

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*), burreeds (*Sparganium*), cattails (*Typha*), coontail (*Ceratophyllum*), cordgrass (*Spartina*), duckweed (*Lemna*), floating hearts (*Nymphoides*), naiads (*Najas*), pondweed (*Potamogeton*), rushes (*Juncus*), sedges (*Carex*), smartweed (*Polygonum*), spikerush (*Eleocharis*), waterlily (*Nymphaea*), watermeals (*Wolffia*), watermilfoil (*Myriophyllum*), waterprimrose (*Ludwigia*), and waterweed (*Elodea*)

Bark: tough outer covering of trees and shrubs

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

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

Fruit and Berries: display must include the soft, fleshy, pulp-covered seed

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 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

Hard mast: includes nuts from walnut, hickory, oak, beech, pecan, almond, and common hazel; 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 blackberry, blueberry, pokeweed, persimmon, cherry, mulberry, blackgum, apple, pear, elderberry, and grape

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

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

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

carrying capacity: the maximum population that an area can sustain without causing some type of damage; usually related to food, cover, water, or space for a particular species (biological carrying capacity), but the term is sometimes applicable to cultural limitations for humans (see **Carrying Capacity** on page 23)

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 spruces, pines and firs

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

decadent: declining in health and/or productivity

deciduous: plants that shed their leaves annually

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

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

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 stand: a contiguous area of trees of similar species composition, age and structure that can 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 24)

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 creek, stream, river, pond, lake, swamp or other wetland

savanna: an area with scattered trees 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 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

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

zooplankton: microscopic animals that float/swim in water