

Rare Plants

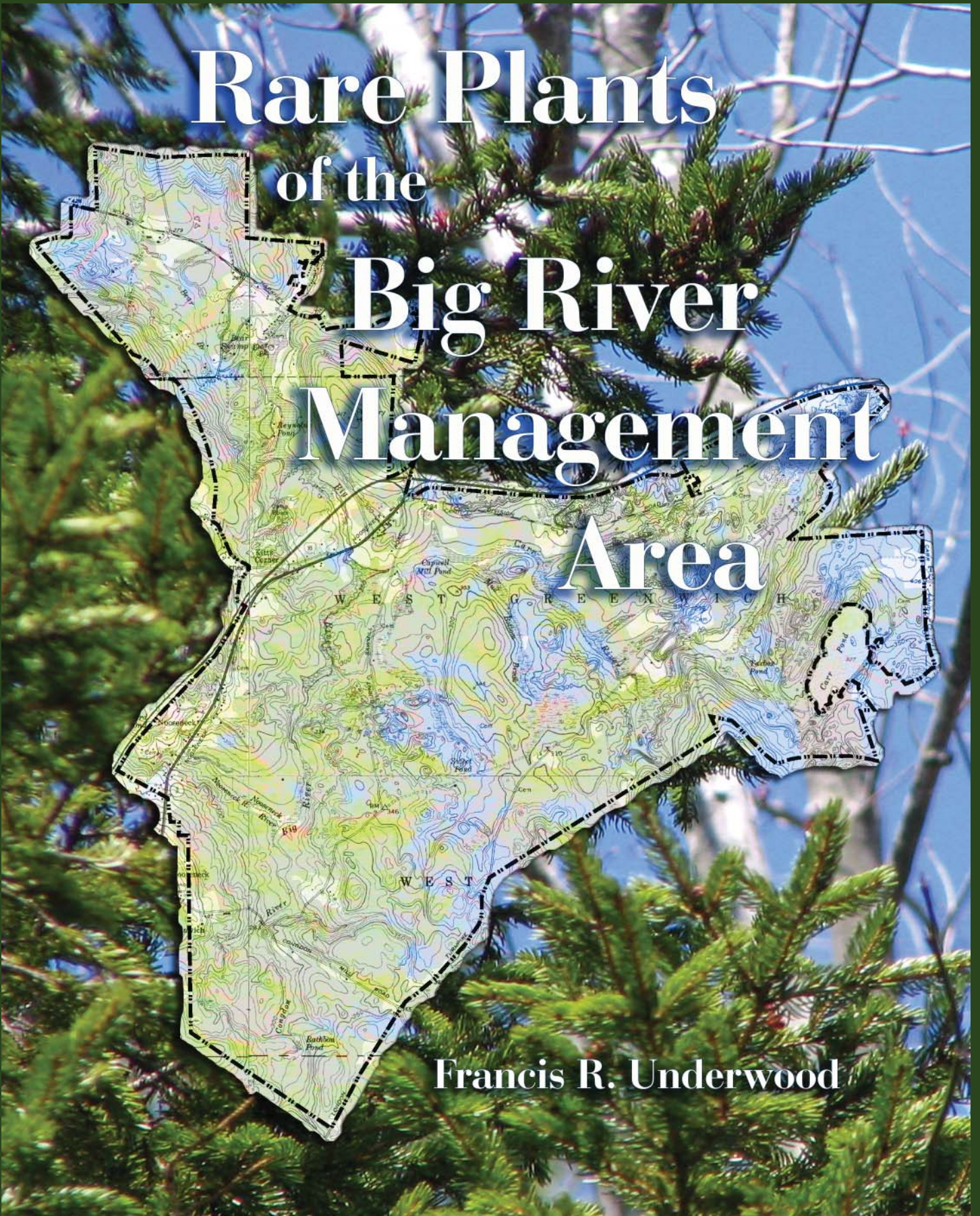
of the

Big River

Management

Area

Francis R. Underwood



**Rare Plants
of the
Big River
Management Area**

by

Francis Underwood

**October 2009
Revised 2010**



This book is dedicated to

Gil George.

Gil worked very hard to preserve and conserve the native plants of Rhode Island and he received awards from many environmental groups for his tireless efforts.

He also authored two books with annotated listings of the native plants which grow in Rhode Island and New Hampshire.

To me, Gil was a good friend and mentor and a kindred spirit. Sadly for all of us, Gil died ten years ago. He left a legacy of caring and stewardship for all of us to follow.

