
ECOLOGICAL SYSTEM: NORTHERN ATLANTIC COASTAL PLAIN PITCH PINE BARRENS

Summary: This system is comprised of a group of dry pitch pine woodlands and forests of deep sandy soils ranging from Cape Cod, Massachusetts; Long Island, New York; and the New Jersey Coastal Plain. The vegetation is characterized by a tree canopy of *Pinus rigida* (pitch pine) with a tall-shrub layer dominated by *Quercus ilicifolia* (bear oak) and a low-shrub layer characterized by *Vaccinium pallidum* (hillside blueberry) or *Vaccinium angustifolium* (northern lowbush blueberry). The system is heavily influenced by fire, the composition and structure of its components varying with fire frequency. In general, tree oaks are more prevalent in those stands having a longer fire-return interval, while at the other extreme, fire frequencies of eight to ten years foster the growth of "pine plains," i.e., dwarf pine stands of 1 meter in height. The pine cones of pine plains have a very high incidence of serotiny as compared to the other associations of this system. Dwarf-shrubs such as *Arctostaphylos uva-ursi* (bearberry) and *Hudsonia ericoides* (pine barren golden-heather) typify the field layer of pine plains.

Scrub oak stands may occur without pine cover, particularly in low-lying areas that do not intersect the water table, where cold-air drainage inhibits pine growth.

North of the glacial boundary, heathlands characterized by *Arctostaphylos uva-ursi* (bearberry), *Corema conradii* (broom crowberry), and *Morella pensylvanica* (northern bayberry) and grasslands characterized by *Schizachyrium littorale* (seaside bluestem) and *Danthonia spicata* (poverty oatgrass) occur as small patches. The Pine Barrens of New Jersey are very similar in structure and composition to those north of the glacial boundary but are characterized by additional species such as *Quercus marilandica* (blackjack oak), *Pyxidantha barbulate* (pyxie-moss), *Leiophyllum buxifolium* (sand-myrtle), and others. Where the water table is close to the surface, pitch pine lowland vegetation (described as a separate system) occurs.

Range: Found in the Coastal Plain from Delaware Bay northward, ranging from Cape Cod, Massachusetts; Long Island, New York; and the New Jersey Coastal Plain. United States: DE, MA, NJ, NY

Delaware Estuary Associations:

- Black Locust Successional Forest
- Coastal Pitch Pine / Scrub Oak Barren
- Coastal Plain Mesic Pine Barrens
- Mid-Successional Pine - Oak Woodland
- New Jersey Pitch Pine / Scrub Oak Barren
- Pine Barrens Hilltop Forest
- Pitch Pine - Oak Forest
- Pitch Pine / Pennsylvania Sedge Woodland
- Southern New Jersey Mesic Pine Barrens

CLASSIFIERS FOR NORTHERN ATLANTIC COASTAL PLAIN PITCH PINE BARRENS

Primary Division: 203

Land Cover Class: Forest and Woodland

Spatial Scale & Pattern: Large patch

Required Classifiers: Natural/Semi-natural; Vegetated (>10% vasc.); Upland

Diagnostic Classifiers: Forest and Woodland (Treed); Xeric; F-Patch/High Intensity; Needle-Leaved Tree

BLACK LOCUST SUCCESSIONAL FOREST

Robinia pseudoacacia Forest

Range: This black locust semi-natural forest is found locally throughout the eastern United States. Its distribution is not completely known because many state ecologists have not developed lists of semi-natural types in their state. It occurs in New Jersey, Pennsylvania and Delaware in the Delaware Estuary.

Environmental Description: This type often establishes on old fields abandoned after agricultural cropping.

Vegetation Description: The vegetation is dominated by *Robinia pseudoacacia* (black locust).

Characteristic Species: *Robinia pseudoacacia* (black locust)

Dynamics/Successional Trajectory: Uncertain. This is an early-successional forest type dominated by black locust. Overtime the black locust will be replaced by other, more shade-tolerant species (species composition will depend on available local species pool). The understory of this community is typically dominated by a dense growth of non-native invasive species which may retard colonization by mid- and late-successional forest species.



Photo by Pennsylvania Natural Heritage Program

Management Concerns: This is a disturbed forest type and is not typically managed for conservation purposes.

Reference Sites: Not a conservation target; reference sites not provided.

