

Pre-Construction Vegetation Removal Best Management Practices

SURVEYING

In order to perform a survey of a proposed project, vegetation may have to be removed or trimmed. This can generally be done using hand tools to have little impact to the system. Surveying requires access to the channel at least every 500 feet to survey cross sections, every 100 feet for centerline profile shots, and access to any points of interest that should be documented (culverts, beaver dams, obstructions, etc.).

For reed canary grass-choked channels, no vegetation removal is generally necessary. The survey equipment can shoot over the top of the vegetation.

For channels that have blackberries covering the banks, access points need to be cut into the vegetation. Access for cross sections must allow access from one side of the channel and extend at least to the high water mark on the opposite bank. Access for centerline points must allow access from one side of the channel and extend to the center of the channel.

For channels that have a mixture of vegetation, the access requirements are the same as for a blackberry-lined channel.

Best Management Practices (BMPs) for Vegetation Removal to Be Able to Survey

For all means of vegetation removal, minimize removal of and damage to native vegetation. Native vegetation should be retained. Native vegetation larger than 3 inches diameter at breast height (dbh) shall not be removed.

For hand removal of vegetation (e.g., machete), no additional BMPs are required.

For removal by hand-held mechanical means (e.g., weedeater), do not operate the equipment below the water surface.

For mechanical removal (e.g., by heavy equipment), vegetation removal shall not disturb dirt on the bank or the slope or in the water, and shall avoid and minimize removal of native vegetation to the maximum extent possible.

The survey corridor for each cross section shall not exceed 5 feet in width. Access points for centerline shots shall not exceed 5 feet in width and shall extend only to the toe of the opposite bank.

DEFISHING

In order to properly remove fish from a construction area, de-fishers must have access to the water column. Different types of defishing require different types of vegetation removal. For example, trapping needs “holes” of open water to place the traps but electrofishing needs room for at least two people to be in the channel with no vegetation on the banks that will hinder movement of the electrofishing unit. Vegetation removal BMPs will be tailored to channel characteristics. In addition to the actual defishing needs, there must be a 2-3 foot wide section at the upstream end of the project and at the downstream end of the project to install fish block

nets. The area cleared for the nets must allow the nets to span the entire wetted channel width and extend to the bottom of the channel.

BMPs for Vegetation Removal to Conduct Defishing

The following practices are the minimum requirements for site preparation for defishing. However, if more cost effective or time efficient, all vegetation that needs to be removed for construction and planting, excepting native vegetation, can be removed at one time. In all cases, vegetation removal shall not disturb dirt on the bank or the slope or in the water, and shall avoid and minimize removal of native vegetation to the maximum extent possible. Conditions that may favor removal of all non-native vegetation include avoiding duplication of effort for the contractor and avoiding excessive costs of having to rent equipment twice to remove vegetation for defishing and again for construction.

Reed Canary Grass

If reed canary grass has not filled the entire channel and there is room for de-fishers to walk up the middle of the channel (2.5 feet wide), access points into the channel will be cleared every 100 feet, no more than 5 feet in width.

If reed canary grass has filled the entire channel, the grass needs to be removed from the channel to create a 2.5 foot wide clear area to facilitate fish removal. To remove the reed canary grass, mowing equipment shall not be operated below the water surface, shall not disturb dirt on the bank or the slope, and shall avoid and minimize removal of native vegetation to the maximum extent possible. If the waterway is dry during mowing, the mowing equipment shall also not disturb the bed of the waterway.

For hand removal of reed canary grass, the grass will be removed from the channel and placed above the ordinary high water mark for later disposal.

For mechanical removal by heavy machinery, a thumbed bucket or rock picker shall be used. Vegetation shall be grabbed above the sediment level and lifted straight up and placed above the ordinary high water mark for later removal. After removal from the bottom of the channel, vegetation shall be removed from the waterway as quickly as possible and shall not be shaken above flowing water. Work from upstream to downstream.

Blackberries

For channels where the waterway is fairly clear of vegetation but access is restricted by blackberries, the blackberries shall be removed from one side of the channel and cleared from the other side of the channel to the point that they will not hang into or over the water. The blackberries shall be removed without entering the water or disturbing the dirt.

For hand removal, cleared vegetation shall be placed above the ordinary high water mark for later disposal.

For both hand-held and heavy-equipment mechanical removal, the machine shall not be operated below the water surface. A net or other collection system shall be placed downstream to collect

material that falls in the channel. All collected material shall be placed above the ordinary high water mark for later disposal.

Knotweed

Reed canary grass is considerably more common in King County Agricultural Production Districts than knotweed. However, in case there may be knotweed present, the following steps will be taken. During the initial survey, county staff will try to note whether knotweed is present and notify the farmer accordingly. If knotweed is present, special precautions must be taken. The farmer will need to contact King County Noxious Weeds Program for removal BMPs: <http://your.kingcounty.gov/dnrp/library/water-and-land/weeds/BMPs/Knotweed-Control.pdf>. These will likely include following WDFW requirements in a pamphlet HPA and meeting King County requirements of hand or light mechanical removal according to BMPs approved by the Noxious Weed Board.

Native Vegetation

For channels where reed canary grass or blackberry is not the predominant plant species, reasonable efforts shall be made to preserve as much native vegetation as possible. Desirable and native trees and shrubs shall be identified and marked prior to vegetation removal.* Where possible, access points shall be cut through the vegetation to the bottom of the channel, then hand removal and hand-held mechanical removal shall take place from the channel. If hand removal or hand-held mechanical removal is not feasible, heavy-equipment mechanical removal should utilize the longest reach boom available to reduce disturbance of the bank vegetation. Mechanical removal shall not take place below the water surface. A net or other collection system shall be placed downstream to collect material that falls in the channel. All collected material shall be placed above the ordinary high water mark for later disposal.

Herbicides

Where property owners wish to use herbicides for vegetation removal, regardless of the type of vegetation to be removed, a licensed herbicide applicator shall apply the herbicides in accordance with current herbicide application requirements. Dead vegetation shall be removed from the channel and placed above the ordinary high water mark for disposal. Herbicides must be applied far enough in advance for them to work and for the vegetation to be removed prior to defishing. As required in state statute, the Aquatic Plant and Algae Management General Permit must be applied for at least 60 days in advance of use to remove vegetation plants from the water or where chemicals could enter the water. In addition, if the herbicides could enter the water, a National Pollution Discharge Elimination System (NPDES) project permit will be required from the WA Department of Ecology. Check the WA Department of Ecology website http://www.ecy.wa.gov/programs/wq/pesticides/final_pesticide_permits/aquatic_plants/permitdocs/permit021611.pdf for latest information on permit requirements, deadlines, and herbicide application timing. A licensed applicator should know this information or how to find it to be sure to allow sufficient time to obtain permits, apply herbicides, and remove vegetation prior to defishing.

* Note: King County has asked and will discuss with the King Conservation District whether they could help identify and mark native vegetation as part of helping the farmer design a planting plan.