

Glossary

These words are chosen to support topics in each unit. Some words appear in more than one unit.

abiotic non living factors, substances or objects

absorption the process by which one substance, such as a solid or liquid, takes up another substance, such as a liquid or gas, through pores or spaces between its molecules

adaptation an inherited characteristic that is passed down from generation to generation, increasing an organism's chance of survival

aerate to allow air to enter into a substance

algae a group of photosynthetic and rootless producers that range from one-cell to multicellular organisms that tend to grow in water

algal bloom the sudden and massive growth of aquatic photosynthetic producers

alluvial deposits of sediment left behind by flowing streams or river that are typically able to sustain plant life

analyze to closely and carefully examine an object or circumstance

aquifer an underground layer of rocks that is permeable and acts as a reservoir for groundwater

attenuate to reduce, weaken or lessen

average the general value found by adding a set of numbers and dividing its sum by the amount of numbers within that set

bacteria microscopic prokaryotic organisms that are able to live in a variety of environments and break down organic materials

bedrock a deposit of solid rock that is typically buried beneath soil or alluvium

bioassessment an evaluation of a waterbody's condition using surveys and other direct measurements of resident biological organisms

biodiversity the variety of organisms found in an ecosystem

biological indicator an organism whose presence or absence indicates a high, low or change in quality of the environment.

biology study of organisms, their physiologic systems and how they interact with each

other

bioswale vegetated green spaces typically installed in large sidewalks specifically for stormwater management

biotic living or once living organisms

bivalve a group of mollusks characterized by having two-part hinged shell containing a soft-bodied invertebrate

blocky a rock that has already been broken into lots of blocks, containing many cracks and joints, or the tendency to break into blocks when placed under stress

blue roof a stormwater management system that uses non-plant sources to retain stormwater and provide rooftop cooling

brackish a characteristic that describes a water body as a mixture of fresh and saltwater

brownfield land areas containing large amounts of a hazardous substance, pollutant or contaminant

bulk density the dry weight of soil per unit of its volume

bulkhead a wall used to stabilize waterway systems

buoyancy the act of one item to float in another substance

camouflage an organism's ability to hide or disguise itself by blending into its surroundings

canal an artificial waterway for the purpose of transportation or irrigation

catch basin a small stormwater retention container used in municipal sewer systems

clay fine sediment particles that are smaller than sand and silt, are easily shaped when molded and harden when dried

cloudy a characteristic that describes either the amount cloud cover in the sky or the amount of turbidity in a liquid

combined sewer a type of sewer system that captures and reroutes wastewater and stormwater within the same pipes

compaction describes the reduction in sediment porosity

compost a type of fertilizer that consists of decomposed organic nitrogen and carbon based materials and is used to maintain plant health and soil quality

conservation the act of limiting natural resource usage to a sustainable level

conservation buffer small areas of land with permanent vegetation that are designed

to slow water runoff, provide shelter and stabilize riparian areas

contamination the presence of an unwanted pollutant or impurity

control the group within a scientific research study that does not contain the independent variables

countershading describing an organism's darker coloring on areas exposed to light and lighter coloring on areas that are normally shaded for protection from predators

Combined Sewer Overflow (CSO) an event that occurs when the sewer system is overwhelmed by the influx of stormwater which causing excess sewage to overflow into the nearest waterbody

data quantitative (numbers) or qualitative (descriptions) information that is measured, organized, and analyzed in order to test a hypothesis

debris scattered fragments or broken pieces, typically from an object that has been damaged and/or destroyed

decompose to break down, separate, or decay from its original form

decomposition the act of decaying or separating

decrease to make something smaller in size or quantity

density the amount of mass per volume of a substance

dependent variable the variable affected or changed by the independent variable

detritis waste or debris of any kind;also, organic matter produced by the decomposition of organisms

dirt misplaced or removed soil that has lost the characteristics that give it the ability to support life

discharge to release or unload a substance or material

dissolved oxygen the amount of oxygen that is dissolved in water and available to aquatic organisms for respiration

diving birds birds that plunge into the water to catch fish or other food and typically have lobed or webbed feet

drainage the natural or artificial removal of surface or subsurface water from an area

drought reduced precipitation over an extended period of time that results in the shortage of water normally used by the community and/or local environment

ecology the science concerned with the interactions of living organisms with each other and with their environment

ecosystem the collection of organisms, their connections, resources and habitats within their abiotic environment

