Appendix C

Environmental and Permitting

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1. Environmental & Permitting

1.1 Background and Objectives

From an environmental and permitting perspective there are numerous regulations and legislation that an international railway project being proposed linking the Alberta Oil Sands in Fort McMurray, Alberta, Canada, to Valdez, Alaska, USA, via the Trans-Alaska Pipeline System at Delta Junction, Alaska, USA. There is certainly a requirement for a comprehensive Aboriginal communications strategy separately in Canada; as well as, a similar effort be undertaken in the United States with the federally recognized Alaska Native tribes. This section of the report contains analysis and opinions based strictly on the interpretation of the legislation and statutory requirements and does not offer any further opinions on any effects resultant from potential impacts on Aboriginal and native rights or interests in the study area. This section will specifically look at:

1. Identification of key regulatory and permitting requirements for the railway, including environmental assessment (EA) regimes and associated federal, provincial, territorial, state, and local approvals and permits in Canada and the USA;
2. Identification and description of high-level issues and risks associated with these regulatory and permitting requirements;
3. Identification of potential environmental effects of the railway by mapping, focussing on the environmental ecoregions to be affected and key environmental features, including protected areas and key wildlife ranges within each ecoregion[1] .

The figure below provides an overview of the legislative framework to be discussed in the various sections of this report.

[1] *Ecoregions provide a high level, internationally recognized geographical framework for the environment in North America, including information on climate, wildlife, vegetation, hydrology, terrain, and land use/human activities.*

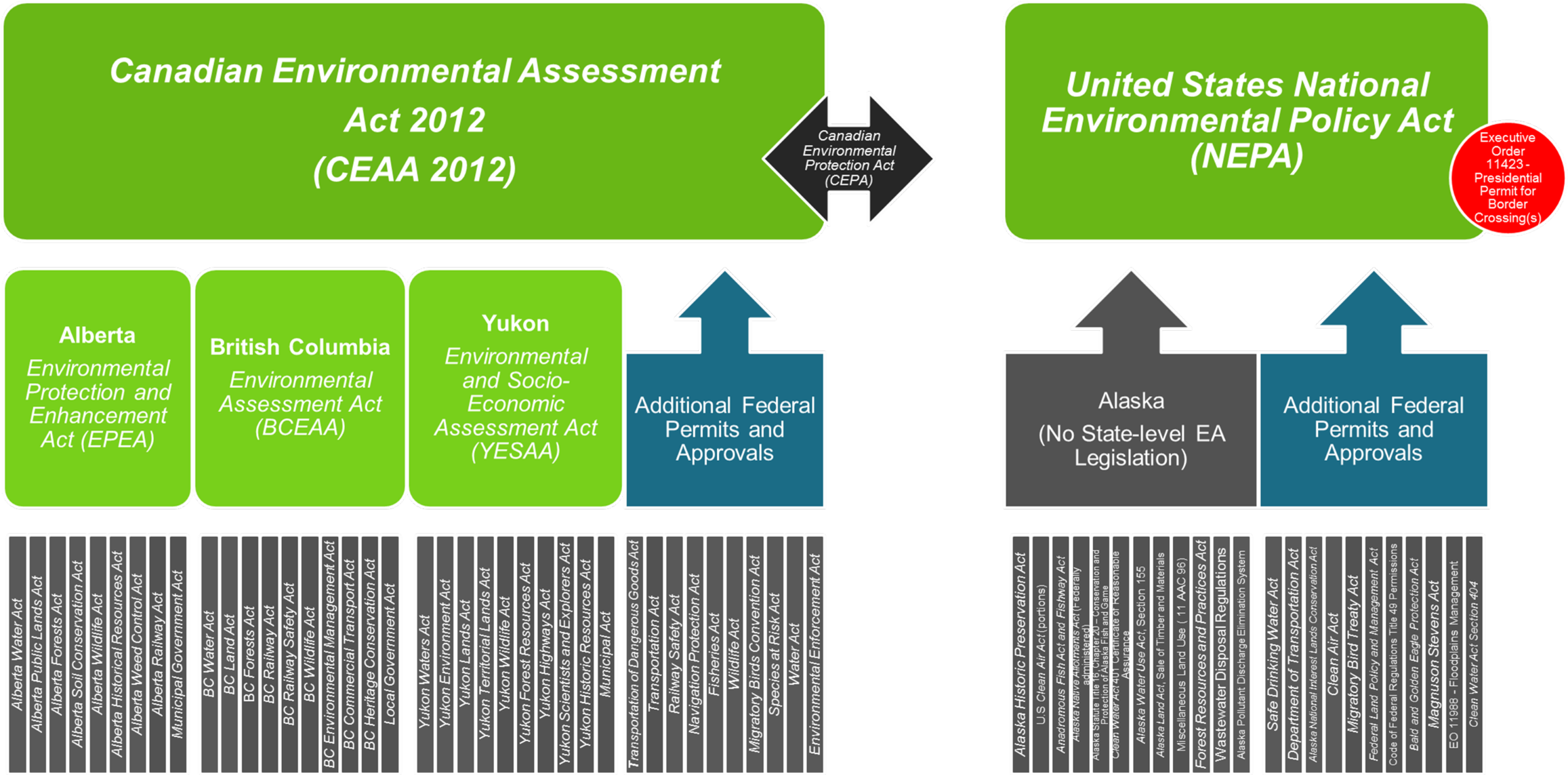

Figure 1 Alberta to Alaska Railway Legislative Hierarchy – Key Environmental Permitting and Approvals

1.2 Environmental Assessment Regimes

This section describes the environmental assessment (EA) regimes applicable to an international railway project between Canada and the USA.

1.2.1 Canada

CEAA 2012 establishes a federal EA process focussed on major economic projects that have a high potential for significant adverse effects on areas of federal jurisdiction. Areas of federal jurisdiction include:

- Fish and fish habitat
- Other aquatic species
- Migratory birds
- Federal lands
- Effects that cross provincial or international boundaries
- Effects that impact on Aboriginal peoples, such as their use of lands and resources for traditional purposes
- Changes to the environment that are directly linked to, or necessarily incidental to, any federal decisions about a project.

The types of activities to which the Act applies are identified in the *Regulations Designating Physical Activities* (*SOR/2012-147*).

The Act specifies three federal agencies as Responsible Authorities that oversee EAs of specific types of designated projects: The Canadian Environmental Assessment Agency (CEA Agency), the National Energy Board (NEB), and the Canadian Nuclear Safety Commission (CNSC).

Proponents of all such "designated projects" — except those regulated by the NEB or the CNSC — are required to submit a project description to the CEA Agency for a screening to determine whether an EA is required.

- **As per *Section 28(a)* (a railway line more than 32 km of length in a new right-of-way), of the *Regulations Designating Physical Activities (SOR/2012-147)*, a project description document for the undertaking would need to be prepared.**

Once the CEA Agency is satisfied that the description of the designated project includes all of the required information — as set out in the *Prescribed Information for the Description of a Designated Project Regulations (SOR/2012-148)* — it conducts a screening to determine whether an EA of the designated project will be required. The CEA Agency will post a notice on its Registry Internet site that it is making that determination. A summary of

Changes in Canadian Federal EA Legislation

CEAA 2012 replaces the *CEA Act (1992)*. *CEAA 2012* involves a major shift from a "trigger" approach, by which an assessment is required when certain pre-conditions are met, to a "project list" approach, by which an EA is only potentially required for projects included in the list of "designated projects" or by way of a ministerial decision. The CEA Agency has complete discretion to determine, based on screening the project description, whether an EA would be required. As a result of this high level of discretion, it is expected that there will be a dramatic drop in the number of EAs conducted at the Federal level (Meadows 2013). In many cases, EA responsibilities would be handed off to the Provinces and Territories where previously they would not have been.

Other key changes:

- Participant status in EAs is legally limited to those who are "directly affected" or who have "relevant information or expertise".
- EAs are required to be completed in set time periods.
- Engagement and consultation disclosure requirements (e.g., Aboriginal) are more rigorous and required to be provided very early in the process (i.e. as part of the project description).

the project description will also be posted along with a notice of a 20-day period for public comment on the designated project and its potential to cause adverse environmental effects. The CEA Agency must decide whether an EA is required within 45 calendar days of posting the notice.

- **Although a federal EA is subject to the discretion of the Minister of the Environment, and not automatically "triggered" as per the prior *Environmental Assessment Act*, the proposed railway project would likely require a federal EA because it likely will fall within multiple areas of federal jurisdiction (see above).**

That being said, two types of EA may be conducted under *CEAA 2012*: EA by a responsible authority ('Comprehensive EA'), and EA by a review panel.

- **The proposed railway project would meet the spirit and intent of an EA by review panel, due to the physical and geographical magnitude and associated increased potential to encounter contentious issues. However, the decision lies politically, with much discretion afforded to the federal Minister of the Environment.**

An EA by a responsible authority (Comprehensive EA) is conducted by the CEA Agency, the NEB or the CNSC.

- **The responsible authority for an EA of the proposed railway project would be the CEA Agency. The CEA Agency would co-ordinate with other Federal departments for advice and guidance, including Transport Canada and Environment Canada.**

An EA by review panel is conducted by a panel of individuals appointed by the Minister of the Environment and supported by the CEA Agency.

- **As of July 31, 2013, there are eight active EAs subject to *CEAA* review panels. Five of these EAs are for large-scale mining projects, one (radioactive) waste project, one energy project, and one for the Enbridge Northern Gateway Pipeline Project in BC and Alberta (CEAA 2013).**

Both types of assessments can be conducted by the federal government alone or in cooperation with another jurisdiction, such as a province.

- **The proposed railway project would be subject to a federal EA conducted in cooperation with the EA processes of the Province of Alberta the Province of British Columbia, and Yukon Territory. See below for details on multi-jurisdictional co-operation.**

An EA conducted by the CEA Agency ('Comprehensive EA') must be completed within 365 days of the determination that an EA is required, while an EA by a review panel must be completed within 24 months. Both timelines are subject to Ministerial and Governor-in-council extensions of three months or longer, or "time-outs" granted to the proponent. Time-outs provide opportunities for the proponent to conduct studies and prepare an Environmental Impact Statement (EIS).

1.2.1.1 Federal and Provincial/Territorial Co-operation

CEAA 2012 includes provisions for cooperation and coordinated action (substitution or equivalence) between two levels of government. As such, *CEAA 2012* aims to achieve the goal of "one project-one review."

EAs may be coordinated so that a single EA meets the legal requirements of all jurisdictions.

The Minister of the Environment may allow a provincial process to be substituted for a federal EA conducted by the CEA Agency if requested to do so by a province, and;

- The Minister is of the opinion that the provincial process is an appropriate substitute for an assessment under *CEAA 2012;*
- Conditions contained in *CEAA 2012* regarding factors to be considered, public participation, and submission of an EA report will all be fulfilled by the provincial process.

It is important to note that substitution does not preclude federal decision-making in areas of federal jurisdiction. Furthermore:

- The Minister may establish additional conditions as a prerequisite to issuance of an approval of a substituted process.
- The Minister may also approve substitution with other jurisdictions, such as an Aboriginal land claim body.
- **Substitution is not likely in this case due to the multi-jurisdictional scope and transboundary nature of the proposed railway project.**

Lastly, under the equivalency provisions of *CEAA 2012*, where a provincial process meets all conditions for substitution, the Minister of the Environment may recommend to the Governor in Council that a designated project be exempted from the application of *CEAA 2012*.

- **Based on the multi-jurisdictional scope and transboundary nature of the proposed railway project, federal interests such as international trade implications, and numerous other federal permits required, it is unlikely that an exemption would be granted from the application of *CEAA 2012* for the railway project.**

Details of the provincial and territorial EA processes, and the extent of harmonization or co-operation with the federal process, are provided in the subsections that follow.

1.2.1.2 Alberta

The Alberta Ministry of Environment and Sustainable Resource Development (ESRD) administers *Environmental Protection and Enhancement Act* (*EPEA*). Formal approval under the *EPEA* is required before a proposed activity can be constructed or operated.

Alberta's EA process has three basic goals (Government of Alberta 2013):

1. Gather information – the process ensures that enough information is provided by the Proponent to inform the public and government agencies about the Proponent's understanding of the consequences of its project;

2. Public involvement – the process provides an opportunity for people who may be affected by a proposed activity to express any concerns and provide advice to Proponents and government agencies; and

3. Support sustainable development – the information provided during the process enables early consideration of the project's place in the overall plan for Alberta's environment and economy.

The first step in the EA process is a proponent submission of a Project Summary Table and a Project Location Map to the EA Director who reviews the documents to determine if the project is Mandatory (will require an EA), Exempted, or Discretionary.

- **Alberta Regulation 111/93, Schedule 1 sets out a list of Mandatory Activities subject to an EA. Railway projects are not included in this list. Therefore, the proposed railway project would fall under the Discretionary category, and would require subsequent preparation of a Disclosure Document (*EPEA s. 44(1)*).**

The information must be detailed enough that ways the project will affect the environment, people and other industrial developments in the area may be understood (Alberta Environment 2013). In addition to the Disclosure Document, further input from the public would be required to facilitate a Screening Report, upon which a decision is made as to whether an Environmental Impact Assessment (EIA) is required. It is important to note that the proponent can request skipping this step and going straight to EA if they believe this step is unnecessary, and they expect the decision to be that an EIA is required.

- **While the need for an EIA in this case is Discretionary (see above), based on the magnitude of the proposed railway project, an EIA would likely be required.**

Once it has been determined that an EIA is required, ESRD prepares and circulates a letter of determination. The proponent prepares a Proposed Terms of Reference next and, if required, a First Nations Consultation Plan for ESRD approval. A decision regarding the First Nations Consultation Plan is made by the ESRD First Nations Consultation Advisor assigned to the project. ESRD would also consider input from the public and other government agencies at this point to set a final Terms of Reference for preparation of the EIA report.

EIA Review Times in Alberta

There are no-mandated timeline regulations for the EIA process in Alberta. The Government of Alberta 2012 year-end statistics indicate that the most recent EIA review times (i.e., review beginning to director decision) vary between about 20 weeks and about 130 weeks, with an average review time of about 65 to 70 weeks. Review times generally correlate with the number of SIR requests. Generally, oil sands mining projects are more complex and generate more questions and, therefore, longer reviews (Government of Alberta 2013).

An EIA report undergoes technical review coordinated by ESRD, involving a multidisciplinary, integrated team of provincial experts. Depending on the nature and location of the project, federal agencies may also participate in the evaluation of the EIA report.

The purpose of the review is to identify any project-related uncertainties or risks and determine whether the information provided by the Proponent meets the Terms of Reference. If the information provided is unclear or insufficient to meet these objectives, the Director may ask the Proponent for additional information. These questions are called Supplemental Information Requests (SIRs). When the Review team is satisfied they understand the nature of the proposed activity, the Proponent's description of potential effects and mitigation, and that the Terms of Reference have been met, a recommendation is made to the EA Director. The Director takes this information and makes a determination that the EIA report is deemed complete and then formally refers the EIA report to the Board or the Minister to become part of the Public Interest Decision.

Provincial/Federal Co-operation

When a proposed project is required to undergo both a provincial and federal EA, the two governments cooperate to minimize overlap (see below). This process is set out in a bilateral agreement: *The Canada – Alberta Agreement for Environmental Assessment Cooperation (2005)*. Generally, once a determination has been made of the need for an EIA, the letter of determination is sent to a variety of provincial and federal agencies to inform them of the project's status.

Under the Agreement, projects that require an EA by both the Government of Canada and the Government of Alberta will undergo a single, cooperative assessment. One government takes the lead in administering the assessment, but both governments are full and active partners in it.

1.2.1.3 British Columbia

The British Columbia (BC) *Environmental Assessment Act* (*BCEAA*) confers broad powers on the Environmental Assessment Office (EAO) to conduct EAs and make recommendations to government on whether a proposed project should proceed and under what conditions.

The *BCEAA* creates a single, integrated process for review of major projects in BC, eliminating any requirement that each interested ministry or agency have its own separate process for reviewing a proposed project. The EAO administers the process. This means that proponents, government agencies, First Nations, local governments, other stakeholders, and the public have a single EA contact.

There are four stages in a BC EA:

1. Pre-Application Stage: The proponent submits a Project Description to the EAO and, if the EAO determines the project is reviewable, it issues a BCEAA Section 10 Order.

Case Studies:
BC Federal-Provincial EA Co-operation and Substitution

The **Prince Rupert, BC Fairview Terminal Phase II Facility Expansion Project EA** provides a landmark example of provincial-federal co-operation. An agreement (link) was reached between Transport Canada, Environment Canada, Fisheries and Oceans Canada, Canadian Transportation Agency, CEAA, and the British Columbia Environmental Assessment Office ensuring that;

1) all of the requirements of the Provincial EA would be carried out and documented within the Federal EA, eliminating the separate documentation and studies for the Provincial EA; and,

2) All agencies involved supported this approach from the outset of the process, eliminating future inconsistencies/need for further assessment.

