.6
6/10/2002				8.3	7.7	8.0	10.2	8.5	9.2	178	173	176	27.2	7.8	17.6
6/11/2002				8.2	7.7	7.8	9.7	8.0	8.5	180	177	179	28.9	8.9	19.4
6/12/2002	21.2	19.2	20.4	8.4	7.9	8.2	9.7	7.7	9.1	182	181	182	28.3	9.4	18.1
6/13/2002	21.2	18.2	19.9	8.4	7.7	8.1	9.6	7.7	8.6	182	179	181	27.2	8.3	18.1
6/14/2002	21.2	18.4	19.9	8.4	7.7	8.1	9.6	7.8	8.6	180	177	179	27.8	8.9	17.9
6/15/2002	20.7	18.2	19.7	8.4	7.7	8.1	9.7	7.8	8.7	179	177	179	25.0	6.7	16.1
6/16/2002	20.2	17.6	18.1	8.2	7.7	8.0	9.8	8.2	9.0	181	178	180	16.7	11.1	14.5
6/18/2002	20.1	16.8	18.5	8.4	7.7	8.1	10.0		9.0	181	179	180	22.2	6.1	15.3
6/19/2002	20.8	17.6	19.3	8.4	7.8	8.1	10.0	8.1	9.0	183	179	180	25.6	6.7	16.5
6/20/2002	20.2	18.1	18.8	8.3	7.8	8.0	10.0	8.2	9.2	186	183	185	27.2	7.2	18.7
6/21/2002													28.3	10.6	18.1
6/22/2002													27.2	8.9	19.1
6/23/2002	22.9	21.8	22.4	8.4	7.7	8.2				195	190	192	28.9	10.6	20.7
6/24/2002	23.9	20.9	22.9	8.5	7.8	8.2				199	167	197	35.0	12.8	25.4
6/26/2002	23.9	22.2	23.1	8.4	7.6	8.2	9.9	6.0	8.5	201	195	197	27.8	13.9	22.5
6/28/2002	23.1	20.9	22.0	8.4	7.9	8.2	10.3		8.8	205	190	202	25.0	17.2	20.2
6/29/2002	23.4	20.7	22.5	8.6	7.9	8.3	10.6	8.0	9.3	203	200	201	27.2	9.4	19.7
6/30/2002	23.8	20.8	22.6	8.7	8.0	8.4	10.7		9.2	203	201	202	28.9	11.1	20.7
7/1/2002	24.1	21.3	22.9	8.7	8.0	8.4	10.6		8.9	203	201	202	32.2	10.6	20.5
7/3/2002	23.2	21.4	22.0				10.4	7.9	9.4	219	203	204	26.1	8.3	20.2
7/4/2002	23.6	20.7	22.3							211	209	210	28.9	9.4	19.3
7/5/2002	23.7	20.8	22.3							232	211	213	28.9	9.4	19.7
7/6/2002	23.7	21.7	22.6				8.9	6.6	7.8	216	211	213	24.4	12.8	18.8
7/7/2002	23.5	20.3	21.8				8.9	6.5	7.8	218	214	216	27.2	7.8	17.9
7/8/2002	24.3	20.9	22.5				8.7	6.5	7.7	217	216	216	35.0	10.0	22.3
7/9/2002	25.8	22.4	23.5				9.5	6.7	8.4	217	215	216	36.7	12.8	23.8
7/10/2002	26.5	24.8	25.9	8.4	7.8	8.2	8.8	6.6	8.3	157	157	157	37.2	15.0	24.4
7/11/2002	26.6	24.8	25.6	8.3	7.6	7.9	8.7		7.3	160	157	159	31.7	15.6	22.5
7/13/2002	27.2	23.4	25.1	8.4	7.6	8.1	8.9	6.6	7.7	163	159	160	33.3	13.3	25.0
7/14/2002	26.8	22.9	24.9	8.5	7.7	8.1	9.0		7.9	161	158	160	31.1	13.9	23.7
7/15/2002	26.7	23.3	25.4	8.5	7.8	8.2	9.1	6.7	8.0	164	160	162	30.6	13.3	22.2
7/16/2002	26.4	22.3	23.9	8.4	7.8	8.0	9.2	6.9	7.6	164	160	162	30.0	12.8	21.4
7/17/2002	26.0	23.7	25.4	8.7	8.0	8.4	9.1	6.8	7.9	221	218	220	30.6	12.2	21.0
7/19/2002	26.1	22.5	24.4	8.7	8.0	8.4	8.9	6.7	7.6	221	216	218	30.0	11.7	21.2
7/20/2002	26.3	22.6	24.7	8.7	8.0	8.4	9.0	6.6	7.6	220	215	218	33.3	14.4	24.0
7/21/2002	27.1	23.6	25.4	8.7	7.9	8.3	8.9	6.5	7.5	222	216	219	35.0	17.8	24.6
7/22/2002	25.9	22.6	24.2	8.6	7.9	8.3				222	216	219	29.4	13.3	21.0

KLAMATH RIVER AT SEIAD VALLEY
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
7/23/2002	26.4	22.7	24.6	8.6	7.8	8.1				219	214	217	29.4	11.1	20.3
7/24/2002	24.3	22.3	23.2	8.7	8.0	8.6				218	213	214	30.0	11.7	20.3
7/25/2002	25.1	21.7	23.2	8.8	8.0	8.4				219	214	217	31.1	11.7	21.1
7/26/2002	25.5	22.1	24.2	8.8	8.0	8.5				221	215	218	30.0	12.8	22.8
7/27/2002	25.4	21.6	23.4	8.8	8.0	8.4				222	217	219	31.7	10.6	21.3
7/28/2002	25.0	22.2	23.4	8.5	8.0	8.2				226	219	222	26.7	11.7	18.0
8/1/2002													31.1	10.6	17.9
8/2/2002	23.0	19.3	20.2	8.7	7.8	8.3							25.6	9.4	12.6
8/4/2002	21.0	17.8	19.4	8.8	7.8	8.2							22.2	5.6	11.6
8/6/2002	21.1	17.3	18.8	8.9	7.9	8.4							20.0	5.6	10.6
8/8/2002													28.3	-5.6	16.8
8/9/2002													27.2	11.7	16.5
8/11/2002													34.4	12.2	23.4
8/12/2002													36.7	12.8	23.5
8/13/2002													27.8	12.2	19.2
8/14/2002													36.1	11.1	21.0
8/16/2002													40.0	11.1	20.6
8/17/2002													31.1	8.9	19.1
8/18/2002													27.8	9.4	16.8
8/19/2002													20.6	8.3	12.7
8/20/2002													24.4	7.8	16.2
8/21/2002													27.2	7.8	18.2
8/22/2002													28.3	10.0	17.5
8/24/2002													27.8	10.6	17.6
8/25/2002													27.2	10.0	18.6
8/26/2002													27.2	9.4	18.1
8/27/2002													30.6	12.2	21.0
8/28/2002													31.1	13.3	20.8
8/29/2002													30.0	12.2	19.5
8/30/2002													30.0	7.8	16.3
8/31/2002													31.7	9.4	18.8
9/1/2002													32.2	11.7	19.3
9/2/2002													27.8	7.8	18.6
9/3/2002													21.1	5.0	13.6
9/4/2002	19.9	18.1	19.3				9.7	6.7	7.9	197	194	195	20.0	4.4	12.5
9/5/2002	19.7	17.0	18.1				10.0	6.8	8.7	196	193	195	18.9	5.0	10.6
9/6/2002	19.7	16.5	17.9				10.1	6.8	8.6	196	194	195	20.0	3.9	12.0
9/7/2002	19.6	16.4	18.0				10.3	6.9	8.8	198	194	196	22.2	3.9	13.1
9/8/2002	20.4	16.9	18.6				10.2	6.9	8.8	208	197	201	27.2	5.6	15.9
9/9/2002	21.1	17.6	19.3				10.4	7.0	8.9	209	204	206	28.3	6.7	17.2
9/10/2002	21.8	18.3	20.0				11.2	6.9	9.0	212	205	208	30.0	8.3	18.2
9/11/2002	21.6	18.6	19.5				11.1	7.1	9.6	213	204	209	30.6	8.3	19.0
9/12/2002	22.3	20.2	21.6	8.8	7.8	8.4	11.0	7.7	9.4	199	194	196	30.0	8.3	19.0
9/13/2002	21.1	18.9	20.0	8.7	7.7	8.2	10.9	7.6	9.0	198	192	195	23.3	7.8	16.3
9/14/2002	20.8	18.7	19.6	8.8	7.7	8.2	11.4	7.7	9.3	197	192	194	25.0	9.4	16.5
9/15/2002	20.0	17.7	18.8	8.7	7.7	8.2	11.9	8.2	9.7	198	193	196	22.2	8.9	17.3
9/16/2002	19.6	17.8	18.5	8.7	7.7	8.2	11.9	6.2	9.7	201	194	196	18.3	10.0	14.2
9/17/2002	20.3	17.7	18.9	8.6	7.6	8.2	12.1	5.4	9.8	200	195	198	24.4	7.8	16.1
9/18/2002	19.2	17.3	18.0	7.9	7.7	7.7	10.0	8.7	8.9	200	197	199	28.3	7.8	17.8
9/19/2002		19.7	20.7	8.7	6.8	8.3	10.6	7.8	9.1	198	196	196	27.8	6.7	17.0
9/20/2002	21.1	17.9	19.5	8.7	7.8	8.2	10.9	7.8	8.9	199	194	196	27.2	6.1	16.8
9/21/2002	21.0	17.9	19.3	8.7	7.7	8.1	11.1	7.9	9.0	202	197	199	28.3	7.8	16.2
9/23/2002	21.2	17.9	19.5	8.7	7.7	8.2	11.1	8.0	9.1	202	200	201	27.8	7.8	17.2
9/24/2002	21.1	17.9	19.4	8.7	7.7	8.2	11.1	8.1	9.1	203	200	201	26.7	6.7	16.0
9/25/2002	18.2	17.3	17.7	8.1	7.8	7.9	10.0	8.4	8.9	202	200	201	27.2	1.1	14.2
9/26/2002	19.5	17.1	18.5	8.6	7.7	8.2	10.4	7.7	8.9	189	184	185	25.6	1.1	14.4
9/27/2002	19.3	16.4	17.8	8.6	7.7	8.2	10.5	7.5	8.8	191	185	188	22.2	6.1	13.9
9/28/2002	19.0	16.3	17.6	8.6	7.7	8.1	10.8	8.0	9.0	194	188	190	22.8	7.8	14.5
9/29/2002	17.3	16.9	17.2	8.0	7.7	7.8	9.5	8.1	8.9	198	191	194	17.8	7.2	13.9

