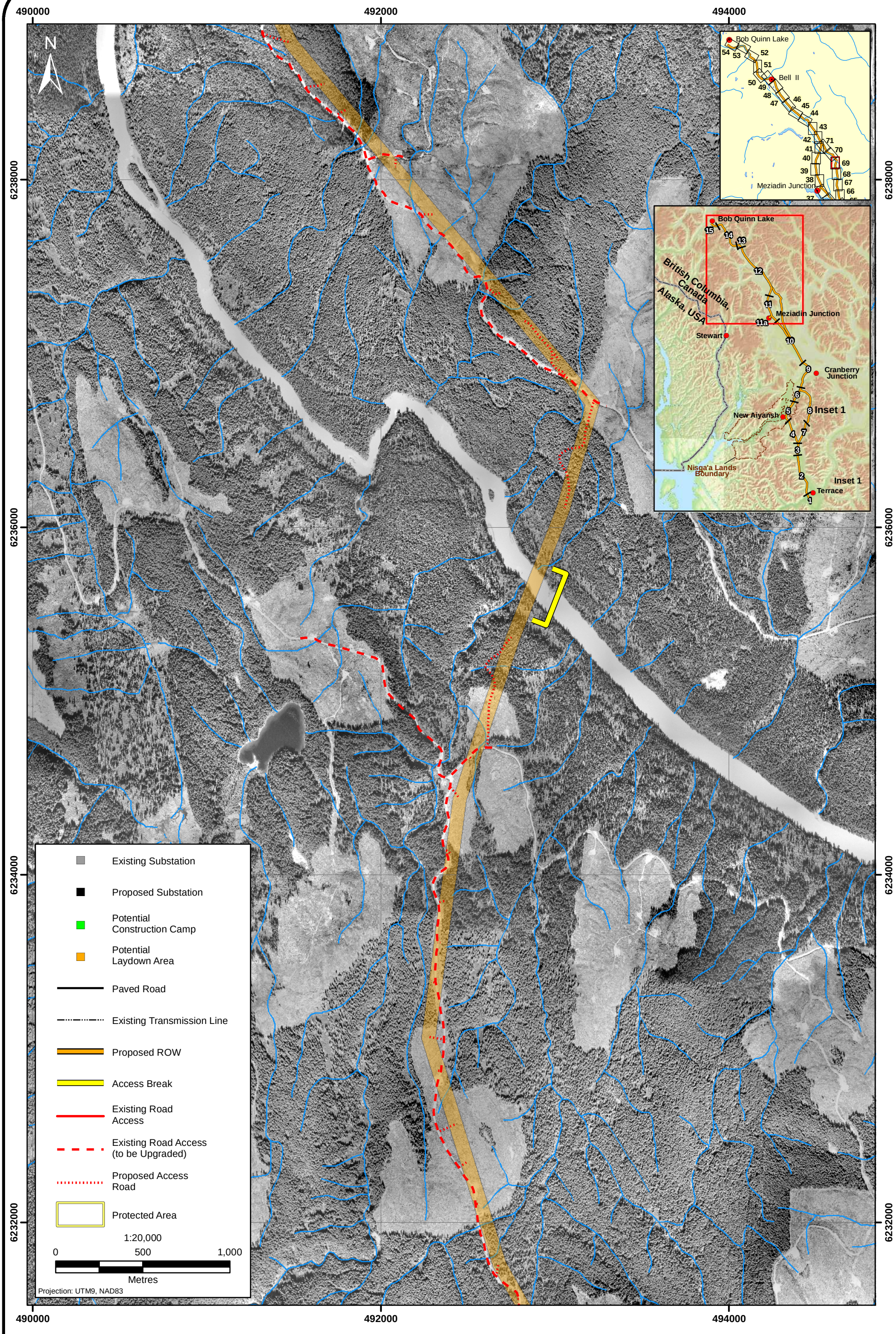


Proposed Northwest Transmission Line
Proposed Bell-Irving Route - Map 69

6242000 486000 488000

486000 6240000 488000 6238000 490000

490000 6242000 492000 6240000 6238000

492000 6238000

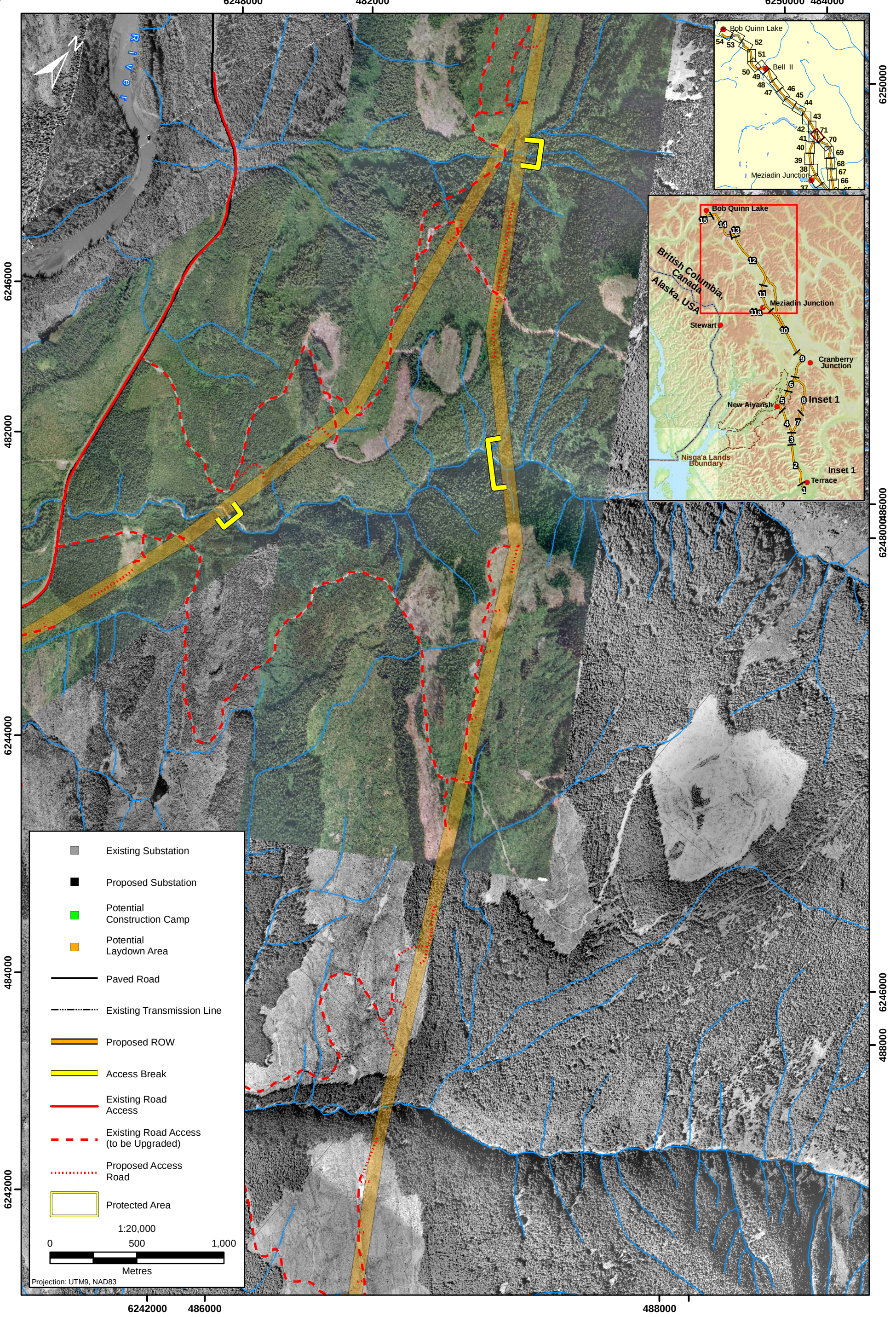
Bob Quinn Lake
Bell II
Meziadin Junction
Stewart
Cranberry Junction
New Aiyansh
Nisga'a Lands Boundary
Terrace
Inset 1
British Columbia, Canada
Alaska, USA

Existing Substation
Proposed Substation
Potential Construction Camp
Potential Laydown Area
Paved Road
Existing Transmission Line
Proposed ROW
Access Break
Existing Road Access
Existing Road Access (to be Upgraded)
Proposed Access Road
Protected Area

1:20,000
0 500 1,000
Metres

Projection: UTM9, NAD83

Proposed Northwest Transmission Line
Proposed Bell-Irving Route - Map 70



Proposed Northwest Transmission Line
Proposed Bell-Irving Route - Map 71

4. Information Exchange and Consultation

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4. Information Exchange and Consultation

4.1 INTRODUCTION

In March, 2010, BC Hydro agreed to consider the proposed Bell-Irving route as a potential alternative to a section of the proposed Northwest Transmission Line Project (Project), referred to as the Hanna-Tintina route, which was presented in the NTL EAC Application. The proposed Bell-Irving route is being considered in response to concerns about the Project corridor passing through the Hanna and Tintina watersheds which were raised in particular by Wilp Wii'litsxw, Wilp Malii, Wilp Gamlaxyeltxw, and Wilp Watakhayetswx of the Gitanyow Nation, Nisga'a Nation, and Skii km Lax Ha. BC Hydro's consideration of the Bell-Irving route represented the culmination of discussions with Wilp Wii'litsxw, Wilp Malii, Wilp Gamlaxyeltxw, and Wilp Watakhayetswx of the Gitanyow Nation, Nisga'a Nation, Skii km Lax Ha and comments by government agencies.

