Glossary of Terms on the MAIA Website

Abandoned Well: A well that has been permanently disconnected and filled. Most States have regulations or guidelines for abandoned wells to ensure that contamination cannot move from the surface into the aquifer.

Acid Deposition: A complex chemical and atmospheric phenomenon that occurs when emissions of sulfur and nitrogen compounds and other substances are transformed by chemical processes in the atmosphere, often far from the original sources, and then deposited on earth in either wet or dry form. The wet forms, popularly called "acid rain," can fall as rain, snow, or fog. The dry forms are acidic gases or particulates.

Acute Toxicity*:* Any poisonous effect produced within a short time after exposure to a toxic compound, usually within 24 to 96 hours.

Advisory Level: A level of chemical concentration in fish or shellfish whereby consumption of the fish would pose a human health risk. Levels may be determined by various federal or state agencies and may lead to advisories such as restricted consumption or consumption bans. Typical chemicals for which advisories exist include PCBs, chlordane, and dioxins.

Agricultural Lands: Fields, pastures, and orchards that are managed to produce food and fiber for people. Agricultural lands provide a source of income and employment, open space for recreational activities, and important habitat for wildlife. Agricultural lands can also be a source of negative environmental impacts (e.g., water pollution from nutrients, eroded soils, and pesticides).

Agroecosystem: A dynamic association of crops, pastures, livestock, other flora and fauna, atmosphere, soils, and water. Agroecosystems are contained within larger landscapes that include uncultivated land, drainage networks, rural communities, and wildlife.

Agronomic Systems: See ***Agricultural Lands***.

Airshed: In recent years, the term “airshed” has been used to describe those areas where significant portions of emissions result in deposition of the various air pollutants to a region. Many types of air pollution are carried by the wind from state to state, and are harmful to people and the environment, even in rural areas.

Algae: Simple rootless plants that grow in bodies of water (e.g., estuaries) at rates in relative proportion to the amounts of nutrients (e.g., nitrogen and phosphorus) available in the water.

Alkalinity: The total measurable bases (OH, HCO_3, CO_3) in a volume of water; a measure of a material's capacity to neutralize acids; pH > 7.

Alluvial Sediments: Relating to mud and/or sand deposited by flowing water. Alluvial deposits may occur after a heavy rain storm.

Alluvium: A general term for clay, silt, sand, gravel, or similar unconsolidated material deposited by a stream or other body of running water.

Ambient Water-Quality Criteria for the Protection of Aquatic Organisms: Non-enforceable guidelines for short-term (acute) and long-term (chronic) exposures to some pesticides. These guidelines provide the basis for state standards.

Anadromous Fish: Fish that spend their adult lives in the sea but swim upriver into fresh water to spawn (e.g., salmon, striped bass, American shad).

Anoxic (Anoxia): A condition where very little or no oxygen is present in the water body.

Anthropogenic: Originating from man, not naturally occurring.

Anthropogenic Cover: Land cover associated with human activities, such as agricultural fields, rock quarries, and urban areas. Literally, “land cover created by humans."

Aquifer: An area of underground soil or rock, both porous and permeable, that allows ground water to easily move. Aquifers are capable of yielding supplies of water and typically consist of unconsolidated deposits or gravel, sand, sandstone, granite, or fractured rock such as limestone. Aquifers can be classified as confined or unconfined.

Aquitard: Underground geological formation that is slightly permeable and yields insignificant amounts of water when compared to an aquifer.

Artesian Aquifer: An aquifer that contains water under pressure as a result of hydrostatic head. For artesian conditions to exist, an aquifer must be overlain by a confining material and receive a supply of water. The free water surface stands at a higher elevation than the top of the confining layer, thus if the aquifer is tapped by a well, the water in the well will raise above the level of the aquifer.

Artesian Well: Groundwater that is able to flow to the Earth’s surface under its own pressure.

Assessment: Interpretation and evaluation of results for the purpose of answering policy-relevant questions about ecological resources, including: 1) determination of the fraction of the population that meets a socially defined value and 2) association among indicators of ecological condition and stressors. See **Ecological Risk Assessment.**

Assessment Endpoints: Detailed expressions of those values that have been identified as environmental or societal values associated with forests studied under the Forest Health Monitoring Program (FHP). See **Ecological Risk Assessment.**

Atmosphere: The blanket of gases, vapor, and aerosol particles encasing the Earth.

Atmospheric Deposition: The flux (flow) of chemicals and materials from the atmosphere to the Earth’s surface. Depending on the chemical or material, “dry” deposition (e.g., by particles) can be less than, equal to, or greater than “wet” deposition (e.g., precipitation).

Available Soil Moisture: The portion of water in a soil that can be readily absorbed by plant roots. It is the amount of water released between *in situ* field capacity and the permanent wilting point.

Bar Chart: A graphic representation of the frequency of different data values using rectangles with heights proportional to the frequencies.

Bedrock: Solid rock layers of the Earth's crust which underlie soil and other unconsolidated material such as alluvial sediments. See **Alluvial Sediments.**

Benthic Condition: The numbers of animals of each species observed at a location used as a basic measure by benthic ecologists to describe the condition of the benthic community. More recently, estuarine scientists have been conducting research on ways to combine individual pieces of information about benthic communities into a single measure that tracks the condition of benthic communities, similar to how the Dow Jones average is used to track the "condition" of the stock market. Two examples of this approach for the Mid-Atlantic Region are the Chesapeake Bay Benthic Restoration Goal Index (RGI) and the EPA Environmental Monitoring and Assessment Program (EMAP) Benthic Index (BI). See ***Benthic Restoration Goal Index*** and ***EMAP Benthic Index***.

Benthic Restoration Goal Index (RGI): An index developed by comparing benthic communities in areas relatively free of pollution with those in areas more affected by pollution. Scores are assigned based upon attributes of the benthic community, such as number of species, total number and mass of organisms, presence of organisms in deeper layers of the sediment, and relative abundance of species that are tolerant of pollution. The scores for each of the attributes are then averaged to give an overall rating of the community's condition, then aggregated to the three categories—meets goals, impacted, and severely impacted.

Benthos: Plants or animals that live in or on the bottom of an aquatic environment such as an estuary.

Best Management Practices (BMP): Structural, nonstructural, and managerial techniques recognized to be the most effective and practical means to reduce surface water and ground water contamination while still allowing the productive use of resources.

Bioaccumulation: A process where chemicals (e.g., DDTs, PCBs) are retained by plants and animals and increase in concentration over time. Uptake can occur through feeding or direct absorption from water or sediments.

