

# Agricultural Ditch Maintenance

## Lower Fraser Valley and Vancouver Island

This project is an initiative of the Partnership Committee on Agriculture and the Environment. Committee membership includes B.C. Agriculture Council, Union of B.C. Municipalities, Ministry of Environment Lands and Parks, Ministry of Agriculture, Food and Fisheries and the Department of Fisheries and Oceans.

Regional and on-farm drainage infrastructure was constructed to allow farmers to remove excess water from their land and enhance the viability of their farms. To continue to benefit from this infrastructure both regional and on-farm ditches must be maintained on a regular basis.

On-farm and regional constructed ditch systems have, and discharge water into streams that have, important fisheries values. Therefore, all ditch maintenance activities must be done in a manner that minimizes any impact on fisheries resources.

This brochure outlines the process for conducting agricultural constructed ditch maintenance in the Lower Fraser Valley and Vancouver Island. If conducting maintenance works in constructed ditches the steps to follow are:

1. Determine watercourse classification
2. Determine DFO requirements
3. Determine the Timing Window
4. Adhere to conditions and guidelines for constructed ditches. These include:
  - sediment control
  - deposition of soil
  - bank stabilization

The Agricultural Watercourse Maintenance Guide is available from Municipalities and agency offices.

**Protocol Agreement** – The objective of a protocol agreement is to allow for drainage maintenance work to be done on a consistent basis either within or outside the timing window without the need to apply for an approval each time.

These agreements would be based on a comprehensive long term plan and would establish schedules for work to be done on an annual basis. Identified in the agreement would be the location of works, type of work to be done, quantity of work, timing windows and required mitigation. Where protocol agreements are in place, approvals may not be required each time.

Protocol agreements are proponents that conduct maintenance works over large areas.

### Timing Window

Timing windows are windows of opportunity to enter into and conduct work in a watercourse at a time when fish species are at a stage in their life cycle when they will be least sensitive to the disturbance. For constructed ditches the timing window may be extended if fish can be kept out of the channel.

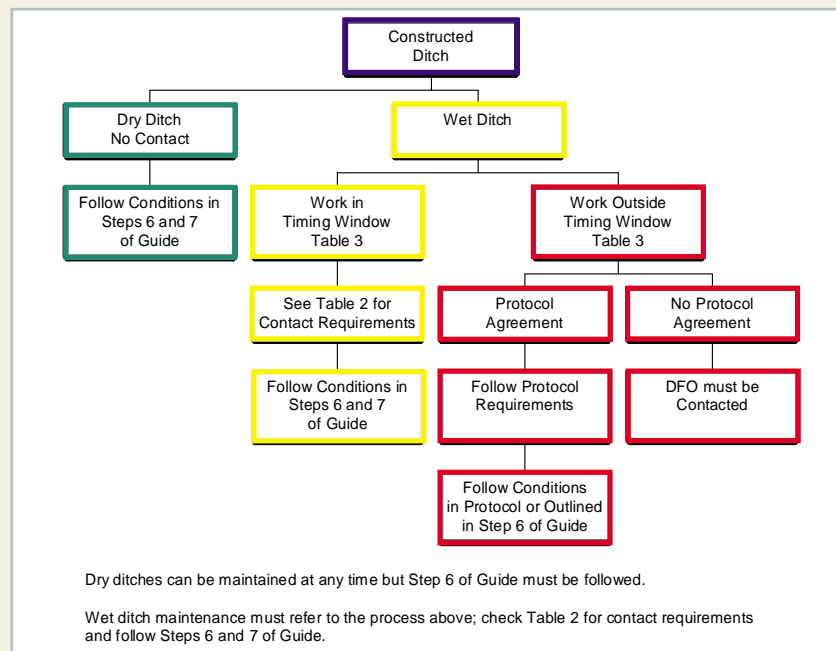
### Constructed Ditch Maintenance

#### Timing Window

**June 15<sup>th</sup> till September 30<sup>th</sup>**

The timing window can be extended on a day by day basis by MELP or DFO if dry weather prevails. Farmers should contact the local municipality to check if the timing window has been extended.

Figure 2 Agricultural Constructed Ditch Maintenance Process

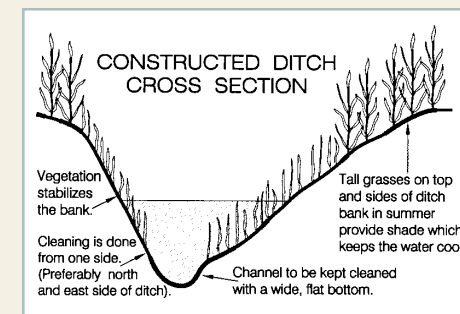


All works conducted outside the timing window must be done under a protocol agreement or obtain authorization from DFO. If a farmer is located within a municipality that has a protocol agreement established for their work close to the farm location, the protocol agreement can be extended to the farm work as well.

