

Exhibit P3 Elk Winter Range and Summer Range

Boardman to Hemingway Transmission Line Project



*1221 West Idaho Street
Boise, Idaho 83702*

Mark Stokes, Project Lead
(208) 388-2483
mstokes@idahopower.com

Zach Funkhouser, Permitting
(208) 388-5375
zfunkhouser@idahopower.com

Amended Preliminary Application for Site Certificate

June 2017

TABLE OF CONTENTS

1.0	INTRODUCTION.....	P3-1
2.0	APPLICABLE RULES AND AMENDED PROJECT ORDER PROVISIONS.....	P3-1
2.1	General Standards for Siting Facilities	P3-1
2.2	Fish and Wildlife Habitat Mitigation Goals and Standards	P3-1
2.3	Site Certificate Application Requirements	P3-2
2.4	Amended Project Order Provisions	P3-3
3.0	ANALYSIS.....	P3-3
3.1	Analysis Area	P3-3
3.2	Surveys	P3-4
3.3	Identification of Elk Winter Range and Summer Range	P3-4
3.3.1	Elk Winter Range and Summer Range	P3-4
3.3.2	ODFW Habitat Categorization.....	P3-5
3.3.3	Habitat Category Maps.....	P3-5
3.4	State Sensitive Species Rules	P3-7
3.5	Potential Impacts to Elk Winter Range and Summer Range.....	P3-7
3.5.1	Project Features within Elk Winter Range and Summer Range.....	P3-7
3.5.2	Duration of Impacts	P3-8
3.5.3	Direct Impacts.....	P3-8
3.5.4	Indirect Impacts	P3-16
3.5.5	Measures to Avoid, Reduce, or Mitigate Adverse Effects	P3-27
3.5.6	Monitoring Plan.....	P3-29
4.0	IDAHO POWER’S PROPOSED SITE CERTIFICATE CONDITIONS.....	P3-29
5.0	CONCLUSION	P3-32
6.0	COMPLIANCE CROSS-REFERENCES.....	P3-33
7.0	REFERENCES.....	P3-35

LIST OF TABLES

Table P3-1. Habitat Categorization Types P3-5
Table P3-2. Type, Timing, Duration, Quantification Metrics, and Mitigation Measures
Related to Permanent Direct Impacts to Elk and Elk Habitat..... P3-9
Table P3-3. Type, Timing, Duration, Quantification Metrics, and Mitigation Measures
Related to Temporary Direct Impacts to Elk and Elk Habitat..... P3-13
Table P3-4. Direct Impacts to Elk Winter Range and Summer Range P3-15
Table P3-5. Direct Impacts to Elk Winter Range and Summer Range by Project Feature
Category, after Reducing by Areas that had Existing or New Indirect Impact
Habitat Disturbance Values of 1.0 P3-15
Table P3-6. Type, Timing, Duration, Quantification Metrics, and Mitigation Measures
Related to Permanent Indirect Impacts to Elk and Elk Habitat P3-16
Table P3-7. Type, Timing, Duration, Quantification Metrics, and Mitigation Measures
Related to Temporary Indirect Impacts to Elk and Elk Habitat P3-18
Table P3-8. Disturbance Buffers Based on Traffic Rate P3-21
Table P3-9. Habitat Disturbance Value for Roads P3-21
Table P3-10. Miles of Project Roads within Elk Winter Range and Summer Range P3-24
Table P3-11. Indirect Impacts Calculations for Elk Winter Range and Summer Range P3-25
Table P3-12. Compliance Requirements and Relevant Cross-References P3-33

LIST OF FIGURES

Figure P3-1. Elk Winter Range and Summer Range P3-6
Figure P3-2. Indirect Impacts Calculation Example P3-23

LIST OF ATTACHMENTS

Attachment P3-1. Mapbook of Indirect Impacts to Elk Winter Range and Summer Range

ACRONYMS AND ABBREVIATIONS

Amended Project Order	First Amended Project Order, Regarding Statutes, Administrative Rules and Other Requirements Applicable to the Proposed Boardman to Hemingway Transmission Line (December 22, 2014)
BLM	Bureau of Land Management
EFR	Experimental Forest and Range
EFSC or Council	Energy Facility Siting Council
GIS	geographic information systems
HD	habitat disturbance
IPC	Idaho Power Company
kV	kilovolt
OAR	Oregon Administrative Rule
ODFW	Oregon Department of Fish and Wildlife
Project	Boardman to Hemingway Transmission Line Project
ROW	right-of-way
WAGS	Washington ground squirrel

1 Exhibit P3

2 Elk Winter Range and Summer Range

3 1.0 INTRODUCTION

4 Exhibit P3 describes the potential impacts of the Boardman to Hemingway Transmission Line
5 Project (Project) on elk (*Cervus Canadensis*) and elk winter range and summer range, as well
6 as the steps Idaho Power Company (IPC) will take to avoid, minimize, and mitigate those
7 impacts. Further, Exhibit P3 shows the Project will be consistent with the Oregon Department of
8 Fish and Wildlife's (ODFW) fish and wildlife habitat mitigation goals and standards.

9 2.0 APPLICABLE RULES AND AMENDED PROJECT ORDER

10 PROVISIONS

11 2.1 General Standards for Siting Facilities

12 The Fish and Wildlife Habitat Standard at Oregon Administrative Rule (OAR) 345-022-0060
13 states:

14 *For the Council to issue a site certificate, it must find that the design, construction, and*
15 *operation of the facility, taking into account mitigation, are consistent with the fish and*
16 *wildlife habitat mitigation goals and standards of OAR 635-415-0025 in effect as of*
17 *September 1, 2000.*

18 2.2 Fish and Wildlife Habitat Mitigation Goals and Standards

19 ODFW's Habitat Mitigation Goals and Standards of OAR 635-415-0025 provide, in relevant part:

20 *(2) "Habitat Category 2" is essential habitat for a fish or wildlife species, population, or*
21 *unique assemblage of species and is limited either on a physiographic province or site-*
22 *specific basis depending on the individual species, population or unique assemblage.*

23 *(a) The mitigation goal if impacts are unavoidable, is no net loss of either habitat*
24 *quantity or quality and to provide a net benefit of habitat quantity or quality.*

25 *(b) The Department shall act to achieve the mitigation goal for Category 2 habitat*
26 *by recommending or requiring:*

27 *(A) Avoidance of impacts through alternatives to the proposed*
28 *development action; or*

29 *(B) Mitigation of impacts, if unavoidable, through reliable in-kind, in-*
30 *proximity habitat mitigation to achieve no net loss of either pre-*
31 *development habitat quantity or quality. In addition, a net benefit of*
32 *habitat quantity or quality must be provided. Progress towards achieving*
33 *the mitigation goals and standards shall be reported on a schedule*
34 *agreed to in the mitigation plan performance measures. The fish and*
35 *wildlife mitigation measures shall be implemented and completed either*
36 *prior to or concurrent with the development action.*

37 *(c) If neither 635-415-0025(2)(b)(A) or (B) can be achieved, the Department shall*
38 *recommend against or shall not authorize the proposed development action.*

1 (3) "Habitat Category 3" is essential habitat for fish and wildlife, or important habitat for
2 fish and wildlife that is limited either on a physiographic province or site-specific basis,
3 depending on the individual species or population.

4 (a) The mitigation goal is no net loss of either habitat quantity or quality.

5 (b) The Department shall act to achieve the mitigation goal for Category 3 habitat
6 by recommending or requiring:

7 (A) Avoidance of impacts through alternatives to the proposed
8 development action; or

9 (B) Mitigation of impacts, if unavoidable, through reliable in-kind, in-
10 proximity habitat mitigation to achieve no net loss in either pre-
11 development habitat quantity or quality. Progress towards achieving the
12 mitigation goals and standards shall be reported on a schedule agreed to
13 in the mitigation plan performance measures. The fish and wildlife
14 mitigation measures shall be implemented and completed either prior to
15 or concurrent with the development action.

16 c) If neither 635-415-0025(3)(b)(A) or (B) can be achieved, the Department shall
17 recommend against or shall not authorize the proposed development action.

18 2.3 Site Certificate Application Requirements

19 OAR 345-021-0010(1)(p) requires that Exhibit P include the following information about the fish
20 and wildlife habitat and species, other than the species addressed in Exhibit Q, that could be
21 affected by the Project:

22 (A) A description of biological and botanical surveys performed that support the
23 information in this exhibit, including a discussion of the timing and scope of each survey.

24 (B) Identification of all fish and wildlife habitat in the analysis area, classified by the
25 habitat categories as set forth in OAR 635-415-0025 and a description of the
26 characteristics and condition of that habitat in the analysis area, including a table of the
27 areas of permanent disturbance and temporary disturbance (in acres) in each habitat
28 category and subtype.

29 (C) A map showing the locations of the habitat identified in (B).

30 (D) Based on consultation with the Oregon Department of Fish and Wildlife (ODFW) and
31 appropriate field study and literature review, identification of all State Sensitive Species
32 that might be present in the analysis area and a discussion of any site-specific issues of
33 concern to ODFW.

34 (E) A baseline survey of the use of habitat in the analysis area by species identified in
35 (D) performed according to a protocol approved by the Department and ODFW.

36 (F) A description of the nature, extent and duration of potential adverse impacts on the
37 habitat identified in (B) and species identified in (D) that could result from construction,
38 operation and retirement of the proposed facility.

39 (G) A description of any measures proposed by the applicant to avoid, reduce or mitigate
40 the potential adverse impacts described in (F) in accordance with the ODFW mitigation
41 goals described in OAR 635-415-0025 and a discussion of how the proposed measures
42 would achieve those goals.

1 (H) A description of the applicant's proposed monitoring plans to evaluate the success of
2 the measures described in (G).

3 **2.4 Amended Project Order Provisions**

4 The Amended Project Order requires Exhibit P to include the following specific information:

5 *The applicant has proposed a "phased survey" approach for data collection during the*
6 *site certificate review process. The Department understands that the entirety of the site*
7 *boundary for the proposed facility may not yet have been surveyed, mapped for*
8 *vegetation types, and categorized under ODFW's habitat categorization guidance.*
9 *Nevertheless, Exhibit P shall include as much information as possible about the results*
10 *of the field surveys conducted to date for biological resources and the schedule for*
11 *future surveys.*

12 *Exhibit P shall include analysis of how the evidence provided supports a finding by the*
13 *Council that the proposed facility meets the Council's fish and wildlife habitat standard.*
14 *Exhibit P must include the results of all surveys for fish and wildlife habitat in the analysis*
15 *area. Exhibit P must also identify all state sensitive species that may be present in the*
16 *analysis area and include the results of surveys for state sensitive species. Please also*
17 *include the survey methodology, including scope and timing of each survey. Surveys*
18 *must be performed by qualified survey personnel during the season or seasons*
19 *appropriate to the detection of the species in question. The applicant must also include*
20 *in Exhibit P its habitat categorization and tables depicting the estimated temporary and*
21 *permanent impacts, broken down by habitat categories.*

22 *If particular fish and/or wildlife habitat or state sensitive species are identified within the*
23 *analysis area that could be adversely affected as a result of the proposed facility, the*
24 *applicant shall include description of the nature, extent and duration of potential adverse*
25 *impacts and a description of any proposed mitigation measures. Fish and Wildlife*
26 *Habitat Mitigation Policy (OAR Chapter 635, Division 415) classifies six habitat*
27 *categories and establishes a mitigation goal for each category. The applicant for a site*
28 *certificate must identify the appropriate habitat category for all areas affected by the*
29 *proposed facility and provide the basis for each category designation, subject to ODFW*
30 *review. The applicant must show how it would comply with the habitat mitigation goals*
31 *and standards by appropriate monitoring and mitigation.*

32 *As a result of the access timing issues for this proposed facility, please also provide*
33 *proposed site certificate conditions for the Council's consideration related to*
34 *requirements for the applicant to complete all unfinished surveys within the project's site*
35 *boundary prior to construction. The proposed site certificate conditions should also*
36 *address submittal requirements for reporting future survey results, adjustment of*
37 *previously calculated impact areas (if necessary), and the applicant's proposed*
38 *approach to document approval of final results by agencies or the Council prior to*
39 *commencing construction activities.*

40 (Amended Project Order, Section III(p)).

41 **3.0 ANALYSIS**

42 **3.1 Analysis Area**

43 The analysis area for Exhibit P3 includes all areas within the Site Boundary, which is defined as
44 "the perimeter of the site of a proposed energy facility, its related or supporting facilities, all

1 temporary laydown and staging areas, and all corridors and micro-siting corridors proposed by
2 the applicant” (OAR 345-001-0010(55)). The site boundary encompasses the following facilities
3 in Oregon:

- 4 • The Proposed Route, consisting of 270.8 miles of new 500-kilovolt (kV) electric
5 transmission line, removal of 13.3 miles of existing 69-kV transmission line, relocation of
6 0.9 mile of a 230-kV transmission line, and relocation of 1.1 miles of an existing 138-kV
7 transmission line;
- 8 • Four alternative routes and their related and supporting facilities, including the West of
9 Bombing Range Road Alternative 1 (3.7 miles), West of Bombing Range Road
10 Alternative 2 (3.7 miles), Morgan Lake Alternative (18.5 miles), and Double Mountain
11 Alternative (7.4 miles). Each alternative route could replace a portion of the Proposed
12 Route;
- 13 • One proposed 20-acre station (Longhorn Station);
- 14 • Ten communication station sites of less than ¼-acre each and two alternative
15 communication station sites;
- 16 • Permanent access roads for the Proposed Route, including 206.3 miles of new roads
17 and 223.2 miles of existing roads requiring substantial modification, and for the
18 Alternative Routes including 30.2 miles of new roads and 22.7 miles of existing roads
19 requiring substantial modification; and
- 20 • Thirty-one temporary multi-use areas and 299 pulling and tensioning sites of which four
21 will have light-duty fly yards within the pulling and tensioning sites.

22 The Project features are fully described in Exhibit B and the Site Boundary for each Project
23 feature is described in Exhibit C, Table C-24. The location of the Project features and the Site
24 Boundary is outlined in Exhibit C.

25 **3.2 Surveys**

26 OAR 345-021-0010(1)(p)(A): A description of biological and botanical surveys performed that
27 support the information in this exhibit, including a discussion of the timing and scope of each
28 survey.

29 A full description of the biological and botanical surveys performed by IPC are described in
30 Exhibit P1. With respect to elk winter range and summer range, as discussed below in
31 Section 3.3, IPC identified the location of elk winter range and summer range using existing
32 geographic information systems (GIS) datasets. IPC did not use field survey data to identify elk
33 winter range and summer range.

34 **3.3 Identification of Elk Winter Range and Summer Range**

35 OAR 345-021-0010(1)(p)(B): Identification of all fish and wildlife habitat in the analysis area,
36 classified by the habitat categories as set forth in OAR 635-415-0025 and a description of the
37 characteristics and condition of that habitat in the analysis area.

38 **3.3.1 Elk Winter Range and Summer Range**

39 IPC used GIS datasets developed by ODFW (winter range; ODFW 2013) and the Rocky
40 Mountain Elk Foundation Measure and Prioritize Elk Habitat Project (summer range; RMEF
41 1999) to identify elk winter range and summer range in the Analysis Area. As set forth in
42 ODFW’s Elk Mitigation Framework guidance document (ODFW 2015), IPC then removed any

1 elk winter range or summer range identified in the GIS datasets that occurred within developed
 2 areas, cultivated fields, and elk de-emphasis areas in the Analysis Area (see Elk Mitigation
 3 Framework, p. 2). Habitat not identified in the GIS datasets were not included as elk winter
 4 range or summer range, even if vegetation communities were present that could support elk.

5 **3.3.2 ODFW Habitat Categorization**

6 Consistent with the Elk Mitigation Framework, IPC considered elk winter range to be Habitat
 7 Category 2 and elk summer range to be Habitat Category 3 (see Elk Mitigation Framework, p.2).
 8 Table P3-1 shows the mitigation goals for those habitat categories.

9 **Table P3-1. Habitat Categorization Types**

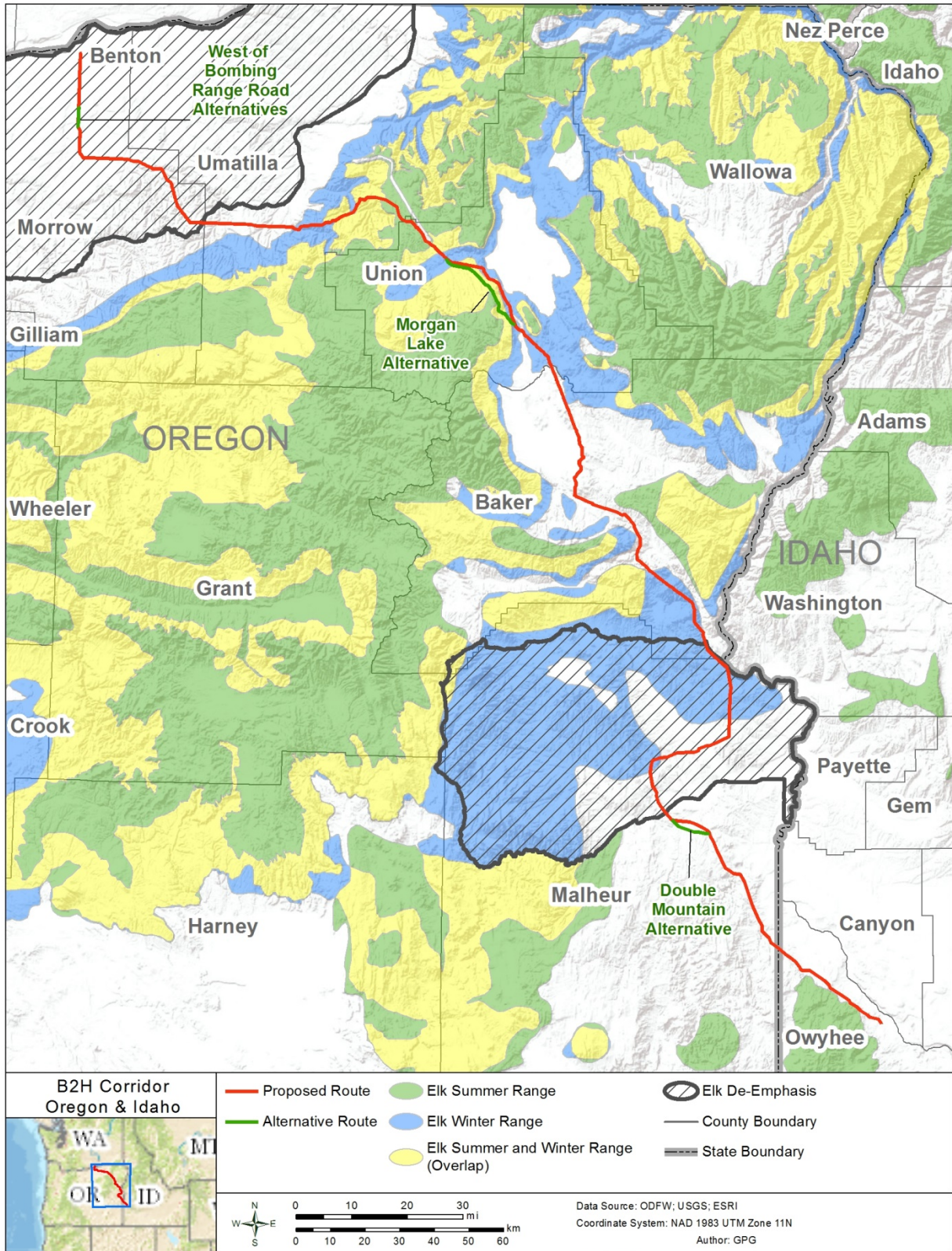
Category Type	Definition ¹	Mitigation Goal
2	Essential habitat for a fish or wildlife species, population, or unique assemblage of species and is limited either on a physiographic province or site-specific basis depending on the individual species, population or unique assemblage.	The mitigation goal if impacts are unavoidable is no net loss of either habitat quantity or quality and to provide a net benefit of habitat quantity or quality.
3	Essential habitat for fish and wildlife, or important habitat for fish and wildlife that is limited either on a physiographic province or site-specific basis, depending on the individual species or population.	The mitigation goal is no net loss of either habitat quantity or quality.

10 ¹ Source: OAR 635-415-0025.

11 **3.3.3 Habitat Category Maps**

12 **OAR 345-021-0010(1)(p)(C): A map showing the locations of the habitat identified in (B).**

13 Figure P3-1 shows the location of elk winter range and summer range. Attachment P3-1
 14 contains a map-book that displays the location of elk winter range and summer range along the
 15 Project at a finer scale than Figure P3-1.



1

2 **Figure P3-1. Elk Winter Range and Summer Range**

3.4 State Sensitive Species Rules

OAR 345-021-0010(1)(p)(D): Based on consultation with the Oregon Department of Fish and Wildlife (ODFW) and appropriate field study and literature review, identification of all State Sensitive Species that might be present in the analysis area and a discussion of any site-specific issues of concern to ODFW.

OAR 345-021-0010(1)(p)(E): A baseline survey of the use of habitat in the analysis area by species identified in (D) performed according to a protocol approved by the Department and ODFW.

Elk has not been classified as a “state sensitive species” under Oregon’s sensitive species rule, OAR 635-100-040. Accordingly, OAR 345-021-0010(1)(p)(D) and (E) do not apply to elk.

3.5 Potential Impacts to Elk Winter Range and Summer Range

OAR 345-021-0010(1)(p)(F): A description of the nature, extent and duration of potential adverse impacts on the habitat identified in (B) and species identified in (D) that could result from construction, operation and retirement of the proposed facility.

3.5.1 Project Features within Elk Winter Range and Summer Range

3.5.1.1 Elk Winter Range

For the Proposed Route, the following Project features will occur in elk winter range: the transmission line (69.17 line miles), new access roads (42.47 miles), substantially modified existing roads (63.04 miles), six multi-use areas (MU UM-05, MU UM-06, MU UM-07, MU UN-02, MU UN-03, and MU BA-05)¹, and three communication stations (CS UN-01, CS UN-02, and CS BA-02). No light-duty fly yards will be located in elk winter range for the Proposed Route.

