

Appendix B. Glossary

303(d). Refers to section 303(d) of the Clean Water Act. Every two years, states must assess the quality of their water and submit a report to the EPA detailing the extent to which each water body in the state meets water quality standards. The TCEQ publishes this assessment as the Texas Water Quality Inventory and 303(d) List. The inventory gives the status of all surface water bodies of the state that were evaluated for the given assessment period. The 303(d) List is an important management tool produced as part of the assessment. It identifies waters for which preventive measures are not sufficient to achieve established water quality standards. These waters are often referred to as “impaired” water bodies.

Algal Bloom. Algae are microscopic plants, and most are aquatic. Algal blooms occur in both marine and freshwater environments when an algal species out competes other species and reproduces rapidly. Algal blooms can be caused by multiple factors, but usually by excess nutrients, which cause algae growth and reproduction to increase dramatically into a bloom. In other instances, something may change in the environment so that certain algae can out compete the other algae for food, which can result in a bloom of the algae with the advantage. An algal bloom can kill fish and other aquatic life by decreasing sunlight available to the water and by using up all of the available oxygen in the water. A harmful algal bloom (HAB) is a special algal bloom that produces harmful toxins detrimental to plants and animals.

Best Management Practice (BMP). Structural and nonstructural techniques that store or treat stormwater runoff to reduce flooding, remove pollutants, and provide other amenities.

Biological Oxygen Demand (BOD). The amount of oxygen consumed by the natural decomposition of biological matter or chemical reactions in the water column. BOD is often used as a measure of organic pollutants discharged into streams. BOD loadings tend to deplete oxygen water in the receiving body as the organic material is decomposed, lowering dissolved oxygen content.

Chlorophyll-a. The primary photosynthetic pigment of plants that gives them their green color. Measured as an indicator of water quality. High levels of chlorophyll-a may indicate an algal bloom.

Coastal floodplain flooding. (Also called “storm surge flooding.”) When the storm surge associated with a hurricane or tropical disturbance pushes water onshore and inundates low lying coastal areas.

Conservation easement. A legally enforceable agreement between landowner(s) and a conservation group or government body, allowing the landowner(s) to continue ownership and most/all current uses while devoting the land to specified long-term conservation uses.

Conductivity. The ability of a water sample to conduct electricity. Conductivity is related to salinity, and is a measure of the concentration of dissolved solids or salts in the water.

Cone of Subsidence. The cone-shaped subsidence of the water table caused by overwithdrawal (overpumping) of groundwater, which lowers the water table.

Dissolved Oxygen (DO). The concentration of oxygen dissolved in the water column, and available for biochemical activity. The amount of water that can dissolve in water varies with salinity and temperature,

such that cold, fresh water can hold more oxygen when fully saturated than warm, salt water

Ecological footprint. The extent and breadth of impacts that an activity has on the surrounding ecosystem. For example, the placement of a wide, well-maintained utility easement through the middle of a contiguous, pristine forest would be considered to have a much larger ecological footprint than the clearing of a few trees at the forest’s edge for a road sign. The easement would bisect a previously intact ecosystem, create extensive forest edge, and provide opportunities for penetrations of new species such as the Brown-headed Cowbird, all of which can significantly alter the system’s ecology, while removing a few trees at the forest’s edge would not likely have serious ecological impacts.

Estuary. A semi-enclosed system comprising a transition from freshwater to marine environments, where freshwater from rivers, bayous and tributaries mixes with salt water from an ocean. This mixing provides a unique environment that houses diverse flora and fauna. The Galveston Bay estuary is a highly productive, nutrient rich ecosystem that provides critical nursery areas for juvenile marine organisms such as shrimp, oysters, crabs, and numerous fish species.

Estuarine. Adjective, of or relating to an estuary. Example: estuarine ecology.

Eutrophic. Characterized by an excess accumulation of nutrients, increased algal production, and low dissolved oxygen levels.

Fecal coliform bacteria. Bacteria found in the intestinal tracts of warm-blooded animals. These organisms are used as indicators of fecal pollution and the possible presence of waterborne pathogens.

Flood Damage Reduction Plan (FDRP). Map developed to lessen the damages to an area caused by flooding that can include a combination of structural and non-structural elements.

Flood Insurance Rates Map (FIRM). Map showing the areas subject to flooding from a primary flooding source, typically major rivers, channels and their tributaries, and are meant to help determine the risk of flooding for a property. The FIRMs show floodplains based on a 1% flood, and sometimes floodplains based on a 2% flood

Floodplain. A strip of relatively level land bordering a stream, built of sediment carried by the stream and dropped in the slack water beyond the influence of the swiftest current. It is called a living floodplain if it is overflowed in times of high water, or a fossil floodplain if it is beyond the reach of the highest flood.

Habitat. (Also called “natural area.”) Habitat refers to natural areas that are suitable for wildlife, and that retain at least some of their natural character.

Impaired waterbody. A waterbody is impaired when it does not support the uses established for it by the Texas Surface Water Quality Standards. Impaired waterbodies are listed on the Texas 303(d) list.

Impervious cover. Groundcover, natural or manmade, that does not allow storm water to infiltrate into the ground. Examples of impervious cover include pavement, buildings and rock.

Indicator. Measurable quantity of a chemical (i.e., elements or compounds) or biota (i.e., organisms, species, or communities) that can be used to

evaluate the relationship between pollutant sources and their impact on environmental conditions.

Low Impact Development (LID). A technique to maintain or mimic pre-development runoff conditions through a variety of small landscape features that infiltrate, filter, store, evaporate, and detain runoff close to its source. LID addresses stormwater through small, cost-effective landscape features located at the lot level.

