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Sea Lamprey Control Centre
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Sault Ste. Marie, Ontario P6A 2E5
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ADMINISTRATIVE OPERATING PROCEDURE

PROCEDURE TITLE:

Procedure for providing data for calculation of stream treatment costs

APPLICABILITY:

Procedures pertain to calculations based on records of stream treatments conducted in the United States and Canada by Sea Lamprey Control personnel.

PURPOSE:

Procedures provide a consistent, program-wide approach to estimating staff effort and lampricide usage for calculating treatment costs.

PROCEDURE:

I. To annually generate the stream selection list, Control staff compile necessary data to estimate staff effort and lampricide usage for each stream being considered for treatment. These data are used in the ESTR (Empirical Stream Treatment Ranking) model in conjunction with larval assessment data to provide a basic cost comparison for managers to use when selecting a suite of streams for treatment.

A. Staff days

Staff days are recorded for hours worked while conducting all activities associated with a stream treatment. Hours are categorized under four headings: regular hours, overtime, travel, and shop hours. Treatment time is recorded in hours and then converted to staff

days for use in the ESTR model. For calculation purposes a staff day is 8 hours (U.S.) and 7.5 hours (Canada). The staff day estimates from all available treatments, with a minimum of three treatments, are averaged to provide an estimate of staff days required for treatment of a given stream. If outliers are present, they can be excluded if appropriate rationale is provided. If sufficient data are not available the treatment supervisor makes the best estimate possible. Staff day data is then entered into ESTR to generate or update Chem Opts to be used in the stream ranking process. *Staff days for the St. Marys River lentic treatments are calculated with a standard formula of 0.4 staff days/hectare treated.

1. Treatment hours

Total treatment hours are the sum of hours expended while conducting a stream treatment and hours before and after treatment spent in treatment-related activities in the shop. Data compiled to determine staff days of effort for a treatment are recorded on a “**Staff hour allocation form**” (attachment) or tracked by the treatment lead in a spreadsheet. Treatment-related activities in the shop include but are not limited to analysis of stream water samples, communication pertaining to a particular treatment, and data entry. Rain delays are not included in staff hours attributed to a stream treatment. Rain delays are designated by the treatment supervisor when treatment activities cannot continue due to weather conditions and inclusion in staff hours would bias the data set.

2. Overtime

This category includes overtime and compensatory time and is not included in total treatment hours unless the overtime occurs as a result of double-shifting due to staff shortage. i.e., if an employee works a double shift their overtime is recorded as treatment hours and included in the staff day estimate for that stream.

3. Travel

Time spent traveling between the office and a temporary duty station when an overnight stay is required classified as travel. Travel time is recorded but not included in total treatment hours. Time spent traveling to a work site when working from the office and traveling from temporary duty station to the work site is included in treatment hours.

4. Shop time

Hours spent in all other activities not related to treatment are classified as shop time. As examples, time spent creating treatment maps, loading lampricide, equipment maintenance and repair, and administrative paperwork are considered shop time. Rain delays are designated as shop time.

B. Lampricide use

1. Stream Treatments: Lampricide formulations are reported in the following units: TFM = Kg active ingredient, TFM bars = number of bars, liquid Bayluscide = liters, granular Bayluscide = Kg product. Estimated lampricide use is calculated by averaging the amount used during any prior treatments. A minimum of three treatments are averaged to provide an estimate of lampricide use for treatment of a given stream. If outliers are present, they can be excluded if appropriate rationale is provided. Treatment supervisors provide the most accurate estimate possible when

no data or insufficient data exist, or when averaging treatments that might require Bayluscide.

2. Lentic treatments: Granular Bayluscide is reported in Kg product. The amount is estimated based on the infested area provided by larval assessment (175 kg/ha).

II. Treatment cost estimates for previously untreated streams or barrier removals

- A. Review the treatment extent proposed by larval assessment. Use current larval detection surveys to estimate possibility of tributary infestations based on the presence of native lampreys.
- B. If possible, obtain discharge data via recording staff gauges (USGS or Environment Canada) to select the optimal treatment period. Use mean flow data during optimal treatment period to estimate stream discharge. If no staff gauge data is available, use data from a nearby stream and compare areas of drainage to obtain estimate of stream discharge.
- C. Use water chemistry data from neighboring streams to estimate MLC along with the stream discharge estimate to determine lampricide requirements. Add 20% to the lampricide estimate to cover the possible need for additional applications and attenuation.
- D. To determine staff effort, use a similar sized drainage that is currently treated to estimate the number of preliminary treatment sites and application points. A neighboring stream with historical treatment data could be used to obtain flow time estimates.
- G. Routinely include the following statement at the end of each treatment estimate narrative:

‘Without any additional data it is difficult to determine if the estimates for chemical and effort costs are under or over inflated. The best available data was used in the rough estimate of the treatment cost of named system.’

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 _____ DATE _____
Field Supervisor (U.S.)

REVIEWED/APPROVED _____ DATE _____
Program Manager (Canada)