The Morgan Lake Alternative will include the following Project features in elk winter range: the transmission line (16.54 line miles), new access roads (14.69 miles), substantially modified existing roads (12.14 miles), and one communication station (CS UN-02 ALT). No multi-use areas or light-duty fly yards will be located in elk winter range with the Morgan Lake Alternative.

The Double Mountain Alternative will not include any Project features in elk winter range.²

3.5.1.2 Elk Summer Range

For the Proposed Route, the following Project features will occur in elk summer range: the transmission line (28.89 line miles), new access roads (11.31 miles), substantially modified existing roads (24.88 miles), and one multi-use area (MU UM-07). There will be no communication stations or light-duty fly yards in elk summer range for the Proposed Route.

The Morgan Lake Alternative will include the following Project features in elk summer range: the transmission line (15.61 line miles), new access roads (12.56 miles), substantially modified

¹ Multi-use area MU MA-01 occurs in elk winter range that is considered an elk de-emphasis area. Consistent with the Elk Mitigation Framework, IPC did not include the de-emphasis area or MU MA-01 within the area considered elk winter range for purposes of this exhibit.

² Communication station CS MU MA-01, which is associated with the Double Mountain Alternative, occurs in an area identified in the relevant GIS datasets as elk winter range. However, that portion of elk winter range is considered an elk de-emphasis area. And, as discussed above in Section 3.3.1, elk de-emphasis areas are not considered elk winter range for purposes of this application. Therefore, communication station CS MU MA-01 is not considered to occur in elk winter range.

1 existing roads (14.52 miles), and one communication station (CS UN-02 ALT). There will be no
2 multi-use areas or light-duty fly yards in elk summer range for the Morgan Lake Alternative.

3 The Double Mountain Alternative will not include any Project features in elk summer range.

4 **3.5.2 Duration of Impacts**

5 Impacts may be permanent or temporary. Permanent impacts are defined as those impacts that
6 will exist for the entire life of the Project. Temporary impacts are those impacts that will last for a
7 time less than the life of the Project. Within elk winter range and summer range, the duration of
8 temporary impacts to habitat will vary by vegetation type. For example: the recovery period for
9 agricultural areas that were directly disturbed could be as short as 1 to 3 years; grasslands and
10 herbaceous wetlands generally recover within 3 to 7 years; shrublands may require 30 to 100
11 years to recover (with the longer recovery periods associated with disturbances in mature sage-
12 brush habitats located in arid regions or for specific sage-brush species; e.g., *Artemisia tridentata*
13 ssp. *wyomingensis*); and forested and woodland areas could take anywhere from 50 to many
14 hundreds of years to reach preconstruction conditions (depending on the condition of the area
15 prior to construction). Arid sites with naturally sparse vegetation, as well as those with saline or
16 alkaline soils, shallow soils, compacted soils, or areas that have a high erosion potential may be
17 difficult to restore and could require special techniques or repeated revegetation efforts by IPC.
18 IPC will restore temporary impacts consistent with the Reclamation and Revegetation Plan (Exhibit
19 P1, Attachment P1-3). To the extent compensatory mitigation is required for temporary impacts,
20 IPC will address the recovery periods associated with the lost habitat functionality as set for in the
21 Fish and Wildlife Habitat Mitigation Plan (Exhibit P1, Attachment P1-6).

22 **3.5.3 Direct Impacts**

23 Direct impacts are defined as the impacts that will have an adverse effect upon elk habitat or elk
24 individuals, and that will occur at the same, or in close proximity in, time and place. Direct
25 impacts may be permanent or temporary.

26 **3.5.3.1 Permanent Direct Impacts**

27 Table P3-2 summarizes the type, timing, duration, quantification metric, and mitigation
28 measures related to the Project's potential permanent direct impacts in elk winter range and
29 summer range.

1 **Table P3-2. Type, Timing, Duration, Quantification Metrics, and Mitigation**
 2 **Measures Related to Permanent Direct Impacts to Elk and Elk Habitat**

Type of Disturbance	Type of Impact	Timing of Impact	Duration of Impact	Metric to Quantify Effects on Habitat Functionality	Mitigation Measures
Permanent direct impacts from vegetation clearing (transmission line, communication stations, and access roads)	Permanent direct	Construction, Operation	Life of the Project	Quantified based on construction dimensions	Permanent direct impacts from vegetation clearing will be mitigated as set forth in the Fish and Wildlife Habitat Mitigation Plan (Attachment P1-6); permanent direct impacts from vegetation clearing in forest lands in particular will be minimized as set forth in the Vegetation Management Plan (Attachment P1-4).
Direct mortality	Permanent direct	Construction, Operation	Life of the Project	Not quantified – no or de minimis impacts expected; there is no reasonable and accepted methodology for quantifying these impacts	Mortality related to Project access roads will be mitigated by implementing speed limits and controlling access on Project roads within elk habitat, subject to approval by the relevant land management agency or landowner.

3 ***Permanent Direct Impacts from Vegetation Clearing***

4 Vegetation clearing to accommodate Project features required for operation will result in
 5 permanent direct impacts to fish and wildlife habitat through habitat loss. Permanent loss of
 6 habitat will occur within the operations disturbance areas for transmission structures, the
 7 Longhorn Station, communication stations, and access roads; the dimensions of these areas
 8 are summarized in Exhibit C, Section 3.4.

9 With respect to the permanent direct impacts from access road construction and modification,
 10 details on road construction activities and methods, including types of improvements to existing
 11 roads and projected traffic volumes, are provided in Exhibit B, Attachment B-5 (Road

1 Classification Guide and Access Management Plan), Exhibit U, and Attachment U-2 (Traffic and
2 Transportation Management Plan). Access to construction sites will require both improvements
3 to existing unpaved roads, as well as construction of new access roads. For existing roads that
4 require substantial modification, proposed repair and/or construction activities will increase the
5 width of the existing road prism, change the existing road alignment, use materials inconsistent
6 with the existing road surface, and/or change the existing road profile, as well as meet additional
7 criteria detailed in Exhibit B, Attachment B-5. New roads proposed to be constructed include
8 both primitive and bladed roads. Primitive roads, commonly called a “two track” or “overland
9 travel” roads, will be created by direct vehicle use with little or no grading. Bladed roads will be
10 constructed using heavy equipment and designed to support vehicular traffic; bladed road
11 features typically include cuts and/or fills to construct a smooth travel surface and manage
12 surface water drainage.

13 IPC will provide mitigation for permanent direct impacts resulting from construction and
14 installation of Project features as set forth in the draft Fish and Wildlife Habitat Mitigation Plan
15 (Exhibit P1, Attachment P1-6). IPC proposes the following conditions in the site certificate
16 providing that IPC will finalize the draft Habitat Mitigation Plan and provide mitigation
17 commensurate with the same:

18 ***Fish and Wildlife Condition 7:*** *Prior to construction, the site certificate holder*
19 *shall finalize, and submit to the department for its approval, a final Fish and*
20 *Wildlife Habitat Mitigation Plan (HMP).*

21 *a. The final Fish and Wildlife HMP shall include the following, unless otherwise*
22 *approved by the department:*

23 *i. The areas that were surveyed for biological resources;*

24 *ii. The location of all facility components and related and supporting*
25 *facilities;*

26 *iii. The areas that will be permanently and temporarily disturbed during*
27 *construction;*

28 *iv. The protective measures described in the draft Fish and Wildlife HMP*
29 *in ASC Exhibit P, Attachment P-6; and*

30 *v. The results of the biological surveys referenced in Fish and Wildlife*
31 *Condition 1 and Fish and Wildlife Condition 2.*

32 *b. The final Fish and Wildlife HMP shall address the potential habitat impacts*
33 *through mitigation banking, an in-lieu fee program, development of mitigation*
34 *projects by the site certificate holder, or a combination of the same.*

35 *i. To the extent the site certificate holder shall develop its own mitigation*
36 *projects, the final Habitat Mitigation Plan shall:*

37 *1. Identify the location of each mitigation site, including a map of*
38 *the same;*

39 *2. Identify the number of credit-acres that each mitigation site will*
40 *provide for the site certificate holder;*

41 *3. Include a site-specific mitigation management plan for each*
42 *mitigation site that provides for:*

43 *A. A baseline ecological assessment;*

44 *B. Conservation actions to be implemented at the site;*

45 *C. An implementation schedule for the baseline ecological*
46 *assessment and conservation actions;*

47 *D. Performance measures;*

48 *E. A reporting plan; and*

49 *F. A monitoring plan.*

1 ii. To the extent the site certificate shall utilize a mitigation bank or in-lieu
2 fee program, the final Habitat Mitigation Plan shall:

3 1. Describe the nature, extent, and history of the mitigation bank
4 or in-lieu fee program; and

5 2. Identify the number of credit-acres that each mitigation site will
6 provide for the site certificate holder.

7 c. Oregon's Elk Mitigation Framework shall be used to calculate the amount of
8 elk habitat compensatory mitigation required for the facility.

9 d. The final Fish and Wildlife Habitat Mitigation Plan may be amended from time
10 to time by agreement of the site certificate holder and the department. Such
11 amendments may be made without amendment to the site certificate. The
12 Council authorizes the department to agree to amendments of the plan and to
13 mitigation actions that may be required under the plan; however, the Council
14 retains the authority to approve, reject, or modify any amendment of the plan
15 agreed to by the department.

16 **Fish and Wildlife Condition 20:** During construction, the site certificate holder
17 shall commence implementation of the conservation actions set forth in the final
18 Fish and Wildlife HMP referenced in Fish and Wildlife Condition 7.

19
20 **Fish and Wildlife Condition 24:** During the third year of operation, the site
21 certificate holder shall provide to the department a report demonstrating that fish
22 and wildlife habitat mitigation shall be commensurate with the final compensatory
23 mitigation calculations.

24 a. The final calculations shall be based on the as-constructed footprint of the
25 facility.

26 b. Oregon's Elk Mitigation Framework shall be used to calculate the amount of
27 elk habitat compensatory mitigation required for the facility, and the information
28 from the pre- and post-construction traffic studies shall be used in the calculation.

29 Regarding forest lands in particular, permanent clearing will occur along the transmission line
30 right-of-way (ROW) where necessary to meet reliability standards to protect the line from
31 vegetation encroachments and hazards. A wire-border zone method will be used during
32 maintenance of the ROW to control vegetation and to ensure adequate ground-to-conductor
33 clearances (see Exhibit P1, Attachment P1-4, Vegetation Management Plan). This method results
34 in two zones of clearing and revegetation. The wire zone includes the linear area along the ROW
35 located under the wires as well as the area extending 10 feet outside of the outermost phase-
36 conductor. After initial clearing, vegetation in the wire zone would be maintained to consist of
37 native grasses, legumes, herbs, ferns, and other low-growing vegetation that remain under 20 feet
38 tall at maturity. The border zone is the linear area along each side of the ROW extending from the
39 edge of the wire zone to the edge of the ROW. Vegetation in the border zone would be
40 maintained to consist of tall shrubs or short trees (up to 34 feet high at maturity), grasses, and
41 forbs. These cover plants along the border zone benefit the ROW by competing with and
42 excluding undesirable plants. During operations, vegetation growth will be monitored and
43 managed on a routine cyclical clearing schedule (i.e., every 3 to 6 years) to maintain the wire-
44 border zone objectives. In addition, hazard trees (i.e., trees that pose a risk of falling onto
45 conductors, structures, or Project personnel) would be removed as needed. Maintenance efforts
46 will be conducted around project structures and communication sites. ROW clearing for
47 construction in forested/woodland habitats will remove thermal and hiding cover for elk; however,
48 this clearing of vegetation has the potential to benefit elk in some situations by providing clearings
49 for use in foraging or traveling (Rowland et al. 1983; Stewart et al. 2000).

1 To ensure the protective measures set forth in the draft Vegetation Management Plan in Exhibit
2 P1, Attachment P1-4 are incorporated into the final plan (unless otherwise approved by ODOE)
3 and to ensure compliance with the final Vegetation Management Plan, IPC proposes that the
4 Energy Facility Siting Council (EFSC or Council) include the following conditions in the site
5 certificate:

6 ***Fish and Wildlife Condition 5:*** Prior to construction, the site certificate holder
7 shall finalize, and submit to the department for its approval, a final Vegetation
8 Management Plan. The protective measures described in the draft Vegetation
9 Management Plan in ASC Exhibit P1, Attachment P1-4, shall be included as part
10 of the final Vegetation Management Plan, unless otherwise approved by the
11 department.

12 ***Fish and Wildlife Condition 18:*** During construction, the site certificate holder
13 shall conduct all work in compliance with the final Vegetation Management Plan
14 referenced in Fish and Wildlife Condition 5.

15 ***Fish and Wildlife Condition 28:*** During operation, the site certificate holder
16 shall conduct all work in compliance with the final Vegetation Management Plan
17 referenced in Fish and Wildlife Condition 5.

18 **Direct Mortality**

19 Direct mortality to individual elk may occur as a result of collisions with Project-related vehicles
20 during construction or operation of the Project. IPC expects this risk to be very low. Moreover,
21 the risk can be avoided or minimized by having Project vehicles reduce their speed to a level
22 sufficient to anticipate and avoid striking individual elk. Accordingly, to avoid or minimize direct
23 mortality to elk, IPC proposes the following conditions in the site certificate establishing speed
24 limits on access roads where possible:

25 ***Fish and Wildlife Condition 16:*** During construction, the site certificate holder
26 shall employ a speed limit of 25 miles per hour on facility access roads, unless
27 the applicable land-management agency or landowner has designated an
28 alternative speed limit.

29 ***Fish and Wildlife Condition 26:*** During operation, the site certificate holder shall
30 employ a speed limit of 25 miles per hour on facility access roads, unless the
31 applicable land-management agency or landowner has designated an alternative
32 speed limit.

33 Additionally, vehicle-wildlife collisions on Project access roads can be substantially reduced
34 through controlling use of such roads. IPC will implement access control as set forth in the draft
35 Road Classification Guide and Access Control Plan (Exhibit B, Attachment B-5). Access control
36 may involve fencing, gates, barriers, and/or signage as preferred by the landowner while
37 maintaining effectiveness. To avoid or minimize indirect impacts related to access roads,
38 consistent with the Road Classification Guide and Access Control Plan, IPC proposes that the
39 Council include the following condition in the site certificate providing that access control will be
40 pursued where possible:

41 ***Fish and Wildlife Condition 27:*** During operation, the site certificate holder shall
42 employ access control on facility access roads within elk habitat (i.e., elk summer
43 range and elk winter range) and sage-grouse habitat (i.e., areas of high
44 population richness, core area habitat, low density habitat, or general habitat),
45 subject to approval by the applicable land-management agency or landowner.

1 **3.5.3.2 Temporary Direct Impacts**

2 Table P3-3 summarizes the type, timing, duration, quantification metric, and mitigation
3 measures related to the Project's potential temporary direct impacts in elk winter range and
4 summer range.

5 **Table P3-3. Type, Timing, Duration, Quantification Metrics, and Mitigation**
6 **Measures Related to Temporary Direct Impacts to Elk and Elk Habitat**

Type of Disturbance	Type of Impact	Timing of Impact	Duration of Impact	Metric to Quantify Effects on Habitat Functionality	Mitigation Measures
Temporary direct impacts from vegetation clearing (construction areas)	Temporary direct	Construction	Construction through re-vegetation	Construction area dimensions	Temporary direct impacts from vegetation clearing will be mitigated as set forth in the Reclamation and Revegetation Plan (Attachment P1-3) and the Fish and Wildlife Habitat Mitigation Plan (Attachment P1-6).
Retirement	Temporary direct	Retirement	Retirement	Similar to construction related impacts	Similar to construction-related impacts

7 **Temporary Direct Impacts from Vegetation Clearing**

8 To provide for construction-related activities and installation of certain Project features,
9 vegetation providing habitat for elk may be cleared within the Project's right-of-way. In most
10 areas, IPC will have a 250-foot-wide ROW in which to construct the 500-kV portions of the
11 transmission line and a 100-foot-wide ROW to construct the 138-kV portions of the line.
12 Temporary vegetation clearing activities encompass the entire footprint of pulling and tensioning
13 sites, multi-use areas, and light-duty fly yards. Temporary clearing activities will also occur
14 around the perimeter of permanent Project features including transmission structures, the
15 Longhorn station, communication stations, and access roads. Areas cleared for construction
16 activities, and not encompassed by permanent Project features or not needed for normal
17 transmission line operation and maintenance will be reclaimed through measures described in
18 IPC's Reclamation and Revegetation Plan (Exhibit P1, Attachment P1-3). To ensure the
19 protective measures set forth in the draft Reclamation and Revegetation Plan are incorporated
20 into the final Reclamation and Revegetation Plan (unless otherwise approved by ODOE) and to
21 ensure compliance with the final Reclamation and Revegetation Plan, IPC proposes that the
22 Council include the following conditions in the site certificate providing for the same:

23 ***Fish and Wildlife Condition 4:*** *Prior to construction, the site certificate holder*
24 *shall finalize, and submit to the department for its approval, a final Reclamation*
25 *and Revegetation Plan. The protective measures described in the draft*
26 *Reclamation and Revegetation Plan in ASC Exhibit P1, Attachment P1-3, shall*

1 *be included and implemented as part of the final Reclamation and Revegetation*
2 *Plan, unless otherwise approved by the department.*

3 ***Fish and Wildlife Condition 17:*** *During construction, the site certificate holder*
4 *shall conduct all work in compliance with the final Reclamation and Revegetation*
5 *Plan referenced in Fish and Wildlife Condition 4.*

6 Elk habitat that is cleared for construction will be restored and the duration of the impact will not
7 exceed the life of the Project; thus, clearing vegetation followed by restoration constitutes a
8 temporary impact to elk habitat. While restoration of certain elk habitat (e.g., forestlands) can
9 take decades and restoration could span generations of elk, those impacts are considered
10 temporary because they will last less than the life of the Project which is expected to be in place
11 indefinitely. Regardless of the duration of the impact, temporary vegetation clearing will be
12 quantified and mitigated pursuant to the Fish and Wildlife Habitat Mitigation Plan (Exhibit P1,
13 Attachment P1-6).

14 ***Retirement***

15 Retirement of the Project would involve activities and equipment similar to those that would be
16 used during construction. Therefore, potential impacts on elk during retirement of the Project
17 would be similar to the temporary impacts described for construction.

18 ***3.5.3.3 Quantifying Direct Impacts***

19 Direct impacts were calculated for winter range and summer range using disturbance limits for
20 construction (temporary impacts) and operation (permanent impacts) in Exhibit C, Table C-24.
21 Temporary impacts are calculated from the edge of the permanent disturbance; thus, there is no
22 overlap of temporary and permanent impacts. Areas of feature overlap were dissolved so that
23 overlapping impacts were not double counted.

24 The indirect impacts analysis described below in Section 3.5.4.3 follows ODFW's Elk Mitigation
25 Framework, which provides that areas up to 0.20 mile from a medium or high traffic road and
26 0.25 mile from a low traffic road have a 1.0 habitat disturbance (HD) value. In other words, the
27 Framework assigns a complete loss of functional habitat value to elk within this distance band.
28 Thus, as all functional value is assumed to be lost (and is accounted for in the indirect impacts
29 analysis), IPC first identified areas where the 1.0 HD indirect impact buffer from existing roads or
30 new Project roads overlapped completely the direct impact acres from Project features other than
31 roads. The overlapping direct impact acres were summed by ODFW habitat category and
32 subtracted from the total direct impacts calculated here. Using this method, direct impacts from
33 Project features other than roads that occur in areas determined by the Framework to have no
34 functional habitat value for elk are not included in the direct impacts presented below.

35 Direct impacts are presented for winter range and summer range separately. However, there is
36 extensive overlap of winter range and summer range, and impacts are calculated for the
37 overlapping ranges. The total impacts are equal to the sum of winter range and summer range
38 minus overlapping ranges. Thus, the total impact acres does not double count overlapping ranges.

39 Table P3-4 sets out the direct impacts to elk winter range and summer range for the Proposed
40 Route and Morgan Lake Alternative.³ Table P3-5 breaks down those impacts by Project feature
41 category—i.e., work areas, access roads, and transmission line ROW.

³ The Double Mountain, West of Bombing Range Road 1, or West of Bombing Range Road 2 alternatives will each have no direct impacts to elk winter range or summer range.

1 **Table P3-4. Direct Impacts to Elk Winter Range and Summer Range**

	ODFW Habitat Categories (Acres)				Overlap of Winter Range and Summer Range ³		Total ⁴	
	2 Winter Range ¹		3 Summer Range ²		Temp	Perm		
	Temp	Perm	Temp	Perm			Temp	Perm
Proposed Route	237.6	178.7	43.0	89.1	43.0	68.1	237.6	199.7
Morgan Lake Alternative	76.5	13.1	51.8	9.5	51.8	9.5	76.5	13.1

¹ Winter range includes those areas normally occupied by elk from December through April (ODFW 2013). Portions of elk winter range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

² Summer range as defined by the M.A.P. (Measure and Prioritize) Elk Habitat Project (RMEF 1999). Portions of elk summer range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

³ Overlap of Winter Range and Summer Range is where the area of impact occurs within both types habitat. Summer Range and Winter Range are not discrete areas.

⁴ Total = [(Winter Range + Summer Range) – (Overlap of Winter Range and Summer Range)]. Total does not double count acres.

