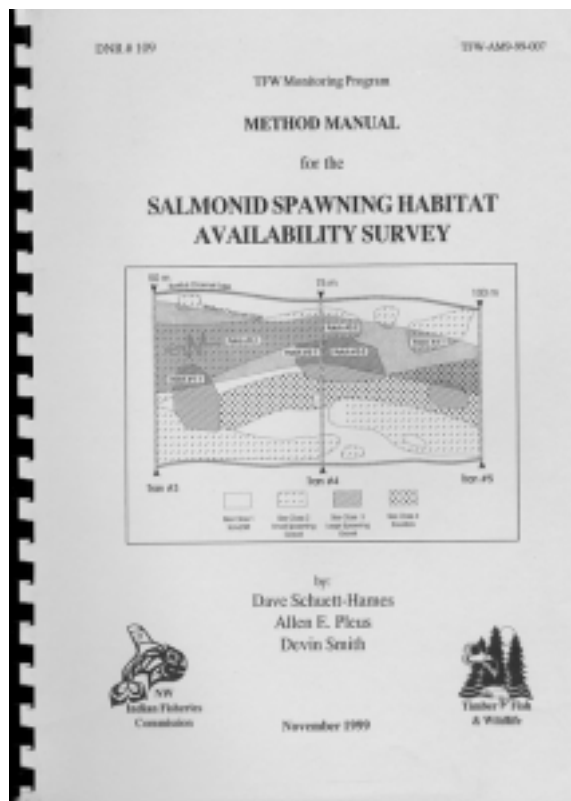


Document No.: 5

Timber-Fish-Wildlife (TFW) Method Manual for the Salmonid Spawning Habitat Availability Survey

Citation: Shuett-Hames, D., A. E. Pleus, and D. Smith. 1999. TFW Monitoring Program method manual for the salmonid spawning habitat availability survey. Prepared for the Washington State Dept. of Natural Resources under the Timber, Fish, and Wildlife Agreement. TFW AM9-99-007. DNR #119. November. 32 pp.



Source: TFW Monitoring Program
Northwest Indian Fisheries Commission
6730 Martin Way East
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Internet: www.nwifc.wa.gov
Cost: No charge

Abstract: Provides a standard method for assessing and monitoring changes in the depth, frequency and distribution of scour on a stream segment scale. The criteria used to determine spawning habitat includes substrate particle size, substrate depth, water depth, water velocity, and surface area coverage. A background section provides a review of scientific literature used as the basis for the Survey method, including a discussion of the distribution of spawning habitat within watersheds and stream segments and characteristics used by salmonids to select spawning habitat.

The Survey provides two methods for estimating the amount of spawning habitat on the TFW stream segment scale; transect and patch. The transect method uses dominant substrate information collected along systematically placed transects to estimate the total surface area of potential spawning habitat within the bankfull and wetted channels. The patch method provides detailed information on the surface area and distribution of individual spawning habitat patches within the wetted channel. Monitoring objectives and timing of surveys are used to select whether one or both survey methods are applied.

The relative abundance of spawning habitat is used as an indicator of resource condition for individual monitoring projects and in the Watershed Analysis Fish Habitat Assessment process (WFPB, 1996). In segments where spawning habitat is scarce, information on hydrology, sediment supply, channel conditions, and human activities is examined to determine why. The survey does not attempt to document or predict actual survival to emergence, nor is it oriented towards the requirements of any particular salmonid species.

Sections are presented in order of survey application including: study design, pre-survey documentation, stream discharge, survey methods, post-survey documentation, data management, and references. An extensive appendix is also provided that includes: copy masters of field forms, examples of completed field forms, a field code sheet, data management examples, and a standard field and vehicle gear checklist.

Note: *If the stream has not already been segmented, pre-monitoring requirements include*

the TFW Stream Segment Identification Method (see Document No. 9). Discharge methods are to the TFW Wadable Discharge Method (see Document No. 7).

Target Application: Management & Research

Suitable for Volunteers: Yes, with training, or if supervised by experienced personnel

Training Recommended: Yes

Available? Not at this time.

Where? Northwest Indian Fisheries Commission at above address.

Monitoring Focus: Changes and trends in salmonid spawning habitat availability:

1) Assess and monitor the availability of potential

- spawning habitat within the bankfull channel;
- 2) Assess and monitor the availability of actual spawning habitat in the wetted channel at a discharge representative of the spawning season;
 - 3) Interpret spawning habitat availability in the context of channel conditions and watershed.

Geographic Scale: Basin, sub-basin, stream reach, project site

Methods: Office & Field

Level of Data Quality: Level 3

Equipment and Tools (*list*): Page 8 (Survey Equipment) and Appendix F of the document

Data Forms: Appendix A of the document

Examples of Filled-in Data Forms: Appendix B of the document

Key References: Page 30 of the document

