

Appendix 16. ONSR Altered Community Descriptions

N.B. This appendix includes descriptions only for those communities for which the community name is not self-explanatory.

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Association Name: Oak-Hickory Shelterwood/Select Harvest

Project Identifier: SA01

Community Type: Shelterwood/Select Harvest

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community is absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It occurs throughout the landscape, excepting steep slopes, areas where bedrock is at or near the surface and bottomlands. Soil attributes are determined by the landform and the geology on which the community is found.

VEGETATION DESCRIPTION

This community is intended to describe timber management areas that have had select mature trees recently removed from them. Remaining mature trees may provide anywhere from 15 to 80 percent foliar cover. When mature trees provide cover near the low end of this range, they may resemble a sparse emergent canopy with a dense growth of shrubby trees (primarily members of the genera *Quercus* and *Carya*) in open areas beneath them. This secondary canopy can be anywhere from seven to ten meters tall. The dense growth above this secondary canopy hinders growth of most shrub species. Shrub and vine species that increase in these open areas include *Prunus serotina*, *Rhus glabra*, *Rubus* spp. and *Vitis* spp. Groundflora is typically sparse and not very diverse, due to dense shading from young oak and hickory saplings. However, in the immediate aftermath of harvesting, prior to the vigorous growth of hardwood resprouts, shrubs and herbaceous groundflora may flourish temporarily.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Emergent tree canopy	Broad-leaved deciduous tree	<i>Quercus</i> spp., <i>Carya</i> spp.
Tall shrub/sapling	Broad-leaved deciduous	<i>Quercus</i> spp., <i>Carya</i> spp.

CHARACTERISTIC SPECIES

Quercus spp., *Carya* spp., *Prunus serotina*, *Rhus glabra*, *Vitis* spp., *Rubus* spp.

CLASSIFICATION

This is a common community that is easy to identify. It will be most difficult to distinguish this type from the other hardwood timber management types. Where vegetative cover from remnant mature trees is near fifteen percent, it may be difficult to discern this type from the Oak-Hickory Regeneration Stand (SA02). In this case, one must determine what the intent of the harvest technique was. In either case, as the community described here matures (as mean tree height approaches 10 meters and average diameter at breast height exceeds ten centimeters), it will become the Oak-Hickory Pole Stand (SA03).

ELEMENT DISTRIBUTION

This is a common community throughout the study area, though it is absent from the park itself. It is not limited to any particular area within the park, nor to any particular Landtype Association, Ecological Landtype or geological stratum.

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Figure 1. Recent select harvesting in this Oak-Hickory Shelterwood/Select Harvest (SA01) has caused a flush of growth in the shrub layer below a relatively open canopy.



Figure 2. This Oak-Hickory Shelterwood/Select Harvest (SA01) is characterized by an open canopy due to the wide spacing of unharvested trees. Note also the remaining slash.

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Association Name: Oak-Hickory Regeneration Stand

Project Identifier: SA02

Community Type: Regeneration Stand

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community should be absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It occurs throughout the landscape, except on steep slopes, areas where bedrock is at or near the surface and bottomlands. Soil attributes are determined by the landform and the geology on which the community is found.

VEGETATION DESCRIPTION

This community is intended to describe timber management areas that have been recently cleared of nearly all mature trees. It is meant to include "seed -tree" harvests, which leave a few mature trees that provide a seed source for regeneration. These trees may provide up to about fifteen percent vegetative cover, much like an emergent tree stratum. The primary canopy, however, will be a dense growth of shrubby trees, primarily members of the genera *Quercus* and *Carya*. This canopy can be anywhere from one to seven meters tall. The dense growth of the primary canopy hinders growth of most shrub species, excluding *Prunus serotina*, *Rhus glabra*, *Rubus* spp. and *Vitis* spp. Groundflora is typically sparse and not very diverse, due to dense shading from young oak and hickory saplings. However, in the immediate aftermath of harvesting, prior to the vigorous growth of hardwood resprouts, shrubs and herbaceous groundflora may flourish temporarily.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Emergent tree canopy	Broad-leaved deciduous tree	<i>Quercus</i> spp., <i>Carya</i> spp.
Tall shrub/sapling	Broad-leaved deciduous	<i>Quercus</i> spp., <i>Carya</i> spp.

CHARACTERISTIC SPECIES

Quercus spp., *Carya* spp., *Prunus serotina*, *Rhus glabra*, *Vitis* spp., *Rubus* spp.

CLASSIFICATION

This is a common community that is easy to identify. It will be most difficult to distinguish this type from the other hardwood timber management types. Where vegetative cover from remnant mature trees is near fifteen percent, it may be difficult to discern this type from the Oak-Hickory Shelterwood/Select Harvest (SA01). In this case, one must determine what the intent of the harvest technique was. In either case, as the community described here matures (As mean tree height approaches 10 meters and average diameter at breast height exceeds ten centimeters), it will become the Oak-Hickory Pole Stand (SA03).

ELEMENT DISTRIBUTION

This is a common community throughout the study area, though it is absent from the park itself. It is not limited to any particular area within the park, nor to any particular Landtype Association, Ecological Landtype or geological stratum.



Figure 3. This Oak-Hickory Regeneration Stand (SA02) is beginning to mature into a Oak-Hickory Pole Stand (SA03)



Figure 4. A dense layer of resprouts from harvested stumps is typical of a 5-20 year old Oak-Hickory Regeneration Stand (SA02).

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Figure 5. This is a prime example of a recently harvested Oak-Hickory Regeneration Stand (SA02).



Figure 6. Pine trees have been left to provide a source for seeds in this Oak-Hickory Regeneration Stand (SA02). Classification of clear-cut communities should be based upon the regenerating trees, rather than on the unharvested trees.

Association Name: Oak-Hickory Pole Stand

Project Identifier: SA03

Community Type: Pole Stand

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community should be absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It occurs throughout the landscape, except on steep slopes, areas where bedrock is at or near the surface and bottomlands. Soil attributes are determined by the landform and the geology on which the community is found.

