



Keeyask Generation Project Environmental Impact Statement

Supporting Volume Terrestrial Environment



June 2012

SECTION 10

GLOSSARY

This page is intentionally left blank.

TABLE OF CONTENTS

10.0 GLOSSARY 1



This page is intentionally left blank.

10.0 GLOSSARY

Aboriginal traditional knowledge (ATK): Aboriginal traditional knowledge is knowledge that is held by, and unique to, Aboriginal peoples. It is a living bit of knowledge that is cumulative, dynamic, and adapted over time to reflect changes in the social, economic, environmental, spiritual and political spheres of the Aboriginal knowledge holders. It often includes knowledge about the land and its resources, spiritual beliefs, language, mythology, culture, laws, customs and medicines (Canadian Environmental Assessment Agency).

Adaptive management: Involves the implementation of new or modified mitigation measures over the life of a project to address its unanticipated environmental effects (*Canadian Environmental Assessment Act*).

Alpha diversity: The diversity within a particular area or ecosystem, and is usually expressed by the number of species (*i.e.*, species richness) in that ecosystem.

Amphibians: Cold-blooded animal of the Class Amphibia that typically lives on land but breeds in water (*e.g.*, frogs, toads, salamanders).

Amphipod: A shrimp-like crustacean most often found in marine or fresh water environments, but also represented by terrestrial species (sand fleas).

Animal disturbance: Sensory disturbance that may arise from human noise, scent or visual sightings and/or other means and cause a measureable physiological or behavioural response in an animal.

Annelid: Segmented worms, such as earthworms and leeches, found in most wet environments.

Aquatic: Living or found in water.

Aquatic environment: All organic and inorganic matter and living organisms and their habitats that are related to or are located in or on the water, beds, or shores of a water body.

Aquatic plant: Any plant adapted to grow in water or aqueous habitats.

Arboreal: Of or relating to trees.

Arthropod: The largest group within the animal kingdom, containing several million species; characterised by a rigid external skeleton and paired jointed legs.

Attribute: A readily definable and inherent characteristic of a plant, animal, or habitat.

Autotroph: An organism capable of synthesizing its own nutritional organic substances from inorganic compounds, such as CO₂, green plants, algae, and certain bacteria.

Background level: The concentration of a hazardous substance that provides a reference point that can be used to evaluate whether or not a release from the site has occurred. Background levels do not necessarily reflect pristine conditions.

Bedrock: A general term for any solid rock, not exhibiting soil-like properties, that underlies soil or other surficial materials.

Benchmark: A reference or target condition or range of conditions that is used to evaluate the state or trend of an attribute of interest.

Benchmark area: A geographic area that has not been substantially affected by human activities. Benchmark areas were used to improve our understanding of local natural ecosystem patterns, processes and linkages.

Benthic: Relating to the bottom of a waterbody (*e.g.*, lake).

Bioaccumulation: The accumulation of substances, such as methylmercury, in an organism or part of an organism. Bioaccumulation occurs when a substance is absorbed by an organism at a greater rate than it is lost.

Biomagnification: The increasing concentration of a substance, such as a toxic chemical, in the tissues of organisms at successively higher levels in a food chain.

Biomass: Total mass of living matter, within a given unit of area or volume.

Bio-physical land classification: A delineation of distinct areas on a map based on soil, surficial deposits, landforms, permafrost and water.

Blanket peatland: Bog, fen or mixtures of these types with peat of intermediate thickness (*i.e.*, up to approximately 2 m thick) and a featureless surface that cover gentle slopes.

Bog: A type of peatland that receives nutrient inputs from precipitation and dryfall (particles deposited from the atmosphere) only. Sphagnum mosses are the dominant peat forming plants. Commonly acidic and nutrient poor.

Boreal: Of or relating to the cold, northern, circumpolar area just south of the tundra, dominated by coniferous trees such as spruce, fir, or pine. Also called taiga.

Borrow area: An area where earth material (clay, gravel or sand) is excavated for use at another location (also referred to as ‘borrow sites’ or ‘borrow pits’).

Broad habitat type: The third coarsest level in the hierarchical habitat classification used for the terrestrial assessment. From coarsest to finest, the levels in the habitat classification system are land cover, coarse habitat type, broad habitat type and fine habitat type.

Browse: Refers to animals eating the tender current growth (and occasionally older growth) or bark of woody plants as a food source; can also be the generic term for the food source, especially as it refers to ungulates.

Bryophyte: A division of the plant kingdom that includes non-flowering plants characterized by rhizoids rather than true roots and having little or no organized vascular tissue and showing alternation of generations between gamete-bearing forms and spore-bearing forms. Includes mosses, liverworts and hornworts.

Buffer: An area surrounding a defined geographic area, usually created by locating a line a fixed distance around the area of interest.

Cache: A hiding place for concealing and preserving provisions.

