FISH PROTECTION

Introduction

It doesn’t matter to fish whether a watercourse is labeled as natural, modified natural, or constructed. Fish will make use of the watercourse at some life stage if there is water of sufficient quality and quantity and if there are no obstructions to access. Maintenance of any watercourse presents the potential to harm fish or fish habitat. This fact sheet will help you determine when and how to conduct fish removal so as to minimize harming fish and avoid incurring civil and criminal penalties.

Projects where fish removal is necessary will likely require a Hydraulic Project Approval (HPA) from the Washington State Department of Fish and Wildlife (WDFW). See Factsheet #1 Hydraulic Project Approval for more information on the permitting process. The HPA will have detailed directions for fish removal activities. Guidelines in this Factsheet are general approaches to fish removal methods, the HPA will serve as the primary protocol for fish removal.

What is fish Removal?

A fish removal involves collecting fish from an isolated watercourse reach where maintenance work is being done and relocating the fish upstream or downstream of this section.

Construction Watercourses

Fish are assumed to not be present in constructed watercourses. However, if fish are observed in distress during in-water maintenance activities then fish removal BMPs should be implemented.

Fish Removal BMPs

1. Qualified staff must be on site at all times during drainage maintenance work.
2. Isolate the work area by placing a block net at the top and bottom end of the section planned for maintenance.
3. Select a fish collection method or methods (see below) best suited to the watercourse.
4. Repeat this method or sequence of methods three times to make sure all the fish have been captured from the isolated section.
5. Monitor the work area, affected downstream area, and spoils closely for signs of fish in distress.
6. If fish are observed in distress, pause the work and capture fish using dip nets and buckets of fresh water.
7. Immediately relocate fish to an area of clean, free flowing water.
8. Continue to monitor and remove fish when needed.
9. Pausing work frequently to maintain relatively good water quality is the best method to ensure minimum impacts to any remaining fish.
10. Remove block nets when maintenance work is complete and water quality impacts have settled.

When do I conduct Fish Removal?

Modified Watercourses

Fish must be removed from the watercourse prior to any in-water maintenance activity. It is understood that fish removal may not be entirely effective when there is a dense Reed canary grass infestation.

A constructed ditch can provide valuable habitat for fish

Fish rescued from work area must be relocated to an upstream or downstream site
**Fish Removal Techniques:**

**Seine net:** a net with weights along the bottom and floats at the top to enable the net to stand in water. Typically, seine nets with a small mesh size (1/8”–1/4”) are adequate for trapping or moving young fish in small-sized channels. These types of nets are relatively small and easy to maneuver in smaller channels. One technique is to encircle and then remove schools of fish using dip nets. Another is to drag the net downstream, encouraging fish to move below the channel reach planned for maintenance. Both of these techniques can be made more effective by first removing some of the water by means of a coffer dam or water diversion, then seining and removing fish in the remaining pools.

**Electrofishing:** passes electric current through the water that attracts and stuns fish and is most effective in small streams and rivers. Electro-fishing is commonly done on foot using a backpack shocking device or from a boat with a boat-shocker. Special training and certification is required to electrofish. Electrofishing can be highly stressful to fish. Mortality can be extremely high in warm water conditions.

A common practice is to use a lower risk method (i.e. seine netting and dip nets) for the first two passes and then use a more exhaustive approach (i.e. electrofishing) for the third and final pass. Once each pass is done, immediately relocate the removed fish into an upstream or downstream portion of the watercourse.

**What Else Do I Need to Know?**

If you do not have the expertise and equipment or time to perform your own fish removal, you can hire someone to do this for you. Fish removal work is specialized and it is recommended that a professional be hired.

It is the responsibility of both the Drainage Improvement District holding permits and the contractor performing work to ensure that all appropriate means have been utilized to avoid negative impacts to fish.