

Appendix F
Ecological Community Types

F. Ecological Community Types

The following descriptions of the community types observed on the Final Candidate Sites (FCS) are adapted from the *Draft Ecological Communities of New York State* (Edinger et al. 2002). The classification is grouped according to system, subsystem, and then community type.

1. RIVERINE SYSTEM

1.1 Natural Streams Subsystem

Community Type

- **Marsh headwater stream** – the aquatic community of a small, marshy perennial brook with a very low gradient, slow flow rate, and cool to warm water that flows through a marsh, fen, or swamp where a stream originates. These streams usually have clearly distinguished meanders and are in unconfined landscapes.
- **Backwater slough** – the aquatic community of quiet stagnant waters in sloughs that form in embayments and old meanders that are cut off from an unconfined river or marsh headwater stream only at the upstream end by deposition of a levee.
- **Intermittent stream** – the community of a small, intermittent or ephemeral streambed in the uppermost segments of stream systems where water flows only during the spring or after a heavy rain and often remains longer, ponded in isolated pools.

1.2 Riverine Cultural Subsystem

Community Type

- **Canal** – the aquatic community of an artificial waterway or modified stream channel constructed for inland navigation or irrigation.
- **Ditch/artificial intermittent stream** – the aquatic community of an artificial waterway constructed for drainage or irrigation of adjacent lands.

2. PALUSTRINE SYSTEM

Community Type

- **Wetland** – descriptions are based on the Cowardin Wetland Classification System from: *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

3. TERRESTRIAL SYSTEM

3.1 Open Uplands Subsystem

Community Types

■ **Successional old field** – a meadow dominated by forbs and grasses that occurs on sites that have been cleared and plowed (for farming or development) and then abandoned. According to Edinger et al. (2002), *Draft Ecological Communities of New York State*, characteristic herbs include goldenrods, bluegrasses, asters, other grasses, and Queen Anne's lace, and may contain less than 50 % shrubs, including, dogwoods, viburnums, raspberries, sumac, and eastern red cedar.

■ **Successional shrubland** – a shrubland that occurs on sites that have been cleared (for farming, logging, development, etc.) or otherwise disturbed. This community has at least 50 % shrub cover. Characteristic shrubs include gray dogwood, eastern red cedar, raspberries, hawthorn, serviceberries, choke cherry, wild plum, sumac, nanny-berry, arrowwood, and multi-flora rose.

3.2 Forested Uplands Subsystem

Community Types

■ **Appalachian oak-hickory forest** – a hardwood forest that occurs on well-drained sites, usually on ridgetops, upper slopes, or south- and west-facing slopes. The soils are usually loams and sandy loams. This is a broadly defined forest community with several regional and edaphic variants. Dominant trees include red oaks and white oaks. Codominant trees include hickories, white ash, red maple, and Eastern hop hornbeam. There is typically a lower canopy shrub layer dominated by dogwoods, witch hazel, choke cherry, maple-leaf Viburnum, and *Rubus* sp.

■ **Appalachian oak-pine forest** – mixed forest that occurs on sandy soils, sandy ravines in pine barrens, or on slopes with rocky soils that are well-drained. The canopy is dominated by a mixture of oaks and pines. Characteristic trees include red oak, white oak, and white pine. Co-dominants include red maple, hemlock, beech, and black cherry at low densities. The shrub layer is predominately ericaceous, and the shrub layer is relatively sparse and the species diversity is low.

■ **Beech-maple mesic forest** – a hardwood forest with sugar maple and beech co-dominant. This is a broadly defined community type with several regional and edaphic variants. These forests occur on moist, well-drained, usually acid soils. Common associates are yellow birch, white ash, eastern hop hornbeam, and red maple, with relatively few shrubs. The most abundant shrubs and small trees are typically sugar maple and beech. Characteristic shrubs are hobblebush, American hornbeam, striped maple, witch hazel, and alternate-leaved dogwood.

■ **Rich mesic forest** – a hardwood or mixed forest that resembles the mixed mesophytic forests of the Allegheny Plateau south of New York but that is less diverse. It occurs on rich, fine-textured, well-drained soils that are favorable for the

dominance of a wide variety of tree species. A canopy with a relatively large number of co-dominant trees characterizes this forest. Dominant species include red oak, sugar maple, white ash, black cherry, American beech, and red maple. Less common species include white oak, white pine, bitternut hickory, Eastern hop hornbeam, and striped maple. It has a well-developed shrublayer with a variety of species that include musclewood, arrow-wood, witch hazel, elderberry, and dogwoods.

■ **Maple-basswood rich mesic forest** – a species-rich hardwood forest that typically occurs on well-drained soils with a circumneutral pH. The dominant trees are sugar maple, basswood, and white ash. Associate tree species include ironwood, yellow birch, red oak, American beech, bitternut hickory, shagbark hickory, tulip tree, butternut, and American hornbeam. Dominant shrubs include alternate-leaved dogwood, mountain maple, and witch hazel. Spring ephemerals are usually abundant in the ground layer.