Camp: A temporary residence for employees working on a construction project at a remote location, consisting of bunkhouse dormitories, a kitchen and other facilities.

Caribou calving and rearing (habitat) complex: a habitat mosaic that includes a cluster of islands in lakes or a cluster of islands in peatlands that are comprised mainly of raised peatland areas with black spruce trees surrounded by expansive wetlands or treeless areas. These complexes are suitable habitats for summer resident caribou to calve, and/or to raise calves, between May and August. Water or wet habitats provide caribou with increased security and isolation from predators.

Cause-effect linkage: The relationship between an event (the cause) and a second event (the effect) or subsequent event (an indirect effect), where the second event or subsequent event is a consequence of the first.

Chronosequence: A collection of different aged locations arranged by increasing age and used to represent how conditions change through time. Also referred to as space-for-time substitution.

Churchill River Diversion: The diversion of water from the Churchill River to the Nelson River and the impoundment of water on the Rat River and Southern Indian Lake as authorized by the CRD Licence.

Climax: The culminating, self-replacing seral stage in plant succession that is relatively stable and persists for long periods relative to other **seral** stages.

Coarse habitat mosaic: Combination of Coarse Habitat Types for the purpose of analysis of data collected on mammal tracking transects.

Coarse habitat type: The second coarsest level in the hierarchical habitat classification used for the terrestrial assessment. From coarsest to finest, the levels in the habitat classification system are land cover, coarse habitat type, broad habitat type and fine habitat type used for the terrestrial assessment.

Cofferdam: A temporary dam, usually made of rockfill and earth, constructed around a work site in the river, so the work site can be dewatered or the water level controlled during construction.

Common habitat mosaic: Coarse habitat mosaic comprising more than 1% of the mammal habitat in the regional study area.

Concentration: The density or amount of a material suspended or dissolved in a fluid (aqueous) or amount of material in a solid (*e.g.*, sediments, tissue).

Construction: Includes activities anticipated to occur during Project development.

Consumer: An organism that obtains food by feeding on other organisms or organic matter.

Context area: The spatial area surrounding the regional comparison area for the ecosystem component of interest. Used to consider conditions and trends occurring at very large spatial and temporal scales that could influence the ecosystem component of interest and confound the interpretation of Project effects.

Converter station: A facility, which converts electricity, either from direct current (DC) to alternating current (AC) or from AC to DC.

Core area: A natural area that meets a minimum size criteria after applying an edge buffer on human features. Two minimum sizes (200 ha, 1,000 ha) after applying a 500 m buffer on human features were used in the intactness effects assessment.

Crest: The top surface of a dam or roadway, or the high point of the spillway overflow section, or the highpoint of a landform.

Cumulative effect (impact): The effect on the environment, which results when the effects of a project combine with those of the past, existing, and future projects and; the incremental effects of an action on the environment when the effects are combined with those from other past, existing and future actions.

Dabbling duck: Various species of ducks that feed in shallow water, such as mallards, teals and shovelers.

Detritivore: An organism that feeds upon decomposing organic matter.

Deposit type: Mode of surface material deposition. Refers to the dominant form of development in the case of organic deposits developed in situ.

Disturbance regime: The frequency, size, intensity, severity, patchiness, seasonality and sub-type of a particular type of disturbance or continual fluctuation.

Drainage regime: A classification of the typical speed at which water inputs drain from the soil.

Driver: Any natural or human-induced factor that directly or indirectly causes a change in the environment.

Driving factor: Any natural or human-induced factor that directly or indirectly causes a change in the environment.

Duration: the period of time in which an effect may exist or remain detectable (i.e., the recovery time for a resource, species or human use).

Dyke: An earth embankment constructed to contain the water in the reservoir and limit the extent of flooding.

Ecological land classification: A process of delineating and classifying ecologically distinctive areas of the earth's surface based on surficial geology, landforms, soils, vegetation, climate, wildlife, water and human features. The dominance of any one or more of these factors varies with the given ecological land unit. This holistic approach to land classification can be applied incrementally on a scale-related basis from site-specific ecosystems to very broad ecosystems.

Ecosite type: A classification of site conditions that have important influences on ecosystem patterns and processes. Site attributes that were directly or indirectly used for terrestrial habitat classification included moisture regime, drainage regime, nutrient regime, surface organic layer thickness, organic deposit type, mineral soil conditions and permafrost conditions.

Ecosystem: A dynamic complex of plant, animal and micro-organism communities and their non-living components of the environment interacting as a functional unit (Canadian Environmental Assessment Agency).

Ecosystem diversity: The number of different ecosystem types and the distribution of area amongst them, at various ecosystem levels.

Ecosystem function: The outcomes of ecosystem patterns and processes viewed in terms of ecosystem services or benefits. Examples include producing oxygen to breathe, habitat for animals, purifying water and storing carbon.