The initial phase of the commitment involved a joint undertaking by Gitanyow Hereditary Chiefs Office, BC Hydro and Rescan Environmental Services Ltd to write an desk-based report titled: "Proposed Northwest Transmission Line Project: Hanna-Tintina Route Alternatives Evaluation Report" (Route Alternatives Report). The focus of the report was to undertake a comparative assessment of the proposed Bell-Irving route with the Hanna-Tintina route, consultation details of which are addressed in Section 4.6 of this report.

Following review of the Route Alternatives Report by the BC EAO Technical Working Group, the report was finalized in late July, and the BC EAO held a 14-day public comment period commencing on August 11th and ending on August 25th. Following further revisions to the report after review and input by the BC EAO Technical Working Group, the report was finalized in late July, 2010 and the BC EAO held a 14-day public comment period commencing on August 11th and ending on August 25th.

During July 2010, BC Hydro committed to undertaking field studies along the Bell-Irving route with the defined purpose of preparing a supplemental report to the NTL EAC Application. A proposed workplan was presented to the BC EAO Technical Working Group on August 4th in Terrace, and comments were received from Nisga'a and First Nations during the discussion. Fieldwork was completed in August 2010 as discussed in this report. This supplemental report will be made available to the BC EAO Technical Working Group members for review.

This chapter provides a summary of consultation with the Nisga'a Nation, First Nations, Government Agencies, stakeholders and the public with respect to the proposed Bell-Irving route.

Distances of Areas or Asserted Traditional Territories (note the overlaps) crossed by the proposed Bell-Irving route are as follows:

Nisga'a' Nation

- Nass Wildlife Area: approximately 30.6 km
- Nass Area: approximately 29.4 km.

Gitanyow

- Wilp Gamlaxyeltxw asserted traditional territory: approximately 15 km
- Wilp Malii asserted traditional territory: approximately 16 km
- Wilp Wiiltsx asserted traditional territory: approximately 12 km

Skii km Lax Ha

- Asserted Traditional Territory: approximately 60 km

4.2 CONSULTATION WITH NISGA'A NATION AND FIRST NATIONS

The proposed Bell-Irving route for the proposed Northwest Transmission Line is located in the Nass Area and the Nass Wildlife Area in which the Nisga'a Nation hold Treaty Rights, and the asserted traditional territory of the Gitanyow Nation and the Skii km Lax Ha. Nisga'a Nation, Gitanyow, and Skii km Lax Ha, individually expressed concern regarding the Hanna-Tintina route alignment through the Hanna and Tintina watersheds as the proposal for an alternate route evolved. BC Hydro has pursued the evaluation of the Bell-Irving route to address these concerns. While consultation was open to Nisga'a and all of the First Nations indicated in the Section 11 Order issued by the BC EAO, only the Nisga'a Nation, the Gitanyow Nation and the Skii km Lax Ha chose to provide comments.

4.3 NISGA'A NATION CONSULTATION

In May 2010, the draft Route Alternatives Report was distributed to the BC EAO Technical Working Group, including the Nisga'a Nation, for their review and input. The BC EAO Working Group was asked to submit comments to the BC EAO between May 19 and June 18, 2010. The Nisga'a Lisims Government provided a letter on June 18, 2010 to the BC EAO outlining its comments on the Report.

The Nisga'a Lisims Government indicated that both the proposed Hanna-Tintina route and the proposed Bell-Irving alternative are within the Nass Area and Nass Wildlife Area in which the Nisga'a Nation has protected Treaty Rights. The Nisga'a Lisims Government has expressed concern that the Hanna-Tintina Route Alternatives Evaluation Report does not recognize the Treaty Rights of the Nisga'a Nation. BC Hydro recognizes that both the Hanna-Tintina route and the proposed Bell-Irving route are within the Nass Area and Nass Wildlife Area and acknowledges in the Route Alternative Report that BC Hydro is required to comply with the Nisga'a Final Agreement in this regard. The Route Alternative Report was only intended to supplement the EAC Application and is not intended to re-state the information contained in the EAC Application, including the extensive information relating to the Nisga'a Nation, the Nisga'a Final Agreement and the potential effects of the Project on Nisga'a rights and interests under the Nisga'a Final Agreement.

While the Nisga'a Lisims Government reiterated concern that the NTL Project area traverses the Hanna and Tintina watersheds, Nisga'a also expressed concern that the Route Alternatives Report does not indicate whether or not BC Hydro has considered other potential alternative routes. The report did reference earlier discussions on other alternative routes and explained that presently they were deemed to be less favourable from a technical and engineering perspective and hence not evaluated to the level of the Bell-Irving route. Nisga'a articulated that there may be alternative routes with fewer potential effects than the proposed Bell-Irving route.