Bioassessment: Tests performed to determine the relative strength of a substance by comparing its effect on a test organism with that of a standard preparation.

Bioavailability: The extent and rate of availability of a dose of a chemical substance to body tissues, affected by tissue absorption, body distribution, metabolism, and excretion rates.

Bioconcentration: Entails the uptake and accumulation of chemical substances in the tissues of an organism through the food chain.

Biodiversity: The variety and variability among living organisms and the ecosystems in which they occur. Biodiversity includes the number of different items and their relative frequencies; these items are organized at many levels, ranging from complete ecosystems to the biochemical structures that are the molecular basis of heredity. Thus, biodiversity encompasses expressions of the relative abundances of different ecosystems, species, and genes.

Biological Metrics: See ***Indicator***, ***Stressor***.

Biomagnification: The progressive increase in the concentration of chemical contaminants (e.g., DDTs, PCBs, methyl mercury) from the bottom (e.g., phytoplankton, benthic animals) to the top of the food web (e.g., striped bass) as contaminated food species are consumed.

Bioregion: A subclassification of an ecoregion.

Biosphere: The envelope of Earth (including all organic matter, both living and nonliving) and its atmosphere that can support life.

Black Water: Water containing liquid and solid human body waste generated through toilet use.

Bored Well*:* A well drilled with a large truck-mounted boring auger, usually 12 inches or more in diameter and seldom deeper than 100 feet.

Brackish: Having a salinity between that of fresh and sea water.

Brownfields: Abandoned, idled, or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination.

Calorie*:* The amount of heat required to raise the temperature of one gram of water by one degree centigrade.

Capillary Fringe*:* A zone in the soil just above the water table that remains saturated or almost saturated.

Carcinogenic*:* Event, condition, or effect that produces cancer.

Carcinogens: Cancer-causing substances.

Catch Per Unit Effort (CPUE): A term used in fisheries science to standardize catch information. For example, the CPUE for blue crab harvest might be described as the number of crabs caught per crab pot per day.

Chlorination*:* The application of chlorine to water, sewage, or industrial wastes, generally to disinfect, oxidize, or improve settling.

Chlorophyll/Chlorophyll a: A group of green pigments found in green plants, including phytoplankton, that are active in harnessing energy during photosynthesis. Chlorophyll *a* is a measure of the green pigment in phytoplankton. The measured concentration of chlorophyll *a* in surface waters used as a surrogate for phytoplankton levels.

Climate: The average of patterns of a region or locality, based upon long-term statistics, including extremes (such as flood and droughts) and deviations from normals.

Cluster Analysis: A statistical procedure which groups members of a population into similar categories or clusters on the basis of more than one ecological indicator.

Coarse Scale**:** See ***Scale***.

Coastal Wetlands: Wetlands consisting mainly of tidal marshes and mudflats that are periodically flooded by saltwater or a mix of saltwater and freshwater.

Coliform Bacteria: A group of bacteria primarily found in human and animal intestines and wastes. These bacteria are widely used as indicator organisms to show the presence of such wastes in water and the possible presence of pathogenic (disease-producing) bacteria. *Escherichia coli (E. coli)* is one of the fecal coliform bacteria widely used for this purpose.

Community: The assemblage of populations of plants and animals that interact with each other and their environment. The community is shaped by populations and their geographic range, the types of areas they inhabit, species diversity, species interactions, and the flow of energy and nutrients through the community.

Comparative Assessment: An analysis of characteristics through the evaluation of a population relative to other members.

Concentration: The relative amount of a substance in a given medium.

Conceptual (or Working) Model: An abstract framework used to organize ideas and information into a form that is more easily examined. These models are often helpful when searching for commonalties between apparently unrelated phenomena, or when defining the scope of inquiry when organizing and interpreting measurements of biological conditions.

Condensation: The cooling of water vapor until it becomes a liquid through the release of latent heat.

Confined Aquifers: Aquifers that are enclosed beneath the water table. Its upper, and perhaps lower, boundary is defined by a layer of natural material that does not transmit water readily.

Confining Layer*:* The geological material through which significant quantities of water cannot move; located below unconfined aquifers, above and below confined aquifers. Also known as a confining bed.

Consolidated Rock: See **Bedrock**.

Consumption*:* Water that is actually consumed, transpired, or incorporated into new products as it is used.

Consumptive Use: The total amount of water taken up by vegetation for transpiration or building of plant tissue, plus the unavoidable evaporation of soil moisture, snow, and intercepted precipitation associated with vegetal growth.

Contaminated Sediment: Soil, sand, organic matter, or minerals that accumulate on the bottom of a water body and contain toxic or hazardous materials at concentrations that may adversely affect human health or the environment.

Contamination: The impairment of water, sediments, plants, or animals by chemicals or bacteria to such a degree that it creates a hazard to public and environmental health through poisoning, bioconcentration (bioaccumulation), or the spread of disease. Contamination can be naturally occurring or manmade.

Continental margin: Edges of continents that are underwater including the continental shelf, the continental slope and the continental rise.

Continental rise: An immense section of sediment located at the bottom of the continental slope.

Continental Shelf: A gently sloping submarine plane of varying width extending from the shoreline of a continent to the continental slope.

Continental Slope: The sloping sea bottom of the continental margin that begins at the shelf break and ends at the top of the continental rise.

Cropland: An area cultivated to provide various food products.

Crustacean: Any of various predominantly aquatic arthropods of the class Crustacea, including lobsters, crabs, shrimps, and barnacles, having segmented bodies, a chitinous exoskeleton, and paired, jointed limbs (appendages).

Cumulative Environmental Impact: The net result of more than one stress applied to a given unit of the landscape.

Dam: A structure formed to hold water back, generally built near uncontaminated water collection sources in order to provide a drinking water supply to the surrounding communities.

DDT: A group of colorless chemicals used as insecticides. DDTs are toxic to man and animals when swallowed or absorbed through the skin.

Deep Percolation: Water that moves downward through the soil profile below the root zone and cannot be used by plants.

Degradation*:* To wear down, reduce to lower quality, by erosion or reduce the complexity of a chemical compound.

Delmarva Peninsula: The land separating Chesapeake Bay from the Atlantic Ocean. The Delmarva Peninsula falls within the states of Delaware, Maryland, and Virginia, from which it gets its name - Delmarva.

Depression Storage*:* Water stored in surface depressions and therefore not contributing to surface runoff.

