

Information Request 35

Information Request 35	35-1
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Responses to Information Request 35

Response to Information Request 35a	35-3
Response to Information Request 35b	35-4
Response to Information Request 35c	35-5

IR 35 – Comparison of the Project to Current Baseline Conditions

References:

EIS Guidelines, Section 2.3.6

EIS, Section 2.7.2.8

Rationale:

In Section 2.3.6 (p. 22), the EIS Guidelines state that the spatial boundaries “shall also indicate the range of appropriate scales at which particular baseline descriptions and the assessment of environmental effects are presented. The Proponent is not required to provide a comprehensive baseline description of the environment at each scale, but shall provide sufficient detail to address the relevant environmental effects of the Project and alternative means.”

This element of the Guidelines is relevant to the assessment of environmental effects of the Project because the Panel is required to assess the environmental effects of the Project (using information provided in the previous assessment).

In the EIS (Table 2.7.2.8-5, p. 1073), Taseko identifies available habitat in the regional study area at maximum disturbance between the Prosperity Project and the New Prosperity Project for key indicators with TEM-based habitat models. Taseko has noted that this table identifies the amount of habitat available in the maximum disturbance area corrected for updated logging and pine beetle infestations.

Information Requested:

The Panel requests that Taseko:

- a. Clarify that the 2009 wildlife local study area (LSA) has not changed with the new project design.
- b. If the 2009 wildlife LSA has not changed with the new project design, provide:
 - i. the amount of effective habitat in the LSA at maximum disturbance for all key indicators with TEM-based habitat models corrected for updated logging and pine beetle infestations
 - ii. the amount of effective habitat in the LSA at current baseline for all key indicators with TEM-based habitat models corrected for updated logging and pine beetle infestations
 - iii. a comparison of the amount of effective habitat between part i.. and part ii. described above

- c. With respect to habitat availability between the New Prosperity Project and current baseline conditions adjusted for logging and mountain pine beetle infestation, Taseko is asked to provide:
 - i. the amount of effective habitat in the regional study area (RSA) at baseline for all key indicators with TEM-based habitat models corrected for updated logging and pine beetle infestations
 - ii. a comparison of the amount of effective habitat between available habitat in the RSA at maximum disturbance identified in table 2.7.2.8-5 and part i. described above
 - iii. a discussion of the significance of the change in habitat availability between the baseline and the Project in the RSA for all key indicators with TEM-based habitat models.

Information Request #35a

The Panel requests that Taseko:

Clarify that the 2009 wildlife local study area (LSA) has not changed with the new project design.

Response Summary

As stated in Section 2.7.2.8 Wildlife of the 2012 EIS, page 1067 (Spatial Boundary Changes):

The mine site LSA was not re-delineated for this assessment for two reasons: 1) the 2012 wildlife MDA is generally located within the 2009 LSA boundary (Figure 2.7.2.8-1); and 2) project effects are characterized and assessed relative to the RSA not the LSA.

Taseko recognizes that this might have been more evident if the legend on the figures in Section 2.7.2.8 had stated “2009 and 2012 Wildlife Mine Site LSA” rather than just “2009 Wildlife Mine Site LSA”.

Information Request #35b

If the 2009 wildlife LSA has not changed with the new project design, provide:

- i. The amount of effective habitat in the LSA at maximum disturbance for all key indicators with TEM-based habitat models corrected for updated logging and pine beetle infestations.
- ii. The amount of effective habitat in the LSA at current baseline for all key indicators with TEM-based habitat models corrected for updated logging and pine beetle infestations.
- iii. A comparison of the amount of effective habitat between part i. and part ii. Described above

Response Summary

As indicated in the response to IR35a and the 2012 EIS, project effects are characterized and assessed relative to the regional study area (RSA) not the local study area (LSA). This is consistent with the approach used in the 2009 EIS. For this reason, Taseko does not consider it necessary to update numbers for the LSA but focus efforts on the RSA. The baseline conditions within in the LSA have been qualitatively described in the 2012 EIS including reference to changes in the conditions since 2009. For assessment purposes, Taseko is providing to the Panel an updated comparison of wildlife habitat availability at baseline versus maximum disturbance for the RSA, as requested in IR 35c (below).