Global and State Conservation Ranks and Reasons: GNA (ruderal) (24-Oct-2002). DE: SNA, NJ: SNA, PA: SNA. Although *Robinia pseudoacacia* is a native species found in the Central Appalachian and Ozark Mountains, it does not typically become a dominant species in these natural habitats (Elias 1980). It is now widespread in the eastern U.S. in disturbed habitats. This forest represents early successional vegetation and is thus not of conservation concern and does not receive a conservation status rank.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.684159

References: Baalman 1965, CAP pers. comm. 1998, Elias 1980, Fleming and Coulling 2001, Gaertner 1955, Hoagland 2000, INAI unpubl. data, McDonald 1938, Rawinski et al. 1996, Southeastern Ecology Working Group n.d., TDNH unpubl. data

MOST ABUNDANT SPECIES

STRATUM	LIFEFORM	SPECIES
Tree canopy	Broad-leaved deciduous tree	<i>Robinia pseudoacacia</i> (black locust)

COASTAL PITCH PINE / SCRUB OAK BARREN

Pinus rigida / *Quercus ilicifolia* / *Morella pensylvanica* Woodland

Range: This community occurs in coastal areas of Massachusetts, Rhode Island, New York, and New Jersey.

Environmental Description: This community includes pine barrens in the North Atlantic Coast ecoregion characterized by droughty, fire-prone vegetation, sandy soils and maritime influence.

Vegetation Description: *Pinus rigida* (pitch pine) is strongly dominant in the canopy. *Quercus ilicifolia* (bear oak) forms a dense, 1- to 2-m tall shrub layer with occasional *Quercus prinoides* (dwarf chinquapin oak). Dwarf-shrubs, such as *Gaylussacia baccata* (black huckleberry), *Morella pensylvanica* (northern bayberry), *Vaccinium pallidum* (hillside blueberry), and *Vaccinium angustifolium* (northern lowbush blueberry), intermingle with the tall shrubs. Herbs tend to be sparse, although more open areas may support patches of *Schizachyrium scoparium* (little bluestem) and *Deschampsia flexuosa* (wavy hairgrass), or *Carex pensylvanica* (Pennsylvania sedge) and *Carex swanii* (Swan's sedge). Additional scattered herbs include *Comptonia peregrina* (sweet-fern), *Pteridium aquilinum* (bracken fern), *Gaultheria procumbens* (wintergreen), and *Arctostaphylos uva-ursi* (bearberry). Diagnostic characteristics include the presence of *Morella pensylvanica* (northern bayberry) to indicate coastal setting. In New Jersey, *Morella pensylvanica* (northern bayberry) occurs more in the Atlantic coastal areas, but this type also occurs inland and lacks the local maritime influence.

Characteristic Species: *Morella pensylvanica* (northern bayberry)

Dynamics/Successional Trajectory: These are fire-maintained systems.

Reference Sites: Brendan Byrne SF, NJ

Global and State Conservation Ranks and Reasons: G3 (1-Dec-1997). NJ: SNR.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.688963

References: Breden et al. 2001, Eastern Ecology Working Group n.d., Lundgren et al. 2000, Motzkin and Foster 2002, Rawinski 1984, Swain and Kearsley 2001

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Shrub/sapling (tall & short)	Broad-leaved deciduous shrub	<i>Quercus ilicifolia</i> (bear oak)
Short shrub/sapling	Broad-leaved evergreen shrub	<i>Morella pensylvanica</i> (northern bayberry)
Herb (field)	Graminoid	<i>Schizachyrium scoparium</i> (little bluestem)

COASTAL PLAIN MESIC PINE BARRENS

Pinus rigida / *Quercus ilicifolia* - *Kalmia angustifolia* / *Pyxidantha barbulata* Woodland

Range: This community occurs in the area of the New Jersey Pine Barrens present in the Delaware Estuary.

Environmental Description: This association occurs on sandy soils that also have some clay component in them and/or occur in close proximity to the water table or near a wetland. These factors create more mesic conditions than seen in other pine barren communities.

Vegetation Description: This community comprises mesic pine barrens vegetation dominated by *Pinus rigida* (pitch pine) with a shrub layer dominated by *Quercus ilicifolia* (bear oak).

