



**Fish Habitat Management System
for Yukon Placer Mining**

Adaptive Management Final Report (2009)

Prepared by

The Yukon Placer Secretariat

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The Fish Habitat Management System for Yukon Placer Mining replaced the Yukon Placer Authorization (YPA) in 15 Yukon watersheds on April 11, 2008. Founded on principles of adaptive management and incorporating a risk-based approach to decision-making, the system is intended to balance the objectives of a sustainable Yukon placer industry with the conservation and protection of fish and fish habitat supporting fisheries.

Adaptive management recognizes that the effectiveness of any management system is challenged by a degree of uncertainty and lack of knowledge. It seeks to improve the system by monitoring the effects of management actions, in order to learn from the results. The Adaptive Management Framework for Yukon placer mining is complemented by traditional knowledge and water quality objectives monitoring, aquatic health monitoring and economic health monitoring programs. The results should provide new information and a rational basis for making any adjustments required to achieve the two management objectives.

The Adaptive Management Framework (November 2008) describes how information generated from the three monitoring programs and traditional knowledge will be reviewed and considered. It also guides the development of recommendations for changes that may be required to ensure the objectives of the fish habitat management system are achieved.

Adaptive Management recommendations are made by the Yukon Placer Secretariat's Inter-governmental Management Group (IMG). Typically, the IMG consists of representatives from Fisheries and Oceans Canada (DFO), The Yukon Departments of Environment and Energy, Mines and Resources, and the Council of Yukon First Nations. Individual First Nation governments will be invited to participate on the IMG when the adaptive management framework is applied to watersheds in their traditional territory.

It should be noted that water use licenses issued after April 11, 2008 conform to the sediment discharge standards and site management practices required under the new habitat management system. Additionally, in 2009 all licensed placer miners were oriented to the applicable design target and action level, and were required to comply with a sediment discharge standard of no greater than 2.5 ml/L, or the standard stipulated in their existing water use licence, whichever is more stringent. In 2010 the phase-in period for stricter sediment discharge standards ends, and operators must comply with the standard described in Schedule 2 of the watershed-based authorization that applies to their site.

Unforeseen Circumstances of an Exceptional Nature

The Adaptive Management Framework (November 2008) states that "Except in the case of unforeseen circumstances of an exceptional nature, adaptive management recommendations for changes to watershed authorizations will not be made until monitoring has occurred for three to five years after implementation of the fish habitat management system" (section 1.11, "Appropriate Management Response", clause 3). In July 2009 an unforeseen situation fitting this description developed in the Nisutlin River watershed.

Almost every stream reach that received the highest degree of protection under the YPA (i.e. Type I streams) is classified as Highly Suitable habitat under the new system, and is equally well-protected. One exception was Sidney Creek in the Nisutlin River watershed. Under the YPA the Type I classification extended several kilometres upstream of its confluence with Iron Creek, while under the new system the Highly Suitable classification terminated many kilometres downstream of Iron Creek. In addition, the reaches coinciding with an existing water use licence for placer mining situated near the mouth of Iron Creek received the Current Development designation. An operation at this location would be required to perform reclamation to the standard required for a habitat of Moderate-moderate suitability, but the standards stipulated for a Freshwater Fisheries Production zone would be applied to its current activities.

In July 2009, DFO observed adult Chinook salmon in Sidney Creek upstream and downstream of the confluence with Iron Creek. It was also observed that previous mining activity had no effect on the habitat suitability of these reaches. As a consequence of this “unforeseen circumstance of an exceptional nature” the relevant reaches of Sidney Creek and Iron Creek were re-classified as Highly Suitable habitat, and the Previous Development designation no longer applies.

During this time period aquatic health monitoring sites were selected on Sidney and Iron Creeks. Unexpectedly, Slimy sculpin were captured on Iron Creek above the waterfall, which had previously been considered a permanent barrier to fish passage. As a result of this discovery the classification of Iron Creek above the falls has been changed from a Water Quality zone to a Freshwater Fisheries Production zone.

