

**THE VASCULAR FLORA OF  
PETIT MANAN NATIONAL WILDLIFE REFUGE  
SEAL ISLAND, MAINE**



**MARCH, 2004**

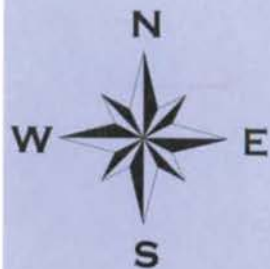
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## INTRODUCTION

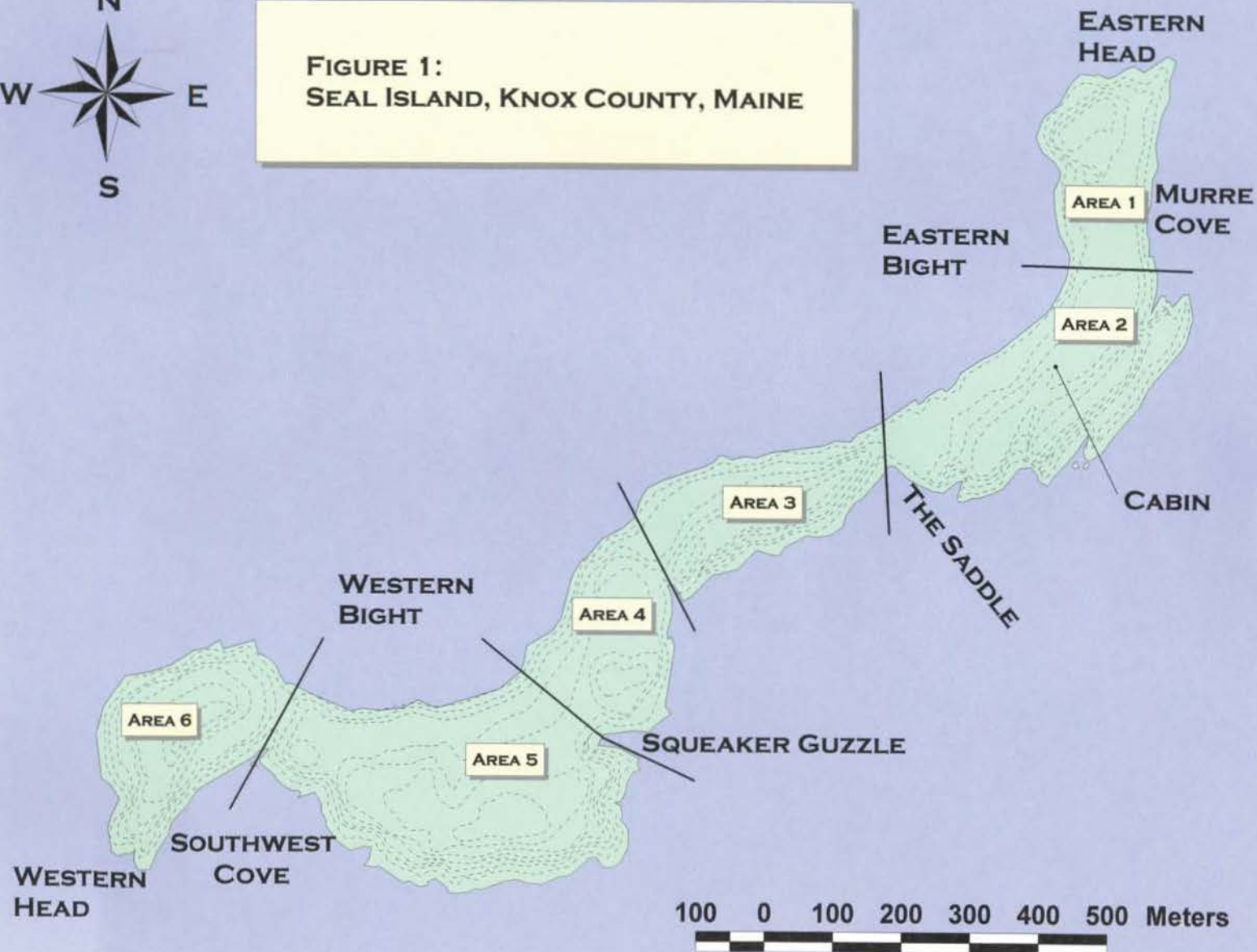
Biological inventories of protected areas are essential for assessing a reserve's conservation value, developing long-term monitoring and stewardship strategies, and for protecting rare or unique habitats (Johnson et al. 1984, Likens 1989, Goldsmith 1991). Species lists of distinct areas compiled at regular intervals can also provide valuable data on changes in the presence of native and introduced species and can contribute to our knowledge of biogeography, dispersal, and speciation (Wielgolaski 1975, Treshow 1984).

Plants and animals living on islands in the Gulf of Maine are influenced by cold water currents, the prevalence of fog in summer, salt spray, and strong cold winds that typically occur off the coast of Maine (Conkling 1999). Along the outer islands, this results in harsh environmental conditions similar to those in more arctic regions (Hill 1919). These conditions, although too extreme for some plant species found on the mainland, give rise to a group of Arctic species of plants that typically exist much farther north such as Seaside Lungwort (*Mertensia maritima* (L.) S.F. Gray), Marsh Felwort (*Lomatogonium rotatum* (L.) Fries ex Fern.), and Roseroot Stonecrop (*Rhodiola rosea* L.). Because of their unique physiography and habitats, numerous rare plant taxa are confined to or exist primarily on offshore islands in the Penobscot Bay region (Hill 1919, 1923).

Seal Island (Maine Coastal Island Registry Number 63-923) is a 38.7 ha (95.5 acre) island located 15 km offshore of Isle au Haut and Penobscot Bays and is under the jurisdiction of Petit Manan National Wildlife Refuge (Figure 1). An unpublished inventory of vascular plants was conducted on Seal Island in the late 1970s by Dave Folger, although after extensive searches, the complete report could not be located. Folgers original collections from Seal Island were discovered in the herbarium at College of the Atlantic along with an annotated list of plants for the island (Folger 1980). In addition, a second unpublished list of vascular plants was discovered based on fieldwork on the northeastern portion of Seal Island during 1985 (Rappaport 1985); no plant collections were discovered in New England herbaria based on this fieldwork. Gregory (1989) conducted a botanical inventory of Wooden Ball Island, an island directly



**FIGURE 1:**  
**SEAL ISLAND, KNOX COUNTY, MAINE**



adjacent to and of similar size to Seal Island. There is evidence of historic botanical work on islands adjacent to Seal Island (particularly Matinicus Rock and Matinicus Island) as numerous vouchers of plants were found scattered among herbaria in New England.

The primary objectives of this study were to compile a comprehensive list of vascular plant species for Seal Island and record relative abundances of species on the island.

## **METHODS**

During botanical fieldwork, I conducted non-systematic searches for vascular plants in all habitats. I surveyed the perimeter of the island on foot, and searched portions of each habitat in the interior of the island. Special attention was given to unusual habitats as sources of additional species.

