

KEY DEFINITIONS

ABIOTIC: Physical (non-living) conditions that exist in nature that tend to influence or control the kinds of organisms and natural communities that may exist in a particular area. Examples of these include: salinity levels in estuaries, temperature levels on coral reefs, moisture levels in dry and wet prairies and availability of sunlight in forest understory and shrub layers.

ADAPTATION: a change in a species, over time, that better enables it to survive in its environment.

ADAPTIVE MANAGEMENT: A process for learning and incorporating new information into the planning and evaluation phases of the restoration program. This process ensures that the scientific information produced for this effort is converted into products that are continuously used in management decision making.

ADVERSE IMPACT: A detrimental effect relative to desired or baseline conditions.

ALTERNATIVE WATER SUPPLY: A supply of water that has been reclaimed after municipal, commercial, and/or agricultural uses; or a supply of stormwater, or brackish or salt water, that has been treated in accordance with applicable rules and standards sufficient to supply an intended use.

ALGAE: Eukaryotic, photosynthetic organisms that occur in most habitats; most species are classified separately from plants because they lack true stems and leaves.

AMPHIBIANS: any cold-blooded vertebrate, such as a frog or salamander that has aquatic gill-breathing larvae and terrestrial lung-breathing adults.

ANAEROBIC: Living in the absence of oxygen.

AQUATIC: Consisting of, relating to or being in water; living or growing in, on or near the water; or taking place in or on the water.

AQUIFER: A water-bearing bed of gravel, rock, or sand capable of yielding considerable amounts of water to wells or springs.

AQUIFER STORAGE AND RECOVERY: The injection of freshwater into a confined saline aquifer (underground, water-bearing layer) during times when excess water exists (wet season), and recovering it during times when there is a deficit of water (dry season).

BASIN: A large area of lower elevation than surrounding areas.

BEDROCK: Native consolidated rock that lies beneath the soil and other loose material on the Earth's surface.

BENTHOS: Bottom-dwelling organisms in aquatic systems.

BEST MANAGEMENT PRACTICES: A practice or combination of practices based on research, field-testing, and expert review, to be the most effective and practicable, including economic and technological considerations, on-farm means of improving water quality in agricultural discharges to a level that balances water quality improvements and agricultural productivity.

BIODIVERSITY: The number and variety of organisms found within a specified geographic region; or the variability among living organisms on the earth, including the variability within and between species and within and between ecosystems.

BIOLOGICAL CONTROL: Reduction in numbers or elimination of pest organisms by introducing parasites, predators or diseases.

BLADDERWORT: (Genus, Utricularia) A carnivorous free floating water plant with small yellow or purple flowers. This plant contains tiny bladders which lie below the water surface, trapping tiny animals including mosquito larvae.

BRACKISH WATER: A habitat where the fresh water and the salt water meet, thus diluting the salt water and adding salt to the fresh water; 0.5-3 ppt.

CAMOUFLAGE: An organism's ability to blend in with its surroundings by changing its color and/or shape to conceal itself from predators.



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CANAL: An artificial waterway or artificially improved river used for travel, shipping, drainage or irrigation.

CAPITAL PROJECTS: Individual facilities and land acquisition projects by state and federal entities.

CARNIVORE: An organism that feeds chiefly on the flesh of other animals.

CARRYING CAPACITY: maximum population of a species that a specific environment can support.

CERP: Comprehensive Everglades Restoration Plan.

CHEMICAL CONTROL: The use of pesticides and herbicides to control pests and undesirable plant species.

COMMUNITY: Populations of all species living and interacting in an area at a particular time.

COMPREHENSIVE EVERGLADES RESTORATION PLAN (CERP): Plan that provides a framework and guide to restore, protect and preserve the water resources of central and southern Florida, including the Everglades. It covers 16 counties over an 18,000-square-mile area. The plan outlines projects and strategies needed to improve timing, distribution, quality and quantity of water to the Everglades and southern Florida Ecosystem.