VEGETATION DESCRIPTION

This community is intended to describe timber management areas that have been cleared of nearly all mature trees but which have reached a growth stage dominated by pole timber exceeding 7 meters in height and having many stems with diameter at breast height greater than 10 centimeters. It is meant to include maturing "seed -tree" harvests, within which only a few mature trees have been left unharvested to provide a seed source for regeneration. These trees may provide up to about ten percent vegetative cover, much like an emergent tree stratum. The primary canopy, however, will be a dense growth of shrubby trees, primarily members of the genera *Quercus* and *Carya*. This canopy can be anywhere from seven to twenty meters tall. While the shrub layer may be dense, it is primarily dominated by species from the *Quercus* and *Carya* genera and by shrubs such as *Prunus serotina* and *Cornus florida*. Groundflora is typically sparse and not very diverse, due to dense shading from young oak and hickory trees.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Quercus</i> spp., <i>Carya</i> spp.
Tall shrub/sapling	Broad-leaved deciduous	<i>Quercus</i> spp., <i>Carya</i> spp.

CHARACTERISTIC SPECIES

Quercus spp., *Carya* spp., *Cornus florida*, *Prunus serotina*

CLASSIFICATION

This is a common community that is easy to identify. This community represents a transitional type between either the Oak-Hickory Shelterwood/Select Harvest (SA01) or the Oak-Hickory Regeneration Stand (SA02) on the one hand, and mature oak – hickory forests on the other. Resprouts in either the SA01 or SA02 types should generally be less than seven meters tall, with diameter at breast height generally less than ten centimeters. Except for the few years immediately following harvest, shrubs and groundflora are generally absent from those types due to shading from dense resprouting and seed germination following harvest activities. By contrast, the community described here often has a fairly developed complement of shrub species, though groundflora cover may still be sparse. It covers the period in oak forest succession during which stems elongate and stem exclusion processes begin. The generally shorter, dense and uniform canopy of this community will distinguish it from mature forests.

ELEMENT DISTRIBUTION

This is a common community throughout the study area, though it is absent from the park itself. It is not limited to any particular area within the park, nor to any particular Landtype Association or geological stratum.



Figure 7. Woody stem density in a Oak-Hickory Pole Stand (SA03) is generally high.



Figure 8. This Oak-Hickory Pole Stand (SA03) has matured to a point where less vigorous stems are being excluded by dominant stems.

Association Name: Pine-Oak Shelterwood/Select Harvest

Project Identifier: SA04

Community Type: Shelterwood/Select Harvest

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community should be absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It occurs throughout the landscape, except on steep slopes, areas where bedrock is at or near the surface and bottomlands. Soil attributes are determined by the landform and the geology on which the community is found.

VEGETATION DESCRIPTION

This community is intended to describe mixed deciduous-evergreen timber management areas that have been recently harvested. Remaining mature trees may provide anywhere from twenty to eighty percent foliar cover, and should contain a mix of both *Pinus echinata* and species from the genera *Quercus* and *Carya*. Though this canopy may be sparse, it should be the primary stratum from which to determine if the community is a mixed or purely deciduous type. Ideally, the dense shrubby stratum that forms from resprouts and new seed germination should also include a mix of both pine and hardwoods. This strata can be anywhere up to about seven to ten meters tall, with most stems having diameters at breast height less than ten centimeters. It may also include species such as *Prunus serotina*, *Rhus glabra*, *Rhus* spp. and *Vitis* spp. Except for the few years immediately after harvest, the shrub and groundflora layers are typically sparse and not very diverse, due to dense shading from young oak and hickory trees.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Emergent tree canopy	Broad-leaved deciduous tree	<i>Pinus echinata</i> , <i>Quercus</i> spp.
Tree canopy	Broad-leaved deciduous tree	<i>Pinus echinata</i> , <i>Quercus</i> spp.
Tall shrub/sapling	Broad-leaved deciduous	<i>Pinus echinata</i> , <i>Quercus</i> spp.

CHARACTERISTIC SPECIES

Pinus echinata, *Quercus* spp., *Carya* spp., *Prunus serotina*, *Rhus glabra*, *Rhus* spp., *Vitis* spp.

CLASSIFICATION

This is a common community that is easy to identify. It will be most difficult to distinguish this type from the other mixed deciduous-evergreen timber management types. Where vegetative cover from remnant mature trees is near fifteen percent, it may be difficult to discern this type from the Pine-Oak Regeneration Stand (SA05). That type usually has few mature trees remaining (often heavily pine dominated), and includes "seed -tree" harvests within which only a few mature trees have been left unharvested to provide a seed source for regeneration. These trees may provide up to about ten percent vegetative cover, much like an emergent tree stratum. The type described here usually has many mature trees remaining after harvest, and pine and hardwoods generally share dominance. Either type will mature into the Pine-Oak Pole Stand (SA06) as the height of resprouts and seedlings approaches seven to ten meters and diameters at breast height generally exceed ten centimeters.

ELEMENT DISTRIBUTION

This is a common community throughout the study area, though it is absent from the park itself. It is not limited to any particular area within the park, nor to any particular Landtype Association, Ecological Landtype or geological stratum.



Figure 9. This Pine-Oak Shelterwood/Select Harvest (SA04) retains many large stems and a relatively closed canopy, though some large canopy gaps allow light to penetrate to the forest floor.



Figure 10. This Pine-Oak Shelterwood/Select Harvest (SA04) has had most of the stems removed, such that the canopy is very open and classification as a regeneration stand may be more appropriate.

Association Name: Pine-Oak Regeneration Stand

Project Identifier: SA05

Community Type: Regeneration Stand

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community should be absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It occurs throughout the landscape, except on steep slopes, areas where bedrock is at or near the surface and bottomlands. Soil attributes are determined by the landform and the geology on which the community is found.