His labors still inspire me and many others, and I have a feeling every time I explore the fields and woods, wherever I may go, Gil is somewhere watching down and smiling.

*For all his good work and accomplishments, I want to say to him,
"Well done, dear friend, well done."*

Rare Plants of the Big River Management Area



Francis Underwood

The Big River Management Area occupies 8600 acres (13.4 square miles) in the towns of West Greenwich, Coventry, East Greenwich, and Exeter in the State of Rhode Island. In 1965 the state began condemning the land under the power of eminent domain for use as a surface water reservoir. The EPA along with many environmental groups opposed the project and the surface water reservoir never came to fruition.

This book is intended to introduce some of the plant life unique to the BRMA. Over the last several years I have conducted numerous botanical inventories on portions of the property in the management area. Photographs, habitat information and state rank are presented.

The BRMA is a haven to several state endangered plants which are found nowhere else in Rhode Island, including Variegated Horsetail, Oak Fern and Collin's Sedge. In fact BRMA is the only place in New England where Collin's Sedge occurs. Each of these plants requires a specific habitat without which it could not exist.

Flooding would destroy all life forms including plants, animals and the ecosystems in which they occur. While surface water reservoirs may be a necessity in some cases, we need to consider alternative ways of providing and maintaining an adequate supply of potable water. Conservation alone can save millions of gallons of water. Water is much too valuable a commodity to be used frivolously. It is not necessary, nor is it prudent, to use potable water for extravagant purposes such as watering lawns. Proper management, that is, wisely restricting the use of drinking water, will significantly conserve our current supply to the point where it would be unnecessary to destroy valuable ecosystems by creating more reservoirs. Some of the more fragile habitats in the BRMA are also threatened by the use of ATVs, dirt bikes and other motorized vehicles. Off road vehicles are a very real threat to rare plant species.

All photos: Francis Underwood unless otherwise noted.

2010 Addendum to Rare Plants of the Big River Management Area

Five additional species not included in the first edition of “Rare Plants of the Big River Management Area” were recently discovered there. Those species are listed below in bold print and marked with an asterisk (*) and have been added to this book.

On Friday, May 21, 2010 while botanizing in West Greenwich, RI with Kathy Barton, Hope Leeson and myself, Tom Rawinski discovered a sedge, ***Carex aquatilis var. substricta**, Water Sedge, which had never been reported from RI before. It was growing in a swamp within the Big River WMA. This sedge had been reported from every New England state except New Hampshire and Rhode Island.

This is the fourth sedge new to the flora of Rhode Island which Tom has found. Other state records of Sedges he has found are *Carex pedunculata*, Long-stalked Sedge in Scituate, *Carex styloflexa*, Bent Sedge, and *Carex debilis* var. *debilis*, both in Westerly. *C. styloflexa* is found in only two New England states, Connecticut and Rhode Island.

Our botanical expedition took us to several places in West Greenwich within the Big River WMA. All were sites for some very rare plants.

One site was in Nooseneck Hollow where Tom had recently discovered his third RI population of ***Carex polymorpha, Variable Sedge**, on a hillside of seeps. Nature Serve lists *Carex polymorpha* as globally vulnerable with populations in only ten northeastern states from N.J. to Maine. Four of these states had only one surviving population, but now RI, the smallest state, has three extant populations thanks to Tom.

