

Glossary

Words in Italics are defined or explained elsewhere in the glossary.

Abiotic factor: may be defined as factors that are non-biological that influence an outcome such as pH, temperature, humidity etc.

Alluvial: Describing something related to sediment deposited by moving water, such as alluvial deposits.

Anthrax: A highly contagious and often lethal bacterial disease that is caused by *Bacillus anthracis*. It afflicts cattle and sheep and can be transmitted to humans via infected raw meat, blood, or other fluids. Anthrax causes high fever, convulsions, and lung lesions.

Aquifer: A layer of rock or soil that holds or transmits *groundwater*.

Bioclimatic Zone: A major ecological region corresponding to a particular climate zone, with characteristic plants and animals (i.e. tundra or boreal forest).

Biodiversity (biological diversity): The term describing the variety of life on Earth. It refers to all animals, plants, and micro-organisms in terrestrial, freshwater, and marine ecosystems. It includes three levels: species, ecosystem and *genetic diversity*.

Boreal Forest: A forest made up mostly of conifers, such as spruce, forest and pine, and reaching across North America from Newfoundland to Alaska.

Calcareous: Containing calcium or calcium carbonate (lime), as an alkaline soil.

Degree Days: The difference, in Celsius degrees, between the air temperature for a given day (usually the mean daily temperature) and an established reference temperature.

Growing degree-days are used as an index of growth potential in agriculture and are commonly calculated as the number of Celsius degrees by which the mean daily air temperature exceeds 5 °C. Calculation of Growing-Degree Days: Measure the mean temperature for a day. Every degree above degrees C is equal to one growing-degree day. For example, if the mean temperature on a given day is 15 °C, this would convert to 10 growing-degree days. If the Yukon experienced 100 consecutive days with a mean temperature of 15 °C, this would convert to a total of 100 x 10 = 1000 growing-degree days for that period.

Dioxins and Furans: Dioxin is the popular name for a class of *organochlorine compounds* known as polychlorinated dibenzo-p-dioxins. Furans (polychlorinated dibenzofurans) are also organochloride compounds. Only a few of these compounds are highly toxic. Dioxins and furans are formed either as by-products during some types of chemical production that involve chlorine and high temperatures or during combustion where a source of chlorine is present. Dioxins can occur in airborne particulate (anything that can be filtered from the air) incinerators that burn trash containing chlorinated compounds, when organic matter is burnt, and in exhaust from diesel engines.

Ecoregion: For land areas, ecosystem units defined in the ecological land classification system in Canada; for marine areas, *ecosystem* units defined in the marine ecological classification system for Canada. For both systems, ecozones are the largest units. These are subdivided into progressively smaller units based on ecological characteristics such as climate, soil or water properties, and

wildlife. Each ecozone is subdivided into ecoregions.

Ecosystems: A dynamic complex of organisms, including humans and their physical environment, interacting as a functional unit. Ecosystems are spatially explicit and vary in size and composition. The term may be applied to a unit as large as the entire ecosphere or to smaller divisions like the Arctic or even small lakes. In its broadest sense, an ecosystem includes environmental, social, and economic elements. The root words of ecosystem are *eco*, a derivative of the Greek term for house or home, and *system*, which addresses the relationship and connections between the biological and physical parts.

El Niño: El Niño is a disruption of the ocean-atmosphere system in the tropical Pacific having important consequences for weather around the globe. This event occurs approximately every four years, but can occur more frequently. (<http://www.pmel.noaa.gov/toga-tao/el-nino/nino-home.html>).

Endangered: In this report, this term refers to an official designation assigned by the Committee on the Status of Endangered Species in Canada (COSEWIC). The designation is assigned to any indigenous species, subspecies, or geographically separate population that is at risk of imminent extinction or extirpation throughout all or a significant portion of its Canadian range. See also *extinct*, *extirpated*, *threatened* and *vulnerable*.

Eutrophication: The gradual increase in nutrients in a body of water. Natural eutrophication is a gradual process, but human activities may greatly accelerate the process.

Evapotranspiration: Loss of water by evaporation from the soil and transpiration from plants.