Depurate: To cleanse. For example, shellfish contaminated with coliform bacteria can be placed in clean seawater to depurate. Clean water flowing through the organism will remove the bacteria over a period of time. Note that this process does not apply to all contaminants (e.g., chlorinated pesticides).

Dermo: Oyster disease caused by the protozoan parasite, *Perkinsus marinus*.

Detritus: Non-living organic matter (e.g., dead organisms or leaves) in water.

Dew Point: The temperature to which air must be cooled to cause condensation of the water vapor it contains. The higher the dew point, the higher the moisture content of the air.

Digital Map: An electronic representation of a portion of the Earth's surface that stores both the geographic location of an object and descriptive data about the object.

Discharge: Rate of stream flow. Usually measured as the volume of water flowing past a cross section of stream per unit of time (m^3 or ft^3/s).

Dissolved Oxygen: Oxygen that is dissolved in water and therefore available for use by plants (phytoplankton), shellfish, fish, and other animals. If the amount of oxygen is too low, aquatic plants and animals may die. In addition, aquatic populations exposed to low dissolved oxygen concentration may be more susceptible to adverse effects of other stressors (e.g., disease, toxic substances). Wastewater and naturally occurring organic matter contain oxygen-demanding substances that, when decomposing, consume dissolved oxygen.

Drainage Well: (1) A well pumped in order to lower the water table; (2) vertical shaft to a permeable substratum into which surface and subsurface drainage is channeled which is now illegal.

Drawdown: (1) Lowering of the water table, surface water, or piezometric surface resulting from the withdrawal of water from a well or drain; (2) the elevation of the static water level (at the well) at a given discharge.

Drilled Well*:* A well of varying depth usually 10 inches or less in diameter, drilled with a drilling rig and cased with steel or plastic pipe.

Dug Well: A large diameter well dug by hand, usually old and often cased by concrete or hand-laid bricks. Such wells typically reach less than 50 feet in depth and are easily and frequently contaminated.

Dystrophic: Low in nutrients and highly colored with dissolved humic organic material (not necessarily a part of the natural trophic progression).

***Ecological**:* Relating to the interrelationships of organisms and their environment.

Ecological Indicator: A characteristic of the environment that is measured to provide evidence of the biological condition of a resource. Ecological indicators can be measured at different levels such as organism, population, community, or ecosystem.

Ecological Risk Assessment: A process that evaluates the likelihood that adverse ecological effects may occur or are occurring as a result of exposure to one or more pollutants. See ***Risk Assessment***.

Ecology: The study of the interrelationships between organisms and their natural environment.

Ecoregion: A relatively homogeneous geographic area perceived by simultaneously analyzing a combination of causal and integrative factors including land surface form, soils, land uses, and potential natural vegetation. Ecoregions are generally considered to be the regions of relative homogeneity in ecological systems or in relationships between organisms and their environments.

***Ecosystem**:* The most complex level of organization is the ecosystem. An ecosystem includes the plant and animal communities in an area together with the non-living physical environment that supports them. Ecosystems have physically defined boundaries, but they are also dynamic: their boundaries and constituents can change over time. They can import and export materials and energy and thus can interact with and influence other ecosystems. They can also vary widely in size.

Edge Habitat: The outermost belt (ranging from a few to several hundred feet) encompassing a patch that has an environment very different from the interior of a patch. See **Interior Habitat**.

Effluent: The discharge to a body of water from a defined or point source, generally consisting of a mixture of waste and water from industrial or municipal facilities.

EMAP: Environmental Monitoring and Assessment Program - an Environmental Protection Agency Office of Research and Development research program (http://www.epa.gov/EMAP).

EMAP Benthic Index (BI): An index developed to reduce individual measures of the benthic community into a single number. Parameters in the BI include a measure of species diversity and measures of pollution intolerant organisms. A positive BI indicates good conditions, while a negative BI indicates impacted benthic community.

Emergent Wetlands: Wetlands, commonly called marshes and wet meadows that are dominated by grasses, sedges, and other herbaceous (non-woody) plants.

Endangered Species: Any species in danger of extinction throughout all or a significant portion of its range/habitat.

Engineering: The application of science to the design, creation, and function of machines, construction etc.

Epilimnion: The upper layer of water in a thermally stratified lake or reservoir. This layer consists of the warmest water and has a fairly uniform (constant) temperature. The layer is readily mixed by wind action.

***Erosion**:* The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep. Geological erosion is erosion that occurs naturally over long periods of time. Accelerated erosion is more rapid than normal erosion and results primarily from man's activities. Erosion is further classified by the amount and pattern of soil removal and transport.

Estuary (Estuaries): Regions of interaction between rivers and near-shore ocean waters, where tidal action and river flow mix fresh and salt water. Such areas include bays, mouths of rivers, salt marshes, and lagoons. These brackish water ecosystems shelter and feed marine life, birds, and wildlife.

Eutrophic/Eutrophication: A condition in an aquatic ecosystem where high nutrient concentrations stimulate blooms of algae (e.g., phytoplankton). These excess nutrients can lead to a condition in which prolonged blooms of algae deprive light and oxygen from other organisms while turning waterways green and foul smelling. Algal decomposition may lower dissolved oxygen concentrations. Although eutrophication is a natural process in the aging of lakes and some estuaries, it can be accelerated by both point and nonpoint sources of nutrients.

Evaporation: The process of returning moisture to the atmosphere. Water on any surface, especially the surfaces of mudholes, ponds, streams, rivers, lakes, and oceans, is warmed by the sun's heat until it reaches the point at which water turns into the vapor, or gaseous, form. The water vapor then rises into the atmosphere.

Evapotranspiration*:* The combined loss of water to the atmosphere from land and water surfaces by evaporation and from plants by transpiration.

Extinct: A species of plant or animal that is no longer living.

Fall Line: A break in the flow of all rivers as they flow from the Appalachian plateau to the Atlantic coastal plain. This region is characterized by the transition of steep, rapidly flowing streams to wider, slower rivers. Large cities are frequently located at the fall line since this represents the upward limit of navigation from the sea.

Fecundity: Fish reproduction potential. Fecundity is usually measured by the number of eggs a female produces.

Filter Feeder/Filter Feeding*:* Bivalve shellfish are filter feeders, meaning they pump water through their gills for both respiration and feeding-on detritus, phytoplankton, zooplankton. As they pump this water, the gills filter out particulates, removing suspended material from the water. Because shellfish are such effective filters of the water, they tend to accumulate whatever pollutants are in the water.