Information Request #35c

With respect to habitat availability between the New Prosperity Project and current baseline conditions adjusted for logging and mountain pine beetle infestation, Taseko is asked to provide:

- i. The amount of effective habitat in the regional study area (RSA) at baseline for all key indicators with TEM-based habitat models corrected for updated logging and pine beetle infestations
- ii. A comparison of the amount of effective habitat between available habitat in the RSA at maximum disturbance identified in table 2.7.2.8-5 and part i. described above
- iii. A discussion of the significance of the change in habitat availability between the baseline and the Project in the RSA for all key indicators with TEM-based habitat models.

Response Summary

- i. The amount of effective habitat in the regional study area (RSA) at baseline for all key indicators, corrected for updated logging and pine beetle infestations, is provided in Table 35C-2.
- ii. A comparison of the amount of effective habitat between available habitat in the RSA at maximum disturbance identified in table 2.7.2.8-5 and baseline is provided in Table 35C-1 (which is an updated Table 2.7.2.8-5 from the 2012 EIS) and in Table 35C-2.
- iii. The habitat availability between the New Prosperity Project and current baseline conditions have been adjusted for logging and mountain pine beetle infestation, and habitat losses for each VEC are not predicted to be significant. A discussion of the changes in habitat availability, and the significance of change, is provided below.

Discussion

For 11 of the 13 season/life requisite models developed for the key indicators with TEM-based models, the amount of effective habitat available in the RSA at maximum disturbance increased with the 2012 wildlife MDA when compared to the 2009 wildlife MDA. This is consistent with the findings of the 2012 EIS. The percent increase ranges from 1 for fisher natal denning habitat to 700 for Barrow's goldeneye nesting habitat. Area increases range from 1 ha for fisher natal denning habitat to 9 ha for grizzly bear summer feeding habitat.

For 2 of the 13 season/life requisite models developed for the key indicators with TEM-based habitat models, the amount of effective habitat available in the RSA at maximum disturbance decreased with the 2012 wildlife MDA when compared to the 2009 wildlife MDA (Table 35C-1): mule deer winter shelter habitat and moose winter feeding habitat. This is consistent with the

findings of the 2012 EIS. The decreases are: 6 percent (22 ha) for moose winter feeding habitat, and 12 percent (21 ha) for mule deer winter shelter habitat.

In the 2012 EIS, no further assessment was undertaken if effective habitat availability increased with the 2012 wildlife MDA compared to the 2009 wildlife MDA (i.e., the residual adverse effect decreased with New Prosperity compared to Prosperity); however, in order to address this information request all key indicators have been carried forward for further assessment, and are discussed below, with results summarized in Table 35C-2.

Mule Deer

Winter Feeding Habitat

There is a 1 percent (1 ha) reduction in the availability of effective winter feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 2 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions,

The residual loss in winter feeding habitat availability between the baseline and the Project in the RSA is predicted to be not significant with respect to the sustainability of the mule deer population in Region 5. This finding is consistent with the March 2009 EIS/Application in which there was a larger (11 percent) reduction in the availability of effective winter feeding habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.2.4 of 2009 EIS for significance determination rationale).

Winter Shelter Habitat

There is a 46 percent (124 ha) reduction in the availability of effective winter shelter habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 8 percent higher than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of winter shelter habitat predicted in 2012 is 14 percent higher than in the March 2009 EIS/Application in which a residual loss of 32 percent was determined to be not significant with respect to the sustainability of the mule deer population in Region 5 (see Volume 5, Section 6.3.2.4 of 2009 EIS for significance determination rationale). However, as discussed in detail in Section 2.7.2.8 of the 2012 EIS, the 2012 residual loss of winter shelter habitat, although larger than previously identified, was still determined to be not significant with respect to the sustainability of the mule deer population in Region 5.

Table 35C-1. Comparison of Habitat Availability in Regional Study Area at Maximum Disturbance between Prosperity and New Prosperity for Key Indicators with TEM-based Habitat Models

Key Indicators	Measurable Parameter	New Prosperity (2012) MDA	Prosperity (2009) MDA	Difference in available effective habitat between New Prosperity & Prosperity	
		Available effective habitat (ha) in RSA at maximum disturbance*	Available effective habitat (ha) in RSA at maximum disturbance*	Ha	%
Mule Deer	Winter feeding	59	58	1	2
	Winter shelter	145	165	-21	-13
Moose	Winter feeding	347	369	-22	-6
	Winter shelter	470	460	10	2
Grizzly Bear	Spring feeding	128	95	33	35
	Summer feeding	593	502	92	18
	Fall feeding	311	268	43	16
Black Bear	Denning	187	163	24	15
Fisher	Natal denning	70	69	1	1
Great Blue Heron	Feeding	129	80	49	61
Mallard	Feeding	153	103	50	49
Barrow's Goldeneye	Nesting	20	2	17	713
Short-eared Owl	Feeding	164	127	37	29
<p>NOTES: * Includes updated logging and mountain pine beetle kill effects; ** Figures not updated for this response; Figures not updated for this response, section references no longer applicable to these updated predictions</p>					

