

AUTHORSHIP

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PREFACE TO THE APPLICATION

Pacific NorthWest LNG Limited Partnership (PNW LNG) proposes to construct and operate the Pacific NorthWest LNG Project (the Project), a liquefied natural gas (LNG) facility on Lelu Island, within the District of Port Edward, British Columbia (BC). The Project will be located primarily on federal lands and waters under the jurisdiction of the Prince Rupert Port Authority (PRPA). The Project will convert natural gas into LNG for export to Pacific Rim markets in Asia.

The Project requires an environmental assessment under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). This was confirmed by the Notice of Environmental Assessment Determination posted by the Canadian Environmental Assessment Agency (CEA Agency) on April 5, 2013. The Project is a designated project pursuant to the *Regulations Designating Physical Activities* under CEAA 2012, and it meets the criteria listed under subsections 2(a) and 14(d) under the Schedule of Physical Activities included in the *Regulations Designating Physical Activities* (SOR/2012-147) and amended in the *Regulations Amending the Regulations Designating Physical Activities* (2013).

The Project exceeds the threshold listed in subsection 2(a) as it would include fossil fuel fired electrical and/or mechanical power generation options that would exceed the 200 MW threshold. The Project also exceeds the threshold listed in subsection 14(d), as it includes the construction of a natural gas liquefaction facility with, at full build-out, a processing capacity of 52,603 t/d—exceeding the threshold of 3,000 t/d—and a combined LNG storage capacity of approximately 248,000 t (based on storage volume of 540,000 m³, and LNG density of approximately 0.46 kg/L)—exceeding the threshold of 55,000 t.

The Project meets the following threshold established for reviewable projects pursuant to Part 4 of the Reviewable Projects Regulation under BCEAA in that the Project's LNG storage capacity would contain LNG with approximately 12 PJ of potential energy. This exceeds the 3 PJ potential energy threshold listed in Table 8 (Petroleum and Natural Gas Projects) for new energy storage facilities.

The combined Environmental Impact Assessment and Application for an Environmental Assessment Certificate (EIS/Application) will be reviewed with a coordinated approach under both CEAA 2012 and BCEAA. As noted in the section 11 Order issued by the BC Environmental Assessment Office (BC EAO) on September 17, 2013, because the Project will be primarily located on federal lands, the CEA Agency is the lead agency for the environmental assessment.

The EIS/Application has been developed pursuant to the EIS Guidelines issued by the CEA Agency on October 30, 2013 and the Application Information Requirements (AIR) approved on February 20, 2014. It also complies with the section 11 Order issued on September 17, 2013, and the section 13 Order amending the section 11 Order on November 5, 2013. Development of the EIS/Application has considered input from the public, and from members of the Working Group, which consists of:

- CEA Agency
- BC EAO
- Environment Canada (EC)
- Fisheries and Oceans Canada (DFO)
- Transport Canada (TC)

- Health Canada (HC)
- Parks Canada (PC)
- BC Climate Action Secretariat
- BC Ministry of Community, Sport and Cultural Development
- BC Ministry of Environment (BC MOE)
- BC Ministry of Forests, Lands and Natural Resource Operations (BC MFLNRO)
- BC Ministry of Health
- BC Ministry of Jobs, Tourism and Skills Training
- BC Ministry of Transportation and Infrastructure
- BC Oil and Gas Commission (BC OGC)
- District of Port Edward
- PRPA
- City of Prince Rupert
- Metlakatla First Nation
- Lax Kw'alaams First Nation
- Gitxaala Nation
- Kitselas First Nation
- Kitsumkalum First Nation.

ACRONYMS AND ABBREVIATIONS

\$	dollars
\$/h	dollars per hour
¢	cents
°C	degrees Celsius
AADT	annual average daily traffic
AAQO	ambient air quality objective
AAU	assigned amount unit
AGRU	acid gas removal unit
AIA	archaeological impact assessment
AIR	application information requirements
ALARA	as low as reasonably achieved
ALE	Aftershock Level Earthquake
APCI	Air Product and Chemicals Inc.
ASL	ambient sound level
asl	above sea level
ATV	all terrain vehicle
BAT	best achievable techniques
BATEA	Best available technology economically achievable
BC	British Columbia
BC AAQO	BC Ambient Air Quality Objective
BC CDC	BC Conservation Data Centre
BC CSR	BC Contaminated Site Regulation
BC EAO	BC Environmental Assessment Office
BC EOR	BC Emissions Offset Regulation
BC MAL	BC Ministry of Agriculture and Lands
BC MCSPD	BC Ministry of Community, Sport and Cultural Development
BC MELP	BC Ministry of Environment, Lands, and Parks
BC MEMPR	BC Ministry of Energy, Mines, and Petroleum Resources
BC MFLNRO	BC Ministry of Forests, Lands, and Natural Resource Operations
BC MJTST	BC Ministry of Jobs, Tourism and Skills Training

BC MOE	BC Ministry of Environment
BC MOEd	BC Ministry of Education
BC MOF	BC Ministry of Forests
BC MOFR	BC Ministry of Forests and Range
BC MOTI	BC Ministry of Transportation and Infrastructure
BC MSRM	BC Ministry of Sustainable Resource Management
BC OGC	BC Oil and Gas Commission
BC PEP	BC Provincial Emergency Program
BCEAA	BC <i>Environmental Assessment Act</i>
Bcfd	billion standard cubic feet per day
BCTS	British Columbia Timber Sales
BEC	biogeoclimatic ecosystem classification
BMP	best management practices
BOG	boil-off-gas
BR	biophysical rating
BSL	basic sound level
BWCMR	Ballast Water Control and Management Regulations
C.I.	confidence interval
C3MR	propane pre-cooled mixed refrigerant
CA	Census agglomeration
CAAQS	Canadian Ambient Air Quality Standards
CAC	Criteria Air Contaminant
CAD	Canadian dollar
CALPUFF	(California PUFF) air quality dispersion model
CAPP	Canadian Association of Petroleum Producers
CAS	Climate Action Secretariat
CAW (UFAWU)	United Fishermen and Allied Workers Union
CBCYC	Council of British Columbia Yacht Clubs
CCG	Canadian Coast Guard
CCME	Canadian Council of Ministers of the Environment
CCOHS	Canadian Centre for Occupational Health and Safety

Pacific NorthWest LNG

Environmental Impact Statement and Environmental Assessment Certificate Application
Acronyms and Abbreviations

CCR	Coarse Coal Rejects
CCS	carbon capture and sequestration
cd	candela
CD	chart datum
CDC	Conservation Data Centre
CDED	Canadian Digital Elevation Data
CDN	Canadian
CEA Agency	Canadian Environmental Assessment Agency
CEA	cumulative effects assessment
CEAA	<i>Canadian Environmental Assessment Act</i>
CEMP	construction environmental management plan
CEPA	<i>Canadian Environmental Protection Act</i>
CH ₄	methane
CHCP	Conceptual Habitat Compensation Plan
CHCS	Conceptual Habitat Compensation Strategy
CHOS	Conceptual Habitat Offsetting Strategy
CIE	Commission Internationale de L'Éclairage
CIE	International Commission on Illumination
CMS	continuous monitoring station
CMT	culturally modified tree
CNCO	Central and North Coast Order
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COPC	contaminant of potential concern
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
CR	concentration ratio
CRA	commercial, recreational, and Aboriginal [fisheries]
CSA	Canadian Standards Association
CSD	Census subdivision
CSR	Contaminated Site Regulation
CV	coefficient of variation