Appendix C

Klamath River at Orleans Water Quality Data

Water Year 2002

KLAMATH RIVER AT ORLEANS
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
10/1/2001	18.2	17.3	17.8	8.5	8.1	8.3	10.3	8.3	9.0	190	187	189			
10/2/2001	18.2	15.4	17.9	8.4	8.0	8.3	9.6	8.1	8.2	189	187	188			
10/3/2001	18.5	17.8	18.2	8.2	7.8	8.0	10.1	8.1	9.2	193	190	191			
10/3/2001	18.6	18.0	18.3	8.2	7.9	8.1	10.0	8.0	8.7	191	188	190			
10/4/2001	18.3	17.7	18.0	8.2	7.9	8.1	10.0	8.0	8.7	196		191			
10/5/2001	17.8	17.3	17.6	8.3	7.9	8.1	10.0	8.1	8.8	193	189	191			
10/6/2001	17.6	17.2	17.3	8.2	7.9	8.1	9.9	8.0	8.7	189	187	188			
10/7/2010	17.3	17.0	17.1	8.2	7.9	8.1	9.7	8.1	8.6	189	187	188			
10/8/2001															
10/9/2001	15.5	15.2	15.3	8.2	7.8	8.0	10.3	8.9	9.7	186	185	186			
10/10/2001	15.9	15.3	15.6	8.2	7.9	8.1	10.2	8.6	9.1	186	185	185			
10/11/2001	15.9	15.0	15.6	8.2	7.9	8.1	10.1	8.5	9.1	186	184	185			
10/12/2001	15.9	15.2	15.6	8.2	7.9	8.1	10.0	8.5	9.0	188	184	185			
10/13/2001	15.8	15.1	15.5	8.2	7.9	8.1	10.0	8.3	8.9	187	185	186			
10/14/2001	15.8	14.9	15.4	8.2	7.9	8.1	9.7	8.1	8.7	188	186	187			
10/15/2001	15.5	15.1	15.4	8.2	7.9	8.1	9.6	8.0	8.4	187	185	186			
10/16/2001	15.0	14.8	14.9	8.2	7.9	8.0	10.2	9.0	9.7	192	190	191			
10/17/2001	15.3	14.6	15.0	8.2	7.9	8.1	10.2	8.7	9.3	190	188	189			
10/18/2001	14.92	14.13	14.6	8.2	7.9	8.1	10.3	8.8	9.3	188	187	187			
10/19/2001	14.41	13.81	14.2	8.2	8.0	8.1	10.3	8.8	9.3	187	185	186			
10/20/2001	13.97	13.51	13.8	8.2	8.0	8.1	10.3	8.8	9.3	186	185	186			
10/21/2001	13.89	13.57	13.8	8.2	8.0	8.1	10.2	8.7	9.2	187	185	186			
10/22/2001	14.16	13.58	13.9	8.1	7.9	8.1	9.6	8.6	8.9	186	185	186			
10/23/2001	13.35	13.11	13.2				10.5	9.5	10.0	183	182	182			
10/24/2001	13.26	12.35	12.9				10.6	9.2	9.7	183	182	182			
10/25/2001	12.59	11.78	12.3				10.7	9.3	9.8	183	182	182			
10/26/2001	12.12	11.49	11.9				10.6	9.4	9.8	184	182	183			
10/27/2001	12.3	11.57	12.0				10.6	9.4	9.8	186	183	184			
10/28/2001	12.84	12.32	12.6				10.5	9.2	9.6	186	184	184			
10/29/2001	13.28	12.72	13.0				10.1	9.0	9.3	184	183	184			
10/30/2001															
10/31/2001															
11/1/2001															
11/2/2001															
11/3/2001															
11/4/2001															
11/5/2001															
11/6/2001															
11/7/2001															
11/8/2001															
11/9/2001															
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11/27/2001															
11/28/2001															
11/29/2001															
11/30/2001															
12/1/2001															
12/2/2001															
12/3/2001															
12/4/2001															
12/5/2001															
12/6/2001															
12/7/2001															
12/8/2001															
12/9/2001															
12/10/2001															
12/11/2001															
12/12/2001															
12/13/2001															
12/14/2001															
12/15/2001															
12/16/2001															

