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*Via email and facsimile*

**RE: Tahera Diamond Corp. – Jericho Diamond Mine Wildlife Mitigation and Monitoring Plan**

Environment Canada (EC) is in receipt of the document entitled “Final Report: Proposed Wildlife Mitigation and Monitoring Plan for the Jericho Diamond Project” dated November 2005, as required under the Nunavut Impact Review Board (NIRB) Project Certificate #002 for the Jericho Diamond Mine. Environment Canada would like to thank the NIRB for the opportunity to provide input on the Wildlife Mitigation and Monitoring Plan (herein referred to as the “WM&M Plan”) for the Jericho Diamond Mine, and offers the following comments for your consideration.

The WM&M Plan has been reviewed pursuant to EC’s mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*. The Canadian Wildlife Service of Environment Canada (EC-CWS) has responsibilities for migratory birds and species at risk in Canada. As such, the comments provided in this letter pertain principally to those mandated areas of interest. As EC anticipates that the Government of Nunavut – Department of the Environment will provide additional comments in their areas of expertise such as on caribou, muskoxen, grizzly bear, wolverine, and raptors, these areas are not addressed in this submission.

**General Comments**

This version of the WM&M Plan addresses many of the original concerns outlined by EC during reviews of the previous versions of the plan in regards to mitigation and monitoring of migratory birds. Specifically:

- The proponent has outlined reasonable methods to gather additional, scientifically-based survey data on migratory birds throughout the project life upon which agencies and the proponent can gauge effects.



- The proponent has also outlined some methods to prevent disturbance and destruction of migratory bird nests and eggs (i.e., preventing birds from nesting in areas where there is a high probability that their nest will be destroyed later in the breeding season, and marking and avoiding any nests found).
- The proponent has eliminated contradictory statements in regards to construction during the nesting period of birds.
- The proponent conducted some bird surveys in 2005.
- The proponent has clarified the vague statements (e.g. "as warranted" etc.) with better indications of when the adaptive management approach would be modified.

However, it is not clear if the current version of the WM&M Plan is a stand-alone document. It is uncertain if the new version replaces the earlier version from April 2005 (AXYS 2005) and March 2005 (Bearwise 2005), selectively replaces parts of those plans (and if so, which parts), or is a companion to those versions. The new WM&M Plan states that "This document is intended to build upon those aspects of the WM&M Plan completed to date and incorporate suggestions received from the regulatory authorities" (page 2) and refers to both the AXYS (2005) and Bearwise (2005) versions in the document. For example, the new draft contains phrases such as "In addition to that outlined in Bearwise (2005), the following general mitigation measures will be implemented . . ." (page 14) and "General mitigation measures for limiting mine-related disturbance to upland breeding birds are described in Section 1.11 and in Bearwise (2005)" (page 45). Will ALL mitigation measures from the earlier drafts be followed in addition to those listed in the new version? These questions should be answered prior to approval of the WM&M Plan. Environment Canada recommends that the various versions of the WM&M Plan be consolidated together into one comprehensive document. Consolidating the documents will eliminate the inconsistencies between the various versions of the WM&M Plan, which are detailed below and will facilitate the use of the document by staff at the Jericho Diamond Mine.

### **Specific Comments**

#### **Section 1.10 *Species at Risk*, Table 1.2 "Species at Risk in the Jericho Diamond Project Study Area", Page 13**

The table on Species at Risk fails to note that several species have been designated as "special concern" by COSEWIC even though their status under SARA is still pending.

Also, the designation for Peregrine Falcon refers only to the subspecies tundrius.