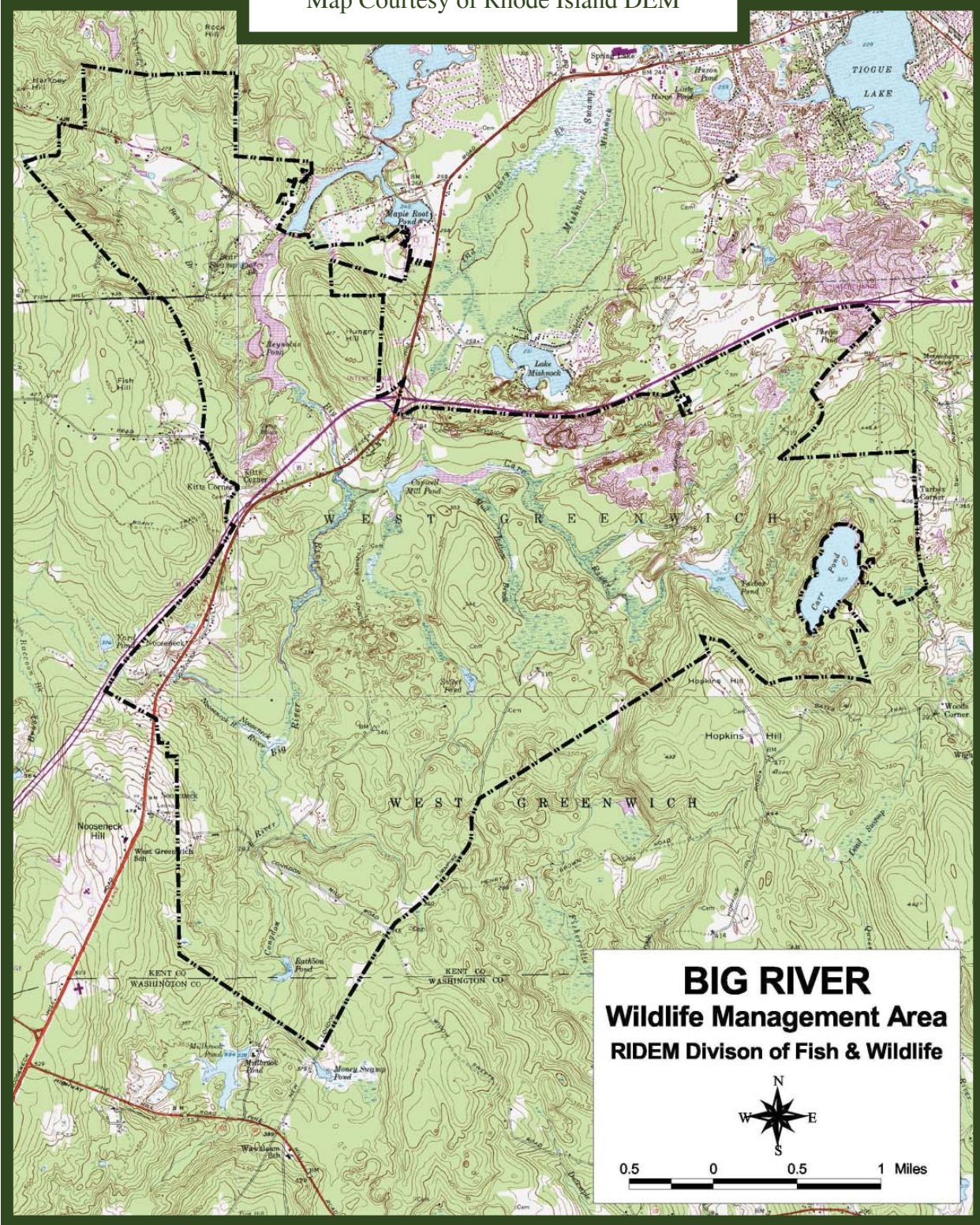
One other rare sedge seen was *Carex collinsii*. It is also growing in Big River WMA and is the only population in New England according to *Flora of North America*.

Another interesting discovery was a large population of Bunchberry, ***Cornus canadensis**, near the Big River found by Kathy Barton. Bunchberry is an uncommon plant in RI and this new population is by far the largest that I have seen in RI. Although we didn't see any of these plants in bloom, many of the plants seemed to be young seedlings which would suggest that flowering had occurred in the recent past. *Note: Bunchberry is not listed in “Rare Native Plants of RI”, September, 2007 by Richard Enser.*

Tom also discovered a population of ***Liparis loeselii**, Yellow or Bog Twayblade, near the Big River. This is the first record for this orchid within the Big River Management Area.

Other plants of interest seen were ***Lonicera dioica** (Mountain Honeysuckle), *Equisetum variegatum* (Variegated Horsetail) and *Carex scabrata* (Rough Sedge).

Map Courtesy of Rhode Island DEM



Explanation of Plant Status Rankings

State Status

- S1** 1-5 occurrences in the state
- S2** 6-20 occurrences in the state
- S3** 21-100 occurrences in the state
- S4** 101-1000 occurrences in the state

RI Rare Plant Status (used only in RI)

- SE State Endangered.** Native species in imminent danger of extirpation from Rhode Island. In general, these species have 1 or 2 known or estimated total populations in the state. Plants listed as State Endangered are protected under the provisions of the Rhode Island State Endangered Species Act, Title 20 of the General Laws of the State of Rhode Island.
- ST State Threatened.** Native species which are likely to become State Endangered in the future if current trends in habitat loss or other detrimental factors remain unchanged. In general, these species have 3-5 known or estimated populations and are especially vulnerable to habitat loss.
- SC State Concern.** Native species not considered to be State Endangered or Threatened at the present time, but are listed due to various factors of rarity and/or vulnerability.
- SH State Historical.** Native species which have been documented for Rhode Island during the last 150 years but for which there are no extant populations.