2 **Table P3-5. Direct Impacts to Elk Winter Range and Summer Range by Project Feature Category, after Reducing by Areas that had Existing or New Indirect Impact Habitat Disturbance Values of 1.0**

ODFW Habitat Category	Project Feature	Acres Disturbed			
		Proposed Route		Morgan Lake Alternative	
		Temp	Perm	Temp	Perm
2: Winter Range ¹	Work Areas	213.3	40.4	63.5	1.2
	Access Roads	24.4	42.5	13.0	11.9
	Transmission Line	0.0	95.8	0.0	0.0
	<i>Category 2 Subtotal</i>	<i>237.6</i>	<i>178.7</i>	<i>76.5</i>	<i>13.1</i>
3: Summer Range ²	Work Areas	41.3	24.5	42.5	0.8
	Access Roads	1.7	11.7	9.3	8.7
	Transmission Line	0.0	52.9	0.0	0.0
	<i>Category 3 Subtotal</i>	<i>43.0</i>	<i>89.1</i>	<i>51.8</i>	<i>9.5</i>
Overlap of Winter Range and Summer Range ³	Work Areas	41.3	14.8	42.5	0.8
	Access Roads	1.7	9.1	9.3	8.7
	Transmission Line	0.0	44.2	0.0	0.0
	<i>Overlap Subtotal</i>	<i>43.0</i>	<i>68.1</i>	<i>51.8</i>	<i>9.5</i>
Total⁴	Category 2 + Category 3 – Overlap	237.6	199.7	76.5	13.1

¹ Winter range includes those areas normally occupied by elk from December through April (ODFW 2013). Portions of elk winter range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

² Summer range as defined by the M.A.P. (Measure and Prioritize) Elk Habitat Project (RMEF 1999). Portions of elk summer range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

³ Overlap of Winter Range and Summer Range is where the area of impact occurs within both types habitat. Summer Range and Winter Range are not discrete areas.

⁴ Total = [(Winter Range + Summer Range) – (Overlap of Winter Range and Summer Range)]. Total does not double count acres.

1 **Elk Winter Range**

2 For the Proposed Route, direct impacts to elk winter range include 178.7 acres of permanent
3 direct impacts and 237.6 acres of temporary direct impacts (Table P3-4).

4 The Morgan Lake Alternative will include 13.1 acres of permanent direct impacts and 76.5 acres
5 of temporary direct impacts (Table P3-4).

6 **Elk Summer Range**

7 For the Proposed Route, direct impacts to elk summer range include 89.1 acres of permanent
8 direct impacts and 43.0 acres of temporary direct impacts (Table P3-4).

9 The Morgan Lake Alternative will include 9.5 acres of permanent direct impacts and 51.8 acres
10 of temporary direct impacts (Table P3-4).

11 **3.5.4 Indirect Impacts**

12 Indirect impacts are defined as the impacts that will have an adverse effect upon elk habitat or elk
13 individuals, and that will occur later in time or in a different place than the Project activities. Indirect
14 impacts may be permanent or temporary. Permanent impacts will exist for the entire life of the
15 Project. Temporary impacts are those impacts that will last for a time less than the life of the
16 Project.

17 **3.5.4.1 Permanent Indirect Impacts**

18 Table P3-6 summarizes the type, timing, duration, quantification metric, and mitigation
19 measures related to the Project's potential permanent indirect impacts in elk winter range and
20 summer range.

21 **Table P3-6. Type, Timing, Duration, Quantification Metrics, and Mitigation**
22 **Measures Related to Permanent Indirect Impacts to Elk and Elk Habitat**

Type of Disturbance	Type of Impact	Timing of Impact	Duration of Impact	Metric to Quantify Effects on Habitat Functionality	Mitigation Measures
Permanent indirect impacts from the transmission line	Permanent indirect	Operation	Life of the Project	Not quantified – no or de minimis impacts expected; there is no reasonable and accepted methodology for quantifying these impacts	None.
Permanent indirect impacts from the access roads	Permanent indirect	Operation	Life of the Project	As calculated using the approach set forth in Oregon's Elk Mitigation Framework	Permanent indirect impacts from the access roads will be mitigated by implementing speed limits; controlling access on Project roads within elk habitat, subject to approval by the relevant land management agency or landowner; and implementing the Fish and Wildlife Habitat Mitigation Plan (Attachment P1-6).

1 **Permanent Indirect Impacts from the Transmission Line**

2 Once constructed, the transmission line is not expected to limit the movement or distribution of
3 elk. Elk are expected to readily pass under transmission lines and associated structures.
4 Therefore, there will be no permanent indirect impacts related to the transmission line itself and
5 no mitigation is required.

6 **Permanent Indirect Impacts from the Access Roads**

7 New and substantially modified existing access roads are not expected to act as a barrier to elk
8 movement. However, the introduction of traffic (i.e., motorized on- or off-road vehicles) and the
9 presence of human activity on roads used for the Project potentially will have negative indirect
10 impacts on elk (see ODFW 2015). The indirect impacts may include reduced utilization of
11 habitat, fragmentation of migration corridors, and the associated disruption of important elk life
12 processes. These potential impacts can be substantially reduced through the implementation of
13 a traffic management plan and spatial and temporal restrictions (ODFW 2015). Accordingly, as
14 discussed above, IPC will implement speed limits and access control to minimize the effects
15 that roads have on elk habitat.

16 Furthermore, IPC will provide mitigation for permanent indirect impacts resulting from the
17 access roads as set forth in the Fish and Wildlife Habitat Mitigation Plan (Exhibit P1, Attachment
18 P1-6). As discussed in the plan, Oregon has developed a methodology in its Elk Mitigation
19 Framework for quantifying indirect impacts to elk habitat resulting from roads (see below
20 Section 3.5.4.3). To quantify the indirect impacts from the access roads, IPC will use the
21 methods set forth in the Elk Mitigation Framework, as discussed in in the Habitat Mitigation
22 Plan.

23 **3.5.4.2 Temporary Indirect Impacts**

24 Table P3-7 summarizes the type, timing, duration, quantification metric, and mitigation
25 measures related to the Project's potential temporary indirect impacts in elk winter range and
26 summer range.

1 **Table P3-7. Type, Timing, Duration, Quantification Metrics, and Mitigation**
 2 **Measures Related to Temporary Indirect Impacts to Elk and Elk Habitat**

Type of Disturbance	Type of Impact	Timing of Impact	Duration of Impact	Metric to Quantify Effects on Habitat Functionality	Mitigation Measures
Temporary indirect impacts from access roads	Temporary indirect	Construction	Construction	Not quantified – no or de minimis impacts expected; there is no reasonable and accepted methodology for quantifying these impacts.	Temporary indirect impacts from access roads will be mitigated by implementing speed limits and controlling access on Project roads within elk habitat, subject to approval by the relevant land management agency or landowner; and implementing certain seasonal and spatial restrictions, subject to ODOE-approved variances.
Temporary indirect impacts from invasive species	Temporary direct	Construction	Construction through re-vegetation	Not quantified – no or de minimis impacts expected; there is no reasonable and accepted methodology for quantifying these impacts.	Temporary indirect impacts from invasive species will be avoided, minimized or mitigated as set forth in the Noxious Weed Plan (Attachment P1-5) and Reclamation and Revegetation Plan (Attachment P1-3).

1 **Temporary Indirect Impacts from the Access Roads**

2 Construction activities will result in noise, visual disturbance from heavy equipment, traffic and
3 people, fugitive dust dispersing from the immediate construction area, and small amounts of air
4 pollution from construction equipment's exhaust. Indirect construction impacts may also include
5 an increased risk for the spread or establishment of invasive-plant species (which can degrade
6 habitats and exclude native species from areas), and increased access to areas previously
7 inaccessible to the public due to the construction of project-related roads (which can further
8 degrade habitats as a result of increased human presence). These activities can impact elk
9 behavior in areas beyond the Project construction areas. For example, the habitat near the
10 construction areas may temporarily be unsuitable during the construction period. Noise would
11 likely have the farthest-reaching effect (i.e., the effect of noise would extend farther from
12 construction sites than dust or other disturbances). Some construction activities would likely
13 result in sound levels beyond baseline ambient levels, with a maximum instantaneous predicted
14 noise level of 80 to 90 A-weighted decibels at 50 feet from the work site. Increases in noise
15 would be concurrent with any disturbance associated with the presence of humans and their
16 activities (e.g., dust, visual disturbances, etc.). Research conducted in northeast Oregon at the
17 Starkey Experimental Forest and Range (EFR) station found that elk avoid habitats close to
18 roads during times of probable human use (Wisdom 1998; Millsbaugh 1999; Ager et al. 2003)
19 and where traffic rates are higher than areas with low traffic (Wisdom 1998; Johnson et al. 2000;
20 Ager et al. 2003). Additional research conducted at the Starkey EFR station suggests that elk
21 avoidance of habitat adjacent to roads varies with the amount of daily traffic (Wisdom et al.
22 2004). Thus, Project construction activities may affect elk and reduce the functionality of habitat
23 at varying distances from the construction areas. These disturbances could render habitats
24 unsuitable for a limited period of time, with disturbances ceasing once construction or
25 maintenance activities have ceased. IPC expects these impacts to be low. Even so, to avoid or
26 minimize these impacts, IPC will implement speed limits and access control on Project roads in
27 elk habitat, where possible.

28 Further, IPC will comply with certain spatial and timing restrictions near sensitive elk habitat,
29 which would limit the construction window to time periods when elk are less sensitive to
30 disturbances. IPC may seek exceptions to said timing restrictions if site conditions allow and
31 subject to ODOE approval. For example, if elk are not using the sensitive habitat, IPC may
32 request permission to start work in the area sooner than what would normally be allowed. IPC
33 proposes the following site certificate conditions providing for the same:

34 ***Fish and Wildlife Condition 10:*** *During construction, the site certificate holder*
35 *shall not conduct ground-disturbing activities within elk or mule deer winter range*
36 *between December 1 to March 31. Upon request by the site certificate holder,*
37 *the department may provide exceptions to this restriction. The site certificate*
38 *holder's request must include a justification for the request, including any actions*
39 *the site certificate holder will take to avoid, minimize, or mitigate impacts to elk*
40 *and mule deer in the relevant area.*

41 ***Fish and Wildlife Condition 15:*** *During construction, the site certificate holder*
42 *shall flag the following environmentally sensitive areas as restricted work zones:*
43 *a. State protected plant species;*
44 *b. Wetlands and waterways that are not authorized for construction impacts;*
45 *c. Areas with active spatial and seasonal restrictions; and*
46 *d. Category 1 habitat.*
47 *The site certificate holder shall submit a mapset showing the location of*
48 *environmentally sensitive areas and restricted work zones to the department for*

1 *its approval. The site certificate shall make the mapset available to all*
2 *construction personnel.*

3 IPC will develop a set of maps that depict the extent of spatial and temporal restriction areas
4 within the analysis area. These maps will be maintained at the Project site to ensure
5 construction workers are aware if and when their activities will occur within sensitive elk habitat
6 and that the spatial and temporal restrictions discussed above would apply.

7 ***Temporary Invasive Species Impacts***

8 The initial clearing of vegetation and resulting soil disturbance during construction could create
9 optimal conditions for the establishment of invasive-plant species. The establishment of
10 invasive-plant species can affect the quality of wildlife habitat through competition with, and the
11 eventual replacement of desirable native plant species (Westbrook 1998). The replacement of
12 native plant species with invasive species can have various environmental effects on wildlife
13 habitat, including changes in fire regime (e.g., increasing the frequency and severity of fires),
14 changes in the nutrient regime of soils (thereby reducing the quality of forage species),
15 increased soil erosion (resulting in additional loss of vegetated areas, as well as sedimentation
16 to aquatic habitats), or reductions in the abundance of important forage species (due to invasive
17 species excluding them from the area). These alterations to habitat quality can extend beyond
18 the area of initial impacts (e.g., fires and/or invasive-plant species can spread to areas far
19 beyond the initial disturbance/ignition). To avoid or minimize the risk of invasive-plant species
20 spread or establishment, IPC will implement the Noxious Weed Plan (Exhibit P1, Attachment
21 P1-5) and Reclamation and Revegetation Plan (Exhibit P1, Attachment P1-3). IPC proposes
22 that the Council include the following conditions in the site certificate regarding the Noxious
23 Weed Plan:

24 ***Fish and Wildlife Condition 6:*** *Prior to construction, the site certificate holder*
25 *shall finalize, and submit to the department for its approval, a final Noxious Weed*
26 *Plan. The protective measures as described in the draft Noxious Weed Plan in*
27 *ASC Exhibit P1, Attachment P1-5, shall be included and implemented as part of*
28 *the final Noxious Weed Plan, unless otherwise approved by the department.*

29 ***Fish and Wildlife Condition 19:*** *During construction, the site certificate holder*
30 *shall conduct all work in compliance with the final Noxious Weed Plan referenced*
31 *in Fish and Wildlife Condition 6.*

32 ***Fish and Wildlife Condition 29:*** *During operation, the site certificate holder shall*
33 *conduct all work in compliance with the final Noxious Weed Plan referenced in*
34 *Fish and Wildlife Condition 6.*

35 **3.5.4.3 *Quantifying Indirect Impacts***

36 IPC calculated the quantity of indirect impacts related to the Project access roads using the
37 methods set forth in the Elk Mitigation Framework. The Framework provides that the area of
38 indirect impact depends on the increase in traffic volume compared to the baseline traffic
39 volume of an existing road. Table P3-8 comes from the Elk Mitigation Framework and it
40 provides that the higher the increase in traffic volume during operation, the larger the
41 disturbance buffer, which is applied from the road centerline.

1 **Table P3-8. Disturbance Buffers Based on Traffic Rate**

Road Type and Status (Daily Rate Averaged over Any 30-day Period)	Disturbance Buffer (miles)
Very Low – 0 - 1 vehicle increase	None
Low Traffic – 2 - <4 vehicle increase	0.25
Moderate Traffic – 4 - <10 vehicle increase	0.5
High Traffic – >10 vehicle increase	1.0

Source: Elk Mitigation Framework, p.4.

2 The disturbance buffer is then broken down into disturbance bands that have a corresponding
 3 HD weight (specified as percent habitat disturbance). The habitat disturbance weightings are
 4 multipliers used to calculate the number of acres that will be required for mitigation. Table P3-9
 5 presents the HD values associated with low, moderate, and high traffic volume.

6 **Table P3-9. Habitat Disturbance Value for Roads**

High Traffic Roads Distance (mi)	Moderate Traffic Roads Distance (mi)	Low Traffic Roads Distance (mi)	Percent Habitat Disturbance (HD)
0.00 – 0.25	0.00 – 0.20	0.00 – 0.25	1.00
0.25 – 0.50	0.20 – 0.30		0.80
0.50 – 0.75	0.30 – 0.40		0.40
0.75 – 1.00	0.40 – 0.50		0.20

7 Source: Elk Mitigation Framework, p.4.

8 Road data from Census Tiger and line classification MTFCC and Bureau of Land Management
 9 (BLM) (2015) were used to develop an existing road layer, and data from both sources were
 10 merged to account for roads absent from either dataset. As traffic volumes are not available for
 11 roads, IPC assumed that the following road categories corresponded to specific traffic volumes
 12 for indirect impact analysis. High Traffic: S1100 Primary Road, S1200 Secondary Road, S1630
 13 Ramp, S1640 Service Drive; Moderate Traffic: S1400 Local Neighborhood Road, Rural Road,
 14 City Street; Low Traffic: S1500 Vehicular Trail (4WD), S1740 Private Road for service vehicles
 15 (logging, oil fields, ranches, etc.), BLM roads, new Project roads.

16 IPC will conduct a traffic study to evaluate pre- and post-construction traffic on public roads
 17 used for the Project. The traffic study will be conducted for one year in the year prior to
 18 construction, and for one year during the second year the Project is in operation to most
 19 accurately characterize traffic patterns. IPC's approach to identifying which Project road
 20 segments are included in the Site Boundary, and accordingly in the impact analysis, is set forth
 21 in Attachment B-5 of Exhibit B. Road segments where access control currently exists or can be
 22 successfully implemented will not have indirect impacts on elk habitat. Absent traffic rate data,
 23 IPC assumed that the traffic volume for new Project roads was in the low category. For existing
 24 roads that are used for the Project, IPC assumed that the traffic volume from the Project would
 25 not increase the traffic volume to the next category. To ensure compliance with the traffic
 26 monitoring program, IPC proposes that the Council include the following conditions in the site
 27 certificate providing that IPC will monitor traffic volumes in elk habitat:

28 ***Fish and Wildlife Condition 3:*** Prior to construction, the site certificate holder
 29 shall conduct a one-year traffic study in elk habitat (i.e., elk summer range and
 30 elk winter range) and sage-grouse habitat (i.e., areas of high population richness,
 31 core area habitat, low density habitat, or general habitat).

32 ***Fish and Wildlife Condition 23:*** During the second year of operation, the site
 33 certificate holder shall conduct a one-year traffic study in elk habitat (i.e., elk

1 *summer range and elk winter range) and sage-grouse habitat (i.e., areas of high*
2 *population richness, core area habitat, low density habitat, or general habitat).*

3 ***Fish and Wildlife Condition 24:*** *During the third year of operation, the site*
4 *certificate holder shall provide to the department a report demonstrating that fish*
5 *and wildlife habitat mitigation shall be commensurate with the final compensatory*
6 *mitigation calculations.*

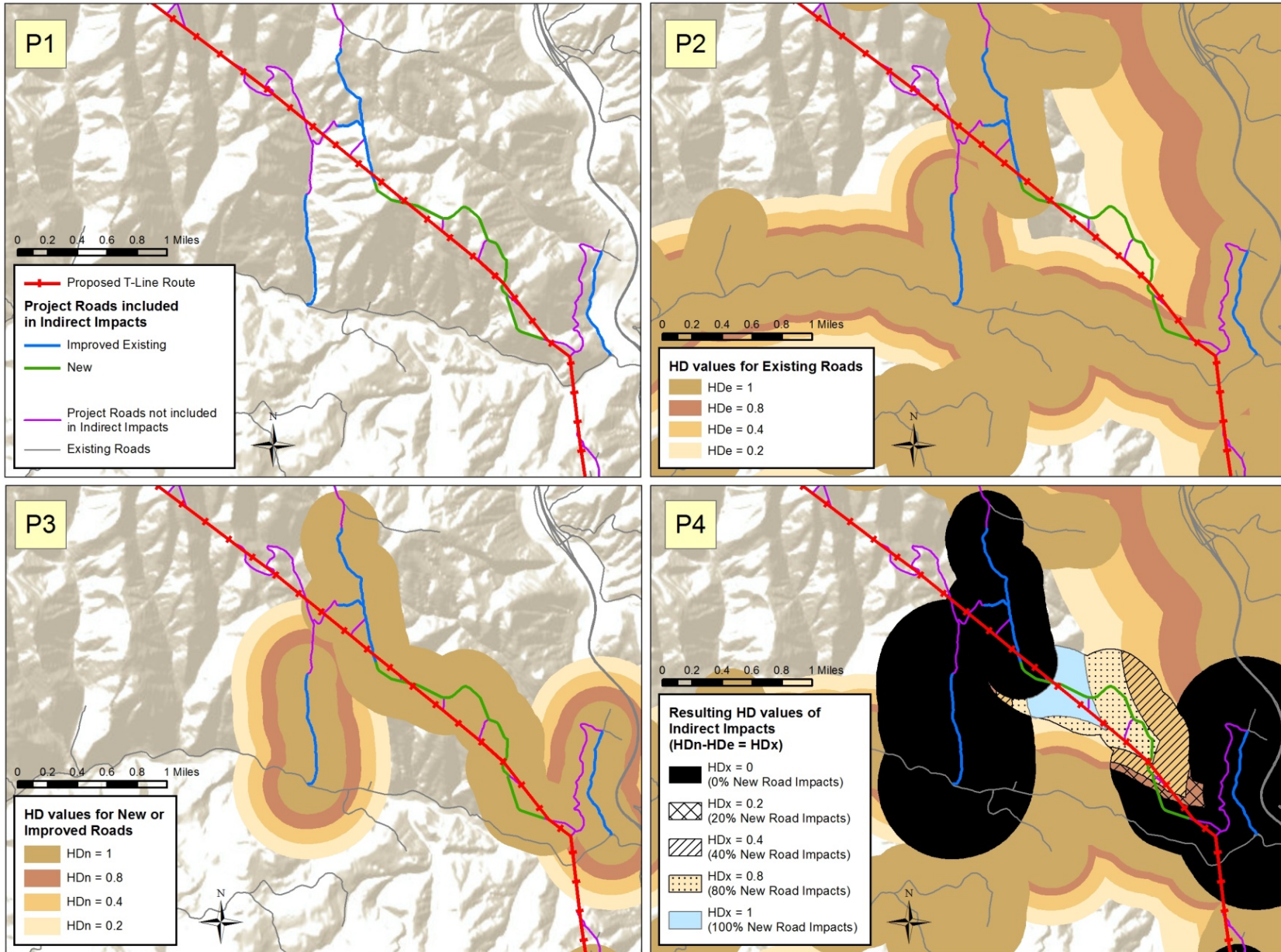
7 *a. The final calculations shall be based on the as-constructed footprint of the*
8 *facility.*

9 *b. Oregon's Elk Mitigation Framework shall be used to calculate the amount of*
10 *elk habitat compensatory mitigation required for the facility, and the information*
11 *from the pre- and post-construction traffic studies shall be used in the calculation.*

12 To quantify the acres of indirect impacts to elk winter range and summer range, the assumed
13 baseline traffic volume was evaluated against assumed traffic volume during operation. To
14 calculate indirect impacts from new Project roads, the increase in traffic volume was compared
15 to a baseline of zero. Thus, new Project roads with a low traffic volume increased the baseline
16 from zero vehicles per day to two to less than four vehicles per day. Disturbance impacts from
17 existing roads are considered realized and no new indirect impacts are calculated where the HD
18 of the existing road exceed the HD of the new road. To calculate indirect impacts to existing
19 roads used for the Project, the increase in traffic volume is evaluated against the existing traffic
20 volume and new impacts are calculated only where the HD of the new volume exceeds the HD
21 of the existing volume.

22 Further, direct impact areas are treated as resulting in a complete loss of functional value, or
23 having an impact akin to an HD value of 1.00. In order not to double count direct and indirect
24 impacts above a complete loss of functional value HD greater than 1.0, IPC did not include
25 indirect impact acres within an HD band less than 1.0 if those acres were already accounted for
26 by a direct impact acre.

27 Figure P3-2 provides an example of how IPC applied the distance bands and calculated the
28 indirect impacts for Project roads. Attachment P3-1 shows the same analysis as Figure P3-2 but
29 for the entire length of the Proposed Route in elk winter range and summer range.



1
2 **Figure P3-2. Indirect Impacts Calculation Example**

1 With the Proposed Route, 119.27 miles out of a total of 751 miles of new and existing roads are
 2 within elk winter range or summer range. A total of 27.88 miles of those roads do not have
 3 proposed access control and therefore are included in the indirect impact calculation. The roads
 4 with access control are not included.