Moose

Winter Feeding Habitat

There is a 30 percent (147 ha) reduction in the availability of effective winter feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA compared to the 2009 wildlife MDA. This is 4 percent higher than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of winter feeding habitat is predicted to be not significant with respect to the sustainability of the moose population in Region 5. This finding is consistent with the March 2009 EIS/Application in which there was a similar (29 percent) reduction in the availability of effective winter feeding habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.3.4 of 2009 EIS for significance determination rationale).

Winter Shelter Habitat

There is a 26 percent (162 ha) reduction in the availability of effective winter feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 2 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of winter shelter habitat is predicted to be not significant with respect to the sustainability of the moose population in Region 5. This finding is consistent with the March 2009 EIS/Application in which there was a larger (30 percent) reduction in the availability of effective winter shelter habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.3.4 of 2009 EIS for significance determination rationale).

Grizzly Bear

Spring Feeding Habitat

There is an 11 percent (16 ha) reduction in the availability of effective spring feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 11 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of spring feeding habitat is predicted to be not significant with respect to the sustainability of the South Chilcotin Ranges GBPU. The rationale for this determination is discussed in detail in Section 2.7.2.8 of the 2012 EIS.

Summer Feeding Habitat

There is a 32 percent (275 ha) reduction in the availability of effective summer feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 23 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of summer feeding habitat is predicted to be not significant with respect to the sustainability of the South Chilcotin Ranges GBPU. The rationale for this determination is discussed in detail in Section 2.7.2.8 of the 2012 EIS.

Fall Feeding Habitat

There is a 30 percent (132 ha) reduction in the availability of effective fall feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 10 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of fall feeding habitat is predicted to be not significant with respect to the sustainability of the South Chilcotin Ranges GBPU. The rationale for this determination is discussed in detail in Section 2.7.2.8 of the 2012 EIS.

Black Bear

Denning Habitat

There is a 25 percent (62 ha) reduction in the availability of effective denning habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 10 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of denning habitat is predicted to be not significant with respect to the sustainability of the black bear population in Region 5. This finding is consistent with the March 2009 EIS/Application in which there was a larger (36 percent) reduction in the availability of effective denning habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.5.4 of 2009 EIS for significance determination rationale).

Fisher

Natal Denning Habitat

There is a 2 percent (1 ha) reduction in the availability of effective natal denning habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 1 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of natal denning habitat is predicted to be not significant with respect to the sustainability of the Cariboo subpopulation of fisher. This finding is consistent with the March 2009 EIS/Application in which there was a larger (8 percent) reduction in the availability of effective natal denning habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.6.4 of 2009 EIS for significance determination rationale).

Great Blue Heron

Feeding Habitat

There is a 3 percent (4 ha) reduction in the availability of effective feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 37 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of feeding habitat is predicted to be not significant with respect to the sustainability of the provincial population of the interior subspecies of great blue heron. This finding is consistent with the March 2009 EIS/Application in which there was a much larger (42 percent) reduction in the availability of effective feeding habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.9.4 of 2009 EIS for significance determination rationale).

Mallard

Feeding Habitat

There is a 3 percent (5 ha) reduction in the availability of effective feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 32 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of feeding habitat is predicted to be not significant with respect to the sustainability of the mallard population in the mine site RSA. This finding is consistent with the March 2009 EIS/Application in which there was a much larger (36 percent) reduction in the availability of effective feeding habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.10.4 of 2009 EIS for significance determination rationale).

Barrow's Goldeneye

Nesting Habitat

There is a 19 percent (5 ha) reduction in the availability of effective nesting habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 71 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of nesting habitat is predicted to be not significant with respect to the sustainability of the Central Interior population of Barrow's goldeneye. This finding is consistent with the March 2009 EIS/Application in which there was a much larger (88 percent) reduction in the availability of effective nesting habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.11.4 of 2009 EIS for significance determination rationale).

*Short-eared Owl**Feeding Habitat*

There is a 40 percent (111 ha) reduction in the availability of effective feeding habitat in the mine site RSA at maximum disturbance with the 2012 wildlife MDA. This is 13 percent lower than predicted using the 2009 wildlife MDA with current baseline conditions.

