

## Appendix A. Definitions of Food Groups

**Aquatic plants:** a plant that grows partly or wholly in water, whether rooted in the mud, or floating without anchorage; plants that require constantly moist conditions without standing water are included in this group; for the purpose of this contest, only examples from the following genera will be considered: algae of various genera; American lotus (*Nelumbo*), arrowhead/duck potato (*Sagittaria*), big duckweed (*Spirodela*), bladderworts (*Utricularia*), bulrushes (*Scirpus*), bur-reeds (*Sparganium*), cattails (*Typha*), coontail (*Ceratophyllum*), cordgrass (*Spartina*), duckweed (*Lemna*), floating hearts (*Nymphoides*), naiads (*Najas*), pondweed (*Potamogeton*), rushes (*Juncus*), sedges (*Carex* and *Cyperus*), smartweed (*Polygonum*), spikerush (*Eleocharis*), waterlily (*Nymphaea*), watermeal (*Wolffia*), watermilfoil (*Myriophyllum*), waterprimrose (*Ludwigia*), waterweed (*Elodea*), wild millets (*Echinochloa*), and panic grasses (*Panicum*)

**Bark:** outermost layer of trees and shrubs

**Birds:** may be represented by feathers, bones, skulls, feet or any part that distinguishes the animal class *Aves*

**Buds:** a small protuberance on a stem or branch, sometimes enclosed in protective scales and containing an undeveloped shoot, leaf or flower; the bud may be represented on the branch or stem, or removed from the branch or stem

**Carrion:** stinking, rotting flesh; to be considered in this group, the item must have a definite odor of decomposition, be presented in a plastic bag or have the words “this stinks” on the display; a dry bone, a dry skin, or other body part does not represent carrion, but will represent other food groups; maggots are a natural occurrence with decomposition and may be present on the carrion, but they should not be considered in grouping the specimen as carrion

**Centipedes and Millipedes:** elongated arthropods having many body segments; millipedes have pairs of legs

**Crayfish:** small freshwater decapod crustacean that resembles a lobster; regionally, they have many names including crawdads and crawdaddys

**Earthworms:** terrestrial worm that burrows into and helps aerate soil; often surfaces when the ground is cool or wet; used as bait by those who fish

**Eggs:** only the eggs of vertebrate species (mammals, birds, reptiles, amphibians, fish) are considered in this category; invertebrate eggs (insect and spider) represent the group of the adult invertebrate

**Ferns:** flowerless, seedless vascular plants with roots, stems and fronds; reproduce by spores; may be represented by the whole plant or a part of the plant that

defines it

**Fish:** a poikilothermic (cold-blooded) water-dwelling vertebrate with gills

**Forbs:** broad-leaved herbaceous plant, not including grasses, sedges, rushes or ferns; forbs may be represented by a single leaf or by the entire plant including the flower

**Fungi:** kingdom of plantlike spore-forming organisms that grow in irregular masses without roots, stems, leaves and that lack chlorophyll

**Grains:** will include only wheat, oats, rye, barley, rice, grain sorghum and corn; may be represented by the seed, seedhead, or entire plant, including the seedhead

**Grass:** leaves of grasses are usually tall and thin with a mid-rib and parallel veins; grasses may be represented by the entire plant including the seedhead, or by a single leaf or group of leaves

**Grassland:** a land area dominated by herbaceous vegetation, especially grasses

**Hard mast:** includes nuts from walnut, hickory, oak, beech, pecan, American chestnut, Allegheny chinkapin, almond, hazelnut, and cypress; may be shown with or without the husk

**Insects:** small invertebrate (without a backbone) animals, except for spiders, centipedes and millipedes, which are segmented

**Leaves and Twigs:** this food group is represented by leaves and/or twigs of woody species only; not forbs, grasses or other herbaceous plants

**Lichens:** a fungus that grows symbiotically with algae, resulting in a composite organism that characteristically forms a crust-like or branching growth on rocks or tree trunks; lichens may be shown with a rock or branch or without

**Lizards:** lizards are reptiles of the order *Squamata*, which they share with the snakes (*Ophidians*); they are usually four-legged, with external ear openings and movable eyelids

**Mammals:** any mammal regardless of size fits in this category; may be represented by a photograph, live animal, museum mount or any part of the mammal representative of the class, such as teeth or hair

**Mussels:** freshwater mollusks that may be represented by the whole organism or just a single shell or group of shells

**Nectar from flowers:** represented by the flower with no other plant parts present

**Salamanders:** may be represented by the organism in any life stage except the egg

**Scorpions:** arachnid having a long-segmented tail ending in a venomous stinger

**Seeds:** a fertilized ovule containing an embryo, which forms a new plant upon germination

**Snails:** applies to most members of the molluscan class

Gastropoda that have coiled shells

**Snakes:** cold-blooded legless reptiles, which share the order Squamata with lizards

**Soft Mast:** fleshy fruits, such as but not limited to wild strawberry, blackberry, raspberry, dewberry, blueberry, pokeweed, persimmon, cherry, mulberry, blackgum, apple, pear, elderberry, grape, hackberry, dogwood, tupelo, and pawpaw