5 For the Morgan Lake Alternative, 31.06 of 59 miles of new and existing roads are within elk
 6 winter range or summer range, of which 8.5 miles of new and existing roads do not have
 7 proposed access control and therefore are included in the indirect impact calculation. The roads
 8 with access control are not included.

9 Table P3-10 identifies the number of miles of Project roads within elk winter range and summer
 10 range. Table P3-11 sets forth the indirect impact calculations based on the Elk Mitigation
 11 Framework methodology.

12 **Table P3-10. Miles of Project Roads within Elk Winter Range and Summer Range**

Route or Segment	Road Type	ODFW Habitat Categories		Overlap of Winter Range and Summer Range ³ (Miles)	Total ⁴ Miles
		2 - Winter Range ¹ (Miles)	3 - Summer Range ² (Miles)		
Proposed Route	New Roads, included in indirect impacts	2.63	1.69	0.00	4.32
	Substantially Modified Roads, included in indirect impacts	15.28	10.18	1.89	23.57
	New and Substantially Modified Roads, not included in indirect impacts	87.61	24.33	20.54	91.39
Morgan Lake Alternative	New Roads, included in indirect impacts	2.42	2.42	2.42	2.42
	Substantially Modified Roads, included in indirect impacts	4.43	6.05	4.43	6.05
	New and Substantially Modified Roads, not included in indirect impacts	19.97	18.61	15.99	22.59

¹ Source: ODFW 2013. Portions of elk winter range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

² Source: RMEF 1999. Portions of elk summer range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

³ Overlap of Winter Range and Summer Range is where the area of impact occurs within both types habitat. Summer Range and Winter Range are not discrete areas.

⁴ Total = [(Winter Range + Summer Range) – (Overlap of Winter Range and Summer Range)]. Total does not double count acres or miles.

1 **Table P3-11. Indirect Impacts Calculations for Elk Winter Range and Summer Range**

Route	Habitat	Disturbance Band	Habitat Distance Value (HD)	Weighted Indirect Impacts of the Project (acres)	Weighted Indirect Impacts of Existing Roads that Overlap the Project's Indirect Impacts (acres)	Indirect Impacts of the Project, Taking into Account Existing Road Impacts (acres)
Proposed Route, New Roads	Winter Range ¹	0-0.25	1	1,306.27	878.28	427.99
	Summer Range ²	0-0.25	1	1,015.32	1,009.72	5.59
	Overlap of Winter and Summer Range ³	0-0.25	1	7.17	7.17	0.00
	Total⁴			2,314.42	1,880.83	433.58
Proposed Route, Substantially Modified Roads	Winter Range ¹	0-0.25	1	5,699.94	5,699.94	0.00
	Summer Range ²	0-0.25	1	3,094.49	3,094.49	0.00
	Overlap of Winter and Summer Range ³	0-0.25	1	556.17	556.17	0.00
	Total⁴			8,372.80	8,372.80	0.00
Morgan Lake Alternative, New Roads	Winter Range ¹	0-0.25	1	1,367.24	1,191.48	175.76
	Summer Range ²	0-0.25	1	1,319.90	1,167.19	152.71
	Overlap of Winter and Summer Range ³	0-0.25	1	1,268.43	1,115.72	152.71
	Total⁴			1,418.71	1,242.95	175.76

Route	Habitat	Disturbance Band	Habitat Distance Value (HD)	Weighted Indirect Impacts of the Project (acres)	Weighted Indirect Impacts of Existing Roads that Overlap the Project's Indirect Impacts (acres)	Indirect Impacts of the Project, Taking into Account Existing Road Impacts (acres)
Morgan Lake Alternative, Substantially Modified Roads	Winter Range ¹	0-0.25	1	1,400.25	1,400.25	0.00
	Summer Range ²	0-0.25	1	1,848.06	1,848.06	0.00
	Overlap of Winter and Summer Range ³	0-0.25	1	1,400.08	1,400.08	0.00
	Total⁴			1,848.22	1,848.22	0.00

¹ Source: ODFW 2013. Portions of elk winter range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

² Source: RMEF 1999. Portions of elk summer range within elk de-emphasis areas (East Beulah and Columbia Basin management units) were removed from this analysis per guidance from ODFW.

³ Overlap of Winter Range and Summer Range is where the area of impact occurs within both types habitat. Summer Range and Winter Range are not discrete areas.

⁴ Total = [(Winter Range + Summer Range) – (Overlap of Winter Range and Summer Range)]. Total does not double count acres or miles.

1 **Elk Winter Range**

2 For the Proposed Route, 2.63 miles of new access roads and 15.28 miles of substantially
3 modified existing roads are included in the elk winter range indirect impact analysis
4 (Table P3-10). Indirect impacts related to new roads will be 427.99 acres. There are no indirect
5 impacts resulting from substantially modified existing roads (Table P3-11).

6 For the Morgan Lake Alternative, 2.42 miles of new access roads and 4.43 miles of substantially
7 modified existing roads are included in the elk winter range indirect impact analysis
8 (Table P3-10). Indirect impacts related to new roads will be 175.76 acres. There are no indirect
9 impacts resulting from substantially modified existing roads (Table P3-11).

10 **Elk Summer Range**

11 For the Proposed Route, 1.69 miles of new access roads and 10.18 miles of substantially
12 modified existing roads without access control (Table P3-10). Indirect impacts for new roads
13 include 5.59 acres; indirect impacts for substantially modified existing roads is 0 (Table P3-11).

14 For the Morgan Lake Alternative, indirect impacts to elk summer range include 2.42 miles of
15 new access roads and 6.05 miles of substantially modified existing roads are included in the elk
16 winter range indirect impact analysis (Table P3-10). Indirect impacts related to new roads will be
17 152.71 acres. There are no indirect impacts resulting from substantially modified existing roads
18 (Table P3-11).

19 **3.5.5 Measures to Avoid, Reduce, or Mitigate Adverse Effects**

20 OAR 345-021-0010(1)(p)(G): A description of any measures proposed by the applicant to avoid,
21 reduce or mitigate the potential adverse impacts described in (F) in accordance with the ODFW
22 mitigation goals described in OAR 635-415-0025 and a discussion of how the proposed
23 measures would achieve those goals.

24 This section describes the avoidance, minimization, and mitigation measures that have been
25 and will be implemented to avoid, reduce, or mitigate potential adverse impacts to fish and
26 wildlife habitat and State Sensitive species, and discusses how the proposed measures achieve
27 ODFW habitat mitigation goals. Mitigation is further discussed in the Fish and Wildlife Habitat
28 Management Plan (Attachment P1-6).

29 **3.5.5.1 Avoidance and Minimization Measures Common to All Fish and Wildlife** 30 **Habitats and State Sensitive Species**

31 **Project Design**

32 During initial routing of the Project, avoidance of sensitive resources related to fish and wildlife
33 habitat and State Sensitive species was taken into consideration by IPC. Applicable sensitive
34 resource areas that were avoided to the extent practical during the initial siting process
35 included, but were not limited to:

- 36 • BLM-designated areas of critical environmental concern;
- 37 • BLM-designated wilderness study areas;
- 38 • Waterbodies and wetlands, including wild and scenic rivers and streams with special
39 status species;
- 40 • U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration
41 Fisheries Division critical habitats for federal Endangered Species Act-listed species;

- 1 • Areas with sensitive wildlife resources, such as Washington ground squirrel (WAGS)
2 colonies and raptor nests;
- 3 • United States Forest Service–designated inventoried roadless areas; and
- 4 • Category 1 WAGS and State Sensitive wildlife habitat on the Naval Weapons Systems
5 Training Facility Boardman.

6 To minimize impacts, the Project was designed to follow existing developments and utility
7 corridors, such as existing roads and power lines, to the extent practical in order to consolidate
8 impacts of the proposed line in areas that have already been disturbed, as opposed to
9 impacting undisturbed areas.

10 IPC also conducted extensive public outreach, in the form of the Community Advisory Process,
11 as well as consulting with land-managing agencies regarding possible route locations for the
12 Project. A route that completely avoided impacts to all sensitive resources was not possible due
13 to the distribution of sensitive resources across the landscape, and as avoidance of one
14 sensitive resource can often result in the route becoming located within range of another
15 sensitive resource (e.g., avoiding forested habitats can result in the route passing through
16 more shrubland habitats) input from the public and land-managing agencies resulted in
17 alternative routes that weight avoidance of one resource against another. Documentation of the
18 siting process is available in Exhibit B. Details regarding the siting process and the constraints
19 considered during the development of the proposed and alternative routes are presented in the
20 Project Siting Studies (IPC 2010, 2012, 2015 [Attachments B-1, B-2, and B-4 in Exhibit B]).

21 ***Environmental Training***

22 Construction personnel will attend mandatory training on protection of environmental resources,
23 as well as the need to adhere to all applicable restrictions and permit requirements. The training
24 will ensure that all Project personnel understand and are aware of the environmental
25 requirements, protection measures, and compliance. To ensure compliance with the
26 environmental training program, IPC proposes that the Council include the following condition in
27 the site certificate providing that IPC will ensure all Project personnel are trained on
28 environmental matters:

29 ***Fish and Wildlife Condition 9:*** *Prior to construction, the site certificate holder*
30 *shall instruct all construction personnel on the protection of cultural,*
31 *paleontological, ecological, and other natural resources such as (a) federal and*
32 *state laws regarding antiquities, paleontological resources, and plants and*
33 *wildlife, including collection and removal; (b) the importance of these resources;*
34 *(c) the purpose and necessity of protecting them; and (d) reporting and*
35 *procedures for stop work.*

36 ***Access Control***

37 As discussed above, IPC is proposing a site certificate condition intended to minimize
38 disturbance to elk habitat by implementing access control on Project access roads in elk
39 summer and winter range where possible.

40 ***3.5.5.2 Elk-Specific Avoidance and Minimization Measures***

41 ***Project Design***

42 In addition to the avoidance and minimization measures described above common to fish and
43 wildlife species, IPC has implemented or will implement several measures specific to State
44 Sensitive wildlife species and Category 1 and 2 wildlife habitats. During initial siting, IPC

1 considered Category 2 elk winter range, among other things, as a siting constraints. IPC
2 attempted to avoid such habitat to the extent feasible. However, due to siting constraints
3 imposed by other sensitive resources (discussed in detail in Exhibit B), avoidance of elk winter
4 range has required balancing various sensitive resources.

5 **Seasonal Restrictions**

6 As discussed above, IPC is proposing a site certificate condition to incorporate by reference
7 certain seasonal and spatial restrictions to protect to elk winter range.

8 **3.5.6 Monitoring Plan**

9 OAR 345-021-0010(1)(p)(H): A description of the applicant's proposed monitoring plans to
10 evaluate the success of the measures described in (G).

11 IPC will conduct reclamation monitoring surveys for a 3-year period following the conclusion of
12 ground-disturbing activities; if pre-designated success criteria are not met after 3 years, any
13 necessary re-vegetation efforts (as applicable) will be conducted and monitoring will continue for
14 up to an additional 2 years. Successful revegetation will be determined by monitoring reclaimed
15 areas and comparing them to preconstruction conditions. The Reclamation and Revegetation
16 Plan (Attachment P1-3) contains a description of monitoring and reclamation success standards
17 that will be implemented to determine whether post-construction revegetation efforts have been
18 successful.

19 IPC will also monitor mitigation actions to determine if mitigation performance measures have
20 been met at habitat mitigation areas. The Fish and Wildlife Habitat Mitigation Plan (Attachment
21 P1-6) discusses habitat mitigation actions, and will identify monitoring of those actions. In
22 addition, as described in Exhibit BB, Attachment BB-3, any stream crossing structure put in
23 place for the Project will be inspected for status within a week of any high-flow event during
24 Project construction.

25 Finally, IPC will monitor traffic volumes within elk winter range and summer range for one year
26 prior to construction and for one year during the second year of operation.

27 **4.0 IDAHO POWER'S PROPOSED SITE CERTIFICATE CONDITIONS**

28 IPC proposes the following site certificate conditions to ensure compliance with the Fish and
29 Wildlife Habitat Standard as it applies to elk habitat.

30 **Prior to Construction**

31 ***Fish and Wildlife Condition 3:*** Prior to construction, the site certificate holder
32 shall conduct a one-year traffic study in elk habitat (i.e., elk summer range and
33 elk winter range) and sage-grouse habitat (i.e., areas of high population richness,
34 core area habitat, low density habitat, or general habitat).

35 ***Fish and Wildlife Condition 4:*** Prior to construction, the site certificate holder
36 shall finalize, and submit to the department for its approval, a final Reclamation
37 and Revegetation Plan. The protective measures described in the draft
38 Reclamation and Revegetation Plan in ASC Exhibit P1, Attachment P1-3, shall
39 be included and implemented as part of the final Reclamation and Revegetation
40 Plan, unless otherwise approved by the department.

41 ***Fish and Wildlife Condition 5:*** Prior to construction, the site certificate holder
42 shall finalize, and submit to the department for its approval, a final Vegetation

1 Management Plan. The protective measures described in the draft Vegetation
2 Management Plan in ASC Exhibit P1, Attachment P1-4, shall be included as part
3 of the final Vegetation Management Plan, unless otherwise approved by the
4 department.

5 **Fish and Wildlife Condition 6:** Prior to construction, the site certificate holder
6 shall finalize, and submit to the department for its approval, a final Noxious Weed
7 Plan. The protective measures as described in the draft Noxious Weed Plan in
8 ASC Exhibit P1, Attachment P1-5, shall be included and implemented as part of
9 the final Noxious Weed Plan, unless otherwise approved by the department.

10 **Fish and Wildlife Condition 7:** Prior to construction, the site certificate holder
11 shall finalize, and submit to the department for its approval, a final Fish and
12 Wildlife Habitat Mitigation Plan (HMP).

13 a. The final Fish and Wildlife HMP shall include the following, unless otherwise
14 approved by the department:

- 15 i. The areas that were surveyed for biological resources;
- 16 ii. The location of all facility components and related and supporting
17 facilities;
- 18 iii. The areas that will be permanently and temporarily disturbed during
19 construction;
- 20 iv. The protective measures described in the draft Fish and Wildlife HMP
21 in ASC Exhibit P, Attachment P-6; and
- 22 v. The results of the biological surveys referenced in Fish and Wildlife
23 Condition 1 and Fish and Wildlife Condition 2.

24 b. The final Fish and Wildlife HMP shall address the potential habitat impacts
25 through mitigation banking, an in-lieu fee program, development of mitigation
26 projects by the site certificate holder, or a combination of the same.

27 i. To the extent the site certificate holder shall develop its own mitigation
28 projects, the final Habitat Mitigation Plan shall:

- 29 1. Identify the location of each mitigation site, including a map of
30 the same;
- 31 2. Identify the number of credit-acres that each mitigation site will
32 provide for the site certificate holder;
- 33 3. Include a site-specific mitigation management plan for each
34 mitigation site that provides for:
 - 35 A. A baseline ecological assessment;
 - 36 B. Conservation actions to be implemented at the site;
 - 37 C. An implementation schedule for the baseline ecological
38 assessment and conservation actions;
 - 39 D. Performance measures;
 - 40 E. A reporting plan; and
 - 41 F. A monitoring plan.

42 ii. To the extent the site certificate shall utilize a mitigation bank or in-lieu
43 fee program, the final Habitat Mitigation Plan shall:

- 44 1. Describe the nature, extent, and history of the mitigation bank
45 or in-lieu fee program; and
- 46 2. Identify the number of credit-acres that each mitigation site will
47 provide for the site certificate holder.

48 c. Oregon's Elk Mitigation Framework shall be used to calculate the amount of
49 elk habitat compensatory mitigation required for the facility.

1 d. The final Fish and Wildlife Habitat Mitigation Plan may be amended from time
2 to time by agreement of the site certificate holder and the department. Such
3 amendments may be made without amendment to the site certificate. The
4 Council authorizes the department to agree to amendments of the plan and to
5 mitigation actions that may be required under the plan; however, the Council
6 retains the authority to approve, reject, or modify any amendment of the plan
7 agreed to by the department.

8 **Fish and Wildlife Condition 9:** Prior to construction, the site certificate holder
9 shall instruct all construction personnel on the protection of cultural,
10 paleontological, ecological, and other natural resources such as (a) federal and
11 state laws regarding antiquities, paleontological resources, and plants and
12 wildlife, including collection and removal; (b) the importance of these resources;
13 (c) the purpose and necessity of protecting them; and (d) reporting and
14 procedures for stop work.

15 **During Construction**

16 **Fish and Wildlife Condition 10:** During construction, the site certificate holder
17 shall not conduct ground-disturbing activities within elk or mule deer winter range
18 between December 1 to March 31. Upon request by the site certificate holder,
19 the department may provide exceptions to this restriction. The site certificate
20 holder's request must include a justification for the request, including any actions
21 the site certificate holder will take to avoid, minimize, or mitigate impacts to elk
22 and mule deer in the relevant area.

23 **Fish and Wildlife Condition 15:** During construction, the site certificate holder
24 shall flag the following environmentally sensitive areas as restricted work zones:
25 a. State protected plant species;
26 b. Wetlands and waterways that are not authorized for construction impacts;
27 c. Areas with active spatial and seasonal restrictions; and
28 d. Category 1 habitat.

29 The site certificate holder shall submit a mapset showing the location of
30 environmentally sensitive areas and restricted work zones to the department for
31 its approval. The site certificate shall make the mapset available to all
32 construction personnel.

33 **Fish and Wildlife Condition 16:** During construction, the site certificate holder
34 shall employ a speed limit of 25 miles per hour on facility access roads, unless
35 the applicable land-management agency or landowner has designated an
36 alternative speed limit.

37 **Fish and Wildlife Condition 17:** During construction, the site certificate holder
38 shall conduct all work in compliance with the final Reclamation and Revegetation
39 Plan referenced in Fish and Wildlife Condition 4.

40 **Fish and Wildlife Condition 18:** During construction, the site certificate holder
41 shall conduct all work in compliance with the final Vegetation Management Plan
42 referenced in Fish and Wildlife Condition 5.

43 **Fish and Wildlife Condition 19:** During construction, the site certificate holder
44 shall conduct all work in compliance with the final Noxious Weed Plan referenced
45 in Fish and Wildlife Condition 6.

1 **Fish and Wildlife Condition 20:** During construction, the site certificate holder
2 shall commence implementation of the conservation actions set forth in the final
3 Fish and Wildlife HMP referenced in Fish and Wildlife Condition 7.

4 **During the Second Year of Operation**

5 **Fish and Wildlife Condition 23:** During the second year of operation, the site
6 certificate holder shall conduct a one-year traffic study in elk habitat (i.e., elk
7 summer range and elk winter range) and sage-grouse habitat (i.e., areas of high
8 population richness, core area habitat, low density habitat, or general habitat).

9 **During the Third Year of Operation**

10 **Fish and Wildlife Condition 24:** During the third year of operation, the site
11 certificate holder shall provide to the department a report demonstrating that fish
12 and wildlife habitat mitigation shall be commensurate with the final
13 compensatory mitigation calculations.

14 a. The final calculations shall be based on the as-constructed footprint of the
15 facility.

16 b. Oregon's Elk Mitigation Framework shall be used to calculate the amount of
17 elk habitat compensatory mitigation required for the facility, and the information
18 from the pre- and post-construction traffic studies shall be used in the
19 calculation.

20 **During Operation**

21 **Fish and Wildlife Condition 26:** During operation, the site certificate holder shall
22 employ a speed limit of 25 miles per hour on facility access roads, unless the
23 applicable land-management agency or landowner has designated an alternative
24 speed limit.

25 **Fish and Wildlife Condition 27:** During operation, the site certificate holder shall
26 employ access control on facility access roads within elk habitat (i.e., elk summer
27 range and elk winter range) and sage-grouse habitat (i.e., areas of high
28 population richness, core area habitat, low density habitat, or general habitat),
29 subject to approval by the applicable land-management agency or landowner.

30 **Fish and Wildlife Condition 28:** During operation, the site certificate holder
31 shall conduct all work in compliance with the final Vegetation Management Plan
32 referenced in Fish and Wildlife Condition 5.

33 **Fish and Wildlife Condition 29:** During operation, the site certificate holder shall
34 conduct all work in compliance with the final Noxious Weed Plan referenced in
35 Fish and Wildlife Condition 6.

36 **5.0 CONCLUSION**

37 Exhibit P3—together with Exhibit P1—includes the application information provided for in
38 OAR 345-021-0010(1)(p). Additionally, Exhibits P3 and P1 demonstrate that the design,
39 construction, and operations of the Project, taking into account mitigation, will be consistent with
40 ODFW's Habitat Mitigation Goals and Standards contained in OAR 635-415-0025.

1 **6.0 COMPLIANCE CROSS-REFERENCES**

2 Table P3-12 identifies the location within the application for site certificate of the information
 3 responsive to the application submittal requirements in OAR 345-021-0010(1)(p), the Fish and
 4 Wildlife Standard at OAR 345-022-0060, and the relevant Amended Project Order provisions, as
 5 those requirements apply to species other than greater sage-grouse, which is addressed in
 6 Exhibit P2.

