

HERITAGE RANKS

APPENDIX A: HERITAGE PROGRAM ELEMENT RANKS

Explanation of ranks and codes used in Natural Heritage database reports.

Each element has a global and state rank as determined by the NY Natural Heritage Program. These ranks carry no legal weight but are believed to accurately reflect the relative rarity given of the species. The global rank reflects the rarity of the element throughout the world and the state rank reflects the rarity within New York State. Intraspecific taxa are also assigned a taxon rank to reflect the infraspecific taxon's rank throughout the world. The Taxon or T-ranks (T1 - T5) are defined like the Global ranks (G1 - G5), but the T-rank *only* refers to the rarity of the subspecific taxon of the species.

GLOBAL RANK

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences), or very few remaining acres, or miles of stream) or especially vulnerable to extinction because of some factor of its biology.
- G2 = Imperiled globally because of rarity (6 - 20 occurrences, or few remaining acres, or miles of stream) or very vulnerable to extinction throughout its range because of other factors.
- G3 = Either rare and local throughout its range (21 to 100 occurrences), or found locally (even abundantly at some of its locations) in a restricted range (e.g., a physiographic region), or vulnerable to extinction throughout its range because of other factors.
- G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- GH = Historically known, with the expectation that it might be rediscovered.
- GX = Species believed to be extinct.
- GU = Status unknown.

STATE RANK

- S1 = Typically 5 or fewer occurrences, very few remaining individuals, acres, or miles of stream, or some factor of its biology making it especially vulnerable in New York State.
- S2 = Typically 6 to 20 occurrences, few remaining individuals, acres, or miles of stream, or factors demonstrably making it very vulnerable in New York State.
- S3 = Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.
- S4 = Apparently secure in New York State.
- S5 = Demonstrably secure in New York State.
- SH = Historically known from New York State, but not seen in the past 15 years.
- SX = Apparently extirpated from New York State.
- SE = Exotic, not native to New York State.
- SR = State report only, no verified specimens known from New York State.
- SU = Status unknown.

TAXON RANK

- T1 - T5 = indicates a rank assigned to a subspecies following the Global Rank definitions above.
- Q = indicates a question exists whether or not the taxon is a good taxonomic entity.
- ? = indicates a question exists about the rank.

APPENDIX B: GLOSSARY

GLOSSARY

abundance: term referring to the the number of individuals of a single species present in a community.

abundant: a species with a relatively high number of individuals in a community.

acidic: describes water or soil with a pH less than 5.5.

alkaline: describes water or soil with a pH greater than 7.4.

alluvium: unconsolidated material deposited by running water, including gravel, sand, silt, clay, and various mixtures of these.

alpine: characteristic of any lofty mountain or mountain system; implies high elevation, near or above tree line, and a cold, windy climate.

alvar: a Swedish term to describe barrens and grassland vegetation that grows on thin soils over level outcrops of limestone or dolomite bedrock.

aquatic bed: a wetland or deepwater habitat dominated by plants that grow principally on or below the surface of the water for most of the growing season in most years.

aquatic macrophyte: an aquatic plant that is large enough to be visible without magnification by a microscope or handlens.

assemblage: a non-committal term for a group of organisms that live together and can be studied; does not imply any particular scale.

associate: any species that commonly occurs in the same community or assemblage with one particular species, is an associate of that species.

bar: an elongated landform generated by waves and currents and usually running parallel to the shore, composed predominantly of unconsolidated sand, gravel, cobbles, or stones, and with water on two sides.

barrens: a depauperate community with either a low canopy coverage or with stunted individuals of species which elsewhere reach considerable size; this term is applied to both savannas and woodlands.

barrier beach: a narrow, elongate sand ridge rising slightly above the high-tide level and extending generally parallel with the shore, but separated from it by a lagoon or marsh; it is rarely more than a few miles (or several kilometers) long.

base level: the theoretical limit or lowest level toward which erosion of the earth's surface constantly progresses; especially the level below which a stream cannot erode its bed.

bedrock: the solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

benthos: organisms living in or on the bottom of an aquatic

system such as a lake or a river.

biota: the complete flora and fauna of an area from the taxonomic point of view.

bog: a nutrient-poor, acidic peatland that receives water primarily from direct rainfall, with little or no influence of groundwater or runoff; vegetation consists primarily of peat mosses (*Sphagnum* spp.) and ericaceous shrubs.

