

# CHAPTER 11

## GLOSSARY

**Accuracy:** The closeness of a measured value to the true value.

**Advection:** The process by which solutes are transported by the motion of flowing groundwater.

**Aggregate:** Material that is mined to produce coarse aggregate (larger than 0.375 inches in diameter) or fine aggregate (smaller than 0.375 inches) that is suitable for construction activities. An estimated 85 percent of material excavated in the Lake Belt meets this standard. This term is used interchangeably with “crushed stone” and “crushed rock” throughout this document.

**Alkalinity:** The alkaline nature of a substance (water) derived by measuring its ability to accept hydrogen ions.

**Anisotropy:** Condition of having different physical properties in different directions (e.g., the property of an aquifer to allow water movement with different velocities in the vertical and horizontal direction).

**Anthropogenic:** Resulting from human influence.

**Aquifer:** An underground, water-bearing layer of porous rock, sand, or gravel.

**Aquifer Storage and Recovery:** The injection of fresh water into a confined saline aquifer during times when supply exceeds demand (wet season), and recovering it during times when there is a supply deficit (dry season).

**Barrier:** Any feature that restricts movement from one place to another.

**Benthic:** Pertaining to the bottom or sediment habitats of a body of water.

**Biodiversity:** The total variety of life and its processes. Biodiversity exists at three different levels: the total variety represented by all species of plants and animals, the variety of different genes within each species, and the variety of different habitats and ecosystems in which these species exist.

**Biological Opinion:** Document stating the opinion of the U.S. Fish and Wildlife Service or the National Marine Fisheries Service on whether a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

**Biomass:** The amount of living material in a particular sample, population, or area, usually measured as dry mass.

**Biota:** The plants and animals of an area.

**Buffer:** Multiuse transition areas designed and managed to protect core reserves and critical corridors from the destructive impacts of human activities. Buffers are designed with consideration for the specific ecological features to be protected and the specific activities that threaten them. These lands may be owned and managed through a wide variety of public and/or private programs.

**Central and Southern Florida Project:** A complete system of canals, storage areas, and water control structures spanning the area from Lake Okeechobee to both the east and west coasts and from Orlando south to the Everglades. It was designed and constructed during the 1950s by the U.S. Army Corps of Engineers to provide flood control and improve navigation and recreation.

**Compliance monitoring:** In a water quality management program, compliance is associated with meeting permit conditions based on ambient standards. Ongoing monitoring provides periodic water quality data, which are used to assess compliance.

**Comprehensive Everglades Restoration Plan (CERP):** The framework and guide for the restoration, protection, and preservation of the South Florida ecosystem. The CERP also provides for water-related needs of the region, such as water supply and flood protection.

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

**Conservation:** The use of all methods and procedures that are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Endangered Species Act (16 U.S.C. 1531 et seq.) are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management, such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transportation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regular taking.

**Consultation:** A process that determines whether a proposed Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat; begins with a Federal agency's written request and submittal of a complete initiation package and concludes with the issuance of a Biological Opinion and incidental take statement.

**Corridor:** Landscape linkages designed to permit large-scale and long-term ecological processes to continue operating within fragmented ecosystems. Ecological corridors may be designed to facilitate movement of animals (for seasonal migration, breeding, foraging, or other purposes), plant propagules (via seed dispersal, movement of pollen or pollinators, or other mechanisms), and/or essential abiotic resources, such as water or nutrients. Long-term genetic implications are usually a fundamental consideration in corridor planning. Appropriate design and management of a corridor depends upon the ecological purposes it is intended to serve. Primary corridors are the essential uninterrupted connections that integrate the landscape at the regional level. In most landscape situations, such corridors are miles wide and structured so that a central spine managed like a core reserve is sheltered by strips of primary buffer within broader areas of secondary buffer. Primary corridors should generally be oriented along riparian systems or wildlife movement routes.

**Cover type:** A classification of land by its dominant feature, whether natural or man-altered, such as a body of water, plant species, or land use (e.g., lakes, dense melaleuca, or agriculture).