Conversely, and despite (albeit disorganized) environmental opposition (SWCC 2013), the **Arctos Anthracite Joint Venture mine, wash plant, and railway extension EA** was granted substitution to the *BCEAA*, enabling provincial and federal jurisdictions to incorporate all aspects of environmental safeguards and Aboriginal consultation under a "one project, one assessment" approach (CNW 2013).

- **In accordance with *B.C. Reg. 370/2002 EA Act Reviewable Projects Regulation, Table 14 – Transportation Projects Criterion 1 (a)* (>20 km of new rail track), the proposed railway project would meet the criterion and require an EA Application Review.**

  The EAO, in cooperation with a Working Group with members from various applicable government agencies, then determines the scope and process for review and issues a Section 11 Order. The proponent then prepares a draft EA Certificate (EAC) Application Information Requirements (AIR) document, which serves as the terms of reference for the EAC Application. The draft AIR undergoes an unspecified period of public comment, and then the proponent prepares an amended version that addresses public comments to the satisfaction of the Working Group. After the final AIR is issued, the proponent undertakes any studies necessary and prepares the EAC Application, which is similar to a federal Environmental Impact Statement. Stage 1 concludes with submittal of the EAC Application.

2. Application Evaluated for Completeness: The EAC Application is evaluated by the Working Group to determine whether it fully addresses the AIR. This evaluation has a mandatory timeline of 30 working days. The proponent must then address any shortcomings and submit a revised Application.

3. Application Review Stage: The Application then enters a 180 working-day period that includes a public comment period and preparation of an Assessment Report by the EAO and Working Group that summarizes the Application and makes a recommendation to the Minister as to whether the project should be approved.

4. Decision Stage: The final stage is when the Minister of the Environment and Minister responsible for the category of project (i.e., in this case Transportation) have 45 days to make one of three choices:

   a. Issue an EA Certificate with any conditions they consider necessary for monitoring, compliance and enforcement
   b. Refuse to issue the certificate; or
   c. Require further assessment.

Although there is no time limit for the Pre-Application Stage, time limits at every subsequent EA review stage provide a more predictable process and greater certainty to all interested parties. The *BCEAA* provides for time limits to be imposed on key steps in the EA process in two ways:

Legislated Timelines: Set in the regulations (the Prescribed Time Limits Regulation, the Concurrent Approval Regulation and the Public Consultation Policy Regulation); and,

Project-Specific Timelines: Set in Environmental Assessment Office procedural orders for steps not subject to legislated timelines.

Timelines may be applied to both government and proponents. The Minister of Environment or the EAO may extend any time limit set under *BCEAA*, even if that time limit has already expired. Time limits may also be suspended for a variety of reasons.

Provincial/Federal Co-operation

Statistically, about two-thirds of projects reviewable under BCEAA require EAs under both federal and provincial legislation (BC EAO 2013). BC and Canada have signed a number of agreements focussing on the consistent, timely and efficient use of resources through harmonized reviews. Under these agreements, both governments agree that proposed projects that would require both federal and provincial EAs will undergo a single cooperative assessment process that would meet the legal obligations of each government while maintaining their respective existing roles and responsibilities. "Substitution" is a new tool enabled by *CEAA 2012* and adopted by BC through a Memorandum of Understanding (MOU). Under substitution, where both federal and provincial EAs are required, there can be a single review process (the provincial one) and two decisions (federal and provincial; BC EAO 2013).

The *BCEAA* also enables BC to enter into agreements to accept an EA undertaken by another jurisdiction as "equivalent" to its own. Equivalence avoids the need to conduct duplicate and overlapping EAs, while still allowing specialists from each government to provide substantive input to a comprehensive EA process.

Considerable progress has been achieved in harmonization and reduction of duplication in EA processes in BC (see inset for examples).

1.2.1.4 Yukon

Generally, a project that takes place in Yukon will require an EA if a permit or authorization is required. Specifically, a project will require an assessment under the *Yukon Environmental and Socio-economic Assessment Act (YESAA)* if the following three conditions are met:

1. The project will be located in Yukon.

2. The YESAA regulations list the project activity as subject to assessment and does not exempt the activity, or a declaration that the activity is subject to assessment is made under Section 48 of the Act.

    - **The proposed railway project falls within the *Assessable Activities, Exceptions and Executive Committee Projects Regulations ((SOR/2005-379) S. 32. Construction of a railway line*).**

3. One or more of the following circumstances are present:

    - The proponent has applied for financial assistance for the project to a federal agency or federal independent regulatory agency;
    - The proponent requires an authorization or grant of interest in land from a government agency, an independent regulatory agency, a municipal government, a First Nation or the Governor-in-Council (effectively the federal Cabinet);
    - The proponent is a federal agency or federal independent regulatory agency; and
    - The proponent is a First Nation, territorial agency, territorial independent agency or municipal government, and an authorization or grant of interest in land would be required for the project to be undertaken by a private individual.

- **The proposed railway project would require authorizations of grant or interest in land, therefore, an assessment would be required under *YESAA*.**

The assessment process is initiated when an individual or organization submits a project proposal to the Yukon Environmental and Socio-economic Assessment Board (YESAB). Once the proposal is received, YESAB ensures that the proposal contains the information necessary to commence an assessment.

Depending on the proposed project activities an assessment can take place at three different levels:

Designated Office evaluation: where assessments are conducted in the six community-based Designated Offices located in Dawson City, Haines Junction, Mayo, Teslin, Watson Lake and Whitehorse;

Executive Committee screening: assessing larger projects that are submitted to it directly or are referred by a Designated Office; and,

Panel of the Board reviews: where an undertaking is anticipated to have potential significant adverse effects, is likely to cause significant public concern, or involve the use of controversial technology.

- **At minimum, the proposed railway project would likely fall under an Executive Committee Screening due to a scope spanning multiple regional jurisdictions. Section 65 of *YESAA* provides potential triggers for a YESAB Panel of the Board review.**

Assessors consider the potential environmental and socio-economic effects of proposed activities by gathering and analyzing relevant information from various sources (federal, territorial and First Nation governments, experts in the field, and the public), and by conducting research to enable a complete and thorough assessment.

YESAA Decision Body Time Periods and Consultation Regulations (*SOR/2005-380*) set time limits for EA processes. According to the regulations and the Executive Committee Screening process flowchart (YESAB 2012), the general timeline for an Executive Committee Screening would range from six months to two and a half years from initial submission of the project proposal. It is important to note that *YESAA* explicitly provides time extensions of about 33% to any prescribed time limit at any point in the decision-making processes where consultation with Aboriginal communities is required (*SOR/2005-380, S. 6 – Extended Period if Consultation With First Nations is Required*).

Once the appropriate information has been collected and considered, the assessor recommends whether the project should proceed, proceed with terms and conditions, or not proceed. Alternatively, a Designated Office may refer a project under evaluation to an Executive Committee screening, or the Executive Committee may refer a project under screening to a review by a Panel of the Board.

Key Features of *YESAA*
(YESAB, 2013)

- A single assessment process that will apply throughout Yukon, to all projects, and to the federal, territorial and First Nation governments.
- A neutral process done at arm's length from governments.
- A high level of transparency – decisions and actions will include written reasons and will be made available on the public registry.
- Broader consideration of socio-economic factors.
- Guaranteed opportunities for public participation.
- Guaranteed opportunities for First Nation participation.
- Traditional and local knowledge considered during assessments.
- Increased certainty regarding information requirements, as well as mandatory timelines for both assessment and decision-making stages.

When an assessment is complete, the recommendation is sent to the relevant Decision Body(s), which can be any combination of federal, territorial and First Nation governments. The Decision Body(s) will then decide whether to accept, reject or vary the recommendation of YESAB and issue a Decision Document.

Territorial/Federal Co-operation

The *Canada-Yukon Agreement on Environmental Assessment Cooperation (2004)* ensures generation of the type and quality of information required to meet the legal EA requirements of both the Federal and Territorial Acts; and provide findings on the environmental effects of the proposed project required for decision making by the respective parties.

Similar to the agreements between the provinces and the federal government, a "Co-operative EA" means that Canada and Yukon cooperate through the Lead Party's assessment process to meet the legal EA requirements of both Parties through a single EA process.

1.2.2 United States

The United States (US) railroad transportation network is overseen by the Federal Railroad Administration (FRA; US DOT 2013). It is one of ten agencies within the US Department of Transportation (DOT) concerned with intermodal transportation.

FRA Support for Freight Rail

To meet the needs of the current and future freight rail industry and to maximize the benefits of public investments, FRA is committed to supporting current freight rail market share and growth and developing strategies to attract 50% of all shipments 500 miles or greater to intermodal rail. (FRA 2013)

The FRA's mission is to enable the safe, reliable, and efficient movement of people and goods for a strong America, now and in the future. The FRA begins the process of considering the environmental impacts of a proposed action in consultation with appropriate federal, state, and local authorities, and with the public at the earliest practical time in the project planning process. The FRA conducts environmental reviews according to its *Procedures for Considering Environmental Impacts (FRA Docket No. EP-1, Notice 5),* which is done in conjunction with NEPA requirements. *Section 10 (b)* lists the 23 aspects of potential environmental impact to be considered in the EA process (see Section 1.2.2.3 for full listing).

1.2.2.1 National Environmental Policy Act

The *National Environmental Policy Act* of 1969 (*NEPA*) (as amended) declared a national environmental policy and goals for the protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within the federal agencies. Every US federal agency has a responsibility to implement *NEPA*. In the case of the proposed railway, the FRA would be the Federal agency responsible for administering and adhering to *NEPA*.

Title I of *NEPA* contains a Declaration of National Environmental Policy, which requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony. Section 102 requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach. Specifically, all federal agencies are to prepare detailed statements assessing the environmental impact

of, and alternatives to, major federal actions significantly affecting the environment. NEPA has been promulgated into regulation in Title 40 of the code of federal regulations (CFR) in Chapters 1500 through 1508.

NEPA applies whenever a proposed activity or action could impact the human environment, which is defined as the natural and physical environment, and the relationship of people with that environment. The Council on Environmental Quality (CEQ) oversees NEPA for all federal agencies and has issued regulations and additional guidance. Individual agencies were required to implement NEPA and identify the actions that would trigger an environmental analysis and the level of analysis a particular action would trigger. Under NEPA all federal agencies are required to assess the environmental impacts of major federal projects, decisions such as issuing permits, spending federal money, or actions on federal lands. Private, state and local government actions that do not require a federal action, such as funding or a decision, are not subject to environmental review under NEPA.

A lead agency is designated for an action requiring an environmental analysis under NEPA. The lead agency will decide whether an Environmental Impact Report (EIR) or Negative Declaration will be required for the project and will cause the document to be prepared. The federal agency which has the principal responsibility for carrying out or approving a project is normally designated as the lead agency. Where specialized expertise is needed with respect to a particular environmental issue or jurisdiction by law, cooperating agencies can become part of the interdisciplinary team responsible for the environmental analysis. Other federal agencies; as well as, state, local, and tribal governments can potentially particulate as cooperating agencies.

- **Any of the federal agencies that have regulatory jurisdiction in the geographic area or over the potentially affected resources can be considered for the NEPA lead agency role by the US Council on Environmental Quality (CEQ). While the FRA has traditionally filled the role of the lead agency for many rail projects within the US, it is not a legislative requirement that the FRA would be selected as the lead agency in a NEPA process for the proposed railway project.**

The CEQ gives the Lead Agency a great deal of administrative responsibility in that the Lead must 1) provide a single point of contact for the public; and 2) coordinate all of the other local, state and federal agencies with jurisdiction in the project area. Lead agencies are responsible for making the NEPA process go efficiently and be as responsive as possible to public questions and concerns.

- **For proposed actions involving FRA jurisdiction, it generally serves as the lead agency. Under its NEPA guidance, the FRA avoids sharing lead agency responsibility with other agencies. Where the FRA is a cooperating agency for an environmental analysis, it will review the work of the lead agency to ensure that it will satisfy FRA requirements (see below).**

The NEPA process consists of an evaluation of the environmental effects of a federal undertaking including its alternatives. NEPA provides for three

NEPA Time Limits

Unlike many of the Canadian EA processes, there are no legislatively prescribed time limits for the entire NEPA process.

Being said, time limits can potentially be requested by a proponent, pursuant to the *US Code of Federal Regulations (CFR) Section 40 CFR 1501.8 - Time limits.* The agencies involved in administering NEPA are obliged to follow through with the requests, "*provided that "the limits are consistent with the purposes of NEPA and other essential considerations of national policy."*

The code also encourages agencies to set time limits appropriate to individual actions.

More commonly, the lead agency will establish timelines at the onset of the proposed action rather than establishing timelines generally.

levels of analysis: categorical exclusion determination; preparation of an EA/finding of no significant impact (EA/FONSI); and preparation of an environmental impact statement (EIS).

Categorical Exclusion: At the first level, an undertaking may be categorically excluded from a detailed environmental analysis if it meets certain criteria that a federal agency has previously determined as having no significant environmental impact. A number of agencies have developed lists of actions that are normally categorically excluded from environmental evaluation under their *NEPA* regulations.

EA/FONSI: At the second level of analysis, a federal agency prepares a written EA to determine whether or not a federal undertaking would significantly affect the environment. If the answer is no, the agency issues a finding of no significant impact (FONSI). The FONSI commonly includes measures that an agency must take to mitigate potentially significant impacts.

EIS: If the agency determines that the environmental consequences of a proposed federal undertaking may be significant, an EIS is prepared. Prior to initiating preparation of the document, the federal agency issues a notice of intent (NOI) to prepare an EIS. An EIS is a more detailed evaluation of the proposed action and alternatives. The public, other federal agencies and outside parties may provide input into the preparation of an EIS and then comment on the draft EIS when it is completed.

If a federal agency anticipates that an undertaking may significantly impact the environment or if a project is environmentally controversial, a federal agency may choose to prepare an EIS without first preparing an EA. When it is ready, the agency will publish the draft EIS and EPA will publish a Notice of Availability in the Federal Register. The draft EIS will undergo a minimum of 45 day public review. In most cased, a decision regarding an EIS cannot be issued prior to 30 days after the Notice of Availability of the final EIS is issued. After a final EIS is prepared and at the time of its decision, the federal agency will prepare a public record of decision (ROD) addressing how the findings of the EIS, including consideration of alternatives, were incorporated into the agency's decision-making process.

From the start of the EIS scoping process to the issuance of the ROD, projects generally follow a 2 year timeline (CEQ 2007).

1.2.2.2 Executive Order 11423 – Presidential Permit

Under *Executive Order 11423*, as amended, the US Secretary of State has the authority to receive applications for and to issue Presidential permits for the construction, connection, operation, or maintenance of certain facilities at the borders of the USA with Canada and Mexico. Permits are required for the full range of facilities at the border, including land crossings, bridges, pipelines, tunnels, conveyor belts, and tramways. This authority applies to all new border crossings and to all substantial modifications of existing crossings at the international border.

Working with federal agencies such as the Department of Transportation, the General Services Administration, the Department of Homeland Security's Bureau of Customs and Border Protection, and the Environmental Protection Agency, the Department of State determines whether a proposed border-crossing project is in the US national interest. The Department

US National Interest

Within the context of appropriate border security, safety, health, and environmental requirements, the US Department of State believes that it is generally in the national interest to facilitate the efficient movement of legitimate goods and travelers across US borders (USDS 2008).

coordinates closely with concerned state and local agencies, and invites public comment in arriving at this determination.

In addition, a description of all steps that have been or will be taken to secure the approval of local, provincial, and federal officials in Canada is required. Canada has expressed its desire that applications for permits to construct cross-border facilities be made at the same time in the two countries. The permit applicant should indicate any known views of Canadian officials regarding the facility and describe general arrangements for financing, construction, and ownership of the Canadian portion of the facility. Under the terms of the *1972 International Bridge Act*, all required authorizations of the proper authorities in Canada must be obtained before an international facility may be constructed. It is not necessary to satisfy all Canadian requirements before applying for a Presidential permit. However, to avoid the unnecessary expenditure of resources by both the US Government and the applicant, the applicant should present evidence that Canadian authorities do not object to the construction of the proposed facility (USDS 2008).