CWH	Coastal Western Hemlock
CWHvh2	Coastal Western Hemlock Very Wet Hypermaritime
dB	linear decibel level
dBA	A-weighted decibel level
dBc	C-weighted decibel level
DC	disturbance coefficient
DES	ex-ship delivery
DFO	Fisheries and Oceans Canada
DGPS	Differential GPS
DIM	Directed Inspection & Maintenance
DLE	Dry Low Emission
DLN	Dry Low NO _x
EA	environmental assessment
EAC	Environmental Assessment Certificate
EC	Environment Canada
ECA	emission control area
ECM	environmental compliance monitors
EEM	environmental effects monitoring
EIS Guidelines	Environmental Impact Statement Guidelines
EIS	Environmental Impact Statement
EM	electromagnetic
EMF	Electromagnetic Field
EMP	environmental management plan
EMT	environmental management team
EOR	enhanced oil recovery
EPP	Environmental Protection Plan
ERCB	Energy Resource Conservation Board
ERP	emissions reduction program
EVC	Existing Visual Condition
EVV	existing visual condition
f asl	feet above sea level

FCC	.....	First Coal Corporation
FEED	.....	front end engineering design
FEMP	.....	fugitive emissions management plan
FERC	.....	Federal Energy Regultaory Commission
FISS	.....	Fisheries Inventory Summary System
FMA	.....	Fisheries Management Area
FOB	.....	free on board
FRPA	.....	<i>Forest and Range Practices Act</i>
G	.....	Ground absorption
GDEM	.....	Global Digital Elevation Model
GDP	.....	Gross Domestic Product
GE	.....	General Electric
GGRCTA	.....	<i>The Greenhouse Gas Reduction (Cap and Trade) Act</i>
GGRTA	.....	<i>The Greenhouse Gas Reduction Targets Act</i>
GHG	.....	greenhouse gas
GIS	.....	geographic information system
gpm	.....	gallons per minute
GPS	.....	global positioning system
GWP	.....	global warming potential
%HA	.....	percentage highly annoyed
H ₂ O	.....	water vapour
H ₂ S	.....	hydrogen sulfide
ha	.....	hectares
HADD	.....	harmful alteration, disruption or destruction
HC	.....	Health Canada
HCA	.....	<i>Heritage Conservation Act</i>
HCP	.....	habitat compensation plan
HCS	.....	Habitat Compensation Strategy
HEI	.....	high energy impulsive
HFC	.....	hydrofluorocarbons
Hg	.....	mercury

HHERA	human health ecological risk assessment
HHW	highest high-water
HI	highly impulsive
HOP	habitat offsetting plan
HQ	hazard quotient
HRSG	Heat recovery steam generator
HS&E EMS	health, safety and environmental management system
HT	hearing threshold
HWM	high water mark
IBA	important bird area
IEC	International Electrotechnical Commission
ILCR	incremental lifetime cancer risk
ILMB	Integrated Land Management Bureau
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
IR	Indian Reserve
ISO	International Organization for Standardization
ISQG	Interim Sediment Quality Guidelines
K	hydraulic conductivity
ka BP	thousand years before present
KI	key indicator
KLFN	Kelly Lake First Nation
km	kilometres
km ²	square kilometres
km/h	kilometres per hour
kPa	kilopascal
Kw	kilowatt
L _d	daytime equivalent sound level
L _{dn}	daytime and nighttime equivalent sound level
L _{eq}	equivalent sound level
L _n	nighttime equivalent sound level

Pacific NorthWest LNG

Environmental Impact Statement and Environmental Assessment Certificate Application
Acronyms and Abbreviations

LAA	local assessment area
LDAR	Leak Detection and Repair
LED	light-emitting diode
LEED	Leadership in Energy & Environmental Design
LHA	Local Health Authority
LNG	liquefied natural gas
LOS	Level of Service
LPG	liquefied petroleum gas
LRF	Land and Resource Forums
LRMP	Land and Resource Management Plan
lumen/m ²	lumen per square metre
m	metres
mag/arcsec ²	magnitudes per square arcsecond
m asl.	metres above sea level
MBCA	<i>Migratory Birds Convention Act</i>
MCBM	million bank cubic meters
MCTS	Marine Communications and Traffic Services
mg/L	milligrams per litre
Mgd	million gallons /day
MISC	Malaysia International Shipping Corporation Berhad
ML/ARD	Metal Leaching/Acid Rock Drainage
MLIB	McLeod Lake Indian Band
MMcf	million cubic feet
Mmcf/d	million cubic feet per day
MMO	marine mammal observer
MMscf/d	million standard cubic feet per day
MMt	millions of tonnes per year
MOF	materials off-loading facility
MP	Member of Parliament
MPOI	maximum point of impingement
m/s	metres/second

MSDS	material safety data sheet
MSWAC	Mainland Solid Waste Advisory Committee
Mt.....	mega tonnes (million tonnes)
MTPA.....	million tonnes per annum
MW	megawatt
N/A.....	not applicable
N ₂ O	nitrous oxide
NA.....	data not available
NAAQO.....	National Ambient Air Quality Objectives
NATO.....	North American Treaty Organization
NBCC.....	National Building Code of Canada
NCD	non-classified drainage
NCWW	North West Community College
NDVI	normalized difference vegetation index
NEB	National Energy Board
NHS	National Household Survey
NIR.....	National Inventory Report
NM	not measured
NMFS.....	National Marine Fisheries Service
NOAA.....	National Oceanic and Atmospheric Administration
Non-PAG	Non-Potential Acid Generating
NO ₂	nitrogen dioxide
NOx.....	nitrogen oxides
NPV	net present value
NRC.....	National Research Council
NRCan.....	Natural Resources Canada
NS.....	not specified
NVC	no visible channel
NWPA.....	<i>Navigable Waters Protection Act</i>
NWWG	National Wetlands Working Group
O ₃	ozone

OBE	Operating Basis Earthquake
OCP	official community plan
OEMP	operations environmental management plan
OGAA	<i>Oil and Gas Activities Act</i>
OGC	Oil and Gas Commission
PAD	permanent alteration or destruction
PAG	Potential Acid Generating
PAH	polycyclic aromatic hydrocarbons
PAI	potential acid input
PBLNEAA	PBL Netherlands Environmental Assessment Agency
PCB	polychlorinated biphenyls
PCDD/F	polychlorinated dibenzo-p-dioxin and furan
PDA	project development area
PE	Port Edward
PEFD	Port Edward Fire Department
PEL	probable effects levels
PETRONAS	PETROLIAM NASIONAL BERHAD
PFC	perfluorocarbons
PJ	petajoule
PM	particulate matter
PM _{2.5}	particulate matter less than 2.5 microns
PM ₁₀	particulate matter less than 10 microns
PNCIMA	Pacific North Coast Integrated Management Area
PNW LNG	Pacific NorthWest LNG Limited Partnership
POTW	Publically Owned Treatment Works
ppm	parts per million
ppt	parts per thousand
PR	Prince Rupert
Pre-FEED	pre-front end engineering and design
PRFR	Prince Rupert Fire Rescue
Progress	Progress Energy Canada Ltd.

