



## **Guidance for Standardizing Electrofishing Surveys used to Classify Stream Type under the Idaho Forest Practices Act**

Idaho's Forest Practices Act classifies streams as Class I or Class II based on the presence or absence of fish using the following definitions:

- Class I streams are important for the spawning, rearing or migration of fish.
- Class II streams are usually headwater streams or minor drainages that are used by only a few, if any, fish for spawning or rearing. Their principal value lies in their influence on water quality or quantity downstream in Class I streams. Where fish use is unknown, consider streams as Class II where the total upstream watershed is less than two hundred forty (240) acres in the north forest region and four hundred sixty (460) acres in the south forest region. (IDAPA 20.02.01.010.47.b.)

Where data on fish distribution are unknown, surveys may be used to determine the presence or absence of fish and to help identify the break between Class I and II streams.

This document is intended to provide guidelines for stream classification via standardizing electrofishing surveys only. Other surveys methods (e.g., eDNA or visual observations) may be used for stream classification as approved by a Private Forestry Specialist. The selected method and approach to implementation will benefit from the experience of surveyors familiar with local conditions.

### **Stream Classification Objectives:**

1. Document the uppermost fish observation.
2. Identify the Class I/II regulatory break.
3. Submit associated data in standardized format to Idaho Department of Lands (IDL).

### **Stream Survey Field Methods**

A Scientific Collecting Permit from the Idaho Department of Fish and Game (IDFG) is required to conduct electrofishing surveys in Idaho. A federal permit from the National Oceanic and Atmospheric Administration (NOAA) is also required in designated waters containing listed steelhead and salmon. These permits ensure that surveyors possess the necessary training and experience to do so responsibly. Permitting questions should be directed to IDFG regional offices.

Surveyors should follow the guidelines described by the National Marine Fisheries Service for using the lowest effective voltage needed to capture fish (NMFS 2000). Sampling will begin at the likely end of fish location based on existing IDL Class I designations, assessment of topographic maps, interpretation of aerial photos, or other local knowledge. If no fish are found at the initial sampling location, surveyors will move downstream while minimizing turbidity until fish are detected.

Once fish presence has been established, survey in an upstream direction, focusing on the highest quality habitat (e.g., pools, undercut banks, log jams,). If habitat is consistent (e.g., gradient, cover, pool frequency, stream size) and the population is abundant, skip upstream until the habitat changes to

minimize unnecessary electrofishing exposure on fish. Focus sampling effort below waterfalls/changes in gradient, tributary confluences, springs, and road or railroad crossings (especially culverts). As density declines, increase spatial coverage of sampling (up to 100% of the stream) and collect coordinates and photographs to document the location of the likely last observed fish.

To complete the survey, continue to sample upstream for at least 400 meters (or 12 pools) beyond the last observed fish to confirm there are no additional fish upstream. If more fish are found, restart the 400 m/12 pool count. Many Idaho streams have natural barriers like waterfalls, dewatered sections, or steep gradients (>20%). However, confirming fish absence above these features is essential due to the region's dynamic geologic history and past fish stocking. The surveyor should ensure that they have professionally and diligently sampled to ensure that they have determined the true end of fish. Record fish species, geographic coordinates, and document the fish occupancy limitation or barrier with descriptions and photographs (refer to the IDL\_Stream\_Classification\_Data\_Template).

### **Survey Timing**

Surveys must occur when fish occupancy and capture probability are high. When using electrofishing to classify streams, surveys should be conducted when water temperatures are between 4° C and 18° C to mitigate winter concealment behavior and mortality, respectively. Electrofishing should not occur during high flows because velocity, turbidity, and turbulence reduce capture efficiency and increase risk of false negatives.

For perennial streams, electrofishing should occur after peak runoff when the stream is at or near baseflow conditions and before water temperatures drop in fall/winter. For intermittent streams (predictably wet and then dry according to season), electrofishing must occur after peak flows have declined but while potential fish movement is still provided by continuous surface stream flow. If fish movement is not possible because of intermittent surface flows, surveyors must wait for continuous surface flow of at least 4° C. For timing surveys related to minimizing disturbance to fish spawning, incubation, and migration, follow the stipulations of your scientific collection permit including notifying Idaho Fish and Game before each sampling event.

### **Physical Habitat Documentation**

For all surveys a GPS location must be collected in decimal degrees at the recommended stream class break, as well as the last sampling location above the class break. Photograph the recommended break and record stream width, upstream gradient, and any distinct limiting feature (e.g., fish barrier, habitat transition) impeding upstream fish movement.

### **Reports**

Populate the attached spreadsheet IDL\_Stream\_Classification\_Data\_Template documenting the results of your stream classification survey, including all photographs and any map references. All data should be submitted to the local IDL Supervisory Area's Private Forestry Specialist.

### **References**

National Marine Fisheries Service (NMFS). 2000. Guidelines for electrofishing waters containing salmonids listed under the Endangered Species Act. Available:  
<https://media.fisheries.noaa.gov/dam-migration/electro2000.pdf>