VEGETATION DESCRIPTION

This community is intended to describe timber management areas that have been cleared of nearly all mature trees and which have not yet reached a pole timber stage. The canopy will be shrubby, not exceeding 7 to 10 meters in height and having few if any stems exceeding 10 cm diameter at breast height. It is meant to include "seed -tree" harvests, within which only a few mature trees have been left unharvested to provide a seed source for regeneration. These trees may provide up to about ten percent vegetative cover, much like an emergent tree stratum. The primary canopy, however, will be a dense growth of shrubby trees, primarily *Pinus echinata* and species from the genera *Quercus* and *Carya*. This canopy can be anywhere up to about 7 to 10 meters tall. The dense growth of these species hinders growth of most shrub species, though species such as *Prunus serotina*, *Rhus glabra*, *Rubus* spp. and *Vitis* spp. respond favorably to harvest disturbance. Groundflora is typically sparse and not very diverse, due to dense shading from young pine, oak and hickory saplings. However, in the immediate aftermath of harvesting, prior to the vigorous growth of hardwood and pine resprouts, shrubs and herbaceous groundflora may flourish temporarily.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Emergent tree canopy	Broad-leaved deciduous tree	<i>Pinus echinata</i> , <i>Quercus</i> spp., <i>Carya</i> spp.
Tall shrub/sapling	Broad-leaved deciduous	<i>Pinus echinata</i> , <i>Quercus</i> spp., <i>Carya</i> spp.

CHARACTERISTIC SPECIES

Pinus echinata, *Quercus* spp., *Carya* spp., *Prunus serotina*, *Rhus glabra*, *Rubus* spp., *Vitis* spp.

CLASSIFICATION

This is a common community that is easy to identify. It will be most difficult to distinguish this type from the other mixed evergreen-deciduous timber management types. Where vegetative cover from remnant mature trees is near fifteen percent, it may be difficult to discern this type from the Pine-Oak Shelterwood/Select harvest (SA04). That type usually has many mature trees remaining, while the type described here usually has only a few mature trees remaining after harvest, and these are often heavily dominated by pine. In this case, one must use one's best judgment to in determining what the intent of the harvest technique was. Mixed types within which trees are between about seven and twenty meters and diameters at breast height generally exceed ten centimeters should be placed in the Pine-Oak Pole Stand (SA06).

ELEMENT DISTRIBUTION

This is a common community throughout the study area, though it is absent from the park itself. It is not limited to any particular area within the park, nor to any particular Landtype Association, Ecological Landtype or geological stratum.



Figure 11. This Pine-Oak regeneration stand (SA05) high a high stem density dominated by hardwood resprouts and pine sapling. It is reaching a stage of maturity where classification as a Pine-Oak Pole Stand (SA06) might be more appropriate.

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Association Name: Pine-Oak Pole Stand

Project Identifier: SA06

Community Type: Pole Stand

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community should be absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It occurs throughout the landscape, except on steep slopes, areas where bedrock is at or near the surface and bottomlands. Soil attributes are determined by the landform and the geology on which the community is found..

VEGETATION DESCRIPTION

This community is intended to describe timber management areas that have reached a growth stage dominated by pole timber exceeding 7 meters in height and having many stems with diameter at breast height greater than 10 centimeters. It is meant to include maturing "seed - tree" harvests, within which only a few mature trees had been left unharvested in order to provide a seed source for regeneration. These trees may provide up to about fifteen percent foliar cover, much like an emergent tree stratum. This community also includes maturing clear-cuts, shelterwood harvests and select tree harvest where the primary stratum has become a canopy of resprouts and newly recruited trees resulting from harvest activities. This stratum will be dominated by *Pinus echinata* and species from the genera *Quercus* and *Carya*. While the shrub layer may be dense, it is primarily dominated by species from the above genera and by the tall shrubs *Prunus serotina* and *Cornus florida*. Groundflora is typically sparse and not very diverse, due to dense shading from young trees and shrubs.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Pinus echinata</i> , <i>Quercus</i> spp., <i>Carya</i> spp.
Tall shrub/sapling	Broad-leaved deciduous	<i>Pinus echinata</i> , <i>Quercus</i> spp., <i>Carya</i> spp.

CHARACTERISTIC SPECIES

Pinus echinata, *Quercus* spp., *Carya* spp., *Prunus serotina*, *Cornus florida*

CLASSIFICATION

This is a common community that is easy to identify. It will be most difficult to distinguish this type from the other mixed deciduous-hardwood timber management types. Mixed evergreen-deciduous areas harvested within the last twenty years should generally be classified as either the Pine-Oak Shelterwood/Select Harvest (SA04) or the Pine-Oak Regeneration Stand (SA05). In these communities, growth from resprouts and new seedlings will be extremely dense, making movement through the communities difficult. Those communities are typically dominated by trees below seven to ten meters tall with diameters at breast height below ten centimeters. By contrast, the community described here has generally larger trees (seven to twenty meters tall with diameters at breast height generally above ten cm) and may be easier to move through thanks to stem-exclusion processes.

ELEMENT DISTRIBUTION

This is a common community throughout the study area, though it is absent from the park itself. It is not limited to any particular area within the park, nor to any particular Landtype Association, Ecological Landtype or geological stratum.

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Figure 12. This Pine-Oak Pole Stand (SA06) includes scattered large oaks that were left unharvested. These form an emergent layer above oaks and pines of uniform height and diameter.



Figure 13. This Pine Oak Pole Stand (SA06) lacks the remnant large oaks in the previous photo, but retains the abundant pines and oaks of uniform height and diameter.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Pine Plantation

Project Identifier: SA07

Community Type: Pine Plantation

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community is absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It is uncommon throughout the study area, and is generally limited to moderate slopes. Soil attributes are determined by the landform and the geology on which the community is found.

VEGETATION DESCRIPTION

This community is intended to describe timber management areas dominated almost exclusively by *Pinus echinata*. Canopy height ranges from 15 to 25 meters and foliar cover is often near 100%. During early stages of this type, the canopy is formed by dense growing, uniformly tall pine trees with little or no deciduous cover. Later, the density may diminish, and often there is evidence that deciduous trees and inferior pines have been removed. The understory and groundflora layers are usually poorly developed, due to shading by a dense canopy as well as specific management activities intended to control the growth of undesirable species.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Pinus echinata</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Pinus echinata</i>

CHARACTERISTIC SPECIES

Pinus echinata

CLASSIFICATION

This community is rare or absent within the study area. Early in its development, this community would properly be classified as a Pine Pole Stand (SA08), and characterized by the high stem density mentioned above. A young *Pinus echinata* / *Vaccinium (arboreum, pallidum, stamineum)* Forest (CEGL002400) may look somewhat like the community described here, but it will lack the uniform growth among canopy trees. Pine rarely is the exclusive dominant tree in forests within the study area, so any example of a community that is nearly exclusively pine dominated may be the result of management activities that favor pine, including planting of pine and manual thinning of deciduous species.