1

Botanical Name: ***Aletris farinosa***

Common Name: *Colic Root*

Family: Liliaceae (Lily Family)

Habitat: Nutrient poor, acid soils.

State Status: **S3**

RI Rare Plant Status: **SC**

Comments: Blooms in early July with white flowers on tall stalks. Basal leaves persist through winter.



2

Botanical Name: **Allium tricoccum**
Common Name: *Wild Leek*
Family: Liliaceae (Lily Family)
Habitat: Rocky streambanks and
moist woods

State Status: **S2**
RI Rare Plant Status: **SC**

Comments: Broad leaves appear in April
and disappear by late June
when flower stalks sprout.



3

Botanical Name: ***Asclepias amplexicaulis***

Common Name: *Blunt-leaved Milkweed*

Family: *Asclepiadaceae (Milkweed Family)*

Habitat: *Dry fields and sandy areas.*

State Status: **S2**

RI Rare Plant Status: **SC**

Comments: **This is the only Milkweed in Rhode Island with leaves that clasp the stem. It blooms in July.**



4

Botanical Name: ***Asclepias tuberosa***

Common Name: *Butterfly Weed*

Family: *Asclepiadaceae* (Milkweed Family)

Habitat: Dry, open areas.

State Status: **S2**

RI Rare Plant Status: **SC**

Comments: Bright orange flowers top the stems of this unusual Milkweed in mid-July.



Photo credit: kbarton

Botanical Name: **Carex aquatilis var. substricta**

Common Name: **Water Sedge**

Family: **Cyperaceae (Sedge Family)**

Habitat: **"Marshes, shallow water along shores, usually in neutral or calcareous substrates." (FNA)**

State Status: **S1**

RI Rare Plant Status: **Not included in RI Rare Plant List**

Comments: **Forms large clumps, longest bracts overtop spikes.**



6

Botanical Name: **Carex collinsii**
Common Name: *Collins' Sedge*
Family: Cyperaceae (Sedge Family)
Habitat: Red Maple swamps.

State Status: **S1**
RI Rare Plant Status: **SE**

Comments: This rare sedge was listed as historical in RI until 2002 when it was discovered in the Big River Management area.



Photo credits: kbarton

Botanical Name: **Carex polymorpha**

Common Name: *Variable Sedge*

Family: Cyperaceae (Sedge Family)

Habitat: Dry or moist woods, often in acidic soils.

State Status: **S1**

RI Rare Plant Status: **SE**

Comments: Colonial, perigynium beaked



Botanical Name: **Carex scabrata**
Common Name: *Rough Sedge*
Family: Cyperaceae (Sedge Family)
Habitat: Wooded swamps

State Status: **S2**
RI Rare Plant Status: **Not included in RI Rare Plant List**

Comments: Perigynium beaked and scabrous.



9

Botanical Name: **Coreopsis rosea**

Common Name: *Pink Tickseed*

Family: Asteraceae (Aster Family)

Habitat: Nutrient poor, wet sandy soil.

State Status: **S2**

RI Rare Plant Status: **SC**

Comments: A plant of global concern. It is vulnerable to destruction because of its limited range.



10

Photo credit: kbarton

Botanical Name: **Cornus canadensis**

Common Name: *Bunchberry*

Family: Cornaceae (Dogwood Family)

Habitat: Moist woods, often in sphagnum.

State Status: **S3**

RI Rare Plant Status: **Not included in RI Rare Plant List**

Comments: Small shrub, leaves appear whorled.



11

Botanical Name: **Cuscuta indecora**

Common Name: *Collared Dodder*

Family: Cuscutaceae (Dodder Family)

Habitat: Parasitic on *Coreopsis rosea* and other members of the Aster family.

State Status: **S1**

RI Rare Plant Status: **SE**

Comments: Collared Dodder is a new species to the RI flora. It was discovered in 2002 in the BRMA.



12

Botanical Name: **Equisetum variegatum**
Common Name: *Variegated Horsetail*
Family: Equisetaceae (Horsetail Family)
Habitat: Wet sandy soil

State Status: **S1**
RI Rare Plant Status: **SE**

Comments: There is only one known site for this species in RI. It was recently discovered.