Ecozone: A classification system that defines different parts of the environment with similar land features (geology and geography), climate (precipitation, temperature, and latitude), and organisms.

Edge effect: The effect of an abrupt transition between two different adjoining ecological communities on the numbers and kinds of organisms in the transition between communities as well as the effects on organisms and environmental conditions adjacent to the abrupt transition.

Effect: Any change that the Project may cause in the environment. More specifically, a direct or indirect consequence of a particular Project impact [ref]. The impact-effect terminology is a statement of a cause-effect relationship (see **Cause-effect linkage**). A terrestrial habitat example would be 10 ha of vegetation clearing (*i.e.*, the impact) leads to habitat loss, permafrost melting, soil conversion, edge effects, *etc.* (*i.e.*, the direct and indirect effects).

Effective habitat: An estimate of the percentage of habitat available to support individuals within a wildlife population after subtracting habitat alienated by human influences (*e.g.*, sensory disturbances). Human influences do not include physical habitat losses.

Emergent: A plant rooted in shallow water and having most of its vegetative growth above water.

Environmental assessment: Process for identifying project and environment interactions, predicting environmental effects, identifying mitigation measures, evaluating significance, reporting and following-up to verify accuracy and effectiveness leading to the production of an Environmental Assessment report. EA is used as a planning tool to help guide decision-making, as well as project design and implementation (Canadian Environmental Assessment Agency).

Environmental monitoring: Periodic or continuous surveillance or testing, according to a pre-determined schedule, of one or more environmental components. Monitoring is usually conducted to determine the level of compliance with stated requirements, or to observe the status and trends of a particular environmental component over time (Canadian Environmental Assessment Agency).

Environmental protection plan (EnvPP): A practical tool that describes the actions required to minimize environmental effects before, during and after project implementation. The plan may include details about the implementation of the mitigation measures identified in the environmental assessment, such as who is responsible for implementation, where the measures are intended to be implemented, and within what timeframe (Canadian Environmental Assessment Agency); description of what will be done to minimize the effects before, during and after project construction and operation. This includes protection of the environment and mitigation of effects from project activities.

Esker: A narrow ridge of sand or gravel, usually deposited by a stream flowing in or under glacial ice.

Eutric: A qualifier for classifying soils that have a relatively high degree of base saturation as indicated by their pH.

Evapotranspiration: The process by which water is transferred to the atmosphere through evaporation, such as plants emitting water vapour from their leaves.

Existing environment: The present condition of a particular area; generally included in the assessment of a project or activity prior to the construction of a proposed project or activity.

Fen: Peatland in which the plants receive nutrients from mineral enriched ground and/or surface water. Water chemistry is neutral to alkaline. Sedges, brown mosses and/or Sphagnum mosses are usually the dominant peat forming vegetation.

Fidelity: A dispersal method in which reproductive particles remain near their point of origin. The drive to stay on or near the site of birth.

Fine habitat type: The most detailed level in the hierarchical habitat classification used for the terrestrial assessment. From coarsest to finest, the levels in the habitat classification system are land cover, coarse habitat type, broad habitat type and fine habitat type.

Fire regime: The frequency, size, intensity, severity, patchiness, seasonality and type (*e.g.*, ground versus canopy) of fires in the Fire Regime Area.

Fire regime area: The terrestrial study area used to characterize the regional **fire regime**.

Fledge: A stage of development or process (**fledging**) for birds where a juvenile leaves the nest and attempts to fly.

Flooding: The rising of a body of water so that it overflows its natural or artificial boundaries and covers adjoining land that is not usually underwater.

Forb: A non-grassy **herbaceous** species.

Form: A shallow depression under low branches or beside trees, rocks, or shrubs, inhabited by snowshoe hare.

Fragmentation: Refers to the extent to which an area is broken up into smaller areas by human features and how easy it is for animals, plant propagules and other ecological flows such as surface water to move from one area to another. Fragmentation can isolate habitat and create edges, which reduces habitat for interior species and may reduce habitat effectiveness for other species. *OR* The breaking up of contiguous blocks of habitat into increasingly smaller blocks as a result of direct loss and/or sensory disturbance (*i.e.*, habitat alienation). Eventually, remaining blocks may be too small to provide usable or effective habitat for a species.

Generalist: A species with broad food or habitat preferences, or both.

Generating station: A complex of structures used in the production of electricity, including a powerhouse, spillway, dam(s), transition structures and dykes.

Glaciofluvial: Pertaining to streams fed by melting glaciers, or to the deposits and landforms produced by such streams.

Glaciolacustrine: Pertaining to lakes fed by melting glaciers, or to the deposits forming therein

Gleying: A soil condition that develops under long-term anaerobic, reducing conditions. These soils are generally grayish, bluish, or greenish in color and are characteristic of many water-logged soils.