<b>Species at Risk</b>	<b>Category of Concern<sup>1</sup></b>	<b>Schedule of SARA</b>
Wolverine (Western Population)	Special Concern	Pending
Barren-ground Caribou (Dolphin and Union Population)	Special Concern	Pending
Grizzly Bear	Special Concern	Pending
Peregrine Falcon (subspecies tundrius)	Special Concern	Schedule 3

<sup>1</sup>As designated by The Committee on the Status of Endangered Wildlife in Canada (COSEWIC)



## Section 1.11 *Mitigation*, Page 13

The WM&MP states that one of the mitigation measures implemented to limit disturbance to wildlife will be “enforcing a minimum flying altitude of 300 m above ground level for cargo and passenger aircraft outside of the project area” (page 15). This should help minimize some of the impacts on wildlife. However, EC recommends that aircraft maintain a higher cruising altitudes of 610 m above ground level during point to point travel whenever possible when in areas likely to have migratory birds or species at risk. Further, 1000 m vertical and 1.5 km horizontal distance should be maintained from any observed concentrations of migratory birds or species at risk. It should be noted that the previous WM&M Plan (AXYS 2005) stated that higher flight altitudes would be used and also that the proponent would establish flight corridors, and times of use, to avoid sensitive areas. Environment Canada’s supports the use of flight corridors as an additional mitigation measure, as outlined in the previous WM&M Plan.

Food waste and other products can attract predators of birds (e.g., foxes, ravens, gulls), thereby increasing predator populations in the development area and resulting in a negative impact on local bird populations. The WM&M Plan states that a Waste Management Plan will be implemented and enforced to minimize the presence of attractants such as waste food at the project and that any possible attractants will be incinerated as quickly as possible, with minimum storage time. Environment Canada supports the development and implementation of those types of provisions in the Waste Management Plan.

The WM&M Plan does not recognize the potential for the development to provide additional nesting, roosting, or denning sites for predators, thus increasing their local populations and negatively affecting local bird populations. While Section 9.0 of the WM&M Plan outlines ways to prevent raptors from nesting on mine infrastructure or within 2 km of the mine site, mitigation measures should also include ways to discourage denning, roosting, and nesting sites for arctic foxes and other avian predators. The proponent may consult with EC-CWS regarding mitigation measures that could be taken.

Environment Canada reminds the proponent that Paragraph 6(a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds. The best mitigation measure to ensure this is to conduct project activities that occur in potential nesting areas outside of the bird breeding season. The previous WM&M Plan (AXYS 2005) stated that “Every effort will be made to avoid disturbance of nesting birds by timing land clearing/ stripping and construction activities outside the breeding bird window (i.e., 1 May to 31 July)”, but there is no mention of this in the current version of the WM&M Plan. Environment Canada recommends that this mitigation measure be added into the current WM&M Plan and implemented during the project.

## Section 7.0 - Upland Birds

### Section 7.2 *Study Design and Field Methods*

The point count survey method suggested by the WM&M Plan for monitoring impacts on upland birds is mostly suitable for a small number of passerine species, but is not suitable for shorebirds. Environment Canada recommends that surveyors use a plot-based, ‘area search’ protocol that will effectively survey songbirds, shorebirds, and some of the larger nesting species (e.g. cranes and jaegers). The previous WM&M Plan (AXYS 2005)



referred to using a modified PRISM (Program for Regional and International Shorebird Monitoring) method to monitor migratory birds. PRISM uses a plot-based, 'area search' method and would be a much more appropriate survey technique for the upland bird species in this area. EC-CWS has used the PRISM program to survey arctic shorebirds and passerines for several years now, and can provide the proponent with details of the monitoring protocol. The nearby Ekati Diamond Mine has also used a plot-based, 'area search' protocol to monitor bird numbers near the Ekati mine site (Smith *et al.*, 2005. *Effects of a Diamond Mine on Tundra-Breeding Birds*. Arctic 58: 295-304).

The WM&M Plan states that surveys will initially be conducted annually from pre-construction through decommissioning. However, the WM&M Plan proposes that the frequency of data collection will be periodically evaluated through discussions with the Kitikmeot Inuit Association, communities, and government. Given the relatively short duration of the project (about 10 years) and the potential for natural annual fluctuations in bird populations, EC recommends that surveys for upland birds be conducted annually throughout the entire life of the project (i.e., pre-construction through decommissioning) so that sufficient data is collected to properly assess the long term impacts of the project.