1.2.2.3 NEPA Related Requirements

An FRA environmental analysis includes consideration of the following, at minimum (if applicable) (FRA EP-1 1999):

1. Air Quality
2. Water Quality
3. Noise and Vibration
4. Solid Waste Disposal
5. Natural Ecological Systems
6. Wetlands
7. Endangered Species
8. Flood Hazard Evaluation and Floodplain Management
9. Coastal Zone Management
10. Production and Consumption of Energy
11. Use of Natural Resources other than energy, such as water, minerals, or timber
12. Aesthetic Environment and scenic resources
13. Transportation
14. Elderly and Handicapped
15. Land Use
16. Socioeconomic Environment
17. Environmental Justice
18. Public Health
19. Public Safety
20. Recreation Areas and Opportunities
21. Sites of Historical, Archaeological, Architectural, or Cultural Significance
22. Use of 4(f)-protected properties; and
23. Construction Impacts

CEC Report on Environmentally Sustainable Freight Transportation (CEC 2013)

The CEC Secretariat's latest report under Article 13 of the North American Agreement on Environmental Cooperation (*NAAEC*) presents findings and recommendations on environmentally sustainable freight transportation in North America.

The report draws upon the knowledge, expertise, and perspectives of more than sixty transportation experts, government officials, operators, and other key stakeholders, to make recommendations for actions that the CEC believes will make a profound contribution to the environmental sustainability of the North American transportation system.

The report concludes that the policies, regulations, and incentives necessary to accomplish sustainable transportation-at a continental scale-will also make freight systems more efficient, competitive, and energy-secure. The recommendations from the report will likely be used to shape future environmental policy for freight transportation.

1.2.2.4 Alaska

A separate environmental analysis regime (legislation) does not exist in the State of Alaska. However, the State of Alaska may require several permits and authorizations to be obtained to authorize the project.

The lead, federal agency would engage local, state, and tribal governments as part of the NEPA process. Agencies that may lead an EA process include the Environmental Protection Agency (EPA) Region 10 (The Pacific Northwest), BLM, USFWS, FRA, and USACE. Once a lead agency is designated, the other federal and state agencies provide input to the *NEPA*-driven EA process.

1.2.3 International Agreements

The *North American Agreement on Environmental Cooperation* (*NAAEC*) and the Commission for Environmental Cooperation (the CEC") established under it, promotes transparency, public participation and increased cooperation between Canada, Mexico and the United States on environmental issues, including those that stem from an increase in free trade. The CEC works to: coordinate the environmental laws and regulations of the three countries; strengthen cooperation in the development and application of environmental laws and regulations; promote national practices aimed at preventing contamination; and encourage transparency and public participation in the development and enforcement of environmental laws and regulations throughout North America (Office of the Auditor General of Canada 2006). Articles 14 and 15 of the *NAAEC* provide a process which allows members of the North American public to make assertions that countries are failing to enforce environmental laws.

At present, CEC Council members include Leona Aglukkaq, Canadian Minister of the Environment, Gina McCarthy, US EPA Administrator, and Juan Jose Guerra, Mexican Minister of the Environment.

- **The policies of the *NAAEC* play a large role in defining the framework of Canadian and U.S. EA Regimes and other environmental laws, ensuring similar levels of environmental protection where possible, while encouraging free trade under *NAFTA*. The implementation of the proposed railway project would likely serve as a measure of the effectiveness of the CEC, and may present an opportunity for the CEC to review and/or modify *NAAEC* policy.**

1.3 Other Environmental Approvals and Permits

The following sections identify and briefly describe other environmental approvals and permits applicable to an international railway project between Canada and the United States. These may be required under federal, provincial, territorial or state legislation and would apply during the planning (i.e. EA), and/or construction, and/or operational phases of the proposed railway.

1.3.1 Canada

In addition to requirements under the *CEAA 2012*, an applicant for an international railway project is likely to require several additional federal environmental authorizations, permits and approvals. Table 1 summarizes the authorizations, permits and approvals that will most likely be required for the proposed railway.

Table 1 Key Federal (Canada) Permits and Approvals

Federal Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency
Transportation Act	▶ Regulate road crossings of railways	▶ Orders authorizing work(s) for road crossing(s)	▶ Transport Canada
Transportation of Dangerous Goods Act	▶ Regulates the handling, offering for transport and transport of dangerous goods by all modes within Canada.	▶ Section 31 Permit(s) for Equivalent Level of Safety	▶ Transport Canada
Railway Act	▶ Regulates new railway construction and operation ▶ Conducting compliance reviews and inspections.	▶ Engineering regulations, safety-based Operating Certificates,	▶ Transport Canada

Federal Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency
Navigable Waters Protection Act[2]	▶ Protects the public right of waterway navigation.	▶ Watercourse crossing application reviews and approvals for crossing(s), where navigable	▶ Transport Canada
Fisheries Act	▶ Protects fish habitat(s)	▶ Subsection 35(2) Authorizations for harmful alteration, disruption, or destruction to habitat (HADD)	▶ Fisheries and Oceans Canada
Migratory Birds Convention Act	▶ Protecting and conserving migratory birds, as populations and individual birds, their habitat and nests.	▶ Permits for removal (subject to timing restrictions)	▶ Environment Canada
Species at Risk Act	▶ Protects historic resources in Alberta, including paleontological, prehistoric, historic, archaeological, and certain cultural or natural objects, sites or structures.	▶ Section 79(1) Permits, Management Plans	▶ Environment Canada

Further descriptions of the authorizations, permits, and approvals summarized in Table 1 are provided in the subsections below. Additionally, legislation that will play a key role in the overall project scope and that may include additional permits, approvals, and authorizations is also provided description in the subsections below.

1.3.1.1 Canadian Environmental Protection Act

CEPA is the cornerstone of Canada's environmental legislation and an important part of Canada's broader legislative framework aimed at preventing pollution and protecting the environment and human health. The goal of *CEPA* is to contribute to sustainable development, i.e., development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. The environmental management process used in the implementation of *CEPA* centres around four key activities; research and monitoring, risk assessment, risk management; and compliance promotion and enforcement (Environment Canada 2013).

Additionally, *CEPA* provides the means and opportunity to cooperate with international governments to achieve Canada's environmental policy and regulatory goals.

Efforts taken under *CEPA* are complemented by actions taken under other federal Acts administered by the Minister of the Environment and other federal departments. Examples of these acts are described in the sections below and include the *Fisheries Act*, *Canada Water Act*, *Species at Risk Act*, *Canada Wildlife Act*, *Migratory Birds Convention Act*, *and Transportation of Dangerous Goods Act*.

1.3.1.2 Transportation Act

The Canadian Transportation Agency is responsible under the provisions of the *Canada Transportation Act* for attaining the objectives of the national transportation policy as they relate to safe railway operation. Among other duties, the CTA is responsible for resolving issues arising between railway companies under its jurisdiction and other interested parties such as utility companies, road authorities or landowners. Approvals are required at every instance of road crossings of a railway line.

[2] *To be replaced by Navigation Protection Act no later than April 2014. See* ***Section 1.3.1.5*** *for detail.*

If a proposed work will cross or disturb an existing provincially or federally regulated railway (i.e., the proposed railway project), the proponent should ask a provincial authority to clarify or confirm the potential applicability of the *Canada Transportation Act*, and related referral process requirements.

The plans and site profile for any federal railway crossing work requires an agreement between the Railway and a provincial authority. The agreement is filed with the Canadian Transportation Agency which issues an Order authorizing works, as indicated in the agreement, to be undertaken pursuant to Section 101 of the *Canada Transportation Act*.

If an agreement cannot be reached with the Railway, provincial authorities may apply to CTA for authorization to construct a suitable road crossing. When an agreement cannot be reached with the Railway, an assessment of the environmental impacts of any rail infrastructure project must be completed (i.e. EA submitted and approved) before the Canadian Transportation Agency can issue a ruling on a proposed crossing.

1.3.1.3 Transportation of Dangerous Goods Act

The *Transportation of Dangerous Goods Act (TDGA)* is designed to promote public safety in the transportation of dangerous goods. It aims to ensure that any shipping is done in a manner that enhances the safety of the person involved in the transport and that of the general public, and protects the environment.

Transport Canada conducts enforcement for rail. The department also leads in the development of dangerous goods regulations in the transportation sector. *The Transportation of Dangerous Goods Regulations (TDGR)*, adopted by all provinces and territories, establishes the regulatory requirements for the handling, offering for transport and transport of dangerous goods by all modes within Canada.

The *Transportation of Dangerous Goods Act, 1992* focusses on prevention. In the unlikely event of a mishap, however, the *Act* assigns roles and responsibilities to shippers and carriers and further empowers inspectors to take immediate steps, as appropriate, during an incident to preserve public safety.

Transport Canada's TDG program is based on the premise that properly classifying a dangerous good while ensuring that the dangerous good is transported in a proper means of containment are crucial elements in the safe transportation of dangerous goods. To help accomplish this, TDG harmonizes with UN recommendations and classifications.

In recent years, increased security and safety requirements have been incorporated into the TDGR via a series of amendments with the intent of aligning the regulations with international recommendations and modal requirements and the US dangerous goods regulations.

1.3.1.4 Railway Safety Act

The *Railway Safety Act* sets the regulatory framework for addressing rail safety, security and some of the environmental impacts of rail operations in Canada.

In February 2007, the Minister of Transport launched a full review of the operation and efficiency of the *Railway Safety Act* through an independent advisory panel. The advisory panel's final report of March 2008 included 56 recommendations for improving rail safety, some of which required legislative changes to the *Railway Safety Act*.

The Government of Canada has addressed the recommendations of both reports and amended the *Railway Safety Act* to further improve rail safety in Canada.

The amended *Railway Safety Act* includes the following significant changes (Transport Canada 2013):

- Require railway companies to obtain a safety-based Railway Operating Certificate and to submit environmental management plans
- New monetary penalties and increased judicial penalties
- Whistleblower protection for employees who raise safety concerns
- Require each railway to have an executive legally responsible for safety
- Emphasize the central importance of safety management systems.

The amendments came into force on May 1, 2013.

1.3.1.5 Navigable Waters Protection Act (NWPA)/ Navigation Protection Act (NPA)

The *Navigable Waters Protection Act* (*NWPA*) is a federal law designed to protect the public right of navigation. The purpose of the Act is to prevent the placing of obstructions (e.g., bridges, dams, wires, and wharves), or dumping of materials, that would interfere with navigation in watercourses. It ensures that works constructed in navigable waterways are reviewed and regulated so as to minimize the overall impact on navigation. Under the *NWPA*, navigable water is defined as a "canal and any other body of water created or altered as result of the construction of any works". In practice, this definition includes any body of water capable of being navigated by a floating vessel of any description for the purposes of transportation, recreation or commerce. The Navigable Waters Protection Program (NWPP) is guided by the *NWPA* and its regulations are administered by the Minister of Transport. A permit will be required from TC prior to the construction of any such project, in navigable waters.

- **Under the *NWPA*, the proposed railway project would involve the crossing or disturbance of a number of potentially navigable waterways, with the preparation of a request for work approval application required at each instance.**

The *Navigable Waters Protection Act* is being replaced by the *Navigation Protection Act (NPA)* no later than April 1st, 2014, through changes introduced by Bill C-45, passed through the Senate on December 14th, 2012. The new N*avigation Protection Act* eliminates the blanket protection for Canadian waterways and restricts protection to 97 lakes, 62 rivers, and three oceans (link to complete proposed list). Additional bodies of water may be added by regulation where the Minister of Transport is of the opinion that it is in the national or regional economic interest or the public interest to do so, or where a province or municipality so requests.

- **Preliminary review indicates that only three rivers in the study area are listed as protected under the new *Navigation Protection Act,* and would require permits under the *NPA (Schedule 2 (not in force))*:**
  - Athabasca River, from the confluence with Whirlpool River to Lake Athabasca
  - Peace River, from Williston Reservoir to the Slave River
  - Yukon River, from the rapids near the dam in Whitehorse to the Canada-USA border

1.3.1.6 Fisheries Act

The Department of Fisheries and Oceans (DFO) works with interested parties to rehabilitate the productive capacity of fish habitats or create new fish habitats in selected areas where economic or social benefits can be achieved through the fisheries resource. The Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the *Fisheries Act* states that compliance with the federal *Fisheries Act* is mandatory. Section 35(1) of the *Fisheries Act* (current to 2013-06-25) states, "No person shall carry on any work, undertaking or activity that results in the harmful alteration or disruption, or the destruction, of fish habitat [HADD]. Section 35(2) states, "a person may carry on a work, undertaking or activity without contravening subsection (1)" under certain circumstances, including "(*b*) the carrying on of the work, undertaking or activity is authorized by the Minister and the work, undertaking or activity is carried on in accordance with the conditions established by the Minister". Under Section 35(2) (b), therefore, an Authorization is required before any work, undertaking or activity that results in HADD. Subsection 36(3) of the *Act* specifies that, unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. The determination of what constitutes HADD is based on the application of the "no net loss" guiding principle of the Policy for the Management of Fish and Fish Habitat. Under this principle, DFO works with proponents to ensure their development proposals avoid harm to fish habitat. When fish habitat losses are unavoidable, the productive capacity can be compensated by replacing or enhancing fish habitat thereby achieving a "no net loss" of fish and fish habitat. The restoration and development goals build on the conservation goal in order to achieve a "net gain" in productive capacity. A "net gain" is achieved when there is more or better functioning fish habitat available such that fish productivity is likely to be improved over existing conditions.

- **The proposed railway project will likely require authorizations by the Department of Fisheries and Oceans (DFO) under *Subsection 35(2)* of the *Fisheries Act* since it may result in harmful alteration, disruption or destruction of fish habitat (HADD) at numerous watercourse crossings during construction.**

According to the DFO "Departmental Forward Regulatory Plan 2012-2014", the department is currently working on a regulatory proposal that would set out information and documentation requirements for applications for HADD Authorizations, and establish procedures and time limits for processing of applications.

At the time of this writing, a completed "Application for Fisheries Act Authorization" must include:

- Any relocation or redesign options considered for reducing impacts on fish and fish habitat
- Design details, construction techniques and mitigation measures being proposed
- Habitat compensation plan, to achieve no-net-loss of fish habitat
- Monitoring plan that will ensure habitat compensation and mitigation measures function properly
- Letter of credit as financial security for ensuring compensation and mitigation are completed
- Any conditions required under the *Species At Risk Act.*

1.3.1.7 Canada Wildlife Act

The *Canada Wildlife Act* specifies requirements for a geographic area in Canada to be designated a National Wildlife Area by the Canadian Wildlife Service division of Environment Canada. The purpose of wildlife areas is to preserve habitats that are critical for migratory birds and other wildlife species, particularly those at risk. There are currently 54 designated National Wildlife Areas in Canada (Environment Canada 2013).

The *Wildlife Area Regulations (C.R.C., c. 1609)*, identifies activities that are prohibited within such areas because they may harm a protected species or its habitat. In some circumstances, land-use permits may be granted to individuals, organizations, or companies if the intended use is compatible with conservation of the area.

- **Engaging in commercial/industrial activity is expressly prohibited by the Act (s. 3(1) (k)). Conversely, these areas should be avoided by the proposed rail alignment. The proposed railway alignment is in close proximity to, but does not fall within, one National Wildlife Area (NWA) (Nisultin River Delta, Yukon). See Figure 3.**

1.3.1.8 Migratory Birds Convention Act (MBCA), 1994

The purpose of the *Migratory Birds Convention Act 1994 (MBCA)* is to implement the "Convention for the Protection of Migratory Birds in Canada and the United States" by protecting and conserving migratory birds, as populations and individual birds, their habitat and nests. The Regulations (*Migratory Bird Sanctuary Regulations (C.R.C., c. 1036*)) under the *MBCA* prohibit depositing, or permitting the deposit, of a substance that is harmful to migratory birds in waters or an area frequented by migratory birds or in a place from which the substance may enter such waters or such an area. A prohibition against the disturbance, destruction, or taking of a nest, egg or nest shelter of a migratory bird without a permit is also set out in the Regulations.

- **Construction timing windows can be significantly restrictive in areas where migratory bird populations exist outside of designated sanctuaries. These would need to be considered in project scheduling.**

Additionally, at present, there are 92 Migratory Bird Sanctuaries across Canada, comprising almost 11.5 million hectares of migratory bird habitat that provides safe refuge for migratory birds in the terrestrial and marine environment (Environment Canada 2013). Restrictions within these sanctuaries are covered under the *Canada Wildlife Act* (see Section 1.3.1.7).

- **The proposed railway alignment does not fall within any of the 92 Migratory Bird Sanctuaries (MBS) subject to protection under the *MBCA*.**

1.3.1.9 Species at Risk Act

Under certain site or project-specific circumstances (e.g., the presence of a listed species), the proposed project may require a permit under the *Species at Risk Act* (*SARA*). The purpose of the *SARA* is to prevent wildlife species from being extirpated or becoming extinct, to provide for the recovery of wildlife species that are extirpated, endangered, or threatened as a result of human activity, and to manage species of special concern to prevent them from becoming threatened or endangered. Pursuant to Section 79(1) of *SARA*, Environment Canada is obliged to ensure that effective protection is provided of

listed species and a project proponent may be required to obtain a permit and develop a management plan.