The Nisga'a Lisims Government also provided concerns regarding the hydrology, fish and fish habitat, wildlife, wetlands and vegetation, terrain/large crossings, and summary and mitigations sections of the Hanna-Tintina Alternates Route Evaluation Report. BC Hydro has since undertaken further fieldwork to

ground truth the findings of the desktop studies completed for the Route Alternatives Evaluation Report. The findings of these studies are presented in this report to the BC EAO and the Working Group for their review and comment.

In a letter dated May 19, 2010, BC Hydro offered the Nisga'a Lisims Government capacity funding to further study potential impacts of the Bell-Irving route on the Nisga'a Nation, however, the Nisga'a Lisims Government did not accept this offer.

4.4 GITANYOW CONSULTATION

4.4.1 Wilp Wii'litsxw, Wilp Malii, Wilp Gamlaxyeltxw, and Wilp Watakhayetswx of the Gitanyow Nation

In December 2007, the Gitanyow Hereditary Chiefs provided comments on the draft Application Information Requirements which included a proposal to BC Hydro that consideration be given to three proposed alternative alignments to the proposed Northwest Transmission Line in the area east and northeast of Meziadin Lake (Hanna and Tintina Watersheds), to avoid significant and vulnerable fish and wildlife habitats. Gitanyow leadership provided the locations of important ecological and cultural values that would be affected by the proposed Hanna-Tintina section of the NTL Project.

In May 2009, during the draft EAC Application Information Requirements public comment period, the Gitanyow Hereditary Chiefs reiterated their request that BC Hydro consider their proposed route alternatives; BC Hydro requested detailed information on the alignment of the alternatives so that it could consider the proposal.

In September 2009, during a meeting with Gitanyow *wilp* Gamlaxyeltxw, Malii, Wiiltsx and Wiitaxhayetsxw, BC Hydro indicated that it was expecting to file the EAC Application for the NTL Project shortly and that it was too late to include an assessment of the route alternatives in the Application. However, based on that meeting and earlier map information provided by the Gitanyow, BC Hydro and its consultants prepared a map depicting the proposed alternative routes, and asked the Gitanyow to confirm the proposed routes. At that meeting BC Hydro also committed to work with the Gitanyow to further evaluate the Gitanyow proposal during the 180 day EAC Application review period.

On January 28, 2010, BC Hydro filed the EAC Application with the BC EAO. During the BC EAO's evaluation of the Application to determine whether it met the Application Information Requirements, BC Hydro provided supplemental information to the BC EAO, including a description of the Gitanyow proposed alternative routes.

After initiating the alternative route discussions between BC Hydro and Gitanyow at a meeting on March 23, 2010 and a follow up meeting with the EAO and CEA Agency on March 31, 2010, BC Hydro committed to working with the Gitanyow to jointly develop a comparative desktop study on one alternative route (i.e. the Bell-Irving route) that would avoid the Hanna and Tintina watersheds. BC Hydro, the Gitanyow, and Rescan agreed to work collaboratively during the EAC Application review stage to evaluate whether the proposed Bell-Irving route would be preferable to the proposed Hanna-Tintina route. A joint technical working team comprising BC Hydro, Rescan and Gitanyow Wilp technical staff, was established to undertake the assessment and develop the comparative report, "Proposed Northwest Transmission Line Project: Hanna-Tintina Route Alternatives Evaluation Report" for presentation to the BC EAO Working Group. BC Hydro provided capacity funding for Gitanyow leaders and technical specialists to undertake the assessment.

On May 10, 2010 BC Hydro and consultants met with the Gitanyow Hereditary Chiefs at their office to seek a joint endorsement of the draft report prior to the May 19-20 Working Group meeting in Terrace. Although joint endorsement of all aspects of the report was not achieved at that time, the report was made available to the EAO in advance of the May EAO Technical Working group meeting.

The joint working group or sub-committees met four times in person in Terrace and by teleconference to develop the report outline, design and undertake desk-based baseline research, and produce the report. Gitanyow and BC Hydro worked collaboratively during the research and writing process, and met to discuss issues as they arose. Gitanyow raised concerns regarding the incorporation of comments received from Nisga'a Nation representatives during the EAO Working Group review period on the draft report, the calculation of impacted area, and the identification of ungulate winter range and grizzly bear wildlife habitat areas north of the proposed Mt. Bell-Irving route. Gitanyow comments were addressed in a revised draft Report.

The draft Route Alternatives Report was made available to the EAO Technical Working Group prior to a presentation to the Working Group on May 19-20th, 2010 in Terrace. The outcome of the desk-based comparative assessment was discussed and issues of concern to the EAO Working Group members were recorded for consideration in preparing the final Report. As a result of discussion at the Working Group May meetings, including recommendations by the Skii km Lax Ha to move the northerly portion of the proposed Mt. Bell-Irving route east of the Bell-Irving River, BC Hydro conducted an aerial flight over the route and modified the route.

