

16.0 Glossary of Terms

Absolute Operating Level:	A water level expressed in meters above sea level that cannot be exceeded on a reservoir lake or generating station forebay. It is defined in the "License of Occupation", "Land Use Permit" or "Water Power Lease" as the legal maximum. This maximum elevation cannot be exceeded without permission from the Ministry of Natural Resources.
Active Storage:	The volume of water contained between the maximum and minimum operating level within a reservoir.
Aquatic Ecosystem:	Any body of water, such as a stream, lake or estuary, and all organisms and non-living components within it, functioning as a natural system.
Aquatic Habitat:	Habitat that occurs in free water.
Backwater Effects:	An increase in water level caused by a downstream obstruction.
Base Load:	The minimum continuous amount of power required over a long period of time (minimum of one month).
Bathymetry:	The science of measuring water depths in order to determine bottom topography.
Benthic:	The region of the shore and the bottom of waters, benthic (as noun) or benthic zone (Gr. <i>benthos</i> depth).
Best Effort Basis:	Use of all means available to achieve a goal.
Booming Out:	Gathering of logs that have been floating down the river into a boom for collection and removal.
Capacity:	The greatest load which a unit, station or system can supply. Capacity is usually measured in kilowatts, megawatts, etc.
Channel:	A long, deep portion of a river or other waterway through which water and sediment flow.
Compensation Water:	That fraction of stream flow released through a hydroelectric dam specifically to meet the needs of downstream users.
Confluence:	(1) The act of flowing together; the meeting or junction of two or more streams; also, the place where these streams meet. (2) The stream or body of water formed by the junction of two or more streams; a combined flood.
Dam (noun):	A concrete or earthen barrier constructed across a river and designed to control water flow or create a reservoir.
De-control:	The reduction of market share so as to relinquish control of the market.

Demand:	In the electrical industry, “demand” is often used synonymously with “power” which is the rate at which electric energy is delivered at a given instant or averaged over some designated period of time. It is expressed in kilowatts, megawatts, etc.
Diversion:	The transfer of water from a stream, lake, aquifer, or other source of water by a canal, pipe, well, or other conduit to another watercourse or to the land, as in the case of an irrigation system.
Drainage Basin:	The area of land over which all runoff flows into the same river.
Drawdown:	The release of water from a reservoir for power generation, flood mitigation, irrigation or other water management activity.
Drawdown Zone:	Reservoir regions alternately exposed and submerged due to water level fluctuations.
Drought:	Reduced natural inflows that do not permit maintaining minimum flow requirements. Prior permission is required from MNR to reduce the reservoir level below the legal minimum.
Ecology:	The study of the relationship of organisms to their environment (Gr. <i>eikos</i> house, <i>logos</i> discourse).
Ecosystem:	The biological community considered together with the land and water that make up its environment. Or a unit comprising interacting organisms considered together with their environment.
Energy Emergency:	A period when all committed and available resources are unable to supply sufficient power to meet the demand. At this point, voluntary constraints may be deviated from, in attempts to minimize power interruptions.
Entrainment:	The incidental trapping of fish and other aquatic organisms in the water, for example, water used for cooling electrical power plants or being diverted for flood mitigation.
Environmental Assessment (EA):	A systematic analysis of site-specific activities used to determine whether such activities have a significant effect on the quality of the human environment and whether a formal environmental impact statement is required.
Erosion:	Wearing away of rock or soil by the gradual detachment of soil or rock fragments by water, wind, ice, and other mechanical, chemical, or biological forces. Erosion is accelerated when there are no plant roots holding soil in place.
Flood:	Increased natural inflows that necessitate the use of the flood storage to mitigate flooding downstream. Prior permission is required from MNR to increase the reservoir level above the legal maximum.
Flood Frequency Curve:	A graph of annual flood peaks usually ranked in descending order and their frequency of exceedence. The graph may be interpreted as the probability of a certain discharge occurring in a given year. The annual flood frequency curve describes a sample of peak annual events only and is often misinterpreted as representing all floods.