PRPA	Prince Rupert Port Authority
PRPEEDC	Prince Rupert Port Edward Economic Development Corporation
PSL	permissible sound level
PT	prominent tone
PTS	permanent threshold shifts
PY	person-year
Q1	first quarter
Q2	second quarter
QA/QC	quality assurance/quality control
QCTF	Queen Charlotte Transform Fault
RAA	regional assessment area
RACONS	Radar Reflectors and Radar Beacons
RCMP	Royal Canadian Mounted Police
RDEA	Regional District Electoral Area
RI	regular impulsive
RIC	Resources Inventory Committee
RISC	Resource Information Standards Committee
RMZ	resource management zone
ROV	remotely operated vehicle
ROW	right of way
RQ	risk quotient
RSA	Regional Study Area
RSZ	Reduced Speed Zone
SADT	seasonal average daily traffic
SARA	<i>Species at Risk Act</i>
SC	Statistics Canada
SD	standard deviation
SE	standard error of the mean
SEL	sound exposure level
SF ₆	sulphur hexafluoride
SGER	Specified Gas Emitters Regulation

SLUPA.....	<i>Strategic Land Use Planning Agreement</i>
SOx.....	sulphur oxide
SO ₂	sulfur dioxide
SPL.....	sound pressure level
SQCRD.....	Skeena-Queen Charlotte Regional District
SRMP.....	Sustainable Resource Management Plan
SSE.....	Safe Shutdown Earthquake
t.....	tonne(s) (metric)
t/d.....	tonnes per day
TC.....	Transport Canada
tCO _{2e}	tonnes CO _{2e}
TCPL.....	TransCanada Pipelines Ltd.
TDR.....	technical data report
TEF.....	toxicity equivalency factor
TEK.....	Traditional Ecological Knowledge
TEM.....	terrestrial ecosystem mapping
TEQ.....	toxicity equivalency
the Policy.....	<i>The Federal Policy on Wetland Conservation</i>
the Project.....	Pacific NorthWest LNG Project
TK.....	Traditional Knowledge
TLU.....	Traditional Land Use
TLU/TK.....	traditional land use/traditional knowledge
TRIM.....	terrain resource information mapping
TSP.....	total suspended particulate
TSS.....	total suspended solids
TTS.....	temporary threshold shift
TUA.....	Traditional Use Areas
TU/TK.....	Traditional Use/Traditional Knowledge
TUS.....	Traditional Use Study
t/y.....	tonnes per year
μ.....	micro

$\mu\text{g}/\text{m}^3$	micrograms per cubic metre
μm	micrometre
UNFCCC	United Nations Framework Convention on Climate Change
μPa	micropascal
μS	microsiemens
US	United States
US EPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VAC	Visual Absorption Capability
VC	valued component
VEG	Visually Effective Green-up
VLI	Visual Landscape Inventory
VOC	volatile organic compounds
VQA	Visual Quality Assessment
VR	viewer rating
VSC	visual sensitivity classification
VSU	Visual Sensitivity Unit
WCI	Western Climate Initiative
WDR	Waste Discharge Regulation
WHIMIS	Workplace Hazardous Materials Information Systems
WHO	World Health Organization
WRF	weather research and forecasting system
WRI	World Resource Institute
ww	wet weight
ZOI	zone of influence

GLOSSARY

Term	Definition
Aboriginal Rights	Aboriginal rights are constitutionally protected legal rights held by Aboriginal people that relate to activities that are elements of a practice, custom or tradition that is integral to the distinctive culture of the Aboriginal group asserting the existence of the right and has continuity with the practices, customs and traditions that existed prior to contact with European society.
Aboriginal Title	A subcategory of Aboriginal rights and is a unique legal interest in land established by Aboriginal pre-sovereignty practices that indicate possession similar to that associated with title at common law. Aboriginal title provides Aboriginal groups with the right to exclusive use of land for a variety of activities and not all of those activities need to be practices, customs, and traditions that are integral to the distinctive cultures of Aboriginal societies.
Acidification	The process by which pH and buffering capacity of freshwater systems generally decrease.
Affine	Kin by marriage.
Air dispersion model	A model that simulates the dispersion of air contaminants from various air contaminant sources to various receptors. The output of the air dispersion model is ground-level maximum 1-hour average, maximum 24-hour average, and maximum annual average concentrations at the various receptors.
Airborne Sound	Sound that reaches the point of interest by propagation through air.
Ambient Noise	All noises that exist in an area and are not related to a facility. Ambient noise includes sound from other industrial noise not subject to BC OGC, transportation sources, animals, and nature. Ambient noise is the same as background sound level.
Ambient Sound Level (ASL)	The ASL consists of all noise in the area that is not related to regulated facilities. This noise includes sound from other non-regulated industrial facilities, transportation sources, animals, and nature. The ASL does not include any energy-related industrial component and must be measured without it. The ASL can be measured when the sound level in an area is not felt to be represented by the BSLs. The ASL must be measured under representative conditions. As with comprehensive sound levels, representative conditions do not constitute absolute worst-case conditions (i.e., the quietest day in this case) but conditions that portray typical conditions for the area.
Amphipod	<i>n.</i> a group of small, laterally compressed crustaceans.
Anadromous	<i>adj.</i> referring to marine fishes that migrate to fresh water to breed.
Anion	Negatively charged particle.
Anthropogenic	<i>adj.</i> caused by/derived from humans.
Aquatic species	A fish, as defined in the <i>Fisheries Act</i> , or a marine plant. Marine plant includes all benthic and detached algae, marine flowering plants, brown algae, red algae, green algae and phytoplankton.
Archaeological feature	Physical evidence of non-portable human activity.
Arthropod	<i>n.</i> (phylum <i>arthropoda</i>) invertebrates that have jointed appendages and a chitinous, segmented exoskeleton.
Aspect	<i>n.</i> the direction a slope faces with respect to the sun.
Assemblage	<i>n.</i> a colony of different species occurring/living together.