The residual loss of feeding habitat is predicted to be not significant with respect to the sustainability of the short-eared owl population in the Central Interior Ecoprovince. This finding is consistent with the March 2009 EIS/Application in which there was a larger (52 percent) reduction in the availability of effective feeding habitat in the mine site RSA at maximum disturbance (see Volume 5, Section 6.3.19.4 of 2009 EIS for significance determination rationale).

Table 35C-2. Project-related Changes in Wildlife Key Indicator Habitat Availability in the RSA at Maximum Disturbance

Key Indicator	Measurable Parameter	Project Design Year	Baseline Version	Available habitat (ha) in RSA at baseline	Available habitat (ha) in RSA at maximum disturbance	Change in Area (ha) from baseline to maximum disturbance	Percent Change (%) from baseline to maximum disturbance
Mule Deer	Effective Winter Feeding Habitat	2009*	March 2009 EIS/Application	244	218	-26	-11
		2009	Updated logging and beetle disturbance	60	58**	-2	-3
		2012	Updated logging and beetle disturbance	60	59**	-1	-1
	Effective Winter Shelter Habitat	2009*	March 2009 EIS/Application	3,058	2,088	-970	-32
		2009	Updated logging and beetle disturbance	269	165**	-103	-38
		2012	Updated logging and beetle disturbance	269	145**	-124	-46
Moose	Effective Winter Feeding Habitat	2009*	March 2009 EIS/Application	647	458	-189	-29
		2009	Updated logging and beetle disturbance	494	369**	-125	-25
		2012	Updated logging and beetle disturbance	494	347**	-147	-30
	Effective Winter Shelter Habitat	2009*	March 2009 EIS/Application	5,624	3,944	-1,680	-30
		2009	Updated logging and beetle disturbance	632	460**	-172	-27
		2012	Updated logging and beetle disturbance	632	470**	-162	-26
Grizzly Bear	Grizzly Bear Effective Spring Feeding Habitat	2009*	March 2009 EIS/Application	***	***	***	***
		2009	Updated logging and beetle disturbance	144	95**	-49	-34
		2012	Updated logging and beetle disturbance	144	128**	-16	-11
	Effective Summer Feeding Habitat	2009*	March 2009 EIS/Application	***	***	***	***
		2009	Updated logging and beetle disturbance	868	502**	-366	-42
		2012	Updated logging and beetle disturbance	868	594**	-275	-32
	Effective Fall Feeding Habitat	2009*	March 2009 EIS/Application	***	***	***	***
		2009	Updated logging and beetle disturbance	443	268**	-175	-39
		2012	Updated logging and beetle disturbance	443	311**	-132	-30
Black Bear	Effective Denning Habitat	2009*	March 2009 EIS/Application	3,024	1,924	1,100	-36
		2009	Updated logging and beetle disturbance	250	163**	-87	-35
		2012	Updated logging and beetle disturbance	250	187**	-62	-25
Fisher	Effective Natal Denning Habitat	2009*	March 2009 EIS/Application	246	225	-21	-8
		2009	Updated logging and beetle disturbance	71	69**	-2	-3
		2012	Updated logging and beetle disturbance	71	70**	-1	-2
Great Blue Heron	Effective Feeding Habitat	2009*	March 2009 EIS/Application	137	79	-57	-42
		2009	Updated logging and beetle disturbance	133	80**	-53	-40
		2012	Updated logging and beetle disturbance	133	129**	-4	-3
Mallard	Effective Feeding Habitat	2009*	March 2009 EIS/Application	167	108	-59	-36
		2009	Updated logging and beetle disturbance	158	102**	-56	-35
		2012	Updated logging and beetle disturbance	158	153**	-5	-3
Barrow's Goldeneye	Effective Nesting Habitat	2009*	March 2009 EIS/Application	245	29	-216	-88
		2009	Updated logging and beetle disturbance	24	2**	-22	-90
		2012	Updated logging and beetle disturbance	24	20**	-4	-19
Short-eared Owl	Effective Feeding Habitat	2009*	March 2009 EIS/Application	334	162	-173	-52
		2009	Updated logging and beetle disturbance	275	127**	-148	-54
		2012	Updated logging and beetle disturbance	275	164**	-111	-40

NOTES:
* Values presented in this row are from the March 2009 EIS/Application; ** Values from Table 35c-1; *** Larger RSA was used in March 2009 EIS/Application so values are not comparable for the purposes of this table