- **At-risk species may be encountered along the proposed railway alignment, and without proper design, mitigation and potentially habitat restoration, individuals or their habitats may be affected. Sensitive wildlife population ranges, including those of at-risk species, are preliminarily identified in Figures 5 through 11.**

1.3.1.10 Water Act

The *Canada Water Act* is aimed ensuring that waters of national significance are conserved, developed and managed. Under the *Constitution Act, 1867* the protection of fresh water is primarily a provincial responsibility.

The primary role for the federal government, then, is in working with the provinces to coordinate federal and provincial efforts aimed at protecting water resources, and to step in where the provinces fail to protect water resources of national concern. The Minister can also create Water Quality Management Areas. These areas theoretically relate to a more specific geographic area and provide actual protection to the water quality management area going beyond that of the partnerships discussed above.

Part II, Section 9 of the *Act* covers the unlicensed dumping of wastes into waters within a Water Quality Management Area. It further forbids dumping wastes in any place, or under any conditions, such that the waste or the derivatives of that waste might flow into the waters of the protected area.

1.3.1.11 Environmental Enforcement Act (EEA)

The *Canada Environmental Enforcement Act (EEA)*, enacted in 2010, bolsters protection of water, air, land, and wildlife through more effective enforcement.

The *EEA* provides a common set of principles and factors to be taken into account in sentencing, the enforcement tools (such as Environmental Protection Compliance Orders and Administrative Monetary Penalties), and the fine regimes across all of the amended acts.

The *EEA* also introduces a new fine scheme that more accurately reflects the seriousness of environmental offences. The Act sets out fine ranges that vary according to the nature of the offence and the type of offender (such as corporate offenders and individual offenders).

Finally, the *EEA* also creates the *Environmental Violations Administrative Monetary Penalties Act* (*EVAMPA*), which sets out an Administrative Monetary Penalties system. Administrative Monetary Penalties, or AMPs, have been part of enforcement schemes in other areas but their application to environmental violations is relatively recent. AMPs are civil or administrative in nature, rather than penal or criminal. They are designed to provide an efficient response to violations where there is no need for denunciation and punishment (Environment Canada 2013).

1.3.1.12 Province of Alberta Permits and Approvals

Table 2 lists the key permits and approvals that may be required for the proposed railway project in the Province of Alberta. This listing is not exhaustive as the specific permits and approvals required will be very dependent upon the project location and design.

Table 2 Alberta Key Permits and Approvals

Provincial Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency (Ministry or other, where indicated)
Water Act	▶ Conserve and manage surface water and groundwater resources. ▶ More specifically, approval is required to alter flow or level of water, change the location of water or the direction of flow of water, cause the siltation of water or erosion of any bed or shore of a water body, or cause an effect on the aquatic environment.	▶ Work Permit(s)	▶ Environment and Sustainable Resource Development
Public Lands Act	▶ Authorizations are required for easements, including vegetation control easements, and for occupying public lands.	▶ Work Permit(s), Environmental Field Reports	▶ Environment and Sustainable Resource Development
Railway Act	▶ Regulation of new railway construction and operation ▶ Conducting compliance reviews and inspections.	▶ Section 11 Approvals	▶ Transportation, Dangerous Goods and Rail Safety Branch
Forests Act	▶ Protection and conservation of Alberta's Forests.	▶ Work Permit(s)	▶ Environment and Sustainable Resource Development
Soil Conservation Act	▶ Discourages practices that cause soil degradation and/or loss.	▶ Erosion Control Measures ▶ Remedial Action, if necessary	▶ Agriculture and Rural Development
Wildlife Act	▶ Protection of wildlife habitat, including endangered species ▶ No person shall "willfully molest, disturb or destroy a house, nest or den of prescribed wildlife."	▶ Permits/licenses/authorizations under Part 3 of the *Act* for the removal mammals, turtles and birds out of the Right-Of-Way (ROW) during construction.	▶ Environment and Sustainable Resource Development
Historical Resources Act	▶ Protects historic resources in Alberta, including paleontological, prehistoric, historic, archaeological, and certain cultural or natural objects, sites or structures.	▶ Carry out a Historical Resources Impact Assessment (HRIA) and apply for any permits associated with salvage, preservation and protective measures.	▶ Culture
Weed Control Act	▶ Regulates the movement of machines and equipment that can potentially transport weed seeds.	▶ Rigorous inspection and cleaning of construction vehicles moving between sites. Comply with various municipal weed control bylaws.	▶ Municipalities within the province.
Municipal Government Act	▶ Provides the governance model for cities, towns, villages, municipal districts, specialized municipalities, and other forms of local government	▶ Development Permit(s), Building Permit(s) for ancillary facilities	▶ Municipal Affairs

1.3.1.13 Province of British Columbia Permits and Approvals

Table 3 lists the key permits and approvals that may be required for the proposed railway project in the Province of British Columbia. This listing is not exhaustive as the specific permits and approvals required will be very dependent upon the project location and design.

Table 3 British Columbia Key Permits and Approvals

Provincial Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency (Ministry or other, where indicated)
Water Act	▶ Regulation of discharges into surface waters and taking of groundwater.	▶ Temporary Water Use approval(s) ▶ Approval(s) to make changes to stream ▶ Water license(s)	▶ Forestry, Land and Natural Resources
Land Act	▶ Allows the granting of land, and the issuance of Crown land tenure in the form of leases, licences, permits and rights-of-way.	▶ Land leases, permits, licenses	▶ Forestry, Land and Natural Resources
Forests Act	▶ Addresses rights to log timber.	▶ Occupant License to Cut ▶ Road Use Permit(s) ▶ Road Construction Permit(s) ▶ Licence of Occupation, Lease and/or Right of Way for Project Infrastructure	▶ Forestry, Land and Natural Resources
Railway Act	▶ Governs the incorporation of a railway company in BC and also the construction of any railway within the province.	▶ Location approvals ▶ Crown land approval ▶ Expropriation approvals	▶ Transportation Community Development
Railway Safety Act	▶ Ensures safe operation of the railway. ▶ Harmonized with the Canada *Railway Safety Act*.	▶ See Section 1.3.1.4	▶ Transportation Community Development
Wildlife Act	▶ Protection of virtually all vertebrate animals from direct harm. ▶ Includes protection for endangered species.	▶ Authorization Permits(s) for field work and animal removals during construction	▶ Forestry, Land and Natural Resources
Environmental Management Act	▶ Protects human health and the quality of water, land and air.	▶ Waste Discharge Permit(s)	▶ Environment
Commercial Transport Act	▶ Regulates commercial vehicle safety. ▶ Applies to construction vehicles.	▶ Crossing, Overload, and Oversize Permit(s)	▶ Transportation
Heritage Conservation Act	▶ Regulates the identification, protection and conservation of archaeological and heritage resources.	▶ Section 14 Inspection Permit(s) for archaeological impact assessment ▶ Section 12 Alteration Permit(s)for development within archaeological sites	▶ Forestry, Land and Natural Resources
Local Government Act	▶ Provides local government with the powers, duties, and functions necessary for fulfilling their purposes	▶ Building Permit(s), Development Permit(s) for ancillary facilities	▶ Community, Sport, and Cultural Development

1.3.1.14 Yukon Territory Permits and Approvals

Table 4 lists the key permits and approvals that may be required for the proposed railway project in Yukon Territory. This listing is not exhaustive as the specific permits and approvals required will be very dependent upon the project location and design.

Table 4 Yukon Key Permits and Approvals

Territorial Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency (Department or other, where indicated)
Waters Act	▶ Regulation of discharges into surface waters, with further emphasis on water management areas.	▶ Water License(s) for water use, deposit of waste in water, bridge crossing(s)	▶ Water Board Executive Council Office
Environment Act	▶ Governs the release of Air pollutants.	▶ Air Emissions Permit(s)	▶ Environment
Lands Act	▶ Regulation of Yukon Lands ▶ Authorizes the acquisition of rights-of-way.	▶ Land Use Permit(s)	▶ Energy, Mines and Resources
Territorial Lands Act	▶ Regulation of Lands administered by the Canadian Ministry of Indian Affairs and North Development ▶ Authorizes the acquisition of rights-of-way.	▶ Land Use Permit(s)	▶ Energy, Mines and Resources
Wildlife Act	▶ Protection of virtually all vertebrate animals from direct harm ▶ Includes protection for endangered species.	▶ Permission for activities in a Habitat Protection/Wildlife Area ▶ Permit(s) for field work, research and/or removals during construction	▶ Environment
Forest Resources Act	▶ Governs the clearing of forest resources.	▶ Forest Resources Permit(s) for clearing related to construction	▶ Energy, Mines and Resources – Forest Management Branch
Highways Act	▶ Regulates the construction of roadways.	▶ Permit(s) under Section 7(2) for construction of access roads	▶ Highways and Public Works
Scientists and Explorers Act	▶ Regulates scientific and social scientific research, including studies connected with EA's.	▶ Scientists and Explorers Permit(s) required for non-resident researchers	▶ Tourism and Culture
Historic Resources Act	▶ Regulates the identification, protection and conservation of archaeological and paleontological resources.	▶ Archaeological Sites Regulations Permit(s)	▶ Tourism and Culture
Municipal Act	▶ Provide local governments with the powers, duties, and functions necessary for fulfilling their purposes	▶ Building Permit(s), Development Permit(s) for ancillary facilities	▶ Community Services

1.3.2 United States

In addition to the requirements under NEPA, applicant for an international railway project is likely to require the following additional federal permits and approvals:

1.3.2.1 US Army Corps of Engineers (USACE) Section 404 and Section 10

The USACE has jurisdiction pursuant to Section 404 of the *Clean Water Act* and Section 10 of the *Rivers and Harbours Act*. Section 404 requires approval prior to discharging dredged or fill material into the waters of the US, including wetlands. Section 10 requires approval prior to any work in or over navigable waters of the US. In issuing these permits, the USACE must also comply with *NEPA*; in this instance NEPA documentation is generally required unless the activity falls under a nationwide permit. For large projects, such an international railway project, coverage under a nationwide permit would not be available, requiring an individual permit to be obtained (see Section 1.2.2.1).

1.3.2.2 US Department of Transportation Act (DOT)

The DOT Act of 1966 was one of the earliest and most significant pieces of transportation legislation relative to environmental protection. *Section 4 (f)* of the *DOT Act* provides for the protection of historic resources from potentially adverse impacts of federal transportation projects.

Specifically, the law states that any federally-assisted transportation projects may not "use' land from public parks, recreation areas, or wildlife and waterfowl refuges of national, state, or local significance, or lands of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) a historic site or park, among other environmentally-sensitive areas, unless 1) there is "no feasible and prudent alternative" to using the site, and 2) the project includes all possible planning to minimize harm to the site.

Historic structures are included if they are on or are eligible for listing on the National Register of Historic Places (NRHP), as established by the *National Historic Preservation Act*.

1.3.2.3 Federal Land Policy and Management Act (FLPMA)

The *Federal Land Policy and Management Act (FLPMA)* was enacted in 1976 for the purposes of establishing a unified, comprehensive, and systematic approach to managing and preserving public lands in a way that protects "the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values." In the context of the *FLPMA*, public lands consist of federally-owned lands that have not been set aside for national forests and parks, wildlife preservation areas, military bases, or other federal purposes. The *FLPMA* is administered by the Bureau of Land Management (BLM), an agency of the Department of the Interior, which manages some 261 million acres of public lands comprising 12 percent of the United States.

The *FLPMA* sets a goal of preserving and protecting public lands in their natural condition to the extent possible and to retain federal ownership of public lands unless it is in the national interest to dispose of them. Where it is appropriate to sell federal lands, the *FLPMA* requires that fair market value be received for the lands.

Title V, Section 501 of the *FLPMA* states:

> *"the Secretary, with respect to public lands…..are authorized to grant, or renew ROW over, upon, under, or through such lands for….roads, trails, highways, railroads….or other means of transportation…"*

1.3.2.4 Hazardous Materials Transportation Act

Under Title 49 of the code of federal regulations (CFR), various approvals would be required, including a certificate to authorize construction and operation of a railroad line, and regulations made under the H*azardous Materials Transportation Act (HMTA) (Chapter 51)*.

The *HMTA* specifically states that regulations apply to any person who:

- Transports hazardous materials in commerce

- Causes hazardous material to be transported in commerce
- Designs, manufactures, fabricates, inspects, marks, maintains, reconditions, repairs, or tests a package, container, or packaging component that is represented, marked, certified, or sold as qualified for use in transporting hazardous material in commerce
- Prepares or accepts hazardous material for transportation in commerce
- Is responsible for the safety of transporting hazardous material in commerce
- Certifies compliance with any requirement under the Act; or
- Misrepresents whether such person is engaged in any activity under the above requirements.

Subsection 5117 of the *Act* provides that the Secretary of Transportation may "issue, modify, or terminate" a special permit generally authorizing the transportation of dangerous goods in a way that achieves a safety level that —

- (A) is at least equal to the safety required by the Act; or
- (B) is consistent with the public interest and the Act, if a required safety level does not exist.

Special permits are effective for an initial period of no more than two years. Renewal of the special permits is granted under the Secretary's discretion upon application for the permit for successive periods of no more than four years each.

The FRA is responsible for implementation of the *HMTA.*

1.3.2.5 National Historic Preservation Act (NHPA)

The *NHPA* provides for a review of any project funded, licensed, permitted, or assisted by the federal government for impact on significant historic properties. The State Historic Preservation Officer (in this case, the Alaska Office of History and Archaeology) and the Advisory Council on Historic Preservation (a federal agency), would be involved in the Section 106 consultation process. This can be a lengthy process depending on whether adverse effects could potentially occur as a result of the proposed action.

1.3.2.6 Clean Water Act Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES)

The proposed project will be subject to the Clean Water Act requirement for a National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharges from the construction sites. The EPA recently delegated authority for implementing Clean Water Act requirements to the Alaska Department of Environmental Conservation (ADEC). This program is referred to as the Alaska Pollutant Discharge Elimination System Program (APDES). The EPA will generally assume an oversight role for the APDES Program.

1.3.2.7 US Endangered Species Act (1973)

The Endangered Species Act was enacted to conserve threatened and endangered species and their ecosystems. A species is considered endangered if it is in danger of extinction throughout all or a significant portion of its range. Under NEPA, coordination with the US Fish and Wildlife Service is required under *Section 7* of the *Endangered Species Act*. Currently, there are several federally designated endangered or threatened species that occur within Alaska. Table 5 lists the federally listed endangered and threatened species that occur in Alaska. Species with an asterisk are also designated as endangered under the State of Alaska regulations.

Table 5 Federally listed (US) Endangered and Threatened Species in Alaska

Endangered	Threatened
Aleutian Shield Fern	Green Sea Turtle
Blue Whale*	Loggerhead Sea Turtle
Bowhead Whale	Northern Sea Otter (SW AK population)
Cook Inlet Beluga Whale	Olive Ridley Sea Turtle
Eskimo Curlew *	Polar Bear
Fin Whale	Spectacled Eider
Humpback Whale*	Steller Sea Lion (east of 144º)
Leatherback Sea Turtle	Steller's Eider
North Pacific Right Whale*	Wood Bison
Sei Whale	
Short-tailed Albatross*	
Sperm Whale	
Steller Sea Lion (west of 144º)	

- **The Wood Bison and Eskimo Curlew (bird species) are the only two threatened or endangered species that have potential to exist in the vicinity of the rail alignment study area in Alaska. The Wood Bison has been re-introduced to the Delta Junction State Bison Range (see Sections 1.5.3 to 1.5.5 for detail). The Eskimo Curlew has not been seen in over 50 years and is now considered critically endangered and possibly extinct (Birdlife International 2013).**

Figure 2 Eskimo Curlew

1.3.2.8 Alaska National Interest Lands Conservation Act (ANILCA)

The *Alaska National Interest Lands Conservation Act* (or *ANILCA*) designates over 100 million acres of Conservation System Units (CSUs) in Alaska, including pieces of the National Wildlife Refuge System, National Wild and Scenic Rivers, National Monuments, conservation areas and recreation areas managed by the Bureau of Land Management; Wilderness Preservation System lands, and National Forests (Alaska DNR, 2010).

It is the further the intent and purpose of the *Act* to provide the opportunity for rural residents engaged in a subsistence way of life to continue to do so.