Term	Definition
Attenuation	The reduction of sound intensity by various means (e.g., air, barrier, porous materials, silencers, enclosures).
Audiogram	<i>n.</i> a graphic record of hearing ability for various sound frequencies that is used to measure hearing; varies for different species.
<i>Ayaawk</i>	Tsimshian system of traditional law.
Background Sound Level (i.e., Baseline)	It includes noise from all sources other than the sound of interest (i.e., sound other than that being measured, for example, sound from other industrial noise not being measured, transportation sources, animals, and nature).
Backshore	<i>n.</i> the part of a beach between the foreshore and the area where permanent vegetation grows.
Baleen Whale	<i>n.</i> (suborder Mysticeti) filter-feeding whale.
Ballast	Ballast is material that is used to provide stability to a vehicle or structure. A compartment within a boat, ship, submarine, or other floating structure that holds water for the purposes of ship stability is called a ballast tank.
Bands (octave, 1/3 octave)	A series of electronic filters separate sound into discrete frequency bands, making it possible to know how sound energy is distributed as a function of frequency. Each octave band has a centre frequency that is double the centre frequency of the octave band preceding it.
Barotrauma	<i>n.</i> injury caused by a change in air pressure, affecting typically the ear or the lung.
Basic Sound Level (BSL)	The A-weighted Leq sound level commonly observed to occur in the designated land-use categories with industrial presence. The BSL is assumed to be 5 dBA above the ASL and is set out in Table 1 of BC OGC Noise Guideline 2009.
Bathymetry	<i>n.</i> the measurement of the depth of bodies of water.
Benthic	<i>adj.</i> referring to the animals and plants that live on the floor of the sea.
Berth	Berth is the term used in ports and harbours for a designated location where a vessel may be moored, usually for the purposes of loading and unloading.
Bigg's Killer Whales	<i>n.</i> population of killer whales on the western coast of North America that preys on marine mammals; previously known as 'Northeast Pacific transient killer whales'.
Bilge water	The bilge is the lowest compartment on a ship, below the waterline, where the two sides meet at the keel. Bilge water is water that collects and stagnates in the bilge of a ship.
Bioaccumulate	A substance becoming concentrated inside the body of a living organism.
Biofilm	<i>n.</i> a thin, slimy film of bacteria that adheres to a surface.
Biogenic	Produced from the activity of living organisms.
Biogeographic	<i>adj.</i> characterizing a region of the Earth that has distinct fauna and flora, separated from other regions by a natural barrier or change in environmental conditions.
Biomagnify	The accumulation and increased concentration of a substance, such as a toxic chemical, in the tissues of organisms on higher levels of the food chain.
Biomass	<i>n.</i> the sum of all living organisms in a given area, at a given trophic level or of a given species (e.g., herring), usually expressed in terms of living or dry mass.
Biophysical Rating	A measure of the degree to which the biophysical characteristics of a Visual Sensitivity Unit (VSU) creates visual interest and draws people's attention.

Pacific NorthWest LNG

Environmental Impact Statement and Environmental Assessment Certificate Application

Glossary

Term	Definition
Bivalve	<i>n.</i> (class Bivalvia) clams, mussels, and other molluscs that possess a two-valved shell, filtering gills, and a shovel-like foot.
Brackish	<i>adj.</i> referring to seawater which is diluted with freshwater, common in estuarine environments.
<i>Bupdeex</i>	Coastal and Southern Tsimshian "clans" or "crest-groups."
Bycatch	<i>n.</i> an animal caught unintentionally in a fishery or harvesting activity (can refer to an untargeted species, undersized individual, or juvenile of the target species).
Calcareous	<i>adj.</i> made of calcium carbonate (CaCO ₃), a mineral that is the major component of the shell and skeleton of many organisms.
Calibration	The procedure used for the adjustment of a sound level meter using a reference source of a known sound pressure level and frequency. Calibration must take place before and after the sound level measurements.
Calibrator (Acoustical)	A device which produces a known sound pressure on the microphone of a sound level measurement system, and is used to adjust the system to standard specifications.
Canopy (kelp or eelgrass)	<i>n.</i> akin to the canopy of a terrestrial forest, the uppermost layer of a marine kelp forest or eelgrass bed which rarely comes into contact with seafloor, and which forms a unique ecosystem to that found in the understory.
Category	A classification of a dwelling unit in relation to transportation routes used to arrive at a BSL.
Cetacean	<i>n.</i> a marine mammal of the order Cetacea; a whale, dolphin, or porpoise.
Chart Datum	<i>n.</i> the plane of vertical reference to which all depths on a nautical chart are related, shown as the lowest depth of water typically found under normal meteorological conditions (tidal datum).
Chlorophyll <i>a</i>	A green pigment found in algae and plants that absorbs light.
Class A Adjustment	Consists of the sum of adjustments that account for the adjustment seasonal nature of the noise source, absence of both tonal and impulse/impact components, and the actual ASL in an area. It cannot exceed +10 dBA. The Class A adjustment is added to the BSL, the daytime adjustment, and the Class B adjustment to arrive at a permissible sound level.
Class B Adjustment	An adjustment based on the duration of a noisy activity that recognizes that additional noise can be tolerated if it is known that the duration will be limited. An adjustment of B1, B2, B3, or B4 may be selected as applicable.
Comprehensive Sound Level (CSL)	The sound level that is a composite of different airborne sounds from many sources far away from and near the point of measurement. The CSL does include industrial components and must be measured with them, but it should exclude abnormal noise events.
Corporate matrilineage	Wealth and kinship through line of descent on maternal side of family.
Criteria Air Contaminant (CAC)	A group of five common air contaminants released into the air from various processes including industrial production and fuel combustion. In this assessment, they include particulate matter less than 10 microns in diameter (PM ₁₀), particulate matter less than 2.5 microns in diameter (PM _{2.5}), sulfur dioxide (SO ₂), nitrogen oxides (NO _x , expressed as NO ₂), and carbon monoxide (CO). Abbreviated in this document as CAC.
Critical habitat	Necessary for the survival or recovery of a listed species.