environment the external surroundings including all of the biotic and abiotic factors that surround and affect the survival and development of an organism or population

erosion the removal and transport of soil and rock by natural agents such as wind and flowing water

estuary a body of water where fresh water from a river meets salt water from an ocean

eutrophication the enrichment of an ecosystem with chemical nutrients, typically compounds containing nitrogen, phosphorus, or both. Eutrophication can be a natural process in lakes, occurring as they age through geological time

extinct the status of an organism whose species no longer exists

fauna all of the animal life of any particular region, time or environment

fecal coliform the most common microbiological contaminants of natural waters that normally live in the digestive tracks of warm-blooded animals, and are excreted in the feces

fertilizer any substance, natural or synthetic, applied to soils or plant tissues to supply one or more nutrients essential for plant growth

filter to separate an undissolved substance from its liquid

floatables litter or particles that floats in the water

flood zone a zone that is prone to flooding based on the topography of the land

flora all of the plant life of any particular region, time or environment

food chain a hierarchy of organisms that are grouped based on eating habits within an ecosystem

food web a set of connected food chains within an ecosystem

friable easily broken into small pieces

fungi a group of eukaryotic protists that are characterized by the absence of chlorophyll and the presence of a rigid cell wall

glacial till unsorted material deposited directly by glacial ice and showing no layering of rocks; also known as boulder clay

green infrastructure an approach to water management mimics the natural water cycle by planting vegetation, including trees, plants and wetlands

green roof a roof that is covered in plants, which reduces stormwater run-off and

lowers cooling costs

groundwater water found underground in the cracks, pores and spaces in soil, sand and rock

habitat the natural home of an organism (plant or animal) where it can obtain food, water and shelter

herbivore animals that feed on plants

heterotroph an organism that acquires its nutrients by consuming other organisms

humus the layer of organic matter in soil derived from decay of plants and animals

hypothesis an idea or theory that is not proven but leads to further study or discussion

impermeable a surface that does not allow liquids to pass through

increase to make higher in amount

independent variable the variable that is changed by the researcher within an experiment

infiltration the process by which water on the ground surface enters the soil

introduced species organisms, plants or animals, that have entered a new environment by human activity and have not historically existed in that area

invasive species an introduced organism that creates an imbalance in the ecosystem by outcompeting native species

keystone species a species that has an enormously large effect on its environment relative to its abundance

fill (also urban fill) non-native disturbed material in urban areas that may be mixed with demolition debris, asphalt, coal, garbage or other materials

leach loss or extraction from a carrier into a liquid or loss of plant nutrients from soil

loam good quality soil consisting of sand, clay and decayed plants

mean the summation of elements that are then divided by the number of elements

measure to investigate the size, amount, or degree of an object using an instrument with standard units

median the middle value in a list of numbers

metadata descriptive information about a data set, object or resource

microorganism living organisms that can only be viewed by the human eye using a microscope i.e. bacteria

mineral matter a naturally occurring inorganic substance with a definite chemical

composition and a regular internal structure

mode the value that occurs most often within a set of numbers

native species organisms, plants or animals, that are found naturally in a local area and are integrated into the ecosystem

nematodes a roundworms found in the Nematoda phylum, are microscopic and found in soil

niche an organism's role or job in an ecosystem. Example: bacteria are decomposers

nitrate a nitrogen and oxygen compound typically found in animal feces and measure used to help determine water body health

non-point source a water pollution source that generally results from land runoff, precipitation, pollution drainage, seepage; i.e. excess fertilizers, oil, and other human-made pollutants

nutrient a substance that enters a waterway from fecal coliform and other contaminants i.e. nitrogen and ammonia

nutrients essential chemicals needed by plants for growth

omnivore organisms that are able to consume both plants and animals

organic matter once living material that has decomposed over time

organism a living thing classified in one of the following groups; animals, plants, fungi, bacteria and protists

outfall a sewer outlet for CSOs that empties into a body of water

parent material the material from which soil is derived from, including weathered bedrock, alluvium and sand

pathogen a bacterium, microorganism or virus that causes disease

permeable a surface that allows liquids to pass through

pH a measurement system that describes the acidity or alkalinity of a solution; a measure used to help determine water and soil quality

phosphate a phosphorus and oxygen compound found in human and animal waste

photic zone sunlight zone; the depth of water the sunlight is able to penetrate

photosynthesis a process where plants use sunlight to make plant nutrients

phytoremediation direct use of living green plants for in situ, removal, degradation or containment of contaminants in soils, sludges, sediments surface water and groundwater