The presence of mesic species, such as *Kalmia angustifolia* (sheep laurel), *Ilex glabra* (inkberry or little



Photo by Andrew Windisch

gallberry), *Lyonia mariana* (piedmont staggerbush), *Leucothoe racemosa* (swamp doghobble), *Clethra alnifolia* (coastal sweet-pepperbush), and *Vaccinium corymbosum* (highbush blueberry), indicate more mesic conditions such as the higher clay content of the soils, the position adjacent to a wetland, or a water table below the soil surface. Other associates include *Pyxidantha barbulata* (pyxie-moss), *Morella pensylvanica* (northern bayberry), *Photinia melanocarpa* (black chokeberry), *Gaultheria procumbens* (wintergreen), *Carex pensylvanica* (Pennsylvania sedge), and *Pteridium aquilinum* (bracken fern). In New Jersey, *Xerophyllum asphodeloides* (eastern turkeybeard) and *Calamovilfa brevopilis* (pinebarren sandreed) are also found in this vegetation.

Noteworthy Associated Plant and/or Animal Species: *Calamovilfa brevopilis* (pinebarren sandreed)

Characteristic Species: *Kalmia angustifolia* (sheep laurel), *Pyxidantha barbulata* (pyxie-moss)

Reference Sites: Brendan Byrne State Forest, NJ

Global and State Conservation Ranks and Reasons: G2? (30-Apr-1998). NJ: S3.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.686217

References: Breden et al. 2001, Eastern Ecology Working Group n.d., Edinger et al. 2002

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Tree canopy	Needle-leaved tree	<i>Pinus rigida</i> (pitch pine)
Shrub/sapling (tall & short)	Broad-leaved deciduous shrub	<i>Quercus ilicifolia</i> (bear oak)
Short shrub/sapling	Broad-leaved evergreen shrub	<i>Kalmia angustifolia</i> (sheep laurel)

MID-SUCCESSIONAL PINE - OAK WOODLAND

Pinus rigida - (*Pinus echinata*) / *Quercus* (*marilandica*, *ilicifolia*) / *Vaccinium pallidum* Woodland

Range: This woodland occurs in the New Jersey Pine Barrens.

Environmental Description: This community occurs on well-drained xeric sandy soils in the Pine Barrens.

Vegetation Description: *Pinus rigida* (pitch pine) and occasionally *Pinus echinata* (shortleaf pine) are dominant, but the characteristic presence of tree oaks (*Quercus alba* (white oak), *Quercus coccinea* (scarlet oak), *Quercus velutina* (black oak), *Quercus prinus* (chestnut oak), *Quercus stellata* (post oak)) forming up to 35% of the canopy is an indication of a fire frequency that is less than that of the classic pine barrens type *Pinus rigida* / *Quercus* (*marilandica*, *ilicifolia*) / *Pyxidantha barbulata* Woodland (CEGL006051). The ground layer is characterized by heaths, generally *Vaccinium pallidum* (hillside blueberry) and *Gaylussacia baccata* (black huckleberry). Herbs are sparse and may include *Gaultheria procumbens* (wintergreen) and *Pteridium aquilinum* (bracken fern).



Photo by Andrew Windisch

Characteristic Species: *Gaylussacia baccata* (black

huckleberry), *Quercus alba* (white oak), *Quercus coccinea* (scarlet oak), *Quercus prinus* (chestnut oak), *Quercus stellata* (post oak), *Quercus velutina* (black oak), *Vaccinium pallidum* (hillside blueberry)

Dynamics/Successional Trajectory: This is a fire-dependent community. The characteristic presence of tree oaks in the canopy is an indication of a fire frequency that is less than that of the classic pine barrens type. The presence of a well-developed shrub oak layer indicates a fire frequency greater than that of oak forests.

Management Concerns: Fire suppression and residential development are common threats to this community.