Term	Definition
Crustacean	<i>n.</i> an arthropod that has two pairs of antennae and an exoskeleton hardened by calcium carbonate.
Daytime	Defined as the hours from 07:00 to 22:00.
Daytime Adjustment	An adjustment that allows a 10 dBA increase because daytime sound levels are generally about 10 dBA higher than nighttime values.
dB - Decibel	The logarithmic units associated with sound pressure level, sound power level, or acceleration level. See sound pressure level, for example.
dBA - Decibel, A-Weighted	The logarithmic units associated with a sound pressure level, where the sound pressure signal has been filtered using a frequency weighting that mimics the response of the human ear to quiet sound levels. The resultant sound pressure level is therefore representative of the subjective response of the human ear. A-weighted sound pressure levels are denoted by the suffix 'A' (i.e., dBA), and the term pressure is normally omitted from the description (i.e., sound level or noise level).
dB(C) - Decibel, C-Weighted	The logarithmic units associated with a sound pressure level, where the sound pressure signal has been filtered using a frequency weighting that mimics the response of the human ear to loud sound levels. C-weighted sound pressure levels are denoted by the suffix 'C' (i.e., dB(C)). C-weighted levels are often used in low-frequency noise analysis, as the filtering effect is nearly flat at lower frequencies.
Decibel Addition	In acoustics, due to the logarithmic nature of the decibel scale, the addition of two or more sound pressure levels (denoted as SPL ₁ , SPL ₂ ... SPL _n) is done as follows: $SPL_1 + SPL_2 + \dots + SPL_n = 10 \log (10^{(SPL_1/10)} + 10^{(SPL_2/10)} + \dots + 10^{(SPL_n/10)})$ As examples: 0 dB + 0 dB = 3 dB 50 dB + 50 dB = 53 dB 50 dB + 47 dB = 52 dB 50 dB + 40 dB = 50 dB.
Demersal	<i>adj.</i> bottom-dwelling.
Detritivores	<i>n.</i> organisms that consume decaying organic matter.
Directivity Factor (Q) (also, Directional or Directionality Factor)	A factor mathematically related to Directivity Index, used in calculating propagated sound levels to account for the effect of reflecting surfaces near to the source. For example, for a source in free space where the sound is radiating spherically, Q = 1. For a source located on or very near to a surface (such as the ground, a wall, or a rooftop), where the sound is radiating hemispherically, Q = 2. This accounts for the additional sound energy reflecting off the surface, and translates into a +3 dB addition.
Downwelling	<i>n.</i> the phenomenon of surface waters being pushed downwards as a result of ocean currents converging (typically resulting in low productivity).
Duration	A component of the shipping assessment that presents the number of hours that a LNG carrier would be in a viewer's field of view from a given viewpoint.
Dwelling Unit	Any permanently or seasonally occupied residence with the exception of an employee or worker residence, dormitory, or construction camp located within an industrial plant boundary. Trailer parks and campgrounds may qualify as a dwelling unit if it can be demonstrated that they are in regular and consistent use during the applicable season.

Term	Definition
Dwelling Unit (most impacted)	The nearest dwelling unit may not necessarily be the one most adversely affected because of factors such as topography or man-made features. For example, the nearest dwelling unit to a facility may be located behind an intervening ridge, while a more distant dwelling unit may be in direct line of sight with the facility. Care must be taken in determining the most impacted dwelling unit.
Earthquake	A sudden or violent shaking of the ground, caused by the movement within the Earth's crust.
Echinoderm	<i>n.</i> (phylum <i>Echinodermata</i>) invertebrates with five-way radial symmetry and a water vascular system.
Ecological Community	A community is a naturally occurring assemblage of plants and animals living in the same environment and interacting in many ways, including mutualism, predation and competition.
Ecological Receptors	Any living organism, other than humans, that may be adversely affected by contact with or by exposure to a contaminant of concern.
Ecosystem	An ecosystem is an ecological community of plants and animals, and the abiotic environment in which they exist. Ecosystem components interact through the exchange energy and materials.
Ecozone	Ecozones are large sub-continental biogeographical divisions with distinct representative vegetation, animals, climate, and associated physical features.
Eelpout	<i>n.</i> a small broad-headed fish of cool or cold seas, having an elongated body and the dorsal and anal fins continuous with the tail.
Emergency	An unplanned event requiring immediate action to prevent loss of life or property. Events occurring more than four times a year are not considered unplanned.
Emission factor	A representative value that relates the quantity of contaminant released to the atmosphere with an activity or input associated with the release of that pollutant.
Employment ratios	At a regional level, indirect and induced employment effects are calculated using employment ratios that are based on the results of the 2006 Census (Horne 2009). Indirect employment ratios are calculated as the number of direct and indirect jobs divided by the number of direct jobs. Indirect and induced employment ratios are calculated as the number of direct, indirect, and induced jobs divided by the number of direct jobs. With these ratios, it is possible to estimate the approximate number of indirect and induced jobs that would be created in a particular region for every new direct job that would be created by a new project.
Energy Equivalent Sound Level (Leq)	An energy-average sound level taken over a specified period of time. It represents the average sound pressure encountered for the period. The time period is often added as a suffix to the label (e.g., Leq(24) for the 24-hour equivalent sound level). Leq is usually A weighted. An Leq value expressed in dBA is a good, single value descriptor of the annoyance of noise.
Ensonify	<i>v.</i> to fill the ocean or any fluid medium with acoustic radiation.
Environment	The components of the Earth, and includes: (a) land, water and air, including all layers of the atmosphere (b) all organic and inorganic matter and living organisms (c) the interacting natural systems that include components referred to in (a) and (b).
Epibenthic	<i>n.</i> relates to the area on top of the sea floor.

Term	Definition
Epifauna	<i>n.</i> animals living on the surface of the substrate (compare to <i>infauna</i>).
Estuary	<i>n.</i> a semi-enclosed area where a freshwater river meets and mixes with the sea.
Ethnography	The scientific description of peoples and cultures with their customs, habits, and mutual differences.
Eulachon	A small edible marine (anadromous) fish with oily flesh, occurring on the west coast of North America and traditionally harvested by various First Nation groups. Also called “candlefish.”
Eutrophication	A process that describes excess algal growth often associated with anthropogenic inputs of nutrients, particularly nitrogen and phosphorus, that can lead to low oxygen levels and increased cyanobacteria growth.
Existing Visual Condition	A component of the Visual Landscape Inventory that presents the level of human-made landscape alterations caused by resource development activities in a VSU and expressed in terms of the visual quality classes.
Exposure pathway	The route by which a radioactive material reaches a target.
Far Field	Describes a region in free space where the sound pressure level from a source obeys the inverse-square law (the sound pressure level decreases 6 dB with each doubling of distance from the source). The far field is that area far enough away from the noise source that the noise emissions can be treated as if they come from a single point or line source, and the individual components of the noise source are not apparent as separate sources. This is typically at a distance of at least three to five times the major dimensions of the noise sources.
Filter	A device separating the components of an incoming signal by its frequencies.
Fish	Includes: <ul style="list-style-type: none"> (a) parts of fish (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.
Fish habitat	The spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly to carry out their life processes.
Fjord	<i>n.</i> a long inlet of the sea formed in a deep valley created by a retreating glacier.
Flatfish	<i>n.</i> a type of fish that lies on its side on the seafloor, with one eye migrating through and around the head to join the other during development (e.g., halibut).
Fog	A reduction in visibility due to the suspension of very small water droplets or ice crystals in air.
Foreshore	<i>n.</i> the shore zone that lies between the average high tide mark and the average low tide mark, and is therefore covered by the sea at high tide and exposed at low tide (see also <i>intertidal</i>).
Free Sound Field (Free Field)	A sound field in which the effects of obstacles or boundaries on sound propagated in that field are negligible.
Frequency	The number of times per second that the sine wave of sound or of a vibrating object repeats itself. Now expressed in hertz (Hz), formerly in cycles per second (cps).

