

Appendix 3—Station analysis

Appendix 3A—*Contents of a station analysis*

Specific information about a field site (station) is summarized annually in a station analysis. The analysis should include:

1. Sampling location—Station, name, number, year, and constituent measure
2. Sampling equipment or instrumentation—Type of monitoring sensor(s) and recorder, location of sensor(s) or intakes, any other special instrumentation or features, and dates sensor(s) were changed or replaced.
3. Published records—State the constituent parameter that is published, as well as any data that is collected and not published.
4. Channel characteristics—Brief description of the composition of the channel and any unique or unusual features of the installation.
5. Rating—Statement as to how the digital record is interpreted to provide the published constituent values for the primary and final records.
6. Record—Statement of the completeness of the record. Note all missing data and include the final rating of accuracy for the period of record (or specific service intervals) in chronological order.
7. Calibration—State how and when the instrument was calibrated or checked and note the procedures used in the calibration process. Include statement if corrections were needed for the data.
8. Computations—Statement of how corrections were applied to the data, a list of extreme correction values that were applied to the recorded values during the year, and causes of the need for correction.
9. Treatment of atypical data—Any treatment of unusual or atypical data should be documented.
10. Cross-section measurements—State how and when the cross section was measured, the number of verticals, and the amount of variation throughout the cross section. State if the location of the sensor(s) or water-supply intake is representative of the stream.
11. Remarks—Any additional information about the site, data collected, or general statements that do not fit in any other section.

Appendix 3B—Example of a station analysis for temperature on the Columbia River at Beaver Army Terminal, near Quincy, Oregon

1999

14-2469.00

STATION ANALYSIS

TEMPERATURE

Columbia River at Beaver Army Terminal, Near Quincy, Oregon

Equipment.-- Campbell CR10X datalogger and HIF temperature/conductance probe located on the UVM transducer piling near the RB, in a section of the river with good velocities. On March 3, 1996 a cell-phone system was installed that allows the site to be called daily between 1400 and 1430 to download data. Phone number is 503-784-0136.

Published records.--Daily maximum, minimum, and mean temperatures.

Primary Records.--Complete for the year.

Channel Characteristics.--The channel is approximately 1800 ft wide with depths up to 100 ft, with a bedrock bottom. Bradbury slough enters the river 0.3 miles upstream of the gage from the left bank. Under certain flow and tidal regimes, the x-section may not be well mixed on the right or left bank sections.

Rating.--Rating 1 was used for the entire year.

The measured temperature values ranged from $5.4 \pm C$ to $18.9 \pm C$. The recorded temperature values ranged from $4.3 \pm C$ to $21.9 \pm C$.

Calibration.-- The HIF temperature/conductance probe values were checked using Hydrolab field instrument. Calibration checks for the Hydrolab instruments were made using a certified NBS mercury thermometer.

Calibration checks were performed, Feb. 19, 1997, Mar. 19, 1998, and July 9, 1999 for the small projects Hydrolab W489763, which indicated that no correction was needed. No corrections were made to data collected with this instrument.

Two calibration checks were performed on the Hydrolab W499764 (Oct. 21, 1997; Dec. 2, 1998), which indicated that no correction was needed. No corrections were made to data collected with this instrument.

In the 2000 WY, all Hydrolabs will be checked/logged on a more routine basis.

For the HIF temperature/conductance probe, no calibration is possible.

Cross-sectional measurements.-- The depth and width integrated cross-sections on Aug. 24, 1998 varied by $0.3 \text{ }^{\circ}C$. The depth and width integrated cross-sections on Sept. 14, 1999 varied by $0.2 \text{ }^{\circ}C$. Width integrated cross-sections are made at the time of each NASQAN sampling. Cross-sectional data collected during sampling varied by less than $0.6 \pm C$.

Computations.--Recorded CR10X values at the time of the cross-section are subtracted from the cross-section average, resulting in a computed correction to the recorded CR10X values (cross-section - CR10X = correction). This method takes into account the variation between the

CR10X recorded values compared to the cross-section average, and also the difference between the CR10X readings compared to the reference instrument (Hydrolab). Corrections varied from $+0.2 \pm C$ to $-0.2 \pm C$, and were applied on a time-prorated basis between visits. Corrections were used as follows:

DATE/TIME	SHIFT	
1998 LAST ST: 08 24 1230		-10
11 23 1210	0.10	
01 05 1130	0.10	
01 25 1140	0.00	
02 23 1120	-0.20	
03 08 1200	-0.20	
03 29 1140	0.10	
04 20 1050	0.10	
05 11 1120	-0.10	
05 25 1110	-0.10	
06 08 1120	0.10	
06 22 1100	0.10	
09 14 1120	0.20	
2000 FIRST ST: 10 19 1130		0.20

Treatment of Atypical Data.--None found.

Remarks.--This is a NASQAN II water quality collection site. Water temperature and specific conductance data are furnished monthly to the USGS in Reston for publication in the National Water Conditions report. No discharge was available at the time the record was computed.

Douglas O. Cushman, 12-17-1999
checked by

T.A. Herret 1/2/2000

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