Extinct: In this report, this term refers to an official designation assigned by the Committee on the Status of Endangered Species in Canada (COSEWIC). The designation is assigned to any indigenous species, subspecies, or geographically separate population formerly indigenous (native) to Canada that no longer exists anywhere. See also *endangered*, *extirpated*, *threatened* and *vulnerable*.

Extirpated: In this report, this term refers to an official designation assigned by the Committee on the Status of Endangered Species in Canada (COSEWIC). The designation is assigned to any indigenous species, subspecies, or geographically separate population no longer existing in the wild in Canada but occurring elsewhere. See also *endangered*, *extinct*, *threatened* and *vulnerable*.

Genetic diversity: The infinite variation of possible genetic combinations among individuals within breeding populations, between breeding populations and within species. Genetic diversity is what enables a species to adapt to ecological change.

Ground water: Water occurring below the ground surface, which may supply water to wells and springs. Groundwater occupies pores, cavities, cracks, and other spaces in bedrock and unconsolidated surface materials, and is free to move by gravity. See *aquifer*.

Habitat: The place or type of site where plant, animal, or micro-organism populations normally occur. The concept of habitat includes the characteristics of that place (such as climate, the availability of water,

nutrients and shelter) which make it especially well suited to meet the life cycle needs of the particular organism or population.

Hydrocarbons: An organic molecule which consists only of carbon and hydrogen atoms, and no other elements.

Ice cores: Similar to lake sediment cores, but recovered using an ice drill from high altitude glaciers. A variety of chemical analysis methods allow scientists to determine past climate conditions.

Lake sediment cores: Mud and organic material recovered from the bottom of lakes using long tubes. These cores provide information about past climates from the chemical, plant and animal remains in the sediments. Since these sediments are deposited over time, and are relatively undisturbed, it is possible to construct a chronology of past climate and environments.

Lichen: A mutualistic association of a fungus and photosynthetic organism, either a unicellular alga or a cyanobacterium.

Long range atmospheric transport: The process whereby contaminants (especially *organochlorine compounds* and metals) through effluents or from evaporation from soils or water bodies, move through the Earth's atmosphere and return to the Earth at a different location attached to dust particles, rain or snow. The contaminants then move through *ecosystems* and often accumulate through the food chain. Also refers to movements of contaminants through the oceans.

Organochlorine compounds: Chlorine-containing organic compounds, which may contain oxygen and other elements, such as phosphorous. The term includes many pesticides and industrial

chemicals. Examples are *dioxins* and *furans*, PCB's, DDT, and *toxaphene*. Many of these kinds of compounds tend to be persistent, meaning that they do not break down easily in *ecosystems*.

Permafrost: A permanently frozen layer of soil underlying the Arctic tundra and northern boreal forest bioclimatic zones (<http://www.geodata.soton.ac.uk/ipa/>).

Plankton: Small (often microscopic) plants and animals floating, drifting or weakly swimming in bodies of fresh or salt water, and serving as food for fish and other larger organisms.

Plume: The movement of water along flow lines from a point source of ground water pollution toward its eventual emergence at the surface.

Protected Area: An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other means (IUCN).

Reclamation: The combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, erosion, and other adverse effects from surface mining operations, including adverse surface effects incidental to underground mines, so that mined or developed lands are reclaimed to a usable condition which is readily adaptable for alternate land uses and creates no danger to public health or safety. The process may extend to affected lands surrounding mined lands, and may require backfilling, grading, resoiling, revegetation, soil compaction, stabilization, or other measures.

Riparian: On, or pertaining to, the banks of a stream. (As in riparian vegetation or riparian woodland).



Pertaining to the banks and other adjacent terrestrial (as opposed to aquatic) environs of freshwater bodies, watercourses, and surface-emergent aquifers (e.g. springs, seeps, oases), whose imported waters provide soil moisture significantly in excess of that otherwise available through local precipitation – soil moisture to potentially support a mesic vegetation distinguishable from that of the adjacent more xeric upland.

Salmon “Fry”: Life stage of salmon (and also of trout) between full absorption of the yolk-sac and a somewhat arbitrarily defined fingerling (young fish, usually in its first or second year and generally between two and 25 centimeters long) stage, which generally is reached by the end of the first summer.