- **Any impacts to CSUs in the vicinity of the proposed railway alignment would involve extensive consultation on a federal and state level for the agencies that have jurisdiction over the lands potentially being affected by the project. Within the general area where the project is being proposed there is Wrangell-St. Elias National Park and Preserve and the Tetlin National Wildlife Refuge. Being said, there are no CSU's within the proposed railway alignment.**

1.3.2.9 US Clean Air Act (CAA)

Within the US, ambient air quality is regulated under the CAA at the federal, regional, and state level. Indoor air quality is addressed through other regulations such as Occupational Safety and Health Administration and is not discussed in this document. Originally passed by Congress in 1963, the CAA did not gain momentum until the 1970 amendments, which strengthened the Act and established the EPA. In 1990, the CAA again underwent significant amendments (CAAA), which provided the EPA with a greater scope of authority to implement and enforce regulations associated with reducing ambient air pollution from mobile and stationary sources.

The CAA consists of six main components, which have been established by the EPA:

- Title I - Air Pollution Prevention and Control
- Title II - Emission Standards for Moving Sources
- Title III - General Provisions
- Title IV - Acid Deposition Control
- Title V - Permits
- Title VI - Stratospheric Ozone Protection.

Among other things, this law authorizes the EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

The State of Alaska has primacy for implementing and enforcing the CAA and CAAA provisions with the exception of national emission standards for hazardous air pollutants and new source performance standards. State air quality regulations have been implemented under Title 18, Chapter 50. These regulations establish the Alaska AAQS; as well as, the process for permitting new stationary sources and modifying existing stationary sources.

1.3.2.10 Executive Order 12898: Environmental Justice

In the USA, federal agencies are required to consider environmental justice as appropriate in environmental analysis to ensure a proposed action does not disproportionately cause high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. This consideration must be included in all environmental analyses.

1.3.2.11 Key Federal (US) Permits and Approvals

Table 6 lists the key federal permits and approvals that may be required for the proposed railway project in the State of Alaska. This listing is not exhaustive as the specific permits and approvals required will be very dependent upon the project location and design.

Table 6 Key Federally Regulated Permits and Approvals for the State of Alaska

Federal Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency
Safe Drinking Water Act (SDWA)	▶ Regulation of contaminants into drinking water, including groundwater.	▶ Ensure compliance by obtaining APDES permit(s)	▶ US Environmental Protection Agency
Alaska National Interest Lands Conservation Act (ANILCA)	▶ Established protected lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values. ▶ To preserve unrivaled scenic and geological values associated with natural landscapes and provide for the maintenance of wildlife and wildlife habitat for Alaskans and the Nation. ▶ To provide subsistence opportunities for rural residents engaged in a subsistence way of life. ▶ Allows for designation of new protected sites under the act in the future.	▶ Agency-specific requirements (land access, right-of-ways) ▶ Review under sections 702, and 810	▶ Federal Agencies with Land Management Responsibilities
Migratory Bird Treaty Act	▶ Protection of migratory bird species including their nests, eggs, and nestlings.	▶ Permit(s) for hazing and relocation of migratory bird species and their nests.	▶ US Fish and Wildlife Service (USFWS)
Endangered Species Act	▶ Protection of federally listed species to include endangered and threatened flora and fauna.	▶ Section 7 Consultation	▶ USFWS
Bald and Golden Eagle Protection Act	▶ Protection of bald and golden eagles, and their nests.	▶ Take permit	▶ USFWS
Magnuson-Stevens Act	▶ Protection of anadromous fish and the streams used by these species for spawning and rearing.	▶ Essential fish habitat assessment/consultation and permitting through US National Marine Fisheries Service (USNMFS)	▶ USNMFS
Clean Water Act Section 404	▶ Regulates discharge of dredged or fill material into the waters of the US including wetlands	▶ Section 404 Permit	▶ US Army Corps of Engineers
Floodplains Management EO No. 11988	▶ Requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of flood plains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative.	▶ Consultation	▶ Department of Homeland Security, Federal Emergency Management Agency (FEMA)

1.3.2.12 Key State of Alaska Permits and Approvals

Table 7 lists the key permits and approvals that may be required for the proposed railway project in the State of Alaska. This listing is not exhaustive as the specific permits and approvals required will be very dependent upon the project location and design.

Table 7 Key Alaska Permits and Approvals (State Regulated)

State Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency (Alaska Department)
Alaska Pollutant Discharge Elimination System (APDES) Program	▶ Regulate stormwater discharge from construction sites, excluding those in Denali National Park, tribal areas, and facilities more than 3 miles offshore. ▶ Regulates industrial wastewater discharges from industrial sites ▶ Regulates sanitary wastewater discharges from public treatment works.	▶ APDES Permit	▶ Environmental Conservation (ADEC). Division of Water Quality
Clean Air Act, State Implementation Plan – State of Alaska	▶ Implements segments of the federal Clean Air Act and Clean Air Act Amendments, with the exception of new source performance standards and national emission standards for hazardous air pollutants, which is still administered by EPA	▶ Minor source permits, construction permits, and operation permits	▶ Environmental Conservation, Division of Air Quality
Alaska Forest Resources and Practices Act	▶ Protects Alaskan State Forests.	▶ Operation permits, forest/timber clearing/salvage permits	▶ Natural Resources, Division of Forestry
Alaska Historic Preservation Act (National Historic Preservation Act)	▶ Implements Section 106 of the National Historic Preservation Act ▶ Regulates the location, preservation, study, exhibition, and evaluation of historic, prehistoric and archaeological resources. ▶ Determine level of effect within area of potential affect. Three levels of effect exist: no historic properties affected, no adverse effects, or adverse effects exist.	▶ Section 106 Consultation,	▶ Natural Resources, State Historic Preservation Office
Anadromous Fish Act and Fishway (Fish Passage) Act	▶ Regulates activities affecting specified water bodies, or fish stream. Including, construction; stream crossings (road, vehicle, or equipment); gravel removal; mining; water withdrawals; stream realignment or diversion; bank stabilization; blasting. ▶ Regulates activities within or across a stream used by fish that could impede efficient passage of resident or anadromous fish.	▶ Fish habitat Permit	▶ Fish and Game, Division of Habitat
Alaska Statute Title 16, Chapter 20 – Conservation and Protection of Alaska Fish and Game	▶ Activities within State refuges, sanctuary, or designated critical habitat areas	▶ Special Area Permit	▶ Fish and Game, Division of Habitat
Miscellaneous Land Use (11 AAC 96)	▶ Regulates access to and actions taken on State lands such as right-of-way access, off-road travel, use of uplands, etc…	▶ Land Use Permit	▶ Natural Resources, Division of Mining Land and Water (DMLW)
Alaska Land Act, Sale of Timber and Materials (AS 38.05.110-120 and 11 AAC 71)	▶ Regulates material sale contract for gravel and materials extraction on State lands	▶ Materials Sales Contract	▶ Natural Resources, DMLW

State Legislation	Purpose	Relevant Approvals, Permits, Licences	Regulatory Agency (Alaska Department)
Alaska Water Use Act, Section 155	▶ Regulates temporary withdrawal of water from State water resources	▶ Temporary Water Use Permits	▶ Natural Resources, DMLW
Clean Water Act 401 Certificate of Reasonable Assurance	▶ Obtain certification that a discharge will comply with the Clean Water Act, the Alaska Water Quality Standards (18 AAC 70), and other applicable State laws. ▶ By agreement between the U.S. Army Corps of Engineers (Corps) and ADEC, an application for a Section 404 permit to discharge dredged and/or fill material into waters of the U.S. also serves as an application for ADEC 401 water quality certification.	▶ Section 401 Certification	▶ Alaska Department of Environmental Conservation, Division of Water
Alaska Native Allotments Act	▶ Parcels of land allotted to individual members of Alaska tribes. Allotments were 160 acres. 10,000 allotments were issued before the law was appealed ▶ Allotments not subject to eminent domain provisions	▶ Right-of-way authorization/ land access	▶ (Federal) US DOI, Bureau of Indian Affairs

1.4 Regulatory Risks and Issues

1.4.1 EA / Application Preparation and Regulatory Approval Times

The time required to undertake an EA or an Application under *CEAA 2012* or *NEPA* is dependent upon the scope of the environmental analysis, the availability of existing environmental data, the time allocated by the proponent to complete their desired level environmental baseline studies and effects assessments, and the level of public, government agency and Aboriginal/ Native people consultation that is undertaken. At this time, it is not possible to accurately estimate the EA preparation time. However, based on AECOM experience in the United States and Canada, a minimum of two years should be allocated for this activity (1.5 to 2 years to prepare EA documentation, 6 months for government review).

The time required to process and issue EA approvals in both Canada and the United States is most closely tied to the scope of the environmental analysis, the quality of the proponent's environmental study program and assessment, and the level of public and government agency concern.

In Canada, the processing time is dependent on the efficient communication among the various jurisdictions involved (i.e., the extent of co-operation between federal and provincial EA) and perhaps more importantly, whether the project is referred to a CEA Panel Review. See Section 1.4.5 below for details.

In the United States, a Presidential Permit (see Section 1.4.2) issuance may occur within six months of filing the application if it is determined that an EA-level review is fitting for *NEPA* compliance and a FONSI is found to be appropriate. However, given that the proposed railway project is likely to require an EIS to adequately address the potential environmental effects, the time for processing the application may extend 18 months or more. Similarly, additional federal and state permits may require an additional 6 months. Downstream approval requirements can be shortened with concurrent *NEPA* and other approval applications.

Furthermore, a decision should be made very early in the planning process deciding whether the proposed railway project would apply for Regulatory review(s) wholly, or in segments (referred to as 'project splitting'). At this point, it is clear that the project would require the implementation (and resultant documentation) of at least two processes of EA (within the respective countries). However, given the length of time it may take for completing technical fieldwork, consultation, and documentation of the entire corridor within Canada, it may be somewhat more practical to divide the assessment within Canada into manageable "segments" by Province/Territory. This process could be advantageous for another reason: it may diminish the likelihood of the project requiring a CEA panel review and resultant time extension (see Section 1.4.5 below).

- **Above being said, 'project splitting' does not constitute best practice in EA and is generally not acceptable to the CEA Agency. 'It is recommended that 'project splitting' not be considered.**

1.4.2 US Presidential Permit

Even though the US FRA would be the lead federal agency responsible for issuance of a Presidential Permit for the proposed railway project, the permit is still subject to executive approval; the FRA is first required to obtain concurrence from the Secretary of State and the Secretary of Defense. Both positions are politically appointed, and both positions are susceptible to various political pressures and the whim of the current Presidential Administration. Political considerations can present significant delays to projects of this nature.

1.4.3 Inter-jurisdictional Issues

Inter-jurisdictional issues between Canada and the United States are likely to affect the project schedule. For any major international project, there is a need for regulatory co-ordination and co-operation that will inevitably add time to the project schedule. Additionally, a considerable amount of time has passed since a railway has been constructed between the two countries, and political and legislative environments have changed considerably.

1.4.4 Access Roads

Access roads for the construction and operation of the railway crossing, or in the vicinity of the international border, would be subject to regulation and could potentially individually require a presidential permit and/or approvals from other federal agencies on both sides of the border (US Department of State 2009). If possible, any ancillary access roads or other infrastructure should be planned to avoid the international border.

1.4.5 Panel Reviews under CEAA 2012

Typically, a major risk to a project is the possibility of a Panel Review under the *CEAA 2012*. Panel Reviews are often time consuming, costly, and politically complex. As noted previously, the Canadian federal Minister of the Environment has the discretion to refer any project to a panel review under specific circumstances**.** Section 38 of the *Act* gives the Minister the authority to refer a project to a panel review if he is of the opinion that it is in the public interest to do so. *Section 38(2)* of the *Act* states:

"*The Minister's determination regarding whether the referral of the environmental assessment of the designated project to a review panel is in the public interest must include a consideration of the following factors:*

a. *whether the designated project may cause significant adverse environmental effects;*

b. *public concerns related to the significant adverse environmental effects that the designated project may cause; and*

c. *opportunities for cooperation with any jurisdiction that has powers, duties or functions in relation to an assessment of the environmental effects of the designated project or any part of it."*

The authority to refer a project to a panel cannot be based simply on public concern. Rather, as per the above, a referral can be made on the basis of potential opportunity to co-operate among jurisdictions. Given the multi-jurisdictional nature of the project, there is significant potential for the proposed railway project to be referred to Panel Review. That being said, there are no active railway construction EA projects within Canada undergoing CEAA Panel review (see Section 1.2 for details).

1.4.6 Hazardous Material Shipping Regulations

The fallout from the 2013 train derailment in Lac-Megantic, Quebec may involve significant changes for international, national, and local regulations for transportation of dangerous goods.

The US Federal Railroad Administration has launched a broad investigation into whether the shipping practices of the industry meet safety regulations. Improper safety requirements for rail cars, including overloaded cars, are just one of many subjects of the inquiry (National Post, August 9, 2013). The FRA's Action Plan for Hazardous Materials Safety outlines the rigorous steps the FRA is taking to address rail transportation safety.

Canada's Transportation Safety Board is analyzing the contents of the tankers to test whether they reflect what is identified on the shipping documents, as well as assessing whether they are within the correct safety classification to be carrying such hazardous oil properties (National Post, August 9, 2013).

It is uncertain what effects these investigations will have on regulations and any associated permitting/economic impacts, although it is important to note moving forward. This concern should be followed closely as it emerges.

1.5 Environmental Effects and Issues

AECOM undertook a preliminary review of the environmental ecoregions that exist within the proposed railway corridor study area to help identify key environmental effects and issues along the route. These ecoregions form a holistic environmental framework for the study area where distinct terrestrial, aquatic, vegetative and geological features can be identified. Following identification of the ecoregions, a preliminary analysis of protected areas was undertaken, and is documented in Section 1.5.2.

1.5.1 Ecoregion Review

The proposed railway alignment through the ecoregions is shown on Figure 3. For a description of the ecoregions, see Section 8.3.1 of the report.

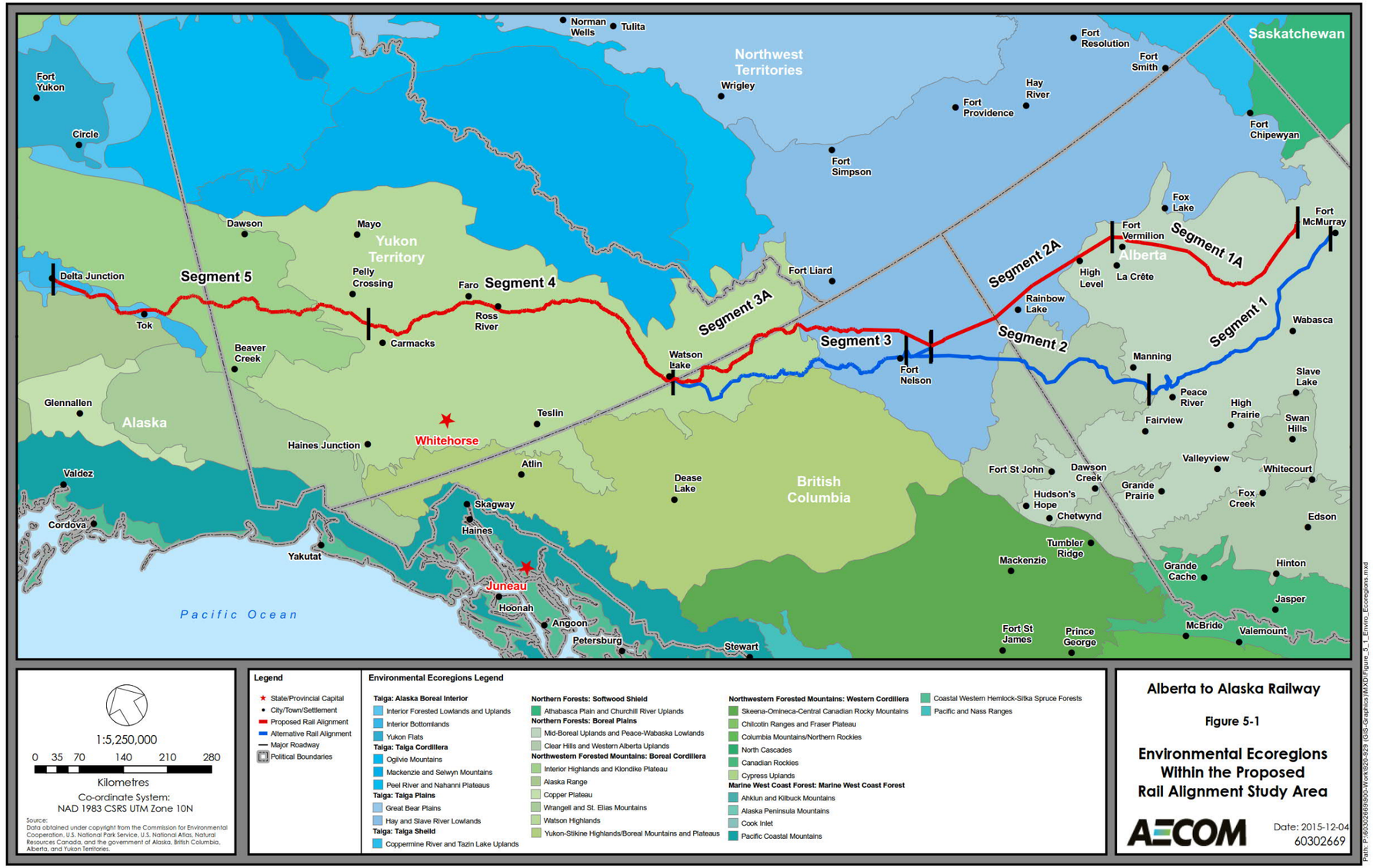

Figure 3 Environmental Ecoregions

1.5.2 Protected Areas

Environmental risks and associated permitting requirements and are heightened in areas of existing federal and provincial/territorial/state level environmental protection. In the US, these areas generally include the National Wildlife Refuge System, National Forests, National Wild and Scenic Rivers, National Monuments, and other federally-owned lands. Within the State of Alaska, these protected areas would include state refuges, sanctuaries, and critical habitat areas managed by Alaska Department of Fish and Game; as well as, state forests and state parks, which are managed by Alaska Department of Natural Resources. In Canada, they generally include National Parks, Provincial Parks and other protected areas on a provincial/territorial level.

