

## **VEGETATION DESCRIPTIONS FOR FIRE ISLAND NATIONAL SEASHORE**

### **I. Forest**

#### **I.A.4.N.a.300. ILEX OPACA FOREST ALLIANCE**

American Holly Forest Alliance

Physiognomic Class Forest (I)  
Physiognomic Subclass Evergreen Forest (I.A.)  
Physiognomic Group Temperate broad-leaved seasonal evergreen forest (I.A.4.)  
Physiognomic Subgroup Natural/Semi-natural (I.A.4.N.)  
Formation Lowland temperate seasonal evergreen forest (I.A.4.N.a.)

**Alliance ILEX OPACA FOREST ALLIANCE (I.A.4.N.a.300.)**

*Ilex opaca* / *Myrica pensylvanica* Forest

American Holly / Northern Bayberry Forest

*Maritime Holly Forest*

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This association is confined to the Sunken Forest area of Fire Island.

***Globally***

This association is restricted to sand dunes along the Atlantic coast from New Jersey to Massachusetts.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs at the base and lower slopes of a large interdunal swale on the bay side of the secondary dune. The portion of the swale supporting this association lies above the water table and is therefore not influenced by ground water. The soil profile is characterized by a leaf litter layer atop a shallow (4-5 cm) sandy loam A horizon which grades directly to coarse sand.

***Globally***

This occurs on the lee side of dunes, typically on the more sheltered back dunes. Wind, salt-spray and sand deposition are natural processes in this community.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Ilex opaca</i> , <i>Amelanchier canadensis</i> , <i>Sassafras albidum</i>
Shrub	<i>Ilex opaca</i> , <i>Nyssa sylvatica</i> , <i>Vaccinium corymbosum</i>
Herbaceous	<i>Carex pensylvanica</i>
Vine / liana	<i>Smilax rotundifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Ilex opaca</i>
Vines	<i>Toxicodendron radicans</i> , <i>Smilax rotundifolia</i>

CHARACTERISTIC SPECIES

***Fire Island National Seashore***

*Ilex opaca*, *Toxicodendron radicans*, *Smilax rotundifolia*

**Globally**

VEGETATION DESCRIPTION:

**Fire Island National Seashore**

The maritime holly forest of Fire Island is dominated by *Ilex opaca* trees of up to 300 years in age. Average diameters of hollies is 24 cm DBH. Frequent associates in the tree canopy include *Amelanchier canadensis* and *Sassafras albidum*. Other associated trees include *Nyssa sylvatica*, *Prunus serotina*, *Pinus rigida*, and *Quercus velutina*. The shrub layer is poorly developed and most frequently includes saplings of species in the tree layer, usually *Ilex opaca*, *Nyssa sylvatica*, *Prunus serotina*, and *Amelanchier canadensis*. Although not frequent, *Myrica pensylvanica*, *Vaccinium corymbosum*, *Gaylussacia baccata* and *Ilex glabra* may be present. The herbaceous layer is also poorly developed and is characterized by *Carex pensylvanica*, with *Cypripedium acaule* an occasional associate. Vines and lianas are typical of this association, most notably *Smilax rotundifolia*, *Parthenocissus quinquefolia*, and *Smilax glauca*.

Historical studies of this association at Fire Island has revealed a substantial change in the composition of the shrub and herb layers since 1967, when *Gaylussacia baccata* and *Vaccinium corymbosum* were regular associates of the shrub layer and *Aralia nudicaulis*, *Maianthemum canadense*, *Smilacina stellata*, *Pteridium aquilinum*, and *Trientalis borealis* were frequent associates of the herbaceous layer. These changes are attributable to heavy deer browse as a result of the increase in the deer population in recent decades (Art 1987, Art 1992).

**Globally**

Maritime holly forest of the lee sides of dunes. The dominant tree is *Ilex opaca*. Other canopy associates include *Amelanchier canadensis*, *Sassafras albidum*, *Quercus stellata*, *Quercus velutina*. Characteristic shrubs include *Myrica pensylvanica*, *Gaylussacia baccata*, *Vaccinium corymbosum*. Vines are particularly abundant, and include *Toxicodendron radicans*, *Smilax rotundifolia*, *Parthenocissus quinquefolia*, *Vitis* spp. The herbaceous layer is sparsely to moderately developed and includes *Aralia nudicaulis*, *Maianthemum stellatum* (= *Smilacina stellata*), *Maianthemum canadense*.

COMMENTS

**Fire Island National Seashore**

Palynological studies in the wetland of the Sunken Forest suggest that the holly forest has been present at Fire Island for several thousand years (Sirkin 1972).

**Globally**

This association is known from only a handful of sites despite fairly comprehensive inventory. It is thus ranked as globally rare G1.

**States/Provinces:** MA:S?, NJ:S?, NY:S?

OTHER NOTEWORTHY SPECIES

CONSERVATION RANK G1

DATABASE CODE CEG006376

MAP UNITS FIIS plot 10

REFERENCES

- Art 1987
- Art 1992
- Chrylser 1930
- Dowhan and Rozsa 1989
- Sirkin 1972
- Stalter 1979

**I.A.8.N.b.. PINUS THUNBERGII FOREST ALLIANCE**

Japanese Black Pine Forest Alliance

Physiognomic Class	Forest (I)
Physiognomic Subclass	Evergreen Forest (I.A.)
Physiognomic Group	Temperate or sub-polar needle-leaved evergreen forest (I.A.8.)
Physiognomic Subgroup	Natural/Semi-natural temperate or sub-polar needle-leaved evergreen forest (I.A.8.N.)
Formation	Rounded-crowned temperate or sub-polar evergreen forest (I.A.8.N.b.)

**Alliance PINUS THUNBERGII FOREST ALLIANCE (I.A.8.N.b.300.)**

Pinus thunbergii Forest

Japanese Black Pine Forest

*Japanese Black Pine Forest*

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CLASSIFICATION CONFIDENCE LEVEL: 3

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This association occurs on the backdunes of Fire Island National Seashore. *Pinus thunbergii* is often planted for dune stabilization, and has naturalized at Ridge Point and Whalehouse point (Dowhan and Rozsa 1989).

***Globally***

This community is provisionally described from the Fire Island National Seashore. It is also known from the Cape Cod National Seashore and from Block Island, RI. *Pinus thunbergii* is also known to be a component of *Pinus rigida* communities at the Cape Henlopen State Park in Delaware.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

At Fire Island, this association occurs sporadically on backdunes in association with the *Pinus rigida* / *Hudsonia tomentosa* Woodland.

***Globally***

This forest occurs on well-drained to xeric sandy soils, usually on sand dunes or near-coastal glacial tills.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus thunbergii</i> , <i>Pinus rigida</i>
Herbaceous	<i>Panicum virgatum</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus thunbergii</i>
Shrub	<i>Viburnum dentatum</i>
Vines	<i>Lonicera japonica</i>

CHARACTERISTIC SPECIES

***Fire Island National Seashore***

*Pinus thunbergii*

***Globally***

*Pinus thunbergii*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

***Fire Island National Seashore***

Stands are of variable canopy height and closure, and dominated by *Pinus thunbergii*. A frequent canopy associate is *Pinus rigida*. The shrub layer is not well developed, and the herbaceous layer is of variable composition, sometimes containing *Panicum virgatum* and other herbaceous associates.

***Globally***

Structure and composition of this association are variable. *Pinus thunbergii* is the canopy dominant, with *Pinus rigida* a common associate. The shrub layer is poorly developed but may include *Viburnum dentatum*. A common vine is *Lonicera japonica*. Herbaceous associates are variable and site-dependent.

COMMENTS

***Fire Island National Seashore***

Black pine has naturalized on Fire Island and may be an occasional associate of the *Pinus rigida* b/  
*Hudsonia tomentosa* Woodland as well..

***Globally***

This association is likely the result of naturalized black pine. It is not considered to be a natural community and is ranked GD.

***States/Provinces:*** MA, RI, DE?

OTHER NOTEWORTHY SPECIES

CONSERVATION RANK GD

DATABASE CODE CEG006012

MAP UNITS

REFERENCES

Dowhan and Rozsa 1989

The Nature Conservancy 1995b.

**I.A.8.N.c.2. JUNIPERUS VIRGINIANA FOREST ALLIANCE**

Eastern Red-cedar Forest Alliance

Physiognomic Class	Forest (I)
Physiognomic Subclass	Evergreen Forest (I.A.)
Physiognomic Group	Temperate or subpolar needle-leaved evergreen forest (I.A.8)
Physiognomic Subgroup	Natural/Semi-natural (I.A.8.N.)
Formation	Conical-crowned temperate or subpolar needle-leaved evergreen forest (I.A.8.N.c.)

**Alliance JUNIPERUS VIRGINIANA FOREST ALLIANCE (I.A.8.N.c.2)**

Juniperus virginiana Forest

Eastern Red-cedar Forest

*Old-field Redcedar Forest*

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CLASSIFICATION CONFIDENCE LEVEL: 3

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This vegetation is restricted to a small patch adjacent to salt marsh at the William Floyd Estate.

***Globally***

This vegetation is common in old field settings of most northeastern states.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community type is restricted to the William Floyd Estate, where it occurs adjacent to the salt marsh shrub border. The substrate is deep sandy loam.

***Globally***

This vegetation occurs on abandoned agricultural fields that have been used for pasture or agriculture. Soils are highly variable and typically a plow horizon is evident.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Juniperus virginiana</i>
Shrub	<i>Eleagnus umbellata</i> , <i>Rhus copallina</i>
Herbaceous	<i>Festuca rubra</i> , <i>Agrostis cf. capillaris</i>
Vine / liana	<i>Smilax rotundifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Juniperus virginiana</i>
Shrub	
Vine	

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Juniperus virginiana*

***Globally***

*Juniperus virginiana*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This community is a successional abandoned pasture of the William Floyd Estate adjacent to a salt marsh. The tree canopy is dominated by *Juniperus virginiana*, with other canopy associates including *Prunus serotina* and *Quercus velutina* at low cover. A tall shrub layer is poorly developed and includes *Eleagnus umbellata*, *Amelanchier canadensis*, *Rhus copallina*, *Juniperus virginiana*, and *Quercus stellata*. A short shrub layer of low cover includes *Quercus velutina*, *Quercus stellata*, *Rubus flagellaris*, *Vaccinium corymbosum*, and *Morella penslvanica*. *Smilax rotundifolia* also occurs in the vine layer. The herbaceous layer is diverse and characterized by exotic species including *Festuca rubra*, *Rumex acetosella*, *Anthoxanthum odoratum*, *Achillea millefolium*, *Verbascum thapsus*, *Trifolium pratense* and *Hypochaeris radicata*. Other native herbs in this layer include *Elymus virginicus*, *Panicum acuminatum*, *Teucrium canadense*, and *Carex silicea*.

***Globally***

This vegetation is highly diverse over its range, comprised of *Juniperus virginiana*, shrubs and exotic grasses and forbs. Composition depends on time since abandonment, species composition of surrounding communities, substrate, and microclimate.

COMMENTS:

***Fire Island National Seashore***

Clark (1986) in a land use study of the Floyd Estate notes the establishment of *Juniperus virginiana* at approximately 1940. This study, in conjunction with the presence of many exotic species, supports this vegetation as post-agricultural in origin.

***Globally***

***States/Provinces:***

CT:S? MA? NY:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G?

DATABASE CODE:

CEGL006373

MAP UNITS:

FIIS. Plot 34

REFERENCES:

Clark 1986

**I.B.2.N.a.29. QUERCUS ALBA - QUERCUS (FALCATA, COCCINEA) FOREST ALLIANCE**

White Oak - (Southern Red Oak, Scarlet Oak) Forest Alliance

Physiognomic Class Forest (I)  
Physiognomic Subclass Deciduous Forest (I.B.)  
Physiognomic Group Cold-deciduous forest (I.B.2.)  
Physiognomic Subgroup Natural/Semi-natural (I.B.2.N.)  
Formation Lowland or submontane cold-deciduous forest (I.B.2.N.a.)

**Alliance QUERCUS ALBA - QUERCUS (FALCATA, COCCINEA) FOREST ALLIANCE (I.B.2.N.a.29)**

Quercus stellata – Quercus velutina / Myrica pensylvanica / Deschampsia flexuosa Forest

Post Oak - Black Oak / Northern Bayberry / Wavy Hairgrass Forest

*Maritime Post Oak Forest*

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This vegetation is restricted to a narrow belt bordering Moriches Bay on the William Floyd Estate.

***Globally***

Maritime zone of Long Island, New York, Connecticut and possible in Massachusetts.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community type is restricted to the William Floyd Estate, where it occurs along sandy banks of a small inlet off of Moriches Bay. Tidal flooding is probably infrequent and occurs only during storm surges. Salt spray causes significant damage to vegetation. The substrate is deep loamy sand.

***Globally***

This vegetation occurs on maritime bluffs, sand spits, and salt marsh borders. Vegetation structure is heavily influenced by salt spray and wind-pruning. This vegetation is generally restricted to a band within 200 m of the coast.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Carya tomentosa</i> , <i>Quercus velutina</i>
Shrub	<i>Sassafras albidum</i> , <i>Myrica pensylvanica</i>
Herbaceous	<i>Carex pensylvanica</i>
Vine / liana	<i>Smilax rotundifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Quercus coccinea</i> , <i>Quercus velutina</i> and/or <i>Quercus stellata</i>
Shrub	<i>Myrica pensylvanica</i>
Vine	<i>Smilax rotundifolia</i> , <i>Toxicodendron radicans</i> , <i>Parthenocissus quinquefolia</i> , and/or <i>Vitis aestivalis</i> .

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Quercus stellata*, *Myrica pensylvanica*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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**Globally**

*Quercus stellata*, *Quercus coccinea*, *Myrica pensylvanica*, dense vine layer (*Smilax rotundifolia*, *Toxicodendron radicans*, *Parthenocissus quinquefolia*, and/or *Vitis aestivalis*).

VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This community is a maritime oak forest on sandy deposits of the William Floyd Estate along a small inlet of Moriches Bay. The tree canopy has *Carya tomentosa* and *Quercus velutina* as co-dominants, but *Quercus stellata* (to 254 years old) is particularly characteristic. The shrub layer is fairly diverse with the tall shrub layer being dominated by *Sassafras albidum* and the short shrub layer dominated by *Myrica pensylvanica*. *Smilax rotundifolia* is a common vine with greater than 25% cover. The herbaceous layer is sparse and characterized by *Carex pensylvanica*.

**Globally**

This vegetation is a maritime oak forest of bluffs, sand spits, and salt marsh borders. It is characterized by *Quercus stellata*, *Quercus velutina*, *Quercus coccinea*, *Quercus alba*. *Juniperus virginiana* may contribute a minor cover to the canopy. The dense shrub layer is made up of *Myrica pensylvanica*, *Gaylussacia baccata* and *Prunus serotina* with a heavy component of vines such as *Smilax rotundifolia*, *Toxicodendron radicans*, *Parthenocissus quinquefolia*, and *Vitis aestivalis*. Vegetation structure is heavily influenced by salt spray and wind-pruning as evidenced by the characteristic flat-topped canopy.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:**

CT:S? MA? NY:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G?

DATABASE CODE:

CEGL006373

MAP UNITS:

FIIS. Plot 35

REFERENCES:

Hunt 1997

Metzler and Barrett 1996

**I.B.2.N.a.100. QUERCUS VELUTINA - QUERCUS ALBA - (QUERCUS COCCINEA) FOREST ALLIANCE**

Black Oak - White Oak - (Scarlet Oak) Forest Alliance

Physiognomic Class Forest (I)  
Physiognomic Subclass Deciduous Forest (I.B.)  
Physiognomic Group Cold-deciduous forest (I.B.2.)  
Physiognomic Subgroup Natural/Semi-natural (I.B.2.N.)  
Formation Lowland or submontane cold-deciduous forest (I.B.2.N.a.)

**Alliance QUERCUS VELUTINA – QUERCUS ALBA - (QUERCUS COCCINEA) FOREST ALLIANCE (I.B.2.N.a.100.)**

Quercus coccinea - Quercus velutina / Sassafras albidum / Vaccinium pallidum Forest  
Scarlet Oak - Black Oak / Sassafras / Hillside Blueberry Forest  
*Coastal Oak - Heath Forest*

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This vegetation is confined to the William Floyd Estate where it comprises most of the upland forest vegetation.

***Globally***

Coast and near-coast areas from New England and New Jersey.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community occurs on well-drained sandy loam over sand and gravel outwash deposits on flat terrain.

***Globally***

This dry oak forest of New England and northeastern coastal plain occurs on rapidly drained, nutrient-poor, sandy or gravelly soils, on till or outwash.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Quercus velutina</i> , <i>Quercus alba</i> , <i>Carya tomentosa</i>
Shrub	<i>Vaccinium pallidum</i> , <i>Vaccinium corymbosum</i> , <i>Quercus</i> spp.
Vine / liana	<i>Smilax rotundifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Quercus coccinea</i> , <i>Quercus velutina</i>
Shrub	<i>Vaccinium pallidum</i> , <i>Vaccinium angustifolium</i> and/or <i>Gaylussacia baccata</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Quercus velutina*, *Carya tomentosa*, *Vaccinium pallidum*

***Globally***

*Quercus coccinea*, *Quercus velutina*, *Sassafras albidum*, *Gaylussacia baccata*, *Gaultheria procumbens*, *Carex pensylvanica*

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

The canopy of this vegetation is dominated by *Quercus velutina* and *Q. alba*. *Carya tomentosa* and *Quercus coccinea* are common canopy or subcanopy associates. Other canopy associates may include *Robinia pseudoacacia*, *Nyssa sylvatica*, *Prunus serotina* or *Pinus rigida*. The shrub layer contains *Quercus* species present in the canopy, especially *Q. alba*, with *Sassafras albidum*, *Vaccinium corymbosum*, and/or *Viburnum dentatum* occurring locally. *Gaylussaccia baccata* is often present in the short shrub layer with considerable cover. Vines, where present, tend to be abundant, especially *Smilax rotundifolia*. The herbaceous layer is generally sparse to absent.

The composition of this association at the William Floyd Estate is quite variable among stands, particularly as one progresses from north to south. A land-use history study of the Floyd Estate (Clark 1986) notes a change in forest composition with both elevation and land use patterns. The highest elevation coincides with the most inland position (15ft above sea level) and also with the oldest forests, those dominated by oaks with a well-developed heath layer and an absence of hickory. The other cover types described by Clark, progressing roughly from inland (and relatively higher elevation) to the bay (and lowest elevation) include oak – locust – hickory, oak – locust – gum, oak – gum – hickory, and gum – sassafras. Two minor types include conifers in the canopy: pine – oak – locust, at about the same position as oak – locust – hickory, and pine – cedar – gum occurring in association with the oak – gum – hickory cover type.

***Globally***

The canopy is characterized by *Quercus coccinea*, *Quercus velutina*, and *Quercus alba*, the latter species particularly characteristic of gravel substrates. Other less abundant canopy associates include *Quercus prinus*, *Betula lenta* and *Ilex opaca* (usually less than 15% cover). *Pinus rigida* is a common associate but occurs at low cover. *Sassafras albidum* may occur in low cover and may indicate influence by coastal (but not maritime) climate where this type occurs in coastal regions. A "lawn-like" dwarf-shrub heath layer dominated by *Vaccinium pallidum*, *Vaccinium angustifolium* and *Gaylussacia baccata* is characteristic. *Gaylussacia frondosa* also occurs in some stands. The herbaceous layer is typically sparse, with *Carex pensylvanica*, *Pteridium aquilinum*, *Gaultheria procumbens* being the most common associates. Herb diversity is greater in small canopy gaps, where *Helianthemum canadense*, *Lespedeza* spp., *Lechea* spp., and *Arctostaphylos uva-ursi* occur.

**COMMENTS:**

***Fire Island National Seashore***

The Floyd Estate has seen vast changes in forest vegetation that have been well documented by Clark (1986). All but the most inland portion of the estate had been cleared of forests by the time the first map had been drawn in 1880. In addition, a fire occurring on the northern and central portion of the estate occurred in 1964. Deer browse is noted in nearly all plots. For these reasons, it is difficult to separate ecological from land-use effects on the vegetation except directly adjacent to the exposed shoreline. We classified all upland forest vegetation at the Willima Floyd Estate, with the exception of the post oak maritime forest, as a single coastal oak – heath association for several reasons: 1) the oldest forest on the estate is the most typical expression of this association; 2) there is significant overlap in species composition in the forest across the estate; and 3) Clark postulates that pine barrens vegetation (and presumably oak – heath vegetation) occupied the site prior to land clearance.

***States/Provinces:***

CT:S?, MA:S?, NH:S?, NJ:S?, NY:S?, RI:S?

**OTHER NOTEWORTHY SPECIES:**

**CONSERVATION RANK:**

G?

**DATABASE CODE:**

CEGL006375

**MAP UNITS:**

FIIS plots 28, 37, 60, 36, 29

**REFERENCES:**

Breden 1989  
Clark 1986  
Metzler and Barrett 1996  
Reschke 1990  
Sperduto 1996

**I.B.2.N.g.2. ACER RUBRUM - NYSSA SYLVATICA SATURATED FOREST ALLIANCE**

Red Maple - Blackgum Saturated Forest Alliance

Physiognomic Class Forest (I)  
Physiognomic Subclass Deciduous Forest (I.B.)  
Physiognomic Group Cold-deciduous forest (I.B.2.)  
Physiognomic Subgroup Natural/Semi-natural (I.B.2.N.)  
Formation Saturated cold-deciduous forest (I.B.2.N.g. )

**Alliance ACER RUBRUM - NYSSA SYLVATICA SATURATED FOREST ALLIANCE(I.B.2.N.g.2.)**

Acer rubrum - Nyssa sylvatica / Rhododendron viscosum - Clethra alnifolia Forest

Red Maple - Blackgum / Swamp Azalea - Coastal Sweet-pepperbush Forest

*Lower New England Red Maple - Black Gum Swamp*

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: Palustrine

RANGE:

***Fire Island National Seashore***

This association occurs on the William Floyd Estate in low areas inland from the shore. It also occurs in the Sunken Forest portion of Fire Island.

***Globally***

Core of distribution is Lower New England / Northern Piedmont and North Atlantic Coast.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

On the Floyd Estate, it occurs adjacent to small creeks in poorly-drained basins with silt loam substrates or adjacent to tidal creeks. On Fire Island it occurs in wet interdunal swales.

***Globally***

In poorly drained depressions characterized by acidic, tannic water that does not receive substantial nutrient input.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Nyssa sylvatica, Acer rubrum</i>
Shrub	<i>Vaccinium corymbosum, Rhododendron viscosum</i>
Herbaceous	<i>Polygonum hydropiper, Carex crinita, Osmunda innamomea</i>
Vine/Liana	<i>Smilax rotundifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Acer rubrum, Nyssa sylvatica</i>
Shrub	<i>Vaccinium corymbosum, Clethra alnifolia, Rhododendron viscosum</i>
Herbaceous	<i>Osmunda cinnamomea, Symplocarpus foetidus, Sphagnum spp.</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Nyssa sylvatica, Acer rubrum, Carex crinita, Osmunda cinnamomea*

***Globally***

*Nyssa sylvatica, Acer rubrum, Vaccinium corymbosum, Clethra alnifolia, Osmunda cinnamomea*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

Black gum swamp; *Nyssa sylvatica* is the canopy dominant with *Acer rubrum* often present. The shrub layer commonly has *Vaccinium corymbosum* with *Rhododendron viscosum*, *Clethra alnifolia* and *Nyssa sylvatica* often present. Vine cover is common, especially *Smilax rotundifolia*. The herbaceous layer is variable although not diverse. Individual species are often locally dominant, especially *Osmunda cinnamomea*, *Polygonum hydropiper*, *Lycopus virginica*, *Rumex verticillatus*, *Triadenum virginicum*, and *Carex crinita*. Hummock and hollow microtopography is common. *Sphagnum* mosses are dominant where present.

**Globally**

This red maple swamp is dominated by *Acer rubrum* and *Nyssa sylvatica*. The shrub layer is characterized by *Vaccinium corymbosum*, *Clethra alnifolia*, *Ilex verticillata*, *Rhododendron viscosum*, *Leucothoe racemosa*, and on the Atlantic and coastal plains, *Ilex glabra* may also be present. The herbaceous layer is not particularly diverse, characterized by *Osmunda cinnamomea*, *Symplocarpus foetidus*, *Carex intumescens*, *Osmunda regalis*, and *Onoclea sensibilis*. Hummock - hollow microtopography is evident, and *Sphagnum* mosses make up the bryophyte layer. This community is differentiated from *Acer rubrum* - *Nyssa sylvatica* - *Betula alleghaniensis* / *Sphagnum* spp. Forest (CEGL006014) by the absence or infrequent occurrence of *Tsuga canadensis*, *Betula alleghaniensis*, *Nemopanthus mucronatus*, *Carex trisperma*, *Clintonia borealis*, and by the presence of species with more southern affinities such as *Clethra alnifolia*, *Ilex glabra*, *Rhododendron viscosum*.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:**

CT:S?, MA:S?, NJ:S?, NY:S?, PA:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G?

DATABASE CODE:

CEGL006156

MAP UNITS:

FIIS plots 11, 27, 58, 59

REFERENCES:

Breden 1989  
Dowhan and Rozsa 1989  
Golet et al. 1993  
Metzler and Barrett 1996  
Reschke 1990

## II. Woodland

### II.A.4.N.a.26. PINUS RIGIDA WOODLAND ALLIANCE

Pitch Pine Woodland Alliance

Physiognomic Class Woodland (II.)  
Physiognomic Subclass Evergreen woodland (II.A.)  
Physiognomic Group Temperate or sub-polar needle-leaved evergreen woodland (II.A.4.)  
Physiognomic Subgroup Natural/Semi-natural (II.A.4.N.)  
Formation Rounded-crowned temperate or subpolar needle-leaved evergreen woodland (II.A.4.N.a.)

**Alliance PINUS RIGIDA WOODLAND ALLIANCE (II.A.4.N.a.26)**

Pinus rigida / Hudsonia tomentosa Woodland

Pitch Pine / Woolly Beach-heather Woodland

*Pitch Pine Dune Woodland*

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This association occurs on Fire Island on stabilized dune adjacent to extensive areas of salt marsh. It does not occur on the William Floyd Estate.

***Globally***

This maritime woodland community is restricted to major coastal sand dune systems. It ranges from southern Maine to Cape Henlopen, Delaware; it does not occur in Connecticut or Rhode Island.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

The Pitch Pine woodlands occur on sand dunes above the tidal zone; they may receive infrequent tidal flooding during storm surges.