Mowing of vegetation along the constructed ditch banks and slopes above the waterline to control, thistle, tansy ragwort and other obnoxious weeds can be done at any time of year without authorization. The preferable time is in the winter, during the non growing season. Longer grasses and vegetation should be kept during the summer months to keep the water cooler. A good ditch condition is shown in Figure 3.

Pump intakes, screens and trash racks licenced under the *Water Act* can be maintained as required.

Figure 3 Good Ditch Condition in Summer



The Agricultural Watercourse Maintenance Guide and Ditch Maintenance Form can be obtained from the Ministry of Agriculture and Food web site at:

Web Site: <http://www.gov.bc.ca/agf>

Also Contact: 604 556-3100



Ministry of Agriculture, Food and Fisheries



Ministry of Environment, Lands and Parks



## Watercourse Classification

### Constructed Ditches

Constructed ditches have no headwaters, carry water from local surface areas or subsurface drains and may be permanently or intermittently wetted. These ditches have been constructed primarily for the purpose of removing excess water from farmland in order to improve crop production and farm viability. During summer months these channels may also be a source of irrigation water for farmland. Constructed ditches include:

**Dry Ditches** – These channels are dry for the summer and early fall period and were primarily constructed to manage winter storm events. They do not usually have aquatic vegetation growth and can be maintained following the process and conditions outlined in the guide. Constructed ditches that are normally dry

but temporarily impound water for irrigation can be maintained as a dry ditch providing that:

- The water control structure prevents fish from accessing the constructed ditch.
- There are no fish in the constructed ditch upstream of the control structure.
- The barrier is removed by November 1<sup>st</sup>.

**Wet Ditches** – These constructed ditches are wet all year and carry water for drainage and irrigation purposes. If a constructed ditch should intercept an underground spring special circumstances may apply for fish protection.

### Streams

Streams include all watercourses that are not classified as a constructed ditch. The *Water Act* does not differentiate between channelized or natural streams with respect to licencing or conducting works in and about a stream. However habitat values for some channelized streams may be different than for natural streams.

### Channelized or Relocated Watercourse

Channelized watercourses are permanent or relocated streams that have been diverted, dredged, straightened or dyked. Channelized and relocated watercourses can be characterized by one or more of the following:

- have headwaters and may transport water from a spring of natural wet area
- are an integral part of the natural drainage and often have good fish habitat;
- likely to have aquatic vegetation growth and support aquatic invertebrates;
- display straight channels which may show signs of natural channel processes (e.g. meandering, pool and riffle development) if left undisturbed for a number of years; and
- typically flow along property or field boundaries.

It is recognized that in some instances, channelized and/or relocated watercourses require maintenance to maintain hydraulic function and flow capacity. Routine maintenance of such watercourses requires long term planning.

### Natural Stream

These are historic watercourses that have not been altered or have not recently been altered. They can be high gradient, but on farmland, tend to be of a low gradient, and are characterized by one or more of the following:

- meandering channel;
- may or may not have riparian vegetative;
- instream submergent and emergent aquatic vegetation;
- pool and/or riffle habitat;
- variations in channel bed morphology (e.g. organic materials, sands or gravels, or combinations thereof);
- evidence of water flow at any time of the year;
- limited evidence of channeling or relocation;
- support aquatic invertebrates; and
- function as fish habitat

## Agency Contact for Constructed Ditches

Depending on the scope of the work, type of work proposed and the watercourse classification, different types of communication with DFO may be required for constructed ditches. (See Figure 2).

**No contact** – The proponent can conduct works without contacting DFO providing that works are done during the timing windows and follow the conditions established for constructed ditches.

**Ditch Maintenance Form** – A ditch maintenance form is filled out and forwarded to DFO. A form is available with the guide. This form should be submitted a minimum of fourteen days prior to the commencement of works.

**DFO Authorization** – If the work is expected to result in the harmful alteration, disruption or destruction of fish habitat (HADD), authorization under Section 35(2) of the Fisheries Act is required. This determination is usually made by a habitat biologist, following contact with DFO.

To obtain an authorization from DFO the proponent must submit a clearly written proposal detailing the type of work to be done, justification for the proposed works, equipment to be used, extent of fish use and habitat type, mitigation measures, proposed habitat compensation and timing of work. This information must be submitted to DFO well in advance of the work being done (i.e. applications should be submitted by May 1<sup>st</sup> of any calendar year, in order to ensure adequate time for processing of the application prior to the Timing Window).

In order for DFO to determine whether or not an approval will be granted, a site visit to assess the proposed works may be required. Official correspondence may be issued as a “letter of advice” or an “authorization”. For protocol agreements and long term plans letters of advice and/or authorizations may be issued for a term of longer than one year, thereby foregoing the necessity to apply on an annual basis.

Figure 1.  
Water Classification