ELEMENT DISTRIBUTION

This community is rare or absent within the park. It is generally restricted to moderate slopes and summits.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Pine Pole Stand

Project Identifier: SA08

Community Type: Pole Stand

Ecological System: Timber Management Area

ENVIRONMENTAL DESCRIPTION

While this community is absent from the park itself, it can be found within the study area, which extends beyond the park's boundaries. It is uncommon throughout the study area, and is generally limited to moderate slopes. Soil attributes are determined by the landform and the geology on which the community is found.

VEGETATION DESCRIPTION

This community is intended to describe immature timber management areas dominated almost exclusively by *Pinus echinata*. The type is characterized by a short canopy formed by dense growing, uniformly tall pine trees with little or no deciduous cover. Later, the density may diminish, and often there is evidence that deciduous trees and inferior pines have been removed. This evidence may include stumps as well as a high quantity of herbaceous and woody species that respond favorably to the soil disturbance associated with harvest practices.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Pinus echinata</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Pinus echinata</i>

CHARACTERISTIC SPECIES

Pinus echinata

CLASSIFICATION

This community is rare or absent within the study area. As this community matures, it will developed into a Pine Plantation (SA07), which is distinguished from the type described here by a lower stem density and more mature trees. Pine rarely is the exclusive dominant tree in forests within the study area, so any example of a community that is nearly exclusively pine dominated may be the result of management activities that favor pine, including planting of pine and manual thinning of deciduous species.

ELEMENT DISTRIBUTION

This community is rare or absent within the park. It is generally restricted to moderate slopes and summits.



Figure 14. This immature Pine Pole Stand (SA09) includes an upper layer of tall pines with diameters at breast height about 10 cm or more.



Figure 15. This immature Pine Pole Stand (SA09) is dominated exclusively by maturing pine trees approximately 15 meters tall.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Deciduous Shrubby Old Field

Project Identifier: SA09

Community Type: Open Old Field with Shrubby or Sparse Trees

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is common throughout the park, particularly on floodplains and in the broader sections of upland waterways. It can also be found on relatively flat summits.

VEGETATION DESCRIPTION

The canopy is comprised of shrubs and immature tree ranging in height from one to ten meters tall. Scattered mature trees may also be present, particularly along the edges of old fields and in swales that may have been difficult to clear. These trees function as an emergent canopy, though they may provide anywhere from 0 to 25 percent foliar cover. All strata tend to be dominated by species that thrive as a result of disturbance. Woody species may include *Juglans nigra*, *Diospyros virginiana*, *Prunus* spp., *Ulmus rubra*, *Ulmus americana*, *Gleditsia triacanthos*, *Acer negundo*, *Juniperus virginiana*, *Cornus florida*, *Symphoricarpos orbiculatus*, *Rhus aromatica*, *Rhus copallina*, *Rhus glabra*, *Rosa multiflora* and *Rubus pensylvanica*. *Toxicodendron radicans* and *Parthenocissus quinquefolia* are common vines. Herbaceous groundflora is frequently dominated by cool season grasses that were planted for grazing, including *Festuca* spp., *Poa* spp. and *Dactylis glomerata*. *Andropogon virginicus*, *Tridens flavus*, *Panicum anceps* and *Danthonia spicata* are also typical dominant grasses. Dominant herbaceous forbs may include species that thrive in the presence of disturbance, including, *Erigeron canadensis*, *Elephantopus caroliniana*, *Daucus carota* and *Solanum carolinense*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Juglans nigra</i> , <i>Gleditsia triacanthos</i>
Tree Canopy	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Prunus</i> spp., <i>Ulmus</i> spp.
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rubus pensylvanicus</i>
	Vine	<i>Toxicodendron radicans</i>
Herbaceous	Graminoid	<i>Festuca</i> spp., <i>Poa</i> spp.
Herbaceous	Forb	<i>Daucus carota</i> , <i>Erigeron canadensis</i>

CHARACTERISTIC SPECIES

Gleditsia triacanthos, *Prunus* spp., *Juglans nigra*, *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Rubus pensylvanicus*, *Rhus* spp., *Rosa multiflora*, *Festuca* spp., *Poa* spp., *Daucus carota*, *Erigeron canadensis*

CLASSIFICATION

This community is common throughout the study area, particularly on flat or moderate slopes. As this community matures, it will develop into the Deciduous Forested Old Field (SA10), which is distinguished from this type by a full canopy of mature trees. This community can be distinguished from mixed evergreen-deciduous old-field types by the low amounts of both cedar and pine.

ELEMENT DISTRIBUTION

This community is common within the park and throughout the study area. It is generally restricted to moderate slopes, summits and floodplains.

ONSR Plots: PM_13.3_06, BS_13_12, BS_13_03

Appendix 16. ONSR Altered Community Descriptions



Figure 16. This Deciduous Shrubby Old Field (SA09) has copious, head-high shrubs and emergent trees.



Figure 17. This example of a Deciduous Shrubby Old Field (SA09) is fairly young and could reasonably be classified as an Herbaceous Old Field (SA23).

Association Name: Deciduous Forested Old Field

Project Identifier: SA10

Community Type: Wooded Old Field

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is common throughout the park, particularly on floodplains and in the broader sections of upland waterways. It can also be found on relatively flat summits.

