



Fish Habitat Management System for Yukon Placer Mining

Economic Health Monitoring Report (2008)

Prepared by

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ECONOMIC HEALTH MONITORING REPORT (2008)

The economic health monitoring program is governed by the Economic Health Monitoring Protocol, and has been designed to measure and signal whether a viable placer industry is being maintained under the fish habitat management system. The Protocol consists of two steps. In Step 1, eight indicators are evaluated to determine whether the industry's economic health is increasing or decreasing. If a downward trend is detected then Step 2 is invoked by administering a Panel Survey to a representative cross-section of placer miners. The Panel Survey is designed to determine whether an adverse trend can be attributed to the fish habitat management system, or is related to other factors (i.e. gold prices, cash costs, natural conditions etc.).

Following consultation it was agreed that as a precautionary measure the Panel Survey will be administered automatically for the first five years following implementation of the fish habitat management system.

Economic Health Monitoring – Step 1

The following table lists the viability indicators potentially correlated with the management system. The indicators are present in order of weighting. The indicators which hold the greatest potential to monitor placer industry health appear at the top of the list. The table also includes information on the potential adverse changes.

Advancement to the Panel Survey will normally proceed if there is an adverse change of more than 15% (in comparison to the previous period) in two or more of the top four indicators or when an adverse change of more than 10% is recorded in four or more of any eight indicators.

	A.1 Industry-wide indicators (secondary data)	Potential adverse change in viability if the arrow goes
<i>Top 4</i>	record and count the number of placer mines in production	↓ ↑ +12%
	gold royalty collected	↓ ↓ -18%
	number of person days of employment (workers' compensation)	↓ ↑ +5%
	level of non-compliance (number of "inspector's directions")	↑ ↓ nil
<i>Bottom 4</i>	total claims staked in the reporting period	↓ ↑ +27%
	total fuel consumption (fuel tax exempt permit data/fuel tank manifests)	↓ ↓ -19%
	number of claims in good standing per type of stream classification	↓ ↑ +1%
	number of active water licenses (>50,000 cubic yards washed per year)	↓ ↑ +8%

There is a change to only two of the indicators listed above: gold royalty collected and total fuel consumption. This result would not normally trigger the Panel survey to be conducted, but as mentioned the Panel Survey will be conducted for automatically for the first five years following implementation of the fish habitat management system.

Economic Health Monitoring – Step 2

The first wave of the panel survey was undertaken on April 3, 2009 in Whitehorse. Attendees at the inaugural session included nine placer miners, one consultant representative for the placer industry and four Yukon Energy, Mines and Resources officials. Completed panel surveys were received from all nine placer miners in attendance. One additional survey was later received by fax. Thus, the population size (n) for the inaugural panel survey was 10.

This memo discusses the results of the inaugural April 3 panel survey session.

General observations

- overall, the April 3 session was very productive, panel survey participants candidly shared of their knowledge and experiences, their verbal and written input provided valuable insight into miners operating circumstances;
- the fact that the fish habitat management system has not yet been fully implemented caused some frustration/confusion – there was high interest

- cost questions are dependent on scale of operation, the use of percentages was confusing for larger operators as some costs are relatively constant (e.g., permit applications) regardless of size of operation; and
- running of panel survey would be facilitated by inserting baseline data onto survey forms in advance of distributing survey.

For consideration in Wave 2:

- simplify/shorten survey where appropriate (e.g., Q2.5 fuel use, group diversion channel questions together [Q1.1, Q1.5 and Q1.6]);
- consider how to incorporate the concept of opportunity cost into cost measures;
- clarify whether small operator cutoff is at 40,000 or 50,000 cubic metres of material washed/ (should moved be used instead?);
- consider how to address the effects of miners being discouraged to explore and begin operations in new areas/watersheds [new Q];
- consider how to address the issue of whether “all the good ground has been mined out” [if industry is sunseting its not a question of viability but instead whether the new management system will hasten the sunset];
- how to account for changes in operating costs (wear and tear costs) where an operator has gone from some discharge to zero discharge (i.e., 100% recirculation)? [new Q];
- labour considerations go beyond cost, how to account for difficulties in finding good equipment operators at fair wages?;
- how to account for (opportunity?) costs associated with reduction in length of disturbed stream allowed?;
- alter scale on cost questions (5%, 10%, 15% etc.) to better match reality (e.g., <1%);
- consider how to account for advance work undertaken in prior years (i.e., how to capture early discounting of regime changes);
- Q2.1 and Q2.2 ask for too much detail, simplify by asking for top three factors together with a request to describe interplay between each top three factor and the new regulatory regime [new Q];
- survey does not really consider how to handle differing views on industry health based on own experiences (in a given year, one miner may have a great season, while another has a bust season, do the experiences of one operator effectively cancel out the experiences of another?);
- allow for more qualitative descriptions of effects of fish habitat management system (e.g., let participants tell a more comprehensive story of how the regime has affected their operations rather than only select snippets of the story); and
- revise survey questions to reflect additional technical input received from panel survey participants.

