

Nature Bowl GLOSSARY 2020 3rd/4th

No new words this year!

Semi-finals and finals:

Adaptation: a living thing changes over long periods of time to become better suited to its environment. Adaptations may be: *Structural:* a physical feature e.g. talons, teeth, scales, spines, waxy leaves. *Behavioral:* living in groups e.g. coyotes hunting in packs; bird migration and feeding in flocks. *Physiological:* warm/ cold blooded, hibernation, cones opening only in certain conditions.

Agriculture: Human practices of raising plants and/or animals mainly for food for people or animals. The plants and animals can also be raised for use as fuel or housing materials or for medical research. Examples are farming, ranching, raising fish. Some types of agricultural land and waterways can also provide habitat for some wild animals.

Amphibian: Frogs, Toads, Newts, and Salamanders—cold-blooded vertebrates. Adults (breathing air with lungs and through moist skin) live on land or water, but lay eggs in water. Eggs hatch into a gill breathing larval stage that develops into an adult.

Aquatic: growing, living in, or frequently in water.

Camouflage: An adaptation allowing animals to blend in with their environment. Their chances of survival are greater because it helps prey can hide from predators. In turn it

increases the chances of a predator not being seen by its prey.

Carnivore: a meat eater.

Carrion: The flesh of a dead animal – an important food source for scavengers

Carrying capacity: The maximum number of plants and animals an environment can support when plants and animals have all the food, water, and space (habitat) they need.

Central Valley: This super large California valley is made up of the northern Sacramento Valley and the southern San Joaquin Valley. It is the drainage (to the Delta) of most of California's rivers. This ecosystem includes many habitats including agriculture. It is low elevation between mountain ranges.

Climate Change: Refers to general changes in climate patterns, including temperature, precipitation, winds, and other factors. **Global Warming** is one aspect of climate change which refers to the recent and ongoing rise in global average temperature near Earth's surface, caused mostly the by the increase of greenhouse gases from air pollution. See: Greenhouse Gas, Carbon Dioxide, Carbon Footprint

Compete: To use or try to use the same food, water, habitat, or other resources as another organism or group of organisms.

Compost: Decomposing plant and animal matter that is used to fertilize the soil. Compost is made of decomposed grass clippings, leaves, and non-meat kitchen scraps.

Coniferous: refers to cone-bearing trees such as pines, firs and redwoods.

Conservation: is the responsible stewardship of the environment to preserve natural ecosystems while also considering human needs for production and recreation. A land can be conserved while still allowing a careful amount of harvesting or hunting or grazing.

Consumers: Organisms that get their energy by eating other organisms. *Primary consumers* (herbivores) eat plants. *Secondary consumers* (omnivores) eat plants and animals. *Tertiary consumers* (carnivores) are animals that consume mostly other animals. *Producers* are green plants, which produce their own energy using the process of photosynthesis.

Deciduous: referring to trees that usually shed their leaves at one time such as cottonwood, willow, walnut, redbud, and many oaks.

Decomposer: The breaking down of dead organisms into their chemical and mineral parts so they can be used by plants. **Examples:** worms, slugs, snails, beetles, millipedes, and many other invertebrates are decomposers the process is referred to decomposition.

Development: when wild lands are converted to farms, housing, roads, industry or business uses.

Diurnal: active during the day.

Domestic: animals tamed and bred for human use and dependent on humans for survival such as pets and livestock.

Ecosystem: A community of plants, animals, and their surroundings that depend on each other.

Endangered: a species of plant or animal in danger of extinction throughout all or a significant portion of its range (refer to threatened and rare).

Energy: 1. It is what drives all life processes. Plants and animals make energy from food and water. Plants get food and water via root systems and photosynthesis. Animals drink water and consume other organisms. Energy is released as food is processed by the organism. 2. Energy in the form of heat and electricity is created from solar, wind, water, and geothermal power sources—also by burning fossil fuels and biomass. Energy sources are renewable or nonrenewable.

Environment: The air, water, minerals, organisms, and all other external factors surrounding and affecting a given organism at any time.

Erosion: removal or wearing away of soil or rock by water, wind, or other forces or processes.

Estuary: an area where a river flows into the sea where there is a mixing of saltwater and freshwater; an important habitat for fish and many kinds of birds and other animals.

Evergreen: a plant that does not lose all its leaves at one time, such as the live oak and most coniferous trees.

Exoskeleton: any hard external supporting structure of an invertebrate (insects, spiders, crayfish, snails, etc.)