Fine Scale: See ***Scale***.

Fish or Shellfish Consumption Advisory: An advisory issued by state government agencies and used to reduce human health risks associated with exposure to chemical contaminants (e.g., PCBs, DDTs, mercury) found in fish and shellfish. Advisories may recommend bans and restricted consumption of certain species in specific geographical areas of an estuary.

Floodplain: Mostly level land along rivers and streams that may be submerged by floodwater. A 100-year floodplain is an area which can be expected to flood once in every 100 years.

Food Chain: The transfer of energy in a methodical fashion from one functional feeding group to another.

Food Web: The process of interconnected food chains (including plants, herbivores, and carnivores) that create a pathway that transfers energy throughout a biological community.

Forest: Land with at least 10% of its surface area stocked by trees of any size or formerly having had such trees as cover and not currently built-up or developed for agricultural use. Forests are distinguished by their species of trees and plants, density, and soil type. Forests are also divided into vertical layers: the canopy, the shrub layer, and the forest floor.

Forest Cover: The amount of forest per unit area.

Forest Health Monitoring Program (FHP): The FHP's mission is to develop and implement a cooperative multi-agency program to monitor, assess, and report on the long-term status, changes, and trends in forest ecosystem health in the United States.

Forested Wetlands: Wetlands, largely wooded swamps and bottomland hardwood forests that are dominated by trees (greater than 20 feet tall).

Fragmentation: Refers to a formerly healthy forest that has been divided into many patches, usually due to conversion to agricultural or residential land.

Freshwater Acute Criteria: Concentrations at which 95% of a diverse group of genera would not be adversely affected based on an exposure time of 1 hour. If the 1-hour average concentration of a contaminant does not exceed the acute criteria more than once in a 3-year period, aquatic ecosystems should not be adversely affected.

Freshwater Chronic Criteria: Concentrations at which 95% of a diverse group of genera would not be adversely affected based on an exposure time of 4 days. If the 4-day average concentration of a contaminant does not exceed the acute criteria more than once in a 3-year period, aquatic ecosystems should not be adversely affected.

Fungicide: Chemicals used to harm or kill undesirable fungi.

Geographic Information System (GIS): A collection of computer hardware, software, and geographic data designed to capture, store, update, manipulate, analyze, and display geographically referenced data.

Grey Water: Domestic wastewater other than that containing human excrete such as sink drainage, washing machine discharge, or bath water.

Groundwater: Water found under the earth's surface, and especially in the saturated zone.

Habitat: The place where a population or community (e.g., micro-organisms, plants, animals) lives and its surroundings, both living and non-living.

Half Life: The time it takes certain materials, such as persistent pesticides, to become chemically altered.

Hardness: A characteristic of water caused by the measure of various salts, calcium, magnesium, and iron that are dissolved in the water.

Health Advisories (HA)**:** Non-regulatory levels of contaminants in drinking water at which no adverse effects would be expected. Health advisories are used for guidance in the absence of regulatory limits. Health advisories have been issued for children and adults for several different exposure periods.

Herbicide: Chemicals used to kill undesirable vegetation.

Hot Spot: Localized areas with contaminant concentrations in excess of regulatory standards. Generally located near urbanized areas or point-source discharges.

Hybrid: The offspring of two animals or plants of different races, breeds, varieties, species, or genera.

Hydrogeology: The part of hydrology that deals with the occurrence, movement, and quality of water beneath the Earth's surface.

Hydrograph*:* A graph that illustrates hydrologic measurements over a period of time, such as water level, discharge, or velocity.

Hydrologic Cycle: The circulation of water within the Earth system and through the Earth's atmosphere by various processes including evaporation, condensation, precipitation, runoff, ground water storage and seepage, and re-evaporation into the atmosphere.

Hydrologic Unit Code (HUC): Reference used by the USGS for assessing hydrologic units throughout the United States.

Hydrology: The science of water relating to occurrence, properties, distribution, circulation and transport of water.

Hydrophytes: Specially adapted plants that grow in areas having alternating wet and dry conditions. Examples of hydrophytes include floating pond lilies, emergent cattails, many sedges, tamarack, and black spruce.

Hydrosphere: Major earth subsystem consisting of water held in oceans, rivers, lakes, glaciers, ground water, plants, animals, soil, and air.

Hypereutrophic: Murky, highly productive waters, closest to the wetland status.

Hypolimnion: The lowest layer in a thermally stratified lake or reservoir. This layer consists of colder, more dense water, and has a constant temperature where no mixing occurs.

Hypoxia: A condition where very low concentrations of dissolved oxygen are in the water column.

Impermeable Materials: Impermeable material contains pores that are not connected, therefore, ground water cannot move from one space to another. Materials such as clay or shale have many small pores, but the pores are not well connected. Therefore, clay or shale usually restrict the flow of groundwater.

Index Value: The realized measurement of an indicator for a given landscape unit.

Indicator: An indicator is defined as any component of the environment that quantitatively estimates the condition of ecological resources, the magnitude of stress, the exposure of a biological component to stress, or the amount of change in condition.

Infiltration: The downward entry of water through the soil surface into the soil. Infiltration constitutes the sole source of water to sustain the growth of vegetation and it helps to sustain the ground water supply to wells, springs, and streams. The rate of infiltration is influenced by the physical characteristics of the soil, soil cover (i.e. plants), water content of the soil, soil temperature, and rainfall intensity. The terms infiltration and percolation are often used interchangeably.

Infiltration Rate: The quantity of water that enters the soil surface in a specified time interval. Often expressed in volume of water per unit of soil surface area per unit of time (e.g., in/hr, cm/hr).

Inland Wetlands: Freshwater marshes, swamps, and bogs that are largely non-tidal (not affected by ocean-driven tides).

Insecticide: Chemicals used to control undesirable insects.

Integrated Assessment: An assessment that brings together data about the condition (past, current and future) of ecosystems; the impact of humans and our lifestyles on the ecosystems; and the effects upon humans of the changed environment. Integrated assessments combine the following scientific disciplines: ecology, social sciences, health science, and engineering.

Integrated Pest Management (IPM): A mixture of chemical and other, non-pesticide, methods to control pests.

Interior Habitat: Habitat necessary for insulation from edge effects (e.g., noise, wind, sun, predation) which occurs within the interior of a patch. See **Edge Habitat.**

Intertidal zone: Shoreline area occurring between the highest normal tide and the lowest normal low tide.

