

# SAMPLING PLAN DESIGN

## HOW TO PROPOSE A NEW STREAM, REACH, OR PROJECT

Streamkeepers has a regular quarterly monitoring plan that has been devised in consultation with our technical advisors and volunteers. That plan provides a general framework for the ambient monitoring of a stream, meaning that it's designed to establish baseline conditions, compare conditions between sites and streams, and track trends. Beyond our regular quarterly monitoring, we also perform special projects at the request of partner agencies, volunteers, or other area residents. Each fall, Streamkeepers staff, volunteers and technical advisors work together to determine the streams, monitoring reaches, and projects to be monitored the following year. If you are interested in a stream, site, or project that is not on this year's work plan, we suggest you do the following:

- Join an existing stream team for the time being. This way you will receive the training and learn our protocols. You can tell Streamkeepers staff which of the existing teams you'd like to join, or staff can assign you to a team.
  - Do the homework necessary to determine the value of monitoring the new stream or reaches, and to locate where the monitoring reaches should be (see "New Reach Establishment" section). You'll probably want to convene a meeting and/or field trip for local experts to advise you. We can help you get in touch with these experts.
  - Round up a team of volunteers, if possible. Recruit your friends and neighbors!
- Write an informal proposal showing the results of the above efforts. This doesn't have to be formal or fancy, but it should include:
    1. A description of your proposed stream/sites/projects and the benefits of carrying out your proposal;
    2. List of prospective team members (name, address, phone);
    3. If your proposal involves anything other than the regular Streamkeepers quarterly monitoring plan, you'll need to compose a more detailed sampling plan. We can provide you with reference materials for designing such a plan (e.g., Murdoch et al. 1996 and Yates 1988).
    4. Contact information for any professionals with whom you've consulted (name, agency, address, e-mail and phone number);
    5. Rationale for your choice of sites, and maps showing those sites.
  - Participate in the Volunteer Advisory Committee and Steering Committee in the fall, and advocate for your stream/reaches. You will advocate most effectively if you are prepared with the aforementioned proposal!

## CRITERIA FOR SELECTING MONITORING SITES ALONG A STREAM

Streamkeepers generally monitors small- to medium-sized wadeable streams, most of which arise in the foothills and are of relatively short length—often just a few miles. In streams we monitor, we generally try to establish three or more reaches: ideally, one at or near the mouth, one or more in developed areas, and one above most/all of the developed areas. This arrangement allows some comparison between stream characteristics at different elevations and levels of human impact.

The exact location of a monitoring reach will depend on characteristics specific to each creek (including access, owner permission, creek history, etc.) Resources that can help you identify the most effective and accessible places to establish new reaches include USGS quad maps, driving/walking tours (but don't trespass), your personal knowledge of the area, and **especially** the suggestions of local natural resource specialists (Clallam County; Tribes; Clallam Conservation District; State Departments of Fish and Wildlife, Natural Resources, and Ecology; US Forest Service, National Park Service, Natural Resources Conservation Service; etc.).

Criteria for selecting reaches to monitor on a given creek include:

- Reasonable and safe access by volunteers.
- Publicly owned land or permission of landowner to access and mark sites.
- A good spot to gather data, either because:

- It provides a representative view of the stream at that point in its watershed, or
- There's a particular land-use impact that you're trying to track, in which case you'll want sites both upstream and downstream of that land use.
- At least 165' upstream or 660' downstream of bank alterations such as bridges, riprap, etc., if possible. (Unless your purpose is to measure the effects of these bank alterations!)
- Containing both pools and riffles, if possible.
- Above saltwater and tidal influence.
- Generally located at least one half mile apart.
- If you're trying to establish a "reference site" which approximates pristine conditions, find a site with little/no adjacent land use, good riparian cover and channel complexity (including pools and riffles), and that's neither totally incised nor a Devil's Club swamp!

Once you've determined where your sites should be and have gotten approval for the new project and sites, you'll need to establish the new sites by following our "New Site/Reach Establishment" protocol (next section in the Volunteer Handbook).