Exotic: a foreign plant or animal; one that has been introduced into new, non-native area. Examples include opossum and ring-necked pheasant. (See introduced)

Extinction: the condition of having been removed from existence. An animal or plant facing extinction is one in danger of vanishing from our world. Examples of extinct organisms include the passenger pigeon and dodo.

Fertilizer: a chemical or natural substance added to soil to improve plants' growth and yield. Natural fertilizers are made from composted manures and plants or extracted from minerals in the earth.

Food Chain: the transfer of food energy from the source in plants through a series of animals. For example, a green leaf-eating insect and insect-eating bird would form a simple food chain. Any one species is usually represented in several food chains.

Food Web: A group of connected food chains in an ecosystem.

Foothills: lower elevation hills of a mountain range. Habitats of foothills include woodland, grassland, creeks, rivers and chaparral habitat. Some animals migrate up the mountain in summer and down in winter.

Fossil Fuel: a fuel such as coal, oil, or natural gas formed in the earth millions of years ago from plant and animal remains.

Forest: a complex community of plants and animals in which trees are most dominant, and which form a closed or semi-closed canopy. In California generally refers to a coniferous forest.

Fungus: a plant-like organism, such as a mushroom, that gets energy and matter primarily from other dead organisms. Examples are molds, rusts mildews, mushrooms, and yeasts.

Gall: an abnormal **plant** growth caused by various organisms such as insects, mites, fungi, or bacteria.

Groundwater: water within the earth that supplies wells and springs. Geological formations called aquifers hold and contain groundwater.

Habitat: A *place* where an organism lives providing; food, water, shelter or cover, and space suitable to plants and animal's needs. Examples: grassland, meadow, woodland, chaparral, forest, river, marsh, riparian, alpine, estuary, etc.

Hatchery: a place that raises fish, usually from eggs.

Hazardous Waste: A waste that is dangerous or harmful to human health, wildlife, or the environment. **Toxic wastes** are harmful or fatal when swallowed or absorbed. Examples include electronic devices; printers; fluorescent light bulbs; mercury thermometers; treated wood; spray paint cans; paint; motor oil; antifreeze; batteries; rodenticides; pesticides; and herbicides.

Hazard (Wildlife)—includes **hazardous waste** and any obstacle or discarded material that could injure wildlife through physical contact, absorption through skin or eating. Examples: Windows, (birds), barbed wire, fishing line, plastic bags, six-pack rings, bottle caps, plastic and glass containers, broken glass, aluminum cans, cigarette litter.

Herbicide: a chemical substance or preparation used to kill plants.

Herbivore: a plant eater.

Hibernation: the act of passing the winter (or a portion of it) in a deep sleep or resting state

Hydroelectric: electric power converted from water. *Dams* generate hydroelectric power.

Inorganic: not composed of organic matter— not of plants or animals E.g. water, minerals, rocks. (See organic).

Invertebrate: animal that has no backbone like insects, worms, snails, clams, spiders etc.

Landfill: a developed site for disposing of solid waste (garbage) in the earth; sometimes referred to as a “trash dump.”

Lichen: any of numerous complex plant-like organisms made up of an alga and a fungus growing in a relationship where they both need each other to survive.

Life cycle: a series of growth stages in the life of any organism

Mammal: a warm-blooded vertebrate animal having hair or fur, producing milk for their young, giving live birth (not eggs) and a variety of teeth types.

Marine: of or relating to the sea or ocean.

Marsh: a wetland with few or no trees where standing fresh and/or saltwater exists for some, or most, or all of the year. (different from a *swamp* which is a tree dominated wetland, typically in warm climates and usually found in eastern US.)

Metamorphosis: series of changes in shape and function that certain animals go through as they develop from birth to adult. Caterpillars become butterflies and tadpoles become frogs. Example: egg, larva, pupa, adult.

Microhabitat: a small habitat within a larger one in which environmental conditions differ from those in the surrounding area. A hole in a tree trunk is a microhabitat within the forest.

Microorganism: A very small organism that can be seen only with the aid of a microscope.

Migration: The seasonal movement of groups of animals from one region to another for food, water, shelter, or breeding--especially birds and fish.

Native: refers to animals or plants that naturally occur in an area.

Natural Resource: 1. Materials, such as water, minerals, energy, animals, and soil that people use from nature and natural systems.

2. An area appreciated for its beauty and recreational value like a river, lake, or mountain.

Nocturnal: active at night.