On June 23rd and 24th, 2010 the BC EAO Working Group met to discuss technical aspects pertaining to fisheries and wildlife, at which time BC Hydro and Rescan provided an update on the progress to finalize the Report. The joint technical working team (Gitanyow, BC Hydro, Rescan) subsequently revised the Report and made it available to the BC EAO in July 2010 and the BC EAO Working Group for discussion during the August 4th and 5th, 2010 meeting in Terrace.

Gitanyow requested that they be allowed to participate in any fieldwork taking place on their asserted territory regarding the proposed alternative route. Gitanyow field assistants were subsequently involved in the field work associated with the Bell-Irving Study conducted during the month of August 2010 to collect data for this report.

4.4.2 Traditional Use/Traditional Knowledge Study

In response to requests from Gitanyow to undertake Traditional Use/Traditional Knowledge studies BC Hydro provided funding for Gitanyow to undertake its Wilp-based Cultural Resource Inventory, Analysis and Planning Exercise on Project area overlapping their territory. This TK/TU work was expanded to include the Bell-Irving route. It is expected that the full report will be available in September 2010.

On August 20th, Gitanyow Hereditary Chiefs Office consented to preliminary use of certain aspects of the TK/TU work to assist in this report's effects assessment, and the Gitanyow worked with Rescan during the week of August 23rd and August 30th to undertake this integration of knowledge.

4.5 SKII KM LAX HA CONSULTATION

During the BC EAO Working Group meetings in June 2010, Skii km Lax Ha indicated concern regarding slope stability on the southwest side of the Bell-Irving River and suggested BC Hydro consider altering the alignment so that it would follow the northeast side of the River. Skii km Lax Ha also raised concerns regarding the potential impacts to moose and grizzly and indicated that impacts would likely be less on the northeast side of the River.

4.5.1 Traditional Use/Traditional Knowledge Study

In May, 2010, the Skii km Lax Ha accepted BC Hydro's offer to provide capacity funding to undertake a Traditional Use/Traditional Knowledge study of the proposed Bell-Irving route, with the intent of completing the study and informing the effects assessment in this report. The fieldwork was undertaken in June with the support of BC Hydro consultants and the report assembled with the support of the BC Hydro consultants in July and August. Skii km Lax Ha has completed a draft Traditional Use/Traditional Knowledge report that is not yet publicly available.

Skii km Lax Ha requested that they be allowed to participate in any fieldwork taking place on their asserted territory regarding the proposed alternative route. Skii km Lax Ha field assistants were subsequently involved in the field work associated with the Bell-Irving Study conducted during the month of August 2010 as a basis for this report.

4.6 HANNA TINTINA ROUTE ALTERNATIVES EVALUATION REPORT

Gitanyow Hereditary Chiefs Office collaborated extensively with BC Hydro and Rescan Environmental Services Ltd. to produce the "Proposed Northwest Transmission Line Project: Hanna Tintina Route Alternatives Evaluation Report" (July 2010, available on the BC EAO's e-PIC webpage). The report compares BC Hydro's proposed westerly route, the Hanna-Tintina route, with the Gitanyow's proposed easterly route, the Bell-Irving route. The report covers the following studies:

- cultural significance
- archaeology
- wildlife
- Nass South SRMP zonations: forested and non-forested ecosystems
- wetlands, floodplains, riparian areas
- terrain hazards
- fisheries and fish habitat
- land use and proposed Gitanyow Treaty Settlement Lands

In addition to collaborating on the studies informing the report, Rescan and the Gitanyow extensively collaborated to write the report.

4.6.1 Meetings

Rescan, BC Hydro's ARN, and the Gitanyow met numerous times during the process of conducting fieldwork for the Bell-Irving route, and writing the evaluative report. The following meetings were held:

March 23, 2010: Meeting in Terrace to discuss proposed route alternatives.

Participants**:** Gitanyow (Deborah Good – Hereditary Chief, Kevin Koch – Fish and Wildlife Biologist, Kelly Marsden – Administrative Assistant, Greg Johnson, Gordon Wilson – GIS), BC Hydro (Tim Jennings, Pascale Méra, Allison Takasaki, Rick Connolly), Rescan (Rolf Schmitt, Greg Sharam, Chris Burns).

April 16, 2010: Teleconference to discuss technical matters related to the evaluation of the Bell-Irving route, particularly PEM mapping, terrain mapping resources, and sourcing wildlife habitat mapping included in the Nass South SRMP.

Participants: Gitanyow (Darlene Vegh – Cultural Resources, Terri Goode, Kevin Koch – Fish and Wildlife Biologist, Mark Cleveland – Gitanyow Fisheries/Head Biologist, Fred, Shelly, Deborah Good – Hereditary Chief, Barb), BC Hydro (Katrine Neilsen, Amanda King, Pascale Mera), Rescan (Rolf Schmitt, Greg Sharam).

May, 7, 2010: Meeting in Terrace to work on the draft of the Hanna-Tintina Route Alternatives Evaluation Report.

