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## GLOSSARY

<b>absorption field</b>	That part of a septic system usually made of perforated pipes; these allow wastewater to drain into the soil for its final treatment.
<b>acid</b>	A chemical compound that has a pH less than 7; lemon juice and vinegar are weak acids.
<b>acid rain</b>	Rainwater made acidic when certain gases from automobile exhausts or the burning of coal dissolve in water vapor.
<b>aeration</b>	The process of adding air to water; this increases biological activity.
<b>aerator</b>	A device that can be attached to faucets which mixes air into the water flow.
<b>agriculture</b>	The science of preparing the soil, growing crops and raising farm animals; farming.
<b>algae</b>	Types of plants which lack roots and leaves and grow in water; they may be green, red, or brown, and are in the animal food chain.
<b>algal bloom</b>	A sudden large growth of algae in lakes and ponds that can be caused by excessive nutrient (particularly phosphorus) pollution.
<b>alum</b>	A chemical added to water in treatment plants which causes small particles in the water to stick together; the larger particles then settle to the bottom of the tank.
<b>ammonium</b>	The ion $\text{NH}_4^+$ derived from ammonia gas which is often combined with other substances and used in fertilizers.
<b>aquatic</b>	Growing or living in water.
<b>aquifer</b>	A underground area of water that collects between spaces in rocks.
<b>atmosphere</b>	The blanket of gases which surrounds the earth.
<b>atom</b>	The smallest unit of an element that can exist by itself or in combination with other units.
<b>bacteria</b>	One-celled organisms which sometimes cause disease.
<b>Black Belt</b>	The area in west-central Alabama called this because of its black-colored soils.

<b>cake</b>	Dried sludge material from wastewater; it can be used as fertilizer.
<b>capillarity</b>	Water's ability to move upward in small pores or cavities through the soil against the force of gravity supporting life for plants and animals.
<b>Celsius</b>	Relating to a temperature scale divided into 100 degrees, where commonly used in other countries other than the United States.
<b>chlorine</b>	A chemical element sometimes used to purify water because it kills bacteria.
<b>Coastal Plain</b>	The region of southern Alabama which covers approximately sixty percent of the state; it is separated by the Black Belt into the Upper and Lower Coastal Plains.
<b>coliform</b>	A harmless bacteria found in the gut and feces of warm-blooded animals; the most common microorganism contaminant found in water.
<b>compost</b>	The mixture made of mainly decayed plant matter; it is used to condition and add nutrients to the soil.
<b>condensation</b>	The process of changing water vapor into liquid water.
<b>conservation</b>	The act of protecting and preserving something, particularly our natural resources.
<b>conservation tillage</b>	A method of cultivating farmland that produces less potential for erosion; it leaves at least 30% of crop residue on the soil surface after harvesting crops.
<b>contaminant</b>	Any substance that reduces the quality of water for some use; a pollutant.
<b>contaminants</b>	Impurities or pollutants; usually associated with naturally occurring events (when people cause pollution, we usually call these impurities pollutants).
<b>contour planting</b>	Planting crops in furrows perpendicular to the slope direction to reduce soil losses.

<b>crop rotation</b>	The procedure of rotation types of crops grown on land; e.g., grasses are grown for two years and peanuts the next year; it helps to minimize erosion and reduces fertilizer and pesticide needs.
<b>cryptosporidium</b>	A parasite found in water that can cause disease; it is resistant to chlorination and requires extra microfiltration methods for removal.
<b>dam</b>	A barrier across a waterway which is built to control water.
<b>DDT</b>	An abbreviation for "dichloro-diphenyl-trichloroethane," a synthetic chemical formerly used as a pesticide, but now banned from use. It was used to control mosquitoes, flies, boll weevils and many other insects.
<b>debris</b>	(Pronounced de-bree´) Materials such as leaves and sticks or pieces of garbage that can be easily filtered from water.
<b>decay</b>	The break down of plant or animal matter by bacteria or fungi.
<b>decompose</b>	To break down into basic elements; to rot.
<b>digest</b>	To break down material (such as sludge) into smaller parts; this may be done by bacteria in wastewater and soils.
<b>disinfect</b>	To kill microorganisms, to clean; one method is to use chlorine.
<b>disinfection</b>	A chemical or physical process which kills disease-causing organisms.
<b>dissolve</b>	A condition where solid particles mix with a liquid and appear to become part of the liquid.
<b>distilled</b>	Water that has been purified of minerals and has no taste.
<b>diversity</b>	Variety, many different kinds of things.
<b>drought</b>	A period of little or no rain.
<b>electric power generation</b>	The production of electric energy, or electricity, using natural resources.
<b>electricity</b>	A natural form of energy that can be produced by man-made means, using natural resources, to generate heat or light.
<b>erosion</b>	The process of soil being moved away by water or wind.