Global change: Large-scale changes in environmental attributes such as climate, ground level ultra-violet radiation and ozone layer thickness.

Gradient: The rate at which a water level increases or decreases over a specific distance.

Graminoid: Grasses and grasslike plants such as sedges and rushes.

Granular: Composed of granules or grains of sand or gravel.

Groundwater: The portion of sub-surface water that is below the water table, in the zone of saturation.

Habitat: The place where a plant or animal lives; often related to a function such as breeding, spawning, feeding, etc.

Habitat alteration: Regarding terrestrial habitat, occurs when changes in one or more habitat attributes are large enough to convert a habitat patch to a different fine habitat type.

Habitat attribute: A readily definable and inherent characteristic of a habitat patch.

Habitat disturbance: Regarding terrestrial habitat, changes to a habitat patch that are not so large that they convert the patch to a different fine habitat type.

Habitat effect: Regarding terrestrial habitat, any change in a habitat attribute that results from the Project.

Habitat effectiveness: see **Effective habitat.**

Habitat loss: Conversion of terrestrial habitat into human features or aquatic areas.

Habitat patch: A defined geographic area where habitat attributes are relatively homogenous (*e.g.*, a map polygon).

Habitat recovery: Regarding terrestrial habitat in a temporarily affected area, the return to the habitat type that was there prior to the Project or to a similar habitat type through natural regeneration processes or rehabilitation measures.

Habitat zone Of influence: Spatial extent of direct and indirect Project effects on terrestrial habitat.

Habituate: To get used to something.

Hazard quotient: the ratio of “the average concentration of mercury being ingested” to a “known concentration where adverse effects may occur.”

Herbaceous: A plant that has leaves and stems that die down to the soil level at the end of the growing season and does not develop persistent woody tissue. Can also refer to the parts of a plant that die and are shed at the end of a growing season.

Herbivore: An animal that feeds predominantly on plants.

Hierarchical habitat classification: A habitat classification in which the categories at each level are subdivisions of the categories at the next more general level.

Horizontal peatland: Large, flat, featureless peatland; peat depth is generally intermediate to deep. May have a buried water layer.

Humic: Partially decomposed organic material that occurs on the soil surface (also **humus**) or has been incorporated into the soil profile by physical and biological processes.

Hydroelectric: Electricity produced by converting the energy of falling water into electrical energy (*i.e.*, at a hydro generating station).

Hydrosequence: A series of adjacent habitat types that have developed in response to strong gradients of depth to water table, surface and sub-surface water flow rates and soil water nutrient levels.

Ice regime: A description of ice on a water body (*i.e.*, lake or river) with respect to formation, movement, scouring, melting, daily fluctuations, seasonal variations, *etc.*

Impact: Essentially, a statement of what the Project is in terms of the ecosystem component of interest while a project effect is a direct or indirect consequence of that impact (*i.e.*, a statement of the cause-effect relationship). A terrestrial habitat example would be 10 ha of vegetation clearing (*i.e.*, the impact) leads to habitat loss, permafrost melting, soil conversion, edge effects, *etc.* (*i.e.*, the direct and indirect effects). Note that while *Canadian Environmental Assessment Act* requires the proponent to assess project effects, Manitoba legislation uses the terms impact and effect interchangeably. See also Effect.

Impact area: The geographic area encompassed by a particular Project impact.

Impermeable: Relating to a material through which substances, such as liquids or gases, cannot pass.

Impoundment: The containment of a body of water by a dam, dyke, powerhouse, spillway or other artificial barrier.

Incidental take: The accidental harming or destruction of a wildlife species or its habitat by humans (e.g., the inadvertent destruction of a nest).

Indicator species: A species that is closely correlated with a particular environmental condition or habitat type such that its presence, absence, or state of well-being can be used as indicator of environmental conditions. A species whose population size and trend is assumed to reflect the population size and trend of other species associated with the same geographic area and habitats.

Infrastructure: Permanent or temporary structures or features required for the construction of the principal structures, including access roads, construction camps, construction power, batch plant and cofferdams.

Inland peatland: A peatland that is beyond the direct influence of a water body's water regime and ice regime.

Inland wetland: A wetland that is beyond the direct influence of a water body's water regime and ice regime.

Invasive plant: A plant species that is growing outside of its country or region of origin and is out-competing or even replacing native organisms.

Invertebrates: Organisms lacking a backbone or vertebral column.

Invertivore: A species that feeds on invertebrates.

Keeyask Biophysical Study Area: The largest of the study areas defined for terrestrial assessment.

Keeyask Cree Nations: As a convenience to readers, all four communities are referred to in this document as the Keeyask Cree Nations (KCNs).

Key topic: A topic selected to focus the terrestrial effects assessment. Includes valued environmental components and key supporting topics.

Key supporting topic: A key topic that has a lower degree of concern than the valued environmental components and improves the reliability of the assessment.

