



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

## **Consultation Report**

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### **Yukon Placer Secretariat**

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# FISH HABITAT MANAGEMENT SYSTEM FOR YUKON PLACER MINING

## Consultation Report

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### Table of Contents

- Executive Summary
- Background
- Yukon Placer Secretariat
- Key Features of the New Habitat Management System
- The Consultation
- Assessment of Issues and Input
- Next Steps
- Acknowledgements
- Summary of Written Comments Received During Consultation

### Executive Summary

The Fish Habitat Management System for Yukon Placer Mining replaced the Yukon Placer Authorization (YPA) in 15 Yukon watersheds on April 11, 2008.

The Yukon Placer Secretariat was established in late 2005 to coordinate the completion and implementation of the new management system and conduct a comprehensive three-phase consultation program. The consultation began in 2006 with a series of introductory meetings with First Nation governments. It continued with a series of meetings with communities, First Nation governments, mandated resource management boards and stakeholders throughout 2006, 2007 and 2008. Information about the new system was also distributed in a variety of other ways, including through the Secretariat's website, a display booth, posters, fact sheets, newspaper ads, direct mail, workshops and presentations at various conferences and meetings. Input was accepted in written and oral form.

The comments that were received represent a broad spectrum of views on all elements of the new habitat management system. The only generalization that can accurately be made is that Yukoners care passionately about the conservation and protection of fish and fish habitat and about a sustainable placer mining industry. Their views are summarized elsewhere in this report, under the heading “Assessment of Issues and Input”.

Many changes were made to the management system as a result of the input received. The Yukon Habitat Suitability Model, which is used to classify watersheds and stream reaches, was adjusted to better reflect the results of preliminary aquatic health monitoring. The effects monitoring Protocols have been simplified and revised to include explicit Quality Assurance and Quality Control procedures. The “decision rules” described in the Adaptive Management Framework have been improved, in order to refine the balance between providing habitat managers with flexibility and giving them the tools to act decisively when necessary.

The *Guidelines for the Design, Construction, and Reclamation of Yukon Placer Mines* have been replaced with a *Guidebook of Mitigation Measures for Placer Mining in the Yukon*. This document provides information in a simpler, more clearly organized format. The Guidebook is complemented by a new document entitled the *Fish Habitat Design, Operation and Reclamation Workbook and Worksheets for Placer Mining in the Yukon Territory*. The Workbook is a step-by-step guide designed to assist project proponents in providing the information required to work in compliance with the *Fisheries Act*.

Finally, the Habitat Suitability Classification Maps have been modified to include written and graphic explanations of both the “Previous Development” and “Areas of Special Consideration” designations. The maps are admittedly the most complicated feature of the new management system, but the stream classification system they represent provides fish habitat managers with the flexibility required to meet two management objectives: conservation and protection of fish and fish habitat supporting fisheries; and a sustainable placer mining industry in the Yukon.

## Background

The Fish Habitat Management System for Yukon Placer Mining, which was the subject of this consultation, was designed to replace the *Yukon Placer Authorization* (YPA). In December 2002, the Minister of Fisheries and Oceans announced the decision to phase out the YPA. This decision was not well received by many individuals and stakeholder groups in the Yukon and it was quickly recognized that a new management system was necessary to replace the YPA. The strong reaction to the Minister’s decision was followed by the development of a Record of Agreement (RoA) between the Yukon Government

(YG), Fisheries and Oceans Canada (DFO) and the Council of Yukon First Nations (CYFN). In May 2003, the RoA was signed by the three parties.

The RoA required that a new approach to managing placer mining activity under the *Fisheries Act* be developed and implemented by 2007. The RoA described two management objectives:

- 1) A sustainable placer mining industry in the Yukon; and
- 2) The conservation and protection of fish and fish habitat supporting fisheries.

The RoA also established an Implementation Steering Committee and a technical Working Committee, each of which consisted of representatives of the three parties and the Klondike Placer Miners' Association (KPMA).

In May 2004, these committees submitted a preliminary report to the Minister of Fisheries and Oceans, who provided approval for the proposed framework of the new system. With this support, the committees continued work to further develop the new system's major components.

In April 2005, the report entitled *An Integrated Regulatory Regime for Yukon Placer Mining: Final Report to the Minister of Fisheries and Oceans* was submitted to the Minister. By the end of May, it had been endorsed by all parties.

To facilitate the consultation phase and implementation of the new management system, the Joint Placer Implementation Committee (JPIC) and the Implementation Management Group (IMG) were created in September 2005. The JPIC replaced the Implementation Steering Committee, and the IMG replaced the Working Committee. Both the JPIC and the IMG consist of representatives of Fisheries and Oceans Canada, the Yukon Government and the Council of Yukon First Nations.

## **Yukon Placer Secretariat**

The Yukon Placer Secretariat was established in December 2005 to assist governments to implement the new Fish Habitat Management System for Yukon Placer Mining. The Secretariat is a coordinating agency that resulted from a partnership between Fisheries and Oceans Canada, the Yukon Government and the Council of Yukon First Nations.

The Secretariat's role has been to:

- Coordinate the completion of the proposed management system, including the development of watershed authorizations and monitoring protocols;

- Be the main point of contact for the public, First Nation governments, industry and other interested parties;
- Hold consultations and consider input before finalizing the new system;
- Facilitate the gathering of traditional knowledge; and
- Implement the new system by 2007.

The Secretariat's activities are overseen by the Joint Placer Implementation Committee (JPIC). The Secretariat is assisted in its work by the Implementation Management Group (IMG).

The Yukon Placer Secretariat has a small core staff consisting of an Executive Director, who is assisted by an Office Coordinator, a First Nation and Community Liaison Officer, a Geographic Information Systems/Database Technician and contractors as needed.

## Key Features of the New Habitat Management System

**Watershed Health** – The new system for managing placer mining activity under the *Fisheries Act* takes a watershed health approach. It divides the Yukon into 18 watersheds or drainage basins. Separate authorizations will be issued for each watershed to take into account the ecological, hydrological, geological and topographical differences found within the territory.

**Risk Management Framework** – The new system is based on assessment of the risk to fish and fish habitat, the sensitivity of habitat and the potential severity of effects from placer mining activities that cannot be mitigated. Habitat is classified on the basis of its capacity to support fish, rather than whether or not fish are present. The management system is supported by many of the concepts outlined in DFO's Environmental Process Modernization Plan. It considers existing and emerging fish habitat management policies.

**Traditional Knowledge** – Both traditional and local knowledge are used to complement scientific knowledge in the habitat management system.

**Enforcement** – A strong compliance monitoring and inspection program is essential to the success of the new management system. A pro-active "action level" approach requires miners to initiate measures that will reduce sediment concentrations in discharges well before the legal compliance level is exceeded.

**Adaptive Management** – An adaptive management process provides a way to improve the effectiveness of the system over time by learning from the results achieved. This requires ongoing monitoring of water quality, aquatic health and the placer mining industry's economic health.

# The Consultation

The Secretariat is responsible for undertaking information and consultation sessions with First Nation governments, mandated boards, stakeholders and other interested parties, and the public.

The purpose of the consultation process is:

- To ensure that First Nation governments, mandated boards, stakeholders and other interested parties and the public are provided with information about the differences between the Yukon Placer Authorization (YPA) and the new Fish Habitat Management System for Yukon Placer Mining.
- To ensure that information on the new system is available in suitable formats and at various levels of complexity.
- To ensure that consulted parties have an opportunity to provide input on the proposed system before its implementation.
- To ensure the placer industry is informed and can provide input on potential changes to the permitting process and requirements for placer mining activities.
- To ensure to the best degree possible that the new management system is effectively integrated into existing environmental assessment and regulatory review processes.

The consultation was designed in three phases to ensure enough time was provided for interested parties to learn about the proposed habitat management system, consider it and provide input.

- Phase 1 – Information meetings were held to present key concepts and information to Yukoners.
- Phase 2 – Consultation meetings were held to allow the Secretariat to present more detailed information on the system and gather input.
- Phase 3 – Final Review meetings were held to review how previous input was considered and how it influenced the finalization of the habitat management system.

Note on Phase 3 meetings: Because the purpose of Phase 3 is to “report back” to interested members of the public, these meetings were only scheduled in communities where interest was shown during Phases 1 and 2. For communities where interest was not evident, other forums will be found to share this information.

The consultation process included:

- Meetings with each First Nation government
- Public meetings and open houses in most Yukon communities
- Meetings with mandated resource management boards, identified stakeholders and other interested parties.

### **Methods of Receiving Input**

The Secretariat accepted input regarding the proposed habitat management system in a variety of ways:

- Written submissions in any format provided that contact information was included in the submission (anonymous submissions were not considered)
- Verbal comments provided to the Secretariat at consultation sessions and meetings
- Responses to a form/questionnaire that was provided at consultation meetings and on the Secretariat website.

Public meetings were advertised on the Secretariat's website, as well as through newspaper ads, radio announcements, email, telephone calls, posters and direct mail.

Below is a table showing public consultation meetings that were held during Phases 1 and 2:

<b>Community</b>	<b>Phase 1 Meeting</b>	<b>Phase 2 Meeting</b>
Beaver Creek	May 31, 2006	
Burwash Landing/Destruction Bay	May 30, 2006	May 22, 2007
Carcross	September 28, 2006	March 19, 2007
Carmacks	June 20, 2006	March 12, 2007
Dawson City	June 7, 2006	March 21, 2007
Haines Junction	October 17, 2006	May 23, 2007
Mayo	June 8, 2006	April 10, 2007
Pelly Crossing	May 25, 2006	March 26, 2007
Ross River/Faro	October 12, 2006	June 25, 2007

Teslin	September 27, 2006	February 22, 2007
Watson Lake		May 7, 2007
Whitehorse	November 21, 2006	April 26, 2007

The Secretariat also participated in and hosted numerous other events to share information about the new habitat management system, including:

- On September 7, 2007, the Secretariat held a special workshop in Dawson City for placer miners.
- In May 2006, 2007 and 2008, the Secretariat participated in the Dawson City International Gold Show, including a trade show booth and a presentation.
- In May 2006 and 2007, the Secretariat set up a display booth at the Elijah Smith Building in Whitehorse as part of Mining and Geology Week.
- In November 2006 and 2007, the Secretariat participated in the Yukon Geoscience Forum in Whitehorse, including a display booth and a presentation.
- In August 2006, the Secretariat participated in the Salmon Celebration in Dawson City by sponsoring children’s art activities.
- In July 2006, Secretariat representatives attended the General Assembly of the Council of Yukon First Nations in Mayo with an information booth.
- In March 2006, the Secretariat hosted an invitational workshop and a public lecture on Adaptive Management, both in Whitehorse.
- Before the consultation process began, introductory meetings were held with all Yukon First Nations, beginning in February and continuing through April 2006.
- The Secretariat has participated in ongoing meetings with individual placer miners, representatives of the Klondike Placer Miners’ Association, and representatives of the Yukon Conservation Society.

**Extension of Deadlines**

The Secretariat extended the deadline for comments until September 28, 2007, in order to ensure that all parties were given adequate time to review



components of the new management system and provide input before it was finalized and implemented.

### **Obtaining Traditional Knowledge**

The term “traditional knowledge” refers to unique knowledge held by First Nations and citizens of First Nations because of their traditional use of – and familiarity with – the land, water, wildlife and environment.

In the development of the new habitat management system, First Nation governments were invited to contribute traditional knowledge to be used together with scientific and local knowledge in the drafting of watershed authorizations.

The Secretariat gathered traditional knowledge with assistance and direction from First Nation governments. The approach for each First Nation was adapted to suit its needs and requirements. In general, the approach was to ask a First Nation to identify its traditional knowledge holders. The Secretariat scheduled meetings on traditional knowledge in each community under the guidance of the First Nation. At these meetings, the Secretariat provided a briefing on placer mining, the new management system and draft watershed authorizations that coincide with the First Nation’s traditional territory. The Secretariat then requested traditional knowledge for use in the development of the relevant watershed authorizations. In many instances, First Nations gathered traditional knowledge without the presence of Secretariat staff for reasons of confidentiality.

This approach was discussed with all First Nations during the Secretariat’s introductory meetings held from February to April 2006. All First Nations were offered the opportunity to provide input and guidance as the Secretariat began to gather traditional knowledge. Further discussions have taken place with First Nation governments during the consultation process and will continue now that the new habitat management system has been implemented. First Nations will be given the opportunity to provide further traditional knowledge which will be considered in adaptive management decisions on an annual basis.

## **Assessment of Issues and Input**

The comments provided during the consultation process are summarized in the following sections. The comments, recommendations and views expressed by First Nation governments, the Klondike Placer Miners’ Association, Boards and Committees, non-governmental environmental organizations and the public are described separately. The Yukon Placer Secretariat’s response to the comments, recommendations and views recorded by the Secretariat follows each section. Comments from individuals are summarized separately in the table appended to this report.

# ***Consultation Input from First Nation Governments***

## **First Nation Government Comments on the Consultation**

Individual First Nation governments supported the consultation plan, generally agreeing that the time and information provided would make meaningful consultation possible. There was concern about the complexity and volume of material that had to be reviewed, in addition to the demands of consultation efforts from private industry and other departments of the federal and territorial governments. Many First Nation governments described a limited capacity to participate in these consultation activities, and stated that additional funding and other resources were needed if their participation was to be effective.

There was general interest in the respective roles of the Council of Yukon First Nations (CYFN) and individual First Nation governments in the consultation process. Most First Nations stated that consultation efforts must be directed at them as governments. They joined CYFN in recommending that the Yukon Placer Secretariat (YPS) or a similar agency remain in place to ensure accountability, to make sure that the new management system is implemented properly and to continue working and consulting with them when warranted.

The Implementation Management Group and the Placer Advisory Council (PAC) were frequently discussed. Many First Nation governments expressed a desire to be involved with or participate as a member of these groups.

### **Secretariat Response**

The competing demands on the time and resources of First Nation governments were evident during consultation. The Secretariat responded with a flexible schedule and provided some financial assistance to support efforts to gather traditional knowledge.

The Secretariat focused its consultation efforts on First Nation governments. Also, upon advice from the CYFN, the Secretariat hired a First Nation and Community Liaison Officer to increase the participation of Yukon First Nations. The Yukon Government (YG) has established the Yukon Placer Secretariat for the long term, with support from Fisheries and Oceans Canada (DFO) and CYFN. The Secretariat will continue to function with an Intergovernmental Management Group (IMG) consisting of representatives from DFO, CYFN and YG.

Individual First Nation governments will be invited to participate in the evaluation of monitoring results from watersheds in their traditional territories, which will occur under the adaptive management process.

## **First Nation Government Comments on the Risk Management Framework**

First Nation governments showed significant interest in placer mining, inquiring about the activities and the current rules. There was also appreciation of the scientific information provided about the effects of sediment on fish and fish habitat. Some were concerned that placer mining might pose risks of metals contamination in water, similar to hard rock mining.

First Nations asserted that all habitats are important and were concerned that some species of fish would not receive satisfactory protection. Many asked if a deliberate effort was being made to re-establish species in specific areas and said this should be an explicit goal of the new management system.

The comments of other First Nation governments on the management system were considered carefully as individual First Nations developed their views. Almost all were also interested in the views of placer miners. Most approved of a system that would provide a satisfactory degree of protection to fish and fish habitat and also sustain placer mining, and wanted to know if the industry would be able to continue operating under the new rules.

### **Secretariat Response**

In response to the concern about metals contamination, the Secretariat ensured that water samples taken in representative placer mining areas were analyzed for metals. The results do not indicate that an increase in metals concentration in water has resulted from placer mining activities at the sites evaluated. The analytic reports and maps depicting sampling locations were provided to the relevant First Nations. Future samples will also be analyzed for metals in areas that may be of interest.

All habitats receive protection under the Risk Management Framework. There is no definitive proof that species have disappeared from any areas, but the new management system will lead to improved water quality and more effective habitat restoration, resulting in a net gain of fish habitat in areas with a long history of placer mining.

## **First Nation Government Comments on Traditional Knowledge**

All First Nation governments instructed the Secretariat on the issues related to the ownership, gathering, storage and use of traditional knowledge. The Secretariat participated in eight workshops organized by First Nations. Traditional knowledge reports were submitted by four of these governments. Two

governments have decided not to share traditional knowledge at this time and two reports are pending.

While some First Nations have collected traditional knowledge, most have not finalized their policy addressing the way it should be stored and used. There was some reluctance to share this knowledge without such policies in place.

There were also questions about how traditional knowledge will be used by the Secretariat. There was widespread concern that sharing might lead to increased exploitation of sensitive resources and result in an influx of people and an increase of activity in sensitive areas.

First Nation governments asserted that traditional knowledge and science must complement each other and must be assigned equal weight in management decisions. There was also a strong emphasis on how the sources of traditional knowledge might differ from the sources of scientific knowledge.