Photo credit: Gary P. Fleming © Virginia Natural Heritage Program

Botanical Name: **Fuirena pumila**
Common Name: *Dwarf Umbrella Grass*
Family: Cyperaceae (Sedge Family)
Habitat: Wet, sandy soils at pond edges.

State Status: **S1**
RI Rare Plant Status: **SE**

Comments: This grass-like member of the sedge family is endangered in RI.



14

Botanical Name: **Goodyeara tessellata**
Common Name: *Checkered Rattlesnake-plantain*
Family: Orchidaceae (Orchid Family)
Habitat: Acid woods often under Pine trees.

State Status: **S2**
RI Rare Plant Status: —

Comments: This orchid has checkered, evergreen basal leaves. Its white flowers occur along the main stem. It blooms in July.



15

Botanical Name: **Gymnocarpium dryopteris**

Common Name: *Oak Fern*

Family: **Dryopteridaceae (Wood Fern Family)**

Habitat: **Moist woods, sometimes on mossy, damp stone walls.**

State Status: **S1**

RI Rare Plant Status: **ST**

Comments: **A very delicate fern with only one population in RI. Endangered.**



Botanical Name: **Isotria verticillata**
Common Name: *Large Whorled Pogonia*
Family: Orchidaceae (Orchid Family)
Habitat: Dry, acid woods.

State Status: **S3**
RI Rare Plant Status: —

Comments: An inconspicuous, but interesting orchid with five whorled leaves. Blooms as early as mid May.



17

Botanical Name: **Linum medium var. texanum**

Common Name: *Yellow Flax*

Family: Linaceae (Flax Family)

Habitat: Wet or dry nutrient poor sands.

State Status: **S2**

RI Rare Plant Status: **SC**

Comments: This Flax has yellow flowers which open only in sunny weather and last for just one day. Flax produces the fibers used to make linen.



18

Botanical Name: **Liparis loeselii**
Common Name: *Yellow or Bog Twayblade*
Family: **Orchidaceae (Orchid Family)**
Habitat: **Damp or wet woods.**

State Status: **S1**
RI Rare Plant Status: **ST**

Comments: **Small plant with two basal leaves, yellow flowers.**



19

Botanical Name: **Lipocarpa micrantha**

Common Name: *Smallflower Halfchaff Sedge*

Family: Lipocarpa (Sedge Family)

Habitat: Wet, sandy soils at pond edges.

State Status: **S2**

RI Rare Plant Status: **ST**

Comments: A very small, annual sedge which often occurs in large numbers. It is rare in RI.



20

Botanical Name: **Lobelia dortmanna**

Common Name: *Water Gladiole*

Family: Campanulaceae (Bluebell Family)

Habitat: Submerged in ponds near shore.

State Status: **S2**

RI Rare Plant Status: **SC**

Comments: Small violet-colored flowers on long stems bloom either above or below the surface of the water.



Botanical Name: **Lonicera dioica**
Common Name: *Mountain Honeysuckle*
Family: Caprifoliaceae (Honeysuckle Family)
Habitat: Open woods or swamps,
stream edges.

State Status: **S3**
RI Rare Plant Status: **C**

Comments: Woody climber with pale yellow
flowers



Photo credit: Jim Riley

Botanical Name: **Lonicera villosa**

Common Name: *Mountain Fly Honeysuckle,*
Waterberry.

Family: **Caprifoliaceae (Honeysuckle Family)**

Habitat: **Red Maple swamps.**

State Status: **S1**

RI Rare Plant Status: **C**

Comments: This shrub has pairs of yellow nodding flowers which bloom in late April to early May. It is very uncommon in RI.



23

Botanical Name: **Lupinus perennis**

Common Name: *Wild Lupine*

Family: Fabaceae (Bean Family)

Habitat: Pine barrens and dry open areas.

State Status: **S2**

RI Rare Plant Status: **SC**

Comments: Long spikes of blue-purple flowers are produced in mid-May to July. This is one of our most spectacular flowering plants and is a favorite target of plant thieves. It does not survive transplanting.



Botanical Name: **Lygodium palmatum**

Common Name: *Climbing Fern, Hartford Fern*

Family: Schizaeaceae (Curly-grass Fern Family)

Habitat: In moist woods often
along streambanks

State Status: **S2,S3**

RI Rare Plant Status: **SC**

Comments: An evergreen fern with large sterile leaves at bottom of vine and small fertile leaves at the top. It climbs on twigs and branches.



25

Botanical Name: ***Picea mariana***
Common Name: *Black Spruce*
Family: Pinaceae (Pine Family)
Habitat: Cool bogs.