Keystone species: A species that indirectly creates essential habitat attributes for another species. For example, cavities excavated by pileated woodpeckers are used by other species that cannot excavate cavities.

Lacustrine: Of or having to do with lakes, and also used in reference to soils deposited as sediments in a lake.

Land cover type: The most general level in the hierarchical habitat classification used for the terrestrial assessment. From coarsest to finest, the levels in the habitat classification system are land cover, coarse habitat type, broad habitat type and fine habitat type.

Landscape: The ecological landscape as consisting of a mosaic of natural communities; associations of plants and animals and their related processes and interactions.

Landscape configuration: The arrangement of landforms, waterbodies and vegetation types in a defined geographic area.

Landscape element: A particular sequence of broad habitat types that repeats itself throughout an area. Landscape elements are a reflection of strong environmental gradients that repeat themselves in the area. Toposequences and hydrosequences are examples of landscape elements.

Landscape level: The level in the mappable ecosystem hierarchy that is between the stand and the sub-region.

Landscape zone of influence: Spatial extent of direct and indirect Project effects on key topics where effects occur at the landscape level.

Latrine: muddy clearings among the forests and rocks that otters mark with scats.

LFH: A surface organic soil horizon primarily developed from the accumulation and decomposition of leaves, twigs and woody materials. LFH refers to the progressive stages of decomposition that typically increase from surface to depth, with the L layer being the least decomposed and the H layer being highly decomposed.

Life stage (of animals): One of the stages of life beginning with birth and progressing through larval or juvenile phases to sub-adult and adult phases.

Linear disturbance: The non-fatal effects of human linear features.

Loafing: a general state of immobility that involves a heterogeneous set of behaviors such as sleeping, sitting, standing, resting, preening, and defecating that occur outside the breeding territory.

Local effects area: The Project zone of influence for the ecosystem component of interest.

Local study area: The spatial area within which potential Project effects on individual organisms, or individual elements in the case of ecosystem attributes, may occur. Effects on the populations to which the individual organisms belong to, or the broader entity in the case of ecosystem attributes, were assessed using a larger regional study area; the spatial area in which local effects are assessed (i.e., within close proximity to the action where direct effects are anticipated).

Magnitude: A measure of the size of an effect. *Alternatively*, a measure of how adverse or beneficial an effect may be.

Marsh: A class in the Canadian Wetland Classification System which includes non-peat wetlands having at least 25% emergent vegetation cover in the water fluctuation zone.

Mesic: Characterized by, relating to, or requiring a moderate amount of moisture.

Metamorphosis: A change in the form and/or habits of an animal after the larval stage during its normal development; this is usually accompanied by a change in habitat and/or behaviour.

Midden: A small pile (as of seeds, bones, or leaves) gathered by a rodent. A large pile of cone scales discarded by red squirrels.

Mineral soil: Naturally occurring, unconsolidated material that has undergone some form of soil development as evidenced by the presence of one or more horizons and is at least 10 cm thick. If a surface organic layer (*i.e.*, contains more than 30% organic material or 17% organic carbon by weight) is present, it is less than 20 cm thick.

Mitigation: A means of reducing adverse Project effects. Under the *Canadian Environmental Assessment Act*, and in relation to a project, mitigation is "the elimination, reduction or control of the adverse environmental effects of the project, and includes restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means."

Model: A description or analogy used to help visualize something that cannot be directly observed. Model types range from a simple set of linkage statements or a conceptual diagram to complex mathematical and/or computer model.

Moisture regime: The usual amount of water available for plant growth during the growing season.

Mollusc: Animals in the phylum Mollusca, including snails (gastropods), clams and mussels (bivalves) and squids and octopuses (cephalopods).

Monogamous: The condition of having only one mate during a breeding season or during the breeding life of a pair.

Monitoring: Measurement or collection of data to determine whether change is occurring in something of interest. The primary goal of long term monitoring of lakes and rivers is to understand how aquatic communities and habitats respond to natural processes and to be able to distinguish differences between human-induced disturbance effects to aquatic ecosystems and those caused by natural processes; a continuing assessment of conditions at and surrounding the action. This determines if effects occur as predicted or if operations remain within acceptable limits, and if mitigation measures are as effective as predicted.

Moraine: An accumulation of boulders, stones, or other debris carried and deposited by the toe of a glacier.

Mottling: A soil condition soil that develops under periodic anaerobic, reducing conditions as indicated by irregular spots of different colors than the soil matrix and vary in number and size. Mottling generally indicates impeded drainage.

Multivariate techniques: Statistical or modeling techniques that capture the interrelationships between two or more factors.

Natal: Of, relating to, or present at birth.

Nematode: Slender, worm-like animals, typically less than 2.5 millimetres; roundworms of terrestrial, freshwater and marine ecosystems.