Reference Sites: Brendan Byrne State Forest, NJ

Global and State Conservation Ranks and Reasons: G2? (30-Apr-1998). NJ: S3.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.686109

References: Breden 1989, Breden et al. 2001, Eastern Ecology Working Group n.d., Windisch 1995b

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Tree canopy	Needle-leaved tree	<i>Pinus rigida</i> (pitch pine)
Tree canopy	Broad-leaved deciduous tree	<i>Quercus alba</i> (white oak)
Tree canopy	Broad-leaved deciduous tree	<i>Quercus coccinea</i> (scarlet oak)
Tree canopy	Broad-leaved deciduous tree	<i>Quercus velutina</i> (black oak)
Short shrub/sapling	Broad-leaved deciduous shrub	<i>Gaylussacia baccata</i> (black huckleberry)
Short shrub/sapling	Broad-leaved deciduous shrub	<i>Vaccinium pallidum</i> (hillside blueberry)
Herb (field)	Fern or fern ally	<i>Pteridium aquilinum</i> (bracken fern)

NEW JERSEY PITCH PINE / SCRUB OAK BARREN

Pinus rigida / *Quercus (marilandica, ilicifolia)* / *Pyxidanthera barbulata* Woodland

Range: The association is restricted to the New Jersey Coastal Plain.

Environmental Description: This community is restricted to the New Jersey Pine Barrens. It occurs on well-drained xeric sandy soils.

Vegetation Description: The open canopy is strongly dominated by *Pinus rigida* (pitch pine), with very low cover of deciduous trees. Oaks, when present, may include *Quercus stellata* (post oak) or *Quercus velutina* (black oak). The understory is dominated by *Quercus marilandica* (blackjack oak), with lesser cover of *Quercus ilicifolia* (bear oak). A low heath shrub layer is dominated by *Vaccinium pallidum* (hillside blueberry) and *Gaylussacia baccata* (black huckleberry). The herbaceous layer is of variable cover, depending on fire frequency and intensity. *Pyxidanthera barbulata* (pyxie-moss) is characteristic of the type, although it may not be present in all stands. Other herbaceous associates include *Schizachyrium scoparium* (little bluestem), *Andropogon virginicus* (broomsedge bluestem), *Carex pensylvanica* (Pennsylvania sedge), *Minuartia caroliniana* (pine-barren sandwort), *Gaultheria procumbens* (wintergreen), *Pteridium aquilinum* (bracken fern), *Tephrosia virginiana* (goat's-rue), *Helianthemum canadense* (long-branch frostweed), and *Lechea* (pinweed) spp.



Photo by Andrew Windisch

Characteristic Species: *Pyxidanthera barbulata* (pyxie-moss), *Quercus marilandica* (blackjack oak)

Dynamics/Successional Trajectory: This is a highly fire-dependent community, occurring most frequently on warmer microclimates of knoll crests and slopes where it is least effected by cold-air drainage.

Management Concerns: The habitat of well-drained to xeric sands is vulnerable to housing development. This community is dependent on the maintenance of a fire regime for regeneration.

Reference Sites: West Plains Fireshed, NJ

Global and State Conservation Ranks and Reasons: G2 (2-Dec-1998). NJ: S2. This association has fewer than 20 occurrences, with a total rangewide acreage of fewer than 10,000 acres. The range of this association is restricted to the New Jersey coastal plain.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.688343

References: Breden 1989, Breden et al. 2001, Eastern Ecology Working Group n.d., Windisch 1995b

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Tree canopy	Needle-leaved tree	<i>Pinus rigida</i> (pitch pine)
Shrub/sapling (tall & short)	Broad-leaved deciduous shrub	<i>Quercus marilandica</i> (blackjack oak)
Short shrub/sapling	Broad-leaved deciduous shrub	<i>Gaylussacia baccata</i> (black huckleberry)
Short shrub/sapling	Broad-leaved deciduous shrub	<i>Vaccinium pallidum</i> (hillside blueberry)

PINE BARRENS HILLTOP FOREST

Quercus prinus - *Quercus velutina* / *Gaylussacia frondosa* Forest

Range: This forest occurs on hilltops in the New Jersey Pine Barrens.

Environmental Description: This small-patch forest of low hilltops of the New Jersey Pine Barrens and of New York occurs on sandy soils.

Vegetation Description: *Quercus prinus* (chestnut oak) and *Quercus velutina* (black oak) form 90% of the canopy cover. The understory is sparse, characterized by *Gaylussacia frondosa* (dangleberry), *Gaylussacia baccata* (black huckleberry), *Quercus ilicifolia* (bear oak), and *Vaccinium pallidum* (hillside blueberry). The herb layer is sparse to absent; leaf litter is abundant. Mosses and lichens form a substantial bryophyte layer.

