

Working Around Water?

Fact Sheet # 2
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A Class Authorization System for Agricultural Municipal Drains in the Southern Ontario Region



- ▶ This process reduces the workload of biologists to review each case individually.
- ▶ It expedites planning for Drainage Superintendents, as they know in advance the types of mitigation required for each project.
- ▶ It allows Drainage Superintendents to identify in advance which drains may require a more in depth examination.
- ▶ Biologists will be able to focus resources towards those watercourses that would be most impacted by maintenance activities.

The Federal Fisheries Act

The harmful alteration, disruption or destruction of fish habitat is prohibited by the *Fisheries Act* unless it is authorized by the Minister of Fisheries and Oceans. Persons having *Fisheries Act* authorization for their project may proceed with their work without violating the *Fisheries Act*, provided they comply with the conditions of the authorization.

DFO recognizes the important contribution of agriculture to Ontario's economy. They also recognize the contribution fish habitats in agricultural drains make towards sustainable fisheries.

The Class Authorization system was developed to strike a balance between the need to protect fish habitat and the need to provide drainage to agricultural lands. It is for this reason that a Class Authorization system has been developed. The system streamlines the process of reviewing the effects of drain maintenance activities on fish habitat under the *Fisheries Act*.

The Benefits of a Class Authorization System

In most instances, the Department of Fisheries and Oceans issues Authorizations to Harmfully Alter, Disrupt or Destroy Fish Habitat on a project by project basis. This means each project is examined individually and a site specific authorization drawn up. The Class Authorization system classifies drains according to their sensitivity and provides the following benefits:

- ▶ Users can complete works on less sensitive drains under the Class Authorization for many separate projects, provided the work is done as outlined in the Authorization.
- ▶ A Drainage Superintendent could for example do many bottom cleanouts on different drains without having DFO review each project.
- ▶ The proponent is simply required to obtain the Class Authorization from the local conservation authority (where applicable).

Is Drain Maintenance a Harmful Alteration, Disruption or Destruction of Fish Habitat?

Many drain maintenance activities alter the essential habitat components by changing riparian vegetation, substrate composition, and width:depth ratios. While the work is in progress, fish migrations are blocked and water quality is degraded. For these reasons, drain maintenance activities are harmful. These impacts can be minimized, provided specific conditions are followed.

Why Now?

A system to streamline the process of reviewing fisheries concerns for drains work is more important now than ever. The time required to review all drain maintenance activities on a project by project basis is lengthy. This time delay can cause significant problems for Drainage Superintendents who are also trying to plan and organize their works. In

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many cases, a fairly standard set of conditions are used, and so a mechanism to distribute these conditions to Drainage Superintendents in a timely manner is essential.

Not All Drains are the Same

From a drainage perspective all drains serve the same function: to remove excess water from the land. When viewed according to fish habitat however, drains can and do differ according to the type and sensitivity of the habitat they contain.

Some drains contain habitat that is very sensitive to routine drain maintenance practices. These sensitive habitats may take a long time to recover from routine drain maintenance. Some may never recover, and over time these habitats will be lost completely. This does not mean that drain maintenance activities can never be completed in these drains. They will require a project specific evaluation to determine the mitigation that may be required.

Other drains contain habitat and fish species that are resilient. These resilient habitats and species will recover from drainage work within a relatively short time period. In drains containing resilient habitats, the Harmful Alteration Disruption or Destruction of fish habitat can proceed under a Class Authorization.

The resiliency of drains can be categorized according to the following four characteristics:

- ▶ **Flow** — Permanent watercourses are more sensitive than those that are intermittent.
- ▶ **Temperatures** — Water temperatures in Cold/Coolwater

What is Fish Habitat?

Fish habitat is any component of an aquatic system that provides any one of the following:

Cover ▶ Cover provides areas for escape from predators, competitors and high flows. Numerous forms of cover exists including substrate, woody debris, undercut banks and even deep water.

Food ▶ Fish require food in adequate amount to survive and reproduce. The type and amount of food produced is dependent upon the substrate and riparian characteristics of the watercourse.

Reproduction ▶ Fish require adequate substrate and water quality for successful reproduction.