Organic: being or composed of matter from plants and/or animals.

Omnivore: an animal that eats both plants and animals.

Organism: A living thing, such as a plant, animal, or other life form that can grow and reproduce.

Parasite: an organism that feeds upon the tissues or fluids of another animal (the host). It harms the host, but usually does not kill it, as this would destroy its food supply. Examples: Leeches, fleas, ticks, and mosquitoes are parasites.

Pesticide: a chemical used to kill “pests”. Pests can be any organism people do not want around—insects, plants, fungus, and rodents for example. Pesticides can be toxic to the environment. Rains can carry pesticides into rivers.

Photosynthesis: the process by which green plants make simple sugars (food) in the presence of sunlight, carbon dioxide and water.

Poaching: Hunting illegally. Not complying with regulations regarding the hunting of game or non-game animals.

Pollination: the transfer of pollen within a flower or between flowers to fertilize the parts necessary to make a seed. Pollen is carried by wind, water; or unintentionally by

pollinators such as insects, hummingbirds, and bats as they feed on nectar produced by the flower to attract them.

Pollution: harmful substances deposited in the environment leading to a state of dirtiness, impurity, unhealthiness, or hazard.

Population density: the number of a particular type of organisms (or species) living in a defined area

Predator: an animal who kills and eats other animals. *Predation is the act of seeking and killing for its food.*

Prey: animals that are killed and eaten by other animals.

Producers: Green plants that make their own food using the sun’s energy and photosynthesis. Plants are the only organisms that can utilize the energy of the sun to make their own food.

Product: Something (usually goods) made from natural resources (whether renewable or nonrenewable.) For example: paper is made from trees, a plastic toy is made from petroleum, clothing is made from cotton plants.

Range: The entire region in which an organism or ecosystem is naturally found.

Raptor: “Birds of Prey” – Hawks, Owls, Falcons – Meat- and fish-eating birds that have sharp, hooked bills and strong talons for grabbing and killing. Vultures are sometimes included in this group even though they eat dead animals.

Recycle: to process used or waste materials to make suitable for reuse.

Reduce: consume or use fewer goods or products.

Refuge: an area of land or of land and water set aside for the preservation and protection of plants and wildlife.

Reptile: cold-blooded air-breathing vertebrates having skin covered with scales or bony plates, true claws (if they have legs) and lay soft shelled leathery eggs. Most common: tortoises and turtles, lizards and snakes, alligators and crocodiles.

Reproduction: The process by which plants or animals create offspring or new organisms

Reuse: to use the same item over again (e.g. bag, aluminum foil, bottle, etc.)

Runoff: water that drains or flows off the surface of the land.

Scat: the feces (poop) of wild animals, especially mammals.

Scavenger: An animal that gets its energy and matter by eating dead organisms. Some carnivores, like Bald Eagles, are part-time scavengers. Crows and Raccoons (omnivores) are scavengers too. Turkey Vultures are full-time scavengers.

Science: a systematic, evidence-based approach to discovering how things in the universe work.

Sierra Nevada: mountains in northern and central California that lie east of the Central Valley. They extend over many habitats and create a rain shadow, so that beyond them lays desert.

Solar: refers to the sun (and its energy). *Solar power refers to the energy captured from the sun's rays by cell or panels for making electricity.*

Spawning: generally refers to the release of eggs into water by a female fish for reproduction purposes.

Species: a group of similar individuals that can reproduce

Terrestrial: living or growing on land; referring to land.

Threatened: a species of plant or animal that is in danger because of a decline in numbers

Valley: A usually large land area between mountain ranges that is flat and/or rolling, dominated by grasslands, savannas and woodlands, and usually with rivers flowing through it. Examples in CA are the Sacramento Valley, the San Joaquin Valley, or the combined Central Valley.

Vertebrate: an animal with a backbone.

Water cycle: the continuous circulation of water from oceans to air, to land and back to oceans. The cycle involves condensation, evaporation, run-off, precipitation, and transpiration.

Waterfowl: a bird that frequents water, such as ducks, geese, and swans (as distinguished from wading birds, cormorants, shorebirds). Many (but not all) types of waterfowl migrate.

Weathering: a process in which weather breaks down rocks into smaller and smaller pieces. The rock fragments created during the weathering process do not move from one place

to another but stay in the same location—which makes it different from erosion.

Wetland: areas that are flooded or saturated by surface water for a sufficient time to support vegetation typically adapted for life in wet soil conditions. Wetlands generally include swamps, marshes, vernal pools, bogs, and similar areas.