Sedge: Plants that look a bit like grasses, but they belong to a different plant family, the Cyperaceae. Most grasses have stems that are round in cross section, while the stems of sedges are triangular in cross-section, thus you can remember the difference with the rhyme “sedges have edges.”

Seismology: The study of earthquakes, and of the structure of the Earth by both natural and artificially generated seismic waves.

Sunspot cycle: Every 11 years the sun undergoes a period of activity called the “solar maximum”, followed by a period of quiet called the “solar minimum”. During the solar maximum there are many sunspots and solar flares, which can affect communications and weather on Earth (<http://www.sunspotcycle.com/>).

Tailings: Material rejected from a mill after most of the recoverable valuable minerals have been extracted. Tailings are generally finely ground rock

particles that are transported as a water slurry to a storage area, known as a tailings pond, at the mine site. Usually the tailings composition is similar to the parent ore body and may therefore contain metals, sulphides or salts.

Threatened: In this report, this term refers to an official designation assigned by the Committee on the Status of Endangered Species in Canada (COSEWIC). The term describes any indigenous species, subspecies or geographically separate population that is likely to become *endangered* in Canada if the factors affecting its vulnerability are not reversed. See also *endangered*, *extinct*, *extirpated* and *vulnerable*.

Topography: Configuration of a surface, including its relief and the position of natural and human-made features.

Toxaphene: C₆H₁₀Cl₈; toxic *organochlorine compound* used as an insecticide on cotton fields. Also used to kill unwanted fish in lakes prior to lake stocking. No longer used in Canada, but still used in other parts of the world. Generally the main organochlorine compound found in Yukon fish tissues from *long range atmospheric transport*.

Vulnerable: In this report, this term refers to an official designation assigned by the Committee on the Status of Endangered Species in Canada (COSEWIC). The term describes any indigenous species, subspecies or geographically separate population that is particularly at risk because of low or declining numbers, small range, or some other reason but is not a threatened species. See also *endangered*, *extinct*, *extirpated* and *threatened*.

Watershed: an area of land that drains naturally into a stream or other waterway.

Wetlands: lands in which the water table is at, near or above the land surface or which is saturated for a long enough period to promote wetland or aquatic processes as indicated by hydric (saturated) soils, hydrophytic (water loving) vegetation, and various kinds of biological activity that are adapted to the wet environment. Includes fen, bog, swamp, marsh and shallow open water.

Wilderness: Means an area where human activity has not significantly changed the environment or the ecosystem. It includes an area restored to natural condition. The *Yukon Environment Act* recognizes wilderness as a natural resource with ecological as well as economic value.

References

Many sources of information were used during the development of this report. Examples are: government records, maps and databases; information provided by scientists regarding past and ongoing studies; unpublished reports; published books and reports; articles from scientific journals; opinions of experts (including scientists, government officials and community elders).

Elders words quoted in the text, unless otherwise noted, are from transcripts of Elders' Traditional Knowledge Workshop held October 13-14, 1999 with the assistance of the Council of Yukon First Nations.

Numbered References and Sources of Data for Figures



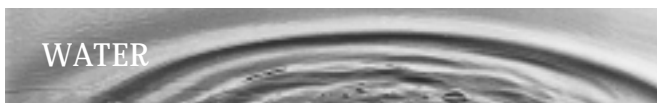
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- Figure 1.5 Annual Variation in Summer Precipitation
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- Figure 1.6 Mean summer temperatures at Old Crow and Shingle Point
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- Figure 1.7 Mayo, Whitehorse, Burwash Landing
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- Figure 1.8 Growing degree days in Mayo
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- Figure 1.10 Annual precipitation. Mount Logan ice core
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- Figure 1.17 Available Forage: Porcupine Caribou Habitat.
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- Figure 1.18 Snow cover and litters of squirrels.
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- Figure 2.3 Seasonal variation in flow of the Yukon River
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- Figure 2.5 Water Allocation by Sector

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- Figure 2.6 Water use

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Figure 2.11 Petroleum Spills, 1983-1998

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Figure 3.1 Wilderness areas in the Yukon Territory
Analysis conducted for this report by Applied Ecosystem Management, 1999. Available data were incorporated onto 1:250,000 NTS maps and transferred to Geographical Information System.

Figure 3.2 Percentage of area of wilderness by Ecoregion

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