7 **Table P3-12. Compliance Requirements and Relevant Cross-References**

Requirement	Location
OAR 345-021-0010(1)(p)	
Exhibit P. Information about the fish and wildlife habitat and the fish and wildlife species, other than the species addressed in subsection (q) that could be affected by the proposed facility, providing evidence to support a finding by the Council as required by OAR 345-022-0060. The applicant shall include:	
(A) A description of biological and botanical surveys performed that support the information in this exhibit, including a discussion of the timing and scope of each survey.	Exhibit P3, Section 3.2; Exhibit P1, Section 3.2, Attachments P1-2 and P1-7A, and P1-7B
(B) Identification of all fish and wildlife habitat in the analysis area, classified by the habitat categories as set forth in OAR 635-415-0025 and a description of the characteristics and condition of that habitat in the analysis area.	Exhibit P3, Section 3.3; Exhibit P1, Section 3.3.1 and 3.2.2 and Attachment P1-1
(C) A map showing the locations of the habitat identified in (B).	Exhibit P3, Section 3.3.3; Exhibit P1, Section 3.3.3 and Attachment P1-8
(D) Based on consultation with the Oregon Department of Fish and Wildlife (ODFW) and appropriate field study and literature review, identification of all State Sensitive Species that might be present in the analysis area and a discussion of any site-specific issues of concern to ODFW.	Exhibit P3, Section 3.4; Exhibit P1, Section 3.4 and Attachments P1-7A and P1-7B
(E) A baseline survey of the use of habitat in the analysis area by species identified in (D) performed according to a protocol approved by the Department and ODFW.	Exhibit P3, Section 3.2; Exhibit P1, Section 3.2, Attachments P1-2 and P1-7A and P1-7B

Requirement	Location
(F) A description of the nature, extent and duration of potential adverse impacts on the habitat identified in (B) and species identified in (D) that could result from construction, operation and retirement of the proposed facility.	Exhibit P3, Section 3.5; Exhibit P1, Sections 3.5.1, 3.5.2, 3.5.3, 3.5.4, and 3.5.5
(G) A description of any measures proposed by the applicant to avoid, reduce or mitigate the potential adverse impacts described in (F) in accordance with the ODFW mitigation goals described in OAR 635-415-0025 and a discussion of how the proposed measures would achieve those goals.	Exhibit P3, Section 3.5.5; Exhibit P1, Sections 3.5.6, Section 4, , Attachments P1-3, P1-4, P1-5, P1-6, and P1-9
(H) A description of the applicant's proposed monitoring plans to evaluate the success of the measures described in (G).	Exhibit P3, Section 3.5.6; Exhibit P1, Section 3.5.7, Attachments P1-3, P1-4, P1-5, P1-6, and P1-9
OAR 345-022-0060	
To issue a site certificate, the Council must find that the design, construction and operation of the facility, taking into account mitigation, are consistent with the fish and wildlife habitat mitigation goals and standards of OAR 635-415-0025(1) through (6) in effect as of February 24, 2017.	Exhibit P1, Section 3.3 and 3.5
Amended Project Order Provisions, Section III(p)	
The applicant has proposed a "phased survey" approach for data collection during the site certificate review process. The Department understands that the entirety of the site boundary for the proposed facility may not yet have been surveyed, mapped for vegetation types, and categorized under ODFW's habitat categorization guidance. Nevertheless, Exhibit P shall include as much information as possible about the results of the field surveys conducted to date for biological resources and the schedule for future surveys.	Exhibit P3, Section 3.2; Exhibit P1, Section 3.2, 3.3, and 3.4 and Attachments P1-7A, P1-7B, and P1-8
Exhibit P shall include analysis of how the evidence provided supports a finding by the Council that the proposed facility meets the Council's fish and wildlife habitat standard.	Exhibit P3; Section 4.0; Exhibit P1, Section 3.0 and Attachment P1-6
Exhibit P must include the results of all surveys for fish and wildlife habitat in the analysis area.	Exhibit P3, Section 3.2; Exhibit P1, Section 3.2.4 and Attachments P1-7A, P1-7B, and P1-8

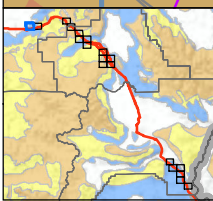
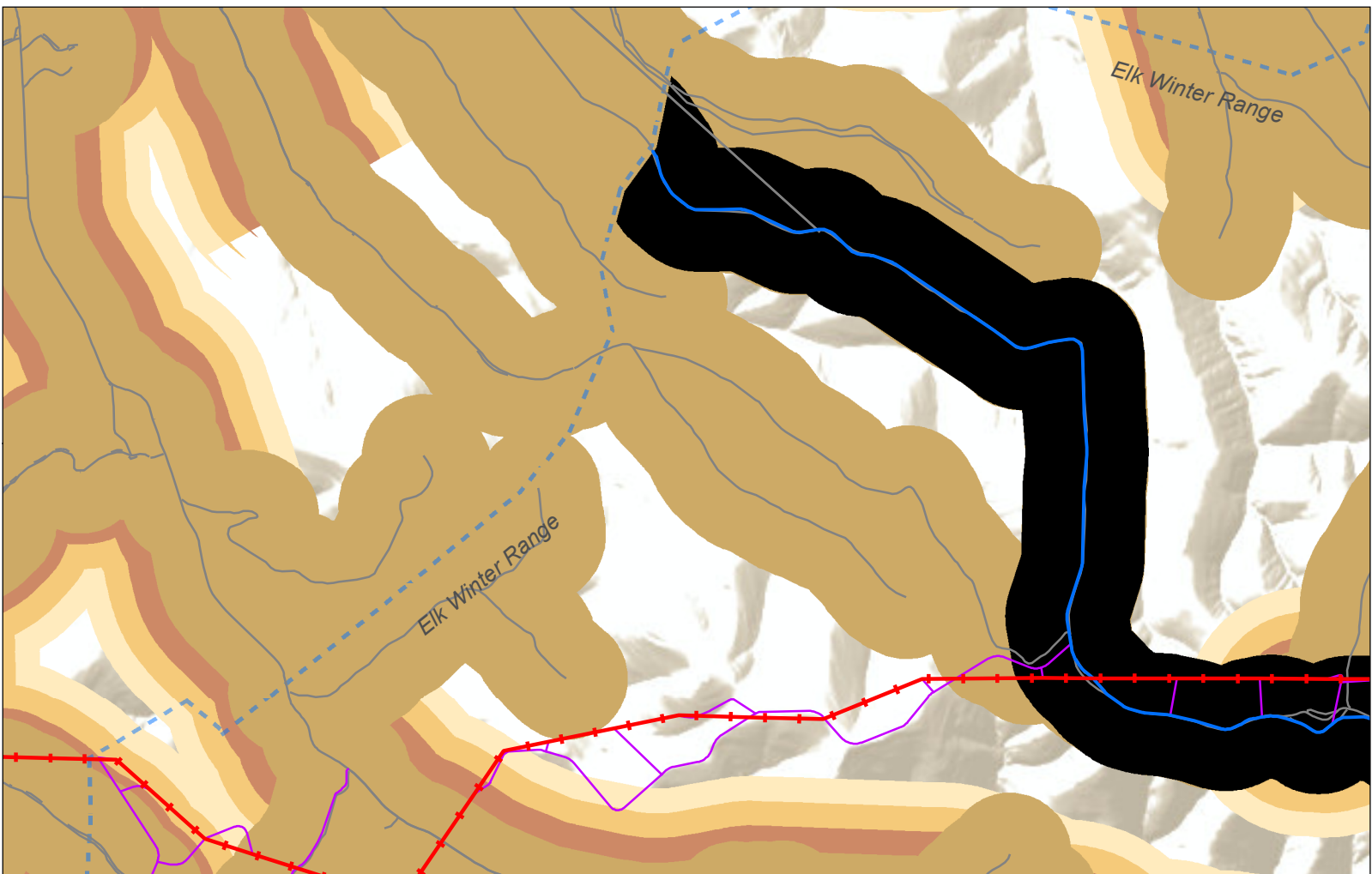
Requirement	Location
Exhibit P must also identify all state sensitive species that may be present in the analysis area and include the results of surveys for state sensitive species.	Exhibit P3, Section 3.4; Exhibit P1, Section 3.4, Attachments P1-7A and P1-7B
Please also include the survey methodology, including scope and timing of each survey. Surveys must be performed by qualified survey personnel during the season or seasons appropriate to the detection of the species in question.	Exhibit P3, Section 3.4; Exhibit P1, Section 3.2.4, and Attachments P1-7A and P1-7B
The applicant must also include in Exhibit P its habitat categorization and tables depicting the estimated temporary and permanent impacts, broken down by habitat categories.	Exhibit P3, Section 3.3.2; Exhibit P1, Section 3.5.3.3
If particular fish and/or wildlife habitat or state sensitive species are identified within the analysis area that could be adversely affected as a result of the proposed facility, the applicant shall include description of the nature, extent and duration of potential adverse impacts and a description of any proposed mitigation measures. Fish and Wildlife Habitat Mitigation Policy (OAR Chapter 635, Division 415) classifies six habitat categories and establishes a mitigation goal for each category. The applicant for a site certificate must identify the appropriate habitat category for all areas affected by the proposed facility and provide the basis for each category designation, subject to ODFW review. The applicant must show how it would comply with the habitat mitigation goals and standards by appropriate monitoring and mitigation.	Exhibit P3, Section 3.5; Exhibit P1, Section 3.5, and Attachment P1-6
As a result of the access timing issues for this proposed facility, please also provide proposed site certificate conditions for the Council's consideration related to requirements for the applicant to complete all unfinished surveys within the project's site boundary prior to construction. The proposed site certificate conditions should also address submittal requirements for reporting future survey results, adjustment of previously calculated impact areas (if necessary), and the applicant's proposed approach to document approval of final results by agencies or the Council prior to commencing construction activities.	Exhibit P3, Section 4.0; Exhibit P1, Section 4.0

1 7.0 REFERENCES

- 2 Ager, A. A., B.K. Johnson, J.W. Kern, and J.G. Kie. 2003. Daily and Seasonal Movements and
3 Habitat Use by Female Rocky Mountain Elk and Mule Deer. *Journal of Mammalogy*
4 84:1076–1088.
- 5 BLM (Bureau of Land Management). 2015. GeoBOB database for Oregon and Washington.
6 Database provided to IPC by the Bureau of Land Management.
- 7 IPC (Idaho Power Company). 2010. Siting Study. Boardman to Hemingway Transmission Line
8 Project. August.

- 1 IPC. 2012. Boardman to Hemingway Transmission Line Project Supplemental Siting Study.
2 June.
- 3 IPC. 2015. Boardman to Hemingway Transmission Line Project 2015 Supplemental Siting
4 Study. Prepared by IPC. November 2015.
- 5 Johnson, B. K., J. W. Kern, M. J. Wisdom, S. L. Findholt, and J. G. Kie. 2000. Resource
6 Selection and Spatial Separation of Mule Deer and Elk during Spring. *Journal of Wildlife*
7 *Management* 64:685–697.
- 8 Millsbaugh, J.J. 1999. Behavioral and Physiological Response of Elk to Human Activities in the
9 Southern Black Hills, South Dakota, Ph.D. Dissertation, University of Washington,
10 Seattle.
- 11 ODFW (Oregon Department of Fish and Wildlife). 2013. ODFW Winter Range for Eastern
12 Oregon. GIS dataset available online at:
13 <https://nrimp.dfw.state.or.us/DataClearinghouse/default.aspx?p=202&XMLname=885.xml>
- 14 ODFW. 2015. Mitigation Framework for Indirect Road Impacts to Rocky Mountain Elk Habitat.
15 April 14, 2015. Salem, OR.
- 16 RMEF (Rocky Mountain Elk Foundation). 1999. M.A.P. Elk Habitat Project. GIS data.
- 17 Rowland, M.M., A.W. Alldredge, J.E. Ellis, B.J. Weber, and G.C. White. 1983. Comparative
18 winter diets of elk in New Mexico. *Journal of Wildlife Management* 47:924–932.
- 19 Stewart, K.M., T.E. Fulbright, and D.L. Drawe. 2000. White-tailed Deer Use of Clearings
20 Relative to Forage Availability. *Journal of Wildlife Management* 64:733–741.
- 21 Westbrook, R. 1998. Invasive Plants, Changing the Landscape of America: Fact Book. Federal
22 Interagency Committee for the Management of Noxious and Exotic Weeds. Washington
23 D.C.
- 24 Wisdom, M.J. 1998. Assessing Life-Stage Importance and Resource Selection for Conservation
25 of Selected Vertebrates. Ph.D. dissertation, University of Idaho, Moscow.
- 26 Wisdom, M. J., N. J. Cimon, B. K. Johnson, E. O. Garton, and J. W. Thomas. 2004. Spatial
27 partitioning by mule deer and elk in relation to traffic. *Transaction of the North American*
28 *Wildlife and Natural Resources Conference* 69:509–530.

1 **ATTACHMENT P3-1**
2 **MAPBOOK OF INDIRECT IMPACTS TO ELK WINTER RANGE AND**
3 **SUMMER RANGE**



**B2H Corridor
Oregon & Idaho**

Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

—+— Proposed T-Line Route
 —+— Alternate T-Line Route

Project Road

— Improved Existing
 — New
 — Not included in Indirect Impacts

— Existing Road

HD values for Existing Roads

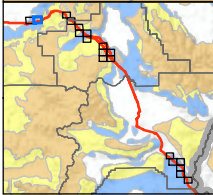
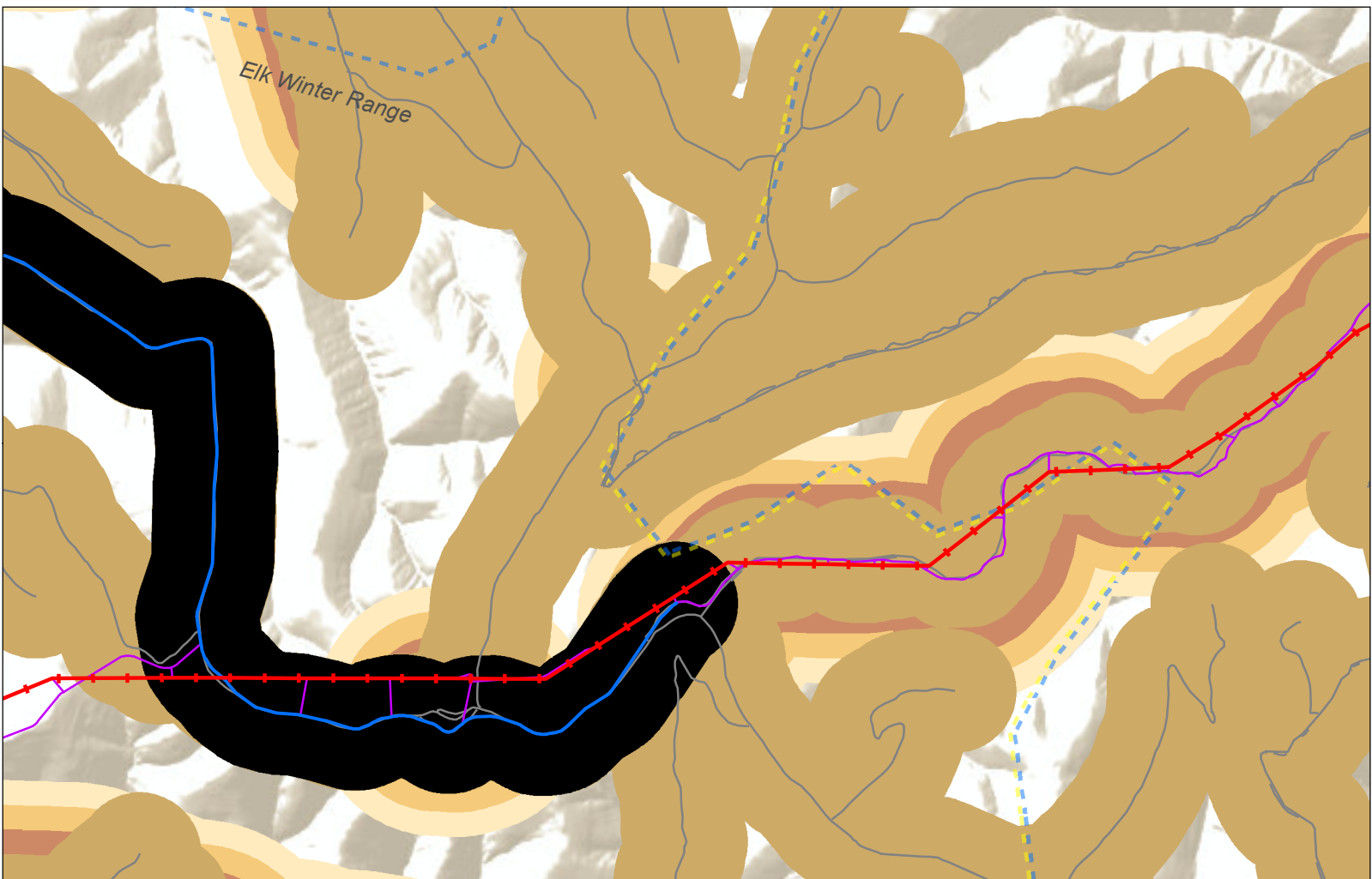
■ HDe = 1
 ■ HDe = 0.8
 ■ HDe = 0.4
 ■ HDe = 0.2

Resulting HD values of Indirect Impacts (HDn-HDe = HDx)

■ HDx = 0 (0% New Road Impacts)
 ▨ HDx = 0.2 (20% New Road Impacts)
 ▩ HDx = 0.4 (40% New Road Impacts)
 ▤ HDx = 0.8 (80% New Road Impacts)
 ■ HDx = 1 (100% New Road Impacts)

N
 W —+— E
 S

**Mapbook
 Page
 1 / 19**



**B2H Corridor
Oregon & Idaho**

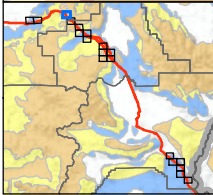
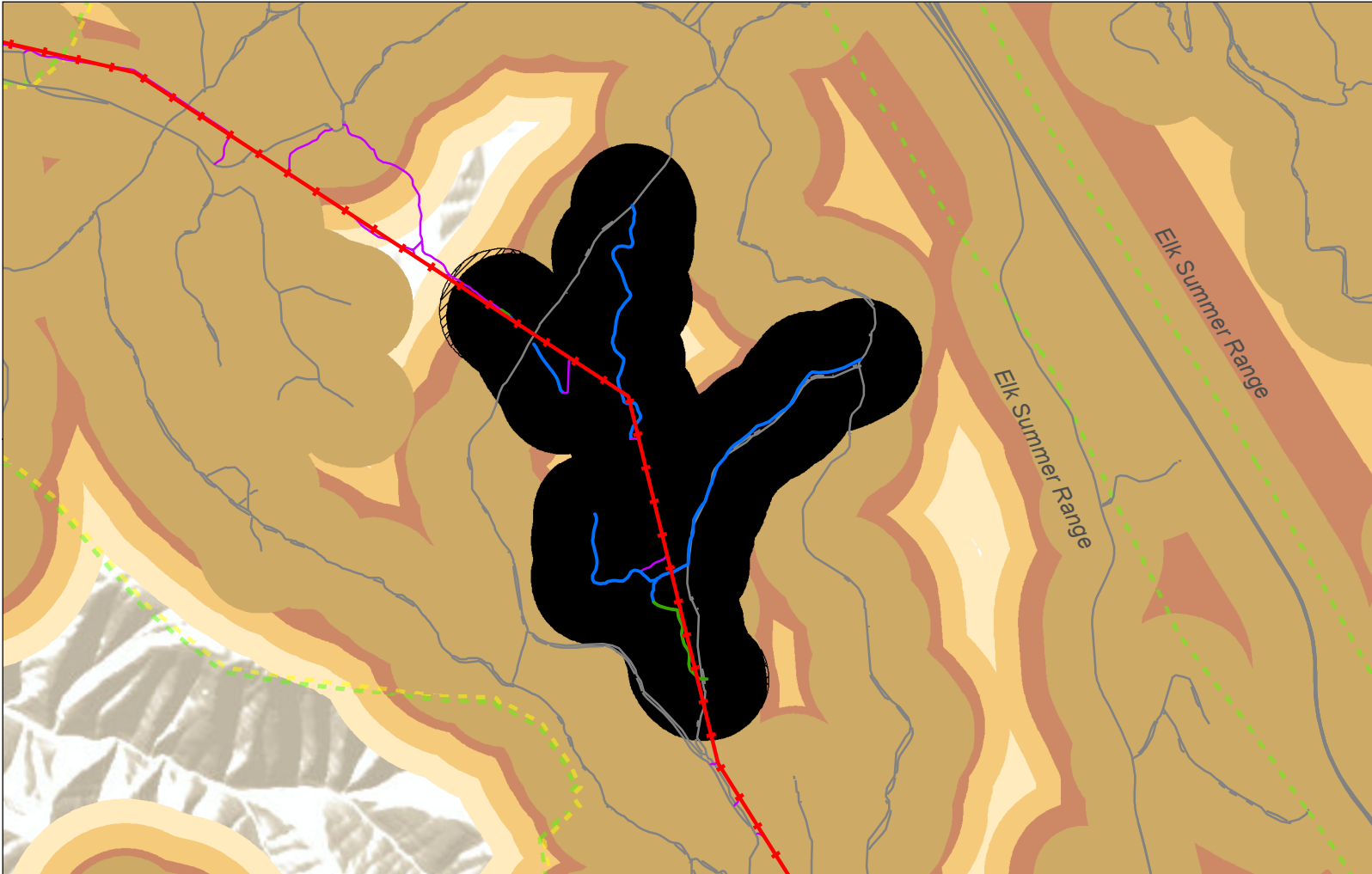
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

- Proposed T-Line Route
- Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

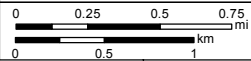
- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