Neotropical: The biogeographic region of the New World that stretches southward from the Tropic of Cancer and includes southern Mexico, Central and South America, and the West Indies

Network linkage diagram: A schematic diagram that shows the states, driving factors, relationships and direction of flows in a complex system such as an ecosystem; a simple diagrammatic representation of a cause-effect relationship between two related states or actions that illustrates an impact model.

Neurotoxicity (neurotoxicological): Adverse effects on the structure or function of the central and/or peripheral nervous system caused by exposure to a toxic chemical, symptoms include muscle weakness, loss of sensation and motor control, tremors, cognitive alterations, and autonomic nervous system dysfunction.

Nocturnal: Active at night.

Non-native species: Species that are present in a specified region only as a direct or indirect result of human activity.

Non-Project driver: Any natural or human-induced factor unrelated to the Project that directly or indirectly causes a change in the environment.

Off-system: Water body or waterway outside of the Nelson River hydraulic zone of influence.

On-system: Waterbody or waterway inside the Nelson River hydraulic zone of influence.

Omnivore: Organisms that eat both plants and animals as their primary food source; generally opportunistic feeders not specifically adapted to eat and digest either meat or plant material exclusively.

Organic: The compounds formed by living organisms.

Organism: An individual living thing.

Paludification: Process beginning on mineral soils whereby vegetation (primarily sphagnum mosses) progressively creates a wetter moisture regime that eventually leads to the formation of a surface organic layer that expands laterally and vertically over time. It is the process whereby peatlands form on mineral uplands.

Parameter: Characteristics or factor; aspect; element; a variable given a specific value.

Parameterization: The step in building a numerical model where the variables to include are selected and parameter coefficients are estimated.

Parasites: An organism that lives in association with, and at the expense of, another organism, the host, from which it obtains organic nutrition.

Parent material: The unconsolidated mineral or organic material from which the soil develops.

Parturition: The process of giving birth.

Peatland: A type of wetland where organic material has accumulated at the surface.

Peat plateau bog: Ice-cored bog with a relatively flat surface that is elevated from the surroundings and has distinct banks.

Phylum (phyla): Taxonomic rank below the group known as a “Kingdom” and above that of a “Class”; a group of organisms with a certain degree of morphological or developmental similarity and/or with a certain degree of evolutionary relatedness.

Piscivore (piscivorous): An organism that feeds predominantly upon fish, including many species of birds, mammals and other fish.

Plant disturbance: Physical damage (*e.g.*, tree root damage from construction equipment traffic) or changes to plant condition (*e.g.*, berries made less desirable to berry pickers because road dust has settled on the berries).

Plant functional type: Genotypic limitations on the transformation of resources into growth and reproduction. Since these limitations change over long periods, the practical manifestation for the assessment was the species pool.

Polygon: An area fully encompassed by a series of connected lines.

Polyoestrous: Having more than one period of estrus (the period during which female animals are sexually responsive to males) in a year.

Population: A group of interbreeding organisms of the same species that occupy a particular area or space.

Post-project: The actual or anticipated environmental conditions that exist once the construction of a project has commenced.

Precocial: Covered with down and capable of moving about when hatched.

Primary productivity: The rate at which organic compounds are produced from atmospheric or aquatic carbon dioxide, principally through the process of photosynthesis, with chemosynthesis being much less important. All life on earth is directly or indirectly reliant on primary production.

Priority habitat: A native broad habitat type that is regionally rare or uncommon, highly diverse (*i.e.*, species rich and/or structurally complex), highly sensitive to disturbance, highly valued by people and/or has high potential to support rare plant species.

Priority plant: A native plant species that is rare, plays a highly disproportionate role in ecosystem function, is highly sensitive to Project features, or is highly valued by people.

Priority plant focal species: A plant species that was selected to represent potential Project effects on sparse priority plant species because sparse priority plant species were too infrequent in the field data to complete a quantitative analysis.

Priority mammal: see **Priority species**.

Priority species: A species or group of species that is particularly important for ecological/social reasons.

Project feature: Any Project physical impact or activity that changes the environment. Synonymous with “action” in the *Canadian Environmental Assessment Act*.

Project footprint: The maximum potential spatial extent of clearing, flooding and physical disturbances due to construction activities and operation of the Project, including areas unlikely to be used.

Project linkage: A causal linkage where a Project feature is the event. See also **causal linkage**.

Propagule: Any plant structure that performs a propagation or dispersal function.

Proxy area: Ecologically comparable areas previously exposed to impacts similar to those expected for the Keeyask Generating Station.

Push-up: A dome-shaped resting and feeding station built by muskrats by pushing vegetation and mud above holes in ice.

Rapids: A section of shallow, fast moving water in a stream made turbulent by totally or partially submerged rocks.

Raptor: Any of the group known as “birds of prey”, including eagles, hawks, owls, vultures and falcons.