■ **Pine-northern hardwood forest** – a mixed forest that occurs on gravelly outwash plains, delta sands, eskers, and dry lake sands in the Adirondacks. The dominant trees are white pine and red pine mixed with a several other species including paper birch and quacking aspen.

■ **Successional northern hardwoods** – a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. Characteristic trees and shrubs include any of the following: quacking aspen, bigtooth aspen, balsam poplar, paper birch, gray birch, pin cherry, black cherry, red maple, white pine, and lesser amounts of ashes and elms. Northern indicators include aspens, birches, and pin cherry. This is a broadly defined community dominated by light-requiring species that are well adapted to establishment following disturbance.

■ **Successional southern hardwoods** – a hardwood or mixed forest that occurs on sites that have been cleared (for fanning, logging, etc.) or otherwise disturbed. The dominant trees are usually any of the following: gray birch, hawthorns, sassafras, box elder, American elm, slippery elm, red maple, silver maple, and eastern red cedar. Certain introduced species are also commonly found in these forests, including black locust, tree-of-heaven, and buckthorn. Any of these may be dominant or co-dominant in a successional southern hardwood forest. This is a broadly defined community dominated by light-requiring species that are well adapted to establishment following disturbance.

3.3 Terrestrial Cultural Subsystem

Community Types

■ **Cropland/row crops** – an agricultural field planted in row crops such as corn, potatoes, and soybeans.

■ **Pine/spruce/fir plantation** – a stand of softwoods planted for the cultivation and harvest of timber products or to provide wildlife habitat, soil erosion control, windbreaks, or landscaping. These plantations may be monocultures with more than 90 % of the canopy cover consisting of one species, or they may be mixed stands with

two or more dominant species that are pine, spruce, or fir. Groundcover is usually sparse, apparently because of the dense accumulation of leaf litter.

- **Mowed lawn** – residential, recreational, or commercial land or unpaved airport runways in which groundcover is dominated by clipped grasses and there is less than 30 % cover of trees. The groundcover is maintained by mowing.
- **Mowed roadside/pathway** – a narrow strip of mowed vegetation along the side of the road, or a mowed pathway through taller vegetation (e.g. meadows, old fields, woodlands, forests), or along utility right-of-way corridors (e.g. power lines, telephone lines, gas pipelines). The vegetation in these mowed strips and paths may be dominated by grasses, sedges, and rushes or it may be dominated by forbs, vines, and low shrubs that can tolerate infrequent mowing.
- **Unpaved road/path** – a sparsely vegetated road or pathway of gravel, bare soil, or bedrock outcrop. These roads or pathways are maintained by regular trampling or scraping of the land surface. The substrate consists of the soil or parent material at the site, which may be modified by the addition of local organic material or sand and gravel.
- **Paved road/path** – a road or pathway that is paved with asphalt, concrete, brick, stone, etc. There may be sparse vegetation rooted in cracks in the paved surface.
- **Gravel mine** – an excavation in a gravel deposit from which gravel has been removed. Often these are dug into glacial deposits such as eskers or kames. Vegetation may be sparse if the mine is active; there may be substantial vegetative cover if the mine has been inactive for several years.
- **Brushy cleared land** – land that has been clearcut or cleared by brush-hog. There may be a lot of woody debris such as branches and slashings from trees that were logged. Vegetation is patchy, with scattered herbs, shrubs, and tree saplings. The amount of vegetative cover probably depends on soil fertility and the length of the time since the land was cleared.
- **Dredge spoils** – an upland site where dredge spoils have been recently deposited. On sandy dredge spoils along the Hudson River, characteristic species of early successional deposits include winged pigweed, lovegrass, purple sandgrass, and tall crabgrass. Cottonwood is common on late successional deposits.
- **Landfill/dump** – a site that has been cleared or excavated where garbage is disposed. The bulk of the material in the landfill or dump is organic and biodegradable; although some inorganic material is usually present.
- **Junkyard** – a site that has been cleared for disposal or storage of primarily inorganic refuse, including discarded automobiles, large appliances, mechanical parts, etc.
- **Rural structure exterior** – the exterior surfaces of metal, wood, or concrete structures (such as commercial buildings, barns, houses, bridges) or any structural

surface composed of inorganic materials (glass, plastic, etc.) in a rural or sparsely populated suburban area. These sites may be sparsely vegetated lichens, mosses, and terrestrial algae; occasionally vascular plants may grow in cracks.

- **Construction/road maintenance spoils** – a site where soil from construction work and/or road maintenance materials has been recently deposited. Little if any vegetation is present.

- **Railroad** – a permanent road having a line of steel rails fixed to wood ties and laid on a gravel roadbed that provides a track for cars or equipment drawn by locomotives or propelled by self-contained motors. There may be sparse vegetation rooted in the gravel substrate. The railroad right-of-way may be maintained by mowing or herbicide spraying.

3.4 Subterranean Cultural Subsystem

Community Types

- **Mine/artificial cave community** - the biota of an abandoned mine or artificial underground excavation. Abandoned mines that are deep enough to maintain stable winter temperatures are important bat hibernacula. Mines, like natural caves, may be terrestrial or aquatic.