

Standard Operating Procedure 4: Locating Sites in the Field, version 1.0

When monitoring protocols involve revisiting specific sites during each sampling event, locating those sites quickly and efficiently is critical to a functional program. For macroinvertebrate monitoring sites, start and end points of most sampling reaches are marked for identification and written directions and UTM coordinates are available to assist with locating sites in the field. Sites are generally 100m long. Required equipment includes written site directions and map and data cover sheets for new location notes. GPS is not typically needed, but may be helpful off established trails.

Do not assume there is landowner permission to cross private land. Access changes quickly so contact an appropriate district ranger or contact the landowner directly.

- 1) Specific site directions are on file and electronic copies are available on the O:drive (O:\WORKING\AQUATIC\Site_Directions-2018). Site directions include written descriptions of specified road and trail routes and a U.S. Geological Survey (USGS) topographic map of the stream with clearly marked site locations. Site directions also contain information on the type of tag that identifies start and end points of the sample reach. Tag trees or PVC marking posts may identify these points and site directions include information on tag tree or PVC post locations and descriptions. Upper (UTT) and lower (LTT) tag trees are further referenced in the directions as left hand side (LHS) or right hand side (RHS) and direction as facing up (U) or downstream (D) (e.g. “UTT RHSD” means that the upper tag tree is on the right hand bank as you’re looking downstream). In the event that access to the stream changes, or tags and/or tag trees are lost, the associated site directions need to be revised accordingly. All missing or replaced tags or posts should be noted on the datasheets.
- 2) Unless otherwise noted in the site directions, start and end points occur directly next to associated tag trees, usually at a geomorphic habitat break.
- 3) The start and endpoints of all sites collocated with fisheries monitoring sites are referenced by tagged live trees located on the stream bank. Site tags are 1 ½” X 6” yellow metal strips that have “SNP Fish Transect” and the specific site number stamped on them. All tags face the stream and are generally located approximately five feet above the ground on prominent live trees. To facilitate the location of tag trees in the field, tags also face the direction of most likely approach, except in high use areas. In these areas, tags may be more discreetly hidden from view of trails.
- 4) Sites that were established in the early days of the program generally have 2 inch PVC posts (usually painted black) that are located well away (generally 20 yards) from the stream edge at the start and end points. Because these posts are located at a distance from the stream edge, the site directions may include a bearing from the PVC post to the start and end location within the stream channel.

- 5) Sites that are collocated with UVA research sites (SWAS Water Quality Monitoring Sites) are marked by a single round aluminum tag at the base of a tree facing the stream. This round aluminum tag is located at the bottom of the site – there is no upper tag at the UVA collocated sites.
- 6) When suitable tag trees or posts are not located at the exact start or end points, a written description will reference what portions of the stream are included in the transect (e.g. “start at tail of largest pool...end 100 m upstream at 2 ft. bedrock step”).

If needed, UTM coordinates (NAD 83) marking all start and endpoints for monitoring sites have been collected and are found in the aquatic database (see SOP 5, for use of GPS units).

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 #