Several governments stated that traditional knowledge is continuous. They cautioned the Secretariat not to assume that once traditional knowledge was shared, the task was complete. The confidential nature of traditional knowledge was described by every First Nation. Most were reluctant to share it without assurances that it will be kept confidential and only used for purposes that would be agreed upon in advance.

Most were interested in the views of other First Nations, in particular the Tr'ondëk Hwëch'in government, because of the prevalence of placer mining in the Klondike. The issue of capacity was a common theme. Most First Nation governments felt they could not participate effectively without some financial assistance.

## **Secretariat Response**

The Secretariat addressed the sensitive nature of traditional knowledge by following the direction of First Nation governments that agreed to participate in this aspect of the consultation. It acknowledged First Nation ownership of traditional knowledge by not making its own records during workshops. In many instances, First Nations gathered traditional knowledge without the presence of Secretariat staff, for reasons of confidentiality. The individual First Nation governments have complete discretion in deciding what – if any – knowledge they wish to share with the Secretariat. The adaptive management process will accommodate any such knowledge that is shared in the future.

The Secretariat informed First Nations that depending upon what was shared, traditional knowledge could influence risk management decisions and would likely improve the conservation and protection of fish and fish

habitat. With the exception of direct observations about the distribution of adult salmon, the habitat classification model only predicts the suitability of watercourses as fish habitat. This model does not reveal the values and uses that traditional knowledge holders could share with the Secretariat. The Secretariat agrees that traditional knowledge and science should complement each other. If they are available, the two sources of knowledge will both influence fish habitat management decisions.

The sensitive nature of traditional knowledge is addressed by designating specific stream reaches and sites as Areas of Special Consideration. The detailed knowledge underlying this designation will not be revealed voluntarily. Traditional knowledge will only be used for the purposes agreed upon with First Nations and will not be shared with any other government department or agency. However, the Secretariat informed all First Nations that the Yukon Government and DFO are not exempt from territorial and federal access to information legislation.

The Secretariat assisted First Nations willing to participate in the gathering of traditional knowledge by providing funding.

## **First Nation Government Comments on Environmental and Socio-economic Assessment**

All First Nation governments were interested in how the new management system will mesh with the *Yukon Environmental and Socio-economic Assessment Act* (YESAA). They indicated that the system must be compatible with the processes of the Yukon Environmental and Socio-economic Assessment Board (YESAB). One First Nation wrote Fisheries and Oceans Canada to recommend that the socio-economic effects of the new fish habitat management system on placer miners should be assessed prior to implementation.

Cumulative effects assessment was of interest to most First Nations and there was widespread concern about the treatment of traditional knowledge under YESAA. One First Nation government concluded that traditional knowledge was not being kept confidential under the YESAA process. Another asserted that traditional knowledge was ignored during assessment of a project in its traditional territory.

### **Secretariat Response**

The YESAA process was implemented as the new management system was being developed and care was taken to ensure that they are compatible. The new management system could not be assessed as a project under YESAA, but individual placer mining projects will be evaluated by the relevant YESAB Designated Office. The Secretariat did extend the deadline for providing written comment on the new system to

ensure that all its elements – including the habitat classification methodology – could be examined and commented upon by placer miners and other parties.

The new management system employs thresholds when determining the sensitivity of watersheds to increased development. The Water Quality Objectives are thresholds that apply to the different classes of fish habitat. These thresholds are designed to help assessors and regulators address the cumulative effects of placer mining activity in a watershed.

## **First Nation Government Comments on the Watershed Sensitivity and Fish Habitat Suitability Classification Methodology**

Every First Nation government questioned the emphasis on Chinook salmon and stated that protection must be provided for all species of fish. There was also interest in who makes the final decision on classification.

Beaver dams were discussed at every consultation meeting. One First Nation described the role that beavers play in creating habitat, but most emphasized the way beaver dams limit the distribution of fish. Trapping has declined as the market for beaver pelts has diminished. This has led to an increase in beaver populations and a proliferation of dams which often form barriers to fish passage.

Some First Nations observed that the new management system's watershed health approach is conducive to planning. There was general interest in regional planning, and the link between the system and land use planning was probed. All First Nation governments examined the influence traditional knowledge would have on the classification of fish habitat.

### **Secretariat Response**

The new management system pays special attention to Chinook salmon because they are the most commercially and culturally important species in the territory; their spawning habitat is the most limited of all fish habitat; and, unlike other species, the most sensitive stage of their life history (spawning) coincides with the annual peak of placer mining activity. Despite this emphasis, the new system is designed to provide satisfactory protection to all species of fish and their habitats. Under the *Fisheries Act*, DFO retains the authority for decisions pertaining to the overall management of fish habitat.

DFO considers that, in most cases, beaver dams create temporary barriers to fish passage. The Water Quality zone designation will not be applied upstream of these locations.

Several agencies have shown interest in the fish habitat suitability classification system as a planning tool. Traditional knowledge has influenced the habitat classification through the Areas of Special Consideration designation.

## **First Nation Government Comments on the Fisheries Act Authorizations**

There was general interest in who has the authority to issue watershed authorizations and who decides when site-specific authorizations are necessary. The current and future status of the *Yukon Placer Authorization (YPA)* was discussed. Most First Nations inquired about the influence the YPA would have on the system designed to replace it.

Many First Nations addressed the concept of “grandfathering” and asked if the new rules will be applied to existing operations. Security deposits were discussed and several governments advocated mandatory bonding as a means of increasing the likelihood that mine sites will be reclaimed satisfactorily.

Issues related to compensation were a common theme. Compensation related to the harmful alteration, disruption or destruction of fish habitat was one concern, and compensation for trappers who might be affected by placer mining activity was another.

Almost every First Nation has traditional territory that extends beyond the Yukon’s borders. This led to discussion of trans-boundary issues related to water quality and habitat management.

### **Secretariat Response**

DFO is responsible for decisions related to *Fisheries Act* authorizations. The YPA continued to apply to placer mining activity until it was replaced in 15 Yukon watersheds on April 11, 2008. At present, it continues to apply to placer mining activities in the Alosek, Liard, and Mayo River basins until new watershed authorizations are finalized and implemented.

There is no “grandfathering” under the new management system. The new rules apply immediately to all new placer mining projects. The new discharge standards will be fully phased in for existing operations by the 2010 operating season.

Security deposits were discussed by the Working Committee, but it decided not to recommend mandatory bonding as an element of the new management system. The placer mining industry in general has a good

compliance record, and it is expected that reclamation work will continue to improve with the implementation of higher standards.

Under DFO's Policy for the Management of Fish Habitat, compensation (in the form of newly created, reclaimed or restored physical fish habitat) must be provided by placer miners in a manner directly related to the degree of habitat alterations that occur. The preference is to replace fish habitats that are altered, disrupted or destroyed on a "like-for-like" basis in order to achieve "no net loss" of habitat as a consequence of placer mining. In certain situations, a "net gain" in the productive capacity of fish habitats may also be achieved. The Yukon Water Board and other regulators are mandated to address other compensation issues.

Similarly, trans-boundary water management issues are addressed by the *Waters Act*. The Water Quality Objectives and related discharge standards are designed to mitigate the potentially negative downstream effects of placer mining.

## **First Nation Government Comments on Integrated Resource Management and Governance Issues**

Many First Nation governments inquired about compatibility between the new management system and DFO's various fish habitat management policies and programs. The Wild Salmon Policy and the Pacific Salmon Treaty – Yukon River Salmon Agreement were of particular interest.

Of common concern were other habitat management issues, particularly for large mammals and other wildlife. First Nations appreciated the watershed approach to water quality and aquatic health, but there was general disappointment that the scope of the project was limited to managing fish and fish habitat under the *Fisheries Act*. Most First Nation governments recommended a more holistic approach to managing placer mining activity.

The role of the Yukon Water Board (YWB) was explored in most consultation meetings. The new management system and its relationship to the rights acknowledged in Chapter 14 of the Final Agreements was raised by almost every First Nation government.

Finally, some First Nations desired an increased role in regulatory decisions within their traditional territories.

### **Secretariat Response**

The development of the new management system was guided by existing and emerging DFO fish habitat management and conservation and protection policies. The management system employs the fundamental



concepts identified in DFO's 1986 Policy for the Management of Fish Habitat and was developed under the guidance of the Risk Management Framework that figures prominently in DFO's Environmental Process Modernization Plan. The Wild Salmon Policy was issued in draft form while the new system was being developed, and strongly influenced the approach to determining the sensitivity of watersheds and suitability of fish habitats.

The Record of Agreement (RoA) describes the expected outcomes of DFO, CYFN and the Yukon Government's effort to change the way placer mining activity is governed under the *Fisheries Act*. DFO has no jurisdiction over land-based activities that do not result in the harmful alteration, disruption or destruction of fish habitat. Other habitat management issues are addressed by other federal and territorial legislation and regulations.

An expected outcome described by the RoA is a harmonized, efficient and timely approach to applications, licensing, inspections and monitoring. The Working Committee agreed to achieve this result by not recommending changes to the roles of other regulatory agencies like the Yukon Water Board. The Board is responsible for the conservation, development and utilization of waters in the Yukon.

The regulatory authority of First Nation governments is a constitutional matter and beyond the scope of the new management system.

## **First Nation Government Comments on the Guidebook of Mitigation Measures**

All First Nation governments requested information on the current requirements for reclamation work and the expected improvements under the new management system. There was particular interest in whether the system applied to "abandoned" mine sites and how old camps, steel and other material left behind are addressed under the new system.

### **Secretariat Response**

The *Fisheries Act* does not directly address site management issues that don't relate to fish and fish habitat. The Land Use Regulation, Placer Mining Land Use Regulations, *Waters Act*, and *Environment Act* and its regulations do influence site management practices and reclamation work.

## **First Nation Government Comments on the Adaptive Management Framework**

Some First Nation governments questioned whether DFO and YG can meet their obligations under the new management system. They wondered how the agencies could add monitoring responsibilities to their existing programs in the face of perceived budget cuts, and asked if more staff were needed to perform these duties.

There was also concern about deficient baseline data. First Nation governments are aware that limited data has been collected and that there is very little data available from earlier decades.

Every First Nation government expressed interest in participating in the monitoring programs. The requirement for training and resources to support their participation was frequently discussed.

The scope, timing and frequency of adaptive management decisions received many comments. First Nation governments asked what role they would play in the adaptive management process and inquired about the influence of traditional knowledge on adaptive management recommendations.

### **Secretariat Response**

The Yukon Government (YG) and DFO recognize that sustained data collection and analysis are essential for adaptive management to be a success, and they are committed to this aspect of the new management system. The Secretariat has designed monitoring programs that can be implemented with the available resources. DFO has increased resources to conform to the renewed emphasis on monitoring required under its Environmental Process Modernization Plan. YG has employed additional water quality research staff to fulfill its role in Water Quality Objectives monitoring.

It is agreed that little baseline data exists and it is regrettable that even less describes the baseline conditions from previous decades. The aquatic health monitoring program's reference sites represent current baseline conditions, and efforts to collect baseline water quality data were increased as early as 2004.

The new system will benefit greatly from the participation of First Nation governments in monitoring. It is acknowledged that training and funding issues must be addressed before more effective participation can occur. A three-day training session, focused on aquatic health assessment, was

organized for employees of First Nation governments in July 2007. Eight Yukon and two B.C. First Nations were represented.

First Nation governments will be invited to provide traditional knowledge on an annual basis, and it will be reviewed and utilized along with the results of the monitoring programs. Individual First Nation governments will be invited to participate when the adaptive management process is applied to watersheds in their traditional territory.

## **First Nation Government Comments on the Monitoring Protocols**

The location, timing and frequency of monitoring efforts were of great interest to almost every First Nation government. They were interested in ensuring that the monitoring effort would collect significant information and that all areas and all species of fish are covered.

Many comments pertained to the monitoring results and whether that information would be made available. There was also interest in the likely response to any problems detected by the monitoring programs.

One First Nation inquired about Water Quality Objectives and aquatic health monitoring test sites, asking if they were linked. The same government expressed concern about the possibility that market-driven prices and costs might skew the economic health monitoring results.

### **Secretariat Response**

The Protocols have been developed to ensure that data is collected and analyzed consistently and reliably. Water quality objectives and aquatic health monitoring will focus on the most sensitive stream reaches, but the new management system tolerates very little risk in these habitats. Monitoring will also occur in less sensitive habitats, to ensure the risk management decisions implicit in the new system are justified.

Monitoring reports and the annual Adaptive Management report will be publicly available, and comments from all parties will be reviewed before they are finalized. The likely management responses are described in the Adaptive Management Framework.

A strong effort will be made to link water quality objectives (WQO) and aquatic health monitoring. The use of automated water sampling devices, however, likely means that the WQO monitoring sites will be more numerous than the aquatic health monitoring sites in any given year.

The Economic Health Monitoring Protocol is designed to filter out the influence of market forces on economic health. Only economic effects resulting from the new management system will be considered under the Adaptive Management Framework.

## **First Nation Government Comments on Compliance Monitoring and Enforcement**

First Nation governments were very interested in the overall approach to inspections. Questions ranged from which agencies were responsible to the ramifications of non-compliance. Most First Nations commented that joint inspections were desirable and should be promoted.

Access to inspection results was a common theme. Several First Nations commented that staffing levels should be increased to support the new system. There was a pervading sense that compliance monitoring needed to be improved. This impression was clearly linked to abandoned or dormant mining sites and the amount of steel and other material that has been left behind at these locations.

### **Secretariat Response**

The Client Services and Inspections Branch (CS&I) of the Department of Energy, Mines and Resources is responsible for placer mining inspections under the *Fisheries Act*, *Waters Act*, *Placer Mining Act*, and *Environment Act*. CS&I management supports joint inspections and actively encourages staff to cooperate with First Nation governments. Efforts to coordinate this activity are ongoing.

The only inspection results that are not publicly available are related to investigations. CS&I publishes a monthly non-compliance summary and an annual summary of all inspection results.

The number of inspectors will not be increased as an element of the new management system. Inspectors are making progress with the clean up of decommissioning placer mines, and improved enforcement tools under the *Waters Act* and the *Placer Mining Act* combined with increased awareness on the part of operators should maintain the trend toward improved site management practices.

## ***Consultation Input from the Klondike Placer Miners' Association (KPMA)***

The Klondike Placer Miners' Association (KPMA) was represented on the committees that developed the new management system but was not included

on the Secretariat's Implementation Management Group. It provided written comments on the new system and attended many meetings dedicated to economic health monitoring, risk management decision-making, watershed sensitivity and stream classifications. It also assisted in determining the information that must be provided at the assessment and licensing stages of the regulatory process.

In general, the KPMA expressed concern about the "creeping barrage" of regulatory initiatives applied to placer miners which, in combination, result in too great a perceived burden on the mine operator.

## **KPMA Comments on the Risk Management Framework**

The KPMA provided detailed comments on the Severity of Effects tables and associated risk management decision charts presented in the document entitled *Guidelines for the Design, Construction, and Reclamation of Yukon Placer Mines* (the Guidebook). In general, it was critical of the maximum "risk score" that was applied in the various classes of habitat. It also took issue with the ranges that were associated with High, Medium and Low risks. The KPMA recommended changes to the scoring, ranges and wording of these tables.

The maximum score was of concern because many typical placer mining activities on historically-mined streams would not be permitted without a site-specific review and site-specific authorization. The KPMA asserted that these typical activities should be governed by watershed-based authorizations, in order to streamline the administrative process and increase the likelihood of receiving predictable responses to project proposals.

The KPMA recommended the ranges be modified to more accurately reflect the actual practices of the industry (for example, the length of diversion channels), as well as the risk actually posed by the activity or design element of a water use structure. It observed that the ranges presented in the document, *An Integrated Regulatory Regime for Yukon Placer Mining: Final Report to the Minister of Fisheries and Oceans* (the Final Report) were placeholders and that the intention was to modify them as a result of what was learned during consultation.

The KPMA also reported on behalf of individual placer miners who were concerned about the sediment discharge standards proposed for historically-mined streams. Several miners doubted they can achieve the more stringent standards consistently, and some were confused by the "action level approach" to compliance monitoring.

The Design Target described in the schedules of discharge standards also received attention. The KPMA observed that 0.2 ml/L was an unrealistic target for settling facilities under some conditions (such as operations in narrow, steep or otherwise confined locations) and that efforts to achieve an unrealistic target

might pose more risk to the environment than an increased concentration of sediment.

