

**Fish Habitat Design, Operation and Reclamation
Workbook and Worksheets for Placer Mining
in the Yukon Territory**

Version 1.3

November 2010

This document is available from:

**Yukon Placer Secretariat, 206B Lowe Street, Whitehorse, Yukon, Y1A 1W5
Yukon Water Board Office, 106-100 Range Road, Whitehorse, Yukon, Y1A 3V1
Fisheries and Oceans Canada, 100-419 Range Road, Whitehorse, Yukon, Y1A 3V1**

Overview

This workbook and associated worksheets are provided to assist with compiling information to support project proposals for submission to the Yukon Environmental and Socio-economic Assessment Board (YESAB) and the Yukon Water Board (YWB). The guidance provided focuses on the requirements of the *Authorization for Placer Mining Works or Undertakings Affecting Fish Habitat* (Federal *Fisheries Act*) for watersheds in the Yukon. Additional details pertaining to technical information on various aspects related to best management practices, mitigation measures, and design consideration are provided in the *Guidebook of Mitigation Measures for Placer Mining in the Yukon*. Please note that this workbook and associated worksheets may undergo revisions in the future, and as such, users are encouraged to ensure that the version they employ is the current version.

In order to achieve compliance with the *Authorization for Placer Mining Works or Undertakings Affecting Fish Habitat*, the placer mining proposal must meet the requirements outlined in this workbook for the watershed type and specific habitat suitability type at the location where the activities are to occur (see *Yukon Placer Fish Habitat Suitability Maps*).

Placer mine operators are encouraged to design proposals that comply with the requirements described in this workbook. However, if the proposal is not able to achieve these requirements and the operator would like to proceed with the regulatory review process, an application for site-specific review and authorization should be submitted to Fisheries and Oceans Canada (DFO) for consideration **prior to the submission of the proposal to YESAB and the YWB**.

When a proposal is submitted for site-specific review, DFO will review the information and notify the proponent if the project will require a site-specific authorization. In some cases DFO may recommend additional measures or request redesign of aspects of the project to provide adequate protection of fish and fish habitat resources, prior to proceeding with submission of the application to YESAB and the YWB. Upon completion of the YESAB and YWB process, DFO may issue a site-specific authorization for the proposed activities. This site-specific authorization must be issued prior to initiating any placer mining works or undertakings in or around fish habitat. Please contact DFO if you have any questions regarding this process.

Refer to the relevant Habitat Suitability type in which proposed placer mining works or undertakings are planned to occur. In addition to this workbook and worksheets, the following documents provide the required information to support the development and submission of proposals for placer mining activities:

1. *Authorization for Placer Mining Works or Undertakings Affecting Fish Habitat* – Provides the legal authority to conduct works or undertakings related to placer mining that may result in the harmful alteration, disruption or destruction of fish habitat. Also specifies sediment discharge standards for placer mine effluent.
2. *Yukon Placer Fish Habitat Suitability Maps* – Identifies the watershed sensitivity and habitat suitability of the watercourse where placer mining activities are proposed to occur.
3. *Guidebook of Mitigation Measures for Placer Mining in the Yukon* - Provides design requirements to achieve compliance with the *Authorization for Placer Mining Works or Undertakings Affecting Fish Habitat* and to assist with proposal development.

Quick Reference Table

Fish Habitat Design, Operation and Reclamation Requirements for High Habitat Suitability Watercourses (Chinook Salmon Production).....	7
Fish Habitat Design, Operation and Reclamation Requirements for High Habitat Suitability Watercourses (Area of Special Consideration	15
Fish Habitat Design, Operation, Reclamation Requirements for Moderate – High Habitat Suitability Watercourses	23
Fish Habitat Design, Operation, Reclamation Requirements for Moderate – Moderate Habitat Suitability Watercourses (including Tributaries to Small Lakes).....	37
Fish Habitat Design, Operation, Reclamation Requirements for Moderate – Low Habitat Suitability Watercourses (including Tributaries to Large Lakes).....	57
Fish Habitat Design, Operation, Reclamation Requirements for Low Habitat Suitability Watercourses (including Tributaries to Lake Trout Lakes).....	81
Fish Habitat Design, Operation, Reclamation Requirements for Water Quality Zone Watercourses.....	105
List of Appendixes	123
Appendix A - Project Location Worksheet	
Appendix B - Riparian Zone / Bank Modification Design Worksheet	
Appendix C - Original Channel and Site Parameters Worksheet	
Appendix D1 - Severity of Effects Assessment for Seasonal Diversion Channel Worksheet	
Appendix D2 - Severity of Effects Assessment for Temporary Diversion Channel Worksheet	
Appendix D3 - Channel Design Flood Estimate Worksheet	
Appendix E1 - Channel Replication Worksheet	
Appendix E2 - Floodplain Design Worksheet	
Appendix E3 - Regime Channel Worksheet	
Appendix F - Fish Habitat Feature Design Worksheet	
Appendix G1 - Severity of Effects Assessment for In-stream Works Worksheet	
Appendix G2 - In-stream Works Worksheet	

The quick reference table provides the page number of the specific section of the workbook that applies to placer mining works or undertakings proposed for a particular habitat suitability type. For additional information operators are encouraged to refer to the ***Guidebook of Mitigation Measures for Placer Mining in the Yukon***.