<b>estuaries</b>	The lower parts of rivers where they run into the sea.
<b>eutrophication</b>	The natural process by which water becomes enriched with nutrients; this process can be accelerated when excessive nutrients are present.
<b>evaporation</b>	The process of changing liquid water into water vapor.
<b>Fahrenheit</b>	Temperature scale most commonly used in the United States that indicates the freezing point of water as 32 degrees and the boiling point of water as 212 degrees.
<b>fall line</b>	The natural boundary which separates the coastal plain from the northern hilly regions of Alabama.
<b>fecal coliform</b>	A harmless bacteria found in the gut and feces of warm-blooded animals; the presence of this bacteria in water supplies indicates that it is contaminated with waste products and may contain other microorganisms.
<b>fertilizer</b>	A material that can be used to supply essential nutrients needed for plant growth.
<b>filter</b>	A device most commonly used to remove solid particles from water or other fluids, by means of a screen or other material with tiny holes, to sort out large pieces of material.
<b>filter strip</b>	A strip of permanent vegetation above ponds and other structures that retards the flow of runoff water; this causes transported material to be deposited and reduces sediment flow.
<b>filtration</b>	The process of using a filter to remove solid particles from liquids.
<b>floc</b>	Particles which have clumped together to form larger particles; these particles are then heavy enough to settle to the bottom of a liquid.
<b>flocculation</b>	The process of forming floc in water treatment plants; floc settle to the bottom of the water or are filtered out.
<b>fluoride</b>	An element sometimes added to treated drinking water; it has been shown to help prevent tooth decay.
<b>forage</b>	Food, such as alfalfa or clover, for grazing animals.
<b>fossil</b>	The remains of plants or animals from prehistoric times; often they are preserved in rock.

<b>fresh water</b>	Water which is not salty and is used for drinking; it may be found in lakes, underground, and in reservoirs.
<b>fungicides</b>	Pesticides used to control fungi.
<b>geography</b>	The study of the different parts of the earth.
<b>generator</b>	A machine that changes mechanical energy into electric energy.
<b>giardia</b>	A parasite found in the gut of warm-blooded animals which can cause disease; it requires extra microfiltration methods for its removal from water.
<b>glacier</b>	A very large sheet of ice that moves slowly down mountains; it is formed from packed snow on tops of mountains.
<b>gravity</b>	A force that causes smaller objects to move toward the center of the earth.
<b>grit</b>	Materials such as sand and gravel which are removed from wastewater in the first step called primary treatment.
<b>groundwater</b>	Underground water found in aquifers; the water which supplies wells.
<b>H<sub>2</sub>O</b>	An abbreviation for "water," a compound composed of 2 atoms of hydrogen (H) and 1 atom of oxygen (O).
<b>habitat</b>	The place where a plant or animal naturally lives.
<b>hard water</b>	Water which has a high mineral content. It is difficult to make soap suds because of this high mineral content.
<b>herbicides</b>	Pesticides used to control weeds.
<b>Horseshoe Bend</b>	A horseshoe-shaped bend of the Tallapoosa River; it was the site of an important battle between the Creek Indians and the white men.
<b>humidity</b>	When air contains a lot of moisture. It makes the air feel wet and heavy.
<b>hydroelectric power</b>	Power produced by using water as a natural resource.
<b>hydrogen (H)</b>	A chemical element that mixes with oxygen (O) to make water.
<b>hydrogen bond</b>	Bond that holds water molecules together.

