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IR 22 – Fish Populations

References:

EIS Guidelines, Section 2.7.2.5
EIS, Section 2.6.1.5
EIS Appendix 2.7.2.5-A (Fish and Fish Habitat Compensation Plan)
EIS Appendix 2.7.2.5-B (MMER Schedule 2 Compensation Plan)

Related Comments:

CEAR # 277 (Fisheries and Oceans Canada)

Rationale:

In Section 2.7.2.5, the EIS Guidelines require the Proponent to include an analysis of the potential effects on immediate fish habitat of the Fish Creek watershed.

Table 2.6.1.5-11 (p. 302) illustrates that fish populations are estimated at approximately 85,000 for Fish Lake and 79,945 for associated tributaries and Little Fish Lake. In the Fish and Fish Habitat Compensation Plans (Appendix 2.7.2.5-A and 2.7.2.5-B) and elsewhere in the EIS, considerations regarding fish populations are limited to the population in Fish Lake.

Fisheries and Oceans Canada (DFO) have expressed concerns regarding the additional 79,945 fish in the associated tributaries and Little Fish Lake (p. 7). DFO has asked it be included in all habitat considerations, impact assessments and biomass calculations, population predictions, spawning requirement predictions, and compensation calculations.

Information Requested:

The Panel requests that Taseko:

- a. Include the additional 79, 945 fish in the associated tributaries and Little Fish Lake in all habitat considerations, impact assessments and biomass calculations, population predictions, spawning requirement predictions, and compensation calculations.

Information Request #22a

Include the additional 79,945 fish in the associated tributaries and Little Fish Lake in all habitat considerations, impact assessments and biomass calculations, population predictions, spawning requirement predictions, and compensation calculations.

Response Summary

The quantification of project effects and associated compensation has been based on the affected habitat area (m²) and not on numbers of fish. As a result, the habitat considerations, impact assessments and compensation calculations as presented are considered to be accurate and representative and fully account for all fish habitat that will be affected by the project. Further, the quantity and quality of that habitat would not change based on population or fish density estimations.

Discussion

The Rainbow Trout population estimate provided in Triton (1997) and summarized by waterbody type (lake and instream) in the current EIS (see Table 2.6.1.5-11 in Taseko Mines Ltd. EIS 2012) totaled 165,000 fish including 90,000 associated with lake habitat (Fish Lake and Little Fish Lake) and 75,000 associated with stream habitat.

As described in the current EIS (Taseko Mines Ltd. EIS, 2012), project effects (direct and indirect) have considered all fish bearing and non-fish bearing habitat available in Fish Creek watershed. This includes the area of:

- Instream habitat (fish bearing and non-fish bearing) that will experience direct disturbances as well as those that will experience indirect disturbance through flow reduction.
- Lake habitat (Little Fish Lake)
- Riparian Habitat

In addition to the area of impact, effects were also calculated using the Habitat Evaluation Procedure (HEP) which factors in the relative value of the habitat for the various life stages and behaviours that utilize it. This approach better represents the productive capacity of the habitat that is both affected by the project and gained through proposed compensation. Lastly, the effects and gains were also calculated based on the portion of the year the various streams are wetted. This approach takes into account the fact that much of the affected streams provide only seasonal habitat being wetted for a third of the year. Combined, these three metrics reflect not only the area of habitat lost but also the relative value and importance of that habitat regardless of the population estimate. Fish habitat mitigation and compensation measures have also been presented that will fully offset all direct and indirect losses of fish habitat. Habitat gains are

presented in terms of area of habitat (m^2) as well as habitat units (HEP approach) to demonstrate that both the quantity and quality of habitat exceed that which will be lost.

As a result the habitat considerations, impact assessments and compensation calculations as presented are considered to be accurate and representative and fully account for all fish habitat that will be affected by the project. Further, the quantity and quality of that habitat would not change based on population or fish density estimations.

It should also be noted that the proposed mitigation associated with the project includes fish salvages of all habitat that will be either directly or indirectly affected by the project, regardless of the population and density of the habitat. This will ensure there is no direct mortality of fish as a result of the project. The fate of salvaged fish will be discussed with regulatory agencies during the permitting process.

Lastly, the minimum viable population required to ensure the genetic integrity of the population (3500 pairs) was determined from the literature and would be the same regardless of the total population. As stated in the EIS, spawning habitat will be maintained to ensure there is sufficient area for that number of spawners at a minimum.

Conclusion

Quantification of project effects and associated compensation is based on habitat area (m^2). The amount of habitat affected does not change based on fish population or density. Fish salvage will ensure there are no direct mortalities of fish residing in the streams as a result of the project. Habitat compensation will be installed in order to account for all fish habitat lost due to this project.