Section 13
Guidelines for Determining Fish Use for the Purpose of Typing Waters

Until the fish habitat water typing maps are available, as per **WAC 222-16-030**, the following methods are for use with implementing the interim water typing system (**WAC 222-16-031(3) Type 3 Water**) in the forest practices rules.

PART 1. INTRODUCTION

The rules allow for the opportunity to determine fish use for water typing (**WAC 222-16-031(3)**). The purpose of this section of the Forest Practices Board Manual (manual) is to provide guidelines for making this determination. A uniform stream survey protocol is provided so data may be collected such that affected landowners and other interested parties can provide information necessary to refute the presumption of fish presence (Type 3 Water) or the presumption of fish absence (Type 4 or 5 Water).

Relating to fish use, Type 3 Waters are segments of natural waters that have fish use. At present, a number of fish use waters are not identified on water classification maps or have been misclassified as non-fish use (Type 4 or 5 Water). Likewise, a number of non-fish use waters may be misclassified as having fish use based on physical criteria.

These guidelines are intended to be used only in the following conditions:

1. Verification that DNR mapped breaks between Type 3 Waters and non-fish use waters (Type 4 or 5 Waters) are accurate;
2. Determination whether an unmapped water should be treated as a Type 3 Water, or non-fish use water (Type 4 or 5 Water);
3. Determination that a mapped Type 3 Water can be changed to a non-fish use water (Type 4 or 5 Water);
4. Determination that a mapped non-fish use water (Type 4 or 5 Water) can be changed to a Type 3 Water.

These guidelines cannot be used to determine the break between a Type 4 and 5 Water (see **WAC 222-16-031 (4)** and **(5)**), or for use on changing the designation of Type 1 or 2 Waters. Data collected using this manual may not be suitable for building or validating the water type model described in **WAC 222-16-030**.

PART 2. CONSIDERATIONS REQUIRED FOR WATER TYPE CHANGE PROPOSALS

Stream Features

The electroshocking protocol in this manual was developed primarily for small width streams (generally streams less than 5 feet bankfull width). Beginning in 2002, landowners who wish to survey for fish in streams larger than 5 feet bankfull width are required to consult with Washington Department of Fish and Wildlife (WDFW) area habitat biologists (as per requirements of WDFW's Scientific Collection Permit) and affected tribes prior to the survey effort. The purpose of the consultation is to preview survey plans with those who will be asked to review the results and cooperatively determine if there are parts of the plans that should be modified to improve the quality of the surveys.

Ponds, spring sources and wetlands are often examples of important non-channel fish habitats that when located in the upper reaches of small streams can provide refuge and rearing areas for anadromous and resident fish populations. Surveyors should attempt to locate such stream features and potential habitats in pre-field reconnaissance of aerial or ortho-photos and local knowledge and insure that these habitats are sampled for fish presence. The presence of fish species at these locations, or in other upstream reaches, is indicative of downstream fish use. Determining fish use in water bodies such as ponds and wetlands can be difficult. Landowners should consult with WDFW area habitat biologists for survey techniques.

Drought Conditions and Other Factors Affecting Population Distribution

Many factors can influence the extent and distribution of fish species in the watershed. Depressed stocks will fail to fill all the available habitat niches. Likewise, drought or flood years may alter how species occupy the habitat or fish access into the habitat. Fish populations may be locally or temporarily extirpated from stream channels due to mass wasting and downstream scouring that can require years before even partial recovery begins. Fish use surveyors must document how such factors if present affect fish distribution in the stream system.

By February 1st of each year, the Washington Department of Natural Resources (DNR), in consultation with the WDFW, will release information forecasting statewide water abundance for the coming fish survey season. This information will be provided to landowners and interested parties who may be conducting fish surveys to allow for appropriate attention to potential drought conditions. If drought conditions exist within the state during the fish survey season, then proponents of a water type change will be required to provide information demonstrating how stream flows and fish use determinations were unaffected by drought conditions. If such information is not provided, or not deemed adequate during the review process, then the proposed water type change will be rejected.

Scientific Collection Permits
Prior to conducting any surveys that may incidentally harm fish, e.g. electroshocking, WDFW regulations require that the landowner or surveyor obtain a current Scientific Collection Permit for stream surveys from WDFW. In addition, an appropriate federal permit is necessary for electrofishing in waters containing bull trout. Resource managers of affected tribes (within their usual and accustomed areas) are not required to apply for a Scientific Collection Permit.

Blockages to Fish Passage
The Forest Practices Rules allow for a stream survey protocol to determine fish use. However, determinations of fish absence using this protocol generally can be applied only to streams where human-made fish blockages, such as impassable culverts, do not exist below the proposed survey reach. The process used to determine absence or presence of blockages to fish passage must be documented. Above human-made fish blockages, physical criteria are used to determine the presumption of fish use unless otherwise approved by the DNR in consultation with the WDFW, Washington Department of Ecology (DOE) and affected tribes.