Introduced Species: Species that have become able to survive and reproduce outside the habitats where they evolved or spread naturally. Other names for these species include alien, exotic, injurious, introduced, invasive, non-indigenous, and non-native.

Invertebrates: Animals that lack a spinal column or backbone, including molluscs (e.g., clams and oysters), crustaceans (e.g., crabs and shrimp), insects, starfish, jellyfish, sponges, and many types of worms that live in the benthos.

Lagoon: Water impoundment in which organic wastes are stored or stabilized or both. A shallow, artificial treatment pond where sunlight, bacterial action, and oxygen work to purify wastewater; a stabilization pond. An aerated lagoon is a treatment pond that uses oxygen to speed up the natural process of biological decomposition of organic wastes.

Lake: A large body of water, typically freshwater, which can be formed by glaciers, river drainage, surface water runoff, or ground water seepage. Lakes provide an area for recreational activity (e.g., boating, water skiing, and fishing) and a habitat for wildlife. They are particularly important to migrating wildlife.

Land Cover: Anything that exists on, and is visible from above the Earth's surface. Examples include vegetation, exposed or barren land, water, snow, and ice.

Land Use: The way land is developed and used in terms of the kinds of anthropogenic activities that occur (e.g., agriculture, residential areas, industrial areas).

Landscape: The spatial pattern or structure of a geographic area (including its biological composition, its physical environment, and its anthropogenic or social patterns) and is designed to identify repeating patterns associated with dominant land uses in an area. The relative proportion of forest, agriculture, and urban land cover contained in the area also defines a landscape as does the interrelationships between them.

Landscape Conditions: The apparent status or characteristics of a landscape unit as measured by one or more landscape indicators.

Landscape Ecology: The study of the distribution patterns of communities and ecosystems, the processes that affect those patterns, and changes in pattern and process over time.

Landscape Indicator: A characteristic of the environment that is measured to provide evidence of the biological condition of one or more resources at the ecosystem level.

Landscape Unit: Designed to identify repeating patterns associated with dominant land uses in an area, and defined by the relative proportions of forest, agriculture, and developed (urban) land cover contained in that area.

Larvae (Larva): Early form of an animal that is unlike its adult form and must metamorphose before assuming adult characteristics.

Latent Heat: The heat (energy) absorbed or released as water changes between the gas (water vapor), the liquid (water droplets), and the solid (ice) states.

LD_{50} **(***Median Lethal Dose):.* The statistically derived single dosage of a toxic substance required to kill 50% of the test organisms under study in a given period of time. It is expressed as a weight of substance per unit weight of animal (e.g., mg/kg).

Leachate: Liquids that have percolated through a soil that carry substances in solution or suspension.

Leaching*:* The downward transport of dissolved or suspended minerals, fertilizers, and other substances by water passing through a soil or other permeable material.

Lethal Dose (LD): The amount of a toxic substance required to cause death of an organism under study, in a given period of time.

Lifetime Health Advisory: This health advisory is defined as the concentration of a chemical in drinking water that is not expected to cause any adverse effects over a lifetime of exposure, with a margin of safety. These health advisories are calculated for a 70-kilogram (154-pound) adult and assumes the consumption of 2 liters of water per day.

Lithosphere: A general term for the outer layer of the Earth.

Loess: A wind blown deposit of silty soil having little or no stratification.

Longer-Term Health Advisory (Child): This health advisory is defined as the concentration of a chemical in drinking water that is not expected to cause any adverse effects up to approximately 7 years of exposure, with a margin of safety. These health advisories are calculated for a 10-kilogram (22-pound) child and assumes the consumption of 1 liter of water per day.

Macroalgae: Non-rooted aquatic plants commonly referred to as seaweed.

MAIA: The MAIA program is an integrated environmental assessment program being conducted by USEPA, Region 3, and USEPA's Office of Research and Development, in partnership with other federal and state agencies **(http://www.epa.gov/Maia).**

Manure: The fecal and urinary defecation of livestock and poultry.

Marsh: A wetland where the dominant vegetation is non-woody plants, such as salt grasses and sedges, as opposed to a swamp, where the dominant vegetation consists of woody plants such as trees and shrubs.

Maximum Contaminant Level (MCL): The maximum level of certain contaminants (set by EPA under the federal Safe Drinking Water Act) permitted in drinking water supplied by a public water system. MCLs are enforceable standards and are established on the basis of health effects, treatment capability, monitoring availability, and costs. These standards apply to finished (treated) drinking water.

Median Lethal Dose: See ***LD_{50}***.

Mesohaline Waters: Waters having salinity between 5 and 18 ppt.

Mesotrophic: Waters containing a moderate nutrient content, and therefore, more biological productivity.

Metalimnion: The middle layer of a thermally stratified lake or reservoir. In this layer there is a rapid decrease in temperature with depth. Also called the thermocline.

Methemoglobinemia: Blood related condition found in babies due to nitrate poisoning. This poisoning limits the blood's ability to carry oxygen thereby causing a baby to look blue hued, also known as blue baby syndrome.

Method Detection Limit (MDL): The minimum concentration of a substance being analyzed that has a 99 percent probability of being identified.

Mid-Atlantic Estuaries: For MAIA, the Mid-Atlantic Estuaries are defined as Delaware Bay and its tributaries, Chesapeake Bay and its tributaries, and the coastal bays of the Delmarva Peninsula.

Mid-Atlantic Region: For MAIA, the Mid-Atlantic Region is defined as the watershed of the Chesapeake Bay, Delaware Estuary, and the Delmarva coastal bays. It includes all or portions of Virginia, West Virginia, Maryland, Delaware, Pennsylvania, New Jersey, and New York. Specifically, the proper boundaries for the MAIA region includes the Upper New Cataloging Unit (05050001), portions of the Allehgeny Cataloging Unit (05010001), Conewango Cataloging Unit (05010002), and French Cataloging Unit (05010003) that extends into New York.

Mitigation: Measures taken to reduce adverse effects on the environment.

Model: A representation of reality used to simulate a process, understand a situation, predict an outcome, or analyze a problem. A model is structured as a set of rules and procedures, including spatial modeling tools that relate to locations on the Earth's surface.

MSX: An oyster disease caused by the protozoan parasite, *Haplosporidium nelsoni*.

Net Primary Productivity: A measure of carbon flux over a given landscape unit, approximately, the actual amount of organic matter created by green plants, whether it accumulates in plants, is eaten by animals, or becomes dead material over a fixed time interval (Waring and Schlesinger 1985).