VEGETATION DESCRIPTION

The canopy is comprised of mature trees ranging in height from 10 to 20 meters tall. While species from the genera *Quercus* and *Carya* may be present, the canopy and subcanopy will have a high abundance of species that thrive in response to human disturbance. These may include *Juglans nigra*, *Diospyros virginiana*, *Prunus serotina*, *Ulmus americana*, *Gleditsia triacanthos*, *Celtis occidentalis* and *Acer negundo*. Typical diagnostic shrub species may include *Juniperus virginiana*, *Cornus florida*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Prunus mexicana*, *Rhus aromatica*, *Rosa multiflora* and *Rubus pensylvanica*. Other shrubs that are common, but not necessarily diagnostic include *Carpinus caroliniana* and *Lindera benzoin*. *Rhus radicans*, *Parthenocissus quinquefolia*, *Lonicera japonica* and *Smilax* spp. are common vines. Dominant herbaceous graminoid species include *Elymus virginicus*, *Carex amphibola*, *Festuca obtusa*, *Carex jamesii*, *Uniola latifolia* and *Poa sylvestris*. Dominant herbaceous forbs may include species that thrive in response to disturbance, including, *Verbesina alternifolia*, *Polygonum virginianum*, *Geum canadense*, *Elephantopus caroliniana*, *Eupatorium rugosum*, *Sanicula gregaria* and *Pilea pumila*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Acer negundo</i> , <i>Ulmus americana</i>
Tall shrub/sapling	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Carpinus caroliniana</i> , <i>Lindera benzoin</i>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Elymus virginicus</i>
Herbaceous	Forb	<i>Verbesina alternifolia</i> , <i>Polygonum virginianum</i>

CHARACTERISTIC SPECIES

Gleditsia triacanthos, *Acer negundo*, *Celtis occidentalis*, *Prunus serotina*., *Juglans nigra*, *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Rubus pensilvanicus*, *Rosa multiflora*, *Lonicera japonica*, *Elymus virginicus*, *Carex jamesii*, *Polygonum virginianum*, *Elephantopus caroliniana*

CLASSIFICATION

This community is common throughout the study area, particularly where slopes are absent or moderate. It may be difficult to discern this type from a maturing Deciduous Shrubby Old Field (SA09), which will lack a full canopy of mature trees. This community can be distinguished from mixed evergreen-deciduous old-field types by the low amounts of both cedar and pine.

ELEMENT DISTRIBUTION

This community is common within the park and throughout the study area. It is generally restricted to moderate slopes and summits and floodplains.

ONSR Plots: BS_13.3_16, AS_13.3_19, AS_13_06, AS_14-16_05, AS_14-16_11, AS_14-16_16, AS_13.3_02, BS_13.3_10, PM_14-16_16, BS_17_15, PM_13.3_04, BS_12_11,



Figure 18. This Deciduous Forested Old Field (SA10) exhibits a dense shrub layer between widely scattered trees.



Figure 19. This Deciduous Forested Old Field (SA10) occurs in an upland waterway, as is common for this community type. It appears to be on a trajectory to mature into a *Quercus alba/Cornus florida* Unglaciated Forest (CEGL002066), from which it becoming difficult to distinguish



Figure 20. This Deciduous Forested Old Field (SA10) includes many weedy species such as multiflora rose to help classify it as a significantly altered type.



Figure 21. This Deciduous Forested Old Field (SA10) exhibits many features indicative of the community type: A short, relatively uniform canopy; shrub and groundflora layers with few species; an abundance of species that increase in response to disturbance in all strata.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Pine-Deciduous Wooded Old Field

Project Identifier: SA11

Community Type: Wooded Old Field

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is uncommon within the study area. It can be found on relatively flat summits and moderate slopes.

VEGETATION DESCRIPTION

The canopy is comprised of mature trees ranging in height from 10 to 20 meters tall, with sufficient foliar cover provided by *Pinus echinata* to classify it as a mixed type. While species from the genera *Quercus* and *Carya* may be present, the canopy and subcanopy also will have a high abundance of species that thrive in response to human disturbance. These may include *Diospyros virginiana*, *Prunus serotina*, *Ulmus americana*, *Gleditsia triacanthos*, and *Ulmus alata*. Typical diagnostic shrub species may include *Juniperus virginiana*, *Cornus florida*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Prunus mexicana*, *Rhus aromatica*, *Rosa multiflora* and *Rubus pensylvanicus*. *Rhus radicans*, *Parthenocissus quinquefolia*, *Lonicera japonica* and *Smilax* spp. are common vines. Dominant herbaceous graminoid species include *Festuca obtusa*, *Danthonia spicata*, *Carex jamesii* and *Poa sylvestris*. Dominant herbaceous forbs may include species that thrive in response to disturbance, including *Geum canadense*, *Elephantopus caroliniana*, *Eupatorium rugosum* and *Sanicula gregaria*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Diospyros virginiana</i> , <i>Ulmus americana</i>
Tree Canopy	Needle-leaved evergreen tree	<i>Pinus echinata</i>
Tall shrub/sapling	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Prunus mexicana</i> , <i>Prunus americanus</i>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Danthonia spicata</i> , <i>Festuca obtusa</i>
Herbaceous	Forb	<i>Eupatorium rugosum</i>

CHARACTERISTIC SPECIES

Pinus echinata, *Gleditsia triacanthos*, *Acer negundo*, *Celtis occidentalis*, *Prunus serotina*., *Juglans nigra*, *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Rubus pensylvanicus*, *Rosa multiflora*, *Lonicera japonica*, *Festuca obtusa*, *Elephantopus caroliniana*, *Eupatorium rugosum*

CLASSIFICATION

This community is uncommon within the study area. It generally occurs where slopes are absent or moderate. The high abundance of species that thrive in response to disturbance should easily distinguish this type from the relatively undisturbed mixed pine-deciduous types described in the NVCS. Where cedar is abundant, this type might more appropriately be classified as the Cedar-Deciduous Wooded Old Field (SA13)

ELEMENT DISTRIBUTION

This community is uncommon within the study area. It is generally restricted to moderate slopes and summits.



Figure 22. This Pine-Deciduous Wooded Old Field (SA11) exhibits a mix of pine and oak in the canopy above species indicative of disturbance in the shrub and groundflora layers.



Figure 23. This Pine-Deciduous Wooded Old Field (SA11) has a dense shrub layer of species that increase with disturbance.

Appendix 16. ONSR Altered Community Descriptions

Association Name: SA12—Pine-Deciduous Shrubby Old Field

Project Identifier: SA12

Community Type: Open Old Field with Shrubby or Sparse Trees

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is uncommon within the study area. It can be found on relatively flat summits and moderate slopes.