Standard regional manuals of vascular plants were used for identification of specimens, particularly Haines and Vining (1998, 2001), Fernald (1950), Magee and Ahles (1999), Hinds (2000), and Gleason and Cronquist (1991). Identifications of species were made primarily in the field, however, some specimens were collected for identification back in the lab. Identifications of difficult taxa were verified by S. Rooney and other taxonomic specialists.

All nomenclature follows that of Haines and Vining (1998, 2001). Voucher specimens were mounted on acid-free paper and are deposited in the herbarium at Petit Manan National Wildlife Refuge headquarters in Milbridge, Maine.

Photos were taken with a Sony MVC-CD250 digital camera. Copies of all photos taken on Seal Island during the 2003 season are on file at Petit Manan National Wildlife Headquarters.

Transportation to and from Seal Island was kindly provided by John Drury.

## **RESULTS AND DISCUSSION**

### *Habitat Description*

Seal Island is a 38.7 ha island located in the Gulf of Maine about 15 km southeast of Isle au Haut (Figure 1). Other islands in the vicinity include Wooden Ball Island 5.5 km to the southeast, Matinicus Rock 13 km to the southeast, and Ragged Island and



Matinicus Island about 12 km to the southeast. The island has a long history of human use that includes its use as a bombing range during World War II.

Seal Island is 2 km long and 0.3 km wide at its widest point (Figure 1). The shoreline is a mix of granite ledge and boulder or cobble beaches (Plates 58-60). Cobble beaches are present along the northern shoreline in Eastern and Western Bights. The interior of the island is a mix of exposed bedrock and shallow soil (Plates 61-63). The portion of the island called The Saddle (Figure 1) is primarily low granite ledge (Plate 60) and it is likely that storm waves occasionally scrub this area. Small wetlands (Plates 64-68) are primarily restricted to the middle portion of the island in Areas 2 and 3 (Figure 1). These wetlands are often shallow depressions in the granite with little or no soil accumulation in the depressions (Plate 65). The largest wetland is near the cabin (Plate 66); this area is regularly visited by many birds. The interior of the island has many granite outcrops and gently sloping meadows (Plates 69-72). Patches of dense tall vegetation that approach 2 m in height are present in Area 5 west of Squeaker Guzzle (Plate 72) and in the western portion of Area 2 (Plate 70). A fire in the late 1970s on the island burned a large patch of ground in Area 5, although evidence of this fire has long since been hidden. The island is mostly treeless except for a few small trembling aspen trees in the field in Area 5. Much of the vegetation on the island is under 1 m tall.

### *Vascular Flora*

I conducted 10 days of fieldwork on Seal Island during 2003: 25-27 June, 23-26 July, and 27-29 August. During these field efforts, 121 taxa of vascular plants in 90 genera were discovered (Table 1). Thirty-four (28%) of the taxa observed on Seal Island are considered non-native to Maine. Twenty-five vouchers were deposited at the herbarium at Petit Manan National Wildlife Refuge. None of the species recorded on Seal Island are currently recognized as rare plants in Maine.

Six species previously verified on Seal Island were not observed during the 2003 growing season, despite extensive searches. Dry Land Bittercress (*Cardamine parviflora* L. var. *arenicola* (Britt.) O.E. Schulz) was collected from Seal Island on 19 June 1980 by Bill Drury and the voucher is at the herbarium at College of the Atlantic. This species is very small and easily overlooked. I suspect that this species is still present on Seal

Island. Slender Wheatgrass (*Elymus trachycaulus* (Link) Gould ex Shinners) was collected from the south shore of Seal Island on 15 August 1984 by Dave Folger and the voucher is at the herbarium at College of the Atlantic. Because this species is similar to Quack Grass (*Elymus repens* (L.) Gould) except under magnification in the lab, it seems likely that this species is still present on the island. In addition, Saltmarsh Wheatgrass (*Thynopyrum pycnanthum* (Godr.) Barkworth.) was also collected on the island on 1 August 1979 by Bill Drury and the voucher is at the herbarium at College of the Atlantic. This species is superficially similar to Quack Grass and may have been overlooked. Fireweed (*Epilobium angustifolium* L.) was collected in the burned field on the island during July and August of 1979 and the vouchers are at the herbarium at College of the Atlantic. This species is easily dispersed to new areas and often springs up in recently burned patches. I did not find any stems growing on Seal Island during the 2003 growing season, but suspect the species would appear if appropriate habitat opened up. Grass-leaved Goldenrod (*Euthamia graminifolia* (L.) Nutt. var. *nuttallii* (Greene) W. Stone) was collected on 10 August 1984 by Dave Folger and noted as uncommon and widely dispersed in the burned meadow. This voucher is now at the herbarium at College of the Atlantic. I made extensive searches through the meadow on Area 5, but did not find any Grass-leaved Goldenrods growing. It is possible that an isolated patch was growing but was not discovered. Star-flowered False Solomon's Seal (*Maianthemum stellatum* (L.) Link) was collected from a field near water on the island by Dave Folger on 31 July 1979 and this voucher is at the herbarium at College of the Atlantic. Despite extensive searches throughout the island, I was not able to relocate this species on the island.

The vegetation of Seal Island is composed primarily of dense grasses and forbs and these are especially dense on inland areas from Squeaker Guzzle to Western Head. Scattered and dwarfed stems of Trembling Aspen west of Squeaker Guzzle are the only trees found on the island. Small patches of woody shrubs less than 1 m tall are scattered over the interior of the island, and include Black Crowberry (*Empetrum nigrum* L.), Common Juniper (*Juniperus communis* L. var. *depressa* Pursh; Plate 32), Creeping Juniper (*Juniperus horizontalis* Moench; Plate 33), Northern Bayberry (*Myrica pensylvanica* Loisel.), Purple Chokeberry (*Photinia x floribunda* (Lindl.) Robertson & Phipps), Bristly Gooseberry (*Ribes hirtellum* Michx.), and Low Sweet Blueberry

(*Vaccinium angustifolium* Ait.; Plate 57). Wild Red Raspberry (*Rubus idaeus*) is surprisingly uncommon on the island with the most abundant patch located on the western side of Western Head.

On the north end of the island, a narrow band of salt tolerant species skirt the shoreline above the intertidal zone and contain many plants not located elsewhere on the island. Some dominant species in this narrow band include Sea Beach Angelica (*Angelica ludica* L.; Plates 4-5), Hedge-bindweed (*Calystegia sepium* (L.) R. Br.), Seabeach Sandwort (*Honckenya peploides* (L.) Ehrh. ssp. *robusta* (Fern.) Hulten; Plates 28-29), Toad Rush (*Juncus bufonius*), Beach-pea (*Lathyrus japonicus* Willd. var. *pellitus* Fern.), Seaside Plantain (*Plantago maritima* L. var. *juncoides* (Lam.) Gray), Box Knotweed (*Polygonum buxiforme* Small), Wild Radish (*Raphanus raphanistrum* L.; Plate 41), Bittersweet Nightshade (*Solanum dulcamara* L. var. *villosissimum* Desv.), Seaside Goldenrod (*Solidago sempervirens* L.), and Saltmarsh Sand Spurrey (*Spergularia salina*). Other less dominant plants growing in this zone include Common Yarrow (*Achillea millefolium* L. var. *millefolium*; Plate 1), Common Ragweed (*Ambrosia artemisiifolia* L. var. *elatiior* (L.) Descourtils), Spearscale (*Atriplex prostrata* Boucher ex DC.; Plate 9), Sea Rocket (*Cakile edentula* (Bigelow) Hook.), Pigweed (*Chenopodium album* L.), Spring Cleavers (*Galium aparine* L.; Plate 21), Cow-parsnip (*Heracleum maximum* Bartr.; Plates 23-24), Black Grass (*Juncus gerardii* Loisel.), Sea Lyme grass (*Leymus mollis* (Trin.) Hara), Scotch-lovage (*Ligusticum scoticum* L.; Plate 36), Birdseye (*Sagina procumbens* L.), and Field Sow-thistle (*Sonchus arvensis* L. ssp. *arvensis*).