Nitrate (NO_3): Inorganic form of nitrogen; chemically NO_3. An important plant nutrient and type of inorganic fertilizer (most highly oxidized phase in the nitrogen cycle). In water, the major sources of nitrates are septic tanks, feed lots and fertilizers.

Nitrite (NO_2): The product in the first step of the two-step process of conversion of ammonium (NH_4) to nitrate (NO_3).

Non-Native Species: See ***Introduced Species***.

Nonpoint Source: Refers to pollutants that enter water from numerous widespread locations, such as agri-chemicals from leaching or runoff.

Nonpoint Source Pollution: Pollution that enters water from dispersed and uncontrolled sources (such as surface runoff, agricultural runoff, urban runoff, and atmospheric deposition) rather than through pipes.

Non-Transient Non-Community Water Systems: Public water system which: serves 15 or more service connections that are used by the same person for at least 6 months per year; or serves the same 25 or more persons for at least 6 months per year. Examples of NTNC water systems include schools, churches, and workplaces. The same individuals use the water from month to month, but do not live at this facility.

Nutrients: Essential inorganic chemicals (e.g., nitrogen and phosphorus) needed by plants for growth. Excessive amounts of nutrients (eutrophication) can lead to degradation of water quality by promoting excessive growth, accumulation, and subsequent decay of plants, especially algae (phytoplankton).

Nutrient Enrichment: See ***Eutrophication***.

Oligohaline Waters: Waters having salinity less than 5 ppt.

Oligotrophic: Clear waters with little organic matter or sediment and minimum biological activity.

Organic Compounds: Natural or synthetic substances based on carbon.

Overwithdrawl: Withdrawal of ground water over a period of time that exceeds the recharge rate of the supply aquifer.

Particulate Materials: Materials in the atmosphere that can reduce visibility, cause harm to human health, and soil the surfaces on which they settle. These materials can include dust, pollen, ash, and smoke. If inhaled, these materials can be deposited in the human respiratory system and may damage human health.

Pasture Land: Grassy areas for raising and feeding livestock.

Pathological condition: Abnormal anatomic or physiological condition.

Peer Review: Written, critical response to a study, data, or report provided by scientists and other technically qualified professionals.

Perched Aquifer: An aquifer containing unconfined (unpressurized) ground water held above a lower body of ground water by an unsaturated zone; often a result of clay lenses in the soil strata.

Percolation: The downward movement of water through soil and rock. The terms infiltration and percolation are often used interchangeably.

Permeability: *A* measure of how well the spaces in the soil or rock are connected. Used to determine the ease with which rock, soil, or sediment will transmit a fluid.

Permeable Materials: Materials that allow liquids to move through them easily. Gravel, sand, sandstone, or fractured rock such as limestone are permeable materials because they have large connected spaces that allow ground water to flow through.

Pesticides: A general term used to describe chemical substances (e.g., chlordane, DDT, and kepone) that are used to destroy or control insect or plant pests. Many of these substances are manufactured and do not occur naturally in the environment. Others are natural toxins that are extracted from plants and animals.

pH: A measure ranging from 0 to 14 that describes the acidity or alkalinity of a substance based on hydrogen ion activity. A pH of 7.0 is neutral, values below 7.0 are acid, and above 7.0 are alkaline.

Phytoplankton: Minute plant life (e.g., algae), usually containing chlorophyll, that passively drifts or weakly swims in a water body.

Phytoplankton Bloom: A sharp increase in the population of phytoplankton, often occurring in the spring, summer, or fall in different areas of an estuary.

Pixel: A contraction of the phrase “picture element”. Referred to as a cell in an image or grid.

Point Source: Refers to a source of pollutants from a single point of conveyance, such as a pipe. For example, the discharge from a sewage treatment plant or factory is a point source.

Pollutant: A chemical or biological substance in a form that can be incorporated into, onto, or be ingested by aquatic organisms, consumers of aquatic organisms, or users of the aquatic environment.

Pollution Plume: An area of a stream or aquifer containing degraded water resulting from migration of a pollutant.

Polychlorinated Biphenyls (PCBs): A group of closely related and manufactured chemicals made up of carbon, hydrogen, and chlorine. PCBs can persist for a long time in the environment and they can bioaccumulate and biomagnify in aquatic food webs. PCBs are suspected of causing cancer in humans. They are an example of an organic contaminant.

Polycyclic Aromatic Hydrocarbons (PAHs): A class of chemical compounds composed of fused six-carbon rings. PAHs are commonly found in petroleum oils (e.g., gasoline and fuel oils) and are emitted from various combustion processes (e.g., automobile exhausts, electric companies).

Polyhaline/Euhaline Waters: Waters having salinity greater than 18 ppt.

Pond: A body of water usually smaller than a lake, encircled by vegetation, and generally shallow enough for sunlight to reach the bottom. Rooted plants can grow in any spot within the pond creating a habitat for various forms of animal life.

Pores: The spaces in a gravel aquifer.

Porosity: The degree to which the total volume of soil, gravel, sediment, or rock is permeated with pores or cavities through which fluids (including air) can move.

Potable Water: Water that is fit to drink.

ppm: Parts-per-million; a common basis for reporting water analysis. One ppm equals one unit of measurement per million units of the same measurement. The equivalent to microgram per gram (μg/g) or milligrams per liter (mg/L).

ppt: Parts per thousand (used as a measurement of salinity).

Precipitation: Moisture that falls from the atmosphere as rain, snow, sleet, or hail. Precipitation varies in amount, intensity, and form by season and geographic location.

Principal Aquifer: The aquifer in a given area that is the important economic source of water to wells for drinking, irrigation, etc.

Productivity: The conversion of light energy and carbon dioxide into living organic material.

Quintile: Any of the four values that divide the items of a frequency distribution into five classes with each containing one fifth of the total population. For example, one–fifth of the watersheds in a population have indicator measurements less than the first quintile. A “quintile” also refers to one of the five groups formed by the dividing values.

Recharge Water: Water that seeps down from the land surface adding to the ground water. For example, ground water is recharged from rain water and snowmelt or from water that leaks through the bottom of some lakes and rivers. Ground water can also be recharged when water-supply systems (pipelines and canals) leak and when crops are irrigated with more water than the plants can use.

Recharge Zones: The area of land that allows water to replenish an aquifer. This process occurs naturally when rainfall filters down through the soil or rock into an aquifer, usually in the higher gradient section overlying the aquifer. Artificial recharge is through injection wells or by spreading water over ground water reservoirs for any given area.