KLAMATH RIVER AT ORLEANS
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
12/17/2001															
12/18/2001															
12/19/2001															
12/20/2001															
12/21/2001															
12/22/2001															
12/23/2001															
12/24/2001															
12/25/2001															
12/26/2001															
12/27/2001															
12/28/2001															
12/29/2001															
12/30/2001															
12/31/2001															
1/1/2002															
1/2/2002															
1/3/2002															
1/4/2002															
1/5/2002															
1/6/2002															
1/7/2002															
1/8/2002															
1/9/2002															
1/10/2002															
1/11/2002															
1/12/2002															
1/13/2002															
1/14/2002															
1/15/2002															
1/16/2002		4.34	5.1	7.7	7.6	7.6				127	126	126			
1/17/2002	4.85	4.19	4.5	7.8	7.7	7.8				130	127	128			
1/18/2002	4.61	4	4.2	7.8	7.8	7.8				132	130	131			
1/19/2002	4.79	4.28	4.5	7.9	7.8	7.9				135	132	133			
1/20/2002	5.64	4.86	5.2	7.9	7.9	7.9				136	131	135			
1/21/2002	5.77	5.16	5.4	7.9	7.8	7.9				132	127	129			
1/22/2002	5.41	5.05	5.2	7.9	7.8	7.9				141	132	137			
1/23/2002	5.48	4.97	5.2	7.9	7.9	7.9				143	141	142			
1/24/2002		5.08	5.9	7.6		7.5	11.9		11.6	148	148	148			
1/25/2002	5.79	5.22	5.5	7.7	7.6	7.7	11.7	11.5	11.6	148	133	141			
1/26/2002	5.81	4.94	5.3	7.8	7.7	7.8	11.9	11.5	11.7	137	133	135			
1/27/2002	5.12	4.47	4.8	7.8	7.8	7.8	12.0	11.7	11.9	143	137	140			
1/28/2002	4.81	3.98	4.3	7.8	7.8	7.8	12.2	11.8	12.0	146	143	144			
1/29/2002		3.31	4.4	8.0	7.8	7.8	12.4	9.4	12.1	146	146	146			
1/30/2002		3.3	4.0	7.9	7.8	7.8	10.6	10.6	10.6	151	150	151			
1/31/2002	4.51	3.68	4.0	8.0	7.9	7.9	13.0	12.8	12.9	152	151	151			
2/1/2002	5.5	4.54	4.9	8.0	8.0	8.0	12.8	12.4	12.6	153	152	152			
2/2/2002	6.09	5.46	5.6	8.0	8.0	8.0	12.4	12.2	12.3	156	153	155			
2/3/2002	6.13	5.34	5.7	8.1	8.0	8.0	12.5	12.1	12.3	157	155	156			
2/4/2002	5.82	5	5.3	8.1	8.0	8.0	12.5	12.1	12.3	158	157	157			
2/5/2002	5.21	4.91	5.1	8.1	8.0	8.1	12.6	12.3	12.4	158	157	158			
2/6/2002	5.8	5.25	5.6	8.1	8.0	8.0	12.4	12.0	12.1	158	144	154			
2/7/2002	6.12	5.57	5.8	8.0	7.9	7.9	12.5	11.9	12.2	143	113	122			
2/8/2002	6.23	5.79	6.0	8.0	7.9	7.9	12.4	12.2	12.2	130	116	124			
2/9/2002	6.29	5.71	6.0	8.0	8.0	8.0	12.3	12.0	12.2	136	130	133			
2/10/2002	6.37	5.81	6.0	8.1	8.0	8.0	12.3	12.0	12.1	142	137	139			
2/11/2002	6.61	6.01	6.2	8.1	8.0	8.0	12.1	11.9	12.0	145	142	143			
2/12/2002		6.41	6.7	8.1	8.0	8.0	11.9		11.7	149	145	147			
2/13/2002		6.57	7.6	8.0	7.9	7.9	12.0		11.7	147	146	147			
2/14/2002	7.18	6.24	6.6	8.1	7.9	8.0	12.0	11.5	11.7	148	147	147			
2/15/2002	7.28	6.48	6.7	8.1	8.0	8.0	11.8	11.6	11.7	148	147	147			
2/16/2002	7.51	6.9	7.2	8.1	8.0	8.1	11.7	11.3	11.5	148	147	147			
2/17/2002	7.46	7.03	7.2	8.2	8.0	8.1	11.7	11.3	11.5	148	147	147			
2/18/2002	7.65	7.36	7.5	8.2	8.0	8.1	11.6	11.3	11.4	148	143	147			
2/19/2002	7.52	7.19	7.4	8.1	7.9	8.0	11.8	11.4	11.6	143	106	125			
2/20/2002	8.23	7.55	7.8	8.0	7.8	7.9	11.8	11.6	11.7	110	102	105			
2/21/2002	8.4	8.03	8.3	8.0	7.9	7.9	11.6	11.4	11.5	113	110	112			
2/22/2002	8.48	7.98	8.3	8.0	7.9	8.0	11.6	11.2	11.4	115	109	113			
2/23/2002	8.11	7.67	7.8	8.0	7.9	8.0	11.8	11.5	11.6	116	108	111			
2/24/2002	8.17	7.06	7.6	8.0	7.9	8.0	12.0	11.5	11.7	122	116	120			
2/25/2002	7.43	6.87	7.1	8.1	8.0	8.0	12.0	11.7	11.8	127	122	124			
2/26/2002		7.21	8.4	8.1		7.9	11.8		11.4	129	127	128			
2/27/2002		7.18	8.0	7.8	7.6	7.7	11.9		11.6	125	114	124			
2/28/2002	7.56	6.42	6.9	7.9	7.8	7.8	12.2	11.6	11.8	126	125	126			
3/1/2002	6.85	6.15	6.5	8.0	7.8	7.9	12.2	11.8	12.0	129	126	127			
3/2/2002	6.87	6.3	6.5	8.0	7.8	7.9	12.2	11.8	12.0	132	129	130			
3/3/2002	7.23	6.65	6.8	8.0	7.9	7.9	12.1	11.8	11.9	134	132	132			
3/4/2002	7.33	7.05	7.2	8.0	7.9	7.9	11.8	11.5	11.7	135	134	134			