The dominant grasses of the interior of the island vary depending on location but include Creeping Bentgrass (*Agrostis stolonifera* L.), Canada Bluejoint (*Calamagrostis canadensis* (Michx.) Beauv.), Common Hairgrass (*Deschampsia flexuosa* (L.) Trin.), Quack Grass (*Elymus repens* (L.) Gould), Red Fescue (*Festuca rubra* L.), Foxtail Barley (*Hordeum jubatum* L.; Plate 30), Timothy (*Phleum pratense* L.), and Kentucky Bluegrass (*Poa pratensis* L. ssp. *pratensis*). Associated with these grasses are numerous forbs and the most common are Field Chickweed (*Cerastium arvense* L.; Plate 15), Wild Strawberry (*Fragaria virginiana* Duchesne ssp. *virginiana*), Grove Sandwort (*Moehringia lateriflora* (L.) Fenzl), Yellow Rattle (*Rhinanthus minor* L.; Plate 42),

Sheep sorrel (*Rumex acetosella* L.; Plate 45), New York Aster (*Symphyotrichum novi-belgii* (L.) Nesom var. *novi-belgii*), and White Clover (*Trifolium repens* L.).

There were numerous species reported by Folger (1980) or Rappaport (1985) for Seal Island that are not currently included in the current list of plants for the island because of a lack of a verifying voucher. Many of these taxa were likely mis-identified originally and should be considered false records for the island, however, if additional fieldwork is conducted on Seal Island, additional searches should focus on the following species: Common Yarrow (*Achillea millefolium* L. var. *borealis* (Bong.) Farw.), Redtop (*Agrostis gigantea* Roth), Daisy-leaved Moonwort (*Botrychium matricariifolium* (Doll) A. Braun ex Koch), Cuckoo Flower (*Cardamine pratensis* L.), Pointed Broom Sedge (*Carex scoparia* Schkuhr ex Willd.), Tinged Sedge (*Carex tinctoria*), Bull Thistle (*Cirsium vulgare* (Savi) Ten.), Hay-scented Fern (*Dennstaedtia punctilobula* (Michx.) T. Moore), Spinulose Wood Fern (*Dryopteris carthusiana* (Vill.) H.P. Fuchs), Sheep Fescue (*Festuca ovina* L.), Panicked Hawkweed (*Hieracium paniculatum* L.), Canada Bluegrass (*Poa compressa* L.), Leathery Knotweed (*Polygonum achoreum* Blake), Prostrate Knotweed (*Polygonum aviculare* L.), Swamp Red Currant (*Ribes triste* Pallas), Tall Goldenrod (*Solidago altissima* L.), Purple-stemmed Aster (*Symphyotrichum puniceum* (L.) A. & D. Love), New York Fern (*Thelypteris noveboracensis* (L.) Nieuwl.), and Sweet Violet (*Viola odorata* L.).



Table 1. Vascular flora of Seal Island, Maine, 2003. Species arranged alphabetically by scientific name. Collection numbers are given in parentheses for vouchers deposited in the herbarium at Petit Manan National Wildlife Refuge. Non-native species are noted with an 'I' in the status. To summarize abundance of species on the island, common plants were considered species that were widespread and occurring in large numbers in commonly encountered habitats; occasional plants were considered species that are sporadic or scattered in suitable habitats; uncommon plants were considered species that occur infrequently in common habitats or more frequently in uncommon habitats; and rare plants were considered species that were usually restricted to small areas, specialized habitats, or consisted of one or a few populations.

Species	Common Name	Status	Description
<i>Achillea millefolium</i> L. var. <i>millefolium</i>	Common Yarrow	I	Common; Areas 1-6; commonly scattered everywhere on the island, most abundant on the northern tip and interior of Eastern Head and the southern shore of Area 5; <b>Plate 1.</b>
<i>Agrostis capillaris</i> L.	Rhode Island Bentgrass	I	Uncommon; Area 5; west of the cobble beach in Western Bight in Area 5.
<i>Agrostis scabra</i> Willd.	Ticklegrass		Uncommon; Area 6; north side of Western Head along the shore.
<i>Agrostis stolonifera</i> L.	Creeping Bentgrass	I	Occasional; Areas 2-5; inland areas adjacent to Eastern Bight, north end of island on cobble beach in Western Bight, and north of Squeaker Guzzle; (GHM#886b).
<i>Allium schoenoprasum</i> L.	Chives		Uncommon; Area 6; currently restricted to the western side of Western Head; in the 1980s, this species was reported scattered over more of the island (Folger 1980); (GHM#865); <b>Plate 2.</b>
<i>Ambrosia artemisiifolia</i> L. var. <i>artemisiifolia</i>	Common Ragweed		Uncommon; Area 1; west side of Eastern Head near shore.
<i>Ambrosia artemisiifolia</i> L. var. <i>elatio</i> (L.) Descourtils	Common Ragweed		Common; Areas 1-6; common in patches throughout the island.

Table 1. Continued.

Species	Common Name	Status	Description
<i>Ammophila breviligulata</i> Fern.	Beach Grass		Uncommon; Area 5; scattered on top of dry ridge between Southwest Cove and Squeaker Guzzle and in the interior of Area 5; (GHM#968); <b>Plate 3.</b>
<i>Angelica lucida</i> L.	Sea Beach Angelica		Occasional, Areas 1-6; scattered in patches along shorelines and adjacent to wet areas in the interior of the island; <b>Plates 4 &amp; 5.</b>
<i>Argentina egedii</i> (Wormsk.) Rydb. ssp. <i>groenlandica</i> (Tratt.) A. Love	Coastal Silverweed		Occasional; Areas 1-6; scattered throughout the island in suitable habitat; <b>Plates 6 &amp; 7.</b>
<i>Athyrium filix-femina</i> (L.) Roth ex Mertens var. <i>angustum</i> (Willd.) Lawson	Lady Fern		Uncommon; Areas 2 and 5; growing in middle of grassy field in Area 5 and on the eastern end of the island.
<i>Atriplex glabriuscula</i> Edmondston	Spearscale		Uncommon; Areas 2-5; growing on the north shore of the island in scattered locations; also present in the low gully between Areas 5 and 6; (GHM#975); <b>Plate 8.</b>
<i>Atriplex prostrata</i> Boucher ex DC.	Spearscale	I	Occasional; Areas 1-6; scattered locations throughout the island; most common along the shorelines; (GHM#963); <b>Plate 9.</b>
<i>Bidens frondosa</i> L.	Devil's Beggar Ticks		Rare; Area 5; couple of stems in the gully between Areas 5 and 6.
<i>Bolboschoenus maritimus</i> (L.) Palla ssp. <i>paludosus</i> (A. Nels.) T. Koyama	Saltmarsh Bulrush		Occasional; Areas 2-6; growing in many of the wetlands scattered throughout the island; (GHM#884b); <b>Plate 10.</b>
<i>Cakile edentula</i> (Bigelow) Hook.	Sea Rocket		Uncommon; Areas 1-6; scattered along the shorelines on the island.
<i>Calamagrostis canadensis</i> (Michx.) Beauv.	Canada Bluejoint		Occasional; Areas 1-2 and 4-6; common in the fields throughout the island with sufficient soil depth.
<i>Calystegia sepium</i> (L.) R. Br.	Hedge-bindweed		Occasional; Areas 1-6; scattered along the shores and thickets on the island; most common on the cobble beach in Eastern Bight; <b>Plate 11.</b>

Table 1. Continued.