<b>hydrologic cycle</b>	The process by which water is recycled by precipitation, evaporation, transpiration and condensation.
<b>impurities</b>	Substances which, when present, make another substance not pure or clean.
<b>industry</b>	A business or factory which makes large amounts of particular types of goods.
<b>insecticides</b>	Pesticides used to control insects.
<b>intake screens</b>	The screens located at the opening pipes of a water treatment plant; they separate out large particles in the first step of treatment.
<b>invertebrate</b>	An organism which lacks a spinal column or backbone, such as an insect.
<b>IPM</b>	Integrated Pest Management; a management technique that uses a variety of techniques to control insects, diseases, weeds and other pests; its aim is to rely less on chemical pesticides so that destruction to the environment is minimized.
<b>irrigation</b>	A system of ditches and pipes which is used to help distribute water to the land for growing crops.
<b>lagoon</b>	An artificial pond or pool which is built to store and sometimes treat raw sewage or animal wastes.
<b>landfill</b>	A disposal site beneath the land surface for solid waste products generated by people; the wastes are packed and covered with earth.
<b>landscape</b>	To make an area of land more beautiful by planting trees, shrubs, grass, etc.
<b>latitude</b>	The distance north or south of the earth's equator; it is measured in degrees.
<b>leach</b>	To wash materials deeper into the earth.
<b>legumes</b>	Plants (such as alfalfa, clover, beans and peanuts) that can help increase nutrients in the soil; they release nitrogen through their roots.
<b>lime</b>	A white powdery substance (which contains calcium carbonate) that is sometimes added to water to make it less acidic.

<b>manufacturing</b>	Making things, especially by using machinery in factories.
<b>marsh</b>	An area of soft, wet, land usually containing various grasses or other water-loving plants.
<b>metric system</b>	A system of weights and measures in which the meter is the basic unit of length, the kilogram is the basic unit of mass or weight, and the liter is the basic unit of liquid volume.
<b>micro irrigation</b>	A method of watering crops in which water is delivered directly to plants through a series of pipes and attachments that allow water to drip slowly.
<b>microorganism</b>	An organism that can only be seen by a microscope, such as a bacteria; bacteria aid in wastewater treatment.
<b>mining</b>	The process of getting minerals from the earth.
<b>molecule</b>	The smallest part of a substance that retains the properties of the substance and is composed of one or more atoms.
<b>mussel</b>	A type of shellfish which has narrow bluish-black shells; it can be found in freshwater or saltwater.
<b>mulch</b>	A layer of leaves or straw placed around plants; it reduces evaporation and helps water to drain into the soil.
<b>navigate</b>	To travel by ship.
<b>nitrate</b>	A compound of nitrogen and oxygen ( $\text{NO}_3^-$ ) commonly contained in fertilizers; it is very soluble in water.
<b>nonpoint source</b>	Pollution which comes from a widespread area, not just a particular point. An example is when sediment (often from a large area) is carried by stormwater into waterways.
<b>nuclear power</b>	Electric power produced using the nuclei (the central parts) of atoms (the tiniest bits of matter) as a natural resource.
<b>nutrients</b>	Chemical elements necessary for good plant growth and health.
<b>oxygen (O)</b>	A chemical element that is present in air.
<b>PCBs</b>	An abbreviation for "polychlorinated biphenyls," a chemical group formerly used to insulate electrical transformers and in the manufacturing of newsprint ink and other products; they were banned from use in 1979 because they were linked to causing cancer.

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<b>perforated</b>	Something which has been pierced by holes, such as the pipes in an absorption field of a septic system.
<b>permeable</b>	Having openings that allow liquids or gases to pass through.
<b>pesticides</b>	Chemicals used to kill undesirable plant and animal pests; some are <b>toxic</b> and can harm <b>aquatic</b> life when they wash into waterways.
<b>pH</b>	A scale which measures the acidity (low number or less than 7) or alkalinity (base--high number or greater than 7) of a substance on a scale from 0 to 14. A pH of 7 is neutral.
<b>plantation</b>	A large farm or estate on which crops (usually cotton in Alabama) are grown.
<b>point source</b>	Pollution traced to single source, such as a factory discharge of contaminated water into a river.
<b>pollutants</b>	Substances which harm the quality of air, land or water.
<b>port</b>	A city which has a protected body of water where ships can dock.
<b>precipitation</b>	The water which falls to earth after condensing into either rain or snow.
<b>primary treatment</b>	The first stage of treatment in a wastewater treatment plant in which large pieces of material are removed.
<b>radium</b>	A radioactive element that produces radon. It is found in certain rocks and can pollute air and water.
<b>radon</b>	A radioactive gas, produced naturally from the decay of <b>radium</b> which is found in some rocks. It can pollute our air and water.
<b>recyclable resource</b>	A valuable substance in the earth's environment that passes through the same cycle again and again so that it can be re-used.
<b>reservoir</b>	An artificial or natural storage place for water, such as a lake created by a dam on a river.
<b>residue management</b>	A farming method which reduces water loss by leaving the remains of crops on the soil after harvesting; it helps prevent erosion.
<b>riparian zones</b>	Ecosystems that support animal and plant life along edges of waterways.

