

TOP:015.6

January 20, 2015

U.S. Fish and Wildlife Service
Marquette Biological Station
3090 Wright Street
Marquette, Michigan 49855
U.S.A.

and

U.S. Fish and Wildlife Service
Ludington Biological Station
229 South Jebavy Drive
Ludington, Michigan 49431
U.S.A.

and

Fisheries and Oceans Canada
Sea Lamprey Control Centre
1219 Queen Street East
Sault Ste. Marie, Ontario P6A 2E5
Canada

TECHNICAL OPERATING PROCEDURE

PROCEDURE TITLE:

Procedures for the Supplemental Application of TFM Bar Formulation

APPLICABILITY:

Procedures apply to the application of TFM bar formulation.

PRINCIPLE:

Standard procedures for the application of TFM bar formulation (EPA Registration Number 6704-88, Health Canada Pest Control Products Number 22610)

SAMPLE COLLECTION AND PRESERVATION:

Not applicable

EQUIPMENT REQUIRED:

No special equipment necessary for application of TFM bar Formulation

POTENTIAL INTERFERENCES:

Not applicable

SAFETY:

I. Environmental Hazards

State, local, and provincial fish and game agencies must be contacted before product is applied. Municipalities that use streams requiring treatment as potable water must be notified of the impending treatment at least 24 hours prior to application. Agricultural irrigators that use streams requiring treatment as a source of irrigation water must be notified of the impending treatment at least 24 hours prior to application. Agricultural irrigators must turn off their irrigation system for a 24-hour period during and after treatment.

II. Personal Safety

The TFM Bar is a restricted use pesticide. See precautionary statement on pesticide label (Appendix E) and MSDS (Appendix F).

DISPOSAL:

Product label statement "Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Dispose of in a landfill approved for pesticides."

REAGENTS:

No reagents required

PROCEDURES:

I. Determination of application site

A. Typically, TFM bars are applied to small tributaries with less than 3 cubic ft/sec stream discharge. Generally, TFM bars are applied to streams that are not known to be positive for sea lamprey. Application is used to prevent refuge for sea lampreys activated during the treatment.

B. Check the assignment schedule for stream name and site description, access location, and number of TFM bars to apply. Obtain a map of sufficient detail to locate the application site.

C. Locate a suitable site, typically within 100 meters of the junction of the tributary and mainstream, with water velocity of 0.3 - 0.5 ft/sec and depth of less than 1 ft.

II. Application

A. Estimate the discharge of the tributary to nearest 0.5 cfs.

B. Determine the concentration of TFM (mg/L) to be applied. This information is on the assignment schedule.

C. For water temperatures $>12^{\circ}\text{C}$, multiply cfs by desired concentration (mg/L) and by four to obtain the number of TFM bars to apply. For water temperatures of $\leq 12^{\circ}\text{C}$, multiply cfs by desired concentration (mg/L) and by 5 to obtain the number of TFM bars to apply. Based on studies conducted on Iofina TFM bars produced in 2011 and 2012, the bars dissolved at rates higher than expected. These bars should be applied at half the label rate. In addition, the TFM bars only last about 5 hours and will need to be reapplied if a 10-hr block is desired.

- D. Remove TFM bars from containers and place TFM bars in an area of the stream with a bottom cover of rock, gravel, or sticks. Place TFM bars in a location where the stream velocity is as stated in procedure section I subsection C of this protocol. Do not place TFM bars on sand, mud or silt.
- E. Rinse packaging and dispose in garbage.

III. Documentation

- A. Stream observations and lampricide use are recorded on the Backwater/Secondary/Lentic Plot Data Form or the TFM Application Form (U.S.) or the Secondary Application of Lampricide and Stream Observation Form (Canada).
- B. New features (e.g. beaver dams, backwaters, tributaries) are recorded on a Geographic Features Form (U.S.).

REFERENCES:

TFM bar formulation label

This procedure has been reviewed and approved by the undersigned representatives of the U.S. Fish and Wildlife Service and Fisheries and Oceans Canada.

REVIEWED/APPROVED Robert Kelain DATE 3-24-15
Field Supervisor (U.S.)

REVIEWED/APPROVED Paul Selb DATE March 25/2015
Division Manager (Canada)