Species	Common Name	Status	Description
<i>Campanula rotundifolia</i> L.	Harebell		Uncommon; Areas 1-2 and 4-6; scattered patches throughout island although not common in any one location; <b>Plate 12.</b>
<i>Capsella bursa-pastoris</i> (L.) Medik.	Shepherd's Purse	I	Uncommon, Areas 1-2 and 5-6; scattered stems on the eastern and western end of the island along the shoreline and at inland locations; <b>Plate 13.</b>
<i>Cardamine parviflora</i> L. var. <i>arenicola</i> (Britt.) O.E. Schulz	Dry Land Bitter-cress		Rare; not relocated during 2003 field efforts; voucher at College of the Atlantic Herbarium was collected on 19 June 1980 by Bill Drury; no specific details regarding collection location were given.
<i>Carex hormathodes</i> Fern.	Marsh Straw Sedge		Occasional; Areas 1-2 and 4-6; numerous stems scattered throughout island near shorelines or wetland areas; (GHM#902).
<i>Carex paleacea</i> Schreb. ex Wahlenb.	Scaly Sedge		Occasional; Areas 1-6; patches scattered throughout island near shorelines or wetland areas; <b>Plate 14.</b>
<i>Cerastium arvense</i> L.	Field Chickweed		Common; Areas 1-2 and 4-6; scattered patches in suitable habitat; especially abundant on Eastern Head, south of the cabin, and in inland areas of Area 5; <b>Plate 15.</b>
<i>Cerastium fontanum</i> Baumg. ssp. <i>vulgare</i> (Hartman) Greuter & Burdet	Common Mouse-ear Chickweed	I	Uncommon; Areas 2 and 6; observed on the western side of Western Head and the cobble beach area north of the cabin; <b>Plate 16.</b>
<i>Chenopodium album</i> L.	Pigweed	I	Uncommon; Areas 1-2 and 5; scattered stems, often along shorelines; present on the eastern side of Eastern Head, the cobble beach north of the cabin, and on the cobble beach on the northern end of Area 5.
<i>Cirsium discolor</i> (Muhl. ex Willd.) Spreng.	Field Thistle		Rare; Areas 4 and 5; scattered stems in Areas 4 and 5, generally in dry habitats; <b>Plates 17 &amp; 18.</b>
<i>Cirsium muticum</i> Michx.	Swamp Thistle		Rare; Areas 2 and 5; growing in wet areas near the shore north of the cabin and in the eastern end of the field in Area 5; (GHM#896).

Table 1. Continued.

Species	Common Name	Status	Description
<i>Cuscuta gronovii</i> Willd. Ex J.A. Schultes	Common Dodder		Uncommon; Areas 1-6; growing in scattered locations throughout the island, although nowhere in abundance.
<i>Deschampsia flexuosa</i> (L.) Trin.	Common Hairgrass		Occasional; Areas 1-2 and 4-6; scattered throughout island in shallow soils and on hill slopes; most common on the western side of Western Head.
<i>Eleocharis uniglumis</i> (Link) J.A. Schultes	Saltmarsh Spike-rush		Uncommon; Areas 2-4; dense clumps in some wetlands near the center of the island; (GHM#891b); <b>Plate 19.</b>
<i>Elymus repens</i> (L.) Gould	Quack Grass	I	Occasional; Areas 2 and 5-6; scattered patches near shoreline; (GHM#905).
<i>Elymus trachycaulus</i> (Link) Gould ex Shinnars	Slender Wheatgrass		Rare; not relocated during fieldwork during 2003; voucher at College of the Atlantic Herbarium was collected on 15 August 1984 by Dave Folger growing on the south side of the island along the edge of vegetation.
<i>Elymus virginicus</i> L. var. <i>jejunus</i> (Ramaley) Bush	Virginia Wild Rye		Uncommon; Area 1; growing in the middle of Eastern Head; (GHM#950).
<i>Empetrum nigrum</i> L.	Black Crowberry		Uncommon; Areas 1-2; growing in a small patch west of the cabin and in inland areas of Eastern Head.
<i>Epilobium angustifolium</i> L.	Fireweed		Rare; not relocated during fieldwork during 2003; two vouchers at College of the Atlantic Herbarium were collected from an area on the island recently burned; one was collected on 27 July 1979 by Dave Folger and one was collected on 18 August 1979 by Bill Drury.
<i>Epilobium ciliatum</i> Raf. ssp. <i>glandulosum</i> (Lehm.) Hoch & Raven	American Willow-herb		Uncommon; Areas 1-2 and 4-6; scattered along the shoreline and in wet areas throughout the island; <b>Plate 20.</b>

Table 1. Continued.

Species	Common Name	Status	Description
<i>Euphrasia randii</i>	Rand's Eyebright		Uncommon; Areas 1-2 and 4-6; Uncommon; scattered in small patches throughout island.
<i>Euthamia graminifolia</i> (L.) Nutt. var. <i>nuttallii</i> (Greene) W. Stone	Grass-leaved Goldenrod		Rare; not relocated during fieldwork during 2003; voucher at College of the Atlantic Herbarium was collected on 10 August 1984 by Dave Folger and was noted as uncommon and widely dispersed in the burned meadow.
<i>Festuca rubra</i> L.	Red Fescue		Uncommon; Areas 1-6; scattered throughout the island in shallow soils; especially common in the drier areas of Area 3.
<i>Fragaria virginiana</i> Duchesne ssp. <i>virginiana</i>	Wild Strawberry		Occasional; Areas 1-2 and 4-6; scattered throughout island in suitable habitat; especially common on the west side of Western Head and along the southern shore of Area 5.
<i>Galium aparine</i> L.	Spring Cleavers		Uncommon; Areas 2-6; scattered along the cobble shoreline on the north side of the island; also present on the west side of Western Head; <b>Plate 21.</b>
<i>Galium trifidum</i> L.	Northern Three-lobed Bedstraw		Uncommon; Area 2; growing in a crack under a ledge south of the cabin near the shore and inland of Eastern Bight next to a small seepage area; (GHM#888b); <b>Plate 22.</b>
<i>Heracleum maximum</i> Bartr.	Cow-parsnip		Uncommon; Area 2; large patch growing adjacent to the cobble beach north of the cabin; (GHM#859); <b>Plates 23 &amp; 24.</b>
<i>Hieracium caespitosum</i> Dumort.	Yellow King Devil	I	Uncommon, Areas 4-5; growing near the ridge of the island just west of Squeaker Guzzle; also growing in area 4 in shallow soil north of Squeaker Guzzle; (GHM#860); <b>Plates 25 &amp; 26.</b>
<i>Hieracium pilosella</i> L. var. <i>pilosella</i>	Mouse-ear Hawkweed	I	Uncommon; Areas 4-5; growing in inland area northeast of Southwest Cove and on north side of Area 4; <b>Plate 27.</b>



Table 1. Continued.