***Globally***

This coastal community occurs on back dunes that are somewhat more stabilized than the oceanward foredunes. However, active sand movement occurs with storm activity, causing the boundaries of the community to migrate over time.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus rigida</i>
Shrub	<i>Myrica pensylvanica</i>
Herbaceous	<i>Panicum virgatum</i>
Vine / liana	<i>Smilax rotundifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus rigida</i> , <i>Sassafras albidum</i> , <i>Juniperus virginiana</i> , <i>Prunus serotina</i>
Shrub	<i>Vaccinium pallidum</i> , <i>Gaylussacia baccata</i> , <i>Myrica pensylvanica</i>
Short shrub	<i>Hudsonia tomentosa</i>
Herbaceous	<i>Lechea maritima</i> , <i>Pteridium aquilinum</i> , <i>Dichanthelium ovale</i> var. <i>addisonii</i>
Vine / liana	<i>Smilax rotundifolia</i> , <i>Smilax glauca</i>

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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CHARACTERISTIC SPECIES:

**Fire Island National Seashore**

*Pinus rigida*, *Myrica pensylvanica*, *Smilax rotundifolia*, *Panicum virgatum*

**Globally**

*Pinus rigida*, *Hudsonia tomentosa*, lichens

VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This maritime woodland occurs on sand dunes adjacent to shrubland or salt marsh. The canopy is composed solely of *Pinus rigida* that is 5-10 meters tall. The shrub layer is sparse with *Myrica pensylvanica* most common and *Gaylussaccia baccata* present. Vines are a prominent component, especially *Smilax rotundifolia*. Short shrubs are of sparse cover and include *Rubus flagellaris*, *Aronia melanocara*, *Gaylussacia baccata*, *Rhus copallina*. *Hudsonia tomentosa* may not always occur within this vegetation on Fire Island. The herbaceous layer is sparse with *Panicum virgatum* and *Schizachyrium scoparium* commonly occurring. Portions of Fire Island support a variant of this community in which *Pinus rigida* is stunted, reaching only 2m in height. Dowhan and Rozsa (1989) list the following additional species as common to occasional within pine woods or in open sandy areas of pine woods: *Carex artitecta*, *Minuartia caroliniana*, *Gaultheria procumbens*, *Kalmia angustifolia*, *Trientalis borealis*, and *Aronia arbutifolia*.

**Globally**

This maritime pitch pine woodland occurs on coastal sand dunes. The pitch pine-dominated canopy averages 10-15 meters in height, but is quite variable, ranging from 1 m in an unusual shrub form in Delaware to over 20 m. Canopy associates include *Sassafras albidum*, *Juniperus virginiana*, and *Acer rubrum*, with scattered individuals of *Quercus rubra* and *Betula papyrifera* in the northern part of the range, and *Quercus falcata* and *Pinus virginiana* to the south. The shrub layer, if present, may include *Gaylussacia baccata*, *Gaylussacia frondosa*, *Vaccinium pallidum*, *Smilax rotundifolia*, and *Smilax glauca*. The ground layer is made up of herbs and dwarf-shrubs. *Hudsonia tomentosa*, although not present in all stands, is most characteristic over the range of the type. Associated herbs include *Dichanthelium ovale* var. *addisonii*, *Solidago odora*, *Chimaphila maculata*. Lichens may form a well-developed bryophyte layer. At Cape Henlopen State Park, species included *Cladonia strepsilis*, *Cladina terrae-novae*, *Lepraria incana*, and *Cladonia squamosa*.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:**

DE:S?, MA:S?, ME:S?, NJ:S?, NY:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G2 (98-12-08)

DATABASE CODE:

CEGL006117

MAP UNITS:

FIIS plots 2, 9, 17

REFERENCES:

Bennett et al. 1998

Dowhan and Rozsa 1989

Maine Natural Heritage Program 1991

Nelson and Fink 1980

### III. Shrubland

#### **III.B.2.N.a.9. MYRICA PENSYLVANICA - (PRUNUS MARITIMA)**

##### **SHRUBLAND ALLIANCE**

Northern Bayberry - (Beach Plum) Shrubland Alliance

Physiognomic Class        Shrubland (III.)  
Physiognomic Subclass    Deciduous shrubland (III.B.)  
Physiognomic Group       Cold-deciduous shrubland (III.B.2.)  
Physiognomic Subgroup   Natural/Semi-natural (III.B.2.N.)  
Formation                 Temperate cold-deciduous shrubland (III.B.2.N.a.)

**Alliance                        MYRICA PENSYLVANICA - (PRUNUS MARITIMA) SHRUBLAND  
   ALLIANCE (III.B.2.N.a.9)**

Myrica pensylvanica - Rosa rugosa Shrubland

Northern Bayberry - Rugosa Rose Shrubland

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CLASSIFICATION CONFIDENCE LEVEL:        2

USFS WETLAND SYSTEM: N/A

##### RANGE:

###### ***Fire Island National Seashore***

This association is common on occurs on Fire Island, occurring on the more protected portions of the primary dune along the length of the island.

###### ***Globally***

This association occurs on maritime sand dunes from Delaware north to central Maine.

##### ENVIRONMENTAL SETTING:

###### ***Fire Island National Seashore***

This shrubland occurs on the leeward side of primary dunes and receives overwash only during storm surge.

###### ***Globally***

This maritime shrubland usually occupies the intermediate areas between the very unstable oceanward portions of the dunes and the more protected backdunes. The substrate is sand with little to no soil profile development, and with variable amounts of accumulated leaf litter. The vegetation is subject to wind, salt-spray and sand deposition.

##### MOST ABUNDANT SPECIES:

###### ***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Prunus maritima</i> , <i>Myrica pensylvanica</i>
Herbaceous	<i>Panicum virgatum</i> , <i>Ammophila breviligulata</i>
Vine / liana	<i>Toxicodendron radicans</i>

###### ***Globally***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Myrica pensylvanica</i> , <i>Rosa rugosa</i>
Vine / liana	<i>Toxicodendron radicans</i> , <i>Smilax</i> spp.

##### CHARACTERISTIC SPECIES:

###### ***Fire Island National Seashore***

*Prunus maritima*, *Myrica pensylvanica*

###### ***Globally***

*Myrica pensylvanica*, *Rosa rugosa*, *Ammophila breviligulata*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This maritime dune shrubland is dominated by *Prunus maritima* and *Myrica pensylvanica* with *Rosa rugosa* common, but with low percent cover. Overall shrub cover ranges from 55-90% cover. *Toxicodendron radicans* is a common vine. The herbaceous layer is often sparse and composed of *Ammophila breviligulata*. Other herbaceous species that occur at low cover include *Panicum columbianum*, *Juncus greenii*, *Euthamia tenuifolia*, *Carex silicea*, *Polygonella articulata*, *Gnaphalium obtusifolium*, *Cyperus grayi*, *Antennaria plantaginifolia*, *Lechea maritima*, *Linaria canadensis*, and *Panicum sphaerocarpon*. In more sheltered areas, species composition is more variable with *Pinus rigida* and *Rubus hispidus* prominent in the shrub layer and *Panicum virgatum* dominant in the herbaceous layer. *Cladonia* species are abundant in the non-vascular layer.

**Globally**

This maritime dune shrubland of the North Atlantic Coast ecoregion is dominated by *Myrica pensylvanica*, *Rosa rugosa* and/or *Prunus maritima*. Although *Rosa rugosa* is not a native species, it is naturalized and is nearly restricted to this vegetation where it grows in similar habit and physiognomy as the other two shrubs characteristic of this vegetation. Typical vine associates are *Toxicodendron radicans* and *Smilax* spp. Herbaceous cover tends to be low, particularly where shrub growth is dense, and may include *Ammophila breviligulata*, *Solidago sempervirens*, *Hudsonia tomentosa*, *Lechea maritima*, *Rumex acetosella*, and others. Large patches of open unvegetated or sparsely vegetated sand are present in some examples. Depending on exposure, these shrublands range from over 2 m tall in sheltered areas to less than 1 m tall in areas with greater exposure to winds and storms.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:**

CT:S?, DE:S?, MA:S?, ME:S?, NH:S?, NJ:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G4

DATABASE CODE:

CEGL006295

MAP UNITS:

FIIS plots 13, 33, 46

REFERENCES:

Conard 1935  
Dunlop and Crow 1985  
McDonnell 1979  
Moul 1969  
Nichols 1920  
Nelson and Fink 1980

**III.B.2.N.a.300. PRUNUS SEROTINA - AMELANCHIER CANADENSIS - QUERCUS SPP. SHRUBLAND ALLIANCE**

Black Cherry - Canada Serviceberry - Oak species Shrubland Alliance

Physiognomic Class Shrubland (III.)  
Physiognomic Subclass Deciduous shrubland (III.B.)  
Physiognomic Group Cold-deciduous shrubland (III.B.2.)  
Physiognomic Subgroup Natural/Semi-natural (III.B.2.N.)  
Formation Temperate cold-deciduous shrubland (III.B.2.N.a.)

**Alliance PRUNUS SEROTINA - AMELANCHIER CANADENSIS - QUERCUS SPP. SHRUBLAND ALLIANCE (III.B.2.N.a.300)**

Prunus serotina - Sassafras albidum - Amelanchier canadensis / Smilax rotundifolia  
Shrubland

Black Cherry - Sassafras - Canada Serviceberry / Common Greenbrier Shrubland  
*Northern Deciduous Maritime Scrub Forest*

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM:

RANGE:

***Fire Island National Seashore***

This association occurs in patches in the interior of Fire Island.

***Globally***

The range of this community is coastal areas from southern New Hampshire to New Jersey..

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This maritime tall shrubland occurs behind primary dunes and is influenced by salt spray and wind-pruning. Soils include loamy sand over sand. There is often ridge and hollow microtopography and trees tend to occur in hollows and shrubs on sandy ridges.

***Globally***

This maritime tall shrubland community of the North Atlantic Coastal Ecoregion occurs on sheltered backdunes, bluffs, or more interior coastal areas not directly influenced by overwash but affected by salt spray and wind-pruning. Soils are coarse well-drained sand subject to considerable shifting during coastal storms, or till and sand deposits of terminal moraines.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Amelanchier canadensis, Sassafras albidum, Prunus serotina</i>
Shrub	<i>Amelanchier canadensis, Vaccinium corymbosum, Myrica penslyvanica</i>
Vine / liana	<i>Smilax glauca, Smilax rotundifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Amelanchier canadensis, Sassafras albidum, Prunus serotina</i>
Shrub	<i>melanchier canadensis, Prunus serotina, Quercus velutina and/or Sassafrasidum</i>
Vine / liana	<i>Parthenocissus quinquefolia, Toxicodendron radicans, Smilax rotundifolia, Smilax glauca, and/or Vitis spp.</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Amelanchier canadensis, Prunus serotina*

***Globally***

*Amelanchier canadensis, Prunus serotina, Sassafras albidum, Smilax spp., Vitis spp.*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This maritime tall shrubland occurs behind primary dunes and is variable in physiognomy. When present, tree canopy is fairly closed and includes *Amelanchier canadensis* with *Sassafras albidum* or *Prunus serotina* with tree height ranging from 5 to 8 meters. Where prevailing conditions limit overall height, the tall shrub layer is predominant and its canopy tends to be very dense. The top layer, either tree canopy or tall shrub, is sculpted by wind and salt spray. Species in the tall shrub layer include *Amelanchier canadensis*, *Vaccinium corymbosum*, *Myrica pensylvanica*, and *Prunus serotina*. A short shrub layer is often present with *Gaylussaccia baccata* and *Myrica pensylvanica*. Vines are generally found in the top layer with *Smilax glauca* and *S. rotundifolia* most abundant. The herbaceous layer is very sparse to absent. Dowhan and Rozsa (1989) list *Carex pensylvanica*, *Quercus stellata*, and *Viburnum dentatum* as common or frequent associates of the mesic forest, which is likely to be synonymous with this vegetation. They also list the following as rare or occasional within the mesic forest: *Geranium robertianum*, *Mitchella repens*, *Galium aparine*, *Athyrium filix-femina*, *Dryopteris intermedia*, *Vitis aestivalis*, *Vitis labrusca*, *Aralia nudicaulis*, *Chmiaphila umbellata*, *Monotropa uniflora*, *Acer rubrum*, and *Trientalis borealis*. The authors also refer to “mesic tall thickets” which may be classified within this association, and additional frequent associates include *Maianthemum canadense*, *Polygonum biflorum*, *Smilacina stellata*, with *Polygonum scandens*, *Melampyrum lineare*, *Rhus copallina*, and *Ilex glabra* occurring less commonly.

**Globally**

This maritime tall shrubland community of the North Atlantic Coastal Ecoregion occurs on sheltered backdunes, bluffs, or more interior coastal areas not directly influenced by overwash but affected by salt spray and wind-pruning. Physiognomy is variable, and ranges from closed-canopy forest to open woodland to dense tall shrubland, and may be more accurately called scrub. Trees found in this community are usually stunted and flat-topped; the canopy may be only 3 m to 7 m tall. Dominant trees vary locally and include *Sassafras albidum*, *Amelanchier canadensis*, *Quercus velutina* and *Prunus serotina* as relatively constant species, with admixtures of *Pinus rigida*, *Juniperus virginiana* and in southern occurrences *Quercus coccinea* and *Ilex opaca*. Additional shrub species may also contribute substantially to the canopy and include *Vaccinium corymbosum*, *Gaylussacia baccata*, *Aronia* spp., *Viburnum* spp., *Rosa* spp., and *Myrica pensylvanica*. A true shrub layer is generally not present or may be restricted to the edges of the occurrence. Any one of the tree species listed may be dominant in any given patch. The understory is dominated by vines such as *Parthenocissus quinquefolia*, *Toxicodendron radicans*, *Smilax rotundifolia*, *Smilax glauca*, and *Vitis* spp. probably reflecting the unstable quality of the substrate. Other herbaceous species include *Aralia nudicaulis* and *Maianthemum stellatum* (= *Smilacina stellata*).

