The Rangewide Bull Trout eDNA Project

eDNA Field Map Documentation

February 1, 2016

U.S. Forest Service, Rocky Mountain Research Station, AWAE Program
800 East Beckwith Avenue
Missoula, MT 59801

322 E. Front St., Suite 401
Boise, ID 83702

Contact: David Nagel (dnagel [at] fs.fed.us)

A full description of The Rangewide Bull Trout eDNA Project can be found at this website:
http://www.fs.fed.us/rm/boise/AWAE/projects/BullTrout_eDNA.html

Overview

These maps depict field sample sites for collecting eDNA stream water samples. Each full map represents a single 8-digit subbasin unit from the USGS Watershed Boundary Dataset. Some subbasins have been divided into multiple, larger scale maps to provide additional detail.

Streams

The base stream layer for these maps is the 1:100,000 scale USGS NHDPlus Version 2 dataset. The NHDPlus streams have been edited to remove braids and diversions, along with other non-dendritic features. For a full discussion of the editing process, see the National Stream Internet Protocol and User Guide (http://www.fs.fed.us/rm/boise/AWAE/projects/NationalStreamInternet.html).

Sample Points

Sample points are located on stream reaches identified from one of two criteria:

1) Cold-Water Climate Shield stream reaches with 25-100% probability of hosting juvenile bull trout (http://www.fs.fed.us/rm/boise/AWAE/projects/ClimateShield.html).
2) Designated U.S. Fish and Wildlife Service (USFWS), juvenile bull trout critical habitat (http://www.fws.gov/pacific/bulltrout/FinalCH2010.html).

In some cases, sample points are not located on USFWS critical habitat reaches because these reaches were removed during the NHDPlus editing process, discussed above.

Sample points are not located on Climate Shield reaches with 10-25% probability of occurrence of bull trout, although these reaches are identified on the map. In addition, reaches with stream slopes greater than 10%, averaged over 1 km above the sample, do not contain sample points. Intermittent stream reaches are identified on the map and should be sampled if their wetted width exceeds 0.5 m.

Sample sites are generally spaced at 1 km intervals along the stream network. At stream junctions, sample points are located 100 m upstream from the confluence, with one point on each fork, and then following the 1 km convention upstream to the next confluence or headwater node. Waterbodies such as lakes and wetlands do not contain sample points.

Each sample point has a unique ID. IDs were created by assigning each stream reach with a project generated reach code. Points along each reach code are assigned sequential site IDs. IDs follow the numbering convention: reach-site.