boreal: describes the circumpolar forest region in the northern hemisphere that is generally dominated by conifer tree species; the boreal forest extends north to the treeless tundra and south to the mixed conifer/deciduous forests or temperate grasslands.

brackish: describes marine and estuarine waters with moderate salinity, in the range of 0.5 to 18.0 ppt dissolved salts.

bryophyte: a collective term referring to mosses and liverworts.

calcareous: formed of calcium carbonate or magnesium carbonate by biological deposition or inorganic precipitation in sufficient quantities to effervesce carbon dioxide visibly when treated with cold 0.1 normal hydrochloric acid.

canopy: the aerial branches of terrestrial plants (usually trees or shrubs), and their complement of leaves, that form the uppermost layers of vegetation in a community; a canopy is said to be complete (or have 100% cover) when the ground is completely hidden by the leaves when viewed from above the canopy.

carr: a wetland dominated by *Alnus* and/or *Salix* adjoining water courses, where periodic flooding precludes peat accumulation (Andrus 1980).

channel: the bed of a single or braided watercourse that commonly is barren of vegetation and is formed of modern alluvium.

characteristic species: a species that commonly occurs in a particular community, although it is not necessarily abundant; it may not occur in all examples of that community, but it may be expected to occur in at least half the examples.

circumneutral: describes water or soil with a pH of 5.5 to 7.4.

clay: soil composed of very fine particles (with particle sizes less than 0.002 mm).

closed canopy: a forest canopy that has a high percent cover; where the ground is completely or almost completely shaded by the canopy.

coarse woody debris: describes the dead woody material in a forested community, such as standing dead trees, dead branches and twigs, logs, and stumps.

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coastal plain: any plain of unconsolidated fluvial or marine sediment which had its margin on the shore of a large body of water, particularly the ocean.

cobble: rock fragments 3 to 10 inches (7.6 to 25.4 cm) in diameter.

codominant: a species with relatively high abundance or percent cover in a community; two or more species providing roughly equal cover, abundance, or influence in a community, and which in combination control the environment of the community.

community: an assemblage of plants and animals interacting with one another, occupying a habitat, and often modifying the habitat; a variable assemblage of plant and animal populations sharing a common environment and occurring repeatedly in the landscape.

composition: a term that refers to all the species that comprise a community and their relative abundances.

conifer: a cone-bearing tree of the pine family (*Pinaceae*), usually evergreen.

cover: the amount of ground surface that is covered or shaded by the leaves and stems of a plant species or a group of species in a community.

cultivated: planted and maintained by people.

cyanobacteria: organisms once known as "bluegreen algae".

d.b.h.: abbreviation for "diameter at breast height", which describes the diameter of a tree at a height of 4.5 ft (about 1.4 meters) above the ground; this measurement is used to estimate basal area (cross-sectional area of a tree at the same height), which is a measure of dominance in forests.

density: term to indicate the number of individuals per unit area.

deposition: the laying down of potential rock-forming or soil-forming materials; sedimentation.

desiccation: the process of becoming completely dry.

dimictic: describes a lake that has two periods of mixing or turnover each year (spring and fall); these lakes are thermally stratified in summer, and they freeze over and become inversely stratified in winter.

discharge: total volume of water per unit time flowing through a channel.

disturbance regime: describes a repeating pattern of natural disturbance in a community, such as seasonal flooding, daily tidal flooding, periodic fires, windthrow, erosion, and ice scouring.

dominant: a species with the greatest abundance or percent

cover in a community; a species with so much cover, abundance, or influence in a community that it controls the environment of the community; a species of great importance in a community through size, number, or other characters which enable it to receive the brunt of external environmental forces and modify them before they affect the other members of the community; for example, the dominant tree in a forest receives the most sunlight and produces the most shade, thus modifying the environment of the forest.

dwarf: a stunted growth form; for example, dwarf trees are less than 16 ft (4.9 m) tall.

dystrophic: describes lake water with a high content of organic matter; brown-water lakes.

ecosystem: living organisms and their environment functioning as an interacting unit.

ecotone: the edge or transition between two different communities or ecosystems.

effluent: liquid outflow from sewage works, factories, farms, etc.

embayment: a bay or a formation resembling a bay.

emergent: upright, rooted, herbaceous plants that may be temporarily to permanently flooded at the base while the upper portions of the plant grow erect above the water surface; these plants do not tolerate prolonged inundation of the entire plant; for example, cattail (*Typha latifolia*).