Species	Common Name	Status	Description
<i>Honckenya peploides</i> (L.) Ehrh. ssp. <i>robusta</i> (Fern.) Hultén	Sea-beach Sandwort		Occasional; Areas 1-3 and 5-6; growing along the northern shoreline of island; most common on the cobble beach north of the cabin and the cobble beach adjacent to the Western Bight; <b>Plates 28 &amp; 29.</b>
<i>Hordeum jubatum</i> L.	Foxtail Barley		Occasional; Areas 1-6; commonly found in cracks between ledges in moist soil; most common at wet areas in Area 3; <b>Plate 30.</b>
<i>Impatiens capensis</i> Meerb.	Orange Touch-me-not		Uncommon; Areas 1-2 and 5-6; scattered near shore and adjacent to wet seeps; nice patch east of large wetland by the cabin; <b>Plate 31.</b>
<i>Iris versicolor</i> L.	Northern Blue flag		Uncommon; Areas 2 and 4-6; small scattered patches in moist soils.
<i>Juncus bufonius</i> L.	Toad Rush		Occasional, Areas 1-6; scattered throughout the island; most abundant along shorelines.
<i>Juncus gerardii</i> Loisel.	Black-grass		Uncommon; Areas 1, 3, and 5-6; scattered along the shorelines including the northern shore of Area 5 and the eastern side of Eastern Head.
<i>Juniperus communis</i> L. var. <i>depressa</i> Pursh	Common Juniper		Uncommon; Areas 1 and 4-6; Small patches scattered on the island including a few stems in the vicinity of Squeaker Guzzle, one stem on the southeastern side of Western Head, and small patches on the western side of Eastern Head; <b>Plate 32.</b>
<i>Juniperus horizontalis</i> Moench	Creeping Juniper		Occasional; Areas 1-2 and 4-6; common in patches on the island; most common on Eastern Head; <b>Plate 33.</b>
<i>Lactuca biennis</i> (Moench) Fern.	Tall Blue Lettuce		Uncommon; Areas 2 and 5; growing in the grassy field in Area 5 and scattered near the shore north of the cabin.
<i>Lathyrus japonicus</i> Willd. var. <i>pellitus</i> Fern.	Beach-pea		Occasional; Areas 1-6; scattered throughout island; most common on the northern shore of Area 5.

Table 1. Continued.

Species	Common Name	Status	Description
<i>Lathyrus palustris</i> L.	Marsh-pea		Uncommon; Areas 4-5; growing in along the cobble beach adjacent to the Western Bight; common in spots in area west of Squeaker Cove; (GHM#857); <b>Plates 34 &amp; 35.</b>
<i>Leymus mollis</i> (Trin.) Hara	Sea Lyme-grass		Uncommon; Areas 1-2 and 5; small patches on beaches on the northern part of the island and the western side of Eastern Head.
<i>Ligusticum scothicum</i> L.	Scotch-lovage		Occasional; Areas 1-6; scattered throughout island in suitable habitat; <b>Plate 36.</b>
<i>Maianthemum stellatum</i> (L.) Link	Star-flowered False Solomon's Seal		Rare; not relocated during field work during 2003; voucher at College of the Atlantic Herbarium was collected on 31 July 1979 by Dave Folger and noted as growing in field near water in shade.
<i>Matricaria discoidea</i> DC.	Pineapple-weed	I	Uncommon; Areas 1-2 and 5-6; scattered in suitable habitat throughout the island; <b>Plate 37.</b>
<i>Moehringia lateriflora</i> (L.) Fenzl	Grove Sandwort		Occasional; Areas 1-2 and 4-6; scattered throughout the island in suitable habitat.
<i>Myrica pensylvanica</i> Loisel.	Northern Bayberry		Uncommon; Areas 2, 4, and 6; few stems on Western Head, present near Squeaker Guzzle, and the southern end of Area 2.
<i>Osmunda cinnamomea</i> L.	Cinnamon Fern		Rare; Area 5; one patch adjacent to the Western Bight shoreline.
<i>Persicaria maculosa</i> S.F. Gray	Lady's Thumb	I	Uncommon; Areas 3 and 5-6; scattered stems on island; not common anywhere.
<i>Phleum pratense</i> L.	Timothy	I	Occasional; Areas 1-2 and 4-6; scattered and patchy on island; most common on north shore of Area 5.
<i>Photinia x floribunda</i> (Lindl.) Robertson & Phipps	Purple Chokeberry		Uncommon; Area 1; present in the interior of Eastern Head.

Table 1. Continued.

Species	Common Name	Status	Description
<i>Plantago major</i> L. var. <i>intermedia</i> (DC.) Pilger	Common Plantain	I	Rare; Area 1; growing on the western side of Eastern Head.
<i>Plantago maritima</i> L. var. <i>juncooides</i> (Lam.) Gray	Seaside Plantain		Occasional; Areas 1-6; scattered along the shore in suitable habitat.
<i>Platanthera grandiflora</i> (Bigelow) Lindl.	Large Purple-fringed Orchid		Rare; Areas 4-5; two small patches of a few stems each in the Squeaker Guzzle area, not collected; <b>Plates 38 &amp; 39.</b>
<i>Poa palustris</i> L.	Fowl Meadowgrass		Uncommon; Areas 1 and 6; present on the southern end of Western Head and in moist soil on Eastern Head.
<i>Poa pratensis</i> L. ssp. <i>pratensis</i>	Kentucky Bluegrass	I	Occasional; Areas 1-6; scattered in shallow soil across the island.
<i>Polygonum buxiforme</i> Small	Box Knotweed		Occasional; Areas 1-6; common in cracks in ledges and shallow soil throughout island; most common along shorelines and especially in The Saddle area; (GHM#971).
<i>Populus tremuloides</i> Michx.	Quaking Aspen		Uncommon; Area 5; about 30 live stems in area west of Squeaker Guzzle.
<i>Potentilla norvegica</i> L.	Rough Cinquefoil		Uncommon; Areas 1-2 and 4-6; scattered on well-drained mineral soils throughout island.
<i>Prenanthes trifoliolata</i> (Cass.) Fern.	Gall of the Earth		Rare; Area 6; few stems present on the summit and the southern end of Western Head.
<i>Puccinellia tenella</i> (Lange) Holmb. ssp. <i>alascana</i> (Scribn. & Merr.) Tzvelev	Alkali-grass		Uncommon; Areas 2-3; observed growing in cracks in ledges in the area of The Saddle; likely present over more of the shorelines on the island but overlooked.
<i>Ranunculus cymbalaria</i> Pursh	Seaside Crowfoot		Rare; Areas 2 and 6; few stems growing on the southeast side of Western Head in a wet area near the shore and in an area southeast of the cabin; <b>Plate 40.</b>

Table 1. Continued.