## **Secretariat Response**

The Secretariat recognizes that the outcomes produced by the Severity of Effects tables and associated risk management decision charts presented in the Guidebook were unsatisfactory. The “Letter of Understanding on the Implementation of the New Regulatory Regime for Placer Mining Activities in the Yukon” between DFO, CYFN and YG requires the Secretariat to implement the regime described in the Final Report, and the outcomes presented in the Guidebook are not consistent with this document. Furthermore, a major element of DFO’s Environmental Process Modernization Plan is streamlining the regulatory review process, and an increase of site-specific authorizations related to placer mining would be inconsistent with this goal. Site-specific authorizations do play a role in the new management system, however, and will be issued where circumstance requires.

The scoring system has been simplified and the ranges of risk have been modified. The changes are not as extensive as the KPMA recommended, but the results are consistent with the outcomes described in the Final Report.

The Secretariat has heard from many miners with concerns about the new discharge standards, especially how they apply to their specific mining operations. Many were unaware that the Previous Development designation resulted in less stringent standards on historically- or currently-mined streams. The “action level approach” is a new concept for Yukon placer mining, and the Secretariat and inspectors will ensure it is understood by individual operators.

A Design Target of 0.2 ml/L is unrealistic at sites with severe physical constraints, because it represents the best result that can be expected from a large and well-designed facility. The Secretariat will work with DFO to develop an appropriate design target for these more challenging locations. In the meantime, inspectors and the Secretariat will explain to miners working in these locations that the Design Target indicates they must construct and maintain the best settling facility their site can accommodate, given its physical characteristics.

## **KPMA Comments on the Watershed Sensitivity and Fish Habitat Suitability Classification Methodology**

The KPMA did not agree with the breakdown between Category A and Category B watersheds. It observed that the Working Committee speculated there might

be eight watersheds of lesser sensitivity (Category B) and eight watersheds of higher sensitivity (Category A), as opposed to the four watersheds of lesser sensitivity and 12 watersheds of higher sensitivity described during the consultation. The KPMA argued that the White River, Big Creek and Lower Klondike basins should be classified as Category B watersheds.

Detailed comments were also made on the classification of individual stream reaches. These included descriptions of the physical characteristics of specific streams and the KPMA's conclusions about their suitability as habitat. The KPMA also stated that moderately-suitable habitat is shown to extend too far up almost every watercourse. The extent of Moderate-moderate habitat was of particular concern. This result is compared to the YPA, which showed what the KPMA considers to be similar habitats extending only one to four kilometers upstream from the mouth of a tributary.

The KPMA reported that individual placer miners are concerned they will not be able to continue mining their claims because of the stringent standards applied to activities in moderately-suitable habitats. The ability to construct stream channel diversions and the extent of "leave strips" (a buffer along the banks of a stream where no activity is permitted) were emphasized in these comments. Many operators stated that the socio-economic benefits of their operations to Dawson City should be considered. Most live in Dawson or on the mine site year-round, and all hire local people and utilize local suppliers.

The Previous Development designation also received attention. A one-step reduction in habitat suitability ranking was considered insufficient to permit continued operations on streams that went from a Type IV classification under the YPA, to a classification in the moderately-suitable range under the new habitat management system.

Once a reach with the Previous Development designation is restored to the required standard, the designation will not apply to future placer mining activities in that location. The KPMA recommends that miners indicate they are finished mining in an area by 'the application for and receipt of a "certificate of completion" from the relevant licensing authority'. It adds that the Previous Development designation should be removed systematically so that no "islands" of higher sensitivity habitat exist within the lower sensitivity stream reaches.

## **Secretariat Response**

When designing the new management system, the Working Committee made rough estimates about which watersheds were of higher or lower sensitivity. At that time, the presence of adult Chinook salmon was assessed in terms of "utilization". Watersheds that are not used by large numbers of spawning Chinook were considered less sensitive than those that are more heavily utilized. In the end, a more conservative approach

was adopted, and the presence of adult Chinook was evaluated according to how extensively they are distributed within a watershed. In addition, the evaluation of real data replaced the original rough estimates.

Early versions of the Yukon Habitat Suitability Model did project fewer Category B watersheds than the Working Committee had expected. After other refinements were made to the model and some inputs were improved or corrected, ten watersheds scored as Category A, and six scored as Category B.

Big Creek remains a Category A watershed, because despite the relatively low number of spawning Chinook salmon, they are distributed extensively in the watershed. The Klondike River watershed could not be divided in two parts without departing from the logical approach applied to all other basins. Largely as a consequence of the extensive distribution of spawning Chinook, it scores as a Category A watershed.

The habitat suitability model's predictions were tested by way of field assessments over several seasons. Many revisions were made to "calibrate" the model on the basis of these results. One consequence is that the Moderate-moderate suitability reaches projected by the final version do not extend as far upstream as they did on the maps used for consultation. The KPMA is still of the opinion that they extend too far, but DFO is confident in the accuracy of the model's predictions.

Many of the miners whose concerns were reported by the KPMA are located on streams that were classified as Type IV under the YPA, but are considered to be moderately-suitable habitat under the new system. These operators were not fully aware of the Previous Development designation, in part because the first set of maps used in consultation did not show the areas where this designation would apply. Application of this designation reduces the predicted habitat suitability ranking and permits these miners to construct stream channel diversions and engage in some activities within the riparian zone.

The Previous Development designation was carefully examined by the Secretariat. It concluded that the objective of encouraging operators to continue work and perform superior restoration work would not be met by a one-step reduction in habitat ranking, because this did not result in a significant enough difference in discharge standards or operating conditions. The Previous Development designation has been modified in the following way: stream reaches with a Historical Development designation receive a one-step reduction in habitat suitability ranking; reaches with a Current Development designation receive a two-step reduction in ranking; and those with an Extensive Development designation receive a two-step reduction and are assigned a sediment



discharge standard of 2.5 ml/L (reduced to 2.0 ml/L after five years, pending the results of the adaptive management process). These designations are defined on the habitat suitability classification maps and in the document entitled *Yukon Placer Mining Watershed Sensitivity and Fish Habitat Suitability Classification Methodology*.

The conclusion that a miner has completed work in an area will always involve communication with a mining inspector. A Certificate of Completion is only related to land reclamation work under the *Placer Mining Act*, but applying for this certificate will signal that stream channel restoration work should also be evaluated. No final decision has been made on the order in which the Previous Development designation will be removed from properly restored stream reaches, but an effort will be made to avoid highly fragmented habitat classifications on a watercourse.

## **KPMA Comments on the Fisheries Act Authorizations**

The KPMA reported that many miners were concerned that currently licensed activities would be prohibited under the new management system, and that far too many typical mining activities on historically-mined streams will require site-specific authorization (SSA).

The site-specific review and authorization of placer mining projects is of concern for several reasons. The watershed authorizations and supporting documents clearly describe the permitted activities, whereas the terms and conditions of an SSA are not known in advance. The KPMA is not confident that standards and operating conditions will be applied consistently enough to risk the ongoing investment in mining and infrastructure required for these operations. There is also concern that the conditions of SSAs will generally be too stringent to be useful or feasible for placer miners.

### **Secretariat Response**

Many individual miners did not have a clear understanding of the Previous Development designation and how it changes the operating conditions on specific stream reaches. Most of the operators who corresponded directly with the Secretariat will be able to engage in these typical activities under watershed authorization, after the Previous Development designation is applied.

As described above under the heading “Risk Management Framework”, the scoring system used to assess the potential risk of specific activities in different habitat classes has been simplified. Fewer typical placer mining activities will require site-specific authorization (SSA), especially in habitats of Moderate-low suitability.

While watershed authorizations should be applied consistently to placer mining operations, the terms and conditions of SSAs will not necessarily be more onerous. The site-specific review will allow DFO to evaluate different information in its decision-making process, including but not limited to an operator's compliance record, unique mitigation measures or even habitat compensation in a different area.

## **KPMA Comments on Adaptive Management**

The KPMA was supportive of adaptive management, observing that "The new Regime has offered the concept of Adaptive Management to be used as a tool to assist in achieving the goals of the placer Industry, DFO, and other parties. The concept promotes a slow, careful and balanced approach to change, with the sensitivities of all parties in mind." The new management system's approach to monitoring economic health was of some concern to the KPMA.

Specifically, the KPMA is concerned that economic health will suffer and operations will fail before this trend is detected under the Economic Health Monitoring Protocol and remedial action can be taken. It also suggests that the proposed changes have already had a demoralizing effect on placer miners, and have negatively affected their planning and development activities even before the new rules were finalized and implemented.

### **Secretariat Response**

The Economic Health Monitoring Protocol is designed to include two steps. The first step is to evaluate specific indicators in order to identify a trend in economic health. If a decline in economic health is detected the second step is invoked, in order to determine whether the trend is attributable to the new management system or to other factors.

In response to the industry's concern, Step 2 will be invoked automatically for the first five years the new system is in place.

## **KPMA Comments on the Guidebook of Mitigation Measures**

The KPMA regarded the Guidebook as a good attempt to provide a handbook of mitigation measures, but observed that some of the more technical wording could be simplified and that graphs should be substituted for detailed calculations. Some of the information requirements and suggested mitigations were considered impractical or irrelevant, while others were thought to require highly specialized engineers and geo-science professionals to complete extensive field measurements, calculations and plans.

Detailed comments were submitted addressing the Guidebook's treatment of mitigation measures for permafrost soils, bio-engineering, characterization of channel morphology, the restoration of stream habitat values and the overall information requirements for permitting. The KPMA concluded by expressing concern that placer miners "would no longer be able to complete the license applications and mine/mitigation plans on their own and that they would be unable to do the required mitigations".

## **Secretariat Response**

Of all the documents presented for consultation, the Guidebook has changed most substantially in response to comments from several parties. The manual has been simplified and reorganized, and the material most pertinent to developing a mining plan and fulfilling the information requirements has been moved to the first two chapters.

A discussion of working in permafrost areas is still included but detailed field measurements are not required for completing a mining plan. Bio-engineering techniques for providing stability to stream banks and slopes are also included, in order to increase the remediation tools available for placer miners.

The technical requirements related to both field measurements and the performance of mitigation measures have been simplified to more realistically correspond to the abilities and equipment possessed by typical placer miners. The information requirements are still more detailed and exacting than recommended by the KPMA, but DFO requires this level of detail to confidently authorize the harmful alteration, disruption or destruction of fish habitat resulting from mining activities. The compensatory fish habitat features are also more demanding than the KPMA would prefer, but this is necessary to increase the likelihood that restored streams will return to full productivity in an acceptable period of time.

Some project proponents may continue to rely on consultants to prepare mining plans and permit applications, but steps have been taken to make it easier for operators to do this work on their own. A Workbook (*Fish Habitat Design, Operation and Reclamation Workbook and Worksheets for Placer Mining in the Yukon Territory*) has been prepared to complement the Guidebook, and lead a proponent step-by-step through the process of completing the required information sheets. A major benefit of enabling individual miners to complete their own applications is an improved understanding of the management system and its requirements.

# ***Consultation Input from the Yukon Fish and Wildlife Management Board, Salmon sub-Committee, and Renewable Resource Councils***

## **General Comments**

The Salmon sub-Committee (SSC) of the Yukon Fish and Wildlife Management Board stated that a net gain of fish habitat should be an explicit objective of the new management system. It also recommended that security deposits be mandatory for placer mining operations, and that further mining should be prohibited after a site has been properly reclaimed.

### **Secretariat Response**

The Record of Agreement does not describe a net gain of habitat as an explicit management objective. The new habitat management system requires streams to be restored to a higher standard, however, and this should result in a return of full productivity when historically-mined streams are reclaimed.

Security deposits were discussed by the Working Committee, but it decided not to recommend mandatory bonding as an element of the new management system. The placer mining industry in general has a good compliance record, and it is expected that reclamation work will continue to improve with the implementation of higher standards.

The new habitat management system changes the way placer mining activities are governed under the *Fisheries Act*. Prohibiting mining in specific areas would require changes under the *Placer Mining Act*, and this was beyond the mandate of the committees that were established under the Record of Agreement.

## **Board and Committee Comments on the Risk Management Framework**

The Laberge Renewable Resources Council (LRRC) expressed approval of the Risk Management Framework and considered it to be a careful approach to decision-making. It asked if the new management approach would allow compensatory habitat to be created in areas other than where specific mining operations were occurring.

The LRRC also wondered if the Yukon Water Board (YWB) supported the new system. It observed that the system is detailed and complicated, and asked if it is only meant to be used and understood by government.

## **Secretariat Response**

The watershed authorizations do not provide for the creation of compensatory fish habitat in areas other than where a specific mining operation may have harmful effects on fish and fish habitat. Site-specific authorizations, however, can address this possibility. Project proponents who cannot meet the requirements of a watershed authorization with respect to habitat compensation, or who would like to propose alternatives to these requirements, can request site-specific review and authorization of their projects.

The YWB is supportive of the new management system and will maintain the administrative relationship previously established with DFO.

The basic concepts of the Risk Management Framework are fairly simple but the tools developed to address the residual effects of placer mining are more complicated. They have been used by government to develop an effective fish habitat management system for Yukon placer mining, but the intent was to make them understandable to individual placer miners and to other interested parties.

## **Board and Committee Comments on Traditional Knowledge**

The Laberge Renewable Resources Council (LRRC) commented on the use of traditional knowledge for identifying habitat. It stated that government often carries out scientific studies at the wrong time of year, resulting in the improper evaluation of habitat.

## **Secretariat Response**

This comment reinforces input from one First Nation government, which made a similar observation. The Secretariat agrees that traditional knowledge should not only complement scientific knowledge but that it may also compensate for some of the limitations of scientific studies.

## **Board and Committee Comments on the Watershed Sensitivity and Fish Habitat Suitability Classification Methodology**

The Salmon sub-Committee expressed concern that Arctic grayling do not receive enough attention under the new management system, especially given the number of people who actually harvest them. The Laberge Renewable

Resources Council (LRRC) explicitly asked what protection was offered to species other than Chinook salmon.

The LRRC wondered what would occur if there was a barrier to fish passage and no fish in a stream. It also asked if there were any cases where mining has resulted in an increase of fish habitat.

## **Secretariat Response**

The Secretariat and its partners are confident that decisions made under the Risk Management Framework result in satisfactory protection for Arctic grayling and its habitat, as well as other resident species. Sediment discharge standards are more stringent than under the YPA, stricter operating conditions are applied to stream channel diversions, and all stream reaches are considered to provide physical fish habitat as well as areas that contribute food, water and nutrients. Sediment discharge standards in stream reaches classified as moderately-sensitive (based on Chinook salmon rearing) will also protect freshwater fish, and the majority of Freshwater Fisheries Production zones are not affected by placer mining. In addition, the Areas of Special Consideration designation can be applied to areas within watercourses that contain ecologically or culturally important fisheries or aquatic resources.

Areas above permanent barriers to fish passage are designated as Water Quality zones. Placer mining activities will be managed to ensure that acceptable water quality is provided to downstream habitats, but fish habitat compensatory features do not have to be incorporated into stream channel diversions constructed in Water Quality zones.

Local knowledge suggests that placer mining activity has resulted in an increase of freshwater fish habitat in some areas. The Secretariat is not aware of any scientific study that confirms these observations.

## **Board and Committee Comments on the Fisheries Act Authorizations**

The Yukon Fish and Wildlife Management Board concluded that if a watershed authorization doesn't exist, no protection will be provided to fish and fish habitat. Its Salmon sub-Committee (SSC) would like to see maps that show which areas will be managed by watershed authorizations and which by site-specific authorizations. The SSC also recommended that the new system be reviewed after 10 years, over and above the review that is inherent in the adaptive management process.

The Laberge Renewable Resources Council asked if the new rules apply to existing operations. It also wondered whether any party could ask the Minister of Fisheries and Oceans to rescind an authorization.

## **Secretariat Response**

No placer mining activity that is likely to result in the harmful alteration, disruption or destruction of fish habitat can occur without an authorization pursuant to Section 35(2) of the *Fisheries Act*. If such activities are not subject to a watershed authorization, a site-specific authorization must be in place in order to maintain compliance with the Fisheries Act.

The fish habitat suitability classification maps depict areas that fall under the provisions of watershed authorizations. They also identify Areas of Special Consideration or areas of high habitat suitability, which will be managed through site-specific authorizations issued by DFO. Site-specific authorizations may also be employed in other areas if a proponent cannot meet the requirements of a watershed authorization, but this can only be determined when a project proposal is reviewed. It cannot be identified on the maps ahead of time.

There is no plan to review the new system outside of the Adaptive Management Framework. Monitoring results will be reviewed on an annual basis and the watershed authorizations call attention to the Adaptive Management review that will be conducted after five years of monitoring results. These reviews will be comprehensive enough to assess the system's effectiveness in meeting its management objectives.

The new rules do apply to existing operations and the authorizations contain a schedule that describes how stricter sediment discharge standards will be phased in. Any party is at liberty to make requests of the Minister of Fisheries and Oceans.