Natural barriers consisting of waterfalls greater than twelve feet in vertical height or long, steep cascades without fish resting areas generally block upstream migration of anadromous fish. Such features and other potential natural barriers, e.g. beaver dams, present likely sites from which to begin fish use surveys. Resident fish frequently exist upstream of such blockages so the mere presence of a natural barrier is not proof of fish absence.

PART 3. SURVEY TIMING

Survey information collected to determine fish use or the maximum upstream extent of habitat utilization must be collected during the time window when the fish species in question are likely to be present. The spring period through early summer at which time fry are emerged from the gravels and distributing to rearing areas is the most appropriate time. In most cases, this period extends from March 1st to July 15th when water is most likely to be present in the channel. Due to the complexities in anticipating when fish will be seasonally active, survey timing should be determined in consultation with WDFW and affected tribes prior to conducting a survey.

PART 4. SURVEY EFFORT

There are many visual methods such as walking the stream bank and visually observing fish, snorkeling, feeding, and hook and line sampling to show presence at a particular site along a stream segment. Projecting the extent of fish utilization upstream based on observed stream habitat parameters may be as dependent on professional judgment as on measurable physical criteria. Providing evidence that strongly suggests the absence of fish use requires a different methodology than visual observation.

The absence of fish use must be supported by stream survey information collected using a backpack electroshocker to electrofish the stream segment in question. Electroshocking stream survey information may only be collected by qualified or trained staff (see **Part 5. Qualified and Trained Staff**) of state or tribal entities, landowners, consultants or conservation organizations. Injury or mortality to fish can occur from electroshocking and it should be used minimally for this effort.

In special circumstances such as in critical stream reaches of threatened and endangered species such as bull trout and other severely depressed populations, WDFW may reject Scientific

Collection Permits for electroshocking in those streams. In such cases WDFW, landowners and tribal representatives will recommend and approve alternate methods of collecting data for determining fish use. Snorkeling or trapping may be two such examples.

If fish use is not detected using this manual, then survey data submitted must confirm that the survey effort included electroshocking a minimum of 12 of the reaches highest quality pools, three square feet in surface area and one foot residual pool depth or larger. Documentation of stream characteristics is required where the minimum number of pools do not exist in the stream segment. The survey effort shall also cover at least 1/4 mile of stream length upstream from the point of last known fish use unless the stream gradient increases and remains above the 20% gradient threshold and fish are not being found by the survey.

The survey effort for forest practice application specific efforts begins at the down stream end of the unit and continues upstream for the length of the proposed forest practice unit or 1/4 mile, which ever is the greater, to include at least the minimum shocking effort of 12 pools as described above. If the survey begins somewhere above the point of last known fish use or on a unmapped/untyped stream, then the waters below the survey effort down stream to the point of last known fish use will be typed by physical characteristics (see **WAC 222-16-031(3)(b)(i))**.

Waters downstream of a known fish location are assumed to have fish use, therefore, determinations of fish absence are not applicable in these cases.

For safety reasons and effectiveness in detecting fish, two person crews, one of which is a down stream netter, should be used for surveying most streams.

PART 5. QUALIFIED AND TRAINED STAFF

"Qualified" staff means persons with at least a Bachelor of Science degree in a natural resource field with at least 12 credit hours in fish science course work and hands-on experience with backpack electroshockers and electrofishing. "Trained" staff means any personnel working under the direction or supervision of "qualified" staff who have also attended the survey training previously offered by Timber, Fish & Wildlife (TFW) cooperators.

PART 6. ALTERNATIVES FOR MAKING FISH USE DETERMINATIONS

Where field surveys for determining fish use have not been done, water type is determined by applying the physical characteristics contained in **WAC 222-16-031(3)**. The DNR, in consultation with the WDFW, DOE, and affected Indian tribes may waive or modify these characteristics where evidence provides relative certainty that such waters do not support fish life. A list of such examples includes but may not be limited to:

1. Streams that have previously been surveyed and typing verified by projects sponsored or conducted by landowner, state, tribal and conservation groups. Project sponsors can define and map areas where water type confirmation has been substantially completed.

2. Waters with confirmed, long term, naturally occurring water quality parameters incapable of supporting fish life.

3. Snow melt/ice melt streams that have short flow cycles and are characteristic of east side sites. These streams typically have no flow in winter months and discontinue flow by June 1st.
4. Sufficient information about a geographic region or ownership is available to support a departure from the characteristics as determined by the DNR in consultation with the WDFW, DOE, and affected Indian tribes.