Species	Common Name	Status	Description
<i>Raphanus raphanistrum</i> L.	Wild Radish	I	Occasional; Areas 1-3 and 5-6; growing on the northern shoreline of the island in occasional dense patches; also on the western side of Western Head and the western side of Eastern Head; <b>Plate 41.</b>
<i>Rhinanthus minor</i> L.	Yellow Rattle		Occasional; Areas 1-2 and 4-6; scattered patches throughout island, nowhere in great abundance; <b>Plate 42.</b>
<i>Rhodiola rosea</i> L.	Roseroot;		Common; Areas 1-6; scattered stems throughout much of island; <b>Plate 43.</b>
<i>Ribes hirtellum</i> Michx.	Bristly Gooseberry		Uncommon; Areas 1-2 and 5-6; scattered patches in deeper soil on island.
<i>Rosa rugosa</i> Thunb.	Salt Spray Rose	I	Rare; Area 5; 1 plant growing on north shore of Area 5; <b>Plate 44.</b>
<i>Rosa virginiana</i> P. Mill. var. <i>lamprophylla</i> Rehd.	Virginia Rose		Uncommon; Area 5; dwarfed specimens growing along the shore in Area 5.
<i>Rosa virginiana</i> P. Mill. var. <i>virginiana</i>	Virginia Rose		Occasional; Areas 1-2 and 4-6; scattered over much of island; especially common on Eastern Head.
<i>Rubus idaeus</i> L. ssp. <i>strigosus</i> (Michx.) Focke	Red Raspberry	I	Uncommon; Areas 1-2 and 5-6; scattered in small patches on the island, most abundant on the western side of Western Head.
<i>Rumex acetosella</i> L.	Sheep Sorrel	I	Occasional; Areas 1-2 and 4-6; commonly found in scattered patches on thin well-drained soils on the island; <b>Plate 45.</b>
<i>Rumex crispus</i> L.	Curly Dock	I	Occasional; Areas 1-6; scattered throughout island in suitable habitat.
<i>Rumex longifolius</i> DC.	Long-leaved Dock	I	Uncommon; Areas 1 and 5-6; growing on the western side of Eastern Head and the southern shoreline of Area 5 and Western Head; (GHM#967).

Table 1. Continued.

Species	Common Name	Status	Description
<i>Rumex orbiculatus</i> Gray	Great Water Dock		Uncommon; Areas 2-5; growing in wet soil often near standing water; (GHM#965).
<i>Rumex pallidus</i> Bigelow	Seabeach Dock		Occasional; Areas 1-6; scattered throughout island; most common on the northern tip of Eastern Head; (GHM#892); <b>Plate 46.</b>
<i>Rumex patientia</i> L.	Patience Dock	I	Uncommon; Areas 1-2; scattered on the northern and western side of Eastern Head and north of the cabin near the shore; (GHM#948).
<i>Sagina procumbens</i> L.	Birdseye		Uncommon; Areas 1-2 and 5-6; multiple small patches along the shoreline.
<i>Schoenoplectus tabernaemontanii</i> (Gmel.) Palla	Softstem Bulrush		Uncommon; Areas 1-2 and 4-5; growing in wet areas where present on island; (GHM#895); <b>Plate 47.</b>
<i>Scutellaria galericulata</i> L.	Marsh Skullcap		Uncommon; Area 5; growing along the cobble beach adjacent to the Western Bight; <b>Plate 48.</b>
<i>Sedum acre</i> L.	Golden Carpet	I	Uncommon; Areas 4 and 6; patches scattered on Western Head and also in the interior of Area 4 northeast of Squeaker Guzzle; <b>Plate 49.</b>
<i>Sisyrinchium montanum</i> Greene var. <i>crebrum</i> Fern.	Blue-eyed Grass		Uncommon; Areas 2 and 5-6; scattered on the island in open areas with thin soil.
<i>Solanum dulcamara</i> L. var. <i>villosissimum</i> Desv.	Bittersweet Nightshade	I	Occasional; Areas 1-6; scattered on island in moist soil or in boulder areas on shore.
<i>Solidago canadensis</i> L.	Canada Goldenrod		Rare; Area 5; growing in the large grassy field in Area 5.
<i>Solidago rugosa</i> P. Mill. ssp. <i>rugosa</i> var. <i>rugosa</i>	Rough-stemmed Goldenrod		Uncommon; Area 5; scattered stems on the western end of Area 5.
<i>Solidago sempervirens</i> L.	Seaside Goldenrod		Occasional; Areas 1-6; scattered patches along the shoreline.



Table 1. Continued.

Species	Common Name	Status	Description
<i>Sonchus arvensis</i> L. ssp. <i>arvensis</i>	Field Sow-thistle	I	Uncommon; Areas 1-2 and 5; one small patch scattered in Area 5; most abundant on the east end of the cobble beach north of the cabin.
<i>Sonchus asper</i> (L.) Hill	Spiny-leaved Sow-thistle	I	Uncommon; Area 2; few stems growing in the vicinity of the cabin.
<i>Sonchus oleraceus</i> L.	Common Sow-thistle	I	Common; Areas 1-6; most common on the open ledge area of The Saddle; commonly scattered along the shoreline on the ledges; (GHM#854); <b>Plates 50 &amp; 51.</b>
<i>Spartina pectinata</i> Link	Fresh Water Cordgrass		Rare; Area 5; growing adjacent to the shore of Western Bight in a wet seepage area.
<i>Spergularia rubra</i> (L.) J.&K. Presl	Roadside Sand Spurrey	I	Uncommon; Areas 1-2 and 5-6; scattered in dry rocky areas or in cracks in ledge on island; Note the 6-10 stamens visible in the flowers; (GHM#861); <b>Plate 52.</b>
<i>Spergularia salina</i> J. & K. Presl	Saltmarsh Sand Spurrey	I	Occasional; Areas 1-6; scattered on island; most common in cracks in ledge in The Saddle area and the area between Western Head and Area 5; Note the 2-5 stamens visible in the flowers; (GHM#969).
<i>Stellaria media</i> (L.) Vill.	Common Chickweed	I	Occasional; Areas 1-6; scattered along entire shoreline and occasionally inland; <b>Plate 53.</b>
<i>Symphyotrichum novi-belgii</i> (L.) Nesom var. <i>novi-belgii</i>	New York Aster		Occasional, Areas 1-6; scattered throughout the island in various habitats.
<i>Taraxacum officinale</i> Wiggers ssp. <i>officinale</i>	Common Dandelion	I	Uncommon; Areas 2 and 5-6; scattered patches on the island.
<i>Teucrium canadense</i> L. var. <i>virginicum</i> (L.) Eat.	American Germander		Uncommon; Area 2; one patch growing north of cabin behind the cobble beach; (GHM#976); <b>Plate 54.</b>
<i>Thalictrum pubescens</i> Pursh	Tall Meadow-rue		Uncommon; Area 2; large patch north of cabin in a wet seep.