Adaptive Management Meeting (March 22, 2010)

On March 22, 2010, a meeting was held to discuss the results of the monitoring conducted in 2009. The IMG was augmented by representatives from the Little Salmon/Carmacks First Nation, the Ross River Dena Council and the First Nation of Na-cho Nyak Dun. The Liard First Nation, Tr'ondëk Hwëch'in government and Teslin Tlingit Council were also invited but were unable to attend.

The meeting commenced with a brief overview of the Fish Habitat Management System for Yukon Placer Mining, and a review of the Adaptive Management Framework and its guiding principles. This was followed by a presentation of the results of the water quality objectives monitoring, aquatic health monitoring and economic health monitoring programs (no additional traditional knowledge was shared for consideration under the Adaptive Management Framework in 2009). A question and answer period followed each presentation, and questions pertaining to the sampling and analytical methods were answered by the technical staff supporting the IMG.

The following recommendations or comments were made by meeting participants:

- Consideration should be given to holding a similar meeting for Renewable Resource Councils, other Boards and Committees, stakeholders, other First Nation governments, and non-governmental organizations.
- The adaptive management process was designed to include traditional knowledge, which First Nation governments may share more freely in the future.

The meeting participants did not provide any further comments or suggestions in writing. The draft Adaptive Management Report (2009) was distributed for review by all parties, and written comments were accepted until May 21, 2010.

The Yukon Conservation Society (YCS) was the only party that provided written comments to the Yukon Placer Secretariat. The comments from YCS are summarized as follows:

- YCS would find a meeting and briefing extremely valuable as it would aid in training more of their staff in understanding the fish habitat management system and would prepare them to comment more knowledgeably.
- YCS commented on the speed with which the reclassification of Sidney and Iron Creek was accomplished. It observed that such actions will build trust that the system is sensitive and responsive to the need for change when it becomes apparent, and it recommended the two creeks be retested as soon as practicable to assure that the new standards are being met.
- YCS repeated its comment of last year that it would be useful if information from the aquatic health and water quality objectives monitoring reports could be juxtaposed for each area so that one could immediately compare the related data.
- YCS noted that the condition of the lower Indian River aquatic health monitoring site changed from unstressed (2006) to severely stressed in 2009, while at the same time water quality results for the watershed improved. This caused YCS to repeat its concern about the use of water quality objectives as a proxy for aquatic health. It recommended the site (and upstream sites) be tested yearly until a reason for the low health level is found.
- YCS observed that the stress levels found on several creeks in the McQuesten system also indicate that achieving water quality objectives does not necessarily give a reliable indication of aquatic health. It stated that testing in this system should be continued next year.
- YCS is encouraged that the water quality objectives seem to have been achieved in all systems, and concludes that the extensive testing for water quality allows for a quick response when problems are found. It wonders if sufficient resources are available to immediately do follow up testing where problems are indicated with aquatic health, and asks “at what level of stress is succeeding year retesting obligatory?”
- YCS asked if there are plans to re-test stressed sites in the Big Creek, Nisutlin and McQuesten watersheds in 2010.

- YCS concluded from the economic health monitoring report that the general health of the industry remains satisfactory. It is interested to see what changes occur as more and more operators change over to the new system.
- YCS looks forward to seeing aquatic health recovery in more areas as the management system takes effect, as it seems to have done in Henderson Creek.

The Intergovernmental Management Group (IMG) indicated that the concerns submitted by YCS would be taken into consideration when monitoring plans are being developed for the following years.

IMG also noted that YCS and the meeting participants recommended that consideration should be given to holding an Adaptive Management meeting for Renewable Resource Councils, other Boards and Committees, stakeholders, other First Nation governments, and non-governmental organizations. While there are significant budgetary implications to holding meetings of this size, the Yukon Placer Secretariat and its partners will attempt to accommodate this suggestion in future years.

The annual adaptive management report is intended to inform the following year's monitoring programs. The Yukon Placer Secretariat and its partners are resolved to adhere to the data collection, analysis and reporting timelines required to make this possible and to publish a final report by late spring each year.