## **Board and Committee Comments on the Guidebook of Mitigation Measures**

The Yukon Fish and Wildlife Management Board and its Salmon sub-Committee provided comprehensive comments on the Guidebook by commissioning a review from consultants with expertise in the relevant fields. The consultants' report recommended that the Yukon Placer Secretariat review the document to ensure it is technically accurate, provides additional clarity for industry actions required to minimize risk to fish and fish habitat and is written for the industry's easy and effective use.

According to the report, the "Guidelines present a compilation of technical materials, policies and assessment procedures intended to assist proponents

and regulators in the design, construction and restoration of Yukon placer mines. While well intended, the Guidelines mixes these elements and results in a document that is not well focused, confusing and at times technically incorrect. It attempts to do all things – instead of trying to do a few things well.”

Further, “While the new Regime purports to support adaptive management, there are no practical means identified in any part of the Guidelines as to what information is critical to this process, who collects it, where it goes and how it might be used in the future.”

The report also observes that a large information gap exists in the section addressing Monitoring, Progressive Rehabilitation, Seasonal Closure and Adaptive Management (Section 6). It is critical of the fact that planning and evaluation modules have been presented near the end of the document, where common sense might suggest outlining the expectations, evaluation framework and goals of the Guidebook in the beginning.

Finally, the report concluded that good practical guidance based on the experience of mining inspectors, miners and the technical work undertaken by the Northern Affairs Program, DFO and the KPMA in support of the *Yukon Fisheries Protection Authorization*, the YPA and the new fish habitat management system is not provided by the Guidebook. It stated the document requires simplification and redrafting to become a clearer and more practical guide.

## **Secretariat Response**

The Secretariat reviewed the draft Guidebook for its technical accuracy, clarity, and ease of use prior to releasing it for consultation purposes. It recognized the document as being substantially deficient, but proceeded in order to benefit from the comments provided by consulted parties.

The Secretariat agrees the document used for consultation was not well focused and that it attempted to do too many things. The finalized Guidebook does not attempt to describe either the Risk Management Framework or the Adaptive Management Framework. Instead, it focuses on the information required to assist project proponents in developing a mining plan.

The version of the Guidebook used for the consultation process was prepared for DFO by a consulting firm and the Secretariat agrees that its comprehensive scope was well-intentioned. Unfortunately the consultant did not complete the critical sections identified as omissions by the report commissioned by the YFWMB and SSC (Section 6). With the exception of monitoring and adaptive management – which are addressed in separate documents – this has been corrected in the finalized Guidebook.



The Guidebook has been reorganized so the most critical information is found at the beginning. The content has been simplified in order to present a clearer and more concise guide for operators. A “flood plain” design method has been added to the two stream channel design methods described in the White Book (*Guidelines for the Design, and Construction of Stream Channels for Yukon Placer Mined Streams*), and the revised document more clearly follows the White Book’s simple format.

Finally, a Workbook (*Fish Habitat Design, Operation and Reclamation Workbook and Worksheets for Placer Mining in the Yukon Territory*) has been developed to assist project proponents in developing a mining plan and preparing a project proposal. The Workbook refers to specific sections of the Guidebook for more detailed information on field measurements and techniques.

## **Board and Committee Comments on Compliance Monitoring and Enforcement**

The Salmon sub-Committee asked for clarification on the overall approach to inspections, including: the timing of inspections; whether or not prior notice is given; whether inspections are driven by complaints; whether the Yukon Water Board (YWB) has its own inspectors; and whether inspections are timed to coincide with Chinook spawning.

### **Secretariat Response**

Inspections are timed to coincide with the different stages of placer mining. Many operations are visited at the beginning of the season, to ensure an operator is familiar with specific aspects of a water use licence. Inspections are also timed to coincide with sluicing in order to monitor compliance with sediment discharge standards. It is also important to conduct inspections toward the end of the mining season, to assess the progress and quality of reclamation work. In addition, instances of non-compliance generally result in follow-up inspections to ensure the situation has been addressed and that any inspectors’ directions have been followed.

Inspectors generally do not provide operators with prior notice of inspections. Exceptions include the evaluation of reclamation work, habitat compensatory features or required remedial measures, when a dialogue between operator and inspector is absolutely required.

Inspectors always follow up on complaints, but the inspection program is designed to be pro-active, where the timing and frequency of inspections constitutes a deliberate effort to reduce or prevent risk.

Inspectors are employed by the Client Services and Inspections Branch of the Department of Energy, Mines and Resources. The YWB does not employ inspectors, but the placer mining inspection reports are automatically submitted to the Board.

## ***Consultation Input from the Yukon Conservation Society (YCS)***

### **General Comments**

The Yukon Conservation Society submitted written comments on several aspects of the new fish habitat management system and also commissioned a report by a private consulting firm. This report concluded that the new system “represents a positive step forward from the YPA towards standards for mining recognized across the globe”. It also states that the system’s effectiveness will be dependent on clear definition of some of its key elements and rigorous compliance monitoring of the placer industry. A final general comment was that “Sustainable Placer Mining” should be added as a guiding principle of the new approach.

### **Secretariat Response**

The existing compliance monitoring program is unaffected by the new fish habitat management system, with one exception: inspectors and operators will be oriented to the Design Target and Action Level for the performance of settling facilities.

The Record of Agreement (May 2003) describes sustainable placer mining as one of the new system’s two key management objectives. This is in addition to Part 2 of the *Placer Mining Act*, the purpose of which is to ensure the “development and viability of a sustainable, competitive and healthy placer mining industry that operates in a manner that upholds the essential socio economic and environmental values of the Yukon.”

### **YCS Comments on the Risk Management Framework**

The YCS commented that the “severity of risk tables” are important for determining whether a placer mining proposal is governed by a watershed or site-specific authorization. It recommended that the risk tables be reviewed annually to ensure the scores reflect the potential and realized impacts to fish and fish habitat.

## **Secretariat Response**

The monitoring programs are designed to evaluate the new management system's effectiveness in meeting its objectives. Monitoring must also reveal if the degree of risk tolerated in the various classes of habitat is justified. Amendment of the Severity of Risk tables is one possible response to a conclusion that the new system is not satisfactorily conserving and protecting fish and fish habitat.

## **YCS Comments on the Watershed Sensitivity and Fish Habitat Suitability Classification Methodology**

The YCS report concludes that the Methodology should provide references that indicate it is based on the best available science or has been used elsewhere. It expresses concern that it over-simplifies highly complex bio-physical processes and requires additional indicators; that the small number of parameters used implies there may be significant error in defining watershed sensitivity and fish habitat suitability; and that the use of a non-weighted point system may not provide an accurate assessment of the relative impact of each parameter on watershed sensitivity.

The report states that a more rigorous level of analysis is required to provide a detailed rationale for the approach and point scales, and that consideration should be given to developing a watershed sensitivity and fish habitat suitability framework that incorporates a logic model designed to quantify watershed sensitivity and fish habitat suitability. Consideration should also be given to integrating additional information into a GIS database for use in evaluating watershed and fish habitat conditions.

## **Secretariat Response**

The new habitat management system must improve upon the YPA, which only classified a small percentage of watercourses and which accomplished this largely on the basis of the presence or absence of fish. The *Watershed Sensitivity and Fish Habitat Suitability Classification Methodology* does not rely on existing habitat assessment methods, which by definition are confined to the study of discrete sites. The primary intent of the Methodology is to provide functional predictors of watershed sensitivity and fish habitat sensitivity that can be applied to 18 watersheds in the Yukon. This was accomplished by developing a robust empirical model using parameters with general applicability to all watersheds, and which can be quantified with the limited available data and applied to the watersheds through a simple scoring system.

For most of these watersheds there is little or no detailed information on physical, chemical or biological parameters such as stream morphology, water quality or fish utilization. Thus the watershed sensitivity analysis and habitat suitability analysis is based only upon available data. The resulting classification maps have been reviewed by communities, First Nation governments, industry and individuals familiar with the land to see whether they accurately predict current and historical fish utilization and distribution. The results are continually tested through ongoing fisheries, water quality monitoring and aquatic health monitoring, and will be adjusted and refined through the adaptive management process as necessary.

Incorporating a logic model designed to quantify watershed sensitivity and fish habitat suitability might lead to a better understanding of why fish are found in specific locations, but would not necessarily result in better and more useful predictions of habitat suitability across watersheds. There is a tradeoff between predictive usefulness (i.e. having broad application) and ecological and biological realism in a model that is designed to apply to a wide variety of situations. Given the data that is currently available, if more parameters were added to the model in an attempt to better describe the bio-physical environment, the requirement to collect extensive amounts of field data would pose significant challenges to model development and operation.

## **YCS Comments on the Fisheries Act Authorizations**

The YCS was unclear about the circumstances that would result in the issuance of site-specific authorizations. It said that individual authorizations need to be matched with site planning that is appropriate for the existing fish habitat conditions, in order to avoid risks to locally-sensitive fish and fish habitats (particularly those habitats appraised as high value).

### **Secretariat Response**

Site-specific authorizations will be considered if a project proposal does not clearly conform to the requirements of a watershed authorization, or in areas where the provisions of watershed authorization do not apply. Projects will require an approved mining plan that includes habitat compensation features. Any authorization issued by DFO will be based on existing guidelines. If necessary, additional requirements will be applied or adjustments will be made. Mining plans, conditions of authorizations and Decision Documents will be available to the public through the YESAA process.

## **YCS Comments on the Adaptive Management Framework**

The YCS stated that water quality is not a proxy for aquatic health, and recommended that the word “proxy” be removed from the document because measurement of Water Quality Objectives is not a suitable alternative to assessing aquatic health.

Comments were also provided on some of the specific assumptions described in the document. The YCS recommends that assumption 4 be split into two separate points. While it seems likely that benthic macro invertebrates are a reasonable indicator of stream conditions, an assertion that the Reference Condition Approach (RCA) is the appropriate technique is a separate assumption that needs to be evaluated on its own. It was also suggested that Assumption 6 be positioned next to other assumptions related to the Aquatic Health and Water Quality Objectives monitoring protocols.

The YCS also desired more elaboration on the use of data supplied by outside parties. For example, does this section refer to reference or test sites? Who chooses the site locations? Who certifies that the data has been collected properly? Who receives the external data? How and when will it be analyzed?

YCS also stated that the document should be more specific about what constitutes an “improvement over time” in aquatic health. The size of trend and period of time must be specified in order to comment intelligently as to whether the management goal is agreeable and to properly evaluate the RCA’s ability to detect the trend of interest. In order to determine if aquatic health is “improved”, one must be able to detect relatively small changes. The document should specify how small a trend needs to be detected.

The YCS also asked if the proposed sampling programs were adequate, especially with respect to the location and frequency of sampling. It questioned whether four aquatic health sampling sites per watershed would be sufficient, and suggested that sampling should be done at each significant “point of control”.

Exception was taken to use of the phrase “Legacy Streams” to denote streams that have already been subjected to placer mining activity. The expectation that the aquatic health of historically-mined streams will improve over time as a result of the new habitat management system should be made more explicit in the document.

The table that describes the appropriate management action in response to various monitoring scenarios also received scrutiny. According to the YCS, the phrase “consideration may be given to making the relevant requirements of watershed authorizations more stringent” should be tightened by changing the word “may” to “will” throughout the table.

Recommendations were also made on the section pertaining to traditional knowledge. The YCS thinks it confuses scientific data which might be gathered by First Nations with traditional knowledge, and does not seriously consider how traditional knowledge might be incorporated into the management system.

## **Secretariat Response**

It is agreed that water quality is not a proxy for aquatic health. The document has been amended to describe water quality as an "indicator" of healthy ecosystems.

Assumption 4 has been amended by replacing the word "specifically" with "secondly" to make it explicitly clear that considering the Reference Condition Approach to be the appropriate bio-assessment method to apply to the Yukon's freshwater ecosystems is also an assumption. Assumption 6 will be repositioned so that it follows the other assumptions related to aquatic health and water quality objectives monitoring.

The adaptive management process will be open and transparent to the public, and data originating from outside parties may apply to both test and reference sites. The Intergovernmental Management Group (IMG) will choose the sites that will be incorporated. Such data will be submitted to the Yukon Placer Secretariat, and the IMG will certify that the data has been collected properly. The IMG will also ensure the data is analyzed by agencies or individuals using the specified methods and within appropriate timeframes.

It is agreed that improvements in the aquatic health of previously-mined streams should be assessed over a defined period of time. The results of monitoring in the first three- to five-year cycle will be measured against results from the following cycle to determine whether there is an improvement, decline or no change in aquatic health. The size of the trend, however, is of less concern because the main objective is to bring sites that are out of Reference Condition into Reference, and not to measure small improvements in sites that may be out of Reference. Improvements in aquatic health will be assessed on a watershed basis. The main objective is not to monitor trends at a specific site but to bring sites into Reference Condition and to monitor trends at a watershed level.

The intent is to monitor every watershed at least once every five years, but intensively-mined watersheds may be monitored more frequently if required. If more than four sites must be monitored in more intensively-mined watersheds, the number of sites or frequency of sampling may be reduced in watersheds with little or no activity. The intent is to monitor

where habitat sensitivity changes in the watershed, but not all such points need to be monitored if there is no impact from mining.

The discussion of historically-mined streams is appropriate and important in order to evaluate the effects of long-term mining on aquatic health and fish habitat in the watershed. The word “legacy” is misleading, however, and will be replaced with phrases like “previously-disturbed” or “historically-mined”.

It may be reasonable to assume that the aquatic health of historically-mined streams will improve over time as a result of the new habitat management system, because the sediment discharge standards and other operating conditions are generally more restrictive and the water quality objectives will be rigorously monitored. The biggest gains and improvements in aquatic health may already have been achieved under the YPA, however, and continued improvements under the new system may be smaller and possibly more difficult to detect in the short term. The biggest gains will be made when previously-disturbed streams are restored physically at the cessation of mining.

The document has been amended by changing the word “may” to “will” in the phrase “consideration may be given to making the relevant requirements of watershed authorizations more stringent” that appears throughout the table of appropriate management responses to various monitoring outcomes.

Finally, the document does not confuse traditional knowledge with scientific data that might be gathered by First Nation governments. Rather, it suggests that only traditional knowledge of an empirical nature is suitable for inclusion in the adaptive management process. Other forms of traditional knowledge could – and did – influence the overall design of the habitat management system.

A strong attempt was made to avoid assumptions about the traditional knowledge that First Nation governments were willing to share. To date, traditional knowledge has been used to improve the habitat suitability classification maps and it is probable that traditional knowledge shared through the adaptive management process will be used for a similar purpose.

## **YCS Comments on the Monitoring Protocols**

The YCS report states that the Aquatic Health Monitoring and Water Quality Objectives Monitoring Protocols need to integrate Quality Assurance (QA)/Quality Control (QC) procedures and manuals into data collection and analysis.

This will be especially important if multiple agencies/contractors are used in data collection, data input and data analysis.

## **Secretariat Response**

It is agreed that standardization and consistency of data collection, management and analysis is essential to the success of these programs. Written procedures covering all aspects of sampling, analysis and reporting are necessary to ensure QA/QC and to ensure that coordination takes place between the agencies and individuals involved over time.

QA/QC protocols are in place for the most important and most sensitive aspect of aquatic health monitoring (the analysis of benthic invertebrate samples). The identification and enumeration of benthic invertebrates and data entry is performed by certified professionals.

## **YCS Comments on the Monitoring Protocols – Aquatic Health**

The YCS advocates developing a policy that defines acceptable confidence limits for Type I/Type II errors in the Reference Condition Approach, and that describes how these errors will be managed in the decision-making process. It asserted that determining if a site is in or out of Reference Condition and tracking trends over time are essential aspects of protecting fish and fish habitat.

The YCS added that an evaluation of the approach must include a power analysis, stating the management system depends on the strength and clarity of the protocol document and on the statistical techniques. The techniques can only be evaluated after a power analysis is presented.

The YCS emphasized the importance of detecting trends in aquatic health over time, since many test sites on streams where placer activity is occurring are expected to initially be out of Reference Condition. Also, the detection of trends at out-of-Reference sites should be added to the “Key Questions to be Addressed” section, and the document should specify the magnitude of change that should be detectable within a specified timeframe. YCS asserted that the ability to detect appropriately small and statistically relevant improvements over time is extremely important and must be incorporated into the protocol.

The YCS suggested that a section should be added to the protocol (and referred to in the Adaptive Management Framework) that includes two components. At a policy level the document should identify the magnitude of change in aquatic health which will initiate action or lead to a decision; and at a technical level – perhaps in an appendix – the statistical methodology used to determine whether a trend exists should be specified.



The YCS considers it important to specify what rules will be used to move from site-specific data to conclusions about the health of the watershed. It assumes that 100% of the sites in the watershed must be in Reference Condition for the watershed to be considered healthy, and stated that if this is the intention it should be clearly stated in the protocol. It added that the term “aquatic health” in the “Key Questions” section should be replaced by “condition of sites” if this is what is intended.