**Spiders:** arachnid that usually has silk-spinning organs at the back end of the body; they spin silk to make cocoons for eggs or traps for prey

**Tubers:** represented by either the nutlet of the yellow nutsedge (chufa) or by potato, and duck potato

**Turtle and Tortoise:** animals with a special bony shell developed from their ribs; “turtle” is often used for aquatic species, but aquatic freshwater turtles also are often called “terrapins;” in North America, “turtle” is usually used to refer to all members of the Order, including tortoises, which are predominantly land-based

## Appendix B. Glossary

**aerate:** to supply or expose water with air to increase dissolved oxygen and release harmful gases

**afforestation:** planting trees in an area that previously was not forested; for example, planting trees in a field coming out of agricultural production

**anadromous:** behavioral term for fish that breed in fresh water, but mature in salt water, such as Coho salmon (see catadromous)

**annual:** when referring to plants, those that complete their life cycle from seed to mature seed-bearing plant in one growing season

**arid:** dry, receives little precipitation

**basal area:** space or area represented by tree stems at 4.5 feet above ground; for example, a basal area of 60 square feet per acre means that of 43,560 square feet of available space (1 acre), tree trunks represent 60 square feet of that space 4.5 feet above ground

**biological carrying capacity:** the maximum number of individuals of a given species the land can support throughout the year without causing some type of damage; usually related to food, cover, water, or space for a particular species, but the term is sometimes applicable to cultural limitations for humans (see **Carrying Capacity** on page 25)

**broadleaf:** a plant with wide blade leaves such as an oak or cottonwood. Seeds are born from flowering parts in contrast to conifers which bear seeds in cones

**browse:** n. leaves and ends of twigs of woody species; v. to eat browse

**butte:** a hill that rises abruptly from the surroundings; sides are steeply sloped or with cliffs, and the top is nearly flat.

**cacti:** plants adapted to dry conditions; often store water in leaves and other parts of the plant; usually have small leaves and thorns

**canopy cover:** the amount of ground covered by the branches, leaves and stems of plants; can specify as herbaceous, shrub, tree or all canopy cover; expressed as a percentage

**carnivore:** a meat-eating animal

**catadromous:** behavioral term for fish that breed in salt water, but mature in fresh water (see anadromous)

**coastal plain:** large, nearly level areas of land near ocean shores

**conifer:** usually refers to needleleaf trees that bear seeds in cones; examples include pines, cedars, spruces, firs, hemlock, and cypress

**corridor:** a strip or block of cover that connects otherwise isolated areas for a particular wildlife species

**cover:** vegetation and other land features that provide areas for wildlife to hide, sleep, feed, and reproduce

**crepuscular:** a behavioral term that describes primary activity near dawn and dusk

**cultural carrying capacity:** the maximum number of

individuals of a given species people will tolerate (see **Carrying Capacity** on page 25).

**decadent:** declining in health and/or productivity

**deciduous:** plants that lose their leaves for part of the year, typically fall and winter

**decomposer:** organisms that reduce animal carcasses and waste and dead plant material into nutrients

**decomposition:** the natural breakdown and decay of dead plant and animal material

**defecating:** elimination of solid body waste by animals

**detrimental:** having harmful effects

**detritus:** dead and decaying plant and animal matter, which is an important part of the food chain

**dominant:** the plant or animal species that is the most common in an area

**drought:** lack of normal precipitation for an extended period of time; long period with little or no rain

**ecosystem:** the plant community along with the animal community together with soil, air, water, and sunlight

**ecotone:** where two vegetation types or seral stages meet and blend gradually with characteristics of both communities represented

**edge:** where two vegetation types or seral stages meet

**endangered species:** a species in danger of becoming extinct

**environment:** the surroundings that affect the growth and development of an organism including other plants and animals, climate, and location

**ephemeral:** temporary; often seasonal; not long lasting

**evergreen:** plants that do not lose all their leaves at one time, including some conifers, but also many broadleaf trees and shrubs such as live oak and American holly

**excavate:** to make a cavity or hole

**exclusion:** keeping something out of an area

**extant:** still in existence

**extinct:** no longer in existence

**extirpated:** locally or regionally extinct

**fertile:** usually referring to soil high in available nutrients

**fingerling:** a small fish, especially up to one year of age

**fluctuate:** to vary, or rise and fall irregularly

**food chain:** step by step passage of energy and nutrients through an ecosystem; for example, clover—deer—mountain lion

**food web:** a complex network of food chains

**forage:** n. refers to the vegetation eaten by animals; v. to search for food

**forb:** broad-leaved herbaceous plant

**forest:** a land area dominated by dense tree cover

**forest stand:** a contiguous area of trees of similar species composition, age and structure that can be managed as a unit