KLAMATH RIVER AT ORLEANS
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
3/5/2002	7.53	6.95	7.2	8.0	7.9	7.9	11.8	11.4	11.6	135	131	133			
3/6/2002	7.69	7.54	7.6	8.0	7.9	7.9	11.7	11.3	11.4	131	125	129			
3/7/2002	7.69	6.36	6.9	8.0	7.9	7.9	12.1	11.4	11.7	131	125	127			
3/8/2002	6.8	5.79	6.1	8.0	7.9	7.9	12.2	11.8	12.0	135	131	133			
3/9/2002	6.14	5.72	5.8	8.0	7.9	7.9	12.1	11.9	12.0	137	135	136			
3/10/2002	7.48	6.16	6.8	8.0	7.9	8.0	12.1	11.7	11.8	137	133	136			
3/11/2002	8.25	7.5	7.7	8.0	7.9	8.0	11.7	11.5	11.6	133	125	130			
3/12/2002	8.25	7.32	7.8	8.0	7.9	8.0	11.8	11.6	11.6	124	121	122			
3/13/2002															
3/14/2002															
3/15/2002															
3/16/2002															
3/17/2002															
3/18/2002															
3/19/2002															
3/20/2002															
3/21/2002															
3/22/2002															
3/23/2002															
3/24/2002															
3/25/2002															
3/26/2002															
3/27/2002		8.91	9.9				11.8		11.4	149		145			
3/28/2002	10.64	9.48	9.9	8.0	7.8	7.9	11.5	11.0	11.2	149	144	147			
3/29/2002	10.81	9.62	10.1	8.1	7.8	7.9	11.5	10.9	11.1	144	140	142			
3/30/2002	10.82	9.54	10.1	8.1	7.8	7.9	11.8	11.0	11.2	140	136	138			
3/31/2002	10.75	9.59	10.1	8.1	7.9	8.0	11.4	10.8	11.0	136	131	134			
4/1/2002	11.27	10.17	10.5	8.1	7.9	8.0	11.6	10.7	11.1	131	127	130			
4/2/2002	11.41	10.51	10.9	8.1	7.9	8.0	11.5	10.9	11.2	127	115	121			
4/3/2002	11.42	10.59	11.0	8.1	7.9	8.0	11.5	10.9	11.2	115	107	112			
4/4/2002	11.4	10.39	10.9	8.1	7.8	7.9	11.4	11.0	11.1	107	101	104			
4/5/2002	11.2	10.21	10.4	8.0	7.8	7.8	11.3	11.1	11.2	104	101	103			
4/6/2002	11.29	10.36	10.8	8.0	7.8	7.9	11.3	10.8	11.0	107	104	105			
4/7/2002	11.22	10.44	10.8	8.0	7.8	7.9	11.2	10.8	11.0	109	107	108			
4/8/2002	11.14	10.69	10.9	8.0	7.8	7.9	11.1	10.7	10.9	110	107	109			
4/9/2002	10.86	9.99	10.3	7.9	7.8	7.8	11.3	11.0	11.1	107	99	103			
4/10/2002	11.07	10.29	10.5	7.9	7.6	7.7	10.8	10.6	10.8	93	92	92			
4/11/2002	11.23	10.43	10.8	8.0	7.7	7.8	10.8	10.4	10.6	92	90	91			
4/12/2002	11.44	10.98	11.1	8.0	7.8	7.9	10.5	10.2	10.4	94	91	93			
4/13/2002	11.17	10.77	11.0	8.0	7.8	7.9	10.7	10.2	10.4	93	73	86			
4/14/2002	10.79	8.87	9.8	7.8	7.7	7.8	11.1	10.6	10.8	77	70	74			
4/15/2002	8.98	7.89	8.5	7.8	7.7	7.8	11.3	11.0	11.1	84	78	80			
4/16/2002	8.17	7.57	7.7	7.9	7.8	7.8	11.3	11.1	11.2	94	85	89			
4/17/2002	8.66	7.89	8.2	8.0	7.8	7.9	11.3	10.9	11.1	101	94	97			
4/18/2002	9.49	8.26	8.7	8.0	7.9	7.9	11.1	10.8	10.9	106	101	104			
4/19/2002	10.34	9.15	9.5	8.1	7.9	8.0	10.9	10.5	10.6	112	107	109			
4/20/2002	11.41	9.92	10.3	8.1	7.9	8.0	10.6	10.2	10.4	114	112	113			
4/21/2002	12.21	10.76	11.2	8.1	7.9	8.0	10.4	9.9	10.1	115	114	115			
4/22/2002	12.97	11.59	12.1	8.1	7.9	8.0	10.2	9.6	9.9	116	114	115			
4/23/2002	13.18	10.39	12.5	8.2	7.9	8.0	10.7	9.5	9.7	115	112	114			
4/24/2002	13.04	11.78	12.2	8.0	7.8	7.9	10.7	10.5	10.6	119	118	119			
4/25/2002	13.36	12.07	12.7	8.1	7.8	7.9	10.5	10.0	10.3	119	115	117			
4/26/2002	12.71	11.37	12.0	8.1	7.9	8.0	10.7	10.1	10.4	116	115	116			
4/27/2002	11.7	9.91	10.7	8.1	7.9	8.0	11.2	10.5	10.8	117	116	116			
4/28/2002	11.07	10.16	10.6	8.1	7.9	8.0	11.0	10.6	10.8	121	117	119			
4/29/2002	11.04	9.98	10.5	8.1	7.9	8.0	11.1	10.5	10.7	121	118	119			
4/30/2002	10.01	8.99	9.6	8.0		7.9	11.5	10.8	11.0	121	118	119			
5/1/2002															
5/2/2002															
5/3/2002															
5/4/2002															
5/5/2002	15.85	12.25	12.9		7.8	8.0				119	118	118			
5/6/2002	13.56	11.66	12.5	8.1	7.8	7.9	9.8	9.2	9.5	118	115	117			
5/7/2002	12.88	11.07	11.9	8.1	7.8	7.9	10.0	9.3	9.6	117	115	116			
5/8/2002	12.63	11.15	11.9	8.1	7.8	7.9	9.9	9.3	9.6	118	117	117			
5/9/2002	12.66	11.31	12.0	8.1	7.8	8.0	9.8	9.3	9.6	119	117	118			
5/10/2002	13.02	11.34	12.2	8.1	7.8	7.9	9.8	9.2	9.5	121	118	120			
5/11/2002	13.96	12.21	12.8	8.1	7.8	8.0	9.6	9.1	9.3	121	120	120			
5/12/2002	14.42	13.27	13.9	8.1	7.9	8.0	9.3	8.9	9.0	120	116	119			
5/13/2002	14.27	13.07	13.5	7.9	7.8	7.8	10.4	10.2	10.3	119	119	119			
5/14/2002	14.69	13.29	14.0	8.0	7.8	7.9	10.2	9.6	10.0	120	118	119			
5/15/2002	14.91	13.25	14.0	8.0	7.8	7.9	10.3	9.7	9.9	119	116	118			
5/16/2002	15.06	13.6	14.3	8.0	7.8	7.9	10.2	9.6	9.9	117	115	116			
5/17/2002	15.41	14.06	14.6	8.0	7.8	7.9	10.0	9.5	9.7	116	114	115			
5/18/2002	14.49	13.07	13.6	8.0	7.8	7.9	10.2	9.6	9.9	115	114	115			
5/19/2002	13.26	12.31	12.9	7.9	7.8	7.9	10.3	9.8	10.0	116	115	115			
5/20/2002	18.08	11.87	12.5	8.1	7.7	7.8	10.7	8.8	10.5		116	127			
5/21/2002	12.95	11.39	12.1	8.0	7.8	7.8	10.7	10.3	10.5	120	118	118			