The YCS observed that the statistical procedures required to “perform a regression based on temporarily varying partially repeated samples” is not as straightforward as the initial regression. It recommends explicitly stating that this procedure will be executed “in a statistically appropriate manner” and to describe the technique to be used in an appendix.

Finally, YCS said the final section (“What the Program Provides”) should specifically address what agency is responsible for providing the annual data; what agency is responsible for incorporating data collected by external organizations; what agency is responsible for analyzing the data and providing the statistical results; what agency is responsible for compiling the annual report; and who makes decisions as to what actions – if any – should occur.

## **Secretariat Response**

Establishing the appropriate range and maximum acceptable values for Type I and Type II error requires both policy and statistical analysis and evaluation. The appropriate values will be established and balanced considering the management action and consequences, and then adjusted as part of the adaptive management process, as implementation of the habitat management system proceeds.

At the outset, the emphasis will be on minimizing the likelihood of Type II errors (that is, the risk of “failing” a healthy site will be considered preferable to “passing” a site that is actually out of Reference Condition).

Several analyses of the statistical significance of the monitoring results from 2006 are presented in the report entitled “Reference Condition Approach Bioassessment of Yukon River Basin Placer Mining Streams Sampled in 2006”. Repeating this analysis to establish the likelihood of detecting a disturbance would be an interesting exercise but potentially of limited utility. Given the natural variability amongst reference sites within a watershed and across the territory, the likelihood of detecting a relatively low level of disturbance at a test site with any certainty is low.

It is acknowledged that the initial grouping of sites based upon the distribution of benthic macro invertebrates is the statistically weakest

element of the analysis. Confidence will increase, however, as more reference sites are added to the model. The current model is based upon 158 reference sites in the Yukon, with an additional complement of sites sampled in 2008, as well as reference sites that will be established in the future.

The monitoring method should be able to detect broad medium to long-term trends in aquatic health at a watershed level. The focus will be on all test sites within a watershed, not on individual test sites, unless they are in more highly sensitive habitat zones. The extent to which test sites are currently in or out of Reference Condition will be established and assessed over the initial five-year monitoring and implementation period.

The detection of trends or changes in overall aquatic health at a watershed level is important over the medium to long-term, and criteria will be developed in conjunction with implementation of the monitoring program to establish current aquatic health and the degree of change that may be achievable. Except for high-sensitivity habitats where the objective is for no impact or change related to placer mining, the monitoring protocols are designed to detect broad changes in aquatic health at a watershed level over time, and not to detect small site-specific improvements or changes.

At a general policy level, the Adaptive Management Framework (AMF) identifies the magnitude of change in aquatic health which leads to action. This can be strengthened by considering the number of test sites that pass or fail in habitats of differing sensitivity and risk. Statistical methodologies will be documented and referenced as they are established and as they evolve and change over time. This will be recorded as an appendix to the protocol.

It is not agreed that 100% of the test sites must be in Reference Condition to conclude a watershed is healthy. Test sites in more highly-sensitive habitats are expected to be in Reference Condition 100% of the time, but for lower sensitivity habitats a threshold will be established both within a given year and over the medium term. The habitat management system is focused upon managing water quality and aquatic health on a watershed basis. The decision rules will be refined as an element of the implementation process over the first five years. Because the monitoring program and its key questions have a watershed focus, the term “aquatic health” is more appropriate than “condition of sites”.

It is generally understood that all statistical analysis is done in a “statistically appropriate manner”, but including the methodology in an appendix to the protocol will assist in keeping track of the statistical methods used as they evolve and as practitioners change.

Finally, the agencies responsible for data collection, analysis, reporting and the integration of results and decision making are identified in the AMF.

## **YCS Comments on the Monitoring Protocols – Water Quality Objectives (WQO)**

The YCS asked if the Working Committee had access to a set of water quality and flow data collected through the season from a reference stream and a placer stream. It observed that data collected in the program must describe the sediment regime at each sample station. Field personnel must collect sediment variables and flow at each sampling station to achieve the objective.

The YCS wondered if there will be a protocol for missed observations and asked how the field staff will be trained and supervised. It observed that much of the text in the protocol was theoretical and commented that there appeared to be no use of local knowledge.

The YCS noted the protocol included a discussion of sampling frequency, but not a derivation of a sampling frequency for a real stream. It asked if a data handling and interpretation protocol would be developed.

The YCS asked if information related to the timing and rate of water released from placer operations in a watershed will be collected. It expressed concern that the monitoring program may not provide the data required to determine if the WQO are being met.

The report commissioned by the YCS states that the Water Quality Objectives and Sediment Discharge Tables from the 2005 document, *An Integrated Regulatory Regime for Yukon Placer Mining: Final Report to the Minister of Fisheries and Oceans* (the Final Report) should be appended to the protocol. It also felt that a rationale should be provided that explains how these standards were derived. It recommended a review of the WQO with particular focus on watersheds with lower sensitivities.

The report also recommends that the protocol describe the responsible agency for the monitoring program. It added that coordination between monitoring agencies must be reinforced in order to accommodate the sharing of data and ensure that collection standards are met. It states that the monitoring protocols can be more effectively coordinated in order to optimize human and financial resources, and that the ongoing estimated cost of monitoring should be determined in order to acquire funding.

The report notes that different water sampling methodologies are identified and presented in a brief overview in Appendix C. It states that standard methods

should be used among all groups and agencies that collect water quality data. Also, details should be added to Appendix C to ensure Quality Assurance / Quality Control standards are met.

The report questions the description of how sampling will rotate amongst watersheds and states concern that during the tertiary period of the rotation schedule, no water samples will be collected. It also questions the approach defined in the protocol (selecting five sites along the mainstem of each watershed), and suggests that additional sites may need to be incorporated in more complex watersheds.

Finally, the report addresses two options presented in the protocol for guidelines that can be used in determining what WQO monitoring results will be considered acceptable. It recommends that option 1 (all samples must comply 100% of the time in all habitat sensitivity areas) be maintained.

## **Secretariat Response**

Beginning in 1998, the Department of Indian and Northern Affairs and the Yukon government conducted many small site and basin-specific research programs that tested different sampling methodologies, procedures and equipment. Meteorological data, stream morphological information and geological data have been collected from “pristine” and placer-mined streams.

Field personnel collect as much representative data as they are practically able to from each site sampled. Sites are visited during high and low water events, during rainfall events, and before, during and after the mining season. In addition, automated samplers are deployed to reduce the cost of monitoring in remote locations and to provide a more continuous record (when warranted).

Missed observations and samples not collected due to logistical issues, weather, temporary site inaccessibility, equipment failure or safety issues can never be replaced, because the environment that is being monitored is in a dynamic state. When only one of many parameters is missed during a sampling event (i.e. flow) the remaining data still has value.

Field personnel with a background in hydrology, water quality research or environmental studies are recruited for this program. They receive on-the-job training in all relevant safety procedures, as well as the specific procedures for data collection, preservation, analysis and reporting. To date, samplers have worked in two-person teams and supervision is provided by a senior Water Quality Technician.

It is agreed that the protocol distributed for consultation is overly detailed and theoretical. The revised document is more clearly focused on where, when, how, and how often samples will be collected and analyzed. While local knowledge is not a source of empirical data, it is utilized in planning and executing the sampling program.

The sampling frequency for specific streams and specific sites is established on an annual basis. Reporting templates will be developed for both the water quality objectives and aquatic health monitoring programs. Interpretation of the data is facilitated by application of the Adaptive Management Framework and its decision rules.

Information related to the timing and rate of water released from placer operations in a watershed is available from mining inspection records and the annual reports that placer miners are required to submit to the Yukon Water Board. If the Water Quality Objectives Monitoring Protocol is followed and all of the data collection requirements that it outlines are fulfilled, the data will be sufficient to determine if the WQO are being met.

During consultation, many parties commented on the complex nature of the habitat management system and its component parts. To address this criticism a strong effort has been made to simplify the documents, including the monitoring protocols. One measure has been to reduce the amount of redundancy in the draft material. The WQO and sediment discharge standards are found in the Final Report and in the watershed authorizations, and will not be added to the monitoring protocol. An explanation of how the WQO were developed is described on page 21 of the Final Report and will not be repeated in other documents. The current WQO represent an effort to meet both of the new system's management objectives and will be reviewed on an annual basis through the adaptive management process.

The agency with principal responsibility for WQO monitoring is described in the AMF. This will not be repeated in the protocol itself, in order to reduce redundancy, and to reinforce the concept that the protocol describes a methodology that will produce results acceptable for inclusion in the adaptive management process, irrespective of the party engaged in sampling.

Several steps have been taken to reinforce coordination between monitoring agencies. A unified database has been developed by merging and augmenting the databases previously maintained by each agency. Meetings are held well in advance of the open water season to agree upon the watersheds that will receive scrutiny, as well as during the field season itself to review procedures and logistical arrangements. A significant focus of these meetings is the coordinated, cost-effective

execution of the programs. The costs of monitoring were estimated as the programs were initially developed and have been refined through practice in subsequent years.

Currently, all laboratory analysis and water sample collection adheres strictly to the methodology described in *Standard Methods for the Examination of Water and Wastewater* (American Public Health Association, American Water Works Association, and the Water Pollution, Control Federation, 1992). This document is described in the revised protocol. Similarly, The QA/QC procedures outlined in *The British Columbia Field Sampling Manual for Continuous Monitoring of Water, Wastewater, Soil, Sediment, and Biological Samples* (published by the British Columbia Ministry of Environment, Lands and Parks, and updated in 2006) are closely followed, and a reference for these procedures has been added to the revised document.

The original intention was to collect a minimum of four water samples at five different sites in each tertiary watershed every season. After two seasons of trial runs following this protocol, however, significant lessons were learned. The Intergovernmental Management Group will carefully review the sampling rotation amongst watersheds before plans are made for monitoring in 2009. It is agreed that additional sites may need to be incorporated in more complex watersheds.

It is also agreed that the WQO should be achieved 100% of the time in all habitat sensitivity areas. An effort must be made, however, to establish whether the source of the sediment is from placer mining, other human activities or from natural occurrences. This decision rule will be removed from the protocol and added to the AMF. The results of WQO monitoring are chiefly relevant to the adaptive management process.

## **YCS Comments on the Monitoring Protocols – Economic Health**

The YCS states that a common interpretation of all the Protocols is essential in order to prevent future disagreements. It is concerned that this protocol gives the sense that the industry can be maintained in a “steady state” over time. Many factors that affect the industry have nothing to do with the management system and these factors must not lead to a relaxation in standards. The bottom line must always be conservation and protection of fish and fish habitat.

For the YCS, the correlation of Type A and Type B indicators raises questions about the commitment to conservation and protection and may create expectations that standards can be relaxed if “things get really bad”. The Economic Health Monitoring Program and AMF must clearly state that no actions

will ever be taken to relax standards or requirements stipulated in a watershed authorization, if aquatic health is failing or in decline.

The report commissioned by the YCS concluded the protocol does not clearly address how incremental cost increases will be monitored and evaluated over time, and does not define a threshold for economic viability based on compliance with the new management system. The YCS report proposed a more targeted and consultative approach focusing on the incremental cost of production as a preferred methodology.

## **Secretariat Response**

It is agreed that the Protocols must be written in clear and unambiguous language, to prevent otherwise avoidable disagreements over interpretation. And while the new management system is explicitly designed to recognize the importance of a sustainable placer mining industry, maintaining the industry in a “steady state” is not an achievable objective.

In fact, the explicit purpose of Step 2 is to determine whether any decline in economic health can be attributed to the new habitat management system. Factors that have nothing to do with the system will not lead to a relaxation of standards, and standards will not become more lenient if aquatic health is failing or in decline.

The consultants retained by the YCS did not have an opportunity to review the Panel Survey Design, which is the essence of Step 2. The Panel Survey Design is intended to determine whether any changes in placer industry viability are attributable to the new management system, and to determine the incremental costs of new mine site management practices. The Panel Survey will be carried out for the first five years following implementation, irrespective of the results of Step 1.

Similarly, a probabilistic income model for Yukon placer mining was developed after the original consultation documents were made available. The income model was designed to provide threshold points and information related to the industry’s viability. It complements the information on expenditures that will be derived through the Panel Survey.

## **Next Steps**

The Yukon government has established the Placer Secretariat on a long-term basis, with defined funding support from DFO for the 2008-09 and 2009-10 fiscal

years. Before the end of this time period the Secretariat's role and the degree of support it requires will be reviewed. The Secretariat's future tasks include:

- Completing the last phase of the consultation process, chiefly by holding a workshop for First Nation governments and by meeting with key Boards and Committees;
- Completing authorizations for the Asek, Liard and Mayo River watersheds;
- Guiding and trouble-shooting ongoing implementation efforts;
- Assisting in the resolution of any disputes related to stream classifications or operating conditions;
- Coordinating the monitoring programs;
- Facilitating the participation of non-governmental organizations in the decision-making process by establishing the Placer Advisory Council; and
- Guiding the adaptive management process in response to the first official effects-monitoring reports.

## **Acknowledgements**

The Yukon Placer Secretariat is grateful to all those who reviewed aspects of the proposed habitat management system and provided their valuable input and ideas. In particular, a number of groups dedicated a significant amount of time and energy throughout the consultation process. The Secretariat wishes to acknowledge the assistance and input provided by individual First Nation governments, the Klondike Placer Miners' Association, the Yukon Conservation Society, the Salmon sub-Committee of the Yukon Fish and Wildlife Management Board, the Yukon Water Board and staff, and the Yukon Environmental and Socio-economic Assessment Board and staff.



## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
<b>Risk Management Framework</b>	Placer miner	The new regime does not properly balance the biological and economic management objectives. Too much risk is assumed by placer miners, and the increased cost of mining is not justified by what is gained in terms of conservation and protection of fish and fish habitat.	The Adaptive Management Framework (AMF) is designed to assess the new habitat management system's effectiveness in meeting its management objectives. If the effects-monitoring programs reveal that either objective is not being achieved, adjustments can be made according to the decision rules described in the AMF.
	Placer miner	I believe that we actually improve the environment for the fish and wildlife by creating more and new and better habitat for them. I have talked to some Elders in Dawson City, and they say Hunker Creek never had fish in it before placer mining.	The aquatic health monitoring program will assist regulators in determining how placer mining activity affects habitat productivity in the various watersheds and habitat suitability classes.
	Placer miner	I am a long-term placer miner and we use only water and gravity to capture the gold. I am not mining to destroy nature; some areas look better and greener after I have mined than they did before. I have never seen fish in the creek I work, and I'm concerned that the new rules will result in the end of my livelihood because of inaccurate information.	The monitoring programs will provide information that has never been available before. While discharge standards, operating conditions and reclamation standards are generally more stringent, the Previous Development designation is intended to ensure that the new rules are appropriate for operations on historically placer-mined streams.
	Placer miner	A workshop should be held for the industry to explain how the Severity of Effects tables will be used by placer miners.	The severity of effects tables were an important step in evaluating the degree of risk that is justifiable in the different habitat classes. Based upon changes made following consultation, it is no longer essential that miners work with tables. Instead, project proponents will follow the question and answer format employed in the Workbook that supports the new authorizations. Workshops will be developed for the industry to provide instruction on how to use the Workbook.
	Placer miner	<ol style="list-style-type: none"> <li>1. The Severity of Effects tables lead to the conclusion that a site-specific authorization will be required for typical mining practices on traditionally-mined streams (i.e. construction of a diversion channel or simple instream works). "We need to make sure these tables work so that everyone doesn't need to get separate authorizations."</li> <li>2. I participated in Working Committee meetings in</li> </ol>	<ol style="list-style-type: none"> <li>1. The Severity of Effects tables were amended several times following consultation and have been replaced by a Workbook that supports the new authorizations. The result is that most typical mining practices on historically-mined streams will not require site-specific authorization.</li> <li>2. The start up provisions referred to are described in a</li> </ol>

