Glossary of Technical Terms

Accretion: The gradual addition of new material on top of older sediments or soils.

Acre-foot: The volume of liquid required to cover one acre to a depth of one foot.

Accuracy: The closeness of measured values to the true value (as opposed to precision).

Advanced Treatment Technologies: Biological and chemical treatment technologies designed to reduce phosphorus levels in stormwater.

Adverse impact: The detrimental effect of an environmental change relative to desired or baseline conditions.

Agricultural privilege tax: An annual tax levied on farming activities in both the Everglades Agricultural Area and C-139 basins to support Phase 1 of Everglades restoration.

Analyte: A chemical species measured in a water sample.

Apple Snails: A gastropod mollusk (*Pomacea paludosa*) commonly found in shallow, wetland environments in South Florida. It is the primary food of the endangered Everglades snail kite.

Aquifer: A porous layer in the ground where water can be stored.

Baseline Period: A specified period of time during which collected data are used for comparisons with future data.

Benthic: Bottom-dwelling, such as benthic insects.

Best Management Practices: Land, industrial and waste management techniques that reduce pollutant loading from an industry or land use.

Bioaccumulation: In living organisms, a great increase in the concentration of certain chemicals (such as pesticides and metals) over the amount to which the organisms are exposed in their environment.

Biogeochemistry: The study of the form, fate and movement of elements through biological, geological and chemical materials.

Biomass: The weight of living material, usually as dry mass.

Bulk density: The mass of soil in a given volume.

CERP: Comprehensive Everglades Restoration Plan. A long-term series of more than 60 regional projects designed to restore the health, integrity and beauty of the South Florida environment. The plan was authorized as Title VI of the 2000 Water Resources Development Act and will vastly increase storage and water supply for the natural system, as well as for urban and agricultural needs while maintaining current Central and Southern Florida Project purposes.

Chlorophyll: In plants, green pigments essential for photosynthesis.

Conductance: The ability of an aqueous solution to carry an electric current; used as a measure of total dissolved solids.

Cubic hectometer: A unit of measure (hm^3) used for large volumes and equivalent to 1,000,000 cubic meters (a cube 100 X 100 X 100 m).

Decomposition: The action of microorganisms causing both the breakdown of organic compounds into simpler ones and the release of energy.

Discharge: The rate of water movement, as volume per unit time (cubic feet or cubic meters per second).

Dissolved organic carbon: The organic fraction of carbon in water that is dissolved (not filterable).

Emergent macrophytes: Rooted vascular plants that extend above the water surface in inundated areas.

Eutrophication: The natural or cultural enrichment of an aquatic environment with plant nutrients, leading to rapid ecological changes and high productivity (adj. - eutrophic).

Evapotranspiration: The process by which water is released to the atmosphere by evaporation from the water surface or movement from a vegetated surface (transpiration).

Everglades Stormwater Program: A program to ensure that water quality standards are met at all structures not included in the Everglades Construction Permit.

Everglades Trust Fund: A fund created by the law (Ch. 97-258) to support ecosystem restoration.

Excursion in water quality: A constituent concentration that is of potential concern as an apparent violation of a water quality criterion. "Excursion" indicates some uncertainty in the interpretation of the reported value that must be evaluated by examination of background conditions, ancillary data, quality assurance and historic data before the datum is considered an exceedance or "violation" of a water quality criterion. The Florida Department of Environmental Protection is responsible for data review to determine violations of water quality criteria and standards.

Exotic or invasive species: Types of plants and animals not typically found in an area. Often, such species are highly invasive and can dominate native species. Examples of exotic species in South Florida include cichlid fishes, melaleuca, Brazilian pepper, Australian pine and torpedograss.

Fauna: All animal life associated with a given habitat.

Flora: All plant life associated with a given habitat.

Flow: The rate of movement of water, expressed as volume discharged from a source in a given time period.

Flow-weighted mean concentration: The average concentration of a substance in water corrected for the volume of water flow at the time of sampling; samples taken when flow is high are given greater weight in the average. Flow-weighted concentrations can be used to calculate mass loading at a particular location.

Hectare: A unit of measure in the metric system equal to 10,000 square meters (2.47 acres).

Hydraulic residence time: The length of time that water resides in a body of water or specified area.

Hydropattern: Water depth and duration, along with the quantity, timing and distribution of surface water to a specific area; critical for maintaining various ecological communities in wetlands.