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<b>runoff</b>	The part of precipitation that naturally flows off the land, sometimes it forms streams.
<b>salt water</b>	Water found in oceans; it contains salt so it is not suitable for drinking.
<b>scum</b>	The layer of fats, oils, and other materials that float on the liquid in a septic tank.
<b>secondary treatment</b>	The second stage of treatment in a wastewater treatment plant which removes wastes primarily by bacterial action.
<b>sediment</b>	Particles of soil which, when eroded from their natural position, can clog up waterways and cause other problems; it may carry nutrients, pesticides and other chemicals from other sources.
<b>sedimentation</b>	The movement of sediment and the addition of soils to lakes or other water bodies.
<b>sedimentation basin</b>	The large tank in a water treatment plant where flocculation occurs; large particles settle to the bottom of the tank in this step.
<b>sedimentation tank</b>	The tank in a wastewater treatment plant where solid material settles out from wastewater to the bottom of the tank; there are typically two of these tanks in the treatment process: a <b>primary</b> and <b>secondary</b> sedimentation tank.
<b>septic system</b>	A wastewater disposal system, used by homes not connected to public systems; it usually consists of a septic tank and absorption field.
<b>septic tank</b>	The part of a septic system to which wastewater flows from a house; it is a watertight box buried underground.
<b>sewage</b>	Another name for wastewater.
<b>shoal</b>	A shallow place in water.
<b>sludge</b>	Solid waste material which settles out during wastewater treatment; after it is treated, it may be used as fertilizer.
<b>sinkholes</b>	Openings in the soil that occur when soluble rocks (such as limestone) dissolve below the soil surface and create holes.
<b>soft water</b>	Water which has a very low mineral content.

<b>soluble</b>	The ability to be mixed completely or dissolved in another material.
<b>solvent</b>	A substance, usually a liquid, which is capable of dissolving another substance.
<b>steam</b>	Hot water vapor which can produce power when under high pressure.
<b>steamboat</b>	A boat which is powered by a steam engine (the power is produced by water vapor under pressure).
<b>surface tension</b>	A condition that exists at the free surface of a body (as a liquid) by reason of intermolecular forces about the individual surface molecules and which is manifested by properties resembling those of an elastic skin under tension.
<b>surface water</b>	Water which is found on the exterior surface of the earth, such as in rivers and lakes.
<b>Tennessee-Tombigbee Waterway</b>	The waterway that was built when the Tennessee and Tombigbee rivers were joined.
<b>Tennessee Valley</b>	The valley which surrounds the Tennessee river, part of which can be found in northern Alabama.
<b>tertiary treatment</b>	The third stage in a wastewater treatment plant which is sometimes used to remove even more impurities from wastewater.
<b>textile industry</b>	The industry which produces cloth or fabric and/or clothing.
<b>timber</b>	Wood which is used for building.
<b>transpiration</b>	The process by which plants lose water through small openings in leaves.
<b>toxic</b>	Poisonous.
<b>turbine</b>	An engine made up of blades which spin or rotate; flowing water, air or steam causes these blades to spin. It may be connected to a generator which produces electricity.
<b>TVA</b>	The Tennessee Valley Authority--a governmental agency which helps manage the Tennessee River watershed.
<b>universal solvent</b>	Water.

<b>USTs</b>	Underground Storage Tanks which store gasoline or other chemicals.
<b>watershed</b>	The area of land which drains into rivers and lakes; it may contain many smaller streams and creeks.
<b>wastewater</b>	Water which has been used by people in homes, businesses, farms or factories; it carries solid and dissolved impurities.
<b>wastewater treatment plant</b>	A plant which treats wastewater to remove contaminants so that the water can be safely released back to the environment.
<b>water cycle</b>	Another name for the hydrologic cycle.
<b>water treatment plant</b>	A plant which cleans and treats water to make it safe and pure enough to drink; this process involves several steps.
<b>water vapor</b>	Water that is in the gaseous state which is produced by evaporation or transpiration.
<b>well</b>	A hole dug or drilled below the ground surface, into an aquifer, for the purpose of getting water.
<b>wetlands</b>	Areas of land that are often covered with water, for example, marshes and swamps.
<b>Wiregrass</b>	The area of southeast Alabama which is located in the coastal plain; it is known for the type of grass found there.
<b>xeriscape</b>	A method of landscaping which conserves water; it reduces the use of grass and encourages the planting of native shrubs, trees and groundcover.