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
Risk Management Framework		Vancouver and I remember that allowances would be made for operations starting up in a new area. I see no reference to this in any of the draft documents. Where did it go? I am concerned that many of the elements agreed to at the Working Committee level are not evident in the consultation documents, and that the balance we were trying to achieve has been lost.	<p>discussion paper on the “Action Level Approach to Compliance Monitoring”, which was not included in the consultation package. The start-up provisions are only one of several special circumstances when it is acknowledged that an operation will likely be exceeding the Action Level stipulated for that habitat suitability class.</p> <p>All parties on the Working Committee (including the KPMA) agreed to the contents of the Final Report submitted to the Minister of Fisheries of Oceans. The Yukon Placer Secretariat is responsible for ensuring that the finalized documents reflect the agreement described in this report.</p>
	Placer miner	It defies logic to have had placer mining on some creeks for over 100 years, then say these are good fish habitat and need stringent protection.	The new management system recognizes that placer mining and aquatic health are not necessarily incompatible, and that even historically-mined streams have maintained a degree of productivity. Habitat productivity will be assessed through the aquatic health monitoring program.
	Whitehorse resident	With the ways that placer mining is done today and all the rules and regulations put upon placer mining and mining in general, the water almost comes out cleaner than what they start with. Placer mining may reroute a creek but the fish are not affected by this minor change and the water is clean and capable of housing much wildlife. Mining today is not mining in the past, with new times come new measures and with that the environment is much better off than it was in the past.	Placer mining activity is governed by many rules and regulations, and the <i>Fisheries Act</i> requirements have grown increasingly strict. At the same time, water treatment and land reclamation practices have significantly improved, and the industry’s compliance record is generally good. The new system recognizes that sustainable placer mining and the conservation and protection of fish habitat are compatible goals.
	Dawson resident	Stripping of permafrost can affect ground water flows. This was not listed as a residual effect during the presentation I saw. Melting ground ice is often a source of water in hot dry summers, and once it is gone the streams will have reduced flows in dry spells and higher water temperatures. The amount of permanently frozen ground thawed per operation should be assessed, and the amount thawed in a watershed should be a	Some biologists have suggested that many small streams in the Yukon could be several degrees warmer without being less healthy for fish, and no information has been received about specific streams that have seriously diminished flows that can be directly attributed to the complete loss of permanently frozen ground. The effects of placer mining in permafrost are considered during project assessment. Any

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
Risk Management Framework		consideration given its effect on fish and fish habitat.	party can express these concerns on a project specific basis. The Pathway of Effects component of the Risk Management Framework will be reviewed to ensure it addresses the aquatic effects potentially related to thawing permafrost.
	Dawson business	Placer miners do a significant amount of business with us annually, and if they are unable to mine we will regret the loss of their business. The fact that their employees also patronize our business should be considered.	A sustainable placer mining industry is one of the new system's two management objectives.
	Whitehorse resident	<ol style="list-style-type: none"> <li>1. How can an industry based on a non-renewable resource be sustainable?</li>   <li>2. We need to examine ecosystems, fish are fish and fish habitat is fish habitat regardless of whether they support fisheries.</li>   <li>3. There is no mention of the precautionary principle.</li>   <li>4. This authorization does not recognize the polluter pays principle.</li>   <li>5. Where are elements such as substrate size and composition, water temperature, oxygenation, and groundwater recharge covered in the pathways of effects</li> </ol>	<ol style="list-style-type: none"> <li>1. The 1987 Brundtland Commission defined Sustainable Development as: "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." It does not mean the resources are potentially inexhaustible.</li>   <li>2. The phrase is found in the <i>Fisheries Act</i>, and has significance in court decisions related to the Act. The new management system's watershed health approach is designed to maintain healthy aquatic ecosystems.</li>   <li>3. The precautionary principle is wisely applied to activities with unknown or unmitigable negative environmental effects. The effects of placer mining can be successfully mitigated through the measures required by the new system.</li>   <li>4. No harmful alteration, disruption or destruction of fish habitat is permitted without compensatory habitat features being provided. The cost of these compensatory features is borne by individual placer miners.</li>   <li>5. These are found in the description of potential aquatic effects categorized as channel morphology, habitat productivity, and flow.</li> </ol>

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
Risk Management Framework		tool?	
		6. Does habitat productivity cover food availability, feeding effort, degraded feeding ability due to reduction of visibility, etc.?	6. Yes, in addition to food source and change of nutrients.
		7. Where would things such as increased fish stress, lower reproductive success, lower weight, negative effects of sediment on fish gills, etc. be covered in the pathways and effects tool?	7. Under sediment and habitat productivity.
		8. Water quality objectives (WQO) and a new water quality model were developed. Who developed the water quality model?	8. Gartner-Lee Ltd. was contracted to develop this model.
		9. How does it differ from the two versions of the model used for the YPA, the DFO version and the [industry] version?	9. While based upon a similar mass-balance equation, it provided more refinement in considering the volume of streamflows and inputs of sediment, and incorporating monitoring results. It was useful in assessing the relationship between WQO and discharge standards.
		10. The WQO were developed specifically for the Yukon with reference to the European Freshwater Fish Water Quality Criteria and the Canadian Council of Ministers of the Environment Water Quality Guidelines. Are the European guidelines the 1964 work that formed the basis for the YPA?	10. Yes.
		11. Was the body of work developed in the 40+ years since considered in developing the WQO?	11. Yes.
12. Do these references deal with only the short term effects of sediment or do they examine long-term sub-lethal effects?	12. All the potentially harmful effects of sediment on fish and fish habitat are considered.		

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
Risk Management Framework		<p>13. Do the WQOs deal with metals levels, water temperature, oxygenation and other parameters?</p> <p>14. The WQO have been developed to protect juvenile salmon because this species has the most specific and demanding requirements for suitable habitat. Do the WQO factor in the limited amount of time juvenile salmon spend in their rearing locations versus other fish which may spend their entire lifetimes in one type of habitat?</p>	<p>13. The WQO refer to sediment alone, but other measured parameters include turbidity, temperature, pH and conductivity. The aquatic health monitoring program measures all the relevant physical and chemical parameters.</p> <p>14. Yes, the WQO were developed in recognition of the life histories of all resident species.</p>
Sediment Discharge Standards	Placer miner	The positive aspects of placer mining are not given enough consideration in the balancing of management objectives.	A management system designed to maintain compliance with the requirements of the <i>Fisheries Act</i> will emphasize the conservation and protection of fish and fish habitat supporting fisheries, yet the Risk Management Framework should make the objective of a sustainable placer mining industry realistic and achievable.
	Placer miner	Placer mining and fish have co-existed for over 100 years. How do you justify adopting standards that will make placer mining uneconomical?	Care has been taken to ensure the new management system does not make placer mining uneconomical. Economic health will be monitored pro-actively to assess the affect the system has on the profitability of placer mines.
	Placer miner	It is not possible to design a settling pond that will reliably achieve the Action Level and Compliance Level proposed for my site.	Application of the Previous Development designation should make the Action Level and Compliance Level achievable at this site, where the habitat features predicted by the classification model are unlikely to exist.
	Placer miner	What is the justification for changing sediment discharge standards? When will the imposition of more restrictive standards end?	DFO concluded that most discharge standards in the YPA were too lenient to ensure the conservation and protection of fish and fish habitat. The standards adopted in the new management system are designed to conform to the Water Quality Objectives (WQO) established for the different habitat classes. If the WQO are not exceeded, and if the assumption that they are sufficient to maintain aquatic health in various habitat classes is correct, there should be no

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
Sediment Discharge Standards			reason to impose more restrictive standards at a later date.
	Placer miner	The sediment discharge standards are too stringent, especially for highly and moderately sensitive habitats where mining has occurred continuously for decades.	Highly sensitive habitat received a high degree of protection under the YPA, and that is maintained in the new system. In moderately sensitive habitat where mining has occurred for decades, the Previous Development designation results in application of a less stringent discharge standard, recognizing that the habitat features predicted by the classification model likely don't exist.
	Placer miner	The sediment discharge standards are changing too dramatically, especially on historically-mined streams like Hunker.	The Previous Development designation moderates the degree of change on historically-mined streams.
	Placer miner	I can not mine the creek with a discharge standard of less than 2.5 ml/L.	A compliance level of 2.5 ml/L applies to Freshwater Fisheries Production zones and Water Quality zones in Category B watersheds, and to stream reaches where the Extensive Development designation applies. The Action Level is more restrictive, and while it can not be achieved under all circumstances, miners are expected to conform to the Action Level – on average —over the life of their operation.
	Placer miner	We do not think anyone mining the narrow gulches in our area can meet the Design Target of 0.2 ml/L.	Given that 0.2 ml/L is about the best water quality that an optimally designed settling facility can achieve, it is acknowledged that this Design Target is too stringent for narrow gulches. The Yukon Placer Secretariat and its partners will continue their efforts to establish an appropriate Design Target for these streams.
	Placer miner	1. How can the new discharge standards be justified in areas we have mined for decades, and where there are still plenty of fish?	1. Following the review of the YPA in 2001/02, DFO concluded that new discharge standards were required to provide an acceptable degree of conservation and protection to fish and fish habitat supporting fisheries. The fact that many placer-mined streams support fish populations is encouraging, and suggests that sediment discharges can be managed successfully under the new habitat management system.

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
<b>Sediment Discharge Standards</b>		2. Why do other creeks have more lenient discharge standards?	2. Yukon watersheds have been classified according to their sensitivity to an increase in human activity, and watercourses have been classified according to their suitability as fish habitat. Creeks that are less suitable as habitat have more lenient discharge standards than higher suitability streams, and the standards for Category A watersheds are more stringent than the standards for Category B watersheds.
	Placer miner	The discharge standard for Haggart Creek is far too low, given that historically this creek has been the largest gold producer in the Mayo Mining District. The standard should be relaxed to 2.5 ml/L to ensure that placer mining is economically viable on this creek.	A Previous Development designation applies to the historically mined reaches of Haggart Creek, effectively reducing the habitat suitability ranking predicted by the habitat classification model. The compliance standard for these reaches is 1.5 ml/L.
	Placer miner	The harmful effects of sediment to fish are being exaggerated as a pretext to introduce “closed water systems”.	While total recirculation systems may be required at some sites, these will not become mandatory for all placer mines.
<b>Adaptive Management Framework</b>	Placer miner	Aquatic health should also be monitored in May and September when habitat productivity is low, and not just during the most productive period of the summer.	There are limited resources available for the effects monitoring programs, which must be sustained for decades if the Adaptive Management Framework is to be employed successfully. While information related to the marginal periods of productivity has value, it has been concluded that the available resources should be devoted to assessing aquatic health during periods of predictably high productivity.
	Placer miner	I need to know that the cost of complying with environmental regulations is not going to change drastically from one year to the next, or I can not confidently make a decision to stay in business.	The Adaptive Management Framework (AMF) will permit changes to be made if this is necessary to achieve the system’s management objectives, but a concerted effort has been made to set reasonable standards at the outset. In addition, the AMF states that “except in response to exceptional circumstances of an unforeseen nature, changes to watershed authorizations that result in more restrictive requirements will be phased in for operations that were authorized under the new regime, and which based their mining plans on the requirements stipulated in those watershed authorizations.”

## Summary of Written Comments Received During Consultation

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<b>Adaptive Management Framework</b>			
	Placer miner	I'm concerned that the proposed regime will rob me of over 20 years of work, and turn my property and investment into a black hole.	The Previous Development designation and the Economic Health Monitoring program are intended to avoid a result of this nature.
	Placer miner	<ol style="list-style-type: none"> <li>1. There should be a review process so miners can voice concerns about the monitoring methodologies.</li> <li>2. Sampling locations should be selected to benefit the fish stock, but care must be taken not to penalize the miner.</li> <li>3. New licences should be respected for the lifetime of the licence, and not unreasonably changed when an operator applies for renewal.</li> </ol>	<ol style="list-style-type: none"> <li>1. Miners had an opportunity to comment on the monitoring protocols during the consultation period, and future concerns can be addressed by contacting the Yukon Placer Secretariat. The KPMA will also be able to address these concerns through the Placer Advisory Council.</li> <li>2. Sampling locations are selected to provide data that is representative of the various habitat classes, and care will be taken to ensure the data is not compromised by choosing inappropriate locations.</li> <li>3. The new authorizations include a phase-in schedule, but in order to provide the required degree of conservation and protection to fish and fish habitat the discharge standards described in existing water use licences will be changed.</li> </ol>
	Placer miner	The documentation says that no adaptive management decision will be made until monitoring has occurred for at least three years. While this might make sense for gathering information on stream health, if the new regime is too costly for miners, three years is too long to wait before reacting.	While several years of monitoring results are required to ensure that seasonal and annual variations are properly accounted for, the Adaptive Management Framework also states that recommendations for change can be made earlier in response to exceptional circumstances of an unforeseen nature. In addition, Step 2 of the Economic Health Monitoring Protocol will occur automatically for the first five years following implementation of the new management system.
	Placer miner	The raw data and monitoring must be transparent. The interpretation and conclusions reached as well as consequent management decisions must be shared and mutually agreed upon by the three principal authorities (DFO Minister, Grand	The methods of monitoring and data analysis are described in the monitoring protocols, which are available to the public. The raw data can also be scrutinized when the monitoring reports are published on an annual basis.



## Summary of Written Comments Received During Consultation

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Adaptive Management Framework		Chief of CYFN, Premier of YG). This must be addressed in a Letter of Understanding. Anything less exposes miners, their families and the industry to the “continued severe consequences of DFO’s unbridled authority for authority’s sake”.	Interpretation, conclusions and adaptive management recommendations will be guided by the decision rules described in the Adaptive Management Framework, and this process is explicitly stated in the new authorizations. A new Letter of Understanding (LoU) on the habitat management system is being developed by the three parties. It must be understood, however, that all parties are obliged to conform to the following principle: “The regulatory and legal decision making authority of DFO, YG and Yukon First Nations are not delegated or otherwise affected by this LoU”.
	Placer miner	When is biological data ever conclusive to biologists? This is a rare event. What are the criteria to be used to indicate that the fish habitat is over-protected and that there should be more lenient standards applied to that operation?	This is described in more detail in the Adaptive Management Framework. In general, if monitoring conclusively establishes that aquatic health is satisfactory, water quality objectives are being achieved, but that a decline in economic health can be attributed to the new management system, then it may be concluded that more lenient standards are warranted.
	Placer miner	<p>The socio-economic cost of attaining the new discharge standards far outweighs the benefits of any fishery developed by this measure. The compliance standards make total recirculation necessary in my confined area. This will require investment in new equipment (e.g. slurry pump). Any measure adopted to comply with the new standards will increase the size of the marginally mineable zone, resulting in shorter mine life and reduced employment and economic contribution to society. The gold resource is permanently destroyed in exchange for an unknown number of grayling. I have given up hope that my son will take over my mine.</p> <p>“ . . . to deliberately cause the permanent destruction of non-renewable resources is far more immoral than to temporarily displace a renewable resource.”</p>	Several miners commented that known gold reserves may not be economical to mine under the new management system. Dismay and the sad conclusion that a multi-generational family mining tradition is coming to an end has been repeated in written submissions and consultation meetings. Many miners also comment that their current practices don’t harm fish habitat. The KPMA strove for a system that would not put a single miner out of business, and DFO stated explicitly that the new system should be designed to keep the small operations in business, if possible. The schedule of discharge standards will not be changed unless recommended under the Adaptive Management Framework. The Yukon Habitat Suitability Model has been modified to produce a result more consistent with the observed distribution of rearing juvenile chinook salmon on Yukon streams, and it is expected that miners can adapt to the new requirements in all areas.