**Critical habitat:** The specific areas within the geographical area occupied by a species that is listed as endangered, in accordance with the provisions of Section 4 of the Endangered Species Act (16 U.S.C. 1531 et seq.), which have physical or biological features essential to the conservation of the species that may require special management considerations or protection; and specific areas outside the geographical area occupied by the listed species, in accordance with the provisions of Section 4 of the Endangered Species Act, upon a determination by the U.S. Fish and Wildlife Service or the National Marine Fisheries Service that such areas are essential for the conservation of the species.

**Darcy velocity:** An apparent velocity calculated from Darcy's law; represents the flow rate at which water would flow in an aquifer if the aquifer were an open conduit.

**Discharge (or flow):** The rate of water movement past a reference point, measured as volume per unit of time (usually expressed as cubic feet or cubic meters per second).

**Dispersal:** The movement of organisms away from a location, such as their point of origin.

**Dispersion:** The phenomenon by which a solute in flowing groundwater is mixed with uncontaminated groundwater and becomes reduced in concentration. Dispersion is caused by both differences in the velocity that the water travels at the pore level and differences in the rate at which water travels through different strata in the flow path.

**Drawdown:** A lowering of the water level in a reservoir or other body of water.

**Drought:** A long period of abnormally low rainfall, especially one that adversely affects growing or living conditions.

**Easement:** An interest in the land of another that provides the easement holder specified rights without actual ownership.

**Ecosystem:** Biological communities together with their environment, functioning as a unit.

**Environment:** The complex of climatic, soil, and biotic factors acting upon organisms.

**Epifauna:** Animals that live on the surface of a substrate, such as rocks, pilings, marine vegetation, or the lake floor itself.

**Eutrophication:** The process of nutrient enrichment in a water body. Eutrophication often results from nitrogen and phosphorous inputs from human activities such as sewage disposal and runoff from uplands. Such input stimulates algal blooms and bacteria growth, which contribute to depletion of oxygen in the water and anoxic conditions, and eventually lead to fish kills.

**Evapotranspiration:** The process by which water is released to the atmosphere by evaporation from a water surface or movement from a plant surface (more specifically known as transpiration).

**Everglades Protection Area:** As defined in the Everglades Forever Act (XXVIII F.S. 373.4592), the Everglades Protection Area comprises Water Conservation Areas 1, 2A, 2B, 3A, and 3B, the Arthur R. Marshall Loxahatchee National Wildlife Refuge, and Everglades National Park.

**Exotic species:** Any introduced plant, animal, or protist species that is not native to the area and may be considered a nuisance.

**Fauna:** All animal life associated with a given habitat.

**Federally listed threatened and endangered species:** Species of wildlife that have been determined by the U.S. Fish and Wildlife Service to be endangered or threatened under the Endangered Species Act, as amended (16 U.S.C. 1531 et seq.).

**Flora:** All plant life associated with a given habitat.

**Florida Statutes (F.S.):** A permanent collection of State laws organized by subject area into a code made up of titles, chapters, parts, and sections. The Florida Statutes are updated annually by laws that create, amend, or repeal statutory material.

**Geographic information system (GIS):** A computerized system of organizing and analyzing any spatial array of data and information.

**Greenway:** A corridor that serves both ecological and recreational functions. It can include terrestrial and/or properly buffered aquatic systems. A well-designed regional greenway system links non-motorized community transportation and recreation trails through secondary corridors to long-distance routes embedded in the buffers of primary ecological corridors and cores.

**Habitat:** Area or type of environment in which a plant or animal normally lives or is found.

**Hydric:** Wet.

**Hydrology:** The scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rocks, and in the atmosphere.

**Hydroperiod:** Duration and frequency of inundation in a wetland area.

**Impoundment:** A reservoir used for retaining water.

**Infauna:** Aquatic animals that live on the substrate of a body of water.

**Inflow:** The act or process of flowing in or into (e.g., inflow of surface water).

**Infrastructure:** The fundamental facilities and systems serving a County, city, or area—in this case related mainly to transportation (for example, bridges, roads, railways, etc.).