Characteristic Species: *Gaylussacia frondosa* (dangleberry), *Quercus prinus* (chestnut oak)

Reference Sites: Brendan Byrne State Forest, NJ

Global and State Conservation Ranks and Reasons: GNR (1-Dec-1997). NJ: SNR.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.685301

References: Breden 1989, Breden et al. 2001, Cain 1936, Conard 1935, Eastern Ecology Working Group n.d., Edinger et al. 2002, McCormick 1979, Metzler and Barrett 2001, Reschke 1990, Windisch 1995b

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Tree canopy	Broad-leaved deciduous tree	<i>Quercus prinus</i> (chestnut oak)
Tree canopy	Broad-leaved deciduous tree	<i>Quercus velutina</i> (black oak)
Shrub/sapling (tall & short)	Broad-leaved deciduous shrub	<i>Gaylussacia frondosa</i> (dangleberry)

PITCH PINE - OAK FOREST

Pinus rigida - *Quercus coccinea* / *Vaccinium pallidum* - (*Morella pensylvanica*) Woodland

Range: This matrix forest type is found in coastal and adjacent inland areas from Massachusetts to New Jersey.

Environmental Description: This is a matrix woodland type that occurs on very well-drained sandy outwash or moraine deposits.

Vegetation Description: The canopy is dominated by *Pinus rigida* (pitch pine) plus the following oaks in variable proportions: *Quercus coccinea* (scarlet oak), *Quercus velutina* (black oak), *Quercus alba* (white oak), and *Quercus rubra* (northern red oak) and occasionally *Quercus stellata* (post oak).

Tall shrubs such as *Quercus ilicifolia* (bear oak) can be sporadic to locally well-developed. Heaths tend to form a dense dwarf-shrub layer, especially *Gaylussacia baccata* (black huckleberry), *Vaccinium angustifolium* (northern lowbush blueberry), and *Vaccinium pallidum* (hillside blueberry). *Morella pensylvanica* (northern bayberry) can also commonly occur. The herb layer is often sparse and characterized by *Pteridium aquilinum* (bracken fern), *Gaultheria procumbens* (wintergreen), and *Carex pensylvanica* (Pennsylvania sedge).

Characteristic Species: *Carex pensylvanica* (Pennsylvania sedge), *Gaultheria procumbens* (wintergreen), *Pteridium aquilinum* (bracken fern)

Dynamics/Successional Trajectory: This mixed conifer-deciduous woodland is a fire-dependent community with a proportion of canopy species dependent on the fire regime.

Management Concerns: This community is dependent on the maintenance of a fire regime for regeneration.

Reference Sites: Brendan Byrne State Forest, NJ

Global and State Conservation Ranks and Reasons: GNR (1-Dec-1997). NJ: SNR.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.689535

References: Breden 1989, Breden et al. 2001, Eastern Ecology Working Group n.d., Edinger et al. 2002, Enser 1999, Jordan et al. 2003, Metzler and Barrett 2001, Motzkin and Foster 2002, Rawinski 1984, Reschke 1990, Swain and Kearsley 2001, Windisch 1995b



Photo by Andrew Windisch

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Tree canopy	Needle-leaved tree	<i>Pinus rigida</i> (pitch pine)
Tree canopy	Broad-leaved deciduous tree	<i>Quercus coccinea</i> (scarlet oak)
Shrub/sapling (tall & short)	Broad-leaved deciduous shrub	<i>Gaylussacia baccata</i> (black huckleberry)
Shrub/sapling (tall & short)	Broad-leaved deciduous shrub	<i>Vaccinium angustifolium</i> (northern lowbush blueberry)
Shrub/sapling (tall & short)	Broad-leaved deciduous shrub	<i>Vaccinium pallidum</i> (hillside blueberry)
Herb (field)	Fern or fern ally	<i>Pteridium aquilinum</i> (bracken fern)

PITCH PINE / PENNSYLVANIA SEDGE WOODLAND

Pinus rigida / *Carex pensylvanica* Woodland

Range: This association occurs in the New Jersey Pine Barrens in the Delaware Estuary.

Environmental Description: This pitch pine woodland of xeric sandy soils occurs in the New Jersey Pine Barrens.

