



Information Request 30

Information Request 30

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Responses to Information Request 30

Response to Information Request 30a

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IR 30 – Wetlands Habitat for Species at Risk

References:

EIS Guidelines, Section 2.7.2.7
EIS, Section 2.7.2.7

Rationale:

In Section 2.7.2.7 (p. 51), the EIS Guidelines stipulate that the Proponent “assess the potential effects of the project on wetlands habitat and functions for wetlands in the project area with consideration of wildlife habitat for migratory birds, SARA-listed species, COSEWIC-listed species and climate.”

In the EIS, Section 2.7.2.7 (p. 1015), the Proponent states that amphibian wetland habitat may be lost due to site clearing or lowering of the groundwater table.

The mitigation measures proposed to protect and conserve wetlands in close proximity to the mine footprint, as stated in Section 2.7.2.7 (p. 1041), include minimizing disturbance, avoiding vegetation loss, mitigating against invasive species and maintaining natural drainage patterns as per Commitment 12.2.

Information Requested:

With regards to the loss or reduction of amphibian wetlands habitat, the Panel requests that Taseko:

- a. Provide an assessment of the effects on amphibians and their habitat, namely on the:
 - i. Western Toad (**Anaxyrus boreas**)- SARA listed Schedule 1 species of special concern; and
 - ii. Great Basin Spadefoot toad (*Spea intermontana*) – SARA listed Schedule 1 threatened species.

- b. Indicate how the Legal Protection and Habitat Conservation and Identified Wildlife Provisions afforded to these species under the *Forest and Range Practices Act*, the *Wildlife Act* and the *Species at Risk Act* will be respected.

Information Request #30a

With regards to the loss or reduction of amphibian wetlands habitat, the Panel requests that Taseko:

Provide an assessment of the effects on amphibians and their habitat, namely on the:

- i. Western Toad (*Anaxyrus boreas*)- SARA listed Schedule 1 species of special concern; and
- ii. Great Basin Spadefoot Toad (*Spea intermontana*) – SARA listed Schedule 1 threatened species.

Response Summary

The potential for change in wetland habitat availability due to Project-related effects was identified as a key issue for amphibians within the mine site and the transmission line (see Section 6.3.21.1, Volume 5, 2009 EIS/Assessment). The assessment focused on amphibians as a group which included both Western Toad and Great Basin Spadefoot Toad (see Section 6.3.21.4, Volume 5, 2009 EIS/Assessment). In response to IR 30a, an assessment of the effects on Western Toad and Great Basin Spadefoot Toad from habitat loss is provided below.

Habitat Requirements

The Western Toad (*Anaxyrus boreas*) is listed nationally as Special Concern (COSEWIC 2002), and is provincially blue-listed (BC CDC, 2013). This species uses a wide variety of wetland habitats for breeding, including both natural and human-made aquatic habitats, ponds, edges of streams, and the shallow margins of other water bodies such as ditches, tailing ponds, and road cuts (Zevit 2010). Suitable breeding habitat varies and may be with or without tree and/or shrub canopy cover, coarse woody debris, or emergent vegetation (COSEWIC 2002). Egg-laying will occur at water depths ranging from 5 cm to 2 m, and adult Western Toads may oviposit in the same location within the same breeding site each year, irrespective of water depth (COSEWIC 2002). Site selection may depend upon water temperature and the absence of predators (COSEWIC 2002).

During amphibian surveys conducted on the proposed mine site, transmission line corridor, and access road development areas in the 1990s and again in 2006, Western Toads were confirmed to be present in all components of the Project Area and appeared relatively common (Appendix 5-6-D, 2009 EIA/Application).

The Great Basin Spadefoot Toad (*Spea intermontana*) is designated nationally as Threatened (COSEWIC 2007) and is provincially blue-listed (BC Conservation Data Centre 2013). Great Basin Spadefoot Toads prefer sandy soils in semiarid to arid habitats, dry grasslands and open woodlands, meadows, sagebrush or bunchgrass prairies, and are most common in the Bunchgrass

(BG), Ponderosa Pine (PP), and Interior Douglas-fir zones (IDF) (BC CDC 2013, Stevens 2004, Cannings et al. 1999). Breeding habitat preferences appear to be ephemeral bodies of water that dry up on a yearly basis or else in seasonally wetted margins of wetlands and larger bodies of water with warm and shallow areas for egg-laying and where there is an absence of predatory fish (BC Southern Interior Reptile and Amphibian Recovery Team 2008). Considered a desert-adapted species, Great Basin Spadefoot Toad in Canada it is restricted to low to mid-elevation in dry valleys of the Southern Interior and plateaus of the Central Interior.