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
Adaptive Management Framework			
	Placer miner	<p>Prospecting activities often result in uncertain outcomes, and mining in such locations results in significant financial risk. Costs can be predicted on the basis of mining in previous years, but gold production is harder to predict. I have made a sizeable investment on the basis of rules that have been in effect for 20 years. The changes proposed for historically mined streams are unfair, unnecessary, inconsistent, and contrary to the regime’s overall objectives. With respect to economic health, you must consider: financial investment in a property; lost opportunity; and the absence of opportunity.</p>	<p>Considering a miner’s current investment in a property is consistent with the management objective of maintaining a sustainable placer mining industry in the Yukon. Similarly, the likelihood that classification changes will result in the alienation of previously viable deposits should be explored. The Previous Development designation takes ongoing investments in prospecting and development activities into account. The Economic Health Monitoring Protocol’s panel survey will assess the possibility that previously viable placer deposits have been alienated.</p>
	Whitehorse resident	<ol style="list-style-type: none"> <li>1. Who will undertake this monitoring? Current political regimes are unlikely to provide the resources necessary to conduct this monitoring. Have governments and industry committed to funding monitoring and the implementation of adaptive management in a binding manner?</li> <li>2. How will changes necessary as the result of an adaptive management regime be translated into amended water licences? Who will be responsible for making the applications for amendment?</li> <li>3. What level of financial support has been committed to annual watershed health monitoring?</li> <li>4. What level of financial support has been committed to the medium-term monitoring and evaluation? Who will conduct the evaluation?</li> </ol>	<ol style="list-style-type: none"> <li>1. Aquatic health monitoring is shared by DFO and Environment Yukon, and Water Quality Objectives monitoring is the responsibility of EMR’s Client Services and Inspections Branch. Both governments are committed to supporting adaptive management for the long term.</li> <li>2. If changes to <i>Fisheries Act</i> authorizations are made, the Yukon Placer Secretariat will request the Yukon Water Board to initiate amendments to any water use licences affected by the change.</li> <li>3. DFO and YG have committed resources sufficient to collect, analyze and report on data from up to 40 sites under the aquatic health monitoring program. A similar commitment has been made by YG under the Water Quality Objectives monitoring program.</li> <li>4. The commitment to effects-monitoring is long-term. The Adaptive Management Framework (AMF) will be applied by an Intergovernmental Management Group (IMG) consisting of DFO, YG, CYFN, and individual First</li> </ol>

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
<b>Adaptive Management Framework</b>		<p>5. Will all data collected be accessible to the public in a timely manner?</p> <p>6. Will there be a legislated requirement for review with designated timeframes?</p> <p>7. Who will conduct the review? Will it be vetted by independent reviewers/experts?</p>	<p>Nation governments.</p> <p>5. Yes. The objective is to distribute draft monitoring reports at the end of each calendar year.</p> <p>6. No. The AMF will be applied on an annual basis, and in the absence of unforeseen circumstances of an exceptional nature, recommendations to change authorizations will only be made after three to five years of monitoring to ensure the results are conclusive.</p> <p>7. The IMG will apply the AMF. A draft annual Adaptive Management report will be available for independent review and comment.</p>
<b>Guidebook of Mitigation Measures</b>	Placer miner	<p>1. The requirements for diversion channels are overly restrictive, and the engineering standards are not realistic or affordable.</p> <p>2. Non-native species should not be used for re-vegetation, and it must be acknowledged that complete re-growth occurs naturally.</p>	<p>1. The Secretariat agrees that some of the Severity of Effects tables lead to outcomes that were overly restrictive, and that the Guidebook prepared for consultation was often too technical and not well-suited for the placer mining industry. The finalized Guidebook is organized more simply and describes measures that are effective, suited to placer mining and can be employed by all operators.</p> <p>2. No regulation prohibits use of a non-invasive agronomic species as a nursery crop that encourages the establishment of native species, but there is a growing awareness of the risk posed by invasive species. It is acknowledged that satisfactory re-growth may occur without active seeding or planting in many placer-mined areas, when proper site management practices are employed.</p>
	Placer miner	While I agree with the concept of “leave strips”, they should be narrower than currently defined.	The new management system describes riparian zones, as opposed to leave strips. While these zones are described in terms of width, some activities are permitted in these areas.

## Summary of Written Comments Received During Consultation

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Guidebook of Mitigation Measures			For more information, please refer to the Workbook ( <i>Fish Habitat Design, Operation and Reclamation Workbook and Worksheets for Placer Mining in the Yukon Territory</i> ).
	Placer miner	This valley is very narrow, so I need to use the creek as a conduit to transport sediment to out-of-stream settling ponds downstream.	This activity is permitted on some stream reaches when there is no room for out-of-stream settling facilities.
	Placer miner	<ol style="list-style-type: none"> <li>1. According to the consultation documents, we may be able to construct a temporary diversion channel. Our creeks cannot be mined without diverting the stream, and we are concerned with the definition of a “temporary” diversion. Temporary must take into consideration the amount of time it takes to complete a mining cut.</li> <li>2. We can’t mine in this area without instream works.</li> <li>3. The Guidebook must be easy to understand and must be compatible with all the required application forms.</li> </ol>	<ol style="list-style-type: none"> <li>1. The new system recognizes Seasonal, Temporary and Permanent diversion channels. Temporary diversion channels are those intended to be in place for two to five years.</li> <li>2. Instream works are permitted in some stream reaches, under certain conditions.</li> <li>3. Following consultation, the Guidebook has been simplified. It has been designed to support the Workbook and Worksheets.</li> </ol>
	Whitehorse resident	<ol style="list-style-type: none"> <li>1. Once disturbed, some areas may take many years to come to a new equilibrium with instability, slumping and sediment discharge continuing with no practical method of stabilization. How will these effects be mitigated?</li> <li>2. The disturbance of permafrost may lead to the destruction of entire riparian ecosystems and their replacement by different ecosystems. How will these effects be mitigated?</li> <li>3. Climate change is affecting the stability of permafrost, water balance and hydrology. How will the effects of</li> </ol>	<ol style="list-style-type: none"> <li>1. Higher design standards and stricter conditions have been applied to the construction of Seasonal, Temporary and Permanent diversion channels in order to increase their overall stability.</li> <li>2. There are increased restrictions on constructing stream channel diversions in permafrost areas. Also, DFO made it clear during Working Committee meetings that the replacement of habitat that supports anadromous species with habitat that only supports freshwater species – even if in greater diversity and abundance – is not an acceptable result.</li> <li>3. The method used to assess aquatic health searches for the likely source of stress if a test site is found to be “out</li> </ol>

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
<b>Guidebook of Mitigation Measures</b>		climate change be factored into adaptive management?	of Reference Condition". Whether the results are clearly attributable to climate change or to some other cause, they will be addressed under the adaptive management process.
	Placer miner	My most serious concern is not being able to work instream, because the valley I work in is often so narrow I can't even turn a piece of heavy equipment around.	Instream works are permitted in some stream reaches, under certain conditions.
	Placer miner	There is too much concern about diversion channels, which in many cases are superior to what previously existed.	The potentially negative effects of constructing stream channel diversions must be carefully mitigated to ensure compliance with the habitat protection and pollution prevention measures of the <i>Fisheries Act</i> .
<b>Watershed Sensitivity and Fish Habitat Classification Methodology</b>	Placer miner	The system seems to be based on potential habitat, as opposed to actual utilization by fish. Wouldn't it be better to base the system on where the fish are actually found?	Studies have demonstrated that the simple presence of fish is not a reliable determination of the suitability of stream reaches as habitat. A variety of natural conditions may lead to fish being present or absent at any given time. In addition, it is not possible to physically assess every stream that may be of interest to placer miners.
	Placer miner	I heard there are errors on the maps distributed at the Gold Show. How am I supposed to comment if there are mistakes?	Depending upon the relationship of tributaries to contour lines when they joined other streams, early versions of the Yukon Habitat Suitability Model did not always calculate the gradient correctly. This led to a limited number of errors on some of the maps distributed at the Gold Show in 2007. The model was corrected, and most miners were able to base their comments on error-free maps.
	Placer miner	The fact that rearing juvenile chinook salmon are found in traditionally placer-mined streams shows the YPA effectively managed sediment.	The environmental practices of individual miners have improved steadily over the years, and the new management system recognizes that placer mining and aquatic health are not necessarily incompatible.
	Whitehorse resident	1. How will this regime help to restore destroyed watersheds such as the Indian River and how will it ensure that more watershed don't suffer a similar fate?	1. The Indian River watershed has experienced a significant degree of mining activity, but has not been destroyed. Fish thrive in the basin, and rearing juvenile Chinook salmon have been found at test sites from the confluence with the Yukon River to the mouth of Quartz Creek. It is admitted, however, that inadequate

## Summary of Written Comments Received During Consultation

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Watershed Sensitivity and Fish Habitat Classification Methodology		<p>2. We need to examine the effects of placer mining on individual watersheds, not attempt to minimize its effects by stating that placer deposits occur in a unique geological environment covering less than 2% of the terrestrial land base. What percentage of total Yukon streambed is suitable salmon spawning or salmon rearing habitat?</p>	<p>regulation has led to significant alteration of many streams reaches, and a degree of instability is persistent. The new management system sets a higher standard for the construction of diversion channels, and in combination with placer mining land use regulations this should result in greater stability and more productive habitats.</p> <p>2. Salmon spawning distribution and habitat modeling results are only available for 16 of the 18 watersheds this system will address. The watershed with the greatest distribution of spawning salmon is the Nisutlin, where migratory corridors and spawning reaches account for almost 7.4% of the lineal length of streams in the basin. The figure for the Big Salmon watershed is almost 7.1%, and for the McQuesten it's almost 5.2%. Chinook rearing habitat extends for 33.2% of the Nisutlin watershed, and 0.09% of this has been subjected to placer mining development. The corresponding figures are 28.5% and 0.46% for the Big Salmon, and 25.4% and 3.76% for the McQuesten.</p>
	Placer miner	The discharge standard and rules for diversions for the stream I am working on are too stringent. How do you justify such restrictive standards, and why should I need a site-specific authorization to divert a stream that has been diverted so many times in the past?	The Previous Development designation reduces the sediment discharge standard and operating conditions on streams that have already been subjected to mining activity. Most diversions on streams of this nature are governed by watershed-based authorizations.
	Placer miner	The creek I am mining on should be classed as having Historical and Current Development.	The Previous Development designation has been applied to streams with current placer mining activity, or that have been mined in the past.
	Placer miner	How you justify classifying the lower Klondike River area as a Category A watershed?	The Klondike River watershed was assessed in its entirety. The basin is very sensitive to an increase in human activity, and very important for Chinook salmon spawning and rearing.

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
<b>Watershed Sensitivity and Fish Habitat Classification Methodology</b>	Placer miner	My family has local knowledge of Haggart Creek and the South McQuesten going back to 1935. We have never known salmon to be present in this part of the McQuesten River system, yet your map suggests that Haggart Creek is a salmon rearing stream.	Based upon gradient, proximity to Chinook salmon production areas, and water quality, Haggart Creek is highly suitable habitat for juvenile Chinook salmon and other species of fish.
	Placer miner	Bear Creek does not run directly into the Klondike River, but flows through 1 to 1½ kilometres of tailings first. For this reason Bear Creek does not support salmon spawning or rearing, and the habitat classification should be changed.	This statement was reviewed and verified by DFO. As a consequence, upstream of the barrier to fish passage Bear Creek is classified as a Water Quality zone.
	Placer miner	Bear Creek flows into dredge tailings at W 0585438 and N 7101394, with no surface flow.	See comment above.
	Placer miner	<ol style="list-style-type: none"> <li>1. Based on our observations, Big Creek should not be classified as highly suitable habitat upstream of the bridge near Mechanic Creek, because the salmon don't travel that far.</li> <li>2. Many of the creeks that have been historically-mined have not been identified as such on the map for Big Creek.</li> </ol>	<ol style="list-style-type: none"> <li>1. The final map does not depict Highly suitable habitat upstream of Seymour Creek.</li> <li>2. The list of historically-mined creeks has been reviewed by Whitehorse District mining inspectors, and some corrections have been made.</li> </ol>
	Placer miner	The habitat classification maps describe the Fortymile River as Chinook salmon spawning. This is not correct. On the basis of the evidence we are submitting, will you please correct the maps? We expect that this change will also affect the classification of tributary streams, otherwise we will not be able to continue mining on any of our placer claims.	In fact, these maps do not depict the Fortymile River as a Chinook salmon spawning stream. There is, however, evidence that Chum salmon use it for spawning, and the Area of Special Consideration designation has been applied as a consequence.
	Placer miner	<ol style="list-style-type: none"> <li>1. The discharge standards for mined tributaries of the Klondike River do not recognize the degree of prior disturbance that has occurred.</li> <li>2. There are two tributaries of Hunker Creek that actually disappear to ground before reaching the creek.</li> </ol>	<ol style="list-style-type: none"> <li>1. The degree of disturbance of all mined tributaries is recognized by the Previous Development designation. The development of Hunker and Bonanza Creeks is considered to be "Extensive", and appropriate standards apply.</li> <li>2. This has been acknowledged through application of the "Water Quality" designation (permanent barriers to fish</li> </ol>

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
<b>Watershed Sensitivity and Fish Habitat Classification Methodology</b>			passage).
	Placer miner	A one level reduction in habitat suitability ranking in areas that have been previously disturbed in not enough to allow mining activities to continue. A reduction of three levels would be appropriate in areas of coarse tailings to encourage development and reclamation.	A one level reduction in habitat suitability ranking is applied to historically-developed areas; a two level reduction in ranking is applied to currently- and extensively-developed areas; and areas of extensive development have a sediment discharge standard of 2.5 ml/L, which will be reduced to 2.0 ml/L after five years.
	Placer miner	The habitat of tributaries to the Klondike River has been classified too strictly. A more reasonable result might be achieved by reducing the range of the best gradient score from a maximum of 1.5% to either 0.75 or 1.0%.	Please see above. The extensive development designation applies to Bonanza and Hunker Creeks.
	Placer miner	<ol style="list-style-type: none"> <li>1. There is no viable salmon population in the Fortymile River, and it does not directly support fisheries. The Areas of Special Concern (ASC) designation is not appropriate.</li> <li>2. The phrase “Areas of Special Concern” should be changed to “Areas of Special Consideration”, because “concern” is a loaded word.</li> </ol>	<ol style="list-style-type: none"> <li>1. Chum salmon have been observed in the Fortymile River. The ASC designation is intended to recognize unique aspects of a watercourse, and is an appropriate way to recognize limited use by chum salmon.</li> <li>2. It is agreed that these areas will be called “Areas of Special Consideration”.</li> </ol>
	Placer miner	<ol style="list-style-type: none"> <li>1. Due to prior disturbances from placer mining, Haggart Creek should have a more lenient discharge standard. The Previous Development designation should also apply to Keystone Creek because of the investment in assessment work, and to Lightning Creek because of prior activity.</li> <li>2. All areas with prior disturbances should receive a settleable solids discharge standard.</li> </ol>	<ol style="list-style-type: none"> <li>1. The Previous Development designation was modified to account for economic investment (in some cases).</li> <li>2. All streams with Previous Development designations receive a settleable solid sediment discharge standard (except reaches of Moderate-high suitability with a Historical Development designation).</li> </ol>
	Dawson resident	<ol style="list-style-type: none"> <li>1. Questioned the classification of three creeks in the Dawson Mining District (Goring, Bear, and French Gulch) as well as Swede Creek, Secret Creek and Haggart Creek</li> </ol>	<ol style="list-style-type: none"> <li>1. Refinements to the habitat suitability model led to changes in some classifications; Bear Creek was changed to a Water Quality zone above the barrier to</li> </ol>



## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
Watershed Sensitivity and Fish Habitat Classification Methodology		<p>near Mayo.</p> <p>2. What if an operator's stream doesn't appear on a map?</p>	<p>fish passage.</p> <p>2. The Secretariat will follow up on any reported errors or omissions related to the maps.</p>
	Placer miner	A tributary of Haldane Creek that was classified under the YPA does not appear on the McQuesten watershed map.	Data for this tributary was added to the habitat model, and the watercourse is now included on the map.
	Whitehorse resident	<p>1. Prior disturbances have not been identified correctly on either Britannia or Canadian Creek. There are no adult salmon on these creeks and the lowest discharge standard should apply.</p> <p>2. The Previous Development designation should also apply to Casino Creek, Dip Creek and Excelsior Creek.</p>	<p>1. The habitat suitability classifications are not based upon the presence or absence of fish. The Previous Development designation was adjusted following the consultation period.</p> <p>2. Whitehorse District mining inspectors did not confirm that the Previous Development designation should be applied to these three streams, although it does apply to Rude Creek.</p>
	Placer miner	The discharge standard for Vancouver Creek is clearer than the background water quality. I will not be able to continue mining without a site-specific authorization.	The Previous Development designation applies to this site, which results in application of a more lenient sediment discharge standard.
	Placer miner	<p>1. The new discharge standards will make Goodman Creek impossible to mine; a 2.0 ml/L standard should apply.</p> <p>2. I am concerned about the classification of Proctor Lake, Proctor Pond, Haldane Creek, Thompson Creek and Flat Creek. More habitat is available than is required to maintain fish stocks.</p> <p>3. All previously staked areas should have a 2.0 ml/L standard until mining is completed. The McQuesten River watershed should have the same effluent standards as the Indian River watershed.</p>	<p>1. The Previous Development designation applies to Goodman Creek, which will permit the operator to continue mining. The discharge standard varies from 1.2 to 1.5 ml/L on this creek.</p> <p>2. The Risk Management Framework employed to develop the new management system takes the abundance of habitat into consideration, in that little or no risk is considered justifiable where habitat is limited, but some risk is tolerated if there is an abundance of habitat.</p> <p>3. Because the McQuesten River watershed is more sensitive to an increase in human activity than the Indian River and also contains highly sensitive habitat, it is not appropriate to apply identical discharge standards.</p>
	Placer miner	1. The lower Klondike River should not be a Category A	1. Splitting the Klondike River watershed in two is not