COMPETITION: Active demand by two or more organisms or kinds of organisms for some environmental resource (such as food, water, shelter or space) in short supply.

COMPLIANCE MONITORING: In water quality permitting, compliance is associated with meeting permit conditions as well as ambient standards. Ongoing monitoring provides periodic water quality data, which are used to assess compliance.

CONSERVATION: The protection, management, or restoration of wildlife and of natural resources such as forests, soil, and water.

CONSUMER: An animal that must depend upon plant and/or other animals for its energy.

CONTAMINATION: impure or unusable because of contact or addition of a harmful substance.

CRITERION: a standard of judgment or criticism; a rule or principle for evaluating or testing something. For the Everglades, the water quality criterion for phosphorus is 10 parts per billion (ppb).

CYCLE: A recurring period of time in which certain events repeat themselves in the same order and at the same intervals.

DECOMPOSITION: The action of microorganisms causing the breakdown of organic materials into simpler ones and the release of energy.

DECOMPOSER: Organism that digests parts of dead organisms and cast-off fragments and wastes of living organisms.

DETRITUS: Parts of dead organisms and cast-off fragments and wastes of living organisms.

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

DISSOLVED OXYGEN (D.O.): The concentration of oxygen dissolved in water, sometimes expressed as percent saturation, where saturation is the maximum amount of oxygen that theoretically can be dissolved in water at a given altitude and temperature.

DISTURBED AREA: An area where vegetation, soil and/or hydrology have been significantly altered, thereby making a wetland determination difficult.

DIVERSITY: A term referring to variety or differences in the natural world. Biological diversity refers to variety in living things; species diversity refers to variety among different species; genetic diversity refers to the variety within a single species, and ecosystem diversity refers to differences in living communities.



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

DROUGHT: A prolonged period with no rain.

DRY SEASON: One of the two seasons in southern Florida. It is a time of low rainfall extending from November through April or May.

ECOLOGY: The study of inter-relationships of organisms and their environment.

ECOSYSTEM: The interaction of the biological community (all living things) and the physical environment (water, air, and minerals).

ECOTONE: Transitional area in which two ecosystems merge.

EDGE EFFECT: Existence of larger number/greater diversity of species in ecotone than in either bordering habitat.

ENDANGERED SPECIES: A species of plant or animal that throughout a significant portion of its range is in danger of extinction.

ENDEMIC: Species found only in a particular region or habitat.

ENERGY FLOW: The sun's energy is used by plants to produce food, animals eat plants to produce energy, decomposers use the animal and plant matter to produce energy, and that matter is recycled to be used again by plants.

ENVIRONMENT: All those factors, both living and non-living, which make up the surroundings of an organism.

EPIPHYTE: A plant that receives water and nutrients from the air and rain, and which usually uses other plants for support.

ESTUARY: The area of a wide, lower course of a river where its current is met and influenced by the sea. An arm of the sea that extends inward to meet the mouth of a river. A highly productive zone providing breeding grounds, food, and shelter for microscopic animals, mollusks, shrimp, fishes, and birds.

EUTROPHICATION: The natural or cultural enrichment of an aquatic environment with plant nutrients leading to rapid ecological changes and high productivity.

EVAPOTRANSPIRATION: the loss of water to the atmosphere by evaporation from land and water surface, and by transpiration from plants.

EVERGLADES AGRICULTURAL AREA: An area extending south from Lake Okeechobee to the northern levee of Water Conservation Area 3A, from its eastern boundary at the L-8 canal to the western boundary along the L-1, L-2, and L-3 levees. The EAA incorporates almost 3,000 square kilometers (1,158 square miles) of highly productive agricultural land.

EVERGLADES CONSTRUCTION PROJECT: The foundation of a large ecosystem restoration program composed of twelve interrelated construction projects between Lake Okeechobee and the Everglades, including about 32,000 acres of Stormwater Treatment Areas. It also contains four hydropattern restoration projects that will improve the volume, timing, and distribution of water entering the Everglades.