Recruitment: Entry of fish into a fishery either through the attainment of a size large enough to be taken by a fishery or from an external source (e.g., fish entering an estuary from the ocean). Recruitment also can refer to fish reaching sexual maturity for non-exploitable species.

Reservoir: A man-made body of water (it is replenished by rain and river or stream flow), which is formed after a dam is built on a river, and is used for the collection and storage of water. In addition to providing municipal water supplies, reservoirs provide recreational areas, are used for irrigation, hydroelectric power, and flood control.

Reverse Osmosis: Treatment that uses a very fine molecular sieve that permits water to pass through but not contaminants. Useful for nitrate removal.

Riparian Zone: The area of vegetation located on the bank of a natural watercourse, such as a river, where the flows of energy, matter, and species are most closely related to water dynamics.

Risk Assessment: Qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutants.

Risk Management: The process of evaluating and selecting alternative regulatory and non-regulatory responses to risk by considering scientific, legal, economic, and behavioral factors.

River: A stream of water of considerable volume, which travels downhill (from higher altitudes to lower altitudes due to gravity). Rivers carry freshwater to cities and farms, serve as the home to wildlife and fisheries, and provide recreation and natural beauty for people throughout the nation. Rivers are used by humans for irrigation, to transport people and their manufactured products, to produce hydroelectric power, and to provide habitats for animals.

Root Zone: The depth of soil penetrated by crop roots.

Runoff: The flow of water, usually from precipitation, which is not absorbed into the ground. It flows across the land and eventually runs to stream channels, lakes, oceans, or depressions or lowpoints in the Earth's surface. The characteristics that affect the rate of runoff include rainfall duration and intensity as well as the ground's slope, soil type, and ground cover. Runoff can pick up pollutants from the air and land, carrying them into the streams, lakes, etc.

Salinity: A measurement of the amount of salt in water. Generally reported as "parts per thousand" (i.e., grams of salt per 1,000 grams of water) and abbreviated as "ppt" or ‰. Salinity also is reported as "practical salinity units" and abbreviated as "psu."

Salt Marsh: Class of wetlands consisting of salt-tolerant grasses and other plants that are periodically exposed to salt water flooding.

Salt-Water Intrusion: Process by which an aquifer is over drafted creating a flow imbalance within an area that results in salt water encroaching into fresh-water supply.

Satellite Imagery: Information collected in the field by surveyors, or from aerial photographs, satellite images, or by using the Global Positioning System, that is almost always represented on some type of map.

Saturation Zone: A layer of rock through which water cannot easily move.

Scale: A ratio between distance measured on a map (or other representation) to the same distance measured on the earth.

Secondary Aquifer: Any aquifer that is not the main source of water to wells in a given area - includes shallow and perched aquifers.

Sediment: Mud, sand, silt, clay, shell debris, and other particles that settle on the bottom of rivers, lakes, estuaries, and oceans.

Sediment Contamination: Informal guidelines for interpreting sediment contamination based on many field and laboratory studies have been developed. These guidelines attempt to relate observed chemical concentrations to those known to either cause biological effects in laboratory spiked-sediments or spiked-water experiments, or be associated with biological effects in field studies.

Sediment Loading: The solid material transported by a stream, expressed as the dry weight of all sediment that passes a given point within a specific period of time.

Sedimentation: Sedimentation is the removal, transport, and deposition of detached sediment particles by wind or water.

Seine Survey: A fish capturing procedure where fish are enclosed and drawn to shore using a large net with sinkers on one edge and floats on the other.

Shellfish: An aquatic animal, such as a mollusc (e.g., clams, oysters, and snails) or crustacean (e.g., crabs and shrimp), having a shell or shell-like external skeleton (exoskeleton).

Shrub Wetlands: Wetlands, including shrub swamps and bogs, that are represented by medium-height (less than 20 feet tall) woody plants.

Sigma-t: A measure used in physical oceanography to describe water density, calculated by subtracting one from the specific gravity of seawater and multiplying by 1000. The degree of water column stratification is determined from the difference in sigma-t between surface and bottom waters.

Smog: Smog forms when volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) combine in the presence of sunlight on warm days. VOCs come from solvent and paint evaporation, along with car, truck, boat, and plane emissions. NO_x comes predominantly from car and truck exhaust as well as the smokestack emissions of industries and utilities. Also called ground-level ozone.

Social Sciences: The study of human society and individual relationships in and to society. Social sciences include sociology, psychology, anthropology, economics, and political science.

Sole Source Aquifer: Designated under the Safe Drinking Water Amendments (1986), an aquifer of critical value as the main or only supplier of drinking water for a specific area.

Sorb: To take up and hold either by absorption or adsorption.

Spatial Database: A collection of information that contains data on the phenomenon of interest, such as forest condition or stream pollution, and the location of the phenomenon on the Earth's surface.

Spatial Extent: The total area (water and land) where a condition (e.g., shellfish diseases) or populations of plants and animals are found.

Spatial Pattern: Generally, the way things are arranged on a map. For example, the pattern of forest patches can be described by their number, size, shape, distance between patches, etc. The spatial pattern exhibited by a map can also be described in terms of its overall texture, complexity, and other indicators.

Spatial Scale: For example, a landscape, forest ecosystem, community, etc.

Spawning: Sexual reproduction in fish.

Species*:* The species is the fundamental unit of biological organization. Members of a species are genetically similar and normally mate only with other members of the same species, thus preserving that genetic similarity.

Spring: A place where ground water naturally comes to the surface resulting from the water table meeting the land surface.

Stakeholder: Any organization, governmental entity, or individual that has a stake in or may be impacted by a given approach to environmental regulation, pollution prevention, energy conservation, etc.

Stormwater: Runoff from streets, parking lots, parks, as well as agricultural and urban areas into a water body.

Stratification: The formation, accumulation, or deposition of materials in layers, such as layers of fresh water overlying higher salinity water (salt water) in estuaries. See ***Sigma-t***.

Stream: A natural body of flowing water that is a complex ecosystem in which biological, chemical, or physical changes may affect other characteristics. A stream begins at its headwaters and gathers water from runoff, rain, snowmelt, or from underground springs. Streams hold great importance regardless of size or flow. They provide water supplies, a variety of aesthetic values, and are also important wildlife habitats.

Stream Acidification: See ***Acid Deposition***.