There is potential for regulatory authorities to request a route re-alignment at any point in respective EA process (es) to avoid environmentally protected areas and/or reduce track length through environmentally protected areas. Wherever possible, avoidance of environmentally protected areas is strongly advised. Being said, a preliminary risk ranking matrix has been developed to assess the level of risk associated with the construction and operation of a railway line through an environmentally protected area.

- **For the purposes of this memo, 'risk' is defined as the potential for a project to encounter significant delay and/or additional resource allocation beyond estimates, up to and including a route realignment , should a rail alignment be proposed through an environmentally protected area. These risks apply to any point in the EA and subsequent permitting processes.**

The Environmental Risk Ranking Matrix is presented in Table 8.

Table 8 Environmentally Protected Area Risk Ranking Matrix

Risk Ranking	Description
High ('Red Flag')	• Federal / International legislative protection is clear and definitive, and significantly enhanced on State/Provincial/Territorial level • Key, and potentially rare ecological or recreational areas and/or threatened or endangered species are present and difficult to avoid through alternative routing. • Contaminated sites present that are difficult to avoid through alternative routing • Alaska Native Allotments present and difficult to avoid through alternative routing, which could cause significant project delays and costs. • Public interest in the area is high and focused on a specific geographic area or environmental feature. Active, organized national and/or international level interest groups are present. • Approval(s) are highly unlikely.
Moderate	• Federal Legislative protection may be less certain and definitive, but State/Provincial/Territorial level protection exists. • Key, and potentially rare ecological or recreational areas and/or threatened or endangered species are likely present, but can potentially be resolved through alternative routing. • Contaminated sites present, but avoidable through alternative routing • Alaska Native Allotments avoidable with minimal routing changes. • Public interest in the area is high, but generally not focused on a specific geographic area or environmental feature. Active, organized sub-National level interest groups are present. • Approval(s) are likely, however, are difficult and would involve more resources to obtain.

Risk Ranking	Description
Low	• Federal legislative protection does not clearly exist, however Provincial/State/Territorial Legislative Protection exists and likely enhanced by local/regional protection laws. • There may be local/regional stakeholders who advocate for the protection of the area. • Public interests are of a more general nature and not specific to a geographic or specific environmental feature. • Approval(s) are likely, however, may be more difficult and involve more resources to obtain.

A preliminary review of the proposed railway alignment indicates it passes through, or comes in close proximity to, a number of environmentally protected areas[3]. These areas are described in the subsections below

- **By way of preliminary analysis, we have identified any protected areas where the 'High' Risk (Red Flag) ranking would apply, in the sections below. More detailed analysis and application of the 'Moderate' and 'Low' Risk rankings would follow upon the subsequent carry forward of the study into the EA phase(s).**

Refer to Figure 4 for a high level overview of these areas along the proposed railway alignment and Figures 5 through 11 for a more detailed view of protected areas along each proposed railway segment.

[3] *There may be additional regional or municipal areas of environmental protection encountered as studies progress in further detail. Depending on the level of local significance, including public/aboriginal involvement/interest, these areas may be subject to protection and/or permitting requirements of similar magnitude to the areas described in* ***Sections 1.2.1*** *through* ***1.2.7****.*