Term	Definition
Frequency (<i>Visual Quality</i>)	A component of the shipping assessment that presents how many times per day that a LNG carrier would pass within view of a given viewpoint.
Fugitive Emission	Air emissions resulting from small leaks in an industrial facility that while individually very small, can collectively be substantial for large, complex facilities.
Gastropod	<i>n.</i> (class Gastropoda) a mollusc that typically possesses a head with eyes, tongue and tentacles, a large flattened muscular foot, and a single shell (e.g., snail, limpet).
Ginhada	Raven Clan.
Gispuwudha	Blackfish Clan.
Gitxaala Nation	A First Nation based in Kitkatla with asserted traditional territory stretching from Kitasu Bay to the lower Nass River.
Global warming potential	Global-warming potential (GWP) is a relative measure of how much heat a greenhouse gas traps in the atmosphere.
Habitat	<i>n.</i> the natural environment in which an organism lives.
Haulout	<i>n.</i> a terrestrial location frequented by certain marine mammals (e.g., seals, sea lions) where they leave the water to rest on land.
Headwaters	The source of a creek, river or stream.
Heavily Travelled Road	Generally includes highways and any other road where the average traffic count is at least 10 vehicles per hour over the nighttime period. It is acknowledged that highways are sometimes lightly travelled during the nighttime period, which is usually the period of greatest concern.
Heavy Truck	Any truck having a gross vehicle weight of 12,000 kg or more and having three or more axles.
Hertz (Hz)	Unit of measurement of frequency, numerically equal to cycles per second.
Human Perception of Sound	The human perception of noise impact is an important consideration in qualifying the noise effects caused by projects. General guideline based on the research of subjective response of a group of humans to variation in sound pressure (Bies and Hansen 2003) as follows: <ul style="list-style-type: none"> ▪ 3 dBA Just perceptible ▪ 5 dBA Clearly noticeable ▪ 10 dBA Twice as loud ▪ 20 dBA Much louder.
Hydric Soil	A hydric soil is formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic (without oxygen) conditions in the upper part.
Hydrocarbon	An organic compound, such as natural gas or oil, consisting entirely of hydrogen and carbon; predominately used as a combustible fuel source.
Hydrology	Hydrology is the study of the movement, distribution, and chemistry of water.

Term	Definition
Impulsive Sound	<p>Impulsive sound can be classified into one of the three categories as follows:</p> <ul style="list-style-type: none"> ▪ High energy impulsive (HEI) – This refers to sound from one of the following enumerated categories of sound sources: quarry and mining explosives, sonic booms, demolition, and industrial processes that use high explosives, military ordnance, explosive ignition of rockets and missiles, explosive industrial circuit breakers, and any other explosive source where the equivalent mass of dynamite exceeds 25 g. ▪ Highly impulsive (HI) – This refers to sound from one of the following enumerated categories of sound sources: small-arms gunfire, metal hammering, wood hammering, drop hammering, pile driving, drop forging, pneumatic hammering, pavement breaking, metal impacts during rail-yard shunting operations, and riveting. <p>Regular impulsive (RI) – This refers to impulsive sound that is not highly impulsive sound or high-energy impulsive sound.</p>
Incidental take	Inadvertent harming, killing, disturbance or destruction of migratory birds, nests and eggs.
Infauna	<i>n.</i> animals that burrow in the substrate (compare to <i>epifauna</i>).
Insertion Loss (IL)	The arithmetic difference between the sound level from a source before and after the installation of a noise mitigation measure, at the same location. Insertion loss is typically presented as a positive number, i.e., the post-mitigation sound level is lower than the pre-mitigation level. Insertion loss is expressed in dB and is usually specified per 1/1 octave band, per 1/3 octave band, or overall.
Inshore	<i>adj.</i> referring to an area of sea near the coast.
Intensity	The sound energy flow through a unit area in a unit time.
Intertidal	<i>adj.</i> referring to the shore zone that lies between the average high tide mark and the average low tide mark, and is therefore covered by the sea at high tide and exposed at low tide (also referred to as littoral; see also <i>foreshore</i>).
Invertebrate	<i>n.</i> an animal that lacks a backbone.
Kelp	<i>n.</i> brown algae characterized by their large size and complexity, which can form dense stands or forests in cold and temperate seawater.
Kitselas First Nation	A First Nation with asserted traditional territory including the watersheds of the Skeena and Kitimat Rivers, and including estuaries and coastal areas north to the mouth of the Nass River.
Kitsumkalum First Nation	A First Nation with asserted traditional territory including Kitsumkalum, Zymacord, and Cedar River watersheds.
Landscape Unit	An area of land within a forest district established for the purposes of land and resource management planning under the <i>Forest Practices Code of British Columbia Act</i> .
Larva (plural larvae)	<i>n.</i> the form of an insect or other animal in the immature stage of development after the egg has hatched but before the animal becomes adult.
<i>Lasgiik</i>	Eagle Clan.
Lax Kw'alaams First Nation	A First Nation with asserted traditional territory including the Skeena watershed, lower reaches of the Nass River and Nass Bay, and coastal areas around Prince Rupert.
<i>Laxgibuu</i>	Wolf Clan.

Term	Definition
Limpet	<i>n.</i> a marine mollusc with a shallow conical shell and a broad muscular foot, noted for the way it clings tightly to rocks.
Lithic	A stone tool or artifact.
Low Frequency Noise (LFN)	Noise in the low frequency range, from infrasonic sounds (<20 Hz) up to 100 Hz. Where a clear tone is present below and including 250 HZ and the difference between the overall C-weighted sound level and the overall A-weighted sound level exceeds 20 dB.
Macroinvertebrate	<i>n.</i> animals that have no backbone and are visible without magnification.
Masking	a) The process by which the threshold of audibility for a sound is raised by the presence of another (masking) sound, or b) The amount by which the threshold of audibility of a sound is raised by the presence of another (masking) sound.
Metlakatla First Nation	A First Nation with asserted traditional territory including Lakelse and the lower Skeena, and coastal sections from Ecstall River to Portland Canal.
Migratory bird	A migratory bird as listed in article 1 of the schedule to the <i>Migratory Birds Convention Act</i> , and includes the sperm, eggs, embryos, tissue cultures and parts of the bird.
Mollusc	<i>n.</i> an invertebrate with a soft, unsegmented body, a muscular foot, and, with some exceptions, a calcareous shell.
Monospecific	<i>adj.</i> characterized by only one species.
Motile	<i>adj.</i> exhibiting or capable of movement.
Mudflat	<i>n.</i> a muddy bottom that is exposed at low tide.
Mustelid	<i>n.</i> (family Mustelidae) a mammal of the weasel family, distinguished by having a long body, short legs, and musky scent glands under the tail (e.g., sea otter).
Near Field	The region or sound field very near to a source, where sound pressure does not obey the inverse-square law (i.e., 6 dBA loss per doubling of distance for a point source does not apply). Usually this region is located within a few wavelengths of the source and is also controlled by the dimension of the source.
Nearshore	<i>n.</i> the region of land extending outward from the backshore to the beginning of the offshore zone.
Nighttime	Defined as the hours from 22:00 to 07:00.
Noise	Unwanted sound.
Noise Impact Assessment (NIA)	An NIA identifies the expected sound level emanating from a facility as measured 15 m from the nearest or most impacted permanently or seasonally occupied dwelling. It also identifies what the permissible sound level is and how it was calculated.
Noise Level	Same as Sound Level, except applied to unwanted sounds.
Offshore	<i>adj.</i> distant from the shore.
Old Forest	A structural stage of forest characterized by old age, complex structure, and regeneration of shade-tolerant species. Time since stand-replacing disturbance typically is greater than 250 years in the coastal western hemlock (CWH) biogeoclimatic zone.
Pelagic	<i>adj.</i> referring to the top and middle layers of sea water; pelagic organisms are those that live in the water column away from the sea bottom (e.g., Pacific herring, smelts, and mackerel).