Stream Order: An important indicator of plants and animals present in streams. First order, small streams often have distinct characteristics. They are typically very clear and dominated by aquatic insects and algae in the stream bottom, and often have small fish that feed on these bottom organisms. Higher order streams (large streams) are often muddy and dominated by larger fish. The joining of two first order streams creates a second order stream. In turn, the joining of two second order streams create a third order stream.

Stressor: Any physical, chemical, or biological entity that can induce an adverse response (or stress).

Submerged Aquatic Vegetation (SAV): Rooted aquatic vegetation, such as seagrasses, that cannot withstand excessive drying and therefore live with their leaves at or below the water surface in shallow areas of estuaries where light can penetrate to the bottom sediments. SAV provides an important habitat for young fish and other aquatic organisms.

Substrate: A surface on which a plant or animal grows or is attached.

Surface Water: Water found over the land surface in rivers, streams, creeks, lakes, ponds, marshes, or oceans.

Suspended Solids/Suspended Sediments: Particles of soil, sediment, living material, or detritus suspended in the water column.

Taxa: A taxonomic unit. A taxonomic group of any rank, including all the subordinate groups. Any group of organisms, populations, or taxa considered to be sufficiently distinct from other such groups to be treated as a separate unit.

Threatened Species: A species that is likely to become endangered if not protected.

Tidal Mud Flat: The unvegetated shore exposed to air during low tide.

Tissue Residues: Chemical contaminants present in fish or shellfish which concentrate in the tissues (e.g., muscle, liver) of organisms.

Topographic: The physical features of a surface area including relative elevations and the position of natural and man-made (anthropogenic) features.

Total Dissolved Solids: The total amount in milligrams of solid material dissolved in one liter of water (mg/L).

Total Nitrogen: The sum of all nitrogen forms.

Total Phosphorus: The sum of all phosphorus forms.

Total Suspended Solids (TSS): A measure of the suspended solids in wastewater, effluent, or water bodies, determined by tests for total suspended nonfilterable solids. See ***Suspended Solids***.

Toxic Substances/Material: Chemical compounds that are poisonous, carcinogenic, or otherwise directly harmful to plants and animals.

Trace Metals: Metals such as silver, copper, lead, cadmium, zinc, and mercury that normally occur in water and sediments at concentrations less than one part per million (ppm).

Transient Non-Community Water Systems: Public water system which: serves 15 or more service connections but does not serve 15 service connections used by the same persons for more than 6 months per year; or serves an average of at least 25 persons per day for at least 60 days per year, but doesn't serve the same 25 persons for more than 6 months per year. Examples of TNC water systems include campgrounds, rest stops, parks, or restaurants. Different individuals use the water from one day to the next, and they do not live at this facility.

Transmissivity: A measure of the ability of an aquifer to transmit water.

Transpiration: The process by which plants return moisture to the air. Plants take up water through their roots and then lose some of the water through pores in their leaves. As hot air passes over the surface of the leaves, the moisture absorbs the heat and evaporates into the air.

Tributary (Tributaries): A body of water flowing into a larger body of water. For example, the Potomac River is a tributary of Chesapeake Bay.

Trophic Level: A grouping of organisms that use the next lower grouping of organisms as a food source. Used to describe where on the food web (See ***Food Web***) organisms feed. For example herbivores feed on plants, and carnivores feed on herbivores.

Turbidity: The cloudy appearance of water caused by the presence of suspended and colloidal matter. Because turbidity reduces the amount of light penetrating the water column, high turbidity levels may be harmful to aquatic life (e.g., SAV). Technically, turbidity is an optical property of the water based on the amount of light reflected by suspended particles.

Unconfined Aquifer: An aquifer in which the water table is at or near atmosphere pressure; the aquifer may or may not be saturated to the top of the aquifer.

Underground Storage Tank (UST): A tank system, including its piping, that has at least 10% of its volume underground.

Urban Ecosystem: Areas that consist of a large number of people living in close proximity to one another (e.g., cities and suburbs) and serve as a center for residential and commercial activities.

Vertical Stratification: Water layers of varying density, which occur in an estuary when colder, saltier water underlies warmer and fresher water.

Virulent: Extremely poisonous or venomous. Regarding a disease, virulent is defined as the ability to rapidly overcome bodily defensive mechanisms.

Volatile Organic Compound (VOC): A carbon based substance, which wastes away on exposure to the atmosphere.

Volatization: Loss of a substance through evaporation or sublimation. When manure is spread on a field, ammonia-nitrogen in the manure may volatize quickly and be lost as fertilizer unless it is incorporated into the soil.

Wastewater: The used water and solids from a community (including used water from industrial processes) that flow to a treatment plant. Storm water, surface water, and groundwater infiltration also may be included in the wastewater that enters a wastewater treatment plant. The term sewage usually refers to household wastes, but this word is being replaced by the term wastewater.

Water Budget: The depth of annual precipitation to cover an area. In the U.S. it is 30 inches.

Water Clarity: Measurement of how far you can see through the water. The greater the water clarity, the further you can see through the water. The clarity of estuarine water is determined by a measure of the attenuation of sunlight through the water column.

Water Column: A hypothetical "cylinder" of water from the surface of a water body to the bottom and within which physical and chemical properties can be measured.

Water Quality Criteria: Levels of water quality expected to render a body of water suitable for its designated use. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, fish production, or industrial processes.

Water Table: The topmost layer of an unconfined aquifer. Water tables can be above ground, barely below the surface, or hundreds of feet underground.

Water Table Aquifer: An aquifer whose upper boundary is the water table; also known as an unconfined aquifer.

Water Table Well: A well whose water is supplied by a water table or confined aquifer.

Watershed: The entire area of land whose runoff of water, sediments, and dissolved materials (e.g., nutrients, contaminants) drain into a river, lake, estuary, or ocean.

Wetland: A type of ecosystem, generally occurring between upland and deepwater areas, that provides many important functions, including fish and wildlife habitat, flood protection, erosion control, water quality maintenance, and recreational opportunities. A wetland is an area that is covered by water or has water-saturated soil during a portion of the growing season. In general, it is often considered the transitional area between permanently wet and dry environments.

Withdrawal: Water withdrawal from the surface and ground water sources for various human uses.

Young-of-the-Year: Fish produced in the current year’s spawn; Fish less than 1 year old.

Zooplankton: Small, often microscopic animals that drift in currents. They feed on detritus, phytoplankton, and other zooplankton. They are preyed upon by fish, shellfish, whales, and other zooplankton.