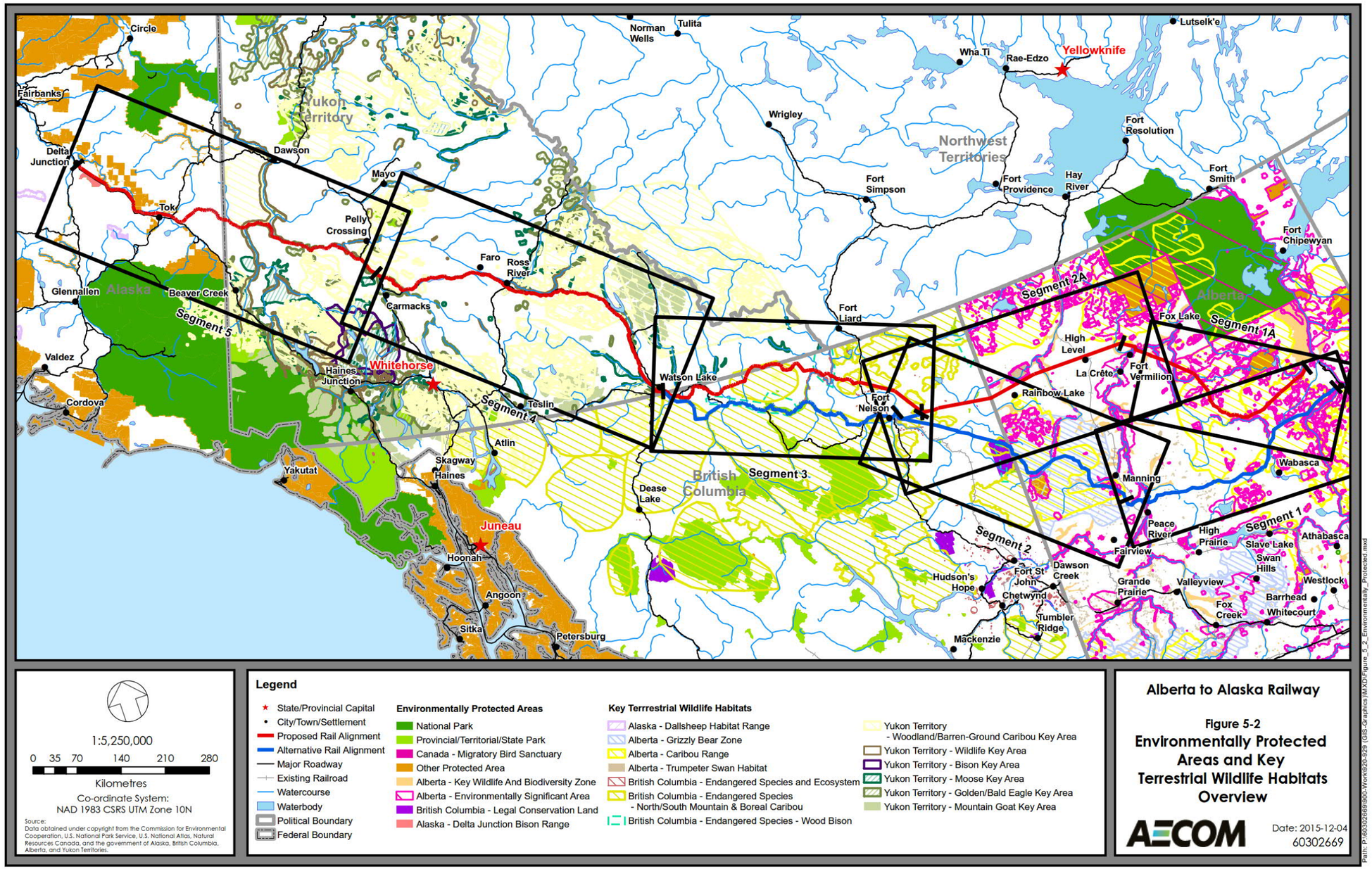

Figure 4 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats - Overview

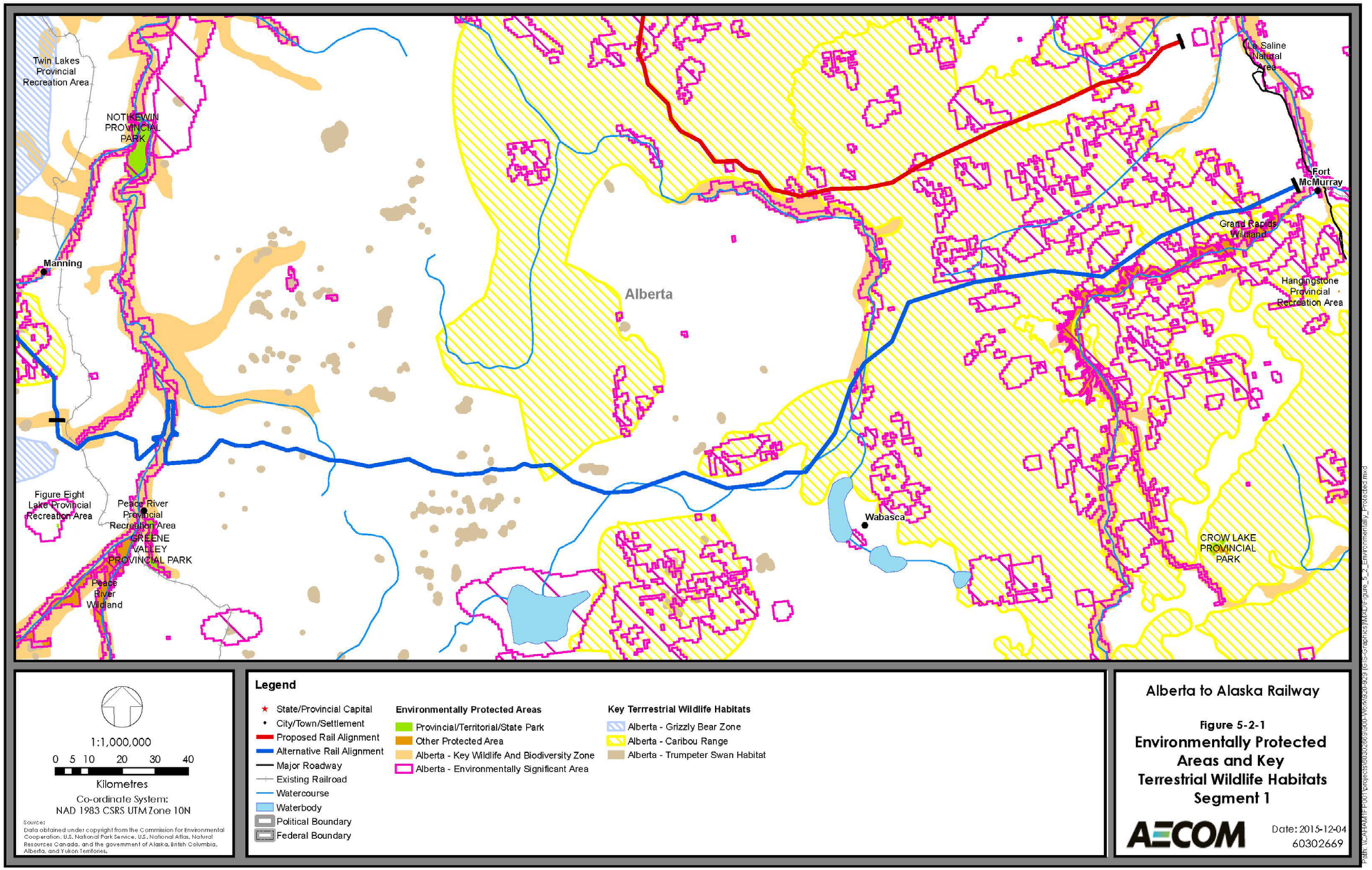

Figure 5 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats – Segment 1

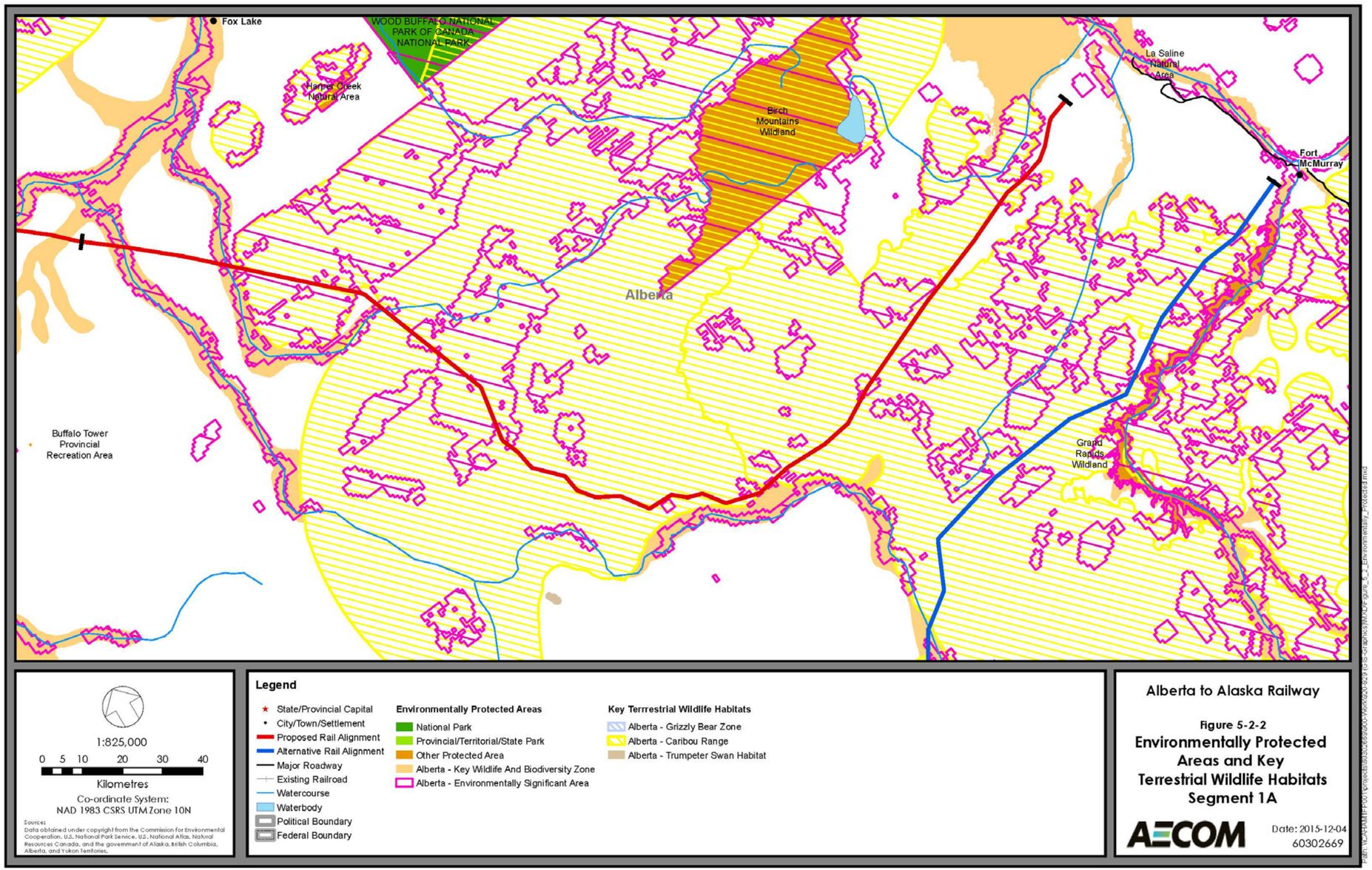

Figure 6 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats – Segment 1A

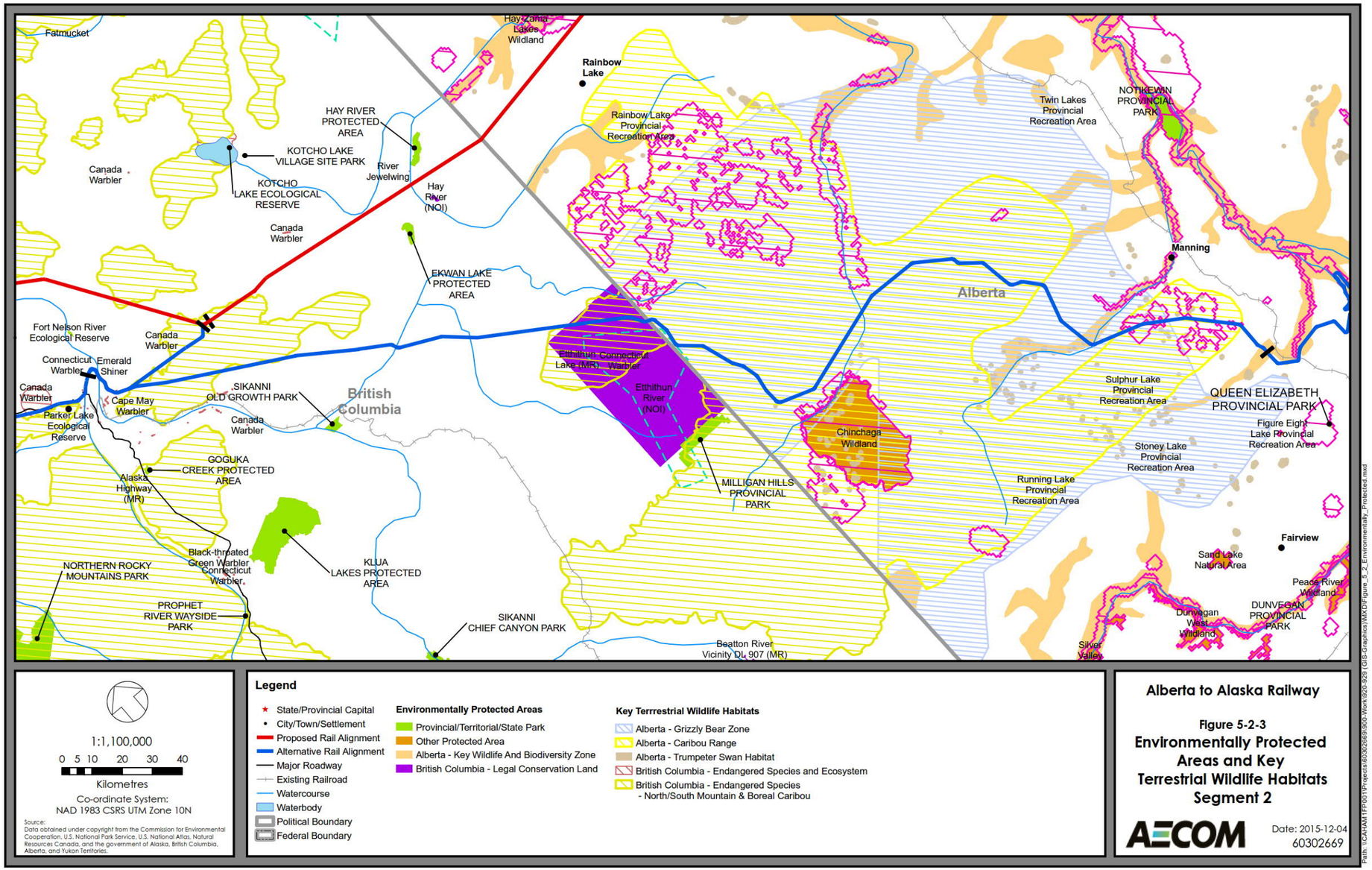

Figure 7 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats – Segment 2

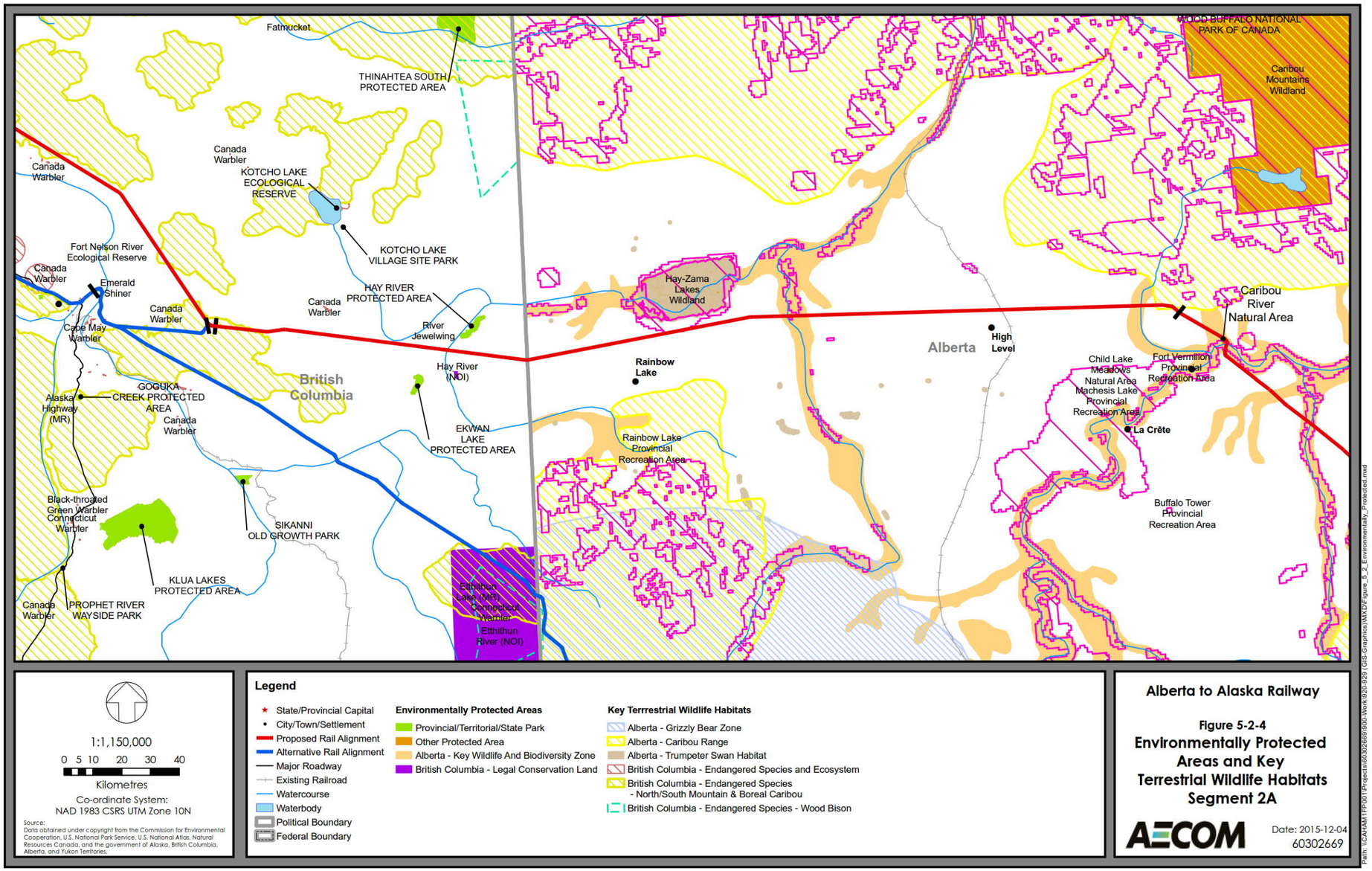

Figure 8 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats – Segment 2A

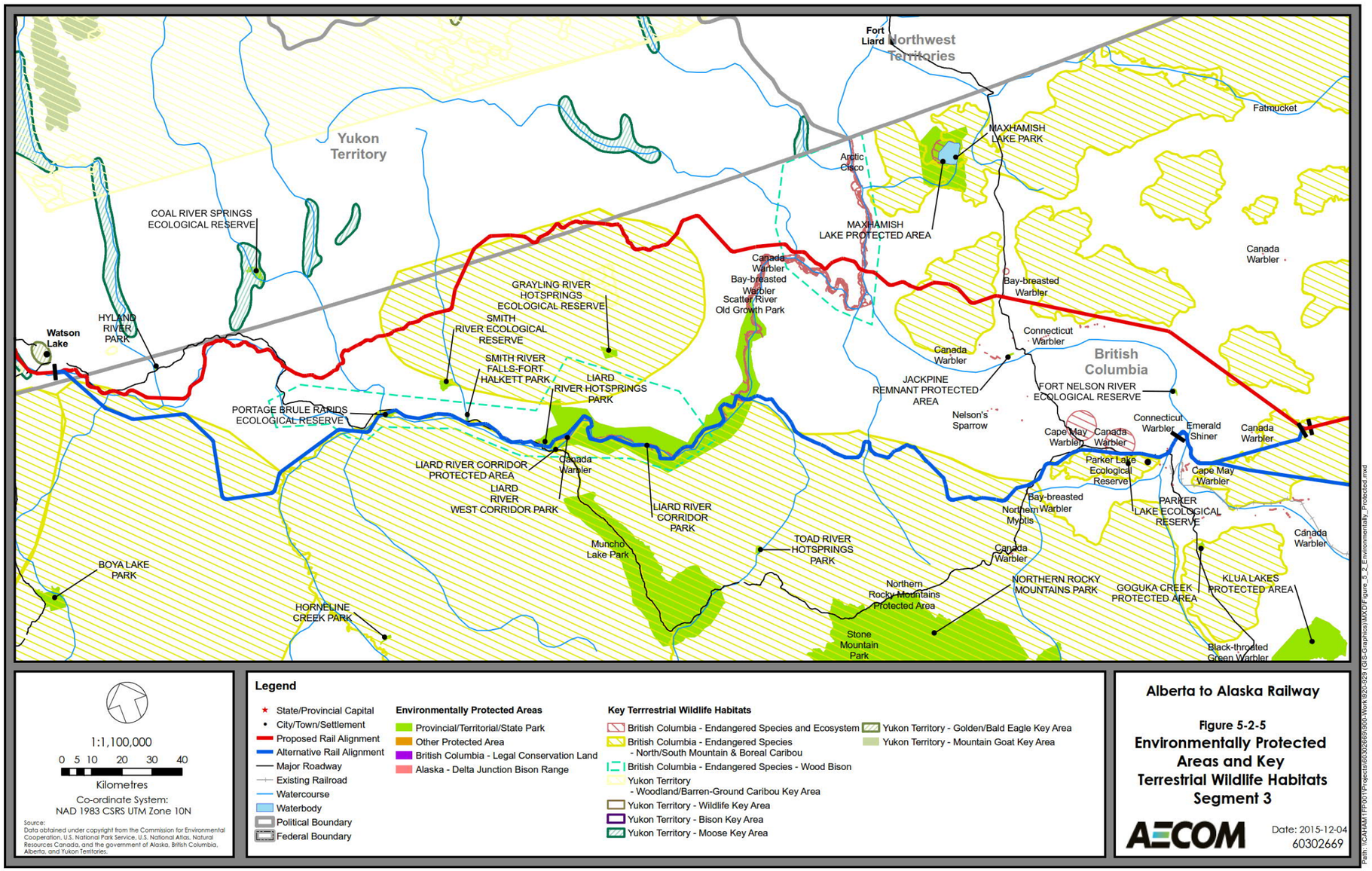

Figure 9 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats – Segments 3 and 3A

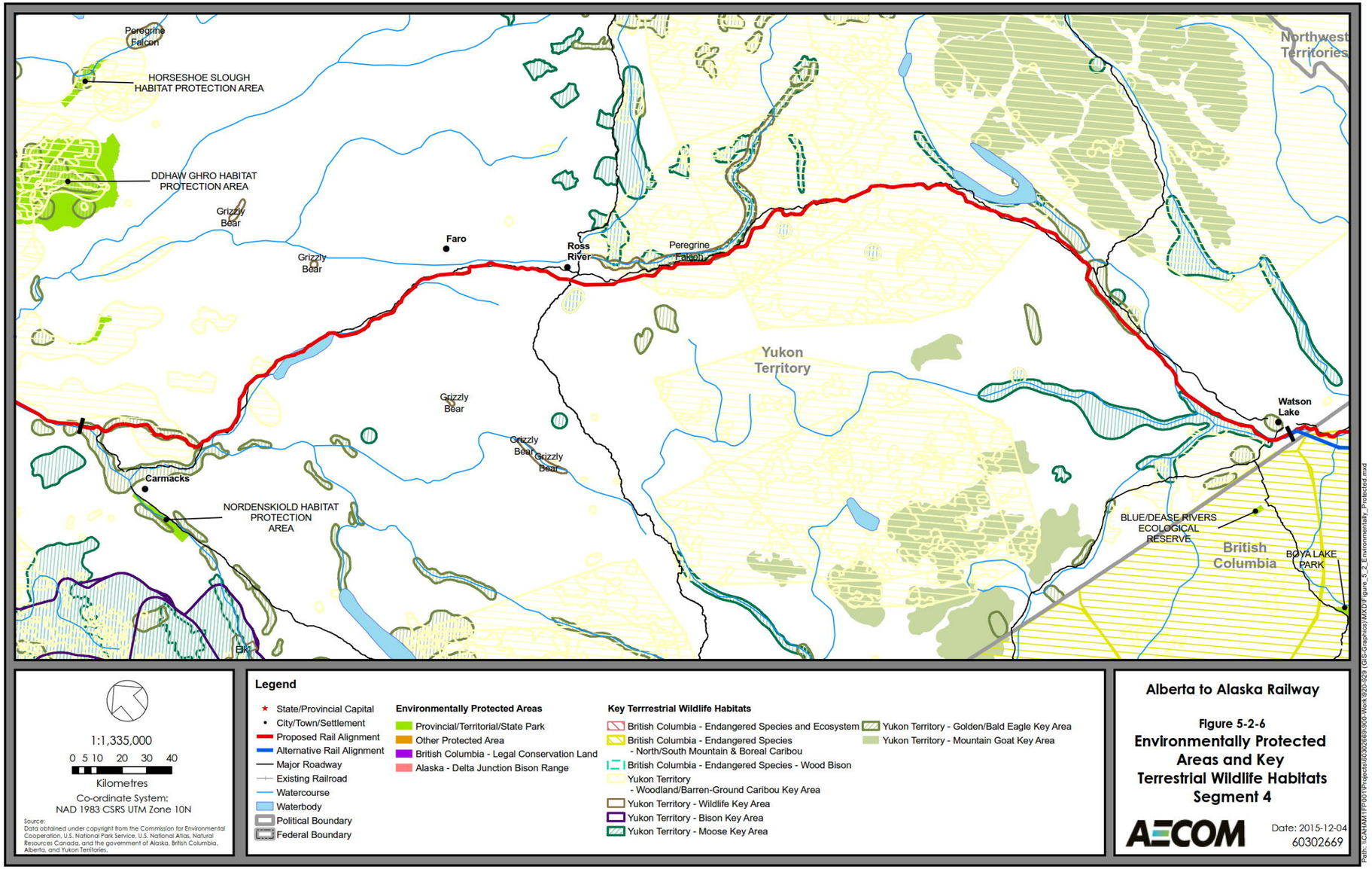

Figure 10 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats – Segment 4

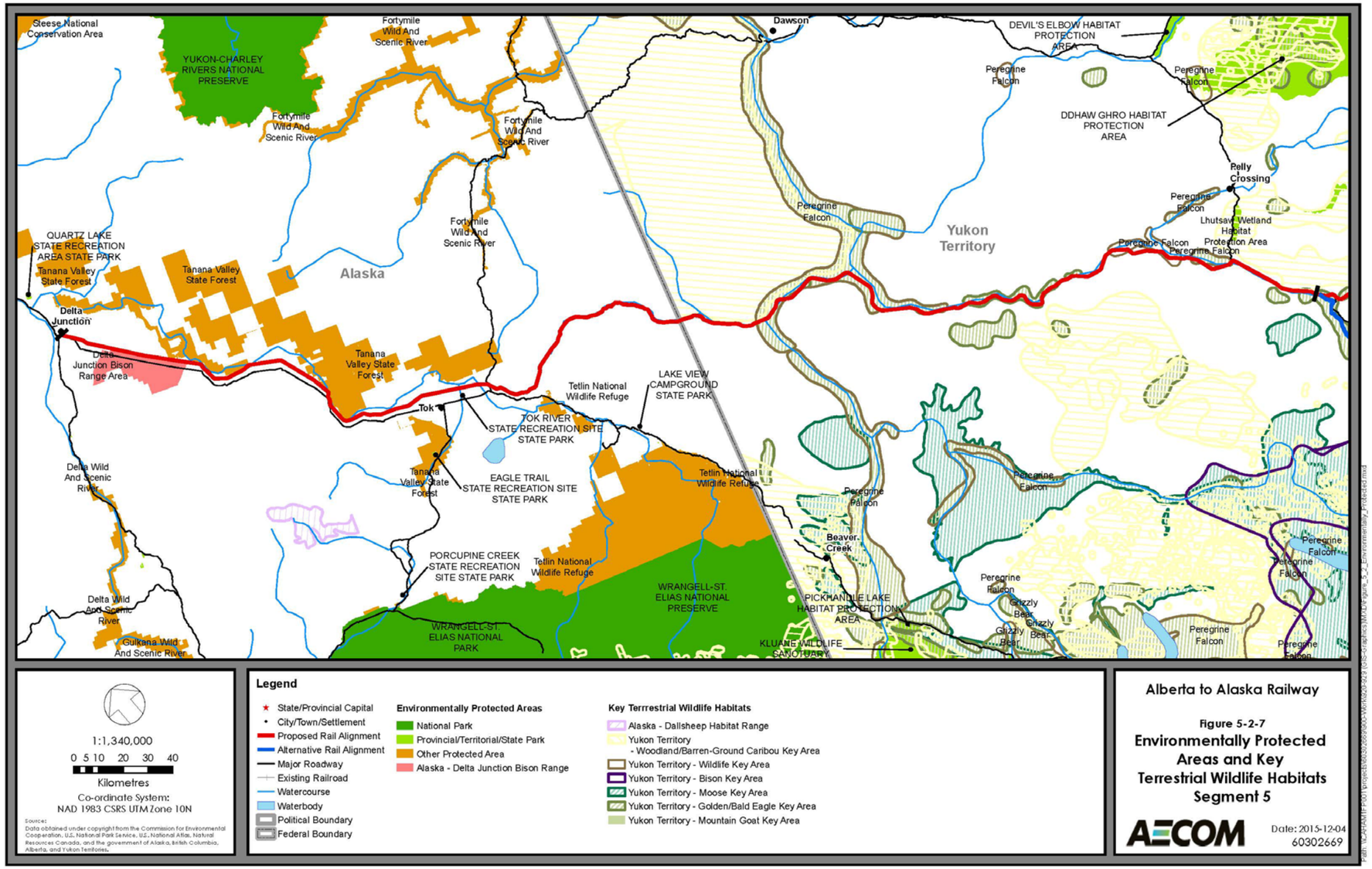

Figure 11 Environmentally Protected Areas and Key Terrestrial Wildlife Habitats – Segment 5