Participants: Gitanyow (Kevin Koch – Fish and Wildlife Biologist, Darlene Vegh – Cultural Resources), Philpot Forestry Services (Fred Philpot – RFP/Consultant), Cam River Consulting (Mike McCarthy – Fisheries Biologist/Consultant), Rescan (Shanley Thompson, Rolf Schmitt).

May 12, 2010: Teleconference to discuss BC Hydro's comments on draft Hanna-Tintina Alternative Assessment report sent by Rescan to BC Hydro on May 10, 2010. These comments were incorporated in a manner agreed upon by everyone in participation, or else left as subject for future discussion at the future working group meeting.

Participants: Gitanyow (Kevin Koch –Fish and Wildlife Biologist, Darlene Vegh – Cultural Resources, Chief Glen Williams), BC Hydro (Joe Truscott), BC EAO (Kathy Eichenberger), Philpot Forestry Services (Fred Philpot – RFP/Consultant), Rescan (Shanley Thompson, Rolf Schmitt).

4.7 GOVERNMENT CONSULTATION

4.7.1 Working Group Meetings

The Working Group is composed of representatives from:

- Local Government
- Provincial Government
- Federal Government
- Nisga'a Lisims Government
- Gitanyow Nation
- Kitselas Nation
- Kitsumkalum Nation
- Tahltan Nation/Tahltan Heritage Resource Environmental Assessment Team
- Gitxsan Nation
- Skii Km Lax Ha
- Metlakatla
- Lax kw'aalams
- BC Hydro and its consultants

May 19-20, 2010: Working Group Meeting (Terrace, BC): This meeting included a presentation by Rescan and Gitanyow on the findings from the report on the proposed alternate transmission line route. BC Hydro noted its support of the findings outlined in the report. This was followed by a discussion of the alternate route options.

June 23, 2010: Fisheries Sub-Committee Meeting (Terrace, BC): Update on proposed Bell-Irving route

June 24, 2010: Wildlife Sub-Committee Meeting (Terrace, BC): Update on proposed Bell-Irving route

August 4-5, 2010: Working Group Meeting (Terrace, BC): Update on proposed Bell-Irving route; EAO discussed public comment period of Hanna-Tintina Alternatives Route Evaluation report and Rescan presented the proposed Bell-Irving route fieldwork plan.

4.8 STAKEHOLDER AND PUBLIC CONSULTATION

The "Proposed Northwest Transmission Line Project: Hanna-Tintina Route Alternatives Evaluation Report" was made available by the BC EAO for a 14-day public comment period commencing on August 11th and ending on August 25th.

Three comments were submitted; two from individuals supporting the proposed NTL Project, and an additional comment from the Métis Nation outlining concerns and interests for the BC EAO consideration.

5. Study Methods

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5. Study Methods

5.1 INTRODUCTION

In Chapters 5 and 6 of the NTL EAC Application the baseline data collection and environmental effects assessment methodology is described in detail. A summary is set out below.

5.2 FIELD AND DESK-BASED STUDY

The scope, procedures, and methods of the assessment were tailored to the biological and physical conditions and socio-economic values and resources of the proposed Bell-Irving route study area. The discipline-specific methodologies for the field assessment of the proposed Bell-Irving route are the same as those described in the NTL EAC Application and, therefore, are not repeated herein.

The Bell-Irving Route environmental assessment is based on field and desk-based studies undertaken during the summer of 2010 for the Bell-Irving route alignment proposed at the time those studies were conducted. Since completion of the fieldwork, BC Hydro has modified the southernmost 4 km of the proposed route in the region immediately east of Highway 37 at the request of the Gitanyow, in order to avoid an area of intact forested ecosystem valued by Gitanyow. The Bell-Irving route as it is now proposed is depicted in the figures contained within this report, except for the very southernmost tip which is within the study area covered by the NTL EAC Application. As a result an assessment of the full length of the proposed alignment is reported by this report in combination with the EAC Application, the latter of which covers the southernmost 4 km of the proposed route.

5.3 ENVIRONMENTAL SETTING

In the EAC Application, the existing environment that may be affected by the proposed Project is described in each discipline-specific effects assessment under the heading Project Setting. The Project Setting describes the current conditions of the Project area, including information from baseline studies, historical data, and existing land use. Areas or environmental components of particular importance are highlighted, where applicable, and, where appropriate, data uncertainties are identified. Project-wide environmental setting information is not repeated herein. However, environmental setting information that is unique to the Bell-Irving route is presented in each discipline-specific effects assessment. Typically, an environmental setting is largely a summary of an environmental baseline study. For this report, individual, discipline-specific baselines were not prepared as separate appendices. Rather, the Bell-Irving route baseline information collected for purposes of this report is included within each of the discipline-specific environmental setting sections of this report.

5.4 SPATIAL AND TEMPORAL BOUNDARIES

Each valued environmental component (VEC) is assessed based on a distinct study area or zone of influence. The spatial boundaries described in each discipline-specific section are similar to the extent identified in the EAC Application.