ephemeral: something temporary; used to describe intermittently wet areas; see also: spring ephemeral.

epilimnion: the upper, warm, circulating layer of water in a stratified lake.

epiphytic: describes organisms (especially plants) that live on the surface of a plant; for example, an alga living on an aquatic plant, or a moss living on the bark of a tree.

ericaceous: describes plants belonging to the heath family, the *Ericaceae*.

erosion: the wearing away of the land surface by running water, waves, moving ice and wind, or by other geological processes.

eskers: a winding, narrow ridge of sand or gravel deposited by a stream flowing in or under glacial ice.

eutrophic: relatively rich in nutrients; generally referring to a habitat more nutrient rich than oligotrophic or mesotrophic habitats; especially used for an aquatic system that has a high concentration of plant nutrients such as nitrogen and phosphorus, and supports high plant productivity.

exemplary: an excellent example.

exotic: an introduced species that is not native to New York

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State.

fauna: all of the animal species that grow in a particular site or area.

feather mosses: term for large mosses that are pinnately branched and look like feathers or miniature ferns.

fen: an open peatland, sometimes with scattered trees, occurring on minerotrophic sites that receive groundwater which has been in contact with soil or bedrock, and is richer in mineral-nutrient elements than rainwater; a peatland that is richer in nutrients and less acidic than a bog; vegetation consists primarily of sedges, grasses, mosses and shrubs.

flarks: in patterned peatlands strings and flarks occur as narrow or broad bands of vegetation that extend perpendicular to the direction of water flow across the slope of the peatland. The flarks, or hollows (low, relatively wet areas) are more minerotrophic than stings.

flat: a nearly level landform composed of unconsolidated sediments such as mud or sand, or nearly level expanses of sedimentary rock.

floating plant: a plant that floats freely in the water or on the water surface and is not anchored in the substrate; for example, duckweed (*Lemna minor*).

floating-leaved aquatic: an herbaceous plant that is rooted in the substrate with some leaves floating on the water surface; for example, white water lily (*Nymphaea odorata*). Plants such as yellow water lily (*Nuphar luteum*) that sometimes have leaves raised above the water surface are considered either floating-leaved or emergent, depending on their growth habit in a particular site or community.

flora: all of the plant species that grow spontaneously in a particular area; a taxonomic list of species; the size of a flora is determined by the number of species and is not influenced by the number of individuals of each species.

forb: an herbaceous plant that is not grass-like, especially used for broad-leaved herbaceous plants, and may include ferns and fern-allies.

forest: communities formed by trees with a canopy cover of at least 61 percent or more at maturity, with tree crowns usually interlocked.

frequency: a measure of the commonness and widespread distribution of plant or animal individuals in a single example of a community.

fresh: describes water with salinity less than 0.5 ppt dissolved salts.

gradient: a gradually changing factor; especially used for environmental variables, for example, a gradient from wet to dry soils.

graminoid: general term for any grass-like plant; including grasses (*Poaceae*), sedges (*Cyperaceae*), rushes (*Juncaceae*), and cattails (*Typhaceae*), as well as some plants in other families.

grass: a plant in the grass family (*Poaceae*).

grassland: an open canopy community dominated by graminoids; forbs may be common, but there are relatively few shrubs and less than one tree per acre.

grass-savanna: an upland community with a sparse canopy of trees (from 25 to 60% cover), and a groundlayer dominated by graminoids and forbs (with less than 50% cover of shrubs).

gravel: a mixture composed primarily of small rock fragments 0.1 to 3 inches (2 mm to 7.6 cm) in diameter.

grikes: fissures, cracks, and crevices in limestone pavement bedrock created by the dissolution of limestone, especially in alvar communities.

groundlayer: the herbs, shrubs, and woody vines found beneath the trees in a forest; or the lowest layer of vegetation in an open-canopy community.

groundwater: water found underground in porous rock strata and soils.

hardwood: deciduous trees that are not conifers.

headward erosion: erosion moving towards the headwaters or source of a stream.

heath shrub: a shrub in the heath family (*Ericaceae*); an ericaceous shrub.

heath-like shrub: shrubs that are similar in habit and growth form to heath shrubs but not in the heath family (*Ericaceae*); broad-leaved, often evergreen shrubs with leathery leaves and a compact growth form.

heathland: a low shrubland dominated by heath or heath-like shrubs.