Great Basin Spadefoot Toad was not observed during amphibian surveys conducted on the proposed mine site, transmission line corridor, and access road development areas; considering their dry, low elevation habitat requirements, and that there are no confirmed breeding records at elevations higher than the IDF biogeoclimatic zone (Griffith 2013), they may be restricted to the eastern half of the transmission line corridor.

Project Effects Due to Loss of Wetlands

Mine Site

A reduction of 311¹ hectares of wetland habitat is predicted under post-closure conditions (see Table 2.7.2.7-10, Section 2.7.2.7, 2012 EIS/Assessment). Of this, 211.1 hectares of wetlands have been classified as having moderate to high potential to provide Western Toad breeding habitat (15.0 % of wetland habitat within the mine site RSA). The loss of a portion of these wetlands having open water may affect suitable breeding habitat for Great Basin Spadefoot Toad, if they are present.

Indirect loss of wetlands within the wildlife LSA also may occur resulting from groundwater drawdown due to open pit dewatering and a decrease in base flow due to construction of the tailings pond. A possible reduction of 68.8 hectares of wetlands may occur though there is uncertainty on the size of this area (see the response to IR 31).

Although potential effects associated with loss of wetlands and change in wetland functions are long term in duration, they are reversible through the Reclamation Plan and the Habitat Compensation Plan. At post-closure, 115.9 hectares of suitable toad breeding habitat is predicted for the MDA (5.6 % of wetland habitat within the mine site RSA). The Habitat Compensation Plan includes habitat conservation measures for the Western Toad and Great Basin Spadefoot Toad.

¹ Note: this is an overestimate of Project effects on wetlands. See response to IR 1 for Project effects on wetlands using baseline updated for recent logging and mountain pine beetle infestations.

Transmission Line

Within the Transmission Line RSA, 46.6 hectares of wetland habitat are intersected (see Section 6.3.21.4, 2009 EIS/Application). Most of the potential wetland losses can be avoided through final alignment of the corridor and strategic pole placement; therefore, the actual loss of wetlands within the Transmission Line is expected to be small overall and localized with minimal effect on potential habitat for both the Western and Great Basin Spadefoot Toad. Further, the Transmission Line will be removed at post-closure and any effect on wetlands is likely to be reversible.

Information Request #30b

Indicate how the Legal Protection and Habitat Conservation and Identified Wildlife Provisions afforded to these species under the *Forest and Range Practices Act*, the *Wildlife Act* and the *Species at Risk Act* will be respected.

Response Summary

Provisions under the *Species at Risk Act* (which apply to federal lands) and the *Forest and Range Practices Act* (which apply to Wildlife Habitat Areas) are not generally applicable to the Project area as the area is not on federal land nor does it include Wildlife Habitat Areas, see Table 30-1. In addition, the BC *Wildlife Act* only has prohibitions in force against capturing or killing of Western Toads or Great Basin Spadefoot Toads. Regardless, Taseko is committed to respecting the character and tone of legal protections under these Acts through the rigorous application of mitigation measures designed to minimize adverse project effects on amphibian species. The legal protection and conservation provisions for Western Toad and Great Basin Spadefoot Toad, along with Taseko's proposed mitigation measures as identified in the 2009 and 2012 EIS/Applications, are outlined in Table 30B-1.

Table 30B-1. Legal Protection and Conservation Provisions for Western Toad and Great Basin Spadefoot Toad in the Federal Species at Risk Act, the BC Forest and Range Practices Act, the BC Wildlife Act and New Prosperity's Mitigation Measures Relative to Wetland Habitat