Term	Definition
Permanent Facility	Any existing or proposed facility that will be at a location longer than two months.
Permanently Occupied Dwelling	A fixed residence occupied on a full-time basis.
Permissible Sound Level (PSL)	The maximum sound level that a facility should not exceed at a point 15 m from the nearest or most impacted dwelling unit. The PSL is the sum of the BSL, daytime adjustment, Class A adjustment, and Class B adjustment.
Photic	<i>adj.</i> denoting the layers of the ocean reached by sufficient sunlight to allow plant growth.
Pinniped	<i>n.</i> (order Pinnipedia) mammals with paddle-shaped flippers (e.g., seal, sea lion).
Plate and Frame Heat Exchanger	A plate and frame heat exchanger is a type of heat exchanger that uses metal plates to transfer heat between two fluids. This has a major advantage over a conventional heat exchanger in that the fluids are exposed to a much larger surface area because the fluids spread out over the plates.
Polychaete Worm	<i>n.</i> a division of annelids having unsegmented swimming appendages, including most of the common marine worms.
Post hole	A hole dug into ground for holding a post upright.
Post mold	Feature - circular remains of a wooden post – part of a prehistoric structure.
Prickleback	<i>n.</i> any of several blennioid fishes of the family Stichaeidae, usually inhabiting cold waters, having spiny rays in the dorsal fin.
<i>Prima facie</i>	A Latin expression meaning "on first encounter", "first sight" or "first blush."
Pristine Area	A pure, natural area that might have a residence but no industrial presence, including energy, agricultural, forestry, manufacturing, recreational, or other industries that could make noise generation a consideration.
Productivity	The rate of generation of biomass in an ecosystem.
Prominence	A component of the shipping assessment that presents the number of horizontal and vertical degrees that a LNG carrier would encompass of a viewer's field of view from a given viewpoint.
Receptors	The person, plant or wildlife species that may be affected due to exposure to an air contaminant.
Regulated Facilities	Operations, production facilities and gas processing plants are under the jurisdiction of the BC Oil and gas Commission.
Representative Conditions	Those conditions typical for an area and/or the nature of a complaint. For ASLs, these are conditions that portray the typical activities for the area, not the quietest time. For CSLs, these do not constitute absolute worst-case conditions or the exact conditions the complainant has highlighted if those conditions are not easily duplicated. Sound levels must be taken only when representative conditions exist; this may necessitate a survey of extensive duration (two or more consecutive nights).
Ronquil	<i>n.</i> a slender bottom-dwelling fish.
Rookeries	<i>n.</i> breeding sites (of seabirds, seals, or sea lions).
Runoff	Runoff refers to surface water runoff, the flow of water, from rain, snow melt, or other sources over land.
Run-up	The height on water onshore (from a tsunami), above a sea level datum.
Salmonid	<i>n.</i> a fish belonging to the family Salmonidae, which includes salmon and trout.

Term	Definition
Saltmarsh	<i>n.</i> low coastal grassland frequently overflowed by the tide.
Scenic Area	Any visually sensitive area or scenic landscape identified through a Visual Landscape Inventory or planning process.
Seasonally Occupied Dwelling	A fixed residence that, while not being occupied on a full-time basis, is occupied on a regular basis. A regular basis does not imply a scheduled occupancy but implies use of six weeks per year or more. The residence must not be mobile and should have some sort of foundation or features of permanence (e.g., electrical power, domestic water supply, septic system) associated with it. Summer cottages or mobile homes are examples of seasonally occupied dwellings, while a holiday trailer simply pulled onto a site is not.
Seasonal Round	Seasonal movement of Aboriginal groups from one favored harvesting site or area to the next harvesting site or area according to the seasons and changing patterns of availability of natural resources.
Semidiurnal	<i>adj.</i> a tidal pattern with two high and two low tides each day.
Sessile	<i>adj.</i> referring to an organism that lives attached to the bottom or to a surface.
Shell and Tube Heat Exchanger	A class of heat exchanger designs that is most common in oil refineries. It consists of a shell (a large pressure vessel) with a bundle of tubes inside it. One fluid runs through the tubes, and another fluid flows over the tubes (through the shell) to transfer heat between the two fluids.
<i>Sm'algayax</i>	Traditional language of the Coastal and Southern Tsimshian.
<i>Sm'oogyet (Alt. Sm'ooygit)</i>	Coastal and Southern Tsimshian House leader.
Sound	A dynamic (fluctuating) pressure.
Sound Level (SL)	The A-weighted Sound Pressure Level expressed in dBA.
Sound Level Meter	An instrument comprised of a microphone, amplifier, output meter, and frequency-weighting networks that is used for the measurement of noise and sound levels.
Sound Power Level (PWL)	<p>The logarithmic ratio of the instantaneous sound power (energy) of a noise source to that of an international standard reference power. The sound power level is defined by equation (1) where W is the sound power of the source in watts, and W_0 is the reference power of 10^{-12} watts.</p> $PWL (dB) = 10 \log(W/W_0) \dots\dots\dots (1)$ <p>Inter-relationships between sound pressure level (SPL) and sound power level (PWL) depend on the location and type of source.</p>
Sound Pressure Level (SPL)	<p>The logarithmic ratio of the RMS sound pressure to the sound pressure at the threshold of hearing. The sound pressure level is defined by equation (2) where P is the RMS pressure due to a sound and P_0 is the reference pressure. P_0 is usually taken as 2.0×10^{-5} Pascals.</p> $SPL (dB) = 20 \log(P_{RMS}/P_0) \dots\dots\dots (2)$
Species Richness	<i>n.</i> the number of species found in an area.
Spectrum	The description of a sound wave's resolution into its components of frequency and amplitude.
Sponge	<i>n.</i> (phylum Porifera) an invertebrate that consists of a complex aggregation of cells, including collar cells, and has a skeleton of fibers and/or spicules.
Stem round sampling	A sample of culturally modified tree cross sections used to calculate the date of modification.