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:**

CT:S?, MA:S?, NH:S1, NJ:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G2G3 (97-10-22)

DATABASE CODE:

CEGL006145

MAP UNITS:

FIIS plots 1, 32, 39, 44

REFERENCES:

Art 1987  
Bellis 1992  
Breden 1989  
Burk 1968  
Dowhan and Rozsa 1989  
Dunlop and Crow 1985  
Greller 1977  
Martin 1959b  
McDonnell 1979  
Reschke 1990  
Stalter 1979  
Svenson 1970

**III.B.2.N.a.16. SMILAX SPP. - TOXICODENDRON RADICANS VINE-SHRUBLAND ALLIANCE**

Greenbrier species - Poison-ivy Vine-Shrubland Alliance

Physiognomic Class Shrubland (III.)  
Physiognomic Subclass Deciduous shrubland (III.B.)  
Physiognomic Group Cold-deciduous shrubland (III.B.2.)  
Physiognomic Subgroup Natural/Semi-natural (III.B.2.N.)  
Formation Temperate cold-deciduous shrubland (III.B.2.N.a.)

**Alliance SMILAX SPP. - TOXICODENDRON RADICANS VINE-SHRUBLAND ALLIANCE (III.B.2.N.a.16)**

Smilax glauca - Toxicodendron radicans Vine-Shrubland

Whiteleaf Greenbrier - Poison-ivy Vine-Shrubland

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This association occurs in small patches on secondary dunes of Fire Island.

***Globally***

Barrier beach systems from the Mid-Atlantic to southern New England.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community is shallowly rooted in secondary dunes and receives overwash only during storm surges.

***Globally***

This community occurs on maritime sand dunes, generally of barrier beach systems, where the vegetation is exposed to salt spray and winds. Very little soil development occurs and the water table is well below one meter in depth.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Ammophila breviligulata</i>
Vine / liana	<i>Toxicodendron radicans</i> , <i>Smilax glauca</i> , <i>Parthenocissus quinquefolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Vine / liana	<i>Smilax</i> spp., <i>Vitis rotundifolia</i> , <i>Parthenocissus quinquefolia</i> , and/or <i>Toxicodendron radicans</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Toxicodendron radicans*, *Smilax glauca*, *Parthenocissus quinquefolia*

***Globally***

*Smilax* spp., *Vitis rotundifolia*, *Parthenocissus quinquefolia*, *Toxicodendron radicans*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This association is a vine-covered maritime sand dune where vine species grow over the sand surface and over short shrubs. Vine species have dense total cover; *Toxicodendron radicans* is the most common vine with *Smilax glauca* locally abundant and *Parthenocissus quinquefolia* present, particularly on the backslope of the primary dune. Short shrubs are common and include *Myrica pensylvanica* and *Rubus flagellaris*, which occur on raised mounds with abundant moss and *Cladonia* spp. The herbaceous layer is often sparse with *Ammophila breviligulata*. Dowhan and Rozsa (1989) note the particular importance of *Toxicodendron radicans* in stabilizing sand on primary dunes.

***Globally***

This community is best described as vine-covered maritime sand dunes. The dominant species of any single dune may be one of any of a number of vine species such as *Smilax glauca*, *Smilax rotundifolia*, *Vitis rotundifolia*, *Parthenocissus quinquefolia*, or *Toxicodendron radicans*. In some cases, the vines are low-growing and occur directly on the sand surface, but in others, the vegetation has a height of 1 m or more, with vines growing over older stems of the same species, or over other shrubs such as *Myrica pensylvanica*. Diagnostic species are *Smilax glauca*, *Smilax rotundifolia*, *Toxicodendron radicans*, and *Parthenocissus quinquefolia*. The vegetation is generally low to the ground (less than half a meter tall) and generally covers 70 to 80% of the surface of the ground, the remainder being exposed sand. This vegetation is not widely described in the literature.

Synonymy: Vine dune, Greenbrier thicket (Martin 1959b)

COMMENTS:

***Fire Island National Seashore***

***Globally***

Documented from Martha's Vineyard (MA); Fire Island NS (NY); Assateague NS (MD).

***States/Provinces:***

DE:S?, MA:S?, MD:S?, NY:S?, VA?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G?

DATABASE CODE:

CEGL003886

MAP UNITS:

FIIS plots 41, 24

REFERENCES:

Dowhan and Rozsa (1989)

Martin 1959b

**III.B.2.N.e.7. VACCINIUM FORMOSUM - VACCINIUM FUSCATUM  
SEASONALLY FLOODED SHRUBLAND ALLIANCE**

Southern Highbush Blueberry - Black Highbush Blueberry Seasonally Flooded  
Shrubland Alliance

Physiognomic Class Shrubland (III.)  
Physiognomic Subclass Deciduous shrubland (III.B.)  
Physiognomic Group Cold-deciduous shrubland (III.B.2.)  
Physiognomic Subgroup Natural/Semi-natural (III.B.2.N.)  
Formation Seasonally flooded cold-deciduous shrubland (III.B.2.N.e.)

**Alliance VACCINIUM FORMOSUM - VACCINIUM FUSCATUM FLOODED  
SHRUBLAND ALLIANCE (III.B.2.N.e.7)**

Vaccinium corymbosum - Rhododendron viscosum - Clethra alnifolia Shrubland  
Highbush Blueberry - Swamp Azalea - Coastal Sweet-pepperbush Shrubland

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: PALUSTRINE

RANGE:

***Fire Island National Seashore***

This association occurs in small basin wetlands in the interdunes of Fire Island.

***Globally***

This vegetation occurs primarily on the coastal plain from Delaware to Massachusetts. It also occurs in scattered inland locales in southern New England.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community occurs in a small saturated basin riddled with swale microtopography. The substrate is dark silt loam over sand.

***Globally***

This vegetation occurs in seasonally flooded basins with shallow organic accumulation over sands, often at margins of coastal plain ponds.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Amelanchier canadensis, Rhododendron viscosum, Vaccinium corymbosum</i>
Herbaceous	<i>Triadenum virginicum, Trientalis borealis</i>
Vine / liana	<i>Smilax rotundifolia, Smilax glauca</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Vaccinium corymbosum, Rhododendron viscosum, Ilex glabra, Clethra alnifolia</i>
Herbaceous	<i>Woodwardia virginica, Osmunda cinnamomea</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Rhododendron viscosum, Vaccinium corymbosum*

***Globally***

*Vaccinium corymbosum, Clethra alnifolia* and *Chamaedaphne calyculata*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This association is a dense shrub thicket with *Amelanchier canadensis*, *Clethra alnifolia*, *Viburnum dentatum*, *Aronia arbutifolia*, *Ilex verticillata*, *Acer rubrum*, *Rhododendron viscosum*, and *Vaccinium corymbosum* draped with vines, such as *Smilax rotundifolia* and *S. glauca*. The herbaceous layer is sparse with *Triadenum virginianum* and *Thelypteris palustris*, which are more abundant in swales. Dowhan and Rozsa (1989) also list *Sambucus canadensis* as an occasional associate, and *Lyonia ligustrina* as rare in wet thickets.

**Globally**

This coastal shrub swamp occurs in seasonally flooded basins with shallow organic accumulation over sands. Characteristic shrub species are *Vaccinium corymbosum*, *Clethra alnifolia*, *Rhododendron viscosum*, *Ilex glabra*. Other associates include *Leucothoe racemosa*, *Lyonia ligustrina*, *Decodon verticillatus*, *Cephalanthus occidentalis*, *Kalmia angustifolia*, *Myrica gale*, and *Aronia* species. The herbaceous layer is poorly developed but may include *Woodwardia virginica*, *Triadenum virginicum*, and *Acer rubrum* seedlings. *Sphagnum viridum* and other *Sphagnum* mosses are also characteristic, forming a shallow mat over mineral soils.

COMMENTS:

**Fire Island National Seashore**

This community occurrence is representative of the wet end of the spectrum for the type.

**Globally**

Related to *Vaccinium corymbosum* / *Sphagnum* spp. Shrubland CEG006190 (*Vaccinium corymbosum* Saturated Shrubland Alliance III.B.2.N.g.5) which is more characteristic of bogs with deep peat and relatively stable water levels. *Chamaedaphne calyculata* and *Sphagnum* species of wetter environments are more characteristic of CEG006190.

**States/Provinces:**

CT:S?, DE?, MA:S?, NJ:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G? (98-04-14)

DATABASE CODE:

CEGL006137

MAP UNITS:

FIS plot 45

REFERENCES:

Conard 1935  
Dowhan and Rozsa 1989  
Golet 1973  
Johnson 1981  
Lynn and Karlin 1985  
Niering and Egler 1966  
Reschke 1990  
Schall and Murley 1984

**III.B.2.N.h.1. BACCHARIS HALIMIFOLIA - IVA FRUTESCENS TIDAL SHRUBLAND ALLIANCE**

Groundsel-tree - Maritime Marsh-elder Tidal Shrubland Alliance

Physiognomic Class Shrubland (III.)  
Physiognomic Subclass Deciduous shrubland (III.B.)  
Physiognomic Group Cold-deciduous shrubland (III.B.2.)  
Physiognomic Subgroup Natural/Semi-natural (III.B.2.N.)  
Formation Tidal cold-deciduous shrubland (III.B.2.N.h.)

**Alliance BACCHARIS HALIMIFOLIA - IVA FRUTESCENS TIDAL SHRUBLAND ALLIANCE (III.B.2.N.h.1)**

Baccharis halimifolia - Iva frutescens / Panicum virgatum Shrubland  
Groundsel-tree - Maritime Marsh-elder / Switchgrass Shrubland

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: ESTUARINE

RANGE:

***Fire Island National Seashore***

This association occurs on the landward edges of salt marshes on the bay side of Fire Island.

***Globally***

This occurs along the Atlantic coast from Delaware (or possibly Virginia) north to Maine.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs within the ecotone between high salt marsh and transitional maritime forest. The substrate is moist loam over sand that receives periodic tidal flooding.

***Globally***

This association occurs on the Atlantic coast in the ecotone of high salt marsh and upland. The substrate is characterized by peat overtopping sand or sand and gravel.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Baccharis halimifolia</i> , <i>Myrica pensylvanica</i>
Herbaceous	<i>Phragmites australis</i> , <i>Teucrium canadense</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Iva frutescens</i> , <i>Baccharis halimifolia</i>
Herbaceous	<i>Spartina patens</i> , <i>Panicum virgatum</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Baccharis halimifolia*

***Globally***

*Iva frutescens*, *Baccharis halimifolia*, *Panicum virgatum*

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This salt shrubland community is dominated by *Baccharis halimifolia*, which forms dense cover. The herbaceous layer is variable in species composition and cover and contains *Teucrium canadense*, *Solidago sempervirens*, and *Phragmites australis*. Dowhan and Rozsa note that *Iva frutescens* is abundant in the "upland thicket of salt marshes", which is presumably synonymous with this association. The authors also

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note that *Cuscuta compacta* frequently parasitizes *Iva* on Fire Island. Other associates include *Cirsium vulgare* and *Aster novi-belgii*.

**Globally**

This salt shrub community of the Atlantic coast occurs on the high salt marsh - upland ecotone. The substrate is characterized by peat overtopping sand or sand and gravel. The shrub layer is dominated by *Iva frutescens* and *Baccharis halimifolia*. The herbaceous layer is relatively diverse and includes *Panicum virgatum*, *Limonium carolinianum*, *Solidago sempervirens*, *Plantago maritima ssp. juncooides*, *Spartina patens* and *Salicornia* spp.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:** CT:S?, DE:S?, MA:S?, MD:S?, ME:S?, NH:S?, NJ:S?, NY:S?, RI:S?, VA?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G5

DATABASE CODE: C EGL006063

MAP UNITS: FIIS plots 42, 26

REFERENCES:

Daiber et al. 1976

Dowhan and Rozsa 1989

Good 1965

Klemas et al. 1973

Sneddon et al. 1995

Tiner 1984



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VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This is a maritime beach heather community dominated by *Hudsonia tomentosa*. *Prunus maritima* and *Arctostaphylos uva-ursi* are also present with relatively low percent cover. The herbaceous layer is sparse with *Ammophila breviligulata* commonly occurring and *Polygonella articulata*, *Lechea maritima*, and *Solidago sempervirens* occasionally present. *Cladonia* species are usually present with low cover. Dowhan and Rozsa (1989) list *Rubus hispidus* and *Pityopsis falcata* as common associates of *Hudsonia tomentosa*.

***Globally***

This maritime beach heather community occurs in the North Atlantic Coast from southern Maine to Long Island, New York. *Hudsonia tomentosa* is a dominant as well as keystone species of this community, binding sand in place and forming more suitable habitat for other plants to become established. Another sand-binding associate, *Arctostaphylos uva-ursi*, may codominate but may not occur in all examples, particularly at the northern edge of the range. Associated herbs include *Polygonella articulata*, *Lechea maritima*, *Deschampsia flexuosa*, *Minuartia caroliniana*, *Ionactis linariifolius*, *Solidago sempervirens*, and *Lathyrus japonicus*. Scattered individuals of *Myrica pensylvanica* often occur within this community.

COMMENTS:

***Fire Island National Seashore***

***Globally***

***States/Provinces:***

CT:S?, MA:S?, ME:S?, NH:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G2 (98-12-08)

DATABASE CODE:

CEGL006143

MAP UNITS:

FIIS plots 12, 8, 18

REFERENCES:

Conard 1935  
Dowhan and Rozsa 1989  
Godfrey et al. 1978  
McDonnell 1979  
Nelson and Fink 1980  
Robichaud and Buell 1973  
Van Luven 1990

**IV.A.1.N.g.3. VACCINIUM MACROCARPON SATURATED DWARF-SHRUBLAND ALLIANCE**

Large Cranberry Saturated Dwarf-shrubland Alliance

Physiognomic Class Dwarf-Shrubland (IV.)  
Physiognomic Subclass Evergreen dwarf-shrubland (IV.A.)  
Physiognomic Group Needle-leaved or microphyllus evergreen dwarf-shrubland (IV.A.1.)  
Physiognomic Subgroup Natural/Semi-natural (IV.A.1.N.)  
Formation Saturated needle-leaved or microphyllous evergreen dwarf-shrubland (IV.A.1.N.g.)