Vegetation Description: *Pinus rigida* (pitch pine) is the dominant tree, with *Sassafras albidum* (sassafras) a common associate. The sparse shrub layer is made up of *Vaccinium pallidum* (hillside blueberry), *Gaylussacia baccata* (black huckleberry), and *Quercus ilicifolia* (bear oak). Vines may be common, including *Smilax glauca* (whiteleaf greenbrier) and *Smilax rotundifolia* (roundleaf greenbrier). *Carex pensylvanica* (Pennsylvania sedge) forms a well-developed herbaceous layer, with *Hudsonia ericoides* (pine barren golden-heather) and bryophytes *Leucobryum glaucum* (pincushion moss), *Cladina subtenuis* (dixie reindeer lichen), and *Cladonia squamosa* (dragon cladonia) also contributing cover.

Characteristic Species: *Carex pensylvanica* (Pennsylvania sedge), *Cladina subtenuis* (dixie reindeer lichen), *Cladonia squamosa* (dragon cladonia), *Leucobryum glaucum* (pincushion moss)

Management Concerns: This community is anthropogenic in origin but is also known to occur on paleodunes in the New Jersey Pine Barrens.

Reference Sites: Brendan Byrne State Forest, NJ

Global and State Conservation Ranks and Reasons: GNR (1-Dec-1997). NJ: S2S3.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.689988

References: Breden et al. 2001, Eastern Ecology Working Group n.d., Rawinski 1984, Windisch 1995a, Windisch 1995b

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Tree canopy	Needle-leaved tree	<i>Pinus rigida</i> (pitch pine)
Tree canopy	Broad-leaved deciduous tree	<i>Sassafras albidum</i> (sassafras)
Shrub/sapling (tall & short)	Vine/Liana	<i>Smilax glauca</i> (whiteleaf greenbrier)
Short shrub/sapling	Broad-leaved deciduous shrub	<i>Vaccinium pallidum</i> (hillside blueberry)
Herb (field)	Graminoid	<i>Carex pensylvanica</i> (Pennsylvania sedge)

SOUTHERN NEW JERSEY MESIC PINE BARRENS

Pinus (rigida, echinata) - Quercus coccinea / Ilex opaca Woodland

Range: The primary distribution of this forest is south of the Mullica River in southern New Jersey.

Environmental Description: This association occurs on sandy soils in the southern New Jersey Pine Barrens.

Vegetation Description: This closed, mixed woodland is characterized by *Pinus rigida* (pitch pine), *Quercus coccinea* (scarlet oak), *Quercus alba* (white oak), *Quercus stellata* (post oak), and *Acer rubrum* (red maple). A subcanopy of *Ilex opaca* (American holly) and *Cornus florida* (flowering dogwood) is particularly characteristic of this type. The shrub layer is made up of *Gaylussacia baccata* (black huckleberry), *Vaccinium pallidum* (hillside blueberry), *Clethra alnifolia* (coastal sweet-pepperbush), *Ilex glabra* (inkberry or little gallberry), and at lower frequencies *Carya pallida* (sand hickory) and *Rhododendron viscosum* (swamp azalea). The herbaceous layer is sparse; generally, *Chimaphila maculata* (striped pipsissewa) and *Pteridium aquilinum* (bracken fern) are present at low cover.

Characteristic Species: *Cornus florida* (flowering dogwood), *Ilex opaca* (American holly)

Dynamics/Successional Trajectory: This woodland experiences lower fire frequency than other types of the Pine Barrens, as it is more protected and more mesic.

Reference Sites: Cape May, NJ

Global and State Conservation Ranks and Reasons: GNR (1-Dec-1997). NJ: S3.

VegBank Link for Plot Data: http://vegbank.org/natureserve/element_global.2.685812

References: Breden 1989, Breden et al. 2001, Eastern Ecology Working Group n.d., Windisch 1995b

MOST ABUNDANT SPECIES		
STRATUM	LIFEFORM	SPECIES
Tree canopy	Needle-leaved tree	<i>Pinus rigida</i> (pitch pine)
Tree canopy	Broad-leaved deciduous tree	<i>Quercus coccinea</i> (scarlet oak)
Tree subcanopy	Broad-leaved deciduous tree	<i>Cornus florida</i> (flowering dogwood)
Tree subcanopy	Broad-leaved evergreen tree	<i>Ilex opaca</i> (American holly)
Short shrub/sapling	Broad-leaved deciduous shrub	<i>Gaylussacia baccata</i> (black huckleberry)
Herb (field)	Fern or fern ally	<i>Pteridium aquilinum</i> (bracken fern)