KLAMATH RIVER AT ORLEANS
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
5/22/2002	13.9	12.22	12.9	8.0	7.8	7.9	10.5	10.0	10.2	126	120	123			
5/23/2002	15.08	13.24	13.9	8.1	7.9	8.0	10.1	9.7	9.9	130	126	128			
5/24/2002	15.6	14.36	15.0	8.1	7.9	8.0	9.9	9.3	9.6	131	128	129			
5/25/2002	16.36	14.82	15.5	8.1	7.9	8.0	9.8	9.2	9.5	129	123	126			
5/26/2002	16.71	15.42	16.2	8.1	7.9	8.0	9.5	9.0	9.2	124	121	123			
5/27/2002	22.38	14.55	15.9	8.0	7.8	7.9	9.9	8.2	9.6	117	114	116			
5/28/2002	16.61	15.33	15.7	8.1	7.8	7.9	9.6	9.2	9.4	114	108	110			
5/29/2002	17.25	15.82	16.6	8.1	7.8	8.0	9.5	9.0	9.2	109	103	106			
5/30/2002	17.77	16.39	17.1	8.1	7.9	8.0	9.3	8.8	9.0	108	106	107			
5/31/2002	17.78	16.04	16.9	8.1	7.9	8.0	9.3	8.7	9.0	108	104	107			
6/1/2002	17.54	16.06	16.9	8.2	7.9	8.1	9.3	8.7	9.0	112	105	109			
6/2/2002	17.68	16.19	17.2	8.2	7.9	8.1	9.0	8.6	8.8	115	113	114			
6/3/2002	18.63	15.84	16.5		7.7	7.9	9.9	9.2	9.7	122	120	120			
6/4/2002	18.53	16.8	17.5	8.0	7.7	7.9	9.5	8.8	9.2	122	119	121			
6/5/2002	18.98	17.4	18.3	8.1	7.8	7.9	9.3	8.7	9.0	121	118	120			
6/6/2002	19.13	17.36	18.3	8.1	7.8	7.9	9.3	8.5	8.9	124	120	123			
6/7/2002	18.6	15.99	17.2	8.1	7.8	7.9	9.6	8.7	9.1	126	124	126			
6/8/2002	17.04	14.82	15.9	8.1	7.8	7.9	9.8	8.9	9.3	134	127	129			
6/9/2002	16.43	14.8	15.9	8.1	7.8	8.0	9.6	8.9	9.1	137	134	136			
6/10/2002	17.6	15.35	16.4	8.1	7.9	8.0	9.7	9.2	9.5	138	138	138			
6/11/2002	18.9	17.28	18.0	8.2	7.9	8.0	9.4	8.5	8.9	141	138	139			
6/12/2002	19.69	18.25	19.0	8.2	7.9	8.1	9.1	8.2	8.6	141	138	140			
6/13/2002	20.17	18.46	19.3	8.3	7.9	8.1	9.1	8.1	8.5	143	138	141			
6/14/2002	20.03	18.35	19.2	8.3	7.9	8.1	9.0	8.1	8.5	144	139	142			
6/15/2002	19.98	18.22	19.1	8.3	7.9	8.1	9.1	8.0	8.5	144	140	142			
6/16/2002	19.65	18.09	19.1	8.3	8.0	8.1	8.9	8.1	8.4	144	140	142			
6/17/2002	18.33	17.03	17.5	8.1	7.8	7.9	9.4	9.1	9.3	141	138	140			
6/18/2002	18.87	17.56	18.2	8.2	7.9	8.0	9.3	8.4	8.8	138	137	138			
6/19/2002	19.61	18.18	19.0	8.2	7.9	8.1	9.0	8.1	8.6	143	138	141			
6/20/2002	20.04	18.56	19.4	8.3	7.9	8.1	9.0	7.9	8.4	145	142	144			
6/21/2002	20.45	19.11	19.9	8.3	8.0	8.1	8.9	7.9	8.3	149	144	147			
6/22/2002	20.65	19.35	20.1	8.3	8.0	8.1	8.7	7.8	8.2	149	146	147			
6/23/2002	20.89	19.78	20.6	8.3	7.9	8.1	8.5	7.5	7.8	149	146	147			
6/24/2002	22.82	20.59	21.2	8.3	7.8	8.1	8.9	8.4	8.7	151	151	151			
6/25/2002	22.82	21.69	22.3	8.4	7.9	8.1	8.8	7.7	8.1	152	150	151			
6/26/2002	23.18	21.96	22.7	8.4	8.0	8.2	8.6	7.5	8.0	152	150	151			
6/27/2002	23.09	21.83	22.6	8.4	8.0	8.2	8.5	7.5	7.9	154	151	152			
6/28/2002	22.83	21.64	22.3	8.4	8.0	8.2	8.4	7.4	7.9	156	152	154			
6/29/2002	22.79	21.41	22.2	8.5	8.1	8.3	8.3	7.2	7.7	159	155	157			
6/30/2002	22.68	21.61	22.4	8.5	8.1	8.3	8.3	7.0	7.4	160	157	158			
7/1/2002	22.94	18.05	22.1	8.8	8.2	8.4	9.0	8.0	8.6		167	179			
7/2/2002	23.19	21.84	22.5	8.7	8.2	8.4	9.0	7.7	8.2	171	169	170			
7/3/2002	22.5	21.1	21.8	8.7	8.3	8.5	9.1	7.9	8.4	171	170	170			
7/4/2002	22.2	21.19	21.8	8.7	8.3	8.5	9.1	7.8	8.4	173	171	172			
7/5/2002	22.24	21.24	21.8	8.7	8.3	8.5	9.0	7.7	8.3	175	173	174			
7/6/2002	22.25	21.31	21.8	8.7	8.3	8.5	8.8	7.5	8.2	177	176	176			
7/7/2002	21.97	20.93	21.7	8.7	8.3	8.5	8.8	7.5	7.9	178	177	177			
7/8/2002	22.41	21.29	21.8	8.7	8.1	8.2	9.1	7.7	8.7		177	193			
7/9/2002	23.36	22.43	22.8	8.5	8.1	8.3	9.1	7.4	8.1	181	178	181			
7/10/2002	24.52	23.42	23.8	8.5	8.1	8.3	8.8	7.1	7.9	184	181	183			
7/11/2002	25.29	24.58	25.0	8.5	8.1	8.3	8.7	6.8	7.5	184	183	184			
7/12/2002	25.7	24.74	25.2	8.5	8.1	8.3	8.3	6.9	7.5	184	182	183			
7/13/2002	25.73	24.12	24.8	8.6	8.2	8.4	8.4	6.5	7.3	183	182	182			
7/14/2002	24.99	24.1	24.7	8.6	8.3	8.5	8.3	6.5	7.1	184	182	183			
7/15/2002	24.94	24.03	24.4	8.5	8.2	8.3	8.4	7.2	7.9	191	189	190			
7/16/2002	24.93	23.46	24.2	8.5	8.1	8.3	8.5	7.0	7.6	192	191	191			
7/17/2002	24.48	23.27	23.9	8.5	8.2	8.3	8.5	6.9	7.6	193	191	192			
7/18/2002	24.26	23.03	23.7	8.6	8.2	8.4	8.5	6.9	7.5	195	193	194			
7/19/2002	24.59	23.34	23.9	8.6	8.3	8.4	8.3	6.7	7.4	195	194	195			
7/20/2002	25.47	24.42	24.8	8.7	8.3	8.5	8.3	6.2	7.0	195	194	195			
7/21/2002	25.51	24.16	24.9	8.7	8.4	8.6	8.1	6.1	6.6	195	193	194			
7/22/2002	24.85	23.46	24.1	8.6	8.1	8.3	8.7	7.3	8.1	184	183	184			
7/23/2002	24.92	23.45	24.2	8.6	8.3	8.4	8.8	6.8	7.6	185	183	184			
7/24/2002	24.48	23.58	24.1	8.6	8.3	8.5	8.8	6.8	7.6	185	184	185			
7/25/2002	24.62	23.79	24.3	8.7	8.4	8.5	8.7	6.6	7.5	187	185	186			
7/26/2002	24.67	23.87	24.3	8.7	8.4	8.5	8.5	6.5	7.3	187	185	186			
7/27/2002	24.73	23.06	24.0	8.7	8.4	8.6	8.3	6.1	7.1	187	185	186			
7/28/2002	24	23.06	23.7	8.7	8.4	8.6	8.1	6.1	6.7	187	186	186			
7/29/2002	24.15	23.21	23.5	8.6	8.3	8.4	9.1	7.1	8.1	186	185	186			
7/30/2002	24.38	23.75	24.1	8.7	8.3	8.5	9.0	6.7	7.6	188	185	187			
7/31/2002	24.58	23.76	24.2	8.6	8.3	8.5	8.8	6.6	7.6	190	188	189			
8/1/2002	24.62	23.61	24.1	8.7	8.3	8.5	8.9	6.6	7.5	189	186	187			
8/2/2002	24.09	22.81	23.4	8.7	8.3	8.5	8.8	6.6	7.5	187	185	186			
8/3/2002	22.75	20.8	21.6	8.5	8.2	8.4	8.9	7.0	7.6	190	184	188			
8/4/2002	21.38	20.15	20.8	8.6	8.3	8.4	8.9	7.1	7.7	186	184	185			
8/5/2002	20.42	19.82	20.1	8.4	8.1	8.3	9.4	7.8	8.6						
8/6/2002	20.49	19.89	20.2	8.5	8.2	8.4	9.3	7.1	8.0						
8/7/2002	20.67	20.13	20.5	8.5	8.2	8.4	9.2	6.9	7.8						