**Alliance VACCINIUM MACROCARPON SATURATED DWARF-SHRUBLAND ALLIANCE (IV.A.1.N.g.3.)**

Vaccinium macrocarpon - Myrica pensylvanica Dwarf-shrubland

Large Cranberry / Northern Bayberry Dwarf-shrubland

*Northern Interdunal Cranberry Swale*

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CLASSIFICATION CONFIDENCE LEVEL: 2

USFS WETLAND SYSTEM: PALUSTRINE

RANGE:

***Fire Island National Seashore***

This interdunal swale association occurs in small patches behind the foredunes of the Wilderness Area of Fire Island.

***Globally***

This community is confined to major dune systems of the northeastern coast. The greatest number of occurrences are found in Massachusetts, New York, New Jersey, with occasional occurrences in Rhode Island and Delaware. There are no known occurrences in Connecticut.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs in small seasonally flooded depressions and swales behind primary dunes. The substrate is characterized by shallow peat over sand.

***Globally***

This association occurs in seasonally flooded wetland occurring within low swales behind sand dunes of major dune systems of the northeastern coast. The soil is often dry on the surface late in the growing season. Soils may be sand or with a shallow peat or organic layer overlying sand.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Dwarf-shrub	<i>Vaccinium macrocarpon</i> , <i>V. corymbosum</i> , <i>Aronia melanocarpa</i>
Herbaceous	<i>Cladium mariscoides</i> , <i>Juncus canadensis</i> , <i>Scirpus pungens</i> , <i>Rhynchospora</i> spp.

***Globally***

<u>Stratum</u>	<u>Species</u>
Dwarf-shrub	<i>Vaccinium macrocarpon</i> , <i>Myrica pensylvanica</i>
Herbaceous	<i>Juncus canadensis</i> , <i>Cladium mariscoides</i> , and/or <i>Scirpus pungens</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Vaccinium macrocarpon*, *Aronia melanocarpa*, *Cladium mariscoides*, *Juncus canadensis*, *Scirpus pungens*

***Globally***

*Vaccinium macrocarpon*, *Myrica pensylvanica*, *Cladium mariscoides*, *Juncus* spp.

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This maritime interdunal swale community is variable in species composition but is characterized by *Vaccinium macrocarpon*, which grows as a prostrate dwarf shrub below the herbaceous layer. In some swales, *Vaccinium macrocarpon* is present only at low cover. Scattered taller shrubs may be present, including most commonly *Vaccinium corymbosum* and *Aronia melanocarpa*. The herbaceous layer is dense with *Cladium mariscoides*, *Juncus canadensis*, *Scirpus pungens*, and *Rhynchospora* spp. also common. Other herbaceous associates may include *Rhynchospora capitellata*, *Drosera rotundifolia*, *Lycopodium inundatum*, *Eleocharis olivacea*, *Xyris torta*, *Triadenum canadense*, *Juncus dichotomus*, and *Panicum virgatum*. One occurrence on Fire Island is dominated by *Typha angustifolia*. *Sphagnum* species are usually present, but with low overall percent cover. Dowhan and Rozsa (1989) call this vegetation “wet poor fen”. In addition to *Vaccinium macrocarpon*, other associates include *Lycopodium appressum*, *Carex howei* (at Smokey Hollow Bog), *Eleocharis tenuis*, *Rhynchospora alba*, *Pogonia ophioglossoides*, *Drosera intermedia*, *Polygala cruciata*, *Hypericum boreale*, *Hypericum canadense*, and *Utricularia subulata*. Two *Sphagnum* species listed by the authors are *Sphagnum rubellum* and *Sphagnum compactum*.

**Globally**

This maritime community is a small-patch seasonally flooded wetland occurring within low swales behind sand dunes of major dune systems of the northeastern coast. *Vaccinium macrocarpon* is generally dominant, but a number of rushes, sedges, grasses, and forbs co-occur and often obscure the low-growing *Vaccinium macrocarpon*. *Myrica pensylvanica*, although a minor component of the vegetation and is generally restricted to the wetland edge, characterizes this community as coastal. Associated species include *Pogonia ophioglossoides*, *Juncus canadensis*, *Juncus greenii*, *Juncus pelocarpus*, *Drosera rotundifolia*, *Drosera intermedia*, *Lycopodiella inundata* (= *Lycopodium inundatum*), *Cladium mariscoides*, *Scirpus pungens*, *Osmunda regalis*, *Spartina patens*, *Xyris torta*, *Calopogon tuberosus*, *Viola lanceolata*, *Sphagnum palustre*, *Bartonia virginica*.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:**

DE:S?, MA:S?, MD?, NJ:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G2 (97-10-22)

DATABASE CODE:

CEGL006141

MAP UNITS:

FIIS plots 53, 16, 38, 40, 52

REFERENCES:

Benedict 1977a  
Bowman 2000  
Dowhan and Rozsa 1989  
Conard 1935  
Johnson 1981  
Johnson 1985  
Martin 1959b  
McAvoy and Clancy 1994  
Moul 1969

## V. Herbaceous Vegetation

### **V.A.5.C.x.5. DACTYLIS GLOMERATA – RUMEX ACETOSELLA HERBACEOUS ALLIANCE**

Orchard Grass – Sheep Sorrell Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group       Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup   Cultivated (V.A.5.C.)  
Formation                 Planted / cultivated temperate or subpolar grassland (V.A.5.C.x.)

**Alliance                     DACTYLIS GLOMERATA – RUMEX ACETOSELLA HERBACEOUS  
                                  ALLIANCE (V.A.5.C.x.5.)**

Dactylis glomerata – rumex acetosella Herbaceous Vegetation

Orchard Grass – Sheep Sorrell Herbaceous Vegetation

*Successional Meadow*

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CLASSIFICATION CONFIDENCE LEVEL:       3

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This association occurs on fields and meadows of the William Floyd Estate and adjacent to buildings on Fire Island.

***Globally***

This occurs throughout the northeast.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs on mowed pastures and lawns at the William Floyd Estate and on sandy soils adjacent to buildings on Fire Island.

***Globally***

This occurs on mowed lawns and pastures on a variety of soil types.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Bromus tectorum, Anthoxanthum odoratum, Juncus tenuis, Rumex acetosella</i>
Vine / Liana	<i>Lonicera japonica</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Anthoxanthum odoratum, Phleum pratense, Dactylis glomerata, Rumex acetosella,</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

***Globally***

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**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

Ruderal and vegetation of Fire Island is comprised by the following species, listed as common, frequent, or occasional by Dowhan and Rozsa (1989): *Agrostis alba*, *Bromus tectorum*, *Asclepias syriaca*, *Echinochloa crus-gallii*, *Eragrostis pectinacea*, *Festuca rubra*, *Setaria geniculata*, *Vulpia octoflora*, *Juncus tenuis*, *Rumex acetosella*, *Rumex crispus*, *Phytolacca americana*, *Capsella bursa-pastoris*, and *Lepidium virginicum*. Meadows and fields at the Floyd Estate are characterized by *Anthoxanthum odoratum*, *Festuca* spp., *Achillea millefolium*, *Rumex acetosella*, *Potentilla simplex*, *Hieracium floribunda*, *Oxalis stricta*, and others.

**Globally**

This broadly defined association includes pasture and post-agricultural fields, and is largely composed of non-native grasses and herbs (generally of European origin). Physiognomically, these grasslands are generally comprised of mid-height (1-3 feet tall) grasses and forbs, with occasional scattered shrubs. Species composition varies from site to site, depending on land-use history, and perhaps soil type, but in general, this vegetation is quite wide-ranging in northeastern and midwestern states. In addition to *Dactylis glomerata* and *Rumex acetosella* these grassy fields are characterized by *Symphotrichum* spp. (including *Symphotrichum lateriflorum* (= *Aster lateriflorus*) and *Symphotrichum novae-angliae* (= *Aster novae-angliae*), *Rudbeckia hirta*, *Pteridium aquilinum*, *Chenopodium album*, *Asclepias syriaca*, *Andropogon virginicus*, *Schizachyrium scoparium*, *Phytolacca americana*, *Phleum pratense*, *Poa pratensis*, *Poa compressa*, *Elymus repens* (= *Agropyron repens*), *Bromus inermis*, *Solidago* spp. (including *Solidago rugosa*, *Solidago nemoralis*, *Solidago juncea*, *Solidago canadensis*, *Solidago altissima*), *Euthamia graminifolia*, *Oenothera biennis*, *Potentilla simplex*, *Daucus carota*, *Ambrosia artemisiifolia*, *Hieracium* spp., *Taraxacum officinale*, *Vicia cracca*, *Trifolium* spp., and many others. This association occurs throughout the northeastern United States and beyond.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:**

CT:S?, MA:S?, ME:S?, NH:S?, NJ:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

GC

DATABASE CODE:

CEGL006107

MAP UNITS:

REFERENCES:

Sneddon 1995

Clark 1986

**V.A.5.N.c.2. AMMOPHILA BREVILIGULATA HERBACEOUS ALLIANCE**

American Beachgrass Herbaceous Alliance

Physiognomic Class      Herbaceous Vegetation (V.)  
Physiognomic Subclass    Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group      Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup    Natural/Semi-natural (V.A.5.N.)  
Formation                Medium-tall sod temperate or subpolar grassland (V.A.5.N.c.)

**Alliance                    AMMOPHILA BREVILIGULATA HERBACEOUS ALLIANCE  
(V.A.5.N.c.2.)**

*Ammophila breviligulata* - *Lathyrus japonicus* Herbaceous Vegetation

American Beachgrass - Beach Pea Herbaceous Vegetation

*Northern Beachgrass Dune*

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CLASSIFICATION CONFIDENCE LEVEL:      2

USFS WETLAND SYSTEM:      N/A

RANGE:

***Fire Island National Seashore***

This association occurs on foredunes along the length of Fire Island.

***Globally***

This occurs on the North Atlantic coast from New Jersey to central Maine.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs on maritime foredunes with no soil development. The substrate is bare wind-deposited sand. This vegetation is exposed to salt spray, occasional overwash, and wind.

***Globally***

This occurs on maritime sand dunes. The substrate is wind-deposited sand with no soil development.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Ammophila breviligulata</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Ammophila breviligulata</i> , <i>Lathyrus japonicus</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Ammophila breviligulata*, *Lathyrus japonicus*, *Solidago sempervirens*, *Chamaecyse polygonifolia*

***Globally***

*Ammophila breviligulata*, *Lathyrus japonicus*, *Solidago sempervirens*

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This maritime dune grassland occurs on well-developed dune systems. *Ammophila breviligulata* is dominant throughout and occurs in scattered clumps to dense patches. *Lathyrus japonicus* and *Solidago sempervirens* are usually scattered within the *Ammophila* patches with low percent cover. Other associates may include *Lechea maritima*, *Cakile edentula*, *Pityopsis falcata*, *Artemisia stelleriana*, *Polygonella articulata*, and *Chamaecyse polygonifolia*.

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**Fire Island National Seashore**

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***Globally***

This is a maritime dune grassland community. Vegetation cover is often sparse and bare sand is usually evident. The dominant species is *Ammophila breviligulata*. Characteristic associates include *Lathyrus japonicus*, *Solidago sempervirens*, *Chamaesyce polygonifolia*, and *Cakile edentula*. Other associates may include *Carex silicea*, *Artemisia stelleriana*, *Lechea maritima*, *Polygonella articulata*, *Xanthium strumarium*, *Suaeda maritima*, *Cyperus filiculmis*, and *Cyperus grayi*. Other grasses that may be present include *Panicum amarum* in the southern portion of the range, and *Leymus mollis* at the northern end of the range.

COMMENTS:

***Fire Island National Seashore***

***Globally***

***States/Provinces:***

CT:S?, MA:S?, ME:S?, NH:S?, NJ:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G4?

DATABASE CODE:

CEGL006274

MAP UNITS:

REFERENCES:

Dowhan and Rozsa 1989

Johnson 1985

Martin 1959b

Moul 1969

Nelson and Fink 1980

Sperduto 1997a

**V.A.5.N.e.1. SPARTINA PATENS – (SCIRPUS PUNGENS) HERBACEOUS ALLIANCE**

Saltmeadow Cordgrass – (Threesquare) Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group       Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup   Natural/Semi-natural (V.A.5.N.)  
Formation                 Short sod temperate or subpolar grassland (V.A.5.N.e.)

**Alliance                   SALTMEADOW CORDGRASS – (THREESQUARE) HERBACEOUS ALLIANCE (V.A.5.N.e.1)**

Spartina patens - Schoenoplectus pungens - Solidago sempervirens Herbaceous Vegetation

Saltmeadow Cordgrass - Threesquare - Seaside Goldenrod Herbaceous Vegetation  
*Overwash Dune Grassland*

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CLASSIFICATION CONFIDENCE LEVEL:        2

USFS WETLAND SYSTEM: N/A

RANGE:

***Fire Island National Seashore***

This association occurs in small patches in overwash areas of the Wilderness Area of Fire Island.

***Globally***

This community is an upland dune grassland of mid-Atlantic barrier islands. It is best developed on barrier islands of Delaware, Maryland, Virginia, and North Carolina; it extends sporadically farther north to Massachusetts.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs behind primary dunes in areas that have been affected by overwash. The substrate is a shallow layer of loamy sand over sand.

***Globally***

This community is an upland dune grassland of mid-Atlantic barrier islands. The plants of this community are influenced by water-deposited sand caused by storm surges. They differ ecologically from dune grasslands dominated by *Ammophila breviligulata* or *Uniola paniculata*, which are primarily impacted by wind-deposited sand. Storm overwash is a prevalent natural disturbance to this community.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Spartina patens</i> var. <i>monogyna</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Spartina patens</i> var. <i>monogyna</i> , <i>Scirpus pungens</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Spartina patens* var. *monogyna*

***Globally***

*Spartina patens* var. *monogyna*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This upland maritime dune grassland community is dominated by *Spartina patens* var. *monogyna*, which forms nearly continuous cover. *Festuca rubra*, *Panicum virgatum*, and *Solidago sempervirens* occur sporadically and with low cover. The shrub layer is infrequent with *Baccharis halimifolia* and *Myrica pensylvanica* occurring in small clusters. Unvegetated surface is minimal and composed of bare sand.