State Status: **S2**
RI Rare Plant Status: **SC**

Comments: RI is near the southern limit for this usually northern spruce tree. It sometimes is host to a parasitic plant called Dwarf Mistletoe.



26

Botanical Name: **Pityopsis falcata**
Common Name: *Sickle-leaved Golden Aster*
Family: Asteraceae (Aster Family)
Habitat: Dry, open, sandy areas.

State Status: **S3**
RI Rare Plant Status: **SC**

Comments: Thrives in sandy, open areas.
The main threats to this
plant are its restricted range
of occurrence and habitat
destruction.



27

Botanical Name: **Platanthera clavellata**
Common Name: *Small Green Woodland Orchid*
Family: Orchidaceae (Orchid Family)
Habitat: Wet woods and swampy areas.

State Status: **S4**
RI Rare Plant Status: —

Comments: A very small orchid which
blooms from mid-July to August
Flowers are whitish-green



28

Botanical Name: **Platantthera lacera**
Common Name: *Ragged-fringed Orchid*
Family: Orchidaceae (Orchid Family)
Habitat: Swampy areas and sometimes
dry fields.

State Status: **S4**
RI Rare Plant Status: **SC**

Comments: This orchid has deeply fringed lips giving it a ragged appearance. The flowers are greenish-white.



29

Botanical Name: **Platanthera psychodes**
Common Name: *Small Purple-fringed Orchid*
Family: Orchidaceae (Orchid Family)
Habitat: Swampy areas.

State Status: **S3**
RI Rare Plant Status: **SC**

Comments: One of the most striking of Rhode Island's orchids, it blooms in late July to August. It has long spikes of rose-purple flowers with fringed lips.



30

Botanical Name: **Pogonia ophioglossoides**
Common Name: *Rose Pogonia Orchid*
Family: Orchidaceae (Orchid Family)
Habitat: Moist open fields and
sphagnum bogs.

State Status: **S3**
RI Rare Plant Status: —

Comments: Flowers are pink. A very rare white-flowered form occurs in RI.



31

Botanical Name: **Polygala verticillata**
Common Name: *Whorled Milkwort*
Family: Polygalaceae (Milkwort Family)
Habitat: Dry fields.

State Status: **S2**
RI Rare Plant Status: **SC**

Comments: Flowers are yellowish white.
The leaves are whorled which
means they encircle the stem.



32

Botanical Name: **Rotala ramosior**
Common Name: *Toothcup*
Family: Lythraceae (Loosestrifes)
Habitat: Edges of ponds and
very wet gravels.

State Status: **S1**
RI Rare Plant Status: **SE**

Comments: This small plant is endangered
in RI. One population in East
Greenwich was destroyed
recently by the town.



33

Botanical Name: **Sagittaria graminea**
Common Name: *Grass-leaved Arrowhead*
Family: Alismataceae (Water-Plantain Family)
Habitat: Edges of ponds.

State Status: **S2**
RI Rare Plant Status: **SC**

Comments: This small plant has white flowers with three petals and long narrow leaves.



34

Botanical Name: **Sarracenia purpurea**

Common Name: *Pitcher Plant*

Family: Sarraceniaceae (Pitcher Plant Family)

Habitat: Sphagnum bogs and wet fields.

State Status: **S3, S4**

RI Rare Plant Status: —

Comments: Downward pointing hairs trap insects that venture into the pitchers. Pitcher plants use these insects to obtain nutrients.



Botanical Name: **Spiranthes vernalis**
Common Name: *Spring Ladies'-tresses*
Family: Orchidaceae (Orchid Family)
Habitat: Dry fields.

State Status: **S2**
RI Rare Plant Status: **SC**

Comments: The name Spring Ladies'
tresses is a misnomer. This
orchid blooms in July.



36

Botanical Name: **Tephrosia virginiana**

Common Name: *Goat's- rue*

Family: Fabaceae (Bean Family)

Habitat: Pine barrens and old fields..

State Status: **S2**

RI Rare Plant Status: **SC**

Comments: The pea-like flowers are large and showy, pink and yellowish- white in color.



37

Botanical Name: **Woodwardia areolata**
Common Name: *Netted Chain Fern*
Family: **Blechnaceae (Chain Fern Family)**
Habitat: **Moist woods.**

State Status: **S2**
RI Rare Plant Status: —

Comments: **An uncommon fern with separate sterile and fertile fronds. It resembles the more common Sensitive Fern.**

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2009

Revised 2010