EVERGLADES FOREVER ACT: A 1994 Florida law (Section 373.4592, Florida Statutes), amended in 2003, to promote Everglades restoration and protection. This will be achieved through comprehensive and innovative solutions to issues of water quality, water quantity, hydroperiod, and invasion of exotic species to the Everglades ecosystem.

EXOTIC: Not native, or something that did not grow in this area before humans brought it from another country.

EXTINCT: A species which has vanished from existence.

FAUNA: Animal life.

FLOODPLAIN: Flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding.



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FLORA: Plant life.

FLORIDA FOREVER ACT: A 1999 Florida law (Section 259.105, Florida Statutes) authorizing the issuance of up to \$3 billion in bonds over a 10-year period. This funding is used for land acquisition, water resource development, stormwater management projects, water body restoration activities, recreational facilities, public access improvements, and invasive plant removal.

FLORIDA STATUTES: 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.

FOOD CHAIN: a succession of living organisms in which each serves as food for the next.

FOOD WEB: the network of interacting food chains within an ecological community.

FRAGMENTATION: Breaking into pieces.

FRESH WATER: Water containing no salt or very little salt, has a salt concentration of 0.5 ppt or less.

GROUNDWATER: Water that is found in underground formations of sand or rock, called aquifers; in contrast to surface water, found standing in ponds, lakes, streams and other wetlands

HABITAT: The place where a plant or animal lives and can find food, water, shelter, and space.

HABITAT DESTRUCTION: The tearing apart or breaking down of an animal's home or natural surroundings.

HAMMOCK: Scattered clumps of hardwood trees and dense undergrowth which thrive on slightly elevated ground.

HERBICIDE: A chemical that destroys plants or stops their growth.

HERBIVORE: An organism that eats plants. Examples include deer, rabbits, and squirrels.

HYDRATED: Contains water or chemically combined with water.

HYDROPERIOD: Number of months a year the area has standing water.

INDIGENOUS: A species that is found in the place where it originated.

INTERDEPENDENCE: The dependence of organisms on the activities of other organisms.

INTER-RELATIONSHIPS: The relationships or connections between living and nonliving components of a system.

INVASIVE: Capable of spreading aggressively into an area.

JUVENILE: Not having reached reproductive age.

IRRIGATION: Water supplied to dry land by way of ditches, canals, and pumping systems.

KEYSTONE SPECIES: Species that plays role that affects many other species in an ecosystem.

LIMESTONE: Rock consisting mainly of calcium carbonate, may include fossilized shells.

MARL: A calcium carbonate or lime-rich mud that settles on the limestone. The marl allows slow seepage of the water but not drainage.

MARSH: An area of low-lying wetlands.

MASS LOADING: The mass of material entering an area per unit time, such as phosphorus loading, generally expressed as metric tons per year.



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MANGROVE: A term for a variety of tree species and a habitat associated with brackish water. There are three species of mangroves: red, black, and white. Mangroves provide a primary line of defense against hurricanes.

MARINE: Living in brackish or salt water.

MECHANICAL CONTROL: Control of pests by physical means such as the use of screens or row covers.

MITIGATION: Acquisition, creation, restoration, or enhancement of wetlands to compensate for permitted wetland impacts.

NATIONAL PARK: A federally funded area maintained in its natural state; public property for the benefit of all.

NATIONAL PRESERVE: A federally funded area maintained for multiple use including resource protection and visitation, and may include hunting, cattle grazing, oil drilling, etc.

NATIVE: A species that belongs in the area that it is found; species that grew naturally in an area before humans.

NATURAL RESOURCE: Resources found in our natural environment.

NICHE: The interaction of a specific organism with its environment; the organism's special function/place within that environment.