**Globally**

This community is characterized by upland maritime dune grassland vegetation. *Spartina patens*, and sometimes *Schoenoplectus pungens* (= *Scirpus pungens*), or both are dominant on dunes or overwash terraces. Total vegetation cover is variable, ranging from quite sparse (25% cover) to dense. Bare sand is often visible through the vegetation, and there is no soil profile development. Species diversity is variable; although it may be quite low and confined to the nominate species in the northern part of the range, it may be of greater diversity, including *Strophostyles helvula*, *Solidago sempervirens*, *Cenchrus tribuloides*, *Setaria parviflora*, *Distichlis spicata*, *Sabatia stellaris*, *Ammophila breviligulata*, *Suaeda linearis*, *Bassia hirsuta*, *Atriplex patula*, *Fimbristylis castanea*, and *Cakile edentula* ssp. *edentula*.

**Synonymy:** Wash (Hill 1986), Wash (Higgins et al. 1971), Dunegrass community, in part (Higgins et al. 1971), Grassland community (Baumann 1978), Low dune community (Boule 1979), Dry community of barrier flats (Travis and Godfrey 1976), Secondary dunes (Klotz 1986), Overwash community (Klotz 1986)

COMMENTS:

**Fire Island National Seashore**

**Globally**

This community differs ecologically from dune grasslands dominated by *Ammophila breviligulata* or *Uniola paniculata*, which are primarily impacted by wind-deposited sand. This community is impacted by wave-deposited sand.

**States/Provinces:**

DE:S?, MD:S?, NC:S?, NJ:S?, NY:S?, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK:

G2G3 (98-11-04)

DATABASE CODE:

CEGL004097

MAP UNITS:

REFERENCES:

Baumann 1978  
Boule 1979  
Hill 1986  
Higgins et al. 1971  
Klotz 1986  
Travis and Godfrey 1976

**V.A.5.N.k.29. SPARTINA PATENS SEASONALLY FLOODED HERBACEOUS ALLIANCE**

Saltmeadow Cordgrass Seasonally Flooded Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group       Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup   Natural/Semi-natural (V.A.5.N.)  
Formation                 Seasonally flooded temperate or subpolar grassland (V.A.5.N.k.)

**Alliance                   SPARTINA PATENS SEASONALLY FLOODED HERBACEOUS ALLIANCE (V.A.5.N.k.29)**

Spartina patens - Eleocharis parvula Herbaceous Vegetation

Saltmeadow Cordgrass - Dwarf Spikerush Herbaceous Vegetation

*Brackish Interdunal Swale*

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CLASSIFICATION CONFIDENCE LEVEL:        2

USFS WETLAND SYSTEM: PALUSTRINE

RANGE:

***Fire Island National Seashore***

This brackish interdunal swale association occurs in low areas behind the foredune. It is apparently restricted to the Wilderness area of Fire Island.

***Globally***

This association occurs in maritime dunes of the North Atlantic Coast. It is known from Long Island, New York and from Massachusetts.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community occurs in brackish, interdunal swales behind primary and secondary dunes. Standing, oligohaline (salinity = 2 ppt) water pools to approximately 4 cm. The substrate is characterized by 10-55 cm of peat over sand.

***Globally***

This brackish, interdunal swale community of the northeastern coast occurs in low areas behind primary or secondary sand dunes. The substrate is sand with little or no organic accumulation. The water source for this wetland community is variable, including seasonally high groundwater table and sporadic tidal overwash, resulting in widely variable salinity levels.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Scirpus pungens, Spartina patens, Eleocharis parvula</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Spartina patens</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Eleocharis parvula, Scirpus pungens, Spartina patens*

***Globally***

*Scirpus pungens, Spartina patens, Cyperus polystachyos, Juncus articulatus*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

This community is generally dominated by *Scirpus pungens*, *Eleocharis parvula*, or *Spartina patens*. Associated species include *Pluchea odorata*, *Scirpus robustus*, *Phragmites australis*, *Distichlis spicata*, *Scirpus americana*, and *Cyperus polystachyos*, all of which occur sporadically and with low percent cover. There is often a sparse shrub layer comprised of *Baccharis halimifolia* that forms hummocks within the standing pools of water. In addition to the above species, Dowhan and Rozsa (1989) list *Iris prismatica* and *Potentilla anseria* as components of brackish marshes on Fire Island.

**Globally**

The dominant species is generally *Spartina patens*, with other characteristic species including *Eleocharis parvula*, *Schoenoplectus pungens* (= *Scirpus pungens*), *Cyperus polystachyos*, and *Juncus articulatus*. Other associates may be present, depending on salinity and hydrology, including *Leptochloa fusca* ssp. *fascicularis* (= *Diplachne maritima*), *Schoenoplectus maritimus* (= *Scirpus maritimus*), *Juncus ambiguus* (= *Juncus bufonius* var. *halophila*), *Juncus scirpoides*, *Ptilimnium capillaceum*, *Rumex maritimus*, *Symphytotrichum subulatum* (= *Aster subulatus*), *Chenopodium rubrum*, *Pluchea odorata*, *Hibiscus moscheutos* ssp. *moscheutos* (= *Hibiscus palustris*), *Polygonum ramosissimum*, and *Iva frutescens*.

COMMENTS:

**Fire Island National Seashore**

**Globally**

Hunt (1997b) equates this type with CEGL004117, *Fimbristylis (castanea, caroliniana) – Schoenoplectus pungens* Herbaceous Vegetation. However, this association is characterized by a number of species of more southern affinity. Further classification work is required to fully describe and rectify these two associations.

**Synonymy:** Brackish interdunal swale (NY)

**States/Provinces:** CT?:SP, DE?:SP, MA?:SP, MD?:SP, NJ?:SP, NY:S?, RI?:SP, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G?

DATABASE CODE: CEGL006342

MAP UNITS: FIIS plots 15, 49, 51, 48

REFERENCES:

Dowhan and Rozsa 1989

Hunt 1997b

**V.A.5.N.n.1. SPARTINA ALTERNIFLORA TIDAL HERBACEOUS ALLIANCE**

Saltmarsh Cordgrass Tidal Herbaceous Alliance

Physiognomic Class Herbaceous Vegetation (V.)  
Physiognomic Subclass Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup Natural/Semi-natural (V.A.5.N.)  
Formation Tidal temperate or subpolar grassland (V.A.5.N.n.)

**Alliance SPARTINA ALTERNIFLORA TIDAL HERBACEOUS ALLIANCE  
(V.A.5.N.n.1.)**

*Spartina alterniflora* / (*Ascophyllum nodosum*) Acadian/Virginian Zone Herbaceous  
Vegetation

Saltmarsh Cordgrass / (Yellow Tang) Acadian/Virginian Zone Herbaceous Vegetation

*Spartina Low Salt Marsh*

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CLASSIFICATION CONFIDENCE LEVEL: 1

USFS WETLAND SYSTEM: ESTUARINE

RANGE:

***Fire Island National Seashore***

This association occurs in salt marshes on the bay side of Fire Island. It also occurs on the salt marsh on Moriches Bay on the William Floyd Estate.

***Globally***

This community occurs in estuaries from southern Maine to Cape Hatteras, North Carolina.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This low salt marsh occurs on the bay side of the barrier islands often adjacent to salt pannes. The substrate is characterized by shallow peat over old overwash / inlet flood delta deposits.

***Globally***

This low salt marsh of the northeastern coastal region is generally limited to the zone between mean sea level and the mean high water level. The habitat occurs in protected inlets behind barrier beaches or in drowned river valleys. Peat depth ranges from a few feet, if the community formed over a mud flat, to 80 feet in drowned river valleys.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Spartina alterniflora</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Spartina alterniflora</i> , <i>Salicornia</i> spp.

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Spartina alterniflora*, *Salicornia* spp.

***Globally***

*Spartina alterniflora*, *Ascophyllum nodosum*, *Ulva lactuca*, *Fucus vesiculosus*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This low salt marsh community has low species diversity and is strongly dominated by *Spartina alterniflora*. *Spartina patens*, *Distichlis spicata*, and *Salicornia* spp. occur with low cover. *Ulva lactuca* occurs sporadically throughout, but with low percent cover.

***Globally***

*Spartina alterniflora* is limited to the low marsh zone by moderate salinity; it can withstand longer submergence than other salt marsh grasses but still requires periodic exposure of the substrate. It also requires moderately high levels of iron (7-15 ppm). This community is commonly known as the "low salt marsh," occurring as a tall grassland strongly dominated by *Spartina alterniflora*. There is little variation in vascular plant species composition across the range. It occurs in nearly pure stands, with occasional low-growing species such as *Spergularia salina* (= *Spergularia marina*), *Salicornia* spp., *Suaeda maritima*, and seaweeds such as *Ulva lactuca* and other algae such as *Fucus vesiculosus* and *Ascophyllum nodosum*, which grow at the bases of the *Spartina* plants (Moul 1973). Herbs of *Salicornia virginica* and *Salicornia bigelovii* can be quite common mixed in with the *Spartina*, often becoming more apparent later in the growing season. *Limonium carolinianum* is another characteristic herb but only as scattered individuals. The northern limit is determined by a slower accumulation of silt and corresponding absence of algal species (Chapman 1937).

COMMENTS:

***Fire Island National Seashore***

***Globally***

*Ascophyllum nodosum* may be sparse or absent from southern occurrences of this community, but these occurrences are placed within this type because of the associated characteristic faunal assemblage, including *Uca pugnax*, *Littorina saxatilis*, *Littorina obtusata*, and *Brachidontes demissus*.

**Synonymy:** Salt marsh, in part (Higgins et al. 1971), Salt marsh community, in part (Hill 1986), *Spartina alterniflora* community (Metzler and Barrett 1996), Salt marsh complex, low marsh (Breden 1989), Low salt marsh (Reschke 1990), Cordgrass saltmarsh community (Maine Natural Heritage Program (MENHP) 1991), Low salt marsh community (Sperduto 1997)

**States/Provinces:** CT:S?, DE:S?, MA:S?, MD:S?, ME:S?, NC?, NH:S?, NJ:S?, NY:S?, RI:S?, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G5  
DATABASE CODE: CEGL004192  
MAP UNITS: FIIS plots 4, 5, 23, 54

REFERENCES:

Breden 1989  
Higgins et al. 1971  
Hill 1986  
Maine Natural Heritage Program 1991  
Metzler and Barrett 1996  
Moul 1973  
Reschke 1990  
Sperduto 1997  
Stalter 1979

**V.A.5.N.n.2. TYPHA (ANGUSTIFOLIA, DOMINGENSIS) TIDAL HERBACEOUS ALLIANCE**

(Narrowleaf Cattail, Southern Cattail\_ Tidal Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group       Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup   Natural/Semi-natural (V.A.5.N.)  
Formation                 Tidal temperate or subpolar grassland (V.A.5.N.n.)

**Alliance                   TYPHA (ANGUSTIFOLIA, DOMINGENSIS) TIDAL HERBACEOUS ALLIANCE (V.A.5.N.n.2.)**

*Typha angustifolia* – hibiscus moscheutos Herbaceous Vegetation  
Narrow-leaf Cattail – Eastern Ros-mallow Herbaceous Vegetation  
*Brackish Tidal Marsh*

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CLASSIFICATION CONFIDENCE LEVEL:       1

USFS WETLAND SYSTEM: ESTUARINE

RANGE:

***Fire Island National Seashore***

This association occurs in small to large patches on Fire Island.

***Globally***

This community occurs in estuaries from New England to the mid-Atlantic states.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs inat the upper reaches of larger tidal creeks or in nontidal wetland areas influenced by brackish groundwater or occasional storm overwash.

***Globally***

This community occurs along the margin of tidal rivers and at the upper margins of some high salt marshes where water salinity ranges from 0.5-18.0 ppt. Brackish marshes are most extensive on large tidal rivers, but smaller marshes of this alliance also occur at the upper limits of larger tidal creeks.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Typha angustifolia, Hibiscus moscheutos</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Typha angustifolia, Hibiscus moscheutos</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

***Globally***

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This association is characterized by dense stands of *Typha angustifolia*. *Hibiscus moscheutos* is a frequent and characteristic associate. Dowhan and Rozsa (1989) state that *Typha angustifolia* is common in fresh and brackish marshes on Fire Island, where it often forms extensive monospecific stands. In addition to *Hibiscus moscheutos*, the authors note *Thelypteris palustris* as a frequent associate.

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**Fire Island National Seashore**

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**Globally**

The vegetation is dense and characterized by tall graminoids such as *Typha angustifolia*, with associates including *Spartina cynosuroides*, *Phragmites australis* or *Schoenoplectus americanus* (= *Scirpus americanus*), *Pontederia cordata*, *Lilaeopsis chinensis*, *Hibiscus moscheutos* ssp. *moscheutos* (= *Hibiscus palustris*), and *Pluchea odorata*. Other characteristic species include *Spartina patens*, *Distichlis spicata*, *Schoenoplectus pungens* (= *Scirpus pungens*), *Lycopus americanus*, *Eleocharis palustris*, *Hydrocotyle umbellata*, *Eupatorium capillifolium*, *Ptilimnium capillaceum*, *Bidens* spp., and *Spartina alterniflora*. Occurrences at the northern edge of the range are also characterized by *Carex paleacea* and *Triglochin maritima*.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:** CT:S?, DE:S?, MA:S?, MD:S?, ME:S?, NC?, NH:S?, NJ:S?, NY:S?, RI:S?, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G?  
DATABASE CODE: CEG004201  
MAP UNITS: FIIS (not sampled)

REFERENCES:

Breden 1989  
Cahoon and Stevenson 1986  
Dowhan and Rozsa 1989  
Ferren et al. 1981  
Good and Good 1975b  
Hill 1986  
Klotz 1986  
Maine Natural Heritage Program (MENHP) 1991  
McCormick and Ashbaugh 1972  
Metzler and Barrett 1996  
Odum et al. 1974  
Reschke 1990  
Schafale and Weakley 1990  
Sperduto 1997

**V.A.5.N.n.4. ELEOCHARIS FALLAX - ELEOCHARIS ROSTELLATA TIDAL HERBACEOUS ALLIANCE (A.1474)**

Creeping Spikerush - Beaked Spikerush Tidal Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group      Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup   Natural/Semi-natural (V.A.5.N.)  
Formation                Tidal temperate or subpolar grassland (V.A.5.N.n.)