KLAMATH RIVER AT ORLEANS
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm), AIR TEMPERATURE (DEG. C)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN	AT MAX	AT MIN	AT MEAN
8/8/2002	21.22	20.44	20.9	8.6	8.2	8.4	8.9	6.7	7.6						
8/9/2002	22.3	21.28	21.8	8.6	8.2	8.4	8.7	6.4	7.3						
8/10/2002	23	22.23	22.5	8.6	8.3	8.4	8.4	6.1	7.1						
8/11/2002	23.4	22.9	23.1	8.6	8.2	8.4	8.2	5.9	6.7						
8/12/2002	24.34	23.74	24.0	8.4	8.1	8.2	8.3	6.9	7.7	186	185	186			
8/13/2002	24.68	24.08	24.3	8.5	8.2	8.3	8.3	5.7	6.5	187	184	186			
8/14/2002	24.89	24.22	24.4	8.5	8.1	8.3	7.3	5.6	6.3	189	185	187			
8/15/2002	24.81	24.31	24.5	8.5	8.1	8.3	7.2	5.5	6.2	188	186	187			
8/16/2002	24.65	23.75	24.0	8.5	8.1	8.3	7.5	5.8	6.5	187	185	186			
8/17/2002	23.92	22.97	23.3	8.5	8.1	8.3	7.8	6.1	6.8	188	186	187			
8/18/2002	23.38	22.45	22.7	8.5	8.2	8.3	7.9	6.3	6.8	187	185	186			
8/19/2002															
8/20/2002	21.81	21.08	21.4	8.6	8.3	8.4	9.3	7.9	8.7	191	190	190			
8/21/2002	21.83	21.17	21.4	8.6	8.4	8.5	9.3	7.1	7.9	194	189	191			
8/22/2002	21.74	21.26	21.4	8.6	8.4	8.5	8.7	7.0	7.7	193	190	191			
8/23/2002	21.58	20.9	21.1	8.7	8.5	8.5	8.6	7.0	7.7	190	188	189			
8/24/2002	21.59	20.88	21.1	8.7	8.4	8.6	8.6	6.6	7.6	189	187	188			
8/25/2002	21.54	21.1	21.2	8.7	8.5	8.6	8.5	6.8	7.4	190		188			
8/26/2002	22.05	21.5	21.8	8.3	8.1	8.2	8.9	7.4	8.3	193	191	192			
8/27/2002	22.55	21.83	22.1	8.4	8.2	8.2	8.9	6.7	7.6	193	191	192			
8/28/2002	23.06	22.35	22.7	8.4	8.2	8.3	8.4	6.5	7.3	192	189	190			
8/29/2002	23.08	22.35	22.6	8.4	8.2	8.3	8.2	6.6	7.3	196	190	191			
8/30/2002	23.26	22.57	22.8	8.4	8.2	8.3	8.3	6.4	7.1	193	191	192			
8/31/2002	23.2	22.49	22.8	8.4	8.2	8.3	8.1	6.5	7.1	191	189	190			
9/1/2002	22.93	22.39	22.6	8.4	8.2	8.3	8.1	6.4	7.0	193	189	190			
9/2/2002	22.97	22.6	22.8	8.3	8.2	8.3	8.6	7.0	7.9	187	186	187			
9/3/2002	22.73	20.98	21.7	8.4	8.2	8.3	8.7	7.0	7.6	186	184	185			
9/4/2002	20.91	19.43	20.0	8.4	8.2	8.3	8.9	7.3	7.9	186	185	186			
9/5/2002	19.8	18.97	19.3	8.4	8.2	8.3	8.9	7.4	8.0	187	185	186			
9/6/2002	19.23	18.21	18.7	8.4	8.2	8.3	9.0	7.5	8.1	186	183	185			
9/7/2002	18.68	18.16	18.5	8.4	8.2	8.3	9.0	7.5	8.1	184	182	183			
9/8/2002	18.64	18.24	18.5	8.4	8.2	8.3	8.9	7.3	7.8	183	182	182			
9/9/2002	19.44	18.69	19.0	8.2	8.0	8.1	9.3	8.3	8.9	169	168	168			
9/10/2002	19.9	19.21	19.5	8.3	8.0	8.1	9.3	7.5	8.2	170	168	169			
9/11/2002	20.26	19.6	19.9	8.3	8.0	8.2	8.9	7.3	7.9	173	169	171			
9/12/2002	20.44	19.83	20.2	8.3	8.1	8.2	8.9	7.1	7.8	177	173	176			
9/13/2002	20.41	19.94	20.2	8.3	8.1	8.2	8.8	7.2	7.8	179	176	177			
9/14/2002	20.06	19.96	20.0	8.3	8.3	8.3	8.7	8.6	8.7	177	177	177			
9/15/2002															
9/16/2002	19.34	19.16	19.3	8.1	8.0	8.1	9.3	8.2	8.8	184	182	183			
9/17/2002	19.42	18.7	19.1	8.2	8.0	8.1	9.2	7.8	8.4	182	181	181			
9/18/2002	19.53	18.75	19.3	8.2	8.0	8.1	9.2	7.6	8.2	182	180	182			
9/19/2002	19.74	19.1	19.5	8.2	8.0	8.1	9.2	7.5	8.2	184	181	183			
9/20/2002	20.01	19.43	19.8	8.3	8.0	8.1	9.1	7.3	8.0	184	182	183			
9/21/2002	20.09	19.49	19.9	8.3	8.0	8.1	9.0	7.2	8.0	186	183	185			
9/22/2002	19.98	18.84	19.8	8.3	7.9	8.1	9.1	7.2	7.8	187	184	186			
9/23/2002	20.1	19.6	19.9	8.4	8.1	8.3	9.1	7.7	8.5	173	172	172			
9/24/2002	20.1	19.43	19.8	8.5	8.2	8.3	9.1	7.2	8.0	174	171	173			
9/25/2002	19.77	18.88	19.4	8.5	8.3	8.4	9.0	7.2	8.0	176	168	175			
9/26/2002	19.14	18.54	18.9	8.6	8.3	8.4	9.0	7.3	8.0	176	175	176			
9/27/2002	18.81	18.06	18.5	8.6	8.3	8.4	9.0	7.2	8.0	177	175	176			
9/28/2002	18.28	17.65	18.0	8.6	8.3	8.4	8.9	7.2	8.0	176	174	175			
9/29/2002	17.8	16.68	17.4	8.5	8.3	8.4	8.7	7.4	7.8	176	174	175			

Appendix D

Indian Creek Flow Data

Water Year 2002

INDIAN CREEK
FLOW (cfs.)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	FLOW MAX	FLOW MIN	FLOW MEAN	DATE	FLOW MAX	FLOW MIN	FLOW MEAN	DATE	FLOW MAX	FLOW MIN	FLOW MEAN
10/1/2001	26	25	25	2/1/2002	373	357	364	6/1/2002	321	257	287
10/2/2001	25	24	24	2/2/2002	357	350	356	6/2/2002	275	242	261
10/3/2001	24	23	23	2/3/2002	350	339	343	6/3/2002	260	234	247
10/4/2001	25	23	24	2/4/2002	339	331	335	6/4/2002	242	220	233
10/5/2001	25	25	25	2/5/2002	331	321	326	6/5/2002	225	206	217
10/6/2001	25	25	25	2/6/2002	321	314	317	6/6/2002	214	198	208
10/7/2001	25	25	25	2/7/2002	342	307	311	6/7/2002	222	201	212
10/8/2001	25	25	25	2/8/2002	1016	350	614	6/8/2002	220	188	206
10/9/2001	25	25	25	2/9/2002	943	652	764	6/9/2002	193	176	186
10/10/2001	25	25	25	2/10/2002	652	551	595	6/10/2002	179	170	174
10/11/2001	31	25	28	2/11/2002	551	495	520	6/11/2002	170	158	166
10/12/2001	31	30	31	2/12/2002	495	459	474	6/12/2002	163	152	158
10/13/2001	30	28	29	2/13/2002	459	442	448	6/14/2002	160	148	154
10/14/2001	28	28	28	2/14/2002	442	438	440	6/15/2002	160	145	153
10/15/2001	28	27	27	2/15/2002	442	438	440	6/16/2002	160	141	151
10/16/2001	27	27	27	2/16/2002	438	429	434	6/17/2002	152	133	144
10/17/2001	27	26	27	2/17/2002	429	425	428	6/18/2002	143	127	137
10/18/2001	26	26	26	2/18/2002	429	421	426	6/19/2002	137	124	131
10/19/2001	26	26	26	2/19/2002	421	409	415	6/20/2002	139	124	129
10/20/2001	26	26	26	2/20/2002	872	417	551	6/21/2002	145	131	140
10/21/2001	26	26	26	2/21/2002	1318	878	1187	6/22/2002	133	118	128
10/22/2001	27	26	26	2/22/2002	1195	982	1069	6/23/2002	124	113	119
10/23/2001	35	27	31	2/23/2002	989	910	948	6/24/2002	120	113	116
10/24/2001	35	32	34	2/24/2002	1180	989	1087	6/25/2002	118	110	115
10/25/2001	32	30	31	2/25/2002	996	787	882	6/26/2002	115	105	111
10/26/2001	30	30	30	2/26/2002	781	668	720	6/27/2002	110	102	107
10/27/2001	30	29	29	2/27/2002	668	606	627	6/28/2002	108	97	103
10/28/2001	29	29	29	2/28/2002	606	571	583	6/29/2002	105	94	99
10/29/2001	30	29	30	3/1/2002	571	532	552	6/30/2002	102	92	97
10/30/2001	83	30	43	3/2/2002	527	481	503	7/1/2002	97	91	94
10/31/2001	86	57	70	3/3/2002	481	446	462	7/2/2002	94	89	92
11/1/2001	57	47	51	3/4/2002	446	417	428	7/3/2002	92	85	89
11/2/2001	47	42	44	3/5/2002	417	396	403	7/4/2002	89	80	86
11/3/2001	42	40	41	3/6/2002	425	392	398	7/5/2002	85	78	82
11/4/2001	40	36	37	3/7/2002	546	425	450	7/6/2002	83	78	80
11/5/2001	36	35	35	3/8/2002	596	504	555	7/7/2002	82	75	79
11/6/2001	35	34	35	3/9/2002	504	446	470	7/8/2002	79	73	77
11/7/2001	34	34	34	3/10/2002	455	425	436	7/9/2002	78	71	74
11/8/2001	34	34	34	3/11/2002	451	417	425	7/10/2002	75	71	73
11/9/2001	34	34	34	3/12/2002	556	451	467	7/11/2002	75	69	72
11/10/2001	34	31	33	3/13/2002	735	566	699	7/12/2002	72	65	69
11/11/2001	34	31	32	3/14/2002	685	586	632	7/13/2002	69	63	67
11/12/2001	71	34	49	3/15/2002	586	527	551	7/14/2002	68	62	65
11/13/2001	115	71	81	3/16/2002	527	486	501	7/15/2002	67	62	64
11/14/2001	150	120	139	3/17/2002	481	446	462	7/16/2002	65	59	62
11/15/2001	135	91	104	3/18/2002	451	417	437	7/17/2002	63	57	60
11/16/2001	357	141	293	3/19/2002	486	396	425	7/18/2002	62	57	59
11/17/2001	260	122	174	3/20/2002	481	468	472	7/19/2002	60	55	58
11/18/2001	122	89	103	3/21/2002	468	459	465	7/20/2002	60	55	58
11/19/2001	201	83	98	3/22/2002	490	468	473	7/21/2002	57	54	56
11/20/2001	464	174	224	3/23/2002	527	490	505	7/22/2002	54	53	54
11/21/2001	1827	339	723	3/24/2002	556	532	539	7/23/2002	54	52	53
11/22/2001	1531	571	944	3/25/2002	556	523	541	7/24/2002	52	51	52
11/23/2001	566	287	393	3/26/2002	523	500	509	7/25/2002	51	51	51
11/24/2001	284	266	271	3/27/2002	500	481	490	7/26/2002	52	51	51
11/25/2001	287	236	275	3/28/2002	490	477	485	7/27/2002	51	50	51
11/26/2001	236	183	201	3/29/2002	537	486	496	7/28/2002	50	50	50
11/27/2001	183	154	166	3/30/2002	576	532	546	7/29/2002	50	47	49
11/28/2001	758	154	368	3/31/2002	606	561	576	7/30/2002	48	46	47
11/29/2001	606	354	449	4/1/2002	642	586	605	7/31/2002	46	45	46
11/30/2001	354	291	311	4/2/2002	707	616	642	8/1/2002	46	45	45
12/1/2001	787	324	604	4/3/2002	866	712	754	8/2/2002	46	44	45
12/2/2001	642	546	602	4/4/2002	1003	841	889	8/3/2002	45	44	44
12/3/2001	679	500	577	4/5/2002	1051	910	974	8/4/2002	44	44	44
12/4/2001	495	409	446	4/6/2002	1051	910	962	8/5/2002	44	43	44
12/5/2001	823	417	568	4/7/2002	923	811	852	8/6/2002	43	43	43
12/6/2001	891	723	838	4/8/2002	829	735	773	8/7/2002	44	43	43
12/7/2001	723	513	601	4/9/2002	763	685	727	8/8/2002	44	43	44
12/8/2001	513	429	464	4/10/2002	1030	690	786	8/9/2002	44	44	44
12/9/2001	429	373	398	4/11/2002	1051	853	943	8/10/2002	44	43	44
12/10/2001	373	331	352	4/12/2002	910	853	873	8/11/2002	44	39	42
12/11/2001	331	300	315	4/13/2002	910	799	845	8/12/2002	41	38	40
12/12/2001	300	275	288	4/14/2002	1079	811	879	8/13/2002	39	38	38
12/13/2001	2304	272	556	4/15/2002	1641	1086	1362	8/15/2002	38	37	38