B2H Corridor Oregon & Idaho

Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

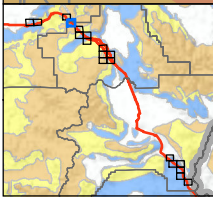
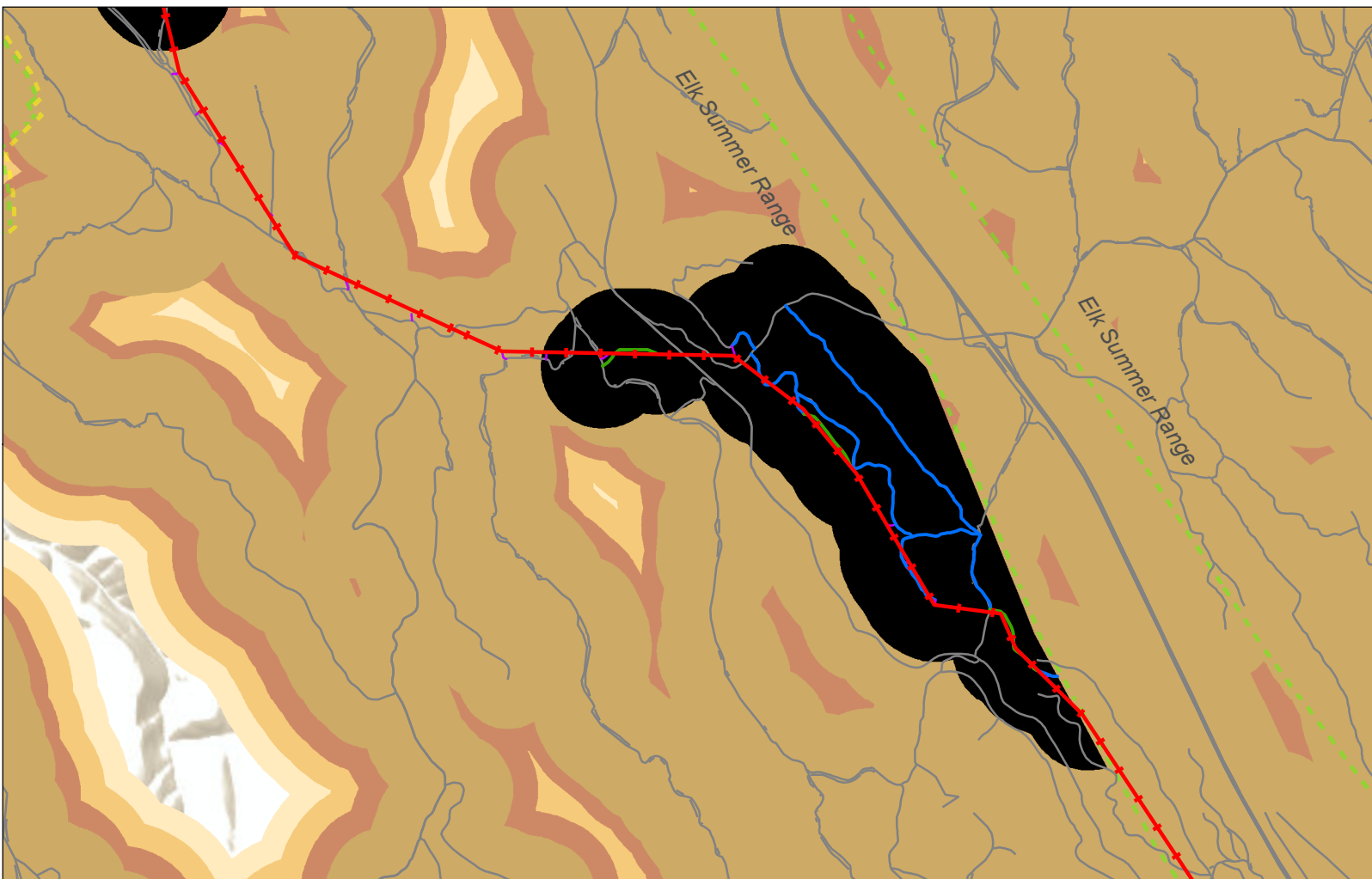


- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
- HDx = 0.2 (20% New Road Impacts)
- HDx = 0.4 (40% New Road Impacts)
- HDx = 0.8 (80% New Road Impacts)
- HDx = 1 (100% New Road Impacts)





**B2H Corridor
Oregon & Idaho**

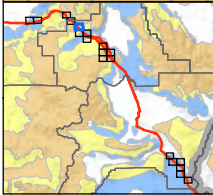
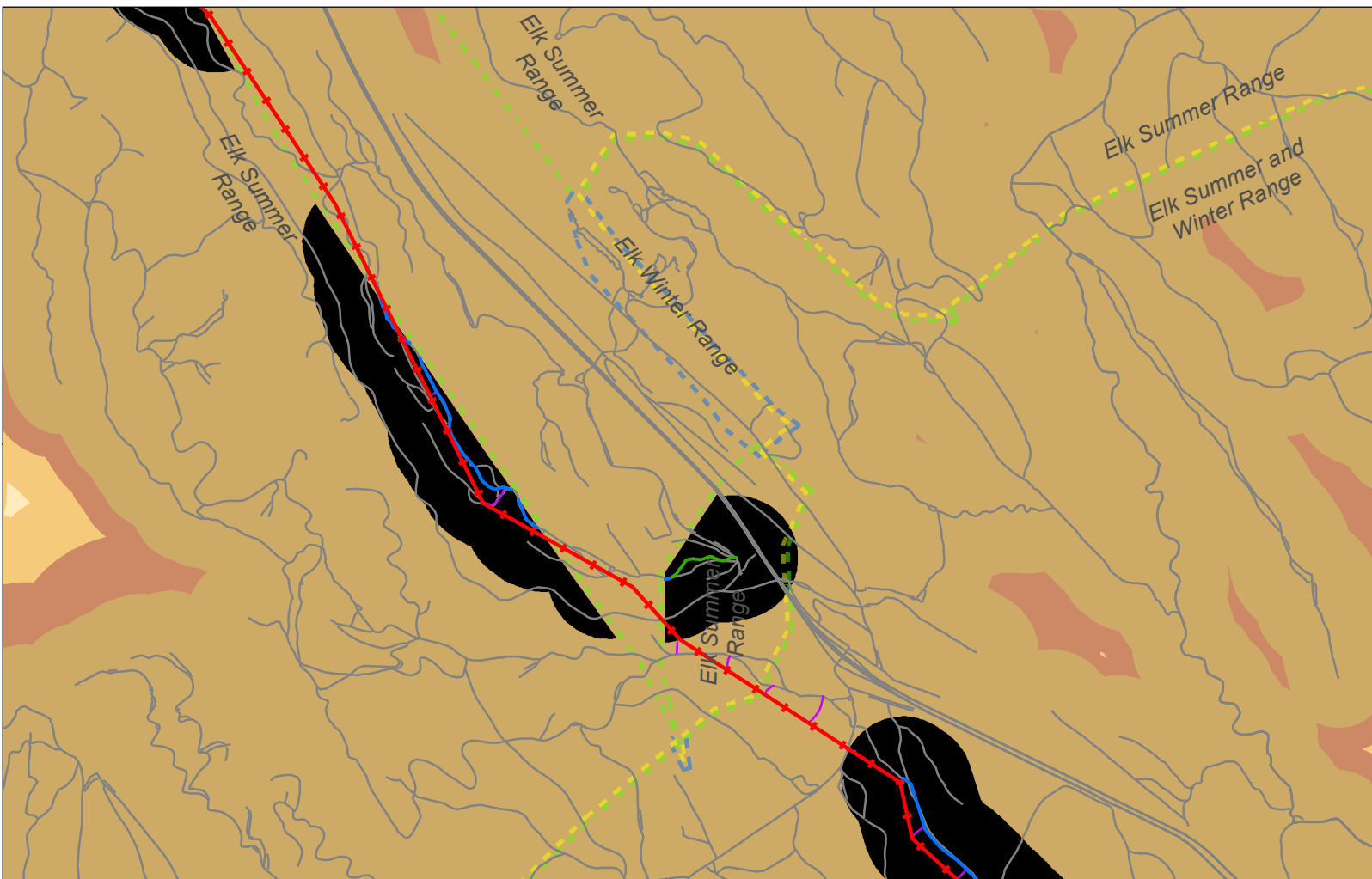
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

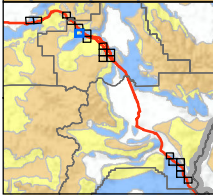
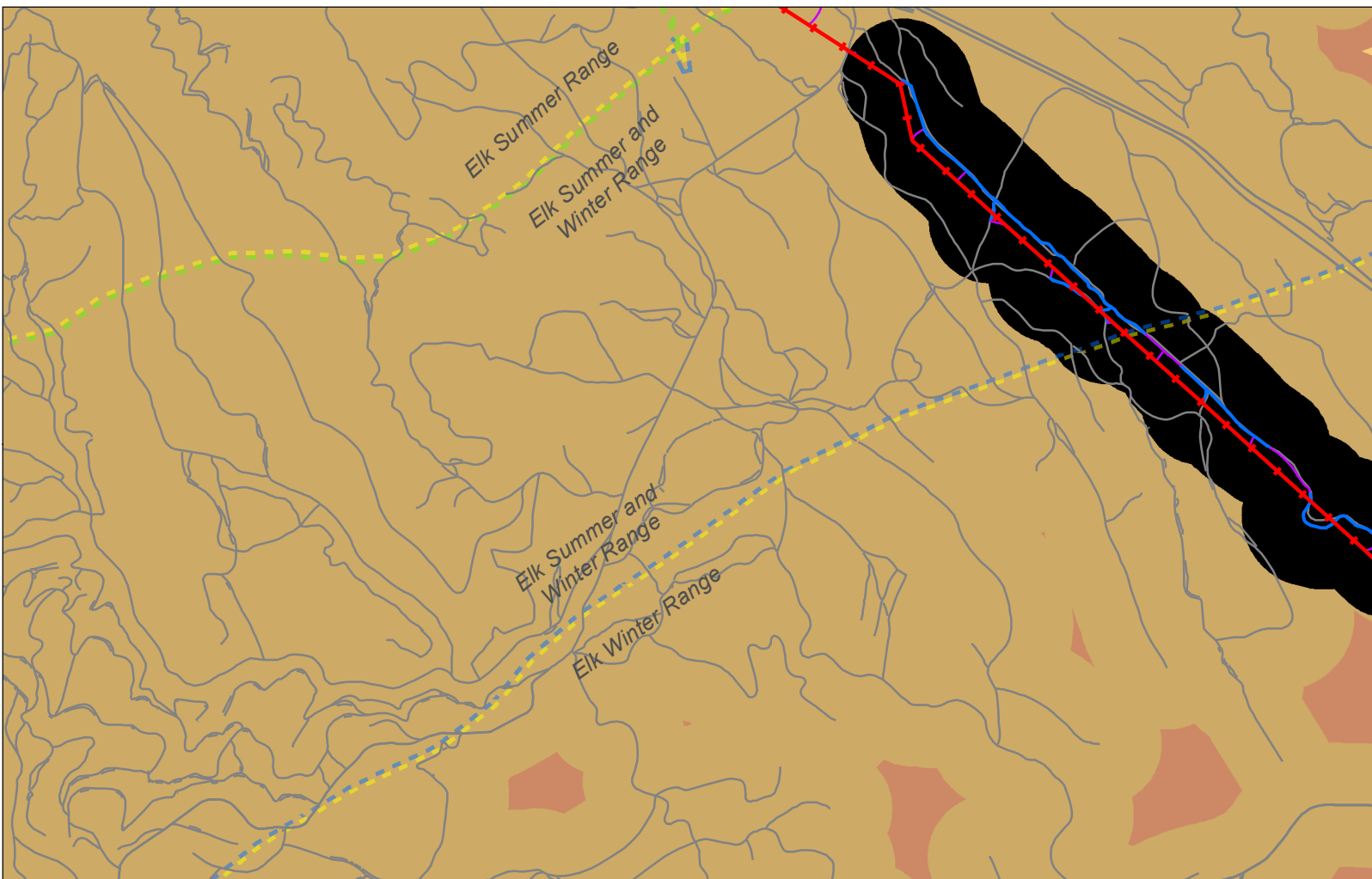
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
 - HDe = 0.8
 - HDe = 0.4
 - HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

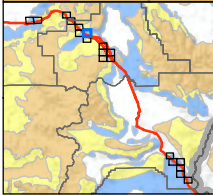
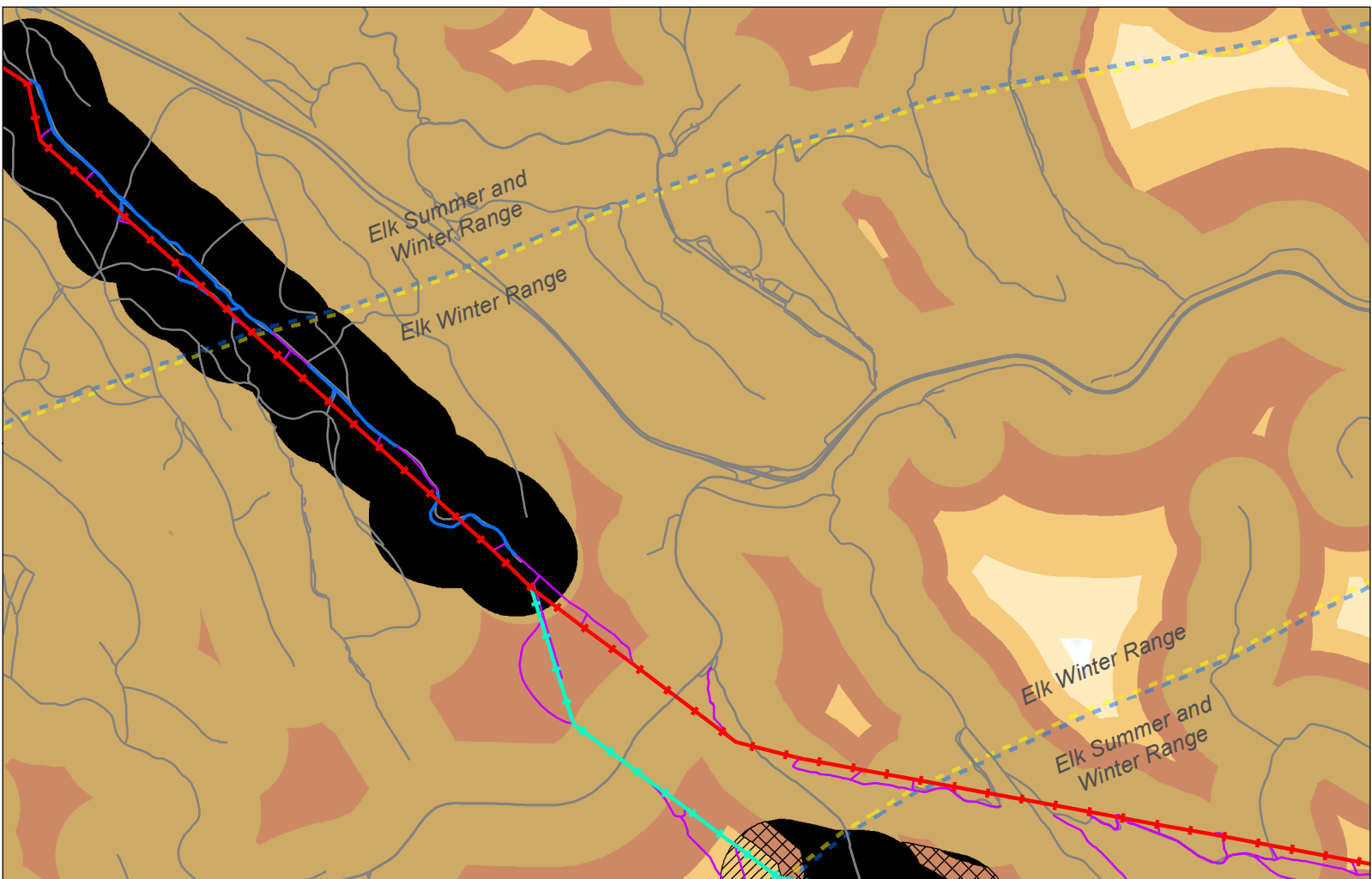
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

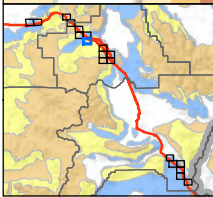
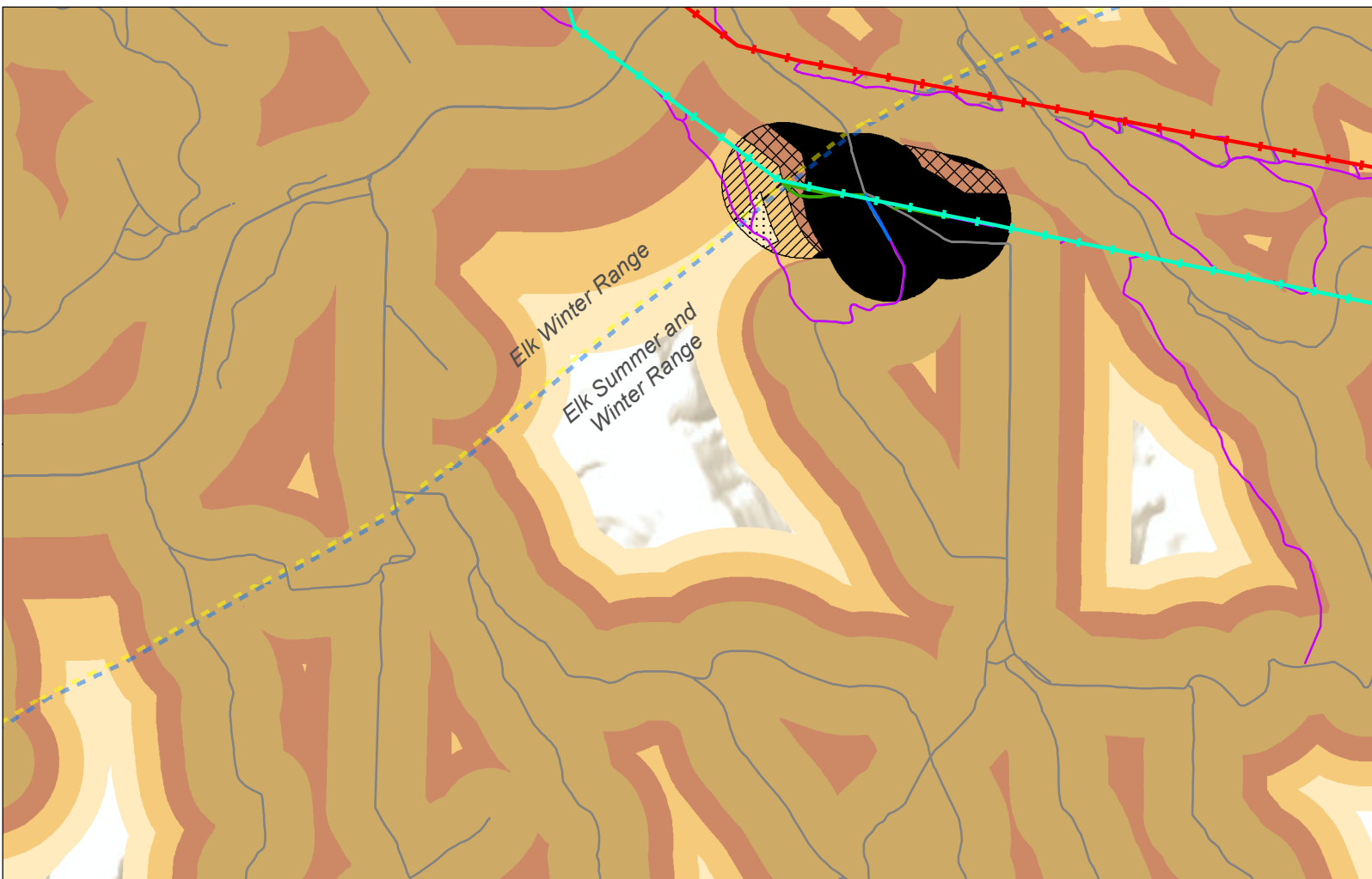
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- +— Improved Existing
- +— New
- +— Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
 - HDe = 0.8
 - HDe = 0.4
 - HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

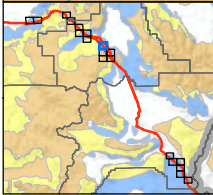
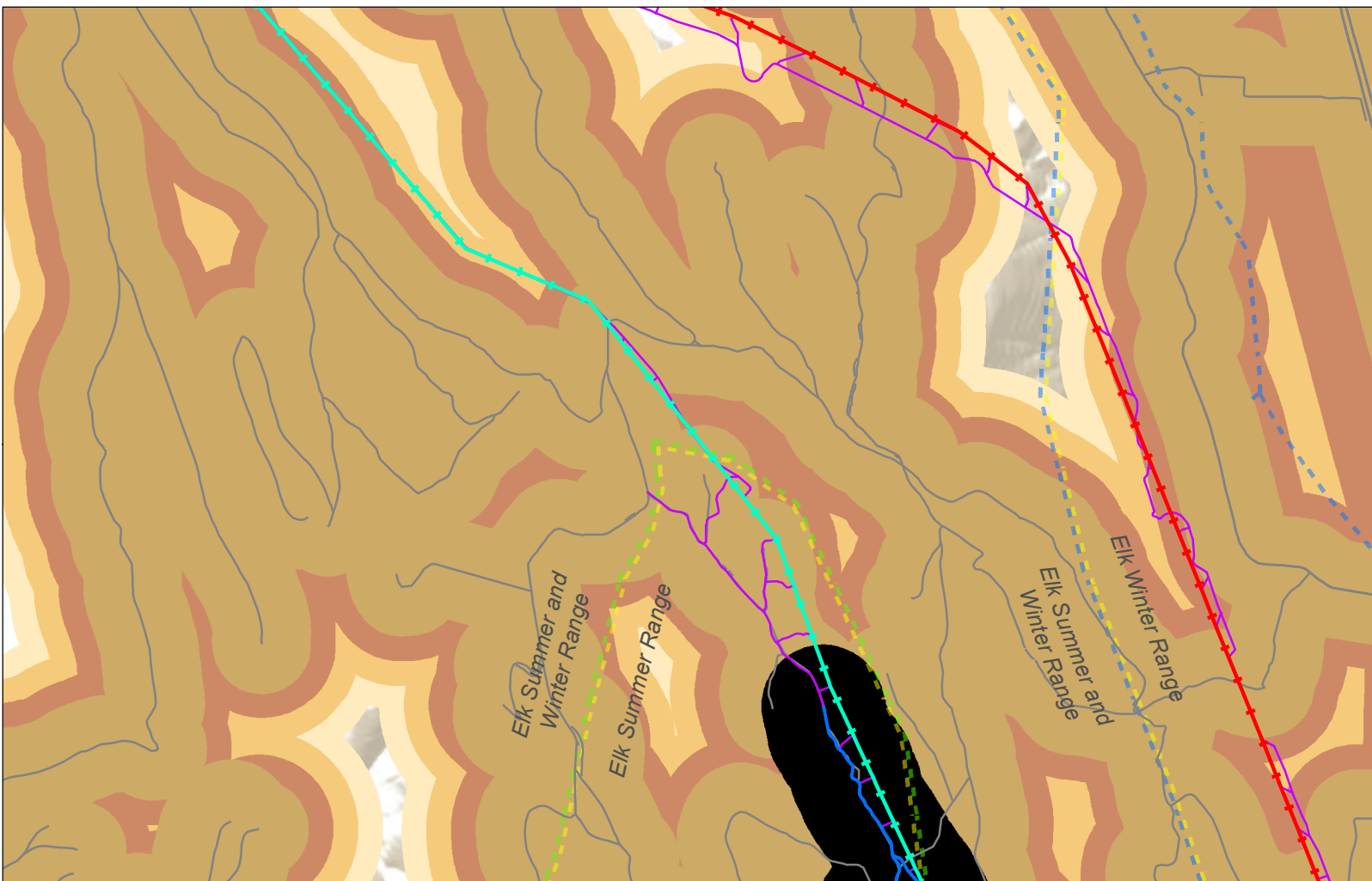
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
 - HDe = 0.8
 - HDe = 0.4
 - HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