**fragmentation:** most often used in natural resources management to describe disruption of continuity of a vegetation or type community; for example, an interstate highway can cause fragmentation of a forest

**glean:** to gather food in a systematic manner

**ground litter:** dead and decaying organic matter found on the ground such as leaves, branches and dead plants

**habitat:** the physical and biological resources (food, cover, water) required by a species within an area of sufficient size (space) for that species

**hardwoods:** usually refers to non-coniferous trees bearing leaves

**herbaceous plants:** grasses, forbs, sedges, rushes and ferns; plants having soft rather than woody stems

**herbicide:** chemicals used to kill or control the growth of undesirable plants

**herbivore:** a plant-eating animal

**hibernaculum** (plural, **hibernacula**): the winter den or shelter for various species

**home range:** the area used by an animal; usually described as the area that encompasses the daily, seasonal, and annual movements of an animal

**insecticide:** chemicals used to control insects

**insectivore:** an insect-eating animal

**intermittent:** occurring at irregular intervals

**interspersions:** the mixing of vegetation types or successional stages; high interspersions represents a lot of mixing; low interspersions represents little mixing

**invertebrates:** animals lacking a backbone; examples include insects, spiders, mollusks, and crustaceans

**irrigate:** to water through diversion ditches and pipes

**juxtaposition:** the arrangement of vegetation types or successional stages

**keystone species:** plant or animal species with a disproportionate influence in its community relative to its abundance

**landscape:** an area that represents several interacting ecosystems; usually regional in reference

**latrine:** site where various mammal species, such as raccoon or river otter, habitually defecate or urinate

**legume:** plants that bear seeds in a pod; examples include lespedezas, clovers, soybeans, peas, and black locust

**mast:** collective term for fruits, trees, shrubs and vines, both hard and soft (fleshy), such as acorns, hickory nuts, persimmon, mulberry, blackberry, and grape

**migration:** usually used to describe the periodic movement to and from a breeding area; may also be used to explain other seasonal movements, such as altitudinal migration in elevation in response to snow cover and food availability

**mortality:** (compensatory and additive) – death of individuals (see **Compensatory and Additive Mortality** on page 25)

**native:** plant and animal species originating historically or migrating naturally to a particular ecoregion

**nutrients:** chemicals required for plants and animals to grow and exist

**omnivore:** an animal that eats both plant and animal material

**perennial:** plant species that grow from a root system

that remains alive more than two years

**phytoplankton:** microscopic floating and suspended aquatic plants

**plateau:** an elevated, relatively level expanse of land; sometimes called tableland

**point count:** a census method commonly used to monitor relative abundance of songbirds

**population:** a group of individuals of the same species living in a given area that interact with each other

**reforestation:** usually refers to planting trees in an area that was previously forested and recently harvested

**regenerate:** to replace lost or damaged parts with new tissue

**regeneration:** in forestry, refers to young trees

**rejuvenate:** to stimulate and return to good health and vigor

**riparian:** the area adjacent to and influenced by a water source such as a stream, river, pond, lake, swamp or other wetland

**savanna:** an area with approximately 5–30% coverage of trees with a herbaceous understory maintained by fire and/or grazing

**scarify:** breaking down the protective coating on various species of seed allowing the seed to germinate; often facilitated by fire or digestion

**secluded:** occurring in a remote or other area where visibility is obstructed or reduced

**sedge:** grass-like plant, often associated with moist areas and usually with triangular stems

**seedbank:** seed occurring naturally in the top few inches of soil

**senescent:** the growth stage in a plant or plant part (like a leaf) from full maturity to death; old age

**sere:** a series of successional stages at a particular site, leading to a mature, climax community

**seral stage:** a successional stage in a sere

**silviculture:** the process of tending and managing a forest

**slash:** residue left on the ground after trees are harvested

**softwood:** usually refers to coniferous trees, though some deciduous trees such as red maple and aspen also have relatively soft wood

**species:** a type of organism whose members can freely interbreed with each other and genetically are very similar; do not necessarily interact or are located together

**stagnant:** sluggish; not producing to potential

**stocking rate:** amount of land allotted to each animal for the entire grazable portion of the year

**subclimax:** successional stage occurring prior to climax stage, but further development is inhibited by some factor(s) other than climate

**succession:** replacement of one vegetation type or seral stage by another

**succulent:** having thick fleshy leaves that conserve moisture

**terrain:** referring to topography

**thatch:** accumulation of dead grass and leaves on the ground

**threatened species:** threatened to become endangered

**transitional:** the process of changing from one form to another

**turbidity:** a measure of water clarity (or cloudiness) as influenced by suspension of sediment or other materials, but most often soil particles (usually silt or clay)

**vegetation type:** a community or assemblage of plants commonly found in association with each other

**woody:** referring to trees and shrubs

**woodland:** an area with approximately 30—70% coverage of trees with a herbaceous-dominated understory maintain primarily by fire

**zooplankton:** microscopic animals that float/swim in water