VEGETATION DESCRIPTION

The canopy is comprised of shrubs and immature tree ranging in height from one to ten meters tall. Scattered mature trees may also be present, particularly along the edges of old fields and in swales that may have been difficult to clear. These trees function as an emergent canopy, and may provide anywhere from zero to 25 percent foliar cover. All strata tend to be dominated *Pinus echinata* and by species that thrive as a result of disturbance, though species from the genera *Quercus* and *Carya* are often present as well. Common species may include *Diospyros virginiana*, *Prunus serotina*, *Ulmus americana*, *Gleditsia triacanthos*, and *Ulmus alata*. Typical diagnostic shrub species include *Juniperus virginiana*, *Cornus florida*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Prunus mexicana*, *Rhus aromatica*, *Rosa multiflora* and *Rubus pensylvanica*. *Rhus radicans*, *Parthenocissus quinquefolia*, *Lonicera japonica* and *Smilax* spp. are common vines. Dominant herbaceous graminoid species include *Festuca obtusa*, *Danthonia spicata*, *Carex jamesii* and *Poa sylvestris*. Dominant herbaceous forbs may include species that thrive in response to disturbance, including *Geum canadense*, *Elephantopus caroliniana*, *Eupatorium rugosum* and *Sanicula gregaria*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tall shrub/sapling	Needle-leaved evergreen tree	<i>Pinus echinata</i> , <i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Ulmus alata</i> , <i>Prunus</i> spp.
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i> , <i>Rhus</i> spp.
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Danthonia spicata</i> , <i>Festuca obtusa</i>
Herbaceous	Forb	<i>Eupatorium rugosum</i>

CHARACTERISTIC SPECIES

Pinus echinata, *Gleditsia triacanthos*, *Prunus serotina*., *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Rubus pensilvanicus*, *Rosa multiflora*, *Lonicera japonica*, *Danthonia spicata*, *Elephantopus caroliniana*, *Eupatorium rugosum*

CLASSIFICATION

This community is uncommon within the study area. In generally occurs where slopes are absent or moderate. Where cedar is abundant, this type might more appropriately be classified as the Cedar-Deciduous Wooded Old Field (SA13)

ELEMENT DISTRIBUTION

This community is uncommon within the study area. It is generally restricted to moderate slopes and summits.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Cedar-Deciduous Wooded Old Field

Project Identifier: SA13

Community Type: Wooded Old Field

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is common within the study area. It can be found on relatively flat summits and moderate slopes.

VEGETATION DESCRIPTION

The canopy is comprised of mature trees ranging in height from 10 to 20 meters tall, with sufficient foliar cover provided by *Juniperus virginiana* to classify it as a mixed type. While species from the genera *Quercus* and *Carya* may be present, the canopy and subcanopy also will have a high abundance of species that thrive in response to human disturbance. These may include *Juglans nigra*, *Diospyros virginiana*, *Prunus serotina*, *Ulmus americana*, *Gleditsia triacanthos*, and in bottomlands *Celtis occidentalis* and *Acer negundo*. Typical diagnostic shrub species may include *Cornus florida*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Prunus mexicana*, *Rhus aromatica*, *Rosa multiflora* and *Rubus pensylvanica*. *Rhus radicans*, *Parthenocissus quinquefolia*, *Lonicera japonica* and *Smilax* spp. are common vines. Dominant herbaceous graminoid species include *Danthonia spicata*, *Festuca obtusa*, *Carex jamesii* and *Poa sylvestris*. Dominant herbaceous forbs may include species that thrive in response to disturbance, including *Geum canadense*, *Elephantopus caroliniana*, *Eupatorium rugosum* and *Sanicula gregaria*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Ulmus americana</i>
Tree Canopy	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Prunus mexicana</i> , <i>Prunus americana</i>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Danthonia spicata</i> , <i>Festuca obtusa</i>
Herbaceous	Forb	<i>Eupatorium rugosum</i>

CHARACTERISTIC SPECIES

Juniperus virginiana, *Gleditsia triacanthos*, *Acer negundo*, *Celtis occidentalis*, *Prunus serotina*., *Juglans nigra*, *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Rubus pensylvanicus*, *Rosa multiflora*, *Lonicera japonica*, *Festuca obtusa*, *Danthonia spicata*, *Eupatorium rugosum*, *Elephantopus caroliniana*

CLASSIFICATION

This community is common within the study area. It generally occurs where slopes are absent or moderate. The high abundance of species that thrive in response to disturbance should easily distinguish this type from the relatively undisturbed mixed cedar-deciduous types described in the NVCS.

ELEMENT DISTRIBUTION

This community is common within the study area. It is generally restricted to moderate slopes and summits.



Figure 24. This Cedar-Deciduous Wooded Old Field (SA13) exhibits the typical, relatively short, uniform canopy of cedar with mixed oaks. While *Cornus florida* may be relative abundant in such communities, short shrubs are often sparse due to shading by cedar.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Pine Old Field

Project Identifier: SA14

Community Type: Wooded Old Field

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is rare or absent within the study area. If present, it will be restricted to relatively flat summits and moderate slopes.

VEGETATION DESCRIPTION

The canopy is comprised of mature trees ranging in height from 15 to 25 meters tall, with sufficient foliar cover provided by *Pinus echinata* (and to a lesser extent, *Juniperus virginiana*) to classify it as an evergreen type. The size of the dominant pine trees may be uniform or heterogeneous. While species from the genera *Quercus* and *Carya* may be present, the canopy and subcanopy also will have a high abundance of species that thrive in response to human disturbance. These may include *Juglans nigra*, *Diospyros virginiana*, *Prunus serotina*, *Ulmus americana* and *Gleditsia triacanthos*. Typical diagnostic shrub species may include *Cornus florida*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Prunus mexicana*, *Rhus aromatica*, *Rosa multiflora* and *Rubus pensylvanica*. *Rhus radicans*, *Parthenocissus quinquefolia*, *Lonicera japonica* and *Smilax* spp. are common vines. Dominant herbaceous graminoid species include *Danthonia spicata*, *Festuca obtusa*, *Carex jamesii* and *Poa sylvestris*. Dominant herbaceous forbs may include species that thrive in response to disturbance, including *Geum canadense*, *Elephantopus caroliniana*, *Eupatorium rugosum* and *Sanicula gregaria*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Ulmus americana</i>
Tree canopy	Needle-leaved evergreen tree	<i>Pinus echinata</i>
Tall shrub/sapling	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Prunus serotina</i>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Danthonia spicata</i>
Herbaceous	Forb	<i>Eupatorium rugosum</i>