INDIAN CREEK
FLOW (cfs.)
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	FLOW MAX	FLOW MIN	FLOW MEAN	DATE	FLOW MAX	FLOW MIN	FLOW MEAN	DATE	FLOW MAX	FLOW MIN	FLOW MEAN
12/14/2001	2367	866	1411	4/16/2002	1129	811	939	8/16/2002	37	36	37
12/15/2001	860	581	691	4/18/2002	805	690	745	8/17/2002	36	36	36
12/16/2001	1065	546	595	4/19/2002	685	596	637	8/18/2002	36	35	35
12/17/2001	1531	930	1232	4/20/2002	596	542	564	8/19/2002	35	34	35
12/18/2001	923	712	806	4/21/2002	537	504	516	8/20/2002	34	34	34
12/19/2001	817	658	699	4/22/2002	504	472	485	8/21/2002	34	34	34
12/20/2001	817	637	727	4/23/2002	472	451	464	8/22/2002	34	34	34
12/21/2001	631	518	570	4/24/2002	490	451	464	8/23/2002	34	34	34
12/22/2001	542	504	528	4/25/2002	495	464	483	8/24/2002	44	34	38
12/23/2001	537	464	493	4/26/2002	500	464	481	8/25/2002	44	44	44
12/25/2001	464	421	441	4/27/2002	523	472	495	8/26/2002	44	44	44
12/26/2001	421	392	405	4/28/2002	527	486	507	8/27/2002	44	44	44
12/27/2001	392	373	380	4/29/2002	513	459	489	8/28/2002	44	44	44
12/28/2001	495	365	389	4/30/2002	459	429	442	8/29/2002	44	44	44
12/29/2001	532	495	516	5/1/2002	481	409	423	8/30/2002	44	43	44
12/30/2001	590	500	559	5/2/2002	537	464	493	8/31/2002	43	43	43
12/31/2001	956	586	631	5/3/2002	459	392	426	9/1/2002	43	43	43
1/1/2002	1415	976	1222	5/4/2002	481	438	455	9/2/2002	43	42	43
1/2/2002	1632	956	1083	5/5/2002	486	442	464	9/3/2002	42	42	42
1/3/2002	3219	1667	2508	5/6/2002	459	421	441	9/4/2002	42	41	41
1/4/2002	2005	1195	1529	5/7/2002	455	425	444	9/5/2002	41	40	40
1/5/2002	1195	872	1013	5/8/2002	455	417	437	9/6/2002	40	39	39
1/6/2002	1764	763	903	5/9/2002	434	400	415	9/7/2002	39	39	39
1/7/2002	4534	1845	3835	5/10/2002	400	373	387	9/8/2002	39	39	39
1/8/2002	3479	2388	2773	5/11/2002	381	361	370	9/9/2002	39	39	39
1/9/2002	3938	2253	3112	5/12/2002	365	350	359	9/10/2002	41	39	40
1/10/2002	2242	1490	1805	5/13/2002	350	335	344	9/11/2002	41	41	41
1/11/2002	1482	1100	1269	5/14/2002	373	335	346	9/12/2002	41	41	41
1/12/2002	1100	891	982	5/15/2002	384	365	377	9/13/2002	41	40	41
1/13/2002	891	769	824	5/16/2002	381	317	355	9/14/2002	40	40	40
1/14/2002	769	685	726	5/17/2002	339	310	325	9/15/2002	40	39	39
1/15/2002	685	611	646	5/18/2002	324	304	316	9/16/2002	39	38	38
1/16/2002	611	551	579	5/19/2002	354	314	326	9/17/2002	38	38	38
1/17/2002	551	504	527	5/20/2002	357	310	335	9/18/2002	38	38	38
1/18/2002	504	451	482	5/21/2002	310	297	304	9/19/2002	38	38	38
1/19/2002	451	421	437	5/22/2002	314	291	302	9/20/2002	38	38	38
1/20/2002	421	400	413	5/23/2002	300	278	288	9/21/2002	40	38	39
1/21/2002	396	381	389	5/24/2002	278	260	269	9/22/2002	40	40	40
1/22/2002	527	384	465	5/25/2002	260	248	256	9/23/2002	40	39	39
1/23/2002	451	404	422	5/26/2002	257	248	254	9/24/2002	39	38	38
1/24/2002	404	384	395	5/27/2002	278	260	269	9/25/2002	38	37	38
1/25/2002	384	377	380	5/28/2002	291	266	281	9/26/2002	37	36	36
1/26/2002	523	373	409	5/29/2002	291	269	281	9/27/2002	36	36	36
1/27/2002	532	481	510	5/30/2002	297	275	290	9/28/2002	36	36	36
1/28/2002	481	438	458	5/31/2002	321	300	309	9/29/2002	36	0	33
1/29/2002	438	409	422								
1/30/2002	409	384	395								
1/31/2002	384	373	377								