Flow Regime:	A range of possible flow levels or conditions in a watercourse.
Forebay:	The part of a dam's reservoir that is immediately upstream from the powerhouse.
Freshet:	High flows caused by snow melt, run-off, heavy rains or high inflows.
Fry:	A stage of development in young fish (i.e. salmon or trout). During this stage the fry is usually less than one year old, has absorbed its yolk sac, is rearing in the stream, and is between the alevin and parr stage of development.
Generation:	Act or process of producing electric energy from other forms of energy. Also refers to the amount of electric energy so produced.
Generator:	A machine that changes water power, steam power, or other kinds of mechanical energy into electricity.
Habitat:	The local environment in which an organism normally lives and grows. Food, water, shelter, and space together make up an organism's habitat. Without any one of these four things, the organism would not be able to survive.
Head:	The difference in elevation between water levels upstream and downstream of a dam.
Headgate:	The gate that controls water flow into a hydroelectric dam.
Headwater:	The section of a river or stream with the highest elevation above sea level.
Headworks:	The flow control structure of a hydroelectric dam.
Juvenile:	Fish from one year of age until sexual maturity.
Leakage:	Small amounts of water that leaks past sealing surfaces of stoplogs and gates. The intent is to minimize leakage.
Littoral:	Shallow zone of a lake or river in which light penetrates to the bottom permitting plant growth.
Low Flow:	The periodic decline in a river's water level as a result of reduced precipitation.
Macrophytes:	Large plants (Gr. <i>macros</i> great, <i>phyton</i> plant).
Mainstem:	The unimpeded, main channel of a river.
Maximum Operating Level:	The highest level to which water in a reservoir can rise under normal operating conditions.
Megawatt (MW):	A megawatt is one million watts or one thousand kilowatts, a measure of electrical power or generating capacity.

Megawatt-hour (MWh):	A unit of electrical energy equal to one megawatt or power applied for one hour.
Mining Reservation Contour	An impervious clay core installed upon which the dam was constructed.
Ogee-Crested Dam:	The word ogee describes the shape of the curve, in profile or section, on the crest of the dam. The shape is a reverse curve, similar to the letter "S", but elongated. The shape is intended to match the natural shape of flowing water. The downstream faces of overflow dams are often made in this shape as shown below.
Peak Demand:	The maximum rate of energy consumption that occurs within a given period of time. Peak demand can refer to the maximum demand placed on a system as a whole, individual parts of a system, or individual customers or applications.
Peaking Capacity: (Peaking Station)	Generating stations that are normally operated only to provide power during maximum load periods.
Power Grid:	The network of conductors, their support towers, transformers, switches and other devices used to convey electrical energy from all the generating stations to the local electrical system which distributes power to the consumer.
Powerhouse:	A primary part of a hydroelectric dam where the turbines and generators are housed and where power is produced by falling water rotating turbine blades.
Predation:	A relationship where one organism eats another for food. One species benefits by getting food. The other species is killed.
Rapids:	A reach of stream that is characterized by small falls and turbulent high velocity water.
Reach:	Any length of river under study, with definable features.
Reasonable Effort Basis:	Use of all reasonable means available to achieve a goal, taking into account safety and natural conditions.
Recruitment:	The amount of fish added to the exploitable stock each year due to growth and/or migration into the fishing area. For example, the number of fish that grow to become vulnerable to the fishing gear in one year would be the recruitment to the fishable population that year. This term is also used in referring to the number of fish from a year class reaching a certain age. For example, all fish reaching their second year would be age 2 recruits.
Reserve Capacity:	The amount by which the total system capacity exceeds the peak demand within a given time period. Some reserve is required to maintain system reliability in anticipation of unexpected high demands or equipment failures. Planning reserve is the amount by which system capacity is placed to exceed forecast annual peak demand. The absolute amount of reserve capacity is usually expressed in MW; when expressed as a percentage of expected peak demand, the term "reserve margin" usually applies.

