

Standard Operating Procedure 12: Using a Clinometer to Measure Percent Slope of the Stream Channel, version 1.0

This method takes two people. Normally, the data recorder also takes the percent slope readings. Equipment requirements include a clinometer and datasheet.

- 1.) Before starting habitat measurements, the clinometer user should find his or her eye level on the others in the group. All gradients are recorded in %, which is found on the right hand scale of the clinometer. To determine eye-level height between crew members, both individuals should stand on a level surface. The clinometer user then looks through the clinometer and notes the height (e.g. facial feature) on the opposing person that corresponds with a 0% mark on the clinometer's scale. This height should be the clinometers user's "target" or "aim point" when estimating gradients between transect. If the clinometer users aim point is over the head of a short person, **DO NOT SIGHT ON THAT PERSON.** Switch roles or sight on another in the group.
- 2.) Habitat transects are 10 meters apart, so the clinometer user stands in the center of the lower transect (must be in water, not on a rock), while the person they are sighting on stands in the center of the next transect upstream (must be in water, not on a rock).
- 3.) Look through the clinometer with one eye (keeping both open) and focus on the other persons aim point. (You should see a line in the clinometer, and this should be superimposed on your aim point.)
- 4.) While this line is imposed on the aim point, read the number on the percent side (%) of the clinometer.
- 5.) If the person you are aiming at is standing in deep water, it is possible that you may get a negative number. Record this as such. All other records should be positive.

SOP Revision History

All protocols, regardless of how sound they are originally, require modification as new and different information becomes available. SOP version numbers increase incrementally by tenths (e.g. version 1.1, version 1.2...etc.) for minor changes. Major revisions should be designated with the next whole number (e.g., version 2.0, 3.0, 4.0 ...). Small changes or additions to existing methods will be reviewed in-house by Shenandoah or Mid-Atlantic Network staff. However, if a complete change in methods is sought, an outside review is required.

Revision History Log:

Prev. Version #	Revision Date	Author	Changes Made	Reason for Change	New Version #