Term	Definition
Stressor	An environmental condition, chemical or biological agent, external stimulus or event causing a stress response to an organism.
Subaerial landslide	A landslide which occurs on the surface of the earth (i.e., not underwater).
Substrata	<i>n.</i> the underlying layers of earth (e.g., rock and boulder that lie beneath on the sea floor).
Substrate	<i>n.</i> the matter or surface on which an organism lives.
Subtidal	<i>n.</i> the zone of the shoreline that is submerged most of the time, and is exposed only briefly during extreme low tides.
Swim Bladder	<i>n.</i> a gas-filled sac present in the body of many bony fishes, used to maintain and control buoyancy.
Taxonomy	<i>n.</i> the techniques and system of classifying organisms according to their characteristics.
Temperate	A system, region or climate defined by moderate temperatures.
Threat	A threat may constitute serious harm to fish (i.e., the death of fish or any permanent alteration to, or destruction of, fish habitat).
Tonal Components / Tonality	Most energy industrial facilities typically exhibit a tonal component. Examples of tonal components are transformer hum, sirens, and piping noise. The test for the presence of tonal components consists of two parts. The first part must demonstrate that the sound pressure level of any one of the slow-response, A weighted, 1/3-octave bands between 20 and 16 kHz is 10 dBA or more than the sound pressure level of at least one of the adjacent bands within two 1/3-octave bandwidths. In addition, there must be a minimum of a 5 dBA drop from the band containing the tone within two bandwidths on the opposite side. The second part is that the tonal component must be a pronounced peak clearly obvious within the spectrum.
Toothed Whale	<i>n.</i> (suborder Odontoceti) a whale that has teeth (e.g., killer whale, porpoise, and dolphin).
Topographic Profile	<i>n.</i> a two dimensional diagram that describes the landscape in vertical cross-sections.
Traditional Ecological Knowledge	<i>n.</i> the body of knowledge regarding local environmental resources built up by a group of people through generations of living in close contact with nature.
Traditional Knowledge (TK)	A body of knowledge built up by Aboriginal people through generations of living in close contact with nature that is cumulative and dynamic, builds upon the historic experiences of Aboriginal people while adapting to social, economic, environmental, spiritual and political change. Forms a part of a larger body of knowledge which encompasses knowledge about cultural, environmental, economic, political and spiritual inter-relationships.
Traditional Land Use (TLU)	Activities that take place on the land and are closely connected to customs and practices integral to the distinctive cultures of Aboriginal societies. Can be either consumptive in nature (e.g., hunting, fishing, bark gathering) or non-consumptive (e.g., taking part in spiritual ceremonies, seasonal camping).

Term	Definition
Transect	<i>n.</i> a line used in ecological surveys to provide a means of measuring and characterizing the distribution of organisms.
Transmission Loss	<p>A measure of the reduction in sound energy resulting from incident sound waves striking a wall, partition, or enclosure, and radiating through to the other side. Mathematically, the transmission coefficient <i>t</i> is the ratio of transmitted acoustic power to the incident acoustic power, and in decibels, the Transmission Loss (TL) of the wall is:</p> <p>TL = 10 log (1/<i>t</i>)</p> <p>The TL of a wall varies by frequency. The associated noise reduction (NR) due to the TL of the wall is a function of the TL and the acoustical parameters of the receiving space.</p>
Trestle	A trestle is a rigid frame used as a support, especially referring to a bridge composed of a number of short spans supported by such frames.
Tsimshian	A cultural region that includes the Skeena and Nass watersheds, as well as coastal sections from Milbanke Sound to Portland Canal.
Tsunami	A series of ocean waves generated by any rapid large-scale disturbance of the seawater column. Tsunamis can be generated by earthquakes, volcanic eruptions, landslides or submarine landslides.
Tunicate	<i>n.</i> (phylum Chordata) marine filter feeders with a sac-like body structure.
Turbidity	<i>n.</i> cloudiness of a liquid, resulting from particles being suspended in it.
Vascular Plant	<i>n.</i> a plant that has specialized tissues for transporting fluid and nutrients internally (e.g., sedges, eelgrass).
Viewer Rating	A measure of the number of people likely to view the Visual Sensitivity Unit (VSU) and the preferences, expectations or concerns they have about how they would like the VSU to look.
Viewing Condition	A measure of the condition under which the Visual Sensitivity Unit (VSU) is most commonly viewed.
Viewpoint	An on-the-ground or water based location, from which the surrounding landscape can be viewed or observed.
Viewshed	A viewshed includes the area that can be potentially seen from single or multiple viewpoints to the project site. A direct sight line potentially exists between the viewpoint and the area being viewed.
Visual Absorption Capability	A component of the Visual Landscape Inventory that rates the relative capacity of a landscape to absorb visual alterations and still maintain its visual integrity.
Visual Alteration	Human-made landscape alterations caused by activities such as forestry, mining, road construction, utility corridor, and agriculture.
Visual Landscape Inventory	The identification, classification, and recording of the location and quality of visual resources that may be problematic if not managed to the concepts, principles and practices set out in the visual landscape management process.
Visual Quality	The potential for a landscape to produce varying degrees of satisfaction among viewers. It is a human response to a landscape resulting from perceptual characteristics of the environment and the observer's experience which arises from the relationship between the landscape character and their effects on human viewers.

Term	Definition
Visual Quality Objective	A resource management objective established by the district manager or contained in a higher level plan that reflects the desired level of visual quality based on the physical characteristics and social concern for the area. Visual quality objectives are the means by which society identifies the level of disturbance that would be acceptable on a viewscape.
Visual Sensitivity Class	A component of the Visual Landscape Inventory that rates the sensitivity of the landscape based on biophysical characteristics and viewing and viewer related factors.
Visual Sensitivity Unit	A distinct topographical unit as viewed from 1 or more viewpoints, delineated based on the homogeneity of the landform and of biophysical elements comprised in a scene.
Visually Effective Green-up	The stage at which regeneration is perceived by the public as being newly established forest.
Visually Sensitive Area	An area that is considered to be sufficiently sensitive to visual alteration to warrant special consideration in strategic and operational planning. It is an area for which the Visual Landscape Management Process should be applied. These areas may include viewsheds that are visible from communities, public use areas, travel corridors including roadways and waterways and any other viewpoint so identified through a referral or planning processes.
Watercourse	A channel through which water flows.
Watershed	An area drained by a river system or other body of water.
Wetland	Wetlands include ecosystems that are saturated with water long enough to develop hydric soils and to support hydrophytic vegetation.
Wind Speed Expression	<p>Wind speed generally increases with height. A power law profile describing the variation of wind speed in the atmospheric surface boundary layer is frequently used in air pollution work and was used to convert the wind speed data collected at 10 m to wind speed values representative of those expected at 2 m for this assessment. The expression:</p> $u(z) = u(z_a) (z/z_a)^p$ <p>where: $u(z)$ is the wind speed at height z; $u(z_a)$ is the wind speed at the anemometer measurement height z_a; p is an exponent varying from about 0.1 to 0.4; 0.2 is the representative exponent for the project study area. Therefore: $u(z) = 0.7 u(z_a)$ for the project study area.</p>
Windscreen	A specialized piece of porous sponge that fits over the microphone in order to reduce the noise generated by the wind blowing around the microphone. Useful in moderately low wind speeds. Generally, outdoor measurements are not recommended when wind speeds exceed 15 km/h, as the wind-induced noise on the microphone becomes of the same magnitude as the levels being measured.
<i>Wuwaap (Sing. Waap)</i>	Coastal and Southern Tsimshian "Houses" or "House-groups."