**Alliance                   ELEOCHARIS FALLAX – ELEOCHARIS ROSTELLATA TIDAL  
HERBACEOUS ALLIANCE (V.A.5.N.n.4)**

Eleocharis rostellata - Spartina patens Herbaceous Vegetation

Beaked Spikerush - Saltmeadow Cordgrass Herbaceous Vegetation

[*Oligohaline Tidal Marsh*]

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CLASSIFICATION CONFIDENCE LEVEL:        2

USFS WETLAND SYSTEM: ESTUARINE

RANGE:

***Fire Island National Seashore***

This association occurs adjacent to a tidal creek south of Ridge Island in the Wilderness Area of Fire Island.

***Globally***

This association ranges from the Chesapeake Bay region of the Atlantic coast, extending north to Long Island NY and south to Virginia.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This association occurs as a narrow band in the transition zone between high salt marsh and salt shrub vegetation. The substrate is characterized by dark, fibrous peat over sand.

***Globally***

This tidal marsh association occurs on peat or muck substrates. Salinity is 0.5-5 parts per thousand in areas sampled in the Chesapeake Bay and at Fire Island.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Eleocharis rostellata</i> , <i>Spartina patens</i> , <i>Scirpus pungens</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Eleocharis rostellata</i> with <i>Spartina patens</i> and/or <i>Scirpus pungens</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Eleocharis rostellata*, *Spartina patens*, *Scirpus pungens*

***Globally***

*Eleocharis rostellata*, *Spartina patens*, *Eleocharis fallax*

**USGS-NPS Vegetation Mapping Program**  
**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This herbaceous community occurs as a narrow band between high salt marsh and salt shrub vegetation. Herbaceous vegetation forms nearly continuous cover with *Eleocharis rostellata* and *Spartina patens* codominant and *Scirpus pungens* also common. Dowhan and Rozsa note the occurrence of *Samolus parviflorus* and *Aster novi-belgii* as components of oligohaline marshes on Fire Island.

***Globally***

This slightly brackish tidal marsh of the Chesapeake Bay region of the Atlantic coast occurs on peat or muck substrates. It is heavily dominated by *Eleocharis rostellata*, growing in association with *Spartina patens*, *Scirpus pungens*, *Typha angustifolia*, *Distichlis spicata*, *Juncus gerardii*, *Cladium mariscoides*, *Eleocharis fallax*, *Centella erecta*, *Fimbristylis castanea*, and *Galium tinctorium*.

COMMENTS:

***Fire Island National Seashore***

***Globally***

Need additional data to determine range of expression and geographical range of this type.

***States/Provinces:*** DE:S1, MD:S?, NY:S?, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G? (00-04-17)

DATABASE CODE: C EGL006611

MAP UNITS: FIIS plot 3

REFERENCES:

Bowman 2000

Dowhan and Rozsa 1989



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*helvola*, *Panicum columbianum*, *Agalinis maritima*, *Cyperus polystachyos*, *Viola lanceolata*, *Eragrostis spectabilis*, *Lechea maritima*, *Solidago sempervirens* and *Andropogon virginicus*. A shrub layer is common, but usually sparse, with *Myrica pensylvanica*, *Baccharis halimifolia*, or *Rosa rugosa* commonly occurring.

Dowhan and Rozsa (1989) note the occurrence of a large number of species at the “brackish upland border of salt marshes” on Fire Island. Presumably, their vegetation is related to, if not synonymous, with this association. In addition to those species listed above, the authors note *Eleocharis rostellata*, *Agrostis stolonifera*, *Andropogon glomerata*, *Erechtites hieracifolia*, *Echinochloa walteri*, *Elymus virginicus*, *Spartina cynosuroides*, *Euthamia tenuifolia*, *Iris prismatica*, *Calystegia sepium*, *Boehmeria cylindrica*, and *Limonium carolinianum*.

**Globally**

The dominant species are *Panicum virgatum*, *Spartina patens* (= var. *monogyna*), and *Carex silicea*. Other associates may include *Schizachyrium scoparium*, *Andropogon gerardii*, *Distichlis spicata*, *Setaria parviflora*, *Eragrostis spectabilis*, *Elymus virginicus*, *Panicum amarum*, *Cladium mariscoides*, *Cyperus polystachyos*, *Cyperus dentatus*, *Schoenoplectus pungens* (= *Scirpus pungens*), *Juncus gerardii*, *Polygala verticillata*, *Solidago sempervirens*, *Euthamia caroliniana* (= *Euthamia tenuifolia*), *Agalinis maritima*, *Sabatia* spp., *Artemisia campestris* ssp. *caudata*, *Aster* spp., *Liatris scariosa* var. *novae-angliae*, *Fimbristylis castanea*, and *Oenothera oakesiana* (= *Oenothera parviflora* var. *oakesiana*). Shrubs that may occur at low cover include *Morella pensylvanica* (= *Myrica pensylvanica*), *Baccharis halimifolia*, and *Prunus maritima*.

**Synonymy:** Salt marsh complex, high marsh, in part (NJ)

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:** CT:S?, DE:S?, MA:S?, MD:S?, NJ:S?, NY:S?, RI:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G?

DATABASE CODE: CEGL006150

MAP UNITS: FIIS plots 30, 43, 50

REFERENCES:

Dowhan and Rozsa 1989

Hunt 2000

Johnson 1985

Nixon 1982

**V.A.5.N.n.7. PHRAGMITES AUSTRALIS TIDAL HERBACEOUS ALLIANCE**

Common Reed Tidal Herbaceous Alliance

Physiognomic Class      Herbaceous Vegetation (V.)  
Physiognomic Subclass    Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group      Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup    Natural/Semi-natural (V.A.5.N.)  
Formation                Tidal temperate or subpolar grassland (V.A.5.N.n.)

**Alliance                                PHRAGMITES AUSTRALIS TIDAL HERBACEOUS ALLIANCE  
(V.A.5.N.n.7.)**

Phragmites australis Tidal Herbaceous Vegetation

Common Reed Tidal Herbaceous Vegetation

*Reed-grass Marsh*

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CLASSIFICATION CONFIDENCE LEVEL:      2

USFS WETLAND SYSTEM: ESTUARINE

RANGE:

***Fire Island National Seashore***

This association occurs in salt marshes on Fire Island.

***Globally***

Widespread along the coast of southern and eastern United States and north into Canada.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community occurs in tidal salt marshes where soil disturbance has occurred. The substrate is characterized by shallow peat over sand.

***Globally***

This association occurs in a range of tidal wetland habitats from fresh to brackish in salinity. Although in some associations *Phragmites australis* may be a native component, in salt marshes its robust clonal habit excludes other species and generally indicates disturbance in soil or tidal flooding.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Phragmites australis</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Phragmites australis</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Phragmites australis*

***Globally***

*Phragmites australis*

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

This tall tidal grassland is dominated by dense stands of *Phragmites australis*, which tends to form a monoculture where it occurs. *Baccharis halimifolia* is a short shrub occurring in smaller patches beneath the *Phragmites*. *Toxicodendron radicans* forms a sparse vine layer. *Pluchea odorat*, *Impatiens capensis*,

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**Fire Island National Seashore**

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*Mikania scandens* and *Cyperus polystachyos* occur locally at the edges of the wettest parts of the brackish swales and generally have very low percent cover.

**Globally**

This community is a dense tall grassland that is generally indicative of disturbance. It occurs in a range of tidal wetland habitats from fresh to brackish in salinity. This community is a broadly defined reed-grass marsh. It is characterized by dense stands of *Phragmites australis*, a species which tends to grow in colonies of tall, stout, leafy plants often to the exclusion of all other vascular plant species. Associated species are highly variable, depending on the community that has been invaded. Spreading in large colonies, *Phragmites* eventually dominates disturbed areas at coverage up to 100%. More typically, though, scattered individuals of other species may occur, such as sparse *Myrica cerifera* shrubs, *Kosteletzkya virginica*, *Calystegia sepium*, *Boehmeria cylindrica*, *Typha angustifolia*, *Apocynum cannabinum*, *Rosa palustris*, *Polygonum* sp., and *Mikania scandens*. Vines of *Toxicodendron radicans* are also frequent, but typically occur at low cover. This community has a broad geographic range, including coastal areas of the eastern United States and Canada.

COMMENTS:

**Fire Island National Seashore**

**Globally**

Although *Phragmites australis* rhizomes have been noted in salt marsh sediments exceeding three thousand years in age (Niering and Warren 1977) and is thus a native component of salt marshes in some areas in North America, the growth of the species in its native condition was likely to have been significantly different than the dense monotypic stands that characterize this community in parts of its range today. The presence of the *Phragmites australis* community in wetlands today generally indicates human-induced disturbance, either through direct habitat manipulation or through passive introduction of reproductive material to naturally disturbed substrates. In cases where *Phragmites australis* is a significant component of the vegetation but the vegetation retains sufficient species composition to retain its identity, the site is considered an unhealthy or degraded example of that original community. On the other hand, in cases where *Phragmites australis* cover is so high that native species have been excluded and the original community is no longer recognizable, the occurrence is then treated as an example of the V.A.5.N.n *Phragmites australis* Tidal Herbaceous Alliance (A.1477)

**States/Provinces:** AL:S?, CT:S?, DE:S?, FL:S?, GA:S?, LA:S?, MA:S?, MD:S?, ME:S?, MS:S?, NC:S?, NF?, NH:S?, NJ:S?, NS?, NY:S?, PA:S?, PE?, QC?, RI:S?, SC:S?, TX:S?, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: GW (97-11-22)

DATABASE CODE: CEGl004187

MAP UNITS: FIIS plot 20

REFERENCES:

Metzler and Barrett 1996  
Niering and Warren 1977

**V.A.5.N.n.11. SPARTINA PATENS - (DISTICHLIS SPICATA) TIDAL HERBACEOUS ALLIANCE**

Saltmeadow Cordgrass - (Saltgrass) Tidal Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group       Temperate or sub-polar grassland (V.A.5.)  
Physiognomic Subgroup   Natural/Semi-natural (V.A.5.N.)  
Formation                 Tidal temperate or subpolar grassland (V.A.5.N.n.)

**Alliance                   SPARTINA PATENS - (DISTICHLIS SPICATA) TIDAL HERBACEOUS ALLIANCE (V.A.5.N.n.11.)**

Spartina patens - Distichlis spicata - Plantago maritima Herbaceous Vegetation

Saltmeadow Cordgrass - Saltgrass - Seaside Plantain Herbaceous Vegetation

*Spartina-High Salt Marsh*

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CLASSIFICATION CONFIDENCE LEVEL:       2

USFS WETLAND SYSTEM: ESTUARINE

RANGE:

***Fire Island National Seashore***

This association occurs in salt marshes on the bay side of Fire Island and of the William Floyd Estate.

***Globally***

This association occurs along the Atlantic coast from Delaware (discontinuously south to Virginia) north to the Canadian maritime provinces.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This high salt marsh vegetation occurs above low salt marsh on the bay side of barrier beaches. The substrate is characterized by shallow peat over sand.

***Globally***

This type occupies the zone extending from mean high tide landwards to the limit of spring tides and is subjected to irregular tidal flooding. The substrate is peat overlying mineral soil.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Spartina patens, Distichlis spicata</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Spartina patens, Distichlis spicata</i> and <i>Juncus gerardii</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Distichlis spicata, Juncus gerardii, Spartina patens, Salicornia europea, Limonium carolinianum*

***Globally***

*Spartina patens, Distichlis spicata, Juncus gerardii, Limonium carolinianum*

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

High salt marsh vegetation occurs between low salt marsh and maritime forest or maritime shrubland. *Distichlis spicata* and *Spartina patens* are co-dominant and often form dense cover. *Juncus gerardii* is a common associate. *Salicornia virginica* can form dense patches and *Spartina alterniflora* and *Potentilla*

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**Fire Island National Seashore**

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*anserina* often occurs as scattered clumps. *Limonium carolinianum* and *Solidago sempervirens* can occur sporadically.

**Globally**

This high salt marsh vegetation occurs along the north Atlantic coast. The most characteristic and dominant species of this marsh community are *Spartina patens*, *Distichlis spicata* and *Juncus gerardii*. Other associates include *Limonium carolinianum*, *Panicum virgatum*, *Aster tenuifolius*, *Solidago sempervirens*, and a short form of *Spartina alterniflora*. At the northern end of the range, other associates include *Carex paleacea*, *Glaux maritima*, *Juncus balticus*, *Triglochin maritima*, and *Sueda maritima*.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:** CT:S?, DE:S?, MA:S?, MD:S?, ME:S?, NH:S?, NJ:S?, NY:S?, RI:S?, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G5  
DATABASE CODE: C EGL006006  
MAP UNITS: FIIS plots 622, 55

REFERENCES:

Dowhan and Rozsa 1989  
Maine Natural Heritage Program 1991  
Nixon 1982  
Sperduto 1997

**V.A.7.N.g.1. SCHIZACHYRIUM SCOPARIUM SSP. LITTORALE SHRUB  
HERBACEOUS ALLIANCE**

Seaside Little Bluestem Shrub Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial graminoid vegetation (grassland) (V.A.)  
Physiognomic Group       Temperate or sub-polar grassland with a sparse shrub layer (V.A.7.)  
Physiognomic Subgroup   Natural/Semi-natural (V.A.5.N.)  
Formation                 Medium-tall temperate or subpolar grassland with a sparse shrub layer  
                                  (V.A.5.N.g.)