NON-NATIVE: Species that has been introduced to an area by humans; does not occur naturally in the area that it is found.

OMNIVORE: An animal that eats plants and animals. Examples include many humans, bears, some turtles, and some species of fish.

ORGANISM: Any living thing.

PARTS PER BILLION (PPB): A unit of measurement, equivalent to micrograms per liter (1 ppb = 1 µg/L).

PEAT: Soil rich in humus or organic material (exerts of oxygen demand) which is highly porous.

PERCOLATION: The downward movement of water through rock and soil toward the water table.

PERENNIAL: Lasting or active through the year or through many years.

PERMEABILITY: A measure of a porous material's ability to allow fluids or gases to flow through its pores; an important property of rocks that determines how much and how rapidly fluids or gases can move through them, for example, how much water can be pumped from an aquifer.

PERIPHYTON: A complex mixture of algae, cyanobacteria, heterotrophic microbes, and detritus that are attached to submerged surfaces in aquatic ecosystems.

PESTICIDES: Chemicals that are used to kill pests, especially insects.

PHOSPHORUS: An element that is essential for life. In freshwater aquatic environments, phosphorus is often in short supply; increased levels of this nutrient can promote the growth of algae and other plants.

PINELANDS: A high, dry habitat in the Everglades ecosystem, with pine trees being the dominant tree species.

POLLUTION: Contamination of soil, air, or water by a chemical or chemicals which may be detrimental to plants or animals.

POPULATION: The total number of organisms of a given species living within a given area.

PPT: Parts per trillion.

PREDATOR: Any organism which hunts live animals for its food.

PRESERVATION: A process of saving or protecting something in its natural state.



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PREY: Organism that is captured and serves as a source of food for an organism of another species.

PRODUCER: An organism that produces or makes food used by or for other organisms. Plants are producers, whereas animals are consumers.

PROPAGULE: A reproductive structure, for example, the seed of the red mangrove - a green, long, pencil-shaped seed that floats.

PROP ROOTS: Arching, spider-like, roots of the red mangrove which buffer wind and wave action, and provide shelter for many marine organisms including clams, oysters, and barnacles.

RECHARGE: When water is added to an aquifer.

REGULATION SCHEDULE: A regulation schedule is a tool used by water managers to manage the water levels in a lake or reservoir. Typically a regulation schedule has water level thresholds which vary with time of year and trigger discharges (a.k.a., regulatory releases).

RESERVOIR: An artificially impounded body of water.

RESERVOIR STORAGE CAPACITY: Reservoir capacity normally usable for storage and regulation of reservoir inflows to meet established reservoir operating requirements

RESOURCES: The time, people, money, equipment and facilities used to complete a project.

RESTORATION: The recovery of a natural system's vitality and biological and hydrological integrity to the extent that the health and ecological functions are self-sustaining over time.

SALTWATER: Saline water containing concentrations of at least 35 ppt, or more, of salt.

SAW GRASS: A greenish-brown sedge which has three sawtooth edges that can cut; is the primary plant covering the Everglades area between Lake Okeechobee and the brackish water to the south.

SCRUB: A community dominated by pinewoods with a thick understory of oaks and saw palmetto, and which occupies well-drained, nutrient-poor sandy soils.

SHEET FLOW: Water movement as a broad front with shallow, uniform depth.

SLOUGH: A depression associated with swamps and marshlands containing areas of slightly deeper water and a slow current, such as the broad, shallow rivers of the Everglades.

SOIL: Portion of the earth's surface consisting of disintegrated rock and humus or periphyton. There are two primary types of soil in the Everglades, peat and marl.

SPECIES: A genetically and adaptively unique plant or animal which is able to reproduce itself and to evolve. For example: all human beings are of the same species.

STAGE: The height of a water surface above an established reference point.

STORMWATER TREATMENT AREA (STA): A large, constructed wetland designed to remove pollutants, particularly nutrients, from stormwater runoff using natural processes.