1.5.3 Environmentally Significant Areas (ESAs)

ESAs represent places that are important to the long-term maintenance of biological diversity, soil, water, or other natural processes, at multiple spatial scales. They are identified as areas containing rare or unique elements in the province, or areas that include elements that may require special management consideration due to their conservation needs. These ESAs do not represent government policy and have no additional legislative protection(s); however, they are intended to be an information tool to help inform land use planning and policy at local, regional and provincial scales. The potential for at-risk species or key wildlife to be present in these areas is higher and as a result, associated permitting requirements may be greater. Detailed field studies during an EA would confirm permitting requirements in these areas.

Risk Ranking: ***To be determined during preliminary EA phases (Segments 1, 1A, 2, 2A)***

1.5.3.1 Key Wildlife and Biodiversity Zones, Alberta

Alberta's Environment and Sustainable Resource Development (ESRD) considers Key Wildlife and Biodiversity Wildlife Zones to be a combination of key winter ungulate habitat and higher habitat potential for biodiversity. Typically, Key Wildlife and Biodiversity Zones occur along major river valleys. These zones ensure that a significant proportion of wildlife breeding populations survive to the next year.

Industrial activity within and adjacent to Key Wildlife and Biodiversity Zones adds stress and increases energy drain for animals. Wildlife may be forced to move about more than normal and even relocate to less favorable habitat. This becomes an increasingly significant factor as winter progresses. Industrial activity may also create temporary and permanent access that exposes animals to additional non-industrial disturbances and to greater pressure from predators.

Timing restrictions (i.e. no construction activity) apply to activities occurring within Key Wildlife and Biodiversity Zones. In the study area, these restrictions apply between January 15th and April 30th (ESRD 2010).

Relaxation from the timing restriction requires provincial approval and is generally based on extenuating circumstances (ESRD 2010).

Risk Ranking: ***To be determined during preliminary EA phases (Segments 1, 1A, 2, 2A)***

1.5.3.2 Caribou River Natural Area, Alberta

Natural areas are protected area lands that have been set aside by the Government of Alberta to support a broad spectrum of recreational activities.

The majority of natural areas are small to medium sized properties. Users of these sites usually include hikers, bird watchers, equestrian users, naturalists, organized conservation groups and leaseholders. Many natural areas receive a high level of public use.

Except for those sites that have grazing leases or recreation-oriented leases, natural areas are not intensively managed by the Government of Alberta.

The Caribou River Natural Area is located at the confluence of the Caribou River and the Peace River, northeast of Fort Vermilion, Alberta. It is not a high-use recreation area, and has no public facilities. Hunting is permitted.

Refer to Figure 8 for the location of the Caribou River Natural Area in relation to the proposed railway alignment.

Risk Ranking: *To be determined during preliminary EA phases (Segment 2A)*

1.5.3.3 Etthithun Lake Bison Management Area, British Columbia

A herd of approximately 49 Wood Bison (Species at Risk) were introduced in 2003 into the area south of Etthithun Lake. As of September 2009, the herd contained ~138 individuals. This area is the subject of numerous management monitoring activities. The management goals for Etthithun herd include increasing their geographic range, but limit southward migration, increasing overall numbers to 200 adults, and provide hunting opportunities (British Columbia Conservation Foundation 2013).

Although not afforded further legislative protection, given the initial difficulties introducing the herd (caused in part by a high rate of auto collisions), it would likely be difficult to obtain support (including local aboriginal groups and environmental agencies, potentially including the Province of British Columbia) for the construction of the proposed railway through this area. If the proposed railway were permitted through this area, mitigation and associated monitoring requirements would likely be extensive.

Risk Ranking: *To be determined during preliminary EA phases (Segment 2)*

Refer to Figures 7 and 8 for the location of the Etthithun Lake Bison Management Area in relation to the proposed railway alignment(s).

1.5.3.4 Liard River Corridor Provincial Park, BC

Liard River Corridor Park is a relatively newly established Provincial Park that contains a diversity of landscapes from high upland plateau and muskeg to the rapids of the ‘Grand Canyon’ and river bottom old growth spruce forests. The park is home to a diverse variety of wildlife species. The most unique species found in the park is a free-ranging herd of wood bison, which inhabit the forested areas in the western portion north of the Liard River. The park is also home to moose, grizzly bear, Rocky Mountain elk, furbearers, and northern long-eared bats.

The Park further offers outstanding recreation opportunities. Of special note is the aforementioned ‘Grand Canyon of the Liard’, a 30 km stretch of river with dangerous rapids and tremendous visual quality.

With the exception of the Alaska Highway and the Liard River Crossing, this area is substantially undeveloped. However, old seismic lines, the (undeveloped) Alaska Highway pipeline right-of-way reserve and various old industrial and fire suppression roads occur in the park.

The Liard River was the focus of a potential BC Hydro development for many years, which was eventually cancelled as the area gained strengthened environmental protection into the Provincial Park that exists today.

Fishery values along the Liard River are also high. The park also includes the traditional land of the Treaty 8 First Nations.

Risk Ranking: *High* *(Segment 3)*

Refer to Figure 9 for the location of the Liard River Corridor Provincial Park in relation to the proposed railway alignment.

1.5.3.5 Smith River Falls - Fort Halkett Provincial Park, British Columbia

Smith Falls/Fort Halkett Park is located at the confluence of Smith River and Liard River, near Kilometer 820 of the Alaska Highway. The park contains the spectacular Smith River Falls and the heritage site of Fort Halkett, a former Hudson's Bay Company post.

The park overlaps with the traditional use areas of the Kaska Dena culture of the Lower Post First Nations. Moose are abundant in the area and are readily observed in the park. Wood bison can occasionally be seen in the area along the highway corridor. Additionally, the Smith River contains excellent fishing opportunities.

Public recreational facilities and opportunities for activities are widespread within the park (BC Parks 2013).

Refer to Figure 9 for the location of the Smith River Falls – Fort Halkett Provincial Park in relation to the proposed railway alignment.

Risk Ranking: *High* *(Segment 3)*

1.5.3.6 Portage Brule Rapids Ecological Reserve, British Columbia

Ecological Reserves are areas in British Columbia selected to preserve representative and special natural ecosystems, plant and animal species, features, and phenomena. Ecological Reserves provide the highest level of protection for the maintenance of physical and biological diversity while allowing for research and educational activities. Ecological reserves are benchmarks against which environmental changes can be measured. General public, outside of educational or research activities, are not permitted within these reserves (BC Parks 2013)

Portage Brule Rapids Ecological Reserve was established in 2000 to protect a unique hot spring, river bank, and forest environments along the Liard River. Grizzly Bear, Fisher, and Wood Bison are among the many at-risk species located within the Reserve (BC Parks 2013).

The reserve lies in the traditional territory of the First Nations of Treaty 8 and the Kaska Dena.
Historic fur trade cabins can also be found within the Reserve.

Refer to Figure 9 for the location of the Portage Brule Rapids Ecological Reserve in relation to the proposed railway alignment.

Risk Ranking: *High* *(Segment 3)*

1.5.3.7 Tanana Valley State Forest, Alaska

The Tanana Valley State Forest's (TVSF) 1.81 million acres lie almost entirely within the Tanana River Basin, located in the east-central part of Alaska. It varies in elevation from 275 feet along the Tanana River to over 5,000 feet in the Alaska Range. The Tanana River flows for 200 miles through the Forest. Almost 90 percent of the State

Forest (1.59 million acres) is forested, mostly with paper birch, quaking aspen, balsam poplar, black spruce, white spruce, and tamarack. About 85 percent of the forest is within 20 miles of a state highway.

The Alaska Department of Natural Resources manages the Tanana Valley State Forest. The Forest is open to mining, gravel extraction, oil and gas leasing, and grazing, although very little is done. The primary purpose is timber management and production. Other purposes include the provision of fish and wildlife habitat, clean water, and opportunities for recreation and tourism. Generally, the forest contains no extraordinary or regionally unique ecological areas. (State of Alaska 2013)

Additional permits would be required for proposed railway construction and operational activity within the State Forest (*Alaska Administrative Code, Title 11 96.010.*). It should further be noted that a 12 member citizen's advisory committee advises the Alaska DNR Division of Forestry on forest management issues within the Tanana Valley State Forest (State of Alaska 2013).

Risk Ranking: *To be determined during preliminary EA phases (Segment 5)*

Refer to Figure 11 for the location of the Tanana Valley State Forest in relation to the proposed railway alignment.

1.5.3.8 Delta Junction State Bison Range, Alaska

In 1979, the Alaska Legislature established the 90,000-acre Delta Junction State Bison Range. The purpose of the bison range is to perpetuate free-ranging bison by providing adequate winter range and to alter seasonal movements of bison to reduce damage to agriculture in the area. During the fall migration, bison now leave the Delta River and migrate directly to the bison range instead of migrating to the Delta Agricultural Project as they had done prior to the early 1980's.

Perennial grasses, nugget bluegrass and arctared fescue constitute the majority of the vegetation. The biggest challenge for the bison range at this time is controlling the invasion of the native grass, bluejoint reedgrass (Calamagrostis canadensis). Bluejoint is a major threat to successful bison forage management.

The bison range is also managed for a wide variety of public uses, where public groups are encouraged to use the range if the use is compatible with bison management. The bison range is also used for timber sales, hunting, cross-country skiing, agricultural research, dog sledding, trapping, wildlife viewing, fishing, and other activities.

Additionally, the bison herd makes an important contribution to the economy of Delta Junction. About 40 hunting parties travel to Delta Junction each year to hunt bison.

The Bison Range occupies state owned land and additional permits would be required for proposed railway construction and operational activity (*Alaska Administrative Code, Title 11 96.010.*).

Risk Ranking: *To be determined during preliminary EA phases (Segment 5)*

Refer to Figure 11 for the location of the Delta Junction State Bison Range in relation to the proposed railway alignment.

1.5.3.9 Sensitive Terrestrial Wildlife Habitats

Sensitive terrestrial wildlife[4] along the railway alignment includes wildlife that may be subject to any of the following: special permitting requirements under the *Canada Species at Risk Act* or *United States Endangered Species Act;* additional/expanded field study*;* or extensive mitigation and/or monitoring commitments. In most cases these wildlife are listed as special concern/threatened/endangered within their jurisdiction, or have significant migration routes through identified ranges. In many cases, these habitats will overlap with the protected areas identified, further enhancing environmental sensitivities. Refer to Figures 4 through 11 for a preliminary identification of species-specific terrestrial habitats.

Risk Ranking: *To be determined during preliminary EA phases (all Segments)*

1.5.3.10 Haines-Fairbanks Pipeline Corridor, Alaska

The Haines-Fairbanks Pipeline was used by the U.S. Army from 1954 to 1973 to transport petroleum products from the deep-water port of Haines to Fort Greely, Eielson Air Force Base, and Fort Wainwright, in Interior Alaska. The eight-inch pipeline extended 626 miles (300 miles in Canada and 326 miles in Alaska) from the Haines Terminal to the Fairbanks Terminal at Fort Wainwright.

Pumping stations, supporting terminal bulk storage tanks and related facilities in Alaska were located in Haines, Lakeview, Tok, Sears Creek, Big Delta, Timber, Birch Lake, Eielson AFB, and Fort Wainwright. The pipeline right-of-way was generally 25 feet (7.6 metres) wide on each side of centerline. The pipeline was surface laid in some areas and buried in others. By 1974 the pipeline was no longer in use.

The US Army Corps of Engineers is investigating the potential for the presence of petroleum hydrocarbon contamination along the pipeline. This process will continue for the next several years, and includes an extensive public consultation element (Alaska Department of Environmental Conservation 2005). The pipeline follows the Alaska Highway and proposed railway alignment between approximately 35 km west of Tok, AK and Delta Junction, AK (see Figure12), a distance of approximately 200 km.

In terms of project risk, any earth moving activity for construction of the proposed railway in the vicinity of the pipeline would likely be subject to rigorous testing and restriction on movement(s).

Risk Ranking: *To be determined during preliminary EA phases (Segment 5)*

[4] *This preliminary environmental analysis is limited to terrestrial (land based) wildlife due to the nature of the undertaking and its' associated greater potential to significantly influence the permitting process, as opposed to vegetative or aquatic based wildlife, where construction/operational impacts would be more limited and/or less severe. Vegetative and aquatic wildlife sensitivities will be analyzed in early stages of the EA process.*

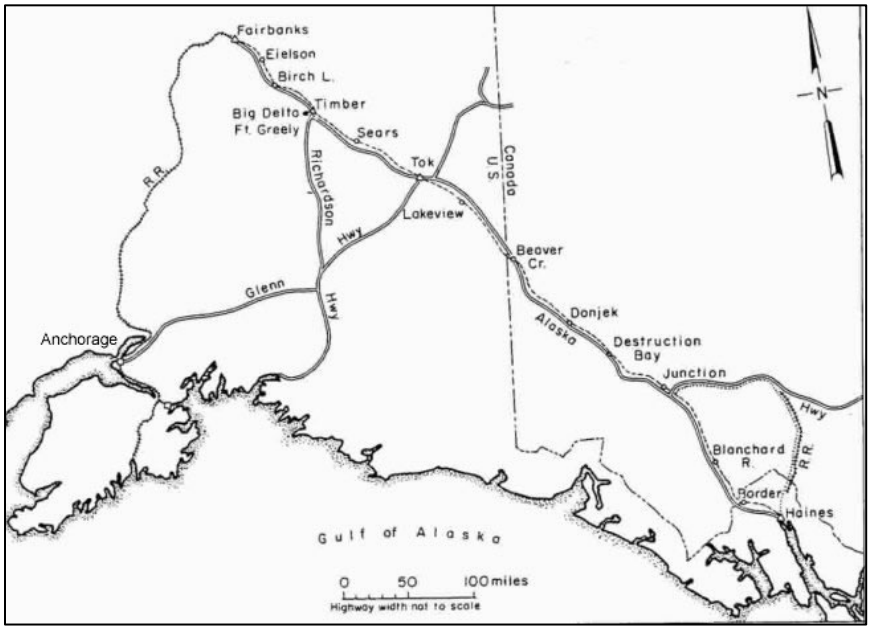

Figure 12 Location of Haines-Fairbanks Petroleum Pipeline Corridor

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