This assessment considers two distinct phases of development: (1) construction, and (2) operations and maintenance. The duration of these two phases is the same as that described in the EAC Application for the Project as a whole.

5.5 ISSUES SCOPING

In the EAC Application, the issues and concerns raised through consultation, comments on the AIR from the Working Group (BC EAO 2009)and from the public, baseline studies, and other studies were summarized, reviewed, and considered by each disciplinary study team to identify potential effects and principal issues relevant to the Project. For this study, the general principal issues for the Bell-Irving route are assumed to be same as those identified in the EAC Application. Consequently, in this study the principal issues will only be briefly summarized in the discipline-specific sections. In addition, any issues that are unique to the Bell-Irving route are presented.

5.6 VALUED ENVIRONMENTAL COMPONENTS (VECS)

The VECs selected for the Bell-Irving route assessment that are the subject of this report are the same as those presented in the EAC Application. These VECs are summarized in Table 5.6-1, below. Rationale for the selection of each VEC is presented in Section 6.3 of the EAC Application and in the discipline-specific sections of the EAC Application.

Table 5.6-1. Selected Valued Environmental Components

Discipline	EAC Application Section	VEC	Identified by*				
			N	F	G	P/S	O
Physical Environment							
Atmospheric Environment	7.2	Climate/Meteorology/Air Quality (including greenhouse gases)	✓		✓	✓	✓
Surface Water and Groundwater Resources	7.3	Surface Water Quantity	✓	✓	✓		
		Surface Water Quantity and Quality	✓	✓	✓		
Terrain, Surficial Materials, and Soils	7.4	Soil Sensitivity	✓		✓		✓
		Soil Quality			✓		✓
Geotechnical Stability	7.5	Terrain Stability	✓		✓		✓
Biological Environment							
Fish and Aquatic Habitat	7.6	Dolly Varden and Bull Trout	✓		✓		
		Rainbow Trout, Steelhead, and Coastal Cutthroat	✓	✓	✓	✓	
		Pacific Salmon	✓	✓	✓	✓	
		Fish Habitat	✓	✓	✓		
Wetlands	7.7	Wetland Extent and Function	✓	✓	✓		✓
Terrestrial Ecosystems and Vegetation	7.8	Terrestrial Ecosystems (unlisted)		✓	✓		
		Sensitive Ecosystems	✓		✓		✓
		Ecosystems of cultural, social, and economic importance	✓	✓	✓		
		Rare Ecosystems and Plants (listed)	✓	✓	✓		✓
Wildlife and Wildlife Habitat	7.9	Ungulates (including moose, mountain goat, and deer)	✓	✓	✓	✓	✓
		Bears (including grizzly bear and Kermode bear)	✓	✓	✓	✓	✓
		Furbearers (including martin and fisher)		✓		✓	✓
		Bats (listed)			✓		✓
		Birds (including song birds, waterfowl, and raptors)	✓	✓	✓		✓
		Amphibians	✓		✓		✓

(continued)

Table 5.6-1. Selected Valued Environmental Components (completed)

Discipline	EAC Application Section	VEC	Identified by*				
			N	F	G	P/S	O
Human Environment							
Archaeology and Heritage Resources	7.10	Archaeological and Heritage Sites protected by the *Heritage Conservation Act*	✓	✓	✓	✓	✓
Land and Resource Use	7.11	Access	✓	✓		✓	
		Quality of Land Use Activities		✓	✓	✓	
		Forestry	✓		✓		
		Land Management	✓	✓			
		Nisga'a Nation and First Nations Land and Resource Use					
Socio-economic	7.12	Economic Opportunities	✓	✓	✓	✓	
		Population, Infrastructure, and Services	✓	✓	✓		
		Property Values			✓	✓	
		Community Well-being	✓	✓			
Visual Resources and Aesthetics	7.13	Visual Quality	✓		✓	✓	
Human Health	7.14	Human Health (as related to the following environmental media: air, noise, drinking water, electric and magnetic fields (EMF), and country foods)	✓	✓	✓	✓	
Transportation and Utilities	7.15	Transportation Infrastructure (including navigation, aviation, and road/highway transportation)			✓	✓	

** N – Nisga'a Nation; F – First Nations, including TK; G – Government; P/S – Public and other stakeholders; O – Other (e.g., legislation, technical expertise)*

5.7 ENVIRONMENTAL EFFECTS ASSESSMENT

5.7.1 Identification and Description of Potential Effects

Each subsection of Chapter 7 of the EAC Application identified potential cause-and-effect relationships between the Project and applicable VECs. When identifying potential effects, the Project components and activities that could affect each VEC for the two phases of the Project, construction and operation, were considered. As part of the process, the Project Description in Chapter 4 of the EAC Application, the AIR, relevant baseline studies, traditional use and ecological knowledge, consultation, historical/literature review, Project issues scoping, and professional expertise are considered. The linkages between specific Project activities or phases and potential effects were identified.