Water quality ▶ Most species have specific temperatures ranges in which they can live. Changes to riparian vegetation and width:depth ratio can alter watercourse temperatures. The introduction of sediment, pesticides or any other deleterious substances degrades water quality.

Migration routes ▶ Fish often travel great distances within a watercourse for both spawning and feeding. Any activity or structure that blocks migration can detrimentally affect fish populations.

watercourses can increase if proper precautions are not taken.

- ▶ **Fish Species Present** — Top predators (bass, pike, muskie, crappie) or cold/coolwater species (trout, salmon, sculpins) are very sensitive to perturbations.
- ▶ **Stability** — A watercourse that has not recently undergone a full cleanout has most likely reached a state of equilibrium. This equilibrium can be easily disrupted.

Habitat Evaluation Technique References

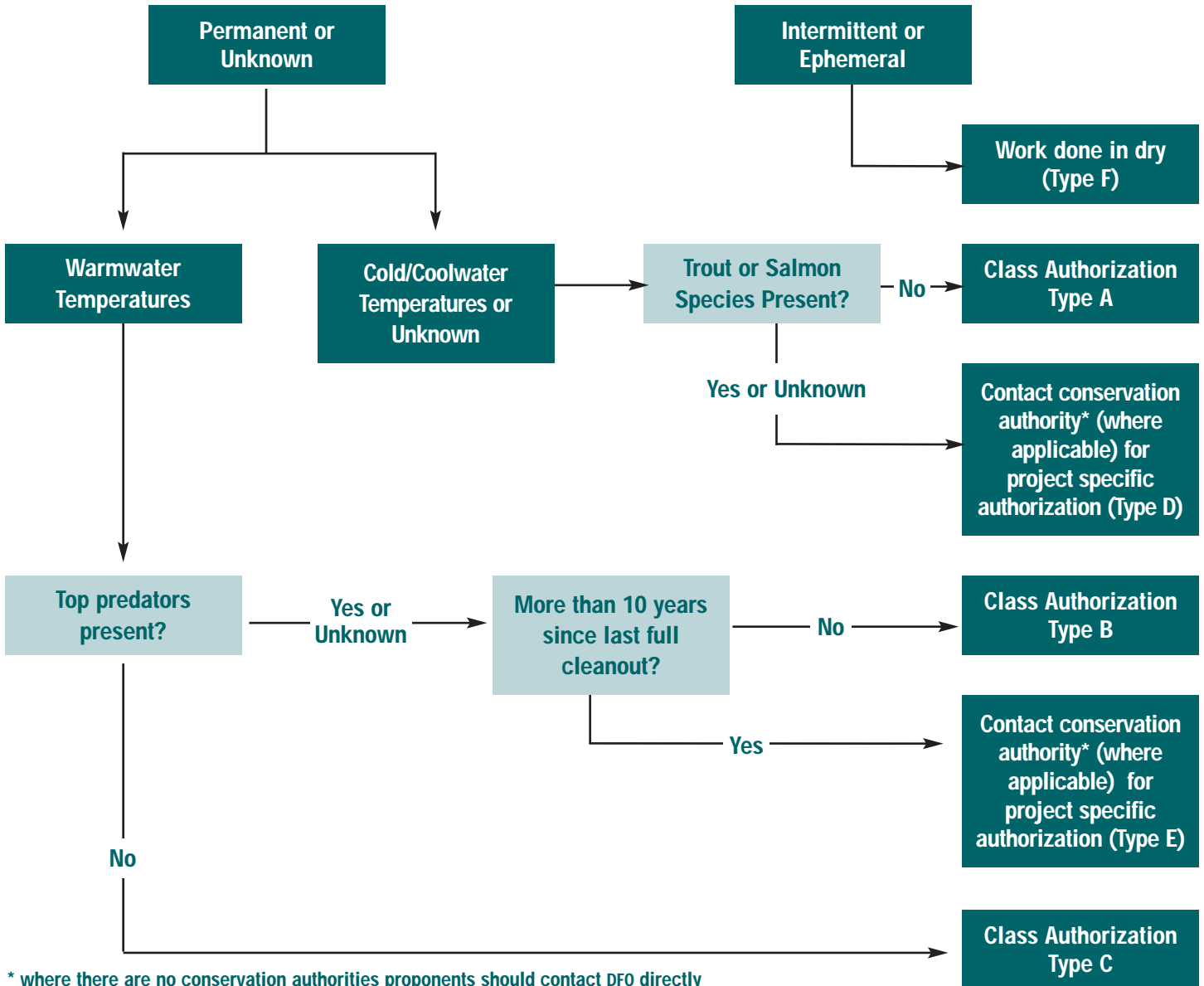
The following are references of the techniques used to determine the drain habitat typing.