herb: a plant with no persistent woody stem above ground, as distinct from shrubs and trees; includes graminoids and forbs.

herbaceous layer: the layer or stratum of vegetation in a community in which herbs are common or dominant; usually the groundlayer.

high-energy waves: rough waves; waves that have enough energy to move large objects or modify landforms.

hollow: a microtopographic depression in a peatland; these can be of various sizes, and intermittently with standing water.

hummock: a moss-covered mound in a peatland, usually less

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than 40 cm high, and varying from less than 1 to more than 10 square meters in area; vegetation usually includes some dwarf shrubs, and sometimes includes tall shrubs or trees.

hydric: term describing areas with wet soils.

hydrology: describes the way water is distributed in the landscape, moves on the ground surface and underground, and cycles by evaporation, precipitation, and flow.

hydrophyte, hydrophytic: describes any plant adapted to growing in water or on a very wet substrate (one that is at least periodically deficient in oxygen as a result of excessive water content).

hypolimnion: the deep, cold, lower layer of water in a stratified lake.

impoundment: a pond caused by a dam across a stream and used for purposes such as water supply or water power.

introduced: describes an exotic species that became established in New York State by human activities, either intentionally (such as many cultivated plants) or accidentally; not native.

levee: and artificial or natural embankment built along the margin of a watercourse or an arm of the sea, to protect land from inundation, or an embankment that confines streamflow to its channel.

limnetic zone: the open water area of lakes.

litter layer: the uppermost layer of soil; it usually consists of fresh or partly decomposed organic debris such as fallen leaves, twigs, fruits, etc.

littoral zone: the shallow water zone at the interface between the drainage basin land surrounding a lake and the open water of the lake.

macrophyte: a plant (especially an aquatic plant) large enough to be visible without magnification by a hand lens or microscope.

maritime: describes sites or communities near the ocean and influenced by coastal processes.

marl: an earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal proportions (35 to 65% of each); formed primarily under freshwater lacustrine conditions, but also deposited by decomposing algae in very alkaline wetlands.

marsh: a wet area, periodically inundated with standing or slow-moving water, that has a grassy or herbaceous vegetation and often little peat accumulation.

meadow: an open canopy community with forbs, graminoids and shrubs codominant; meadows may have scattered trees, but there is less than 25% canopy cover of trees.

mean high tide: the average height of the high tide water over 19 years.

meander: one of a series of sinuous loops, with sine-wave form, in the course of a stream channel.

meromictic: describes a lake that has no annual periods of mixing and remains chemically stratified throughout the year.

mesic: term describing areas with moist, well-drained soils; intermediate between xeric (dry) soils and hydric (wet) soils.

mesophytic: term describing vegetation characteristic of moist, well-drained soils.

mesotrophic: having moderate levels of nutrients; referring to a habitat intermediate in richness between eutrophic and oligotrophic.

microtopography: the fine scale topography of a site.

mineral soil: soil with less than 20% organic matter if the mineral fraction contains no clay; or less than 30% organic matter if the mineral fraction contains 50% or more clay. For more information see Appendix D in: Cowardin et al. (1979).

minerotrophic: groundwater-fed; areas influenced by water that has been in contact with soil or bedrock, and is richer in mineral-nutrient elements than rainwater.

monomictic: describes a lake that has one period of mixing or turnover each year.

morphometry: describes morphological features of a lake or stream and its included water mass; includes water depth, surface area, length of shore line, water volume, and slope and topography of the basin.

mosaic: in a landscape, a complex pattern composed of different types of communities or assemblages that are intermingled.

muck: highly decomposed organic material in which the original plant parts are not recognizable; contains more mineral matter and is usually darker in color than peat.

mudflats: a level landform associated with shores that is composed of unconsolidated mud sediments; mudflats may be irregularly shaped or elongate and continuous with the shore.

native: describes species that naturally occur in New York State, and were not introduced by human activities; indigenous.

naturalized: describes species that were introduced into New York State by human activities, and are successfully established and reproducing naturally without cultivation.

nutrient-poor: providing low levels of plant nutrients.

nutrient-rich: providing high levels of plant nutrients.