Wildlife: animals that are not tamed or domesticated; may be small organisms visible only through a microscope or as large as a whale.

Woodland: a complex community of plants and animals in which trees, shrubs and grasses are the most common and dominant members; treetops do not form a closed cover.

3rd and 4th FINALS ONLY

***Alternative Energy:** Energy generated from renewable resources therefore reducing our need for fossil fuels. Examples: Solar, Wind, Geothermal, Biomass (see Bioenergy)

***Anadromous:** the migration of certain fish, such as salmon and steelhead trout. They spend most of their lives in the ocean then swim upriver to spawn in the rivers and streams where they were born.

***Aquifer:** an underground layer of water-bearing rock, like sandstone or sand and gravel that readily transfers water to wells and springs. An aquifer fills with water from rain or melted snow that drains into the ground.

***Biodegradable:** organic materials that can be decomposed or decayed by that living things —especially fungi and bacteria. Examples: wood, food scraps, paper, grass clippings.

***Biodiversity:** the variety, of plants and animals or abundance of different species living within a particular region.

***Chaparral:** An important habitat of the CA Sierra Nevada and Coastal Mountains ecosystems. It is mostly covered by 4 to 12-foot tall shrubby plants like chemise, manzanita, toyon, and scrub oak. This habitat has long dry periods in the summer and wet winters. Plants here are adapted to occasional fires. Sometimes called “brushland.”

***Carbon dioxide (CO₂):** a major greenhouse gas produced when we burn fossil fuels (coal, natural gas, and oil), solid waste, trees, and wood products. Plants remove CO₂ from the air during photosynthesis. See: Greenhouse Gas, Climate Change, Carbon Footprint

***Colonial:** individual organisms of the same species living closely together, usually for the benefit of all, such as a stronger defense. Some insects (termites, ants and honeybees,) live only in colonies.

***Delta:** referring to the area where rivers meet and join. In California, the largest is the Sacramento-San Joaquin Delta, where the Sacramento and San Joaquin Rivers meet to drain into the San Francisco Bay. This region includes many kinds of habitats—riparian, marsh, river, agricultural lands, grassland, and estuary *as well as towns and cities.*

***Endemic:** naturally occurring only in a certain geographic area; the Yellow-billed Magpie is endemic to the Sacramento Valley.

***Feral:** refers to a domesticated animal or plant that goes back to being wild.

***Game Animal:** legal designation for animals that are managed and hunted under the regulation of a government agency.

***Geothermal Energy:** comes from heat transferred from the earth's interior to the surface as steam or hot water. The energy from this super-heated steam and water can be harnessed using the turbines of a power plant to generate electricity.

***Insecticide:** a chemical used to kill insects. Some insecticides are harmful to the environment and can be washed into rivers when it rains. All insecticides are pesticides.

***Introduced:** to leave or bring in for the first time; to introduce a non-native species into a habitat. (See exotic)

***Invasive species:** a non-native plant or animal whose population threatens the native populations because of its ability to spread uncontrollably.

***Niche:** the ecological role of an organism in a community especially in regard to food consumption.

***Non-renewable Resources:** natural resources that cannot be replaced after they are used. This means that they exist

in a fixed amount on Earth. Rock, minerals, metals, and fossil fuels such as petroleum, coal, and natural gas are all nonrenewable resources. "Fossil Fuels" were formed from the buried remains of plants and animals that lived millions of years ago and therefore cannot be renewed.

***Preservation:** when nature is protected and maintained (preserved) in its original unspoiled form, and its resources (plants, animals, land, water, minerals) are used very passively by people as in hiking.

***Renewable Resource:** Resources that can renew themselves such as trees, soil, water. Trees are renewed through reproduction (seeds). Soil is re-made by plants decomposing and rocks weathering. Water will re-enter the water cycle after use...

***Restoration:** to return an area to its historic or previous natural condition.

***Riparian:** located or living along or near a stream, river, or body of water, usually a type of woodland habitat.

***Savanna:** is a grassland habitat that has widely spaced oak trees allowing for the growth of large areas of grasses and some shrubs. It is usually is in a zone between grassland and woodland, between a valley and foothills.

***Silt:** sediment that is suspended in stagnant water or carried by moving water that often accumulates on the bottom of rivers, etc.; smaller than sand, larger than clay.

***Wind power:** the energy harnessed or captured from the force of winds by large blades of windmills.