Legislation	Status under the Act	Legal Protections under the Act	New Prosperity Mitigation Measures applicable to Amphibians and Wetland Habitat
<p><i>Federal Species at Risk Act (SARA)</i></p>	<p>Both species are listed on Schedule 1 of SARA.</p> <ul style="list-style-type: none"> • Western Toad – Special Concern • Great Basin Spadefoot Toad – Threatened. 	<p>There are prohibitions against killing, harming, harassing, capturing or possessing wildlife species listed as an extirpated species, an endangered species or a threatened species (s.32). As well, no person shall damage or destroy the residence of one or more individuals of a wildlife species that is listed as an endangered species or a threatened species (s.33).</p> <p>These prohibitions are limited to federal jurisdiction only (i.e., federal lands, aquatic species and migratory birds under the Migratory Birds Convention Act) and do not apply to species of Special Concern (e.g., Western Toad).</p> <p>Provisions to protect the critical habitat of listed species are contingent on the species' critical habitat being identified in a federal recovery strategy or action plan. To date critical habitat has not been identified under SARA for the Great Basin Spadefoot Toad.</p>	<p>Minimize disturbance of habitat:</p> <ul style="list-style-type: none"> • minimize vegetation loss through environmentally sensitive Project design including final alignment of Transmission Line. • implement best management practices including the creation of 30 m buffer zones around wetland habitats, and clearly delineate the boundaries of mapped and unmapped wetlands in proximity to planned disturbance/activities to facilitate avoidance during construction and operations. • maintaining connectivity among wetlands within wetland complexes. • assign an Environmental Monitor during activities to Monitor construction of the access road and Transmission Line to ensure that wetland ecosystems are avoided wherever possible and environmental effects to wetland ecosystems are minimized. • wherever possible, schedule any construction to occur in sensitive wetland, riparian and grassland areas to occur when potential impacts are minimized (ie. seasonally dry or frozen ground). • minimize area of disturbance during pole installation. <p>Maintain natural drainage patterns to protect adjacent habitats.</p> <ul style="list-style-type: none"> • wherever practicable, avoid diversion of stream courses. • during instream construction, ensure water flow around work site is not interrupted. • execute mitigation measures for the reduction or elimination of construction related sediment releases into fish-bearing and nonfish-bearing habitats as detailed in 2012 EIS; these measures follow the <i>Standards and Best Practices for In-stream Works</i> (MWLAP 2004) and DFO Operational Statements.

Legislation	Status under the Act	Legal Protections under the Act	New Prosperity Mitigation Measures applicable to Amphibians and Wetland Habitat
<i>BC Forest and Range Practices Act (FRPA)</i>	<p>The Great Basin Spadefoot Toad is included in the category of Species at Risk and the list of Identified Wildlife in Schedule 1 of FRPA.</p> <p>The Western Toad is not listed as Identified Wildlife under FRPA.</p>	<p>General Wildlife Measures (GWMs) under FRPA only apply within designated Wildlife Habitat Area (WHA). There are no WHAs for the Great Basin Spadefoot Toad in the area of the mine site or Transmission Line.</p> <p>The GWMs that apply to access are:</p> <ul style="list-style-type: none"> • Do not deactivate temporary road structures, and close roads during critical times. Drift fences and culverts may be recommended by the statutory decision maker for locations where road mortality is extensive. • Do not construct roads, although skidder trails may be acceptable on drier sites or in the winter. • Do not place landings within core or management zone. <p>The GWMs that apply to harvesting and silviculture are:</p> <ul style="list-style-type: none"> • Do not harvest within core area. • Minimize ground disturbances and do not scarify harvested areas. • Stock only to natural densities, maintaining open forest characteristics with clearings, as per an NTD4 fire maintained ecosystem. <p>The GWMs that apply to pesticides are:</p> <ul style="list-style-type: none"> • Do not use pesticides. 	<p>Road construction:</p> <ul style="list-style-type: none"> • Utilize existing access where possible and avoid construction of new roads • minimize the linear extent of roads crossing or paralleling wetlands • properly culvert all roadways and use open-bottom culverts whenever possible. <p>Revegetate and mitigate against invasive species:</p> <ul style="list-style-type: none"> • re-establish vegetation on disturbed areas as soon as reasonably possible and replant only native species in disturbed areas associated with the transmission corridor that fall within the grassland zones. • implement the invasive plant management plan as proposed in 2012 EIS.
<i>BC Wildlife Act</i>	<p>The Great Basin Spadefoot Toad and Western Toad are both included on Schedule A of the Designation and Exemption Regulation, and as such are prescribed as wildlife for the purposes of the definition of "wildlife" in Section 1 of the Wildlife Act.</p>	<p>No person shall hunt, trap, take, kill or capture or attempt to trap, take, kill or capture a wild animal unless the person does so under the authority of a license.</p>	<p>Obtain the appropriate permit through BC Ministry of FLRNO prior to toad/tadpole collection for purposes of transplanting for Habitat Compensation, relocation, or reclamation/restocking of TSF.</p>

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Additional Information Sources:

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