For this report, the potential effects along the Bell-Irving route are briefly summarized. The detailed rationale and linkages can be obtained from the relevant sections in the EAC Application.

5.7.2 Mitigation

Mitigation measures for each potential effect (where applicable) are presented in each subsection of Chapter 6 of this report 7 as well as in Chapters 7, 11 and 12 of the EAC Application.

Mitigation measures presented in the EAC Application will also be applied to the potential adverse effects identified along the Bell-Irving Route, and that are similar to those described in the EAC Application. Thus, for this report the proposed mitigation is only briefly summarized with reference to relevant mitigation sections described elsewhere in the record of this environmental assessment.

5.8 POTENTIAL RESIDUAL EFFECTS

5.8.1 Residual Effects

Residual effects are defined as those effects that remain after mitigation has been applied (CEA Agency 1994). This effects assessment examines the potential for residual effects, based on the mitigation measures described in each section. If no post-mitigation effects are expected, then there is no further assessment of the potential effect.

A standardized set of descriptors used to further determine the significance of residual effects is:

- magnitude
- extent
- duration
- frequency
- reversibility
- resilience

Definitions for each of these descriptors are presented in Table 5.8-1 of the EAC Application.

Whenever possible, quantitative data are used to draw informed conclusions about the magnitude of each parameter; data, models, and assumptions are provided in the relevant sections. Where quantitative data are lacking, qualitative descriptions and best professional judgment is relied upon. Legislation, recognized thresholds, and policy standards, such as water quality guidelines, air quality guidelines, social policy guidelines, and land use plans, are also used as guidance.

Where potential residual effects to a VEC from more than one Project component are expected to remain after mitigation efforts are applied, a summary of the total residual effect is also provided. This is method has been applied to most vegetation and wildlife VECs.

5.8.2 Significance of Residual Effects

The standardized descriptors, as described above, are then used to support a conclusion on the significance of any residual effect of the Project for each VEC. A residual effect is considered significant if there is an expectation that it would affect the viability of the VEC. Viability is defined as the ability to continue to work and function over time within the defined spatial and temporal boundary. The residual effects descriptors are used as the basis for this evaluation.

5.8.3 Likelihood of Effects

Deciding whether a Project is likely to cause significant effects is central to the concept and practise of effects assessments (CEA Agency 1994). The likelihood of each potential effect is described in this report as a result of having considered (a) the probability of its occurrence, and (b) the confidence level inherent in the assessment.

6. Effects Assessment

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6. Effects Assessment

6.1 INTRODUCTION

This chapter provides the environmental and socio-economic effects assessments for the proposed Bell-Irving route. This effects assessment is a supplement to BC Hydro's Northwest Transmission Line Project (the Project) EAC Application. The environmental assessment (EA) methodology for the Project was developed to meet the Application Information Requirements (AIR; BC EAO 2009), the criteria of the British Columbia Environmental Assessment Office (BC EAO) outlined in the *Guide to the BC Environmental Assessment Process* (BC EAO 2003), and the requirements of the *Canadian Environmental Assessment Act* (1992). In keeping with these requirements, this chapter considers the following components of the environment and the potential for these components to be affected by the Project:

- environmental;
- social;
- economic;
- heritage; and
- health.

6.2 FISHERIES AND AQUATIC RESOURCES

6.2.1 Environmental Setting

The Bell-Irving route will cross numerous watercourses, including streams, rivers, and wetlands. A high proportion of these watercourses provide fish and riparian habitat to sustain fish populations upstream, within or downstream of the Project route. The route will cross two major watersheds, the Nass and the Bell-Irving. Within these watersheds, productive fish and riparian habitat exists and sustains diverse, valuable, and large fish populations.

Within the Nass and Bell-Irving river watersheds, salmonid species are present along the Project route, including chinook (*Oncorhynchus tshawytscha*), sockeye (*O. nerka*), coho (*O. kisutch*), steelhead/rainbow trout (*O. mykiss*), coastal cutthroat trout (*O. clarkii*), Dolly Varden (*Salvelinus malma*), bull trout (*S. confluentus*), and mountain whitefish (*Prosopium williamsoni*).

6.2.1.1 Overview

The objective of the aquatic resources study was to characterize fish habitat and fish presence/absence within the Project area.

The fish habitat baseline study was undertaken in 2010 to collect comprehensive data on fish communities and fish habitat specific to the proposed Bell-Irving route. This environmental setting presents a summary of the baseline work. Data from the field study are presented in Appendices 6.2-1 to 6.2-4.

The Bell-Irving route covers a wide geographic area. As such, numerous fish and fish habitat assessments have been completed within or near the proposed route. Relevant information for the Project area was obtained from a variety of sources. This information was reviewed before initiating