Table 1. Continued.

Species	Common Name	Status	Description
<i>Thynopyrum pycnanthum</i> (Godr.) Barkworth. [formerly <i>Elymus</i> <i>pycnanthus</i> (Godr.) Melderis]	Saltmarsh Wheatgrass		Rare; not relocated during 2003 field efforts; voucher at College of the Atlantic Herbarium was collected on 1 August 1979 by Bill Drury on the island; no specific details regarding collection location were given.
<i>Toxicodendron radicans</i> (L.) Kuntze	Poison-ivy		Rare; Area 6; 1 large patch on the western side of Western Head; <b>Plate 55</b> .
<i>Trifolium pratense</i> L.	Red Clover	I	Rare; Area 2; 1 small patch in a wet seep north of the cabin.
<i>Trifolium repens</i> L.	White Clover	I	Occasional; Areas 1-2 and 5-6; scattered patches on the eastern and western portion of the island.
<i>Typha latifolia</i> L.	Common Cat-tail		Uncommon; Areas 2 and 5; growing in a small wetland between The Saddle and the cabin and also growing on the northern shore of Area 5; <b>Plate 56</b> .
<i>Urtica dioica</i> L. ssp. <i>dioica</i>	Stinging Nettle	I	Uncommon; Areas 2 and 5-6; growing on the cobble beach north of the cabin and adjacent to the Western Bight shoreline.
<i>Vaccinium angustifolium</i> Ait.	Low Sweet Blueberry		Uncommon; Areas 4-6; scattered small patches on the western side of island; <b>Plate 57</b> .
<i>Vaccinium macrocarpon</i> Ait.	Large cranberry		Rare; Area 4; a very small patch growing on the northwestern end of Area 4.
<i>Viola sororia</i> Willd.	Dooryard Violet		Uncommon; Areas 2 and 5; growing on the northern and southern portion of Area 5 and in the interior of Area 2 east of the grassy field.

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**VASCULAR PLANTS ON SEAL ISLAND**  
**SUMMER 2003**  
**PHOTOS BY G. MITTELHAUSER**

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**PLATE 1:** *Achillea millefolium*  
L. var. *millefolium* - Common  
Yarrow; southern portion of island  
near Squeaker Guzzle; 26 June  
2003.



**PLATE 2:** *Allium schoenoprasum*  
L. - Chives; western side of West-  
ern Head; 26 June 2003.



**PLATE 3:** *Ammophila breviligulata* Fern. - Beach  
Grass; east of Western Head on top of dry ridge; 28  
August 2003.





**PLATE 4:** *Angelica lucida* L.- Sea Beach Angelica; shoreline adjacent to the Western Bight; 25 June 2003.



**PLATE 5:** *Angelica lucida* L.- Sea Beach Angelica; shoreline adjacent to the Western Bight; 25 June 2003.



**PLATE 6:** *Argentina egedii* (Wormsk.) Rydb. ssp. *groenlandica* (Tratt.) A. Love - Coastal Silverweed; south shore of island southwest of cabin; 25 June 2003.



**PLATE 7:** *Argentina egedii* (Wormsk.) Rydb. ssp. *groenlandica* (Tratt.) A. Love - Coastal Silverweed; south shore of island southwest of cabin; 25 June 2003.



**PLATE 8:** *Atriplex glabriuscula* Edmondston - Spearscale; north side of island just west of The Saddle; note bracts toward tip of inflorescence; 28 August 2003.



**PLATE 9:** *Atriplex prostrata* Boucher ex DC. - Spearscale; south end of the island west of Squeaker Guzzle; 28 August 2003.





**PLATE 10:** *Bolboschoenus maritimus* (L.) Palla ssp. *paludosus* (A. Nels.) T. Koyama.- Saltmarsh Bulrush; growing in a wetland on the northern portion of the island north of Squeaker Guzzle; 23 July 2003.



**PLATE 11:** *Calystegia sepium* (L.) R. Br.- Wild-morning Glory; north end of island west of The Saddle area; 23 July 2003.



**PLATE 12:** *Campanula rotundifolia* L.- Harebell; east of Western Head near southern shore of island; 24 July 2003.



**PLATE 13:** *Capsella bursa-pastoris* (L.) Medik. - Shepherd's Purse; west side of Western Head near the shoreline; 26 June 2003.



**PLATE 14:** *Carex paleacea* Schreb. ex Wahlenb. - Scaly Sedge; near north shore west of The Saddle; 25 June 2003.



**PLATE 15:** *Cerastium arvense* L. - Field Chickweed; southwest of Squeaker Guzzle over thin soil; 26 June 2003.





**PLATE 16:** *Cerastium fontanum*  
Baumg. ssp. *vulgare* (Hartman)  
Greuter & Burdet - Common Mouse-  
ear Chickweed; south shore between  
Southwest Cove and Squeaker  
Guzzle; 26 June 2003.



**PLATE 17:** *Cirsium discolor* (Muhl.  
ex Willd.) Spreng. - Field Thistle;  
northwest of Squeaker Guzzle; 24  
July 2003.



**PLATE 18:** *Cirsium discolor* (Muhl.  
ex Willd.) Spreng. - Field Thistle;  
northwest of Squeaker Guzzle; 24  
July 2003.





**PLATE 19:** *Eleocharis uniglumis* (Link) J.A. Schultes - Spike-Rush; west of Eastern Head near the cliffs on the southern end of the island; 25 July 2003.



**PLATE 20:** *Epilobium ciliatum* Raf. ssp. *glandulosum* (Lehm.) Hoch & Raven - American Willow Herb; east side of Western Head; 26 June 2003.



**PLATE 21:** *Galium aparine* L. - Spring Cleavers; near the northern shoreline of island between Eastern Bight and Western Bight; 23 July 2003.



**PLATE 22:** *Galium trifidum* L. - Northern Three-lobed Bedstraw; growing adjacent to large boulder just west of the cabin; 23 July 2003.



**PLATE 23:** *Heracleum maximum* Bartr. - Cow-parsnip; near shore in the Eastern Bight area north of the cabin; 26 June 2003.



**PLATE 24:** *Heracleum maximum* Bartr. - Cow-parsnip; near shore in the Eastern Bight area north of the cabin; 26 June 2003.





**PLATE 25:** *Hieracium caespitosum* Dumort. - Yellow King Devil; north of the Squeaker Guzzle area; 27 June 2003.



**PLATE 26:** *Hieracium caespitosum* Dumort. - Yellow King Devil; north of the Squeaker Guzzle area; 27 June 2003.



**PLATE 27:** *Hieracium pilosella* L. var. *pilosella* - Mouse-ear Hawkweed; slightly east of Western Head; 25 June 2003.



**PLATE 28:** *Honcckenia peploides* (L.) Ehrh. ssp. *robusta* (Fern.) Hulten - Northern Bugleweed; cobble beach in the Eastern Bight, on shoreline; 25 June 2003.



**PLATE 29:** *Honcckenia peploides* (L.) Ehrh. ssp. *robusta* (Fern.) Hulten - Northern Bugleweed; cobble beach in the Eastern Bight, on shoreline; 25 June 2003.