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oligotrophic: poor to extremely poor in nutrients; referring to a habitat less nutrient-rich than eutrophic or mesotrophic.

ombrotrophic: rain-fed; used especially to indicate peatlands or portions of peatlands which receive water only from precipitation.

open canopy: with very sparse cover of canopy trees; with less than 25% canopy cover.

organic matter: material derived from the decay of living organisms.

organic soil: soil with at least 20% organic matter if the mineral fraction contains no clay, or with at least 30% organic matter if the mineral fraction contains 50% or more clay. For more details see Appendix D in Cowardin et al. (1979).

outcrop: that part of a geologic formation or structure that appears at the surface of the earth.

oxbow: a closely looping stream meander having an extreme curvature such that only a neck of land is left between the two parts of the stream.

pack ice: ice formed from ice floes that were washed onto the shore of a river or lake.

panne: a low area within a salt marsh (usually in high salt marsh) that is permanently saturated or includes a small pond hole that is permanently filled with water.

peat: the partially-decayed remains of plant material accumulating on wet sites because of water-logging; unconsolidated soil material consisting of accumulated, undecomposed (or only slightly decomposed) organic matter.
peat moss: any moss in the genus *Sphagnum*.

peatland: a wet area in which peat has accumulated; in this classification, wetlands with marl substrates are included in peatlands.

perched water table: a water table held above the regional level by an impermeable or slowly permeable layer.

periphytic: describes organisms living on the surfaces of submerged plants.

pH: symbol for units in the measurement of acidity or alkalinity of soil, water, or other substrates.

podzolized: describes a type of soil in which organic matter, iron, aluminum, a small amount of phosphorus, and sometimes clay, have been translocated from the upper part of the mineral soil layers to the lower part.

polychaetes: a class of segmented marine worms including bristleworms, tube-worms, and fan-worms.

pond hole: a deep panne or low area within a salt marsh that is permanently filled with water; pond holes have nearly

vertical walls of salt marsh turf.

pool: in a stream, a portion of the stream that is deep and has a slow current (relative to shallower portions of the stream); the water surface is calm unless disturbed by wind.

poor: describes a nutrient-poor environment; can also be used to describe communities with low species diversity.

ppt: abbreviation for "parts per thousand".

profundal zone: the deep, central area of a lake.

prominent: describes a species with a relatively high percent cover or abundance in a community.

quiet water: calm water, not subject to violent wave action.

relic: a disjunct community, separated by other communities from its main geographical range.

relict: pertaining to surface landscape features that have never been buried and are products of past environments no longer operative in a given area.

remnant: a portion or fragment of a pre-settlement ecological community remaining after the destruction of the bulk of the community by human activities such as agricultural, residential, or commercial development.

rich: describes a nutrient-rich environment; can also be used to describe communities with high species diversity.

riffle: a portion of a stream that is shallow and has a fast current (relative to adjacent deeper portions of the stream). The water surface is disturbed by the current and may form standing waves.

rosette-leaved aquatic: a low-growing aquatic plant with leaves arranged in a circular cluster.

rubble: an accumulation of loose angular rock fragments, commonly overlying a rock outcrop.

run: a portion of a stream that has a moderate to fast current; the water is deep enough that the water surface is smooth and unbroken by the water current (although it may be disturbed by wind).

saline: general term for waters containing various dissolved salts.

salinity: the total amount of solid material in grams contained in 1 kg of water when all the carbonate has been converted to oxide, the bromine and iodine replaced by chlorine, and all the organic matter completely oxidized; here expressed in parts per thousand (ppt) dissolved salts.

sand: composed primarily of coarse-grained mineral sediments with diameters larger than 0.074 mm and smaller than 2 mm.

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sandspit: a small point or narrow embankment of land, consisting of sand deposited by longshore drifting and having one end attached to the mainland and the other terminating in open water, usually the sea; a fingerlike extension of the beach.

Secchi disk depth: a measure of the transparency of lake water determined by lowering a round, white or black-and-white disk into the water until it is not visible from above the water.

sedge: a grasslike herbaceous plant in the family *Cyperaceae*, especially a species of the genus *Carex*.

seepage: lateral water flow through the soil; it represents an important source of minerotrophic water to a peatland.

semidiurnal tides: tides that occur about every twelve hours, or twice in each tidal day.

shallows: a relatively shallow place in an estuary or other body of water.

shoal: a relatively shallow place in a stream, lake, sea, or other body of water; a shallows.

shrub: a perennial, woody plant that differs from a tree by its low growth form and presence of multiple stems or several branches starting at or near the ground; a shrub is usually less than 16 feet (5 meters) tall at maturity, and usually has several erect, spreading, or prostrate stems and a more or less bushy appearance.