SUBMERGED AQUATIC VEGETATION (SAV): Wetland plants that exist completely below the water surface.

SUBTROPICAL: Zones of the Earth immediately north and south of the two tropic zones; air temperature usually does not go below freezing (0° C).

SUCCESSION: The gradual change in an ecosystem brought about by replacement of one community by another until a stable climax is established.



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SWAMP: A forested wetland where the water may be fresh or salty.

TERRITORY: Area defended by one or more animals against intruders.

THREATENED SPECIES: A species that may become endangered in the near future unless the species or its habitat is protected and managed for its survival.

TOTAL MAXIMUM DAILY LOAD (TMDL): The maximum allowed level of pollutant loading to a water body, that protects its uses and maintaining compliance with water quality standards, as defined in the Clean Water Act.

TRANSPIRATION: a process in which water absorbed by plant roots is lost from pores in the leaves.

TRIBUTARY: A stream feeding into a larger stream, canal or water body.

TROPHIC LEVEL: Organism's position in the food chain

WATER: A transparent, odorless, tasteless, liquid made up of two parts hydrogen to one part oxygen. Water is a basic necessity for life and is the lifeblood of the Everglades ecosystem.

WATER CONSERVATION AREAS (WCAS): Diked areas of the remnant Everglades that are hydrologically controlled for flood control and water supply purposes and fish and wildlife protection. They are primary targets of the Everglades restoration and are major components of the Everglades Protection Area.

WATER CYCLE: Biogeochemical cycle that collects, purifies, and distributes the earth's fixed supply of water from the environment to living organisms, and then back to the environment.

WATER MANAGEMENT DISTRICTS: There are five water management districts in Florida created in 1972 by the Florida Legislature that manage the quality and quantity of water. The districts are authorized to administer flood protection programs and to perform technical investigations into water resources. The districts are also authorized to develop water management plans for water shortages in times of drought and to acquire and manage lands for water management. Regulatory programs delegated to the districts include programs to manage the consumptive use of water, aquifer recharge, well construction and surface water management. As part of their surface water management programs, administer the stormwater management program.

WATER QUALITY (WQ) CRITERIA: Constituent concentrations based on scientific data and judgments on the relationship between pollutant concentrations and environmental and human health effects.

WATER QUALITY STANDARDS (WQS): State-mandated water quality levels that are comprised of a beneficial use classification, water quality criteria applicable to that classification, Florida anti-degradation policy, and several provisions in other rules.

WATERSHED: A region draining into a river, river system, or other body of water.

WATERSHED MANAGEMENT PROGRAM: The Watershed Management Program is responsible for fostering better stewardship of Florida's ground and surface water resources. Working with other state agencies, water management districts, local governments, citizens, and the private sector, the bureau coordinates the collection, data management, and interpretation of monitoring information to assess the health of our water resources; develops watershed-based aquatic resource goals and pollutant loading limits for individual water bodies; and develops and implements management action plans to preserve or restore water bodies.

WATER TABLE: The point where one can find standing groundwater beneath the soil; the water table rises and falls, depending on the amount of rainfall, human consumption and other factors.

WETLANDS: An area of land that is wet at least part of the year, often containing unique soils, vegetation, and wildlife; sometimes referred to as swamps, bogs, marshes, or prairies.



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WET SEASON: An extended rainy period of time, in a particular place. In southern Florida, the wet season typically extends from June through November.

SOURCES FOR KEY DEFINITIONS: <http://www.dep.state.fl.us/>; Everglades – A National Treasure South Florida Management District; <http://www.evergladesplan.org/> South Florida Water Management District; Everglades Case Study; Discover a Watershed: The Everglades; Everglades an American Treasure; G. Tyler Miller, Jr. (2000). Living in the Environment; <http://www.merriam-webster.com> – Merriam-Webster Dictionary; Smithsonian Institute Dept. of Botany. <http://botany.si.edu/projects>