pioneer species a hardy species which are the first to colonize previously disrupted or damaged ecosystems, beginning a chain of ecological succession that ultimately leads to a more biodiverse steady-state ecosystem

plankton an organism (plant or animal) that floats in the water and cannot swim against the current

platy broad, flat; referring to soil structure

plume a slick or sheen of oil sheen on water

point source pollution water pollution that comes from a single place, usually a sewage-outflow pipe

pollutants a waste material introduced to the environment that has undesirable effects on the ecosystem

pollution introduction of harmful substances into an environment that causes harm to the ecosystem

pore space spaces within soil that can be filled with air, water or both

porosity measure of pore space

potassium an essential nutrient for plant growth

precipitation water released from clouds in the form of rain, freezing rain, sleet, snow, or hail

primary producer organisms that make their food through photosynthesis

protozoa group of one-celled organisms that live in the water or as parasites

remediation cleaning or fixing a source of pollution

respiration the reversed process of photosynthesis; converts sugars into energy for plant growth and health maintenance

restoration process of renewing and restoring degraded, damaged, or destroyed ecosystems and habitat by human intervention

retain the act of holding or containing an item or characteristic

retention tanks a tank specifically designed to capture and hold stormwater to reduce the number of CSO events

rhizosphere the area within a layer of soil that is directly impacted by the plants roots and flora of bacteria within that layer

riparian an area of land adjacent to a body of water, i.e. wetlands

runoff flow of water that occurs when excess stormwater, meltwater, or other sources

flows over earth's surface

salinity the amount of dissolved salt in the water; measure used to help determine water body health

salt marsh a coastal wetland that is flooded or drained by salt water brought in from the tide

sand a type of sediment that has the largest grain size, coming from eroding rocks and typically found on beaches and in deserts

sanitary sewer an underground piping system that directs wastewater from buildings to the nearest waste water treatment plant or into the nearest waterbody

saturate the state of an object that is holding the maximum amount of liquid

scavenger a type of feeding behavior of an animal that feeds on dead animal and/or plant material

sediment particles or material formed by the weathering and erosion of rocks or organic matter

separate sewer a type of sewer system that is designed to collect or transport stormwater only

sewage wastewater and excrement conveyed in sewers

sewer a pipe that carries wastewater/stormwater runoff from the source to a treatment plant or receiving stream

sewershed an area of land containing sewage line connections that carry wastewater and/or stormwater

silt a type of sediment whose grain size is smaller than sand and larger than clay

soil upper layer of sediment that contains the organic materials to support plant life

soil horizon layers of the soil that contain different material at different depths

soil profile a column of sediment from the surface down to its underlying rock

soil structure how individual soil granules clump or bind together

species a set of living organisms that share similar physical, genetic, feeding and mating characteristics

stagnant the act of remaining unchanged or having no movement

stewardship cooperative planning and management of environmental resources with communities/industry to prevent habitat loss in the interest of long-term sustainability

storm drain openings, usually a pipe or grated opening that allows stormwater to enter

the sewer system

storm water rainfall that ends up in the sewer system

stormwater catchment a set of systems that captures and directs stormwater to either wastewater management treatment plants, retention infrastructures and/or to the nearest water body

subsoil the layer of soil beneath the topsoil and above the bedrock

Superfund the federal government's program to clean up the nation's uncontrolled hazardous waste sites

taxonomy the study of the classification of living things. Each of the 5 Kingdoms is broken down into subgroups (smaller groups): Kingdom, Phylum, Class, Order, Family, Genus, Species

temperature the comparative objective measure of hot and cold

texture the feel, appearance, or consistency of a surface or substance

tide the daily rise and fall of the oceans' water level due to the gravitational pull of the moon

topographic map representations of a three dimensional land surface on a flat piece of paper

topography the study of elevation changes of the Earth's surface which are typically mapped

topsoil the upper layer of soil that contains the root structure of most plants

toxic a harmful or poisonous substance

trend a general direction in which something is developing or changing

turbidity a measurement of the amount of suspended solids in the water. How "cloudy" the water is

urban related to or characteristic of a densely populated environment

urban ecology the study of living organisms, their relationships between each other and their habitat within a densely populated area

variable a factor, trait or condition that can vary in its amount

vertebrate animals with backbones