shrubland: a community dominated by woody perennial shrubs, with more than 50% canopy cover of shrubs, and less than 25% canopy cover of trees.

shrublayer: the layer of vegetation in a community that is dominated by shrubs.

shrub-savanna: an upland community with a sparse canopy of trees (from 25 to 60% cover), and a groundlayer that is predominantly shrubby (at least 50% cover of shrubs).

silt: soil composed of fine-grained mineral sediments; particles are intermediate in size between sand and clay (particle sizes between 0.074 and 0.002 mm), and they were carried or laid down as sediment by moving water.

site: a place or location; not used here in the special sense employed by foresters.

slough: a swamp or marsh that is part of an inlet or backwater.

species diversity: the number of species that occur in an area or in a community; species richness; not used in this classification to describe species equitability or the relative abundances of species.

spring ephemeral: spring-flowering plants that emerge and flower in a forest before the leaves of canopy trees are fully

grown, and then wither after the canopy leaves shade the forest floor.

spring tide: tides occurring near the time of full or new moon, when the range of tides is greater than the mean range; the highest high and lowest low tides during the lunar month.

stand: a particular example of a community.

stone: rock fragments larger than 10 inches (25.4 cm) but less than 24 inches (60.4 cm).

stratified: a term that describes the condition of many temperate lakes during summer and winter when layers of water within a lake have different temperatures and different circulation patterns; for example, a summer-stratified lake has an upper, circulating layer of warm water that overlays a lower, cold layer; these layers are separated by a relatively thin transition zone or thermocline.

strings: in patterned peatlands strings and flarks occur as narrow or broad bands of vegetation that extend perpendicular to the direction of water flow across the slope of the peatland. The strings, or hummocks (high, relatively dry areas) are usually ombrotrophic or weakly minerotrophic.

structure: the spatial arrangement of vegetation layers within a community.

subcanopy: in a forest community, the tops and branches of small trees and tall shrubs that form a distinct layer beneath the tree canopy and above the shrublayer.

sublittoral: the portion of a lake bottom that is intermediate between the peripheral shallows or littoral zone and the deep, cold, dark profundal zone.

submerged aquatic: an aquatic plant, either rooted or non-rooted, which grows entirely beneath the surface of the water, except for the flowering parts in some species; for example, wild celery (*Vallisneria spiralis*).

substrate: the base material (soil or rocks) in which plants are rooted and from which they obtain nutrients.

subtidal: in tidal wetlands, the permanently flooded area below the lowest tide.

successional: describes communities that are changing relatively quickly as new species, usually more shade-tolerant species, replace the more sun-loving species that initially become established after a site is disturbed.

swamp: a wooded wetland; an area intermittently or permanently covered with water, that has shrubs and/or trees.

talus: rock fragments of any size or shape (usually coarse and angular) derived from and lying at the base of a cliff or very steep, rock slope; the accumulated mass of this loose broken rock formed chiefly by falling, rolling, or sliding.

thermocline: the region of rapid temperature transition in a

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stratified lake.

topography: configuration of the land surface.

tree: a woody perennial plant, usually having one principal stem or trunk, that has a definite crown of branches and leaves, and characteristically reaches a mature height of at least 16 ft (5 m); some species of oak (*Quercus*), juniper (*Juniperus*), willow (*Salix*) and other plants may grow as either trees or shrubs.

tree line: the upper limit of tree growth at high latitudes or at high elevations in mountains; timberline.

upland: sites with well-drained soils that are dry to mesic (never hydric).

understory: the lower layers of vegetation in a community; in a forest community, all the vegetation layers beneath the tree canopy and subcanopy.

vascular plant: plants with a vascular system, including trees, shrubs, and herbs, but not including mosses, lichens, or algae.

vernal: occurring in the spring.

vine: any woody or herbaceous plant which trails, climbs, or creeps as contrasted to those which stand without support.

washover: a deposit of sand caused by storms; washovers occur in low areas along the coast where a barrier usually protects the area from the full force of ocean waves and where storms occasionally cause masses of sand to be carried over the barrier and onto the protected area (such as a marsh, interdunal swale, or lagoon).

watershed: the area drained by a river or river system.

woodland: communities composed of trees with a canopy cover of 26 to 60 percent at maturity. A herbaceous and/or shrub understory is usually present.

xeric: term describing areas with dry, well-drained soils.

