7.10

STANDARD OPERATING PROCEDURES FOR MEASURING STREAM STAGE USING STAFF GAUGE MEASUREMENTS

Summary

While continual stage records obtained from an automated stage recording system (stilling well and data logger) will provide the most complete record of stream stage this system is sometimes not practical. When an automated system is impractical it may be necessary to obtain stream stage measurements from visual observations of a staff gauge placed in the stream.

The accuracy of stream discharge estimates using this method is largely dependent on the frequency of stage measurements taken. When stream discharge is fairly uniform stage should be measured a minimum of once per day. During storm events or during spring runoff discharge should be measured more frequently. Stream stage height should also be measured whenever water quality samples are collected.

Stage Measuring Equipment

- Staff gauge constructed of a durable material that is easy to read with the naked eye or with the aid of binoculars.

Procedure

1. The staff gauge should be placed in the middle of the stream bed. The gauge may be fixed to an existing structure (e.g., bridge piling) or may be attached to a pole. The placement should be such that it is easily read from a road or other access point.

2. Measure stream stage to the nearest 0.1 inch and record on the Stream Stage Recording Form (Figure 7.10.1)

Stage/Staff Gauge Record Form
North Dakota Department of Health
Division of Water Quality
Telephone: 701.328.5210
Fax: 701.328.5200

SITE ID.: _____ **LOCATION:** _____

DATE	TIME	STAGE (ft)	OBSERVER	COMMENTS

Figure 7.10.1. Stage/Staff Gauge Record Form