Reservoir:	A body of water collected and stored in an artificial lake behind a dam.
Riparian:	Along the banks of rivers and streams.
Riparian Area:	An area of land and vegetation, adjacent to a stream that has a direct effect on the stream. This includes woodlands, vegetation, and floodplains.
River:	A body of moving water, usually larger than a stream. Rivers flow until they empty into a larger river or other body of water, such as a bay or ocean.
Riverine:	Relating to, formed by, or resembling a river including tributaries, streams, brooks, etc.
Run-of-the-River:	A power plant that has no upstream storage capacity and must pass all flows as they come.
Runoff:	Water that flows over the ground and reaches a stream as a result of rainfall or snowmelt.
Shoreline:	The line of contact between the land and a body of water.
Siltation:	The deposition or accumulation of fine soil particles.
Sluiceway:	An open channel designed to divert excess water. This could be within the structure of a hydroelectric dam or separate of the main dam (see Spillway).
Spawn:	The act of reproduction of fishes. The mixing of the sperm of a male fish and the eggs of a female fish.
Species:	A group of closely related individuals that can interbreed and produce fertile offspring.
Spill:	Releasing water through the spillway rather than through the turbine units.
Spillway:	The channel or passageway around or over a dam through which excess water is released or “spilled” past the dam without going through the turbines. A spillway is a safety valve for a dam and, as such, must be capable of discharging major floods without damaging the valve for a dam and, as such, must be capable of discharging major floods without damaging the dam, while maintaining the reservoir level below some predetermined maximum level.
Spillway Gates: (or Sluiceways)	Gates used to regulate the flow of water through an opening. They are usually used to pass water over or around dams.
Stagnation Period:	The period of time in which through warming (or cooling) from above, a density stratification is formed that prevents a mixing of the water mass (Lat. <i>stagnum</i> a piece of standing water).
Stop Logs:	A gate which can be placed into an opening to shut off or regulate the flow of water. The gate is not permanently connected to a lifting device, and is sometimes made from squared timber, hence the term log.

Storage Capacity:	The volume of water contained between the maximum and minimum allowable levels within a reservoir.
Subsistence Fishing:	Engagement in fishing for the purpose of livelihood.
Summer Band:	Existing voluntary constraint that defines the summer operating range.
Tailrace:	A canal or channel that carries water away from a hydraulic generating station.
Tailwater:	The water from a generating station after it has passed through the turbine.
Trapline:	The route, usually a narrow trail, along which a fur trapper lays his traps.
Turbine:	A mechanism in a hydroelectric dam that rotates with the force of water and produces electricity.
Turbulence:	Unorganized movement in liquids and gases resulting from eddy formation (Lat. <i>turba</i> disorder).
Walleye Health:	<p><u>Unhealthy Population</u>: An unhealthy population is characterized by having no walleye in the catch that is older than 13 years, less than 6 age classes in the age composition, a Shannon diversity index of less than .5, a population rate of increase where $r = 2.79$ and having geometric mean catches of walleye $\geq 450\text{mm}$ total length $< 2.0 \cdot \text{net}^{-1}$ and MSY biomass < 0.</p> <p><u>Stressed Population</u>: A stressed population is characterized by having walleye > 13 years of age, greater than 6 age classes, a Shannon diversity index $> .5$, a population rate of increase where $r > 2.79$ and having geometric mean catches of walleye $\geq 450\text{mm}$ total length $< 2.0 \cdot \text{net}^{-1}$ and MSY biomass < 0.</p> <p><u>Healthy Population</u>: The only difference between a healthy and a stressed population is having geometric mean catches of walleye $\geq 450\text{mm}$ total length $> 2.0 \cdot \text{net}^{-1}$ and MSY biomass < 0.</p>
Waterfowl:	Birds that swim and live near water, including ducks, geese, and swans.
Watershed:	An area of land that its total surface drainage flows to a single point in a stream or river.
Weir (dam):	A dam in a river to stop and raise the water, for the purpose of conducting it to a mill, forming a fishpond, or the like. When uncontrolled, the weir is termed a fixed-crest weir. Other types of weirs include broad-crested, sharp-crested, drowned, and submerged.
Wildlife:	Mammals and birds, game and non-game species that are not domesticated.
Young-of-the-Year:	Fish that hatched during the year under discussion or the year when caught.