Hydroperiod: The depth and duration of inundation in a particular wetland area.

Invertebrates: Small animals, such as insects, crayfish, mollusks and annelids, that do not have a backbone. These animals are often important components of ecosystem food webs and can be indicators of ecosystem health.

Loading (mass loading): The mass of a material entering an area per unit time (e.g., phosphorus loading into Water Conservation Area 2A as metric tons per year).

Macrophytes: Visible plants (e.g., sawgrass, cattails, sedges and lilies) found in aquatic environments.

Median: The middle value in a set of ordered data. The median is used often to express the typical (average) value of a group of water quality data because the median is less influenced than the arithmetic average by rare and extreme values routinely seen in such data.

Methylmercury: A highly toxic form of the heavy metal mercury that is readily accumulated by living organisms. Inorganic mercury is converted to methylmercury by sulfur bacteria in aquatic sediments, such as those that are present in Everglades marshes.

Minimum flows and levels: Florida Statutes require the state's water management districts to set water levels for each major body of water "at which further withdrawals would be significantly harmful to the water resources or ecology of the area…."

Moving average: The arithematic average of a sequence of data within a data set, moved and calculated sequentially to smooth the data and reveal trends (e.g., 12-month moving average TP concentration).

Muck soil: Dark, organic soil derived from the decay of plant biomass.

Nutrients: Elements that are essential as raw materials for the growth of an organism. In aquatic environments, nitrogen and phosphorus are important nutrients that affect the growth rate of plants.

Oligotrophic: Refers to an environment low in plant nutrients and productivity; unenriched.

Parameter: A variable or constant representing a characteristic of interest (e.g., conductance is a water quality parameter). Use of this term is highly subjective and varies greatly across disciplines.

Parts per billion (ppb): Equivalent to one microgram per liter (μg/L).

Parts per million (ppm): Equivalent to one milligram per liter (mg/L).

Parts per trillion (ppt): Equivalent to one nanogram per liter (ng/L).

Periphyton: The biological community of microscopic plants and animals attached to surfaces in aquatic environments. Algae are the primary component in these assemblages, and periphyton can be very important in aquatic food webs, such as those of the Everglades.

Phosphorus: An element that is essential for life and can promote the growth of algae in water.

Precision: The degree of reproduceability of a measurement (low precision yields high scatter in data).

Pyropattern: The extent and frequency of fires across a landscape.

Quality assurance: A program to provide a means for a product to meet a defined set of quality standards at a specified level of confidence.

Quality control: Steps taken to ensure that quality standards are met.

Sheet flow: The movement of water as a broad front with a shallow, uniform depth.

Species richness: The number of species occuring in a particular area for a specified sampling period.

Regulatory Action Strategy: A suite of projects and programs being developed to address water quality concerns for structures outside the Everglades Construction Project permit.

Scientifically defensible: Information that is supportable using accepted scientific methods of data collection and analysis.

Soil or peat subsidence: The loss of organic soil and associated elevation due to decomposition, compaction and burning. This process occurs at a high rate when peat soils of the Everglades region are drained.

Stormwater Treatment Area (STA): A large, constructed wetland designed to remove pollutants from stormwater runoff.

Supplemental technologies: Advanced wastewater treatment techniques that have the potential to supplement STAs and reduce phosphorus to levels of about 10 ppb.

Total maximum daily load: The maximum allowed level of pollutant loading for a water body to protect its uses and maintain complicance with water quality standards defined in the Clean Water Act.

Trophic level: Distinct, definable levels at which groups of organisms are using or producing energy in Nature. Plants are the lowest trophic level and are the primary producers of biological energy. Grazing and detritus-feeding animals are in the intermediate trophic level. Predators such as bass, wading birds and raccoons are in the higher trophic level. Metals, such as mercury, accumulate at higher trophic levels, but most energy in Nature is stored in lower trophic levels.

Water quality criteria: Constituent concentrations, levels or narrative statements representing known relationships between concentration and environmental effects and which support a designated use of a water resource.

Water quality standards: State water quality standards are comprised of the beneficial use classification, the numerical criteria applicable to the classification, the Florida antidegradation policy, and several provisions in other rules.

Water Preserve Areas: Multipurpose water holding areas located along the western border of Southeast Florida's urbanized corridor.