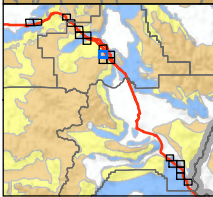
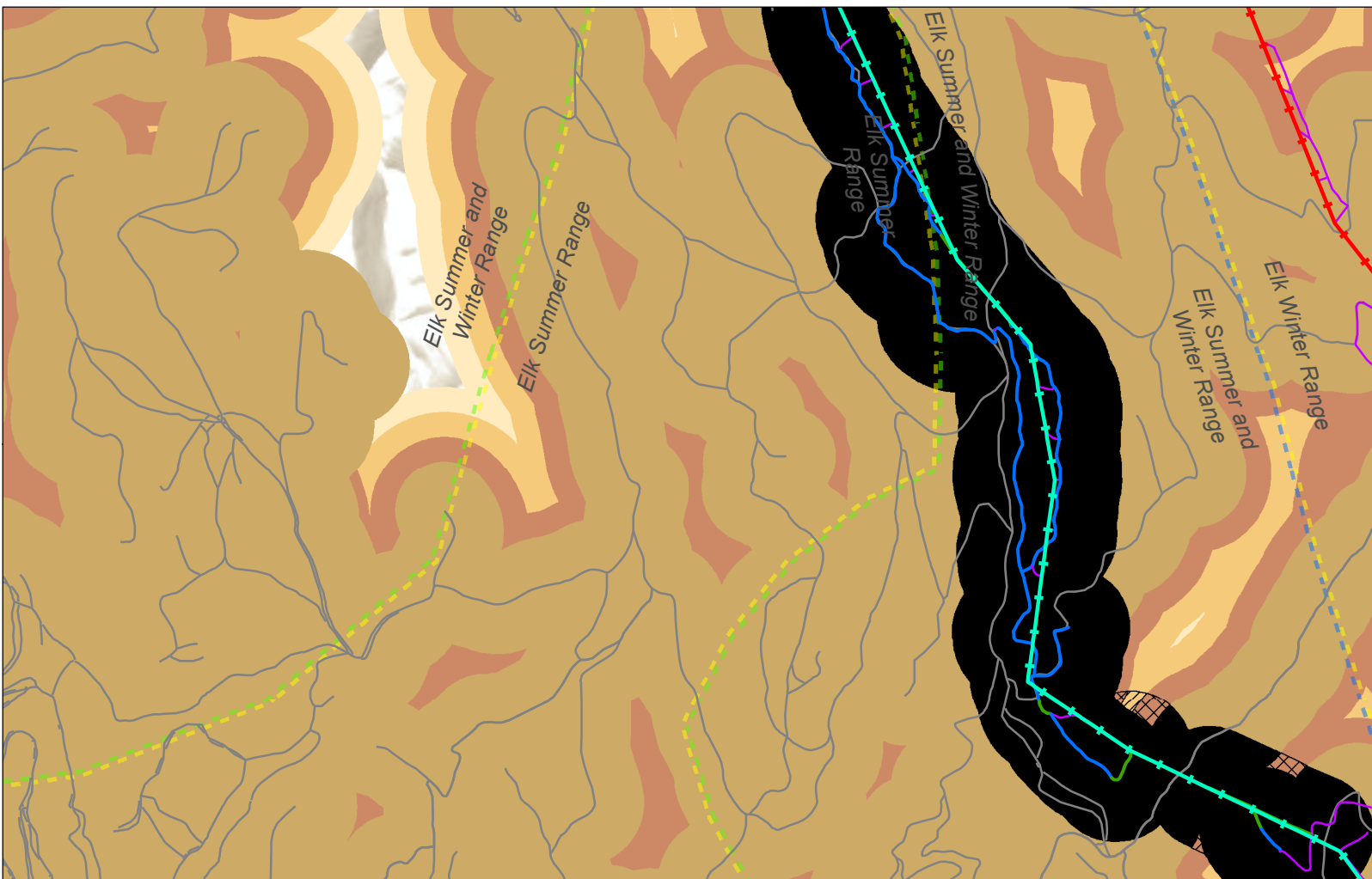
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 0 0.5 1
 mi
 km

- Proposed T-Line Route
- Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
- HDx = 0.2 (20% New Road Impacts)
- HDx = 0.4 (40% New Road Impacts)
- HDx = 0.8 (80% New Road Impacts)
- HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

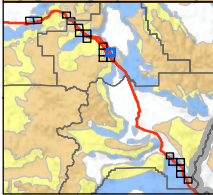
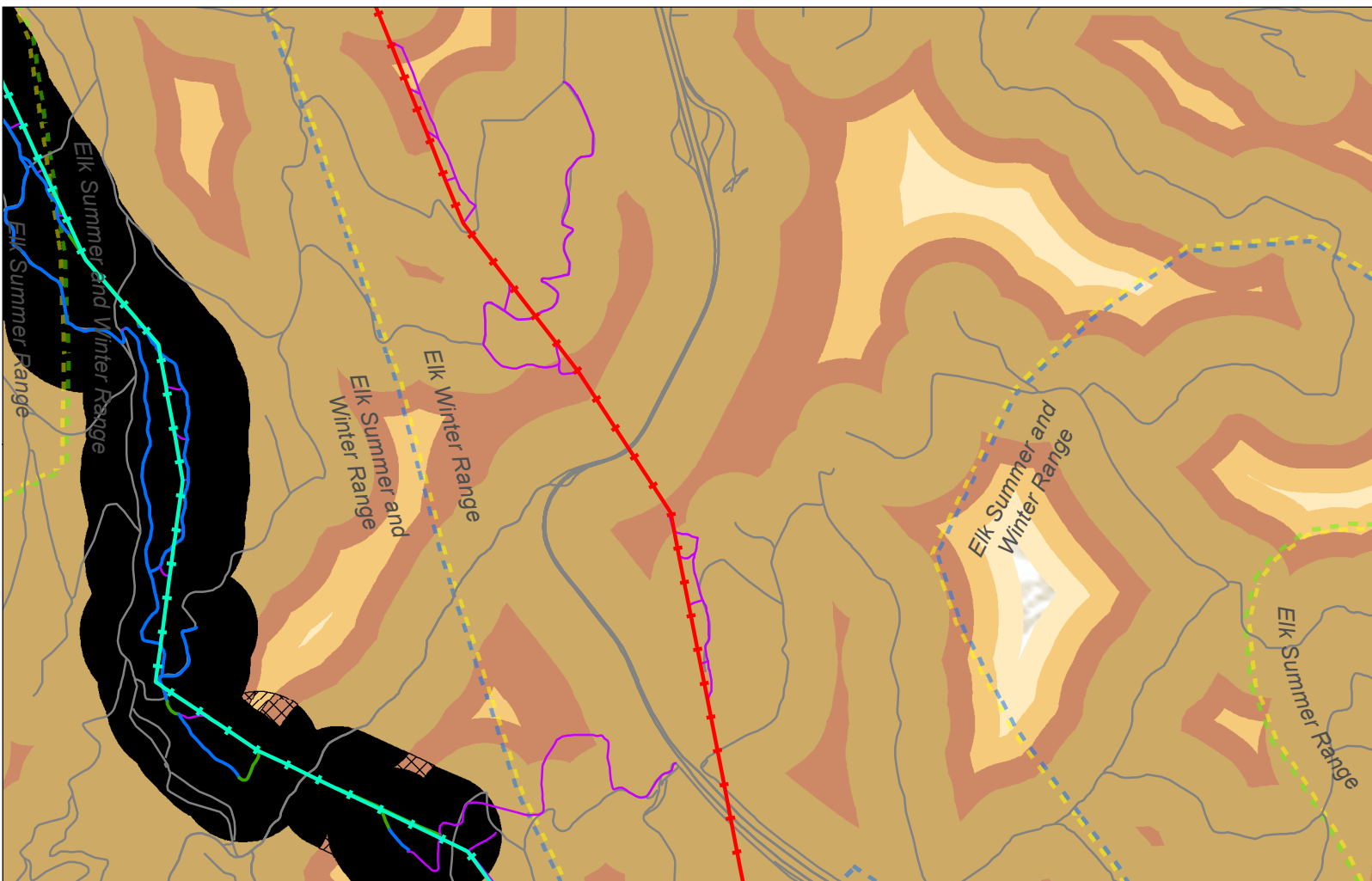
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
 - HDe = 0.8
 - HDe = 0.4
 - HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

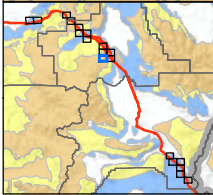
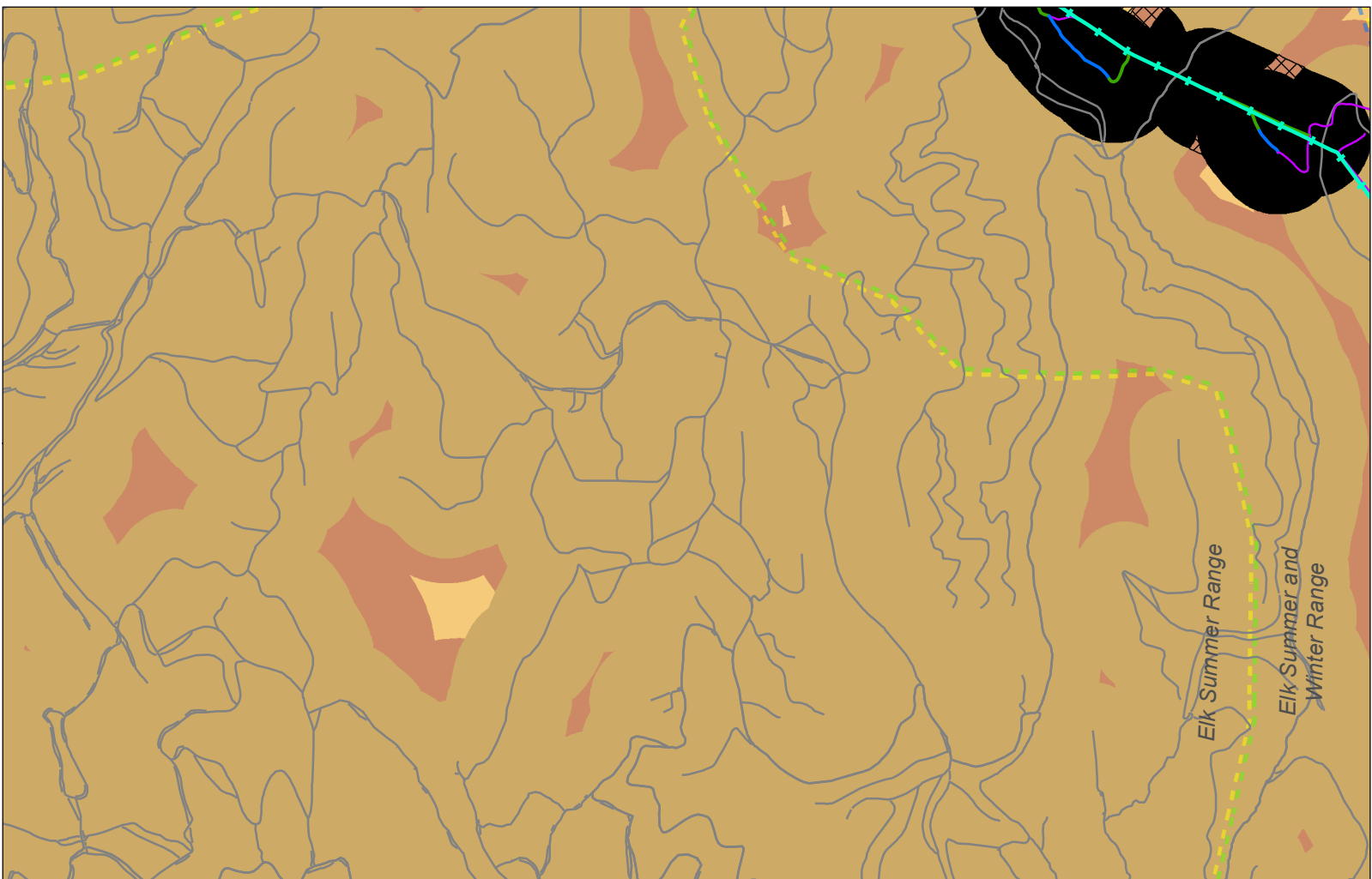
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

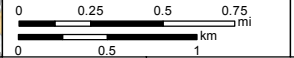
- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



B2H Corridor Oregon & Idaho

Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

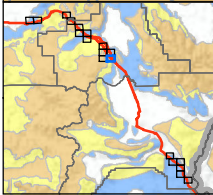
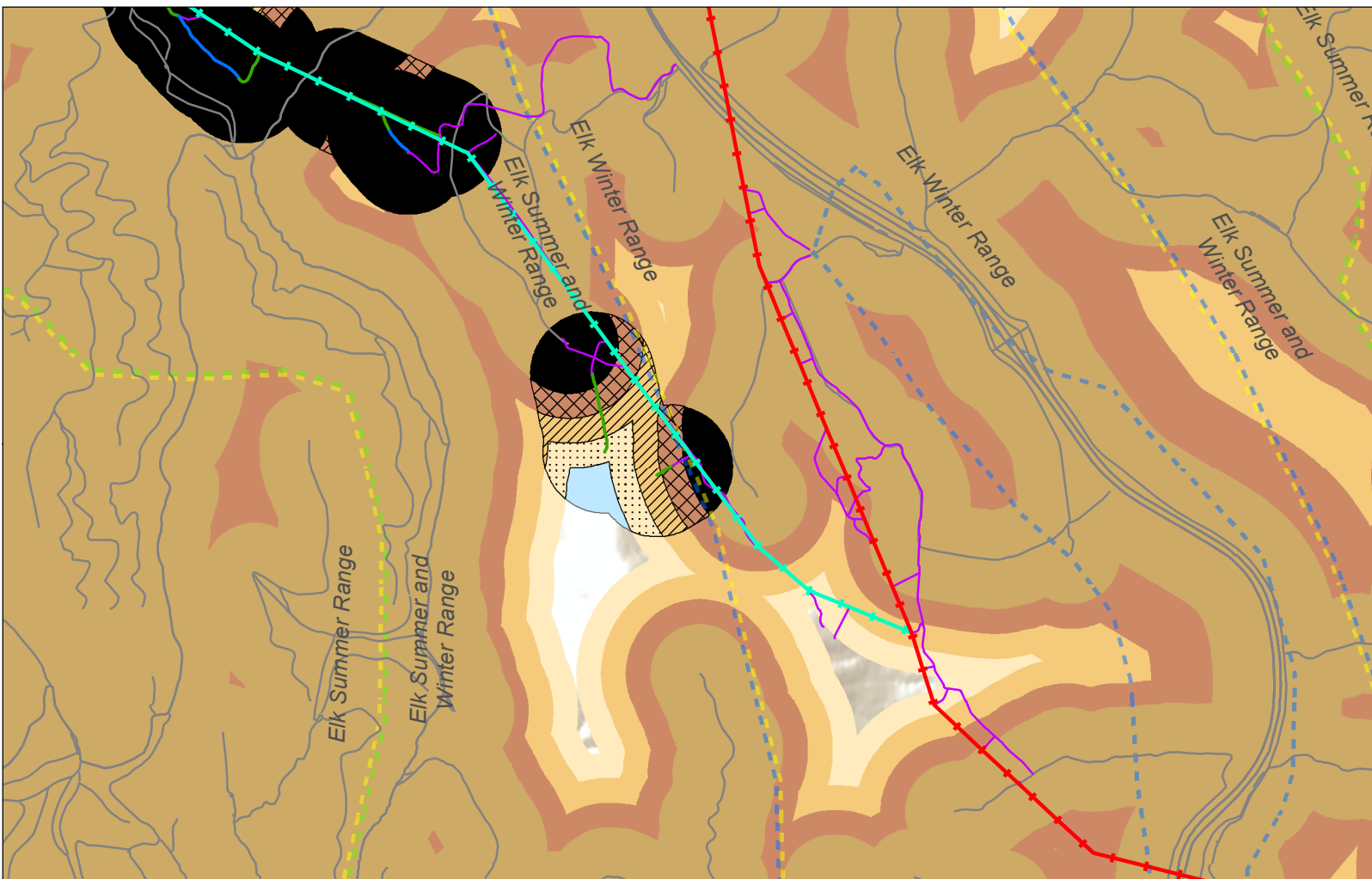


- + Proposed T-Line Route
- + Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
- HDx = 0.2 (20% New Road Impacts)
- HDx = 0.4 (40% New Road Impacts)
- HDx = 0.8 (80% New Road Impacts)
- HDx = 1 (100% New Road Impacts)

Mapbook
Page
12 / 19



**B2H Corridor
Oregon & Idaho**

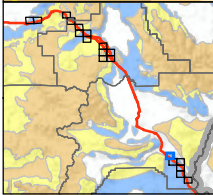
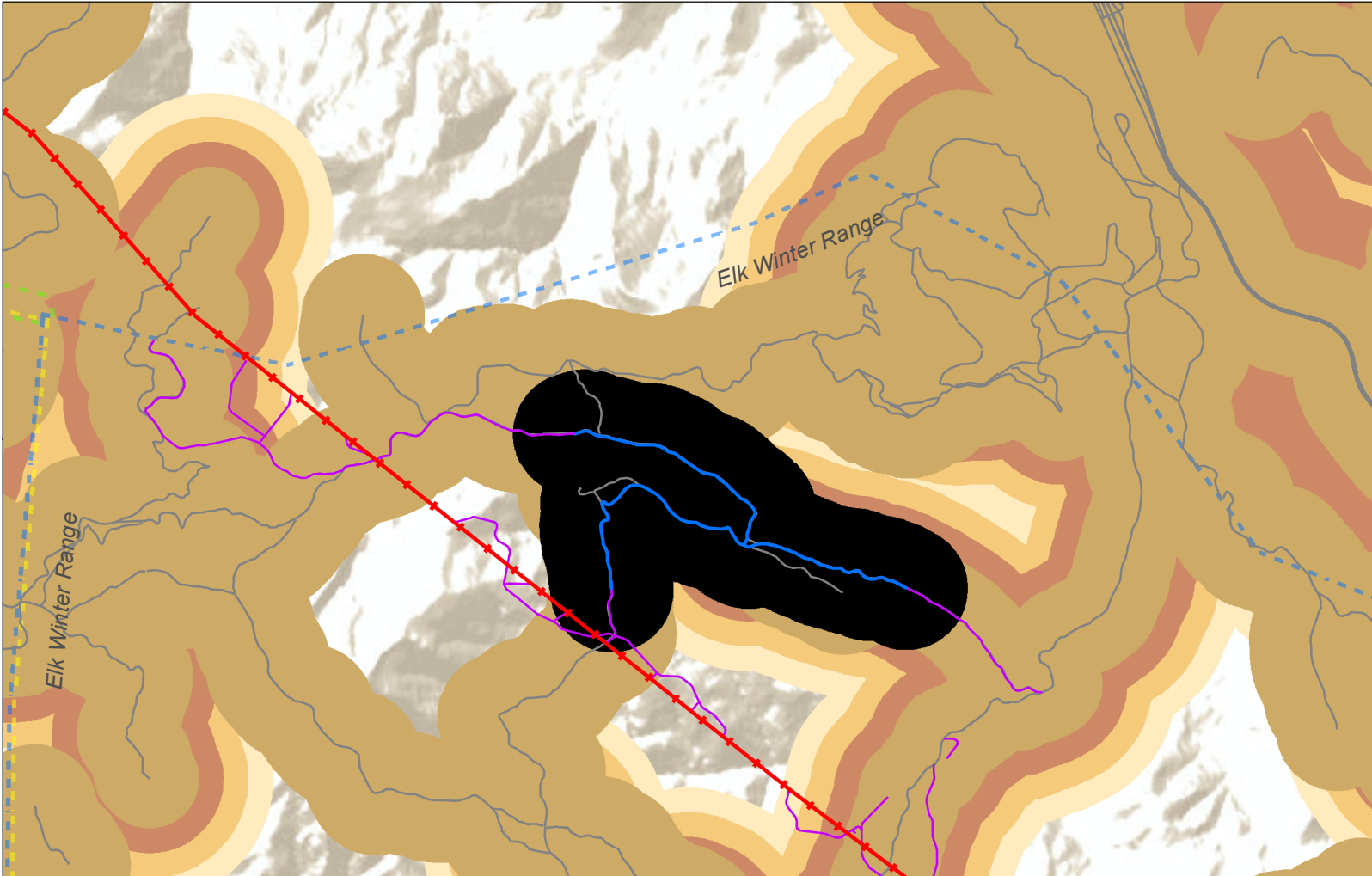
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

- Proposed T-Line Route
- ◆— Alternate T-Line Route
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
 - HDe = 0.8
 - HDe = 0.4
 - HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