**PLATE 30:** *Hordeum jubatum* L. - Foxtail Barley; west of the cabin near The Saddle; 23 July 2003.





**PLATE 31:** *Impatiens capensis* Meerb. - Spotted Touch-me-not; east side of Eastern Head in wet area; 27 August 2003.



**PLATE 32:** *Juniperus communis* L. var. *depressa* Pursh - Common Juniper; on hill near Squeaker Guzzle; 26 June 2003.



**PLATE 33:** *Juniperus horizontalis* Moench - Creeping Juniper; on hill near Squeaker Guzzle; 26 June 2003.



**PLATE 34:** *Lathyrus palustris* L. - Marsh-pea; east of Western Head in inland area; 25 June 2003.



**PLATE 35:** *Lathyrus palustris* L. - Marsh-pea; close-up of stipules; east of Western Head in inland area; 25 June 2003.



**PLATE 36:** *Ligusticum scoticum* L. - Scotch-lovage; west of The Saddle; 23 July 2003.





**PLATE 37:** *Matricaria discoidea* DC. - Pineapple-weed; east side of Western Head near shoreline; 26 June 2003.



**PLATE 38:** *Platanthera grandiflora* (Bigelow) Lindl. - Large Purple-fringed Orchid; small patch north-northeast of Squeaker Guzzle near the northern portion of the island; 24 July 2003.



**PLATE 39:** *Platanthera grandiflora* (Bigelow) Lindl. - Large Purple-fringed Orchid; small patch 75 m west of Squeaker Guzzle; 25 July 2003.



**PLATE 40:** *Ranunculus cymbalaria* Pursh - Seaside Crowfoot; east side of Western Head near shoreline; 26 June 2003.



**PLATE 41:** *Raphanus raphanistrum* L. - Wild Radish; north side of island, shoreline of Western Bight; 25 June 2003.



**PLATE 42:** *Rhinanthus minor* L. - Yellow Rattle; adjacent to cabin; 26 June 2003.





**PLATE 43:** *Rhodiola rosea* L. -  
Roseroot Stonecrop; in the vicinity of  
The Saddle; 25 June 2003.



**PLATE 44:** *Rosa rugosa* Thunb. -  
Salt Spray Rose; shoreline of Western  
Bight; 24 July 2003.



**PLATE 45:** *Rumex acetosella* L. -  
Red Sorrel; west side of Western  
Head; 26 June 2003.





**PLATE 46:** *Rumex pallidus* Bigelow  
- Seabeach Dock; between Squeaker  
Guzzle and The Saddle, interior  
portion of the island; 23 July 2003.



**PLATE 47:** *Schoenoplectus  
tabernaemontanii* (Gmel.) Palla -  
Softstem Bulrush; very small wet area  
north of Squeaker Guzzle; 24 July  
2003.



**PLATE 48:** *Scutellaria galericulata*  
L. - Marsh Skullcap; cobble beach  
along the Western Bight shoreline; 24  
July 2003.



**PLATE 49:** *Sedum acre* L.- Golden Carpet; eastern portion of Western Head; 26 June 2003.



**PLATE 50:** *Sonchus oleraceus* L. - Common Sow-thistle; between cabin the The Saddle area; 25 June 2003.



**PLATE 51:** *Sonchus oleraceus* L. - Common Sow-thistle; leaf base, between cabin the The Saddle area; 25 June 2003.





**PLATE 52:** *Spergularia rubra* (L.)  
J. & K. Presl - Roadside Sand  
Spurrey; note 6-9 stamens; dry-rocky  
area near middle of island west of  
Squeaker Guzzle; 26 June 2003.



**PLATE 53:** *Stellaria media* (L.) Vill.  
- Common Chickweed; near shore-  
line south of cabin area; 26 June  
2003.



**PLATE 54:** *Teucrium canadense* L. var. *virginicum* (L.) Eat. -  
American Germander; near shoreline north of cabin; 29 August  
2003.





**PLATE 55:** *Toxicodendron radicans* (L.) Kuntze - Poison-ivy; northwest side of Western Head; 26 June 2003.



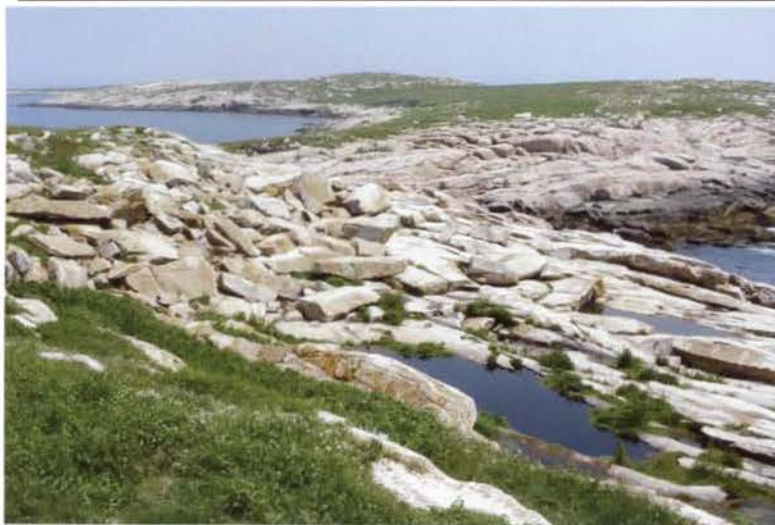
**PLATE 56:** *Typha latifolia* L. - Broad-leaved Cat-tail; wetland between the cabin and The Saddle area; 23 July 2003..



**PLATE 57:** *Vaccinium angustifolium* Ait. - Low Sweet Blueberry; north-east side of Western Head; 26 June 2003.

**HABITATS AND SCENERY ON SEAL ISLAND**  
**SUMMER 2003**  
**PHOTOS BY G. MITTELHAUSER**

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**PLATE 58:** Summit of Western Head looking towards the east; 26 June 2003.



**PLATE 59:** North tip of Western Head, view of Western Bight beach; 26 June 2003.



**PLATE 60:** View across The Saddle area looking towards the east; 25 June 2003.





**PLATE 61:** Summit of hill by Squeaker Guzzle looking towards the east down the island; 25 July 2003.



**PLATE 62:** Summit of hill by Squeaker Guzzle looking towards the west down the island; 25 July 2003.



**PLATE 63:** Southern shoreline of island from Squeaker Guzzle overlook looking towards the east; 25 July 2003.



**PLATE 64:** Near summit of Western Head looking towards the east along the Southwest Cove shoreline; 26 June 2003.



**PLATE 65:** Small wetland perched over Squeaker Guzzle; 25 July 2003.



**PLATE 66:** Large wetland by cabin; 25 July 2003.





**PLATE 67:** Wetland near shore on eastern side of Western Head; 26 June 2003.



**PLATE 68:** Wetland near the northern shore of island north of Squeaker Guzzle; 26 June 2003.



**PLATE 69:** View of typical vegetation from hill by Squeaker Guzzle; 25 July 2003.



**PLATE 70:** Eastern Head; 25 July 2003.



**PLATE 71:** Ridge south of cabin looking towards the east; 25 July 2003.



**PLATE 72:** Western Head; 26 June 2003.