CHARACTERISTIC SPECIES

Pinus echinata, *Juniperus virginiana*, *Gleditsia triacanthos*, *Prunus serotina*., *Juglans nigra*, *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Rubus pensylvanicus*, *Rosa multiflora*, *Lonicera japonica*, *Danthonia spicata*, *Festuca obtusa*, *Polygonum virginianum*, *Elephantopus caroliniana*

CLASSIFICATION

This community is rare or absent from the study area. If it occurs at all, it generally occurs where slopes are absent or moderate. The nearly-pure pine canopy and the high abundance of species that thrive in response to disturbance should easily distinguish this type from the mixed pine-deciduous disturbed types recognized by this study and from the relatively undisturbed mixed pine-deciduous types described in the NVCS. This type may contain significant amounts of cedar in the subcanopy and shrub layers. In cases where cedar is more dominant, and pine forms a more or less emergent canopy, this type should be classified as a Cedar Old Field (SA15).

ELEMENT DISTRIBUTION

This community is rare or absent from the study area. If present, it is generally restricted to moderate slopes and summits.



Figure 25. This Pine Old Field (SA14) could reasonably be classified as a Pine Plantation (SA07), were it still managed for timber.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Cedar Old Field

Project Identifier: SA15

Community Type: Wooded Old Field

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is common within the study area. It can be found on relatively flat summits and moderate slopes.

VEGETATION DESCRIPTION

The canopy is comprised of mature trees ranging in height from 5 to 15 meters tall, with sufficient foliar cover provided by *Juniperus virginiana* to classify it as an evergreen type. The dense, uniform growth of cedar creates a relatively homogenous canopy structure when compared to other significantly altered mixed cedar-deciduous types. While species from the genera *Quercus* and *Carya* may be present, the canopy and subcanopy also will have a high abundance of species that thrive in response to human disturbance. These may include *Juglans nigra*, *Diospyros virginiana*, *Prunus serotina*, *Ulmus americana* and *Gleditsia triacanthos*. In bottomlands, *Celtis occidentalis* and *Acer negundo* may also be present. Typical diagnostic shrub species may include *Cornus florida*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Prunus mexicana*, *Rhus aromatica*, *Rosa multiflora* and *Rubus pensylvanica*. *Rhus radicans*, *Parthenocissus quinquefolia*, *Lonicera japonica* and *Smilax* spp. are common vines. Dominant herbaceous graminoid species include *Danthonia spicata*, *Festuca obtusa*, *Carex jamesii* and *Poa sylvestris*. Dominant herbaceous forbs may include species that thrive in response to disturbance, including *Geum canadense*, *Elephantopus caroliniana*, *Eupatorium rugosum* and *Sanicula gregaria*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Broad-leaved deciduous tree	<i>Ulmus americana</i>
Tree canopy	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Prunus serotina</i>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Danthonia spicata</i>
Herbaceous	Forb	<i>Eupatorium rugosum</i>

CHARACTERISTIC SPECIES

Juniperus virginiana, *Gleditsia triacanthos*, *Acer negundo*, *Celtis occidentalis*, *Prunus serotina*., *Juglans nigra*, *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Rubus pensilvanicus*, *Rosa multiflora*, *Lonicera japonica*, *Danthonia spicata*, *Festuca obtusa*, *Polygonum virginianum*, *Elephantopus caroliniana*

CLASSIFICATION

This community is common within the study area. In generally occurs where slopes are absent or moderate. The nearly-pure cedar canopy and the high abundance of species that thrive in response to disturbance should easily distinguish this type from the mixed cedar-deciduous disturbed types recognized by this study and from the relatively undisturbed mixed cedar-deciduous types described in the NVCS. Often, this community contains *Pinus echinata* in addition to *Juniperus virginiana*. Where pine forms a more significant part of the canopy than cedar, it should be classified as a Pine Old Field (SA14).

Appendix 16. ONSR Altered Community Descriptions

ELEMENT DISTRIBUTION

This community is common within the study area. It is generally restricted to moderate slopes and summits.

ONSR Plots: AS_SA15_01, PM_08_09



Figure 26. This Cedar Old Field (SA15) has nearly 100 percent dominance by cedar, with few deciduous shrubs and an herbaceous layer dominated by species that increase with disturbance.



Figure 27. This Cedar Old Field (SA15) includes a few emergent deciduous trees that were probably left unharvested ed when this field was originally cleared.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Herbaceous Old Field

Project Identifier: SA23

Community Type: Open Old Field with Shrubby or Sparse Trees

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is common within the study area. It is generally restricted to relatively flat summits and moderate slopes, as well as bottomlands and broad sections of upland waterways.

VEGETATION DESCRIPTION

This community includes fields that have been recently abandoned from grazing and/or hay management activities. Most vegetation cover is less than 1 meter tall. Woody stems are typically absent as a unique canopy, though they may be very abundant as small seedlings of trees and as shrubs within the groundflora, which is dominated by cool season grasses and forbs. Common shrubs that proliferate in this environment include *Symphoricarpos orbiculatus*, *Rubus pensilvanicus*, *Rhus* spp., and *Rosa multiflora*. *Juniperus virginiana*, *Prunus americana* and *Prunus mexicana* may also be present, though these should form little more than an emergent canopy with less than 15 percent foliar cover. Herbaceous species are frequently dominated by grasses that were planted for forage, including *Festuca obtusa*, *Dactylis glomerata*, and *Andropogon virginicus*. *Lespedeza cuneata* may be an abundant exotic species. Species from the genera *Melilotus*, *Desmodium* and *Lespedeza* may be abundant.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Festuca</i> spp.
Herbaceous	Forb	<i>Lespedeza</i> spp., <i>Desmodium</i> spp., <i>Melilotus</i> spp.