## Summary of Written Comments Received During Consultation

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Watershed Sensitivity and Fish Habitat Classification Methodology		<p>watershed.</p> <p>2. Homestake Gulch is classified as Type IVB under the YPA, and the entire drainage should receive the Previous Development designation.</p>	<p>consistent with the logic applied to classifying the sensitivity of watersheds.</p> <p>2. The Type IVB classification under the YPA is applied to streams with no fish. This is similar to the Water Quality zone designation under the new system, which only applies when there is a proven barrier to fish passage. The Previous Development designation only applies to streams of moderate habitat suitability, and Homestake Gulch is classified as a Freshwater Fisheries Production zone (habitats of low sensitivity).</p>
	Whitehorse resident	<p>1. How were geography, geology, ecology and socio-economic factors ranked and valued to develop watershed designations?</p> <p>2. The Previous Development designation is similar to areas “deferred” under the YPA.</p> <p>3. These areas are unlikely to be restored when mining is completed.</p>	<p>1. The watershed boundaries were established based upon several of the factors listed, as well as hydrological boundaries. An ecological factor – specifically the distribution of adult Chinook salmon – received the most weight in determining the sensitivity of a watershed to increased human activity.</p> <p>2. Under the YPA, habitat values could be deferred for discrete periods of time. The Previous Development designation is not a deferral of habitat values. Rather, it recognizes that the favourable habitat features predicted by the model likely do not exist where a stream has been altered by placer mining.</p> <p>3. By relaxing the operating conditions that apply to areas subjected to previous development, it is more likely that current operators will continue operations and restore the watercourses to the required standard. This designation may also encourage operators to work on creeks that have been disturbed, and then leave them in the required condition.</p>
	Placer miner	<p>1. Last Chance and Russian Creek in the Klondike watershed have been fully developed from the mouth to</p>	<p>1. All reports of historical and current disturbances have been reviewed by mining inspectors, and if confirmed</p>

## Summary of Written Comments Received During Consultation

Component of Fish Habitat Management System	Person or Organization	Summary of Comment	Response
<b>Watershed Sensitivity and Fish Habitat Classification Methodology</b>		<p>headwaters, and Montana and Stowe Creeks in the Indian River watershed have been worked extensively. Canadian Creek has been disturbed up to ½ mile above the confluence with Patton Gulch, and extensive hand workings have occurred on Britannia Creek.</p> <p>2. The clay content in the pay material on Last Chance may make the Water Quality Objective (WQO) unachievable.</p>	<p>the habitat maps have been revised.</p> <p>2. The WQO is a management tool, and not a legally enforceable compliance standard. WQO monitoring will reveal whether conditions in the basin are too severe to allow the WQO to be achieved.</p>
	Placer miner	The proposed standards for Hunker and Last Chance Creeks are too restrictive, and will make placer mining uneconomical. Due to the extensive development in the area, the habitat classification should be reduced by two levels.	A two-level reduction of the predicted habitat suitability ranking will be applied to stream reaches with the Current or Extensive Development designation.
	Placer miner	<p>1. The scoring system needs to be revisited so that streams like Hunker and Haggart are not placed in a high sensitivity category because they score 11 points instead of 10.</p> <p>2. The scoring system for moderate and less moderate categories seems somewhat arbitrary.</p>	<p>1. Even though Hunker and Haggart Creeks are in Category A watersheds, the Previous Development designation results in a reduced habitat suitability ranking where mining has already occurred.</p> <p>2. Following consultation the ranges used to determine habitat suitability have been modified to reflect the results of aquatic health monitoring that has occurred since 2004.</p>
<b>Watershed-based Authorizations</b>	Placer miner	The Klondike River watershed should be divided, with Hunker, Bear and Bonanza Creeks considered a separate watershed in order to recognize the economic contribution of placer mines on these streams.	Splitting the Klondike River watershed in two is not consistent with the logic applied to classifying the sensitivity of watersheds. Hunker and Bonanza Creeks, however, have received the Extensive Development designation, which reduces the habitat suitability ranking until restoration work is completed.
	Placer miner	If site-specific reviews and authorizations are required, those responsible for the review must follow well-defined criteria and guidelines so there is no room for personal interpretation; DFO must ensure there are sufficient qualified personnel to perform the reviews; and the reviews must be completed in a timely	It is hoped that site-specific reviews and authorizations will rarely be required under this management system. Only qualified people will perform the reviews, and personnel will be guided by Departmental policy. The length of review will be dependant upon the quality of information provided by

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Watershed-based Authorizations		fashion.	project proponents.
	Placer miner	Attempting to regulate everything “under a fixed blanket” is not appropriate, because every creek has quirks that can only be dealt with on a site-by-site basis. If discharge standards are being met, everyone should be happy.	The habitat management system is designed with enough flexibility to apply to most sites and most placer mining activities.
	Whitehorse resident	<ol style="list-style-type: none"> <li>1. Why is sediment – which is a deleterious substance – being managed under Section 35(2) of the Fisheries Act instead of Section 36(4)?</li>   <li>2. Have the legal implications of continuing to manage a deleterious substance under a section 35(2) authorization been thoroughly reviewed?</li>   <li>3. The initial environmental assessment prepared for Dublin Gulch hardrock mine attributed elevated metals levels in waters and sediment in some streams to placer discharges. Other work has also noted increased levels of metals in water and sediment as a result of placer mining. The Yukon Placer Authorization authorizes, by placer miners, the discharge of sediment (uncontaminated by metals or toxic chemicals above natural background levels) resulting from placer mining operations. Will the new regime contain the same qualifier (uncontaminated)?</li>   <li>4. Will metals levels in water and sediment routinely be monitored against background levels?</li>   <li>5. The Water Board is a quasi-judicial, independent body. In</li> </ol>	<ol style="list-style-type: none"> <li>1. Sediment is a naturally occurring substance that is not toxic. End-of-pipe discharge standards have been established to ensure that sediment concentrations and the duration of exposure in waters frequented by fish are not deleterious. Consideration was given to managing sediment through regulations, but this was deemed incompatible with the Adaptive Management Framework because of the time it would take to amend the regulations, if necessary.</li>   <li>2. Yes.</li>   <li>3. No work documenting increased levels of metals in water and sediment as a result of placer mining has been presented to a relevant authority. EMR has deliberately analyzed water samples from placer-mined areas to assess this, and no increase in metals concentration above background was found. Water use licences will continue to prohibit the discharge of contaminated waters.</li>   <li>4. This analysis will not be conducted routinely, but will be done when warranted.</li>   <li>5. Only rarely did the YWB fail to include the terms and</li> </ol>

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<b>Watershed-based Authorizations</b>		<p>the past it has not always included recommended terms and conditions in water licences. The Yukon Placer Authorization contained the following requirement as part of its policy directive: “The requirements of the YPA will be incorporated into every water licence issued under the <i>Yukon Waters Act</i>.” Will the equivalent clause be included in this regime?</p> <p>6. What will be the procedure for amending existing water licences to comply with the new regime? Who will be responsible for initiating the amendment procedure?</p> <p>7. Has the Water Board been consulted and agreed to this?</p> <p>8. The YPA policy directive states “The Minister of Indian Affairs and Northern Development is a signatory to this Directive pursuant to the Minister’s responsibilities under the <i>Yukon Waters Act</i> and the <i>Yukon Placer Mining Act</i>. Will the equivalent Yukon Ministers be signatories to the new regime?</p> <p>9. How will the authorizations be converted into enforceable regulatory terms and conditions?</p> <p>10. Who will review the site specific authorizations?</p>	<p>conditions recommended by DFO in water use licences. An equivalent clause is not included in the new authorizations, but the Board will maintain the administrative relationship it developed with DFO under both the YFPA and the YPA.</p> <p>6. The Yukon Placer Secretariat will request the YWB to initiate these amendments. The Board will advertise the proposed amendments, and based upon the response, will determine if it is in the public interest to proceed.</p> <p>7. Yes.</p> <p>8. The Minister of Energy, Mines and Resources signed the Record of Agreement, and the Premier signed the Letter of Understanding on implementation. The authorizations are signed by a DFO official on behalf of the Minister.</p> <p>9. The authorizations are enforceable under the <i>Fisheries Act</i>. These requirements are also enforceable under the <i>Waters Act</i> once they are added to a water use licence issued by the YWB.</p> <p>10. Project proposals that require site specific authorization are reviewed by DFO.</p>
<b>Traditional Knowledge</b>	Placer miner	Traditional Knowledge has to be incorporated. A good starting point is the “left-hand rule” (left limit tributaries of the Klondike River do not support salmon spawning).	Several traditional Knowledge reports have been submitted by First Nation governments, including the Tr’ondëk Hwëch’in government.

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Traditional Knowledge	Placer miner	Are you actually talking to people who are currently in touch with the land? Placer miners and hunters are well informed about current conditions, and yet their opinions aren't sought.	Several consultation meetings have been held in most Yukon communities. These meetings have been well advertised and open to everyone. In addition, extra meetings were held with placer miners in Dawson, and the deadline for comments was extended to increase the miners' ability to participate.
	Placer miner	Who defines the truth or validity of statements related to Traditional Knowledge (TK)? Why will TK be kept confidential?	Traditional knowledge will be verified – if necessary – when a project proposal is assessed by a Designated Office. This knowledge is kept confidential in order to protect valuable or sensitive resources and to honour commitments made to those who have shared it.
	Placer miner	The Han people lived in this area for thousands of years . . . and their survival depended, in part, on the salmon. They knew very well where salmon were present. We have affidavits from respected local elders who live(d) in the area, affirming that the Fortymile River is not, and has never been, a salmon river.	DFO is confident that its observations of adult chum salmon distribution in the Fortymile warrant use of the "Areas of Special Consideration" designation. Because the life history of chum salmon does not coincide as critically with placer mining activity as that of Chinook salmon, this designation will not preclude responsible mining operations.
Compliance and Enforcement	Placer miner	Miners must receive all water sampling and inspection results if they are to know how efficient their operations are.	All such results are provided to operators as a matter of policy. Miners who are not receiving this information should contact the Chief Mining Inspector or the Manager, Mineral Services, in the Client Services and Inspection Branch of the Department of Energy, Mines and Resources.
	Whitehorse resident	<ol style="list-style-type: none"> <li>1. "Careful monitoring at the watershed level" – does this indicate that monitoring will no longer take place at the water licence, individual operator level?</li> <li>2. Is the agreement a public document?</li> <li>3. Will the results of compliance monitoring be public documents easily and freely available for public review?</li> <li>4. Given that only 4% of placer water licence holders submitted the required annual reports to the Water Board</li> </ol>	<ol style="list-style-type: none"> <li>1. No. The inspection of placer mines and monitoring of settling facility discharges are an integral part of the management system.</li> <li>2. The current agreement on inspections between DFO and EMR is available upon request.</li> <li>3. Yes.</li> <li>4. It is agreed that the effectiveness of the Action Level approach will be increased with regular monitoring by</li> </ol>

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Compliance and Enforcement		in 1999/2000 consistent monitoring to determine whether ponds are operating at optimum performance is doubtful. An action level is only useful if regular monitoring is conducted rather than monitoring only being undertaken when inspectors visit the property.	water use licensees.
Environmental Assessment	Placer miner	The new regime will have a dramatic economic impact on the placer mining industry. Shouldn't the socio-economic effects of the regime be assessed by YESAB?	No. The "regime" is not a Project, and only Projects or Plans are assessed under the YESAA. Please see the response, below.
	Whitehorse resident	Will the new placer regime be subject to an environmental assessment, either through YESAA or CEAA?	All parties to the Record of Agreement (RoA) expected the new system to be reviewed by YESAB as a Plan (it is not a Project). It was concluded, however, that this would essentially duplicate the Secretariat's consultation process, and the review would neither conform to the time restrictions imposed by the RoA, nor provide the Secretariat with traditional knowledge and a set of recommendations for improvement. DFO also concluded there were no triggers under CEAA. It should be noted that every placer mining proposal will be evaluated by a Designated Office because of the water use and mining land use elements of the project.
Other Topics	Placer miner	<ol style="list-style-type: none"> <li>1. It is unfair to apply the new rules to existing water use licensees.</li> <li>2. Applicants should not need computers and software to prepare mining plans.</li> <li>3. Too much information is requested of applicants.</li> </ol>	<ol style="list-style-type: none"> <li>1. In the interest of fairness, the new sediment discharge standards will be phased in over a three-year period.</li> <li>2. The new system does not require the use of computers or software to prepare mining plans.</li> <li>3. The new habitat management system refines, but does not increase the information required from project proponents.</li> </ol>
	Placer miner	The new rules should be phased in over a five-year period.	The new sediment discharge standards will be phased in over a three-year period.
	Placer miner	The Yukon Placer Secretariat appears to be under pressure to wrap up their undertaking. Many details appear to be missing.	The Record of Agreement between DFO, CYFN and YG (May 2003) stipulated that the YPA had to be replaced by 2007. The Secretariat attempted to complete its work within that timeframe. The YPA was replaced in 15 Yukon

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Other Topics			watersheds on April 11, 2008. The extra time was required to properly consult with all parties, and to ensure that no critical details were overlooked.
	Placer miner	There are now three or four agencies that we have to deal with, and all of them require paperwork. There must be a way to simplify the entire process.	The new system was designed to maintain the administrative arrangements established between DFO, EMR and the Yukon Water Board.
	Placer miner	The Alaskan fishery and the Yukon Queen both threaten the Yukon River fishery, but DFO isn't doing anything about it. Why should the viability of Yukon placer mining be threatened when these issues aren't being addressed?	In fact, DFO is addressing all matters that effect fish and fish habitat supporting fisheries in the Yukon. The viability of Yukon placer mining should not be threatened by the new habitat management system.
	Placer miner	The industry shouldn't have to rely upon the goodwill of officials who have helped develop and implement the new system. A resolution board that includes miners should be established for the period of time that adjustments to the regime are contemplated.	The placer mining industry will be represented on a Placer Advisory Council that will make recommendations on implementation, adaptive management and other issues related to placer mining and the <i>Fisheries Act</i> .
	Placer miner	A policy directive should be agreed upon by DFO, YG and CYFN to guide their staff, so it is clear to all boards, working groups and individuals that such staff member need to comply with the intentions and good will that led to the development of the new regime. The directive should: address timelines and attitudes; promote practical solutions; ensure that recommendations are written in laypersons' terms; and discourage the ability of one party to sabotage a meeting.	A Letter of Understanding between DFO, YG and CYFN has guided implementation, and will be amended to address the next two fiscal years. It is unlikely to address the specific details listed in this comment, but these can be looked at by the Placer Advisory Council.
	Placer miner	I am concerned that the concept of "traditional territories" will supersede the purpose of Category A and B settlement lands, and lead to a right of veto over all activities on all Yukon lands.	Recent case law confirms that no right of veto exists in association with traditional territories. Under the Adaptive Management Framework, individual First Nation governments will be invited to participate when adaptive management recommendations are being considered for watersheds within their traditional territories.
	Dawson resident	After the consultations are complete, a fixed number of people will be up to speed on the new regime. My experience with educating people on situations like this show that over time the informed people move on, and the new generation will have a much poorer understanding of a complex issue such	The parties to the Record of Agreement agreed that a Secretariat was required to complete the development of the new habitat management system and conduct a proper consultation, but wanted to ensure that resources related to managing placer mining activity were devoted to monitoring,



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Other Topics		as this. I raise this point because it was explained that after implementation, the Secretariat will shrink to a vestigial executive secretary.	and not to another permanent agency. During consultation, however, it was learned that a cross-section of parties wanted an enduring Secretariat to ensure the Adaptive Management Framework operated as planned, and to provide a means for other parties to participate in fish habitat management recommendations related to placer mining. For this reason the Yukon Government will maintain the Secretariat, with support from DFO and CYFN.
	Whitehorse resident	<ol style="list-style-type: none"> <li>1. Why hasn't the federal Department of the Environment been a participant in the process as they were in the IRC process?</li> <li>2. Will the Environment Minister be a signatory to this new agreement?</li> <li>3. [The Final Report] should also reference the <i>Yukon Environment Act</i>, the Minerals and Metals Policy of the Government of Canada and specifically reference Chapter 14 Water Management of the Umbrella Final Agreement and Individual Self Government Agreements clause 14.8.1.</li> <li>4. A document I read at the 2006 Council of Yukon First Nations General Assembly stated that 90% of owners and 68% of employees were Yukon residents. A review in late 1999 early 2000 of placer water licences 93-072 through 00-162 was conducted to determine the residency of the licence holder, and did not corroborate these results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Environment Canada was not a party to the Record of Agreement, but it has participated in development of the Adaptive Management Framework, and is integrally involved in matters related to aquatic health monitoring.</li> <li>2. No.</li> <li>3. The Final Report to the Minister of Fisheries and Oceans will not be amended, but the authorizations and water use licences remind operators of their obligation to comply with all other applicable statutes and regulations. The rights acknowledged in Chapter 14 of the Final Agreements are addressed by the Yukon Water Board.</li> <li>4. The percentages referred to were excerpted from the <i>Economic Study of the Yukon Placer Authorization Review</i>, prepared by: BDO Dunwoody LLP. The residency of placer miners is not relevant to a habitat management system devised under the <i>Fisheries Act</i>.</li> </ol>