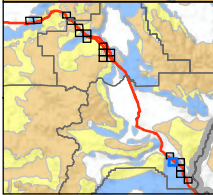
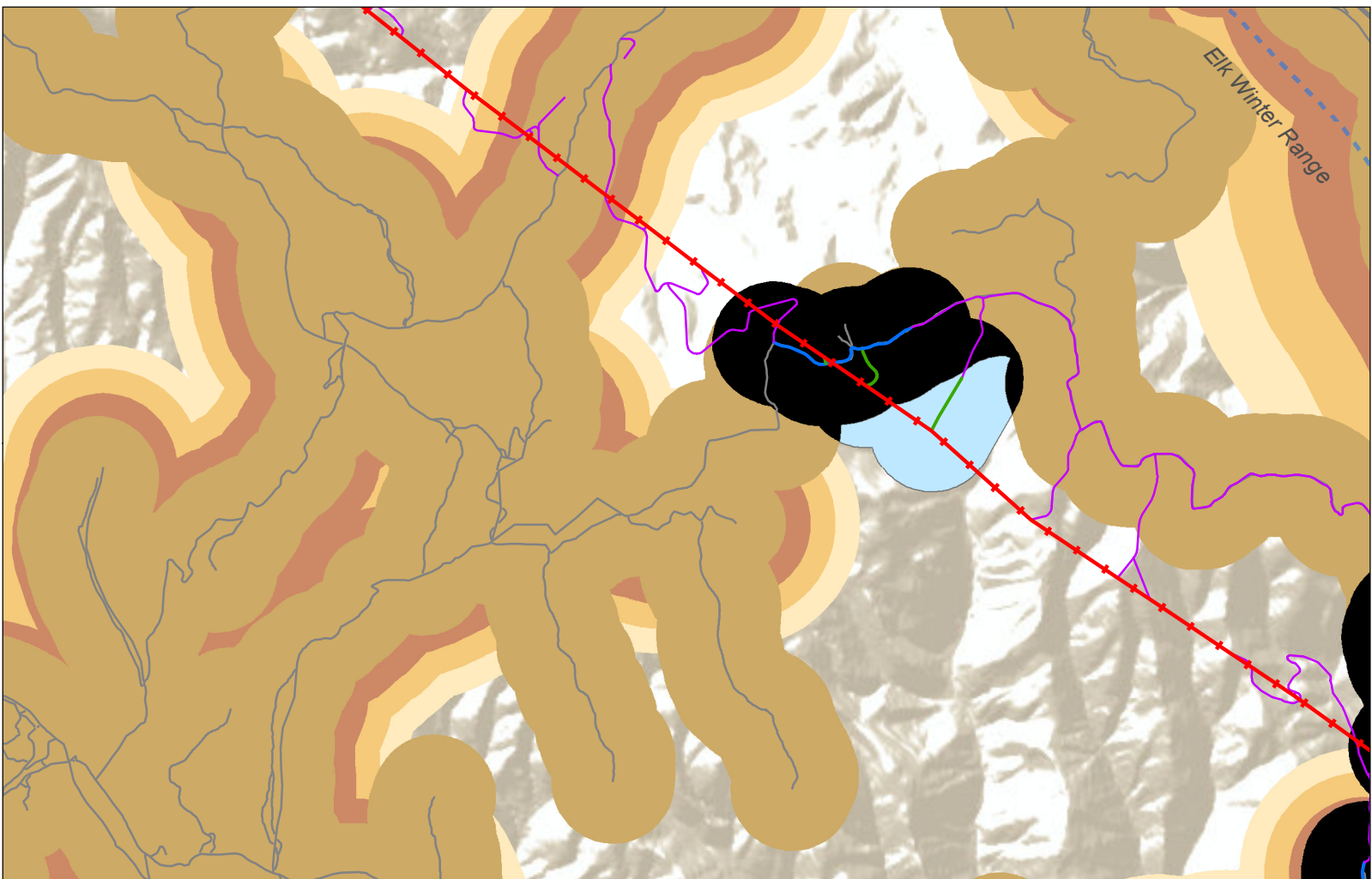
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
 - HDe = 0.8
 - HDe = 0.4
 - HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

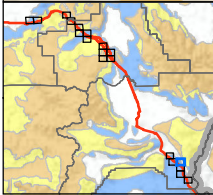
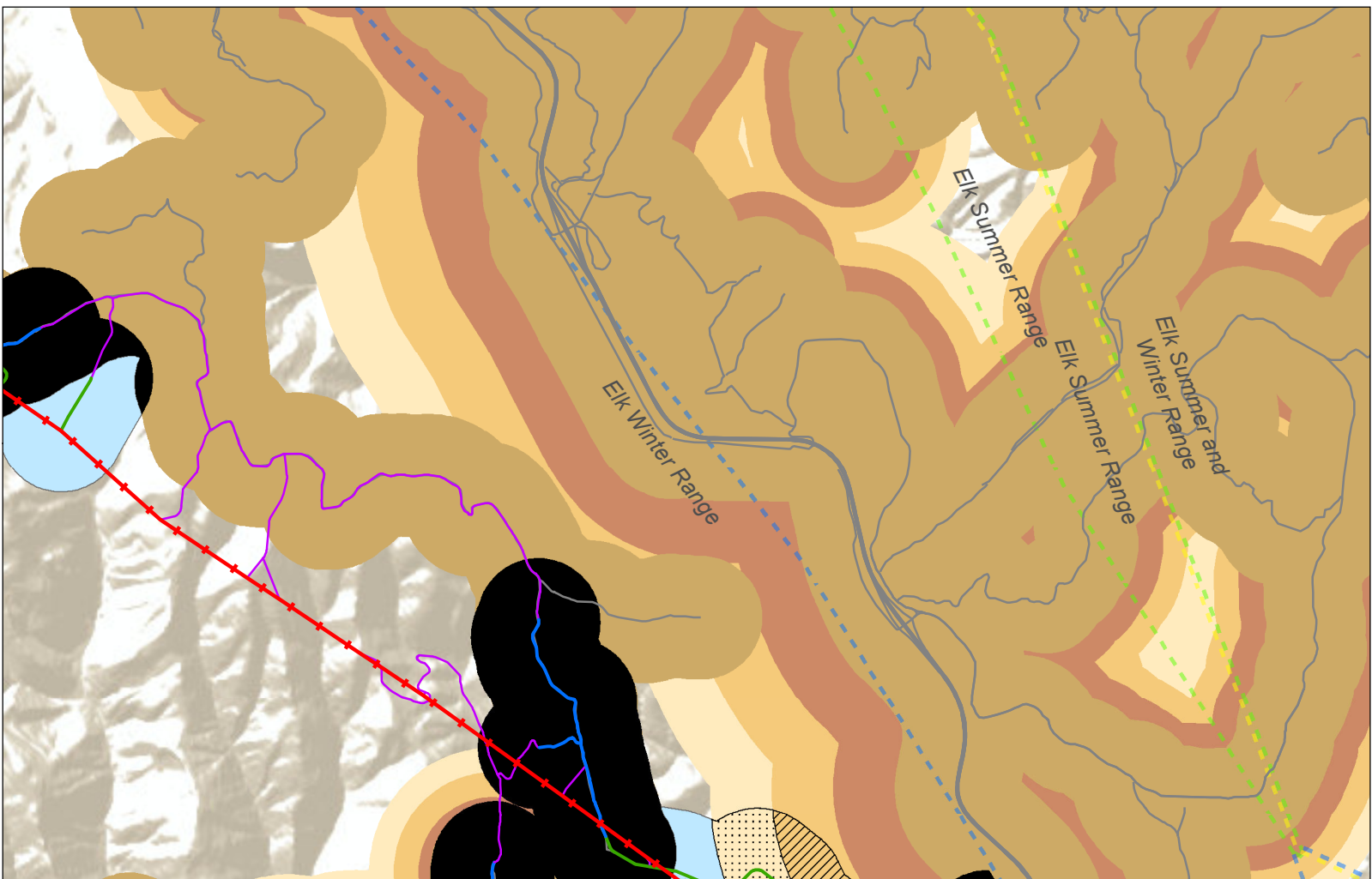
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

- Proposed T-Line Route
- Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75 mi
 0 0.5 1 km

—+— Proposed T-Line Route
—+— Alternate T-Line Route
— Improved Existing
— New
— Not included in Indirect Impacts
— Existing Road

Project Road

HD values for Existing Roads

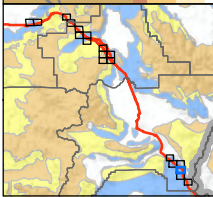
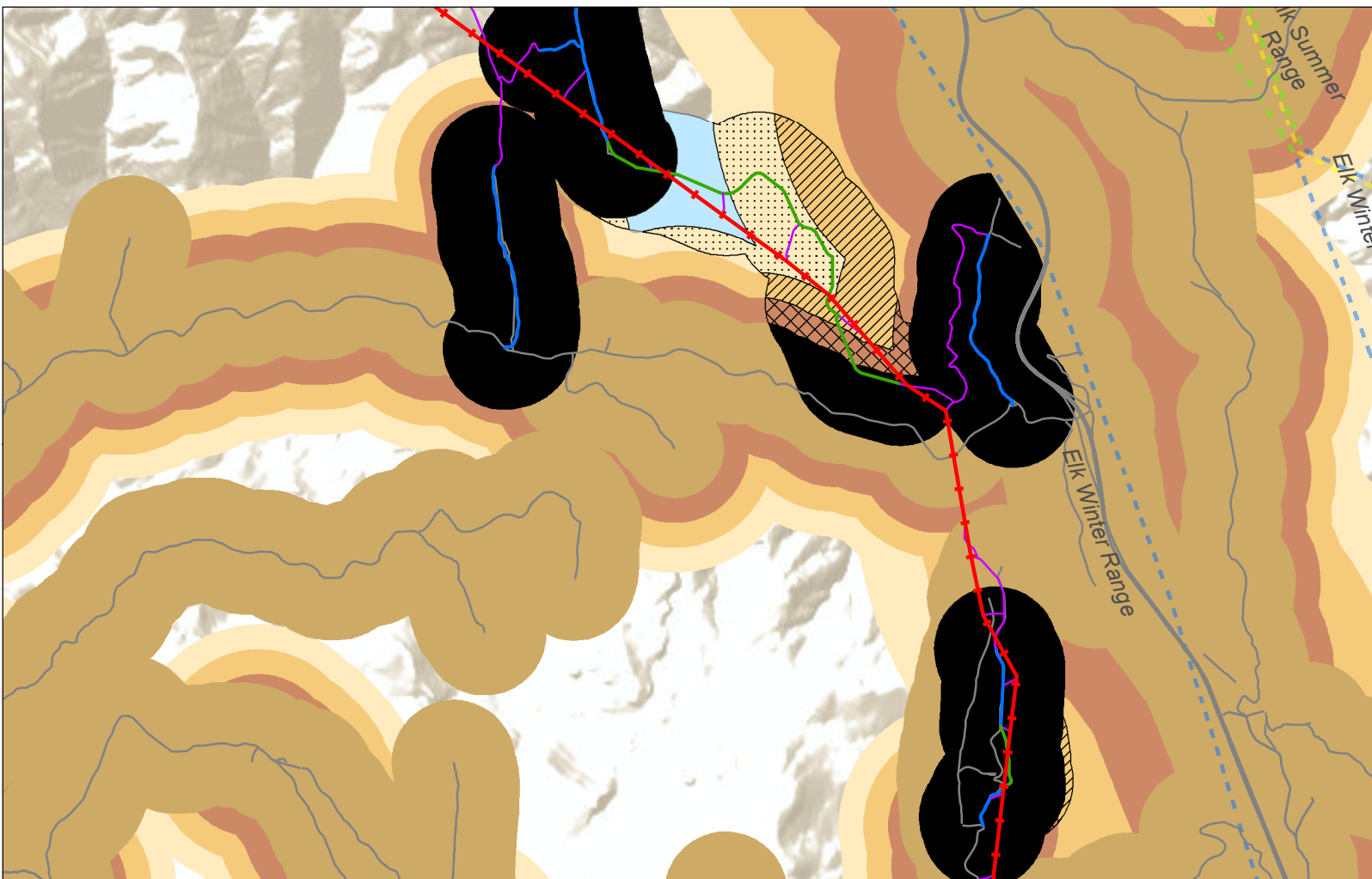
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

Resulting HD values of Indirect Impacts (HDn-HDe = HDx)

- HDx = 0 (0% New Road Impacts)
- HDx = 0.2 (20% New Road Impacts)
- HDx = 0.4 (40% New Road Impacts)
- HDx = 0.8 (80% New Road Impacts)
- HDx = 1 (100% New Road Impacts)

N
 W —+— E
 S

**Mapbook
Page
16 / 19**



**B2H Corridor
Oregon & Idaho**

Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

—+— Proposed T-Line Route
 —+— Alternate T-Line Route

Project Road

— Improved Existing
 — New
 — Not included in Indirect Impacts

— Existing Road

HD values for Existing Roads

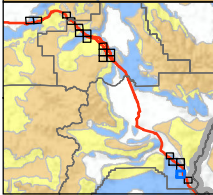
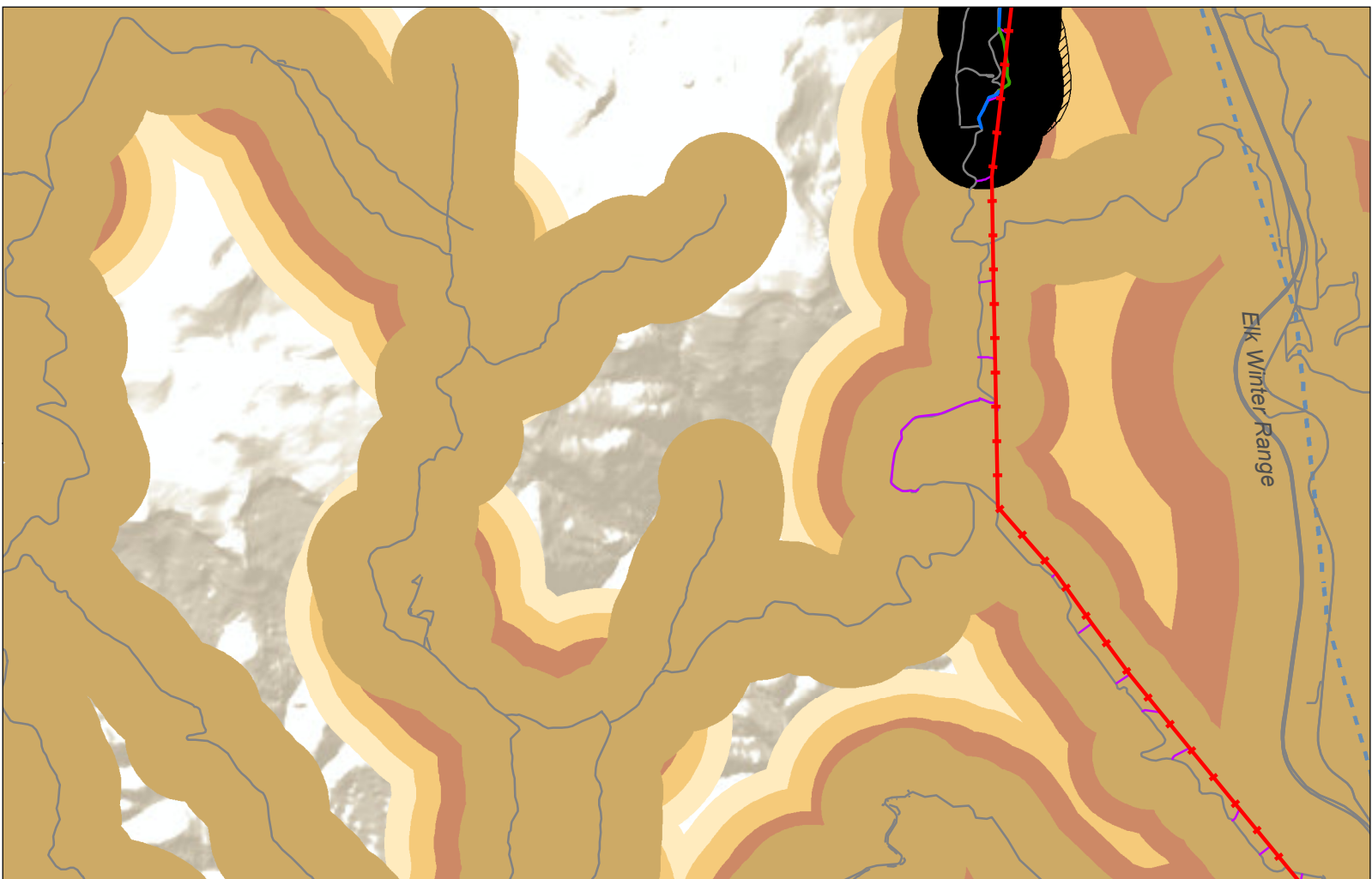
■ HDe = 1
 ■ HDe = 0.8
 ■ HDe = 0.4
 ■ HDe = 0.2

Resulting HD values of Indirect Impacts (HDn-HDe = HDx)

■ HDx = 0 (0% New Road Impacts)
 ▨ HDx = 0.2 (20% New Road Impacts)
 ▩ HDx = 0.4 (40% New Road Impacts)
 ▤ HDx = 0.8 (80% New Road Impacts)
 ■ HDx = 1 (100% New Road Impacts)

N
 W —+— E
 S

**Mapbook
Page
17 / 19**



**B2H Corridor
Oregon & Idaho**

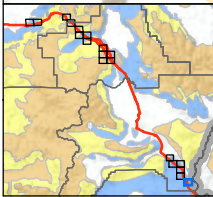
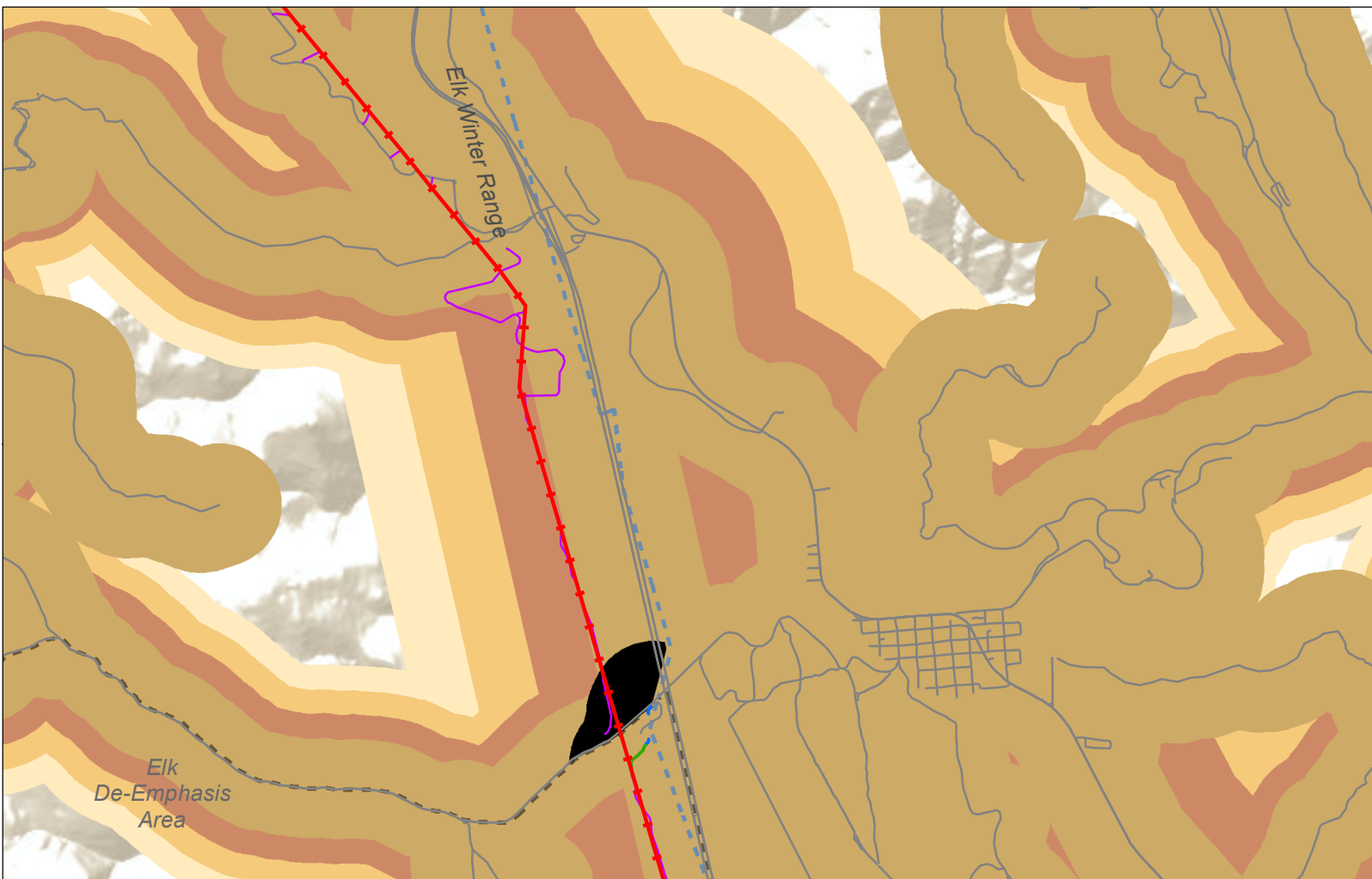
Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

- Proposed T-Line Route
- Alternate T-Line Route
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
 - HDe = 0.8
 - HDe = 0.4
 - HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)



**B2H Corridor
Oregon & Idaho**

Data Source: ODFW, USGS, ESRI
 Coordinate System: NAD 1983 UTM Zone 11N
 Author: GPG

0 0.25 0.5 0.75
 km mi
 0 0.5 1

- +— Proposed T-Line Route
- +— Alternate T-Line Route
- Project Road**
- Improved Existing
- New
- Not included in Indirect Impacts

- Existing Road
- HD values for Existing Roads**
- HDe = 1
- HDe = 0.8
- HDe = 0.4
- HDe = 0.2

- Resulting HD values of Indirect Impacts (HDn-HDe = HDx)**
- HDx = 0 (0% New Road Impacts)
 - HDx = 0.2 (20% New Road Impacts)
 - HDx = 0.4 (40% New Road Impacts)
 - HDx = 0.8 (80% New Road Impacts)
 - HDx = 1 (100% New Road Impacts)