Rare habitat mosaic: Coarse habitat mosaic comprising less than or equal to 1% of the mammal habitat in the sub-regional study area.

Rare habitat type: A broad habitat type that covers less than 1% of land area in the regional study area. See also **uncommon habitat type**.

Reach: A section, portion or length of stream or river.

Regime: The frequency, size, intensity, severity, patchiness, seasonality and sub-type of a periodic event or continual fluctuation.

Regional comparison area: The spatial area used to assess the potential significance of Project effects for the ecosystem component of interest.

Regional study area: The regional comparison area used for a particular key topic. Alternatively, the spatial area within which cumulative effects are assessed (*i.e.* extending a distance from the project footprint in which both direct and indirect effects are anticipated to occur).

Regionally rare habitat type: A broad habitat type that covers less than 1% of regional study area land area.

Relative abundance: The number of individuals of one species compared to the number of individuals of another species. The number of individuals at one location or time compared to the number of individuals at another location or time. Generally reported as an index of abundance.

Reptile: Cold-blooded animal of the Class Reptilia that includes tortoises, turtles, snakes, lizards, alligators and crocodiles.

Reservoir: A body of water impounded by a dam and in which water can be stored for later use. The reservoir includes the forebay.

Resident: With respect to wildlife, resident refers to a dwelling-place, such as a den, nest or other similar area or place, that is occupied or habitually occupied by one or more individuals during all or part of their life cycles, including breeding, rearing, staging, wintering, feeding or hibernating (Canadian Environmental Assessment Agency).

Residual effect: An actual or anticipated Project effect that remains after considering mitigation and the combined effects of other past and existing developments and activities.

Riparian: Along the banks of rivers and streams.

Riparian peatland: Peatland that borders a water body or waterway. The portion adjacent to the water is usually floating.

Risk characterization: evaluates the evidence linking site chemicals of potential concern with adverse ecological effects by combining information from the exposure and toxicity assessments.

Runnel: A narrow channel found where two slopes meet.

Scenario analysis: Essentially the process of asking a set of germane “what if?” questions and using conceptual and computer models to answers those questions to the best of our ability given the information available, potential mitigation measures and adaptive management options. Scenario analysis takes various forms such as comparing Project effects based on cautious versus expected assumptions or running numerical models using a range of assumptions for each driving factor.

Scope: An activity that focuses the assessment on relevant issues and concerns and establishes the boundaries of the environmental assessment (Canadian Environmental Assessment Agency).

Sentinel (or indicator) species: A species that is closely correlated with a particular environmental condition or habitat type such that its presence or absence can be used as an indicator of environmental

conditions. In the case of mercury, a top-level predator may be used to monitor the highest levels of mercury that may bioaccumulate in the organs and tissues of mammals.

Sensory disturbance: To upset the natural and especially ecological balance or relations of² due to auditory, olfactory or visual stimuli.

Seral: The series of relatively transitory [of brief duration] plant communities that develop during ecological succession [following in an order or sequence] from bare ground to the **climax** stage.

Shallow water: A class in the Canadian Wetland Classification System which includes open water areas that are typically less than 2 m deep, that may be periodically dewatered, and having less than 25% emergent vegetation cover.

Shallow peatland: A broad ecosite type which includes peatlands that typically have peat that is at least 100 cm thick, lack continuous or extensive discontinuous ground ice and have a water table that is typically more than 20 cm below the surface.

Shoreline wetland: A wetland where surface water level fluctuations, water flows and ice scouring are the dominant driving factors.

Shore zone: Areas along the shoreline of a waterbody including the shallow water, beach, bank and immediately adjacent inland area that is affected by the water body.

Site type: A plot or smaller area classification of site conditions that have important influences on ecosystem patterns and processes. Site attributes that were directly or indirectly used for habitat classification included moisture regime, drainage regime, nutrient regime, surface organic layer thickness, organic deposit type, mineral soil conditions and permafrost conditions.

Sparse species: A regionally rare species.

Staging: The tendency of migratory organisms to stop temporarily (**stage**) at a site during migration; **staging areas** are stop-over sites where, for example, migratory birds will rest, forage, and/or moult along the course of a migration route.

Stand: A relatively uniform area in terms of vegetation, vegetation age, soils and topography that ranges from approximately one to one hundred hectares in size

Stratigraphy: Scientific study of rock strata, especially the distribution, deposition, correlation and age of sedimentary rocks. Also can refer to the layering of materials or soil horizons at a location.

Study area: The geographic limits within which effects on a VEC (valued environmental component) or supporting topic is assessed.

Submergent: Plants that normally have all of their photosynthetic tissues under water.

Subnivean: A zone that is in or under the snow layer.

Substrate: the material forming the streambed; also solid material upon which an organism lives or to which it is attached. See also bed material.