**Introduction:** Movement of a plant or animal from one place to another by man.

**Intrusion:** The invasion of a body of fresh water by a body of salt water, due to its greater density. It can occur either in surface water or groundwater bodies. The term is applied to the flooding of freshwater marshes by sea water, the upward migration of sea water into rivers and navigation channels, and the movement of sea water into freshwater aquifers along coastal regions.

**Karst:** A landscape shaped by the dissolution of a layer or layers of soluble bedrock, usually carbonate rock such as limestone or dolomite.

**Lake Belt area:** An approximately 80-square-mile area in the northern half of Miami-Dade County bordering Water Conservation Area-3B and Everglades National Park, as designated under Title XXVIII of Florida Statutes, Section 373.4149.

**Landscape:** An areal entity that is a composite of all the characteristics that distinguish a certain area on the earth's surface from other areas.

**Levee:** A small rise or embankment used to keep water in certain areas; for example, the Dade-Broward Levee helps keep water within the Pennsuco Wetlands.

**Limerock base:** Softer, low-quality material that is unsuitable for engineering projects. This material is mined to produce limerock base, shell rock, or fill, and accounts for about 15 percent of the material excavated from the Lake Belt.

**Listed species:** Any species of fish, wildlife, or plant that has been determined to be endangered or threatened under Section 4 of the Endangered Species Act (16 U.S.C. 1531 et seq.).

**Lithofacies:** The rock record of any sedimentary environment, including both physical and organic constituents.

**Littoral:** Of, pertaining, or existing on a shore, in this case along the shores of the lakes being created in the Lake Belt.

**Littoral shelf:** A shallow, sloping area constructed of bare rock and muck soils between the shore and deep-water area of lakes created by mining after operations have ceased to provide a habitat for rooted plant life.

**Littoral zone:** The shore zone from the high water mark to a depth where light is barely sufficient for rooted aquatic plants to grow.

**Loading (or mass loading):** The amount of material carried into a specified area, expressed as mass per unit of time. One example is phosphorus loading into Water Conservation Area-2A, measured in metric tons per year.

**Logarithm:** In mathematics, the power or exponent to which the base must be raised to produce a given number.

**Long-term plan:** The conceptual plan for achieving and maintaining water quality goals for all discharges to the Everglades Protection Area. The long-term plan contains activities to achieve that goal and to permit the State of Florida and the South Florida Water Management District to fulfill their obligations under the Everglades Forever Act (XXVIII F.S. 373.4592).

**Management:** Any intentional or planned activity that has an effect on an existing natural community that has been degraded in some way. Management that attempts to restore natural community functions, structures and/or composition is termed restorative management. Restorative management includes both in-kind restoration and not-in-kind restoration.

**Marl:** A clay, sand, limestone mixture of varying proportions that is soft and crumbly and usually contains shell fragments.

**Marsh:** An area of soft, wet, low-lying land, characterized by grassy vegetation and often forming a transition zone between water and land.

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

**Melaleuca:** Any of various chiefly Australian shrubs or trees belonging to the genus *melaleuca*, of the myrtle family; considered an invasive species in Florida, the State is actively trying to eradicate it from many areas where it threatens wetlands such as Everglades National Park.

**Midden:** A deposit containing a variety of archaeological material, including animal bone, feces, shell, botanical material, vermin, pottery, and other artifacts associated with past human occupation.

**Migration:** Broad-scale movement of water or organisms (e.g., groundwater migration, pathogen migration).

**Mitigation:** Compensation required for the alteration of natural resources or habitat pivotal to the survival or well-being of listed species.

**Model:** A conceptual or mathematical simulation of reality (e.g., biological) for purposes of describing, analyzing, or understanding nature.

**Muck:** Dark, organic soil derived from well-decomposed plant biomass.

**Native plant:** In its broadest definition, plants that were indigenous to the landscape before European settlers arrived on the North American continent. If this definition was applied to just Florida, plants indigenous to Florida before the arrival of European settlers. This definition may be extended even further to say that native plants are those plants that occur naturally and are not present due to ANY type of human activity, including American Indian activities before the arrival of European settlers.