Wave 1 Synopsis:

A synopsis of the Wave 1 panel survey findings are presented below. Given the small number of operators who have so far been affected by changes to the new regulatory regime for placer mining, the results are not representative but are presented here for illustrative purposes.

Part I: Incremental Costs of New Mine Site Management Practices

1.1 Change in Level of Effort Required to Comply with Enhanced Mitigative Measures Under New Placer Regime?

1.1	Count
no	5
yes	5

Comment synopsis: increased effort required to complete license applications (to some extent due to learning curve required), additional costs no higher than 5% of overall operating costs, generally lower than 1% of operating costs new requirements for field data may be costly.

1.2 Changes in Level of Effort Required for “up-front” Construction of Final Restoration Channels?

1.2	Count
no	10
yes	0

Comment synopsis: zero respondents reported increased costs for “up front” construction of final restoration channels [this question should be grouped with other diversion channel questions].

1.3 Change in the Level of Water Sampling Activity?

1.3	Count
no	7
yes	3

Comment synopsis: while there is no requirement to do more sampling, sampling efforts were increased where thought prudent; dollar costs are negligible, its the opportunity cost that has/will have an effect.

1.4 Change in the Level of Effort Required to Maintain or Improve Settling Ponds?

1.4	Count
no	8
yes	2

Comment synopsis: some respondents reported making use of existing mine cuts, cost to build new for one respondent estimated at 18% of overall operating costs; opportunity costs (lost production time) included in one estimate; pond enlargement, more frequent bailouts, additional cost estimated at less than 5% of overall costs.

1.5 Change in the Level of Effort Required to Construct New or Improved Diversion Channels?

1.5	Count
no	9
yes	1

Comment synopsis: one respondent did some additional work on a voluntary basis to reduce future work, a couple of extra "Cat" days.

1.6 Changes in the Pace of Transition from Temporary Diversion Channels to Final Restoration Channels and Associated Costs?

1.6	Count
no	9
yes	1

Comment synopsis: total length of a diversion channel was limited.

1.7 Changes in the Types of Additional Activities Required to Conform with More Restrictive Sediment Discharge Standards and Associated Costs?

1.7	Count
no	9
yes	1

Comment synopsis: effluent pumped cross valley to settling pond that went to ground, overall costs increased by 15%

Part II: Attribution of Changes in Placer Industry Viability

2.1 Attribution of Changes in the Number of Placer Mines

Last year did the number of placer mining operations in your area....

2.1	Count
increase	2
decrease	5
no change	2
no response	1

Comment synopsis: top five factors identified: gold price, diminished reserves, fuel costs, labour (availability and cost) and equipment costs.

2.2 Attribution of Changes in the Volume of Yukon Placer Gold Production

Last year, did your gold production at your mine....

2.2	Count
increase	2
decrease	6
no change	2

Comment synopsis: top five factors identified: gold price, fuel price, regulatory requirements, diminished reserves, equipment costs.

2.3 Attribution of Changes in the Number of Days of Employment in the Yukon Placer Industry

Last year, did your labour requirements....

2.2	Count
increase	4
decrease	0
no change	6

Comment synopsis: changes in labour factors were generally due to operational changes, not necessarily linked to new placer regime.

2.4 Attribution of Changes in the Number of Placer Claims Staked

What do you think are the reasons for the change in the number of placer claims staked over the past year?

Comment synopsis: number of placer claims staked not a good indicator of industry viability as gold price increases draw speculators into industry.

2.5 Attribution of Changes in the Volume of Fuel Consumed

Thinking about your own placer operation over the last full season, did your fuel consumption.....

2.5	Count
increase	3
decrease	2
no change?	5

Comment synopsis: where changes in fuel consumption were noted, was reported to be the result of operational requirements or change in equipment type, not necessarily linked to new regulatory regime.

2.6 Attribution of Changes in the Number of Active Water Licenses for Placer Mines

What do you think is the overall reason for the increase in the number of active water licenses last year?

Comment synopsis: gold price has contributed to increased activity, some activity a perhaps a result of increased regulation being around the corner.