Supporting topic: A Project assessment topic of concern that is of lesser interest than a VEC.

Taxa: Plural of taxon.

Taxon: A group of organisms that are treated as a classification unit. Usually a taxon is given a name and a rank, although neither is a requirement.

Taxonomy: The classification of organisms in a hierarchical system or in taxonomic ranks (*e.g.*, order, family, genus, species) based on shared characteristics or relationships inferred from the fossil record or established by genetic analysis.

Terrestrial: Belonging to, or inhabiting the land or ground.

Terrestrial habitat: Terrestrial habitats include forests and grasslands (among others). They are typically defined by factors such as plant structure (trees and grasses), leaf types (*e.g.*, broadleaf and needleleaf), plant spacing (forest, woodland, savannah) and climate.

Terrestrial habitat shoreline: The visible historical extent of water and ice regime effects on vegetation and overburden.

Terrestrial plant: Any plant adapted to grow on the land or areas with water that is typically shallower than 2 m.

Terrestrialization: The process whereby all or portions of a waterbody or waterway are filled in by organic sediment deposition and the horizontal expansion of peat from the shore towards the center of the waterbody or waterway.

Thin peatland: A fine type in the hierarchical ecosite classification that includes veneer bogs that occur on slopes or crests.

Threshold: A limit or level which if exceeded likely results in a noticeable, detectable or measurable change or environmental effect that may be significant. Example thresholds include water-quality guidelines, acute toxicity levels, critical population levels and wilderness criteria. See also benchmark. Or A limit of tolerance of a VEC to an effects, that if exceeded, results in an adverse response by that VEC..

Till: An unstratified, unconsolidated mass of boulders, pebbles, sand and mud deposited by the movement or melting of a glacier.

Topography: General configuration of a land surface, including its relief and the position of its natural and manmade features.

Toposequence: A series of adjacent habitat types that have developed in response to strong differences in moisture regime, site type and disturbance regime that are created by slope position.

Toxic: Containing or being poisonous material especially when capable of causing death or serious debilitation.

Toxicity reference value: the exposure limit or reference dose related to the desired level of protection that is to be given to ecological receptors. Typically expressed in the same units as referenced in the exposure analysis (*e.g.*, µg/kg body weight/day).

Trap nights (TN): The number of traps in a small mammal trapping block or trap set multiplied by the number of nights the traps were set at that location; *e.g.*, 100 traps x 3 nights = 300 trap nights.

Transect: A line located between points and then used to investigate changes in attributes along that line.

Transmission line: A conductor or series of conductors used to transmit electricity from the generating station to a substation or between substations.

Trophic: In ecology, **trophic level** describes an organism's position in the food chain.

Trophic level: one of the hierarchical strata of a food web characterized by organisms that are the same number of steps removed from the primary producers.

Tundra: Treeless plain characteristic of arctic and subarctic regions, with permanently frozen subsoil and dominant vegetation of mosses, lichens, herbs, and dwarf shrubs.

Umbrella indicator: An indicator for which changes represent changes for a broad group of species, several ecological pathways and/or an indicator of one or more other topics.

Uncertainty: For the purpose of the EIS, the lack of certainty or a state of having limited knowledge where it is difficult or impossible to exactly describe an existing state or a future outcome, or there is more than one possible outcome. In environmental assessment, uncertainty is not knowing, with high confidence, the nature and magnitude of environmental effects or the degree to which mitigation measures would prevent or reduce adverse effects.

Uncommon habitat type: A broad habitat type that covers between 1% and 10% of land area in the regional study area. See also rare habitat type.

Upland: A land ecosystem where water saturation at or near the soil surface is not sufficiently prolonged to promote the development of wetland soils and vegetation.

Valued environmental component: Any part of the environment that is considered important by the proponent, public, scientists and government involved in the assessment process. Importance may be determined on the basis of cultural values or scientific concern.

Vascular plant: Any plant which has specialized tissues for transporting sugar, water and minerals within the plant.

Vegetation structure type: Classification of the uppermost dominant vegetation layer within a defined area. The vegetation structure types used in the upland and inland peatland habitat assessment are forest, woodland, sparsely treed, tall shrub, low vegetation, sparse and barren.

Veneer bog: Bogs with thin peats (*i.e.*, generally less than 1.5 m thick) that generally occurs on gentle slopes and contain discontinuous permafrost).

Waterbody: An area with permanent surface water

Wetland: A land ecosystem where periodic or prolonged water saturation at or near the soil surface is the dominant driving factor shaping soil attributes and vegetation composition and distribution. **Peatlands** are a type of wetland.

Wetland function: Can either refer to one of the functions performed by a wetland or be a collective term for all of the wetland functions. See also **Ecosystem function**.

Zone Of Influence: The spatial areas outside of the Project Footprint where direct and indirect effects occur. The location and size of the zone of influence varies for each ecosystem component of interest.