Macroinvertebrate. Macroinvertebrates are invertebrate animals, animals without vertebral columns or spinal chords, that are visible to the naked eye. Those that inhabit the bottom of water bodies are referred to as benthic macroinvertebrates, or benthos. Macroinvertebrates are critical links in the food webs of aquatic systems. As many are sensitive to pollutants, and are often fairly immobile compared to fish species, they are useful indicators of water quality.

Main stem. The major channel of a waterbody into which tributaries flow.

Microgram (μg). One one-millionth of a gram; 10^{-6} gram.

Mima mound (Also called “**pimple mound.**”) Circular to elliptical mounds up to 150 feet in diameter and two to four feet in height from the general ground level. These features are often found in association with freshwater depressional wetlands in prairie pothole complexes.

Natural area. (Also called “**habitat.**”) Habitat refers to natural areas that are suitable for wildlife, and that retain at least some of their natural character.

Nitrates. Nitrates are compounds containing the nitrate ion (NO_3^-). Nitrates are important nutrients for green plants.

Nitrites. Nitrates are compounds containing the nitrite ion (NO_2^-), often produced by bacterial processing of ammonia. Nitrites are toxic to many animal species, as they bind to hemoglobin and interfere with respiration.

Non-point source (NPS). Pollution originating from many diffuse sources rather than one specific, identifiable source. Non-point source pollution is caused by rainfall or snowmelt. As the runoff moves, it picks up and carries away natural and man-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and groundwater.

Non-point source pollution. Pollution originating from many diffuse sources rather than one specific, identifiable source.

Nutrient. Any substance used by living things to promote growth. This term is usually applied to nitrogen and phosphorous in water and wastewater, but can also be applied to other essential and trace elements. Excess quantities of nutrients can contribute to water quality problems and eutrophication.

Open space. Any undeveloped area, and includes natural habitat as well as parks, pastures, and water.

Overbank flooding. (Also called “**shallow floodplain**” flooding). Occurs when the water level in stream or channel rises to a level higher than the channel bank, inundating the area adjacent to the channel.

Pervious cover. Groundcover, natural or manmade, that allows storm water runoff to infiltrate into the ground.

Pheophytin-A. One of many photosynthetic pigments. Measured as an indicator of water quality.

Phosphorus (Total P). Phosphorus is an essential nutrient in plant growth. Total phosphorus is a measure of all the various forms of phosphorus that are found in a water sample. Excess phosphorus can contribute to algal blooms and eutrophication.

Photosynthesis. The process by which many plants and algae convert energy in sunlight to chemical forms of energy that can be used by biological systems.

Phytoplankton. Photosynthetic aquatic organisms carried about by water

motion. Phytoplankton are primary producers and form the foundation of the food chain in many ecosystems.

Pimple mound. (Also called “**mima mound.**”) Circular to elliptical mounds up to 150 feet in diameter and two to four feet in height from the general ground level. Pimple mounds are often found in association with freshwater depressional wetlands in prairie pothole complexes.

Point source. Any discernible, confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container. It also includes vessels or other floating craft from which pollutants are or may be discharged. By law, the term “point source” also includes concentrated animal feeding operations, which are places where animals are confined and fed.

Point source pollution. Pollutants that come from a concentrated, discernable originating point, such as a pipe from a municipal wastewater treatment plant or factory or a large registered feedlot with a specific point of discharge.

Prairie pothole. Circular to irregular, undrained depressions scattered on the ground surface. These features are most often remnants of ancient river channels, partially filled with sediments, and abandoned by natural migration of the river channels. These potholes seasonally fill with water and are important in retaining water during rain events, processing pollutants and retaining sediments to improve the quality of water that eventually winds up in streams, and provides important habitat for a diversity of plant and animal species, notably waterfowl.

Rain Garden. A garden used to capture water during rainfall events. These gardens are usually planted with wetland or bog plants, which help in processing pollutants and trapping sediments, resulting in cleaner water runoff.

Respiration. In this document, reference is made to cellular respiration. Cellular respiration is the use of oxygen by living organisms during metabolic processes that generate energy.

Riparian. Pertaining to the banks of a stream.

Runoff. See **Stormwater Runoff.**

Salinity. The concentration of dissolved salts in water.

Secchi Depth. The depth at which a standard black-and-white disc is indistinguishable from the surrounding water. Secchi depth is used as a measure of water clarity, or turbidity (see definition below).

Sediment. Particles of sand, clay, silt, and plant matter deposited in slow moving areas of streams and rivers and in reservoirs and estuaries.

Storm surge flooding. (Also called “**coastal floodplain**” flooding.). Occurs when the storm surge associated with a hurricane or tropical disturbance pushed water onshore and inundates low lying coastal areas.

Shallow floodplain flooding. (Also called “**overbank**” flooding.) Occurs when water level in stream or channel rises to a level higher than the channel bank, inundating the area adjacent to the channel.

Stormwater. Runoff from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow events.

Stormwater runoff. (Also called “**runoff.**”) Rainfall that does not evaporate or infiltrate into the ground but instead flows across land and into waterbodies

Total Maximum Daily Load (TMDL). Maximum amount of pollutant loading that a waterbody segment can receive and still support water quality standards/designated uses.

Toxicity. The degree to which a substance is harmful to the health of humans or other organisms.

Trophic. Trophic state of a waterbody refers to its nutritional status.

Various classification schemes exist that group waterbodies into discrete trophic (quality) states along a continuum from oligotrophic (poorly nourished) to mesotrophic to eutrophic to hypereutrophic (overnourished).

Turbidity. A measure of the cloudiness of water, which is a function of the amount of suspended material, both organic and inorganic. Typically turbidity is measured by determining the extent to which light is attenuated in passing through water.

Water column. Refers to the vertical region in a water body anywhere between the surface and the bottom, but not inclusive of the surface or bottom.