**Alliance                   SCHIZACHYRIUM SCOPARIUM SSP. LITTORALE SHRUB  
                                  HERBACEOUS ALLIANCE (V.A.7.N.g.1.)**

*Myrica pensylvanica* / *Schizachyrium scoparium* ssp. *littorale* - *Danthonia spicata* Shrub  
Herbaceous Vegetation  
Northern Bayberry / Seaside Little Bluestem - Poverty Oatgrass Shrub Herbaceous Vegetation  
*Northern Sandplain Grassland*

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CLASSIFICATION CONFIDENCE LEVEL:        2

USFS WETLAND SYSTEM:        N/A

RANGE:

***Fire Island National Seashore***

This association occurs southwest of the cemetery on the William Floyd Estate. It also occurs in small patches (<0.5 ha) in the inner more protected portions of the Wilderness Area of Fire Island.

***Globally***

North Atlantic coast of Massachusetts, Long Island New York and possibly in Rhode Island.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This sandplain grassland occurs on flat areas of loamy sand over sand and gravel outwash deposits on the William Floyd Estate, and on stabilized protected areas of the dune system on Fire Island.

***Globally***

Occurs in coastal areas on very sandy soil of outwash plains within the influence of offshore winds and salt spray. Also occurs in frost pockets.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Shrub	<i>Myrica pensylvanica</i>
Herbaceous	<i>Schizachyrium scoparium</i> ssp. <i>littorale</i> , <i>Aster spectabilis</i> , <i>Poa pratensis</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Schizachyrium scoparium</i> ssp. <i>littorale</i> , <i>Danthonia spicata</i> , and/or <i>Deschampsia flexuosa</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Schizachyrium scoparium* ssp. *littorale*, *Aster spectabilis*, *Euthamia tenuifolia*

***Globally***

*Myrica pensylvanica*, *Schizachyrium scoparium* ssp. *littorale*, *Danthonia spicata*, and/or *Deschampsia flexuosa*

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**Fire Island National Seashore**

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VEGETATION DESCRIPTION:

**Fire Island National Seashore**

At the William Floyd Estate, this coastal sandplain grassland is a patchy mosaic dominated by *Schizachyrium scoparium* with patches of *Aster spectabilis*, *Euthamia tenuifolia* and some *Panicum virgatum* and *Sorghastrum nutans*. *Poa pratensis* is common within the community, which occurs adjacent to a mowed lawn. There is a scattered short shrub layer dominated by *Myrica pensylvanica* with *Rubus flagellaris* present. The vegetation at the Floyd Estate is of human origin, but native species mimic the natural condition of this association.

At Fire Island, this vegetation occurs in small patches that are generally less than 0.5 ha in size. *Panicum virgatum* is the most characteristic species, but *Schizachyrium scoparium* occurs in several areas as well. The vegetation noted as "sand flats" by Dowhan and Rozsa (1989) is likely to be synonymous with this association. The authors list the following species as frequent as common: *Euthamia tenuifolia*, *Euthamia graminifolia*, *Solidago odora*, *Oenothera parviflora* var. *oakesiana*, *Carex silicea*, *Panicum virgatum*, *Linaria canadensis*, *Conyza canadensis*, *Aster dumosus*, *Eupatorium hyssopifolium*, *Gnaphalium obtusifolium*, and *Lactuca canadensis*. Other associates include *Bromus tectorum*, *Andropogon virginicum*, *Agrostis hyemalis*, *Danthonia spicata*, *Dichanthelium acuminatum*, *Dichanthelium sphaerocarpon*, *Juncus dichotomus*, *Chrysopsis mariana*, *Cirsium horridulum*, *Apocynum cannabinum*, *Rumex acetosella*, *Eragrostis spectabilis*, *Triplasis purpurea*, *Cyperus filiculmis*, *Polygonella articulata*, *Artemisia caudata*, and *Myrica gale*.

**Globally**

This northern coastal sand plain grassland community is usually found on very sandy soil of outwash plains within the influence of offshore winds and salt spray. Shrubs are usually present and of variable cover, and include *Arctostaphylos uva-ursi*, *Myrica pensylvanica*, *Quercus ilicifolia*, *Comptonia peregrina*, *Gaylussacia baccata* and *Vaccinium angustifolium*. Grasses collectively account for more than 50% cover and characteristically include *Schizachyrium scoparium* ssp. *littorale*, *Danthonia spicata*, and *Deschampsia flexuosa*. Other typical species include *Carex pensylvanica*, *Ionactis linariifolius*, *Solidago puberula*, *Lechea maritima*, *Aster paternus*, *Aster dumosus*, *Helianthemum dumosum*, *Juncus greenei*, *Euthamia tenuifolia* and *Rubus flagellaris*.

COMMENTS:

**Fire Island National Seashore**

This community occurs adjacent to a mowed lawn on the William Floyd Estate. On Fire Island, it occurs in very small patches that are difficult to differentiate from interdunal swales on aerial photography.

**Globally**

**States/Provinces:** MA:S?, NY:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G2 (99-12-02)

DATABASE CODE: CEG006067

MAP UNITS: FIIS plot 57

REFERENCES:

Askings 1997  
Dowhan and Rozsa 1989  
Dunwiddie 1996  
Dunwiddie and Caljouw 1990  
Dunwiddie et al. 1997  
Goldstein 1997  
Reschke 1990

**V.B.2.N.g.4. SARCOCORNIA PERENNIS - (DISTICHLIS SPICATA, SALICORNIA SPP.) TIDAL HERBACEOUS ALLIANCE ALLIANCE**

Woody Glasswort – (Salt Grass, Saltwort Species) Tidal Herbaceous Alliance

Physiognomic Class       Herbaceous Vegetation (V.)  
Physiognomic Subclass   Perennial Forb vegetation (V.B.)  
Physiognomic Group      Temperate or Subpolar Perennial Forb Vegetation (V.B.5.)  
Physiognomic Subgroup   Natural/Semi-natural (V.B.5.N.)  
Formation                 Tidal Temperate Perennial Forb Vegetation (V.B.5.N.g.)

**Alliance                   SARCOCORNIA PERENNIS – (DISTICHLIS SPICATA, SALICORNIA SPP.) TIDAL HERBACEOUS ALLIANCE (V.B.5.N.g.4)**

Sarcocornia perennis – (distichlis spicata, salicornia spp.) tidal Herbaceous Vegetation

Woody Glasswort – (Saltgrass, Saltwort Species) Tidal Herbaceous Vegetation

*Salt Panne*

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CLASSIFICATION CONFIDENCE LEVEL:       2

USFS WETLAND SYSTEM:       ESTUARINE

RANGE:

***Fire Island National Seashore***

This association occurs as small patches within the high marsh of Fire Island.

***Globally***

This association occurs within high salt marshes from New Hampshire south to Delaware.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

Salt pannes occur as small patches within the high marsh (*Spartina patens* – *Distichlis spicata* – *Plantago maritima* Herbaceous Vegetation).

***Globally***

This salt panne vegetation of the northeastern seacoast occurs in hypersaline poorly drained depressions of salt marshes. Substrate is generally poorly drained peat.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Salicornia virginica</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Salicornia virginica</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Salicornia virginica*

***Globally***

*Salicornia virginica, Sueda maritima*

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

Salt pannes of Fire Island are comprised of nearly monospecific stands of *Salicornia virginica*. *Sueda linearis* is a common associate.

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**Fire Island National Seashore**

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**Globally**

*Salicornia virginica* (= *Salicornia europaea*) is the dominant species, with associates including *Salicornia bigelovii*, *Pluchea odorata*, *Plantago maritima*, *Atriplex patula*, *Spergularia marina*, and the short form of *Spartina alterniflora*.

COMMENTS:

**Fire Island National Seashore**

**Globally**

**States/Provinces:** NH:S?, MA:S?, CT:S?, NY:S3, NJ:S?, DE:S3

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G5

DATABASE CODE: C EGL006032

MAP UNITS: FIIS (unsampled)

REFERENCES:

Bowman 2000

Breden 1989

Dowhan and Rozsa 1989

Metzler and Barrett 1986

Reshcke 1990

## VII. Sparse Vegetation

### VII.C.2.N.a.2. CAKILE EDENTULA SPARSE VEGETATION ALLIANCE

#### Sea-rocket Sparse Vegetation Alliance

Physiognomic Class	Sparse Vegetation (VII.)
Physiognomic Subclass	Unconsolidated material sparse vegetation (VII.C.)
Physiognomic Group	Temperate or sub-polar grassland with a sparse shrub layer (VII.C.2.)
Physiognomic Subgroup	Natural/Semi-natural (VII.C.2.N.)
Formation	Sand flats (VII.C.2.N.a.)

**Alliance**                                    **CAKILE EDENTULA SPARSE VEGETATION ALLIANCE  
(VII.C.2.N.a.2.)**

*Cakile edentula* ssp. *edentula* - *Chamaesyce polygonifolia* Sparse Vegetation

Sea-rocket - Northern Seaside Spurge Sparse Vegetation

*North Atlantic Upper Ocean Beach*

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CLASSIFICATION CONFIDENCE LEVEL:            2

USFS WETLAND SYSTEM:

RANGE:

***Fire Island National Seashore***

This association occurs at the wrack line on bayside beaches, and at the foot of the foredune on the oceanside of Fire Island.

***Globally***

This community occurs on the coast from southern Maine to Cape Hatteras, North Carolina.

ENVIRONMENTAL SETTING:

***Fire Island National Seashore***

This community occurs on the seaward side of primary dunes just above high tide mark.

***Globally***

This community occurs on maritime beaches that are subject to irregular tidal flooding, generally spring or storm tides in maritime settings. Vegetation cover is variable, depending on the amount of exposure to wave and wind action, but on average is sparse. Ninety-five to ninety-nine percent of the substrate is typically unvegetated sand.

MOST ABUNDANT SPECIES:

***Fire Island National Seashore***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Cakile edentula</i> ssp. <i>edentula</i> , <i>Polygonum glaucum</i> , <i>Chamaesyce polygonifolia</i>

***Globally***

<u>Stratum</u>	<u>Species</u>
Herbaceous	<i>Cakile edentula</i> ssp. <i>edentula</i>

CHARACTERISTIC SPECIES:

***Fire Island National Seashore***

*Cakile edentula* ssp. *edentula*, *Polygonum glaucum*, *Chamaesyce polygonifolia*

***Globally***

*Cakile edentula* ssp. *edentula*, *Chamaesyce polygonifolia*, *Salsola caroliniana*

VEGETATION DESCRIPTION:

***Fire Island National Seashore***

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**Fire Island National Seashore**

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This association is a sparsely vegetated community occurring on the transitional area between the foredune and beach. Species present include *Cakile edentula* ssp. *edentula*, *Polygonum glaucum*, *Chamaesyce polygonifolia*, and *Ammophila breviligulata*, but none occur at greater than 3% cover.

This association also occurs along the bayside wrack line, where Rozsa and Dowhan (1989) list the following associates as either common or frequent: *Xanthium strumarium*, *Atriplex arenaria*, *Atriplex hastata*, *Bassia hirsuta*, *Chenopodium album*, *Salsola kali*, *Sueda linearis*, with *Brassica nigra* and *Lepidium virginicum* occurring occasionally.

**Globally**

This community is sparsely vegetated on average, so no species can be considered dominant. Annual or biennial species more or less restricted to beach habitats are characteristic of this community, including *Cakile edentula* ssp. *edentula*, as well as *Salsola caroliniana*, *Chamaesyce polygonifolia*, *Honckenya peploides*, *Cenchrus tribuloides*, *Amaranthus retroflexus*, *Chenopodium album*, *Erechtites hieraciifolia*, and *Atriplex pentandra* (= *Atriplex arenaria*). Sparse *Ammophila breviligulata* is also a common associate. Diagnostic species are *Cakile edentula* ssp. *edentula*, *Salsola caroliniana*, *Atriplex pentandra*, and *Chamaesyce polygonifolia*. Ninety-five to ninety-nine percent of the substrate is typically unvegetated sand. *Amaranthus pumilus* is a globally rare species occurring in this community, but is thought to have been extirpated from a number of locations.

COMMENTS:

**Fire Island National Seashore**

This community occurs on beach area that is nesting habitat for piping plovers.

**Globally**

This community is common on maritime beaches of the Northeast, but is vulnerable to development and shifting wave action due to jetties. This community is the typical nesting habitat for piping plovers (federally threatened).

**States/Provinces:** CT:S?, DE:S?, MA:S?, MD:S?, ME:S?, NC:S?, NH:S?, NJ:S?, NY:S?, RI:S?, VA:S?

OTHER NOTEWORTHY SPECIES:

CONSERVATION RANK: G4G5  
DATABASE CODE: CEGL004400  
MAP UNITS: FIIS plots 21, 47

REFERENCES:

Baumann 1978  
Boule 1979  
Breden 1989  
Clovis 1968  
Conard 1935  
Dowhan and Rozsa 1989  
Fender 1937  
Harshberger 1900  
Higgins et al. 1971  
Hill 1986  
Jenkins 1974  
Johnson 1985  
Klotz 1986  
Maine Natural Heritage Program 1991  
McDonnell 1979  
Metzler and Barrett 1996  
Moul 1973  
Nichols 1920  
Reschke 1990  
Shreve et al. 1910  
Sperduto 1997  
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