- ▶ *A Simple Method to Determine the Thermal Stability of Southern Ontario Trout Streams*. Habitat Management Series FACT sheet.
- ▶ *A Rapid Assessment Techniques to Estimate Salmonie Populations in Southern Ontario Streams*. Habitat Management Series FACT sheet.

Who Classifies the Drains?

- ▶ The conservation authorities (where applicable) are classifying drains using collected data and local knowledge of the drains. The types can then be transferred to maps for use by the agricultural community.
- ▶ Where a specific drain characteristic is unknown, the more sensitive option is assumed. For instance, if water temperatures are unknown, it must be assumed that the drain is cold/coolwater. These decisions are built into the flow chart and tables at right.
- ▶ The drain types can be updated from year to year as new information is available. In addition, as more information is gathered these drain types can be downgraded to less sensitive categories.

The Drains Classifications System



Type	Flow	Temperature	Species	Time Since Last Clean Out	Authorization
A	permanent	cold/cool/unknown	no trout or salmon	n/a	class A
B	permanent	warm	top predators (bass, pike, muskie, crappie)	less than 10 years	class B
C	permanent	warm	baitfish	n/a	class C
D	permanent	cold/cool/unknown	trout and/or salmon	n/a	project specific
E	permanent	warm	top predators (bass, pike, muskie, crappie)		project specific
F	intermittent	n/a	n/a	n/a	conditional (see back page)

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Class Authorization A

Authorized Activities:

- ▶ brushing of side slope
- ▶ bottom cleanout
- ▶ debris cleanout

Specific Terms and Conditions:

- ▶ width:depth ration not increased
- ▶ shade producing side unaltered
- ▶ specific timing restrictions
- ▶ sediment control
- ▶ work in water only when flows are not elevated
- ▶ replanting of bank vegetation

Class Authorization B

Authorized Activities:

- ▶ brushing of side slope
- ▶ bottom cleanout
- ▶ debris cleanout

Specific Terms and Conditions:

- ▶ specific timing restrictions
- ▶ vegetation can be removed from either bank, but must be replanted

- ▶ width:depth ration can be increased, but channel must be as deep as possible
- ▶ sediment control
- ▶ work in water only when flows are not elevated
- ▶ replanting of bank vegetation

Class Authorization C

Authorized Activities:

- ▶ brushing of side slope
- ▶ bottom cleanout
- ▶ debris cleanout
- ▶ full clean out

Specific Terms and Conditions:

- ▶ vegetation removal allowed on either bank, but must be replanted
- ▶ bends in channel must be stabilized
- ▶ specific timing restrictions
- ▶ sediment control
- ▶ work in water only when flows are not elevated

Project Specific Evaluations: D & E

Drain types D and E are sensitive to maintenance activities. This however does not necessarily mean that work cannot proceed in these drains. These projects will be evaluated on a project by project basis to determine if the effects of maintenance can be mitigated. In some cases, a project specific authorization under the *Fisheries Act* may be required.

F Drains

F drains are intermittent systems and therefore a harmful alteration, disruption or destruction of fish habitat will not occur in these systems for cleanout work provided the following conditions are met:

- ▶ work is done in the dry
- ▶ all disturbed soils are stabilized upon completion of work

Class Authorization Adaptability

All conditions can be adapted to suit regional biological differences as well as the needs of the drainage superintendents.

Therefore a Class C authorization in Wingham could have different terms and conditions that a Class C authorization in Fonthill.

Conflicts may arise, however in most cases it is possible to reach a compromise that better suits the needs of drainage superintendents while still protecting fish habitat. Each Class Authorization would be developed using the knowledge and expertise of the biologists and drainage superintendents in that area.

For further information or to obtain copies of the other fact sheets in this series, contact your local Conservation Authority or:

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