Appendix E

Steinacher Water Quality Data

Water Year 2002

STEINACHER CREEK
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm),
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN
7/8/2002	16.8	15.6	16.3	7.7	7.7	7.7	9.7	9.3	9.5	95	94	95
7/9/2002	18.0	15.4	16.6	7.8	7.6	7.6	9.6	9.0	9.3	96	95	96
7/10/2002	18.8	16.2	17.4	7.7	7.6	7.7	9.4	8.8	9.1	98	96	97
7/11/2002	19.3	17.7	18.5	7.8	7.6	7.7	9.1	8.7	8.9	99	98	99
7/12/2002	19.7	17.8	18.7	7.8	7.6	7.7	9.0	8.6	8.8	100	99	99
7/13/2002	19.7	16.5	18.0	7.8	7.7	7.7	9.2	8.5	8.9	100	98	99
7/14/2002	18.8	16.3	17.5	7.8	7.7	7.7	9.2	8.6	8.9	101	100	100
7/15/2002	18.0	17.0	17.5	7.8	7.7	7.8	8.9	8.7	8.7	103	102	103
7/16/2002	18.2	15.7	16.9	7.8	7.7	7.7	9.1	8.6	8.8	104	103	103
7/17/2002	18.0	15.6	16.8	7.8	7.7	7.7	9.1	8.6	8.8	104	103	103
7/18/2002	17.9	15.8	16.8	7.8	7.7	7.8	9.0	8.6	8.8	104	103	104
7/19/2002	18.2	15.9	17.1	7.8	7.7	7.7	9.0	8.5	8.7	105	103	104
7/20/2002	19.2	17.1	18.0	7.8	7.7	7.7	8.7	8.3	8.5	107	104	106
7/21/2002	19.3	17.2	18.2	7.8	7.7	7.7	8.7	8.2	8.4	107	105	106
7/22/2002	18.3	17.5	18.0	8.0	7.6	7.7	9.0	7.7	8.7	91	91	91
7/23/2002	18.6	15.8	17.2	7.8	7.7	7.7	9.2	8.7	8.9	92	91	92
7/24/2002	18.0	15.5	16.8	7.8	7.7	7.8	9.3	8.8	9.0	93	92	92
7/25/2002	18.0	16.2	17.2	7.9	7.7	7.8	9.2	8.8	9.0	93	92	93
7/26/2002	18.6	16.7	17.7	7.8	7.7	7.8	9.1	8.7	8.8	94	93	93
7/27/2002	18.8	16.0	17.3	7.8	7.7	7.7	9.2	8.6	8.9	95	93	94
7/28/2002	18.3	16.8	17.5	7.8	7.7	7.7	9.1	8.7	8.9	95	93	94
7/29/2002	18.7	17.7	18.2	7.8	7.8	7.8	8.9	8.7	8.8	97	96	96
7/30/2002	19.1	17.3	18.2	7.9	7.7	7.7	8.8	8.5	8.6	97	96	96
7/31/2002	19.1	17.3	18.2	7.9	7.7	7.8	8.7	8.4	8.6	97	96	97
8/1/2002	19.2	16.6	17.8	7.9	7.7	7.8	8.9	8.4	8.7	98	96	97
8/2/2002	18.3	15.9	17.0	7.9	7.8	7.8	9.0	8.5	8.8	98	96	97
8/3/2002	17.0	14.3	15.4	7.9	7.8	7.9	9.3	8.8	9.1	97	95	96
8/4/2002	15.5	13.7	14.6	7.9	7.8	7.9	9.4	8.8	9.2	96	95	96
8/5/2002		14.1	16.2	8.1	7.8	7.8	9.1	8.2	8.9	103	102	102
8/6/2002	15.0	13.1	14.1	7.8	7.7	7.7	9.3	8.8	9.0	103	101	102
8/7/2002	15.4	13.5	14.6	7.8	7.7	7.8	9.2	8.8	9.0	103	101	102
8/8/2002	16.4	14.3	15.3	7.8	7.7	7.8	9.0	8.6	8.8	104	101	102
8/9/2002	17.1	15.2	16.1	7.9	7.7	7.8	8.9	8.5	8.7	105	102	104
8/10/2002	17.6	15.4	16.5	7.9	7.7	7.8	8.8	8.2	8.6	107	102	105
8/11/2002	17.9	16.0	17.0	7.9	7.7	7.8	8.7	8.3	8.5	107	104	106
8/12/2002	18.3	16.4	17.4	7.9	7.7	7.8	8.6	8.2	8.4	108	105	107
8/13/2002	18.9	17.0	18.0	7.9	7.7	7.8	8.5	8.1	8.3	109	106	108
8/14/2002	19.1	16.8	18.0	7.9	7.8	7.8	8.5	8.0	8.3	110	108	109
8/15/2002	18.0	17.4	17.7	7.9	7.9	7.9	8.4	8.1	8.3	108	108	108
8/16/2002	18.5	15.9	17.1	8.0	7.8	7.9	8.6	8.0	8.3	110	108	109
8/17/2002	17.7	15.2	16.5	8.0	7.8	7.9	8.6	8.1	8.4	109	108	108
8/18/2002	17.2	14.5	15.9	8.0	7.9	7.9	8.6	8.1	8.3	109	107	108
8/19/2002												
8/20/2002												
8/21/2002												
8/22/2002							9.4	7.6	9.1	106	104	105
8/23/2002	16.3	14.5	15.5	7.9	7.8	7.9	9.3	8.8	9.0	106	104	105
8/24/2002	16.3	14.5	15.5	7.9	7.8	7.8	9.2	8.8	9.0	106	104	105
8/25/2002	16.2	14.5	15.4	7.9	7.8	7.8	9.2	8.8	9.0	106	105	106
8/26/2002	16.3	14.3	15.4	7.9	7.8	7.8	9.1	8.6	8.9	106	105	106
8/27/2002	16.4	14.3	15.5	7.9	7.8	7.8	9.1	8.4	8.7	107	105	106
8/28/2002	17.2	15.0	16.3	7.9	7.8	7.8	8.8	8.2	8.4	107	106	107
8/29/2002	17.5	15.7	16.8	7.9	7.7	7.8	8.5	8.0	8.3	107	106	107
8/30/2002												
8/31/2002												
9/1/2002												
9/2/2002												
9/3/2002							8.4	7.3	7.8			
9/4/2002							10.0	6.9	8.6	102	101	101
9/5/2002	13.5	11.7	12.6	7.9	7.8	7.8	9.9	9.4	9.6	102	100	101
9/6/2002	13.4	11.5	12.4	7.9	7.8	7.8	9.9	9.4	9.7	101	100	101
9/7/2002	13.2	11.5	12.4	7.9	7.8	7.9	10.0	9.5	9.7	101	100	100
9/8/2002	13.4	11.9	12.7	7.9	7.8	7.8	9.8	9.4	9.6	101	100	101

STEINACHER CREEK
WATER TEMPERATURE (DEG.C), pH, DISSOLVED OXYGEN (mg/L), SPECIFIC CONDUCTANCE (mS/cm),
START "October 1, 2001" END "Septemberr 31, 2002"

DATE	WT MAX	WT MIN	WT MEAN	pH MAX	pH MIN	pH MEAN	DO MAX	DO MIN	DO MEAN	CON MAX	CON MIN	CON MEAN
9/9/2002	14.1	12.7	13.5	7.9	7.8	7.8	9.6	9.2	9.4	102	100	101
9/10/2002	14.7	13.1	13.9	7.9	7.8	7.9	9.4	9.0	9.2	102	101	102
9/11/2002	15.1	13.3	14.2	7.9	7.8	7.9	9.4	8.9	9.1	103	101	102
9/12/2002	15.2	13.4	14.3	7.9	7.8	7.8	9.3	8.8	9.0	103	102	103
9/13/2002	15.2	13.2	14.2	7.9	7.8	7.9	9.2	8.8	9.0	104	102	103
9/14/2002	14.8	13.6	14.2	8.0	7.8	7.9	9.1	8.8	8.9	104	102	103
9/15/2002	14.7	13.3	14.0	7.9	7.9	7.9	9.3	8.8	9.0	103	102	103
9/16/2002		14.5	16.0	8.1	7.7	7.7	9.4	8.4	9.2	97	97	97
9/17/2002	14.8	13.8	14.4	7.7	7.7	7.7	9.4	9.2	9.3	97	97	97
9/18/2002	15.0	13.1	14.0	7.8	7.7	7.7	9.5	9.1	9.3	97	96	97
9/19/2002	14.9	13.4	14.2	7.8	7.7	7.7	9.4	9.0	9.2	98	96	97
9/20/2002	15.0	13.6	14.3	7.8	7.7	7.7	9.3	8.9	9.1	98	97	98
9/21/2002	15.1	13.4	14.3	7.8	7.7	7.7	9.4	8.9	9.1	99	97	98
9/22/2002	15.0	13.6	14.3	7.8	7.7	7.7	9.2	8.9	9.0	99	97	98