**Nutrients:** Organic or inorganic compounds essential for the survival of an organism. In aquatic environments, nitrogen and phosphorus are important nutrients that affect the growth rate of plants.

**Outflow:** The act or process of flowing out of.

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

**Parts per billion (ppb):** A unit of measure, equivalent to micrograms per liter (1 ppb = 1 µg/L).

**Penman-Monteith method:** A method used for calculating evapotranspiration from meteorological data.

**pH:** A measure of the concentration of hydrogen ions in a solution.

**Plan:** A predetermined course of action.

**Population:** A group of fish or wildlife in the same taxon below the subspecific level, in common spatial arrangement that interbreed when mature.

**Potentiometric surface:** A surface that represents the level to which water will rise in tightly cased wells; the water table is a particular potentiometric surface for an unconfined aquifer.

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

**Raster:** A regular grid of cells covering an area; each cell within this matrix contains an attribute value as well as location coordinates.

**Recovery:** Improvement in the status of listed species to the point at which listing is no longer appropriate under the criteria set in Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 et seq.); the process by which species' ecosystems are restored so they can support self-sustaining and self-regulating populations of the listed species as persistent members of native biotic communities.

**Refugia:** An area that provides an organism with suitable habitat in times of stress. For example, during drier periods within the Lake Belt region, some fish species may survive by seeking out and inhabiting the deeper pools within a marsh.

**Reserve:** A tract of land set aside to preserve it in its natural condition, such as a nature preserve, national park, refuge, natural reserve, or other conservation land.

**Reservoir:** A manmade or natural water body used for water storage.

**Restoration:** Management actions to return a vegetative community or ecosystem to its original, natural condition.

**Risk assessment:** A tool to estimate the probability of extinction (or persistence) for a particular species.

**Ruling grade:** The steepest grade on a given stretch of train track, which determines the maximum tonnage that can be hauled in a train with a given horsepower at a stated minimum speed.

**Seepage:** The movement of fluid particles through porous media.

**Siliclastics:** Pertaining to clastic noncarbonate rocks, which are almost exclusively silicon-bearing, either as forms of quartz or as silicates.

**Slough:** A depression associated with swamps and marshlands as part of a bayou, inlet, or backwater; it contains areas of slightly deeper water and a slow current and can be thought of as the broad, shallow rivers of the Everglades.

**Sorptive filtration:** A technology utilizing filters to remove positively or negatively charged particles from a stream of water.

**Specific yield:** The ratio of volume of water a rock or soil will yield by gravity drainage to the volume of rock or soil.

**Species:** Any subspecies of fish, wildlife, or plants, and any distinct population segment of any species of vertebrate fish or wildlife that interbreeds when mature.

**Species abundance:** In ecology, the relative distribution of the number of individuals of each species in a community.

**Species of concern:** The Florida Fish and Wildlife Conservation Commission maintains the State list of species designated as endangered, threatened, or of special concern, in accordance with Rules 68A-27.003, 68A-27.004, and 68A-27.005, respectively, of the *Florida Administrative Code* for wetlands.

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

**Structure:** Manmade pump stations, reservoirs, channel improvements, canals, levees, and diversion channels.

**Udorthent:** A soil type indicative of disturbed lands.

**Variety:** A rank in the hierarchy of botanical classification; the principal category between species and form; an ambiguous term often used for any variant group within a species.

**Vegetation type:** A plant community with distinguishable characteristics.

**Vug:** Small to medium-sized cavities inside rock that may be formed through a variety of processes.

**Water Conservation Areas (WCAs):** Diked areas of the remnant Everglades that are hydrologically controlled for flood control and water supply purposes—the primary targets of Everglades restoration and major components of the Everglades Protection Area.

**Watershed:** A region or area bounded peripherally by a water parting and draining ultimately to a particular watercourse or body of water.

**Wetland:** An area that is inundated or saturated by surface water or groundwater with vegetation adapted for life under these soil conditions (for example, swamps, bogs, and marshes).

**Zoning:** The demarcation of a planning area by ordinance into land-use zones and the establishment of regulations to govern their use.