CHARACTERISTIC SPECIES

Symphoricarpos orbiculatus, *Prunus americana*, *Rubus pensilvanicus*, *Rosa multiflora*, *Danthonia spicata*, *Festuca obtusa*, *Melilotus* spp., *Lespedeza* spp., *Desmodium* spp.,

CLASSIFICATION

This community is common within the study area and is relatively easy to identify. As this community matures it tends to become either the Deciduous Shrubby Old Field (SA09) or the Cedar-Deciduous Shrubby Old Field (SA36). It can be distinguished from either of those types by the absence of significant amounts of woody vegetation that is more than 1 meter tall. Hayfields and Grazing lands (SA20) may appear similar, but generally lack any significant woody stems in the groundflora. They will also exhibit evidence of active human management.

ELEMENT DISTRIBUTION

This community is common within the study area. It is generally restricted to moderate slopes and summits.

Appendix 16. ONSR Altered Community Descriptions



Figure 28. This Herbaceous Old Field (SA23) has an abundance of woody shrubs, but is still dominated by the grasses and forbs planted for cattle forage.



Figure 29. This Herbaceous Old Field (SA23) closely resembles a field that is being actively managed for hay. However, woody stems are becoming abundant, though they provide little of the vegetative cover.

Appendix 16. ONSR Altered Community Descriptions

Association Name: Cedar-Deciduous Shrubby Old Field

Project Identifier: SA36

Community Type: Open Old Field with Shrubby or Sparse Trees

Ecological System: Old Field

ENVIRONMENTAL DESCRIPTION

This community is common within the study area. It can be found on relatively flat summits and moderate slopes.

VEGETATION DESCRIPTION

The canopy is comprised of immature trees ranging in height from 3 to 10 meters tall, with sufficient foliar cover provided by *Juniperus virginiana* to classify it as a mixed deciduous-evergreen type. The presence of cedar and other shrubby species can create a relatively heterogeneous canopy structure when compared to other types dominated solely by cedar. While species from the genera *Quercus* and *Carya* may be present, the canopy and subcanopy also will have a high abundance of species that thrive in response to human disturbance. These may include *Juglans nigra*, *Diospyros virginiana*, *Prunus serotina*, *Ulmus americana* and *Gleditsia triacanthos*. In bottomlands, *Celtis occidentalis* and *Acer negundo* may also be present. Typical diagnostic shrub species may include *Cornus florida*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Prunus mexicana*, *Rhus aromatica*, *Rosa multiflora* and *Rubus pensylvanica*. *Rhus radicans*, *Parthenocissus quinquefolia*, *Lonicera japonica* and *Smilax* spp. are common vines. Dominant herbaceous graminoid species include *Danthonia spicata*, *Festuca obtusa*, *Carex jamesii* and *Poa sylvestris*. Dominant herbaceous forbs may include species that thrive in response to disturbance, including, *Geum canadense*, *Elephantopus caroliniana*, *Eupatorium rugosum* and *Sanicula gregaria*.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tall shrub/sapling	Needle-leaved evergreen tree	<i>Juniperus virginiana</i>
Tall shrub/sapling	Broad-leaved deciduous	<i>Prunus serotina</i> , <i>Ulmus americana</i>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>
Herbaceous	Graminoid	<i>Danthonia spicata</i>
Herbaceous	Forb	<i>Eupatorium rugosum</i>

CHARACTERISTIC SPECIES

Juniperus virginiana, *Gleditsia triacanthos*, *Acer negundo*, *Celtis occidentalis*, *Prunus serotina*., *Juglans nigra*, *Diospyros virginiana*, *Ulmus americana*, *Symphoricarpos orbiculatus*, *Prunus americana*, *Rubus pensylvanicus*, *Rosa multiflora*, *Lonicera japonica*, *Danthonia spicata*, *Festuca obtusa*, *Polygonum virginianum*, *Elephantopus caroliniana*

CLASSIFICATION

The lack of mature trees other than cedar and the high abundance of species that thrive in response to disturbance should easily distinguish this type from the mixed cedar-deciduous disturbed types recognized by this study. Often, this community contains *Pinus echinata* in addition to *Juniperus virginiana*. Where pine is forms a more significant part of the canopy than cedar, it should be classified as a Pine-Deciduous Shrubby Old Field (SA12).

ELEMENT DISTRIBUTION

This community is common within the study area. It is generally restricted to moderate slopes and summits.



Figure 30. This Cedar-Deciduous Shrubby Old Field includes a mix of immature cedar and hardwoods. It is maturing into a Cedar-Deciduous Wooded Old Field (SA13).



Figure 31. This Cedar-Deciduous Shrubby Old Field (SA36) includes some scattered large cedars and abundant short shrubs such as *Rhus copallina* (foreground).

Appendix 16. ONSR Altered Community Descriptions

Association Name: Agricultural Forested Woodlot

Project Identifier: SA37

Community Type: Agricultural Woodlot

Ecological System: Agricultural Field/Pasture

ENVIRONMENTAL DESCRIPTION

This community is somewhat common within the study area. It is associated with actively managed hay fields and pasture, which are typically found on broad, flat summits.

VEGETATION DESCRIPTION

Because these woodlots are actively managed for timber on private lands, little is known about the composition or structure of these types. One should expect a broad expression, as extraction from woodlots is highly dependent upon the goals of the particular landowner. Most woodlots are dominated by oak and hickory, with or without pine. The understory and groundflora layers may exhibit evidence of disturbance by an increase in abundance for those species that respond favorably to disturbance.

MOST ABUNDANT SPECIES

<u>Stratum</u>	<u>Lifeform</u>	<u>Species</u>
Tree canopy	Needle-leaved evergreen tree	<i>Pinus echinata</i>
Tree canopy	Broad-leaved deciduous tree	<i>Quercus</i> spp., <i>Carya</i> spp.
Tall shrub/sapling	Broad-leaved deciduous	<i>Prunus serotina</i> , <i>Ulmus americana</i>
Short shrub	Broad-leaved deciduous	<i>Symphoricarpos orbiculatus</i> , <i>Rosa multiflora</i>
	Vine	<i>Parthenocissus quinquefolia</i>

CLASSIFICATION

Small patches of wooded areas associated with actively managed hay fields and pastures should be placed in this category. Other timber management types are likely to cover a much broader area and be found on publicly-owned lands.

ELEMENT DISTRIBUTION

This community is common within the study area. It is generally restricted to summits.