## **Section 8.0 – Waterfowl and Loons**

### **Section 8.2 Study Design and Field Methods**

Environment Canada feels that the waterfowl surveys proposed are reasonable. However, it is recommended that the waterfowl surveys should closely follow the standardized approach used elsewhere in North America for breeding waterfowl (as adapted for northern Canada by EC-CWS). Published scientific literature describing these methods include:

- U.S. Department of the Interior; Environment Canada. 1987. *Standard operating procedures for aerial waterfowl breeding ground population and habitat surveys in North America*. U.S. Fish and Wildlife Service, Patuxent, Maryland; and Canadian Wildlife Service, Ottawa, Ontario.
- Hines, J.E., and M.O. Wiebe. 2005 (editors). *Surveys of geese and swans in the Inuvialuit Settlement Region, Western Canadian Arctic, 1989–2001*. Occasional Paper, Canadian Wildlife Service, Environment Canada, Ottawa, Ontario.
- Hines, J.E.; Dickson, D.L.; Turner, B.C.; Wiebe, M.O.; Barry, S.J.; Barry, T.W.; Kerbes, R.H.; Nieman, D.J.; Kay, M.F.; Fournier, M.A.; Cotter, R.C. 2000. *Population status, distribution, and survival of Shortgrass Prairie Canada Geese from the Inuvialuit Settlement Region, Western Canadian Arctic*. Pages 27–58 in K.M. Dickson (ed.), *Towards conservation of the diversity of Canada Geese (Branta canadensis)*. Occasional Paper No. 103, Canadian Wildlife Service, Environment Canada, Ottawa, Ontario.
- Hines, J.E., M.F. Kay, and M.O. Wiebe. 2003. *Aerial surveys of Greater White-fronted Geese and other waterfowl in the Rasmussen Lowlands of the Central Canadian Arctic*. Wildfowl 54:183-199.

The use of this approach would ensure that data are gathered in a standardized and consistent way that makes the results comparable to those reported for other areas. EC-CWS can provide the proponent with more details of the survey procedures, but the key points for standardizing the surveys are listed below.



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- Basic survey methods would involve flying a Bell 206 helicopter at survey height of 45 m (rather than 30 m as recommended in the WM&M Plan).
- As suggested in the WM&M Plan, all waterfowl and other visible birds occurring within 200 m of the aircraft should be counted.
- Airspeed should be 80 km/hour (rather than the variable speed of 50-120 km/hour as recommended in the WM&M Plan).
- Data should be geographically coded so that spatial distribution of different species can be documented and analyzed. This is typically done by 2-km segment.

The WM&M Plan states that waterfowl and loon surveys should initially be conducted annually and that the frequency of data collection will be evaluated periodically. Given the relatively short duration of the project (about 10 years) and the potential for natural annual fluctuations in bird populations, EC-CWS recommends that the mid-June aerial surveys for waterfowl and loons be conducted annually throughout the entire life of the project (i.e., pre-construction through decommissioning) so that sufficient data is collected to properly assess the long term impacts of the project. However, it may be possible to conduct the waterfowl surveys scheduled for later in the summer on a less regular basis once sufficient baseline data has been collected and evaluated.

Environment Canada would like to thank the NIRB for providing the opportunity to review the most recent version of the WM&M Plan for the Jericho Diamond Project. **Environment Canada recommends that these comments be incorporated into a final version of the WM&M Plan, and that this consolidated version be circulated for a final review.** Please do not hesitate to contact me with any with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at [colette.spagnuolo@ec.gc.ca](mailto:colette.spagnuolo@ec.gc.ca). Alternately, you can contact Myra Robertson, Environmental Assessment Coordinator, Canadian Wildlife Service at (867) 669-4763 or by email at [myra.robertson@ec.gc.ca](mailto:myra.robertson@ec.gc.ca).

Yours truly,

***Original signed by***

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