

New England Botanical Club – Minutes of the 951st Meeting

1 October 1999 Prepared by Dr. Paul Somers, Recording Secretary

The 724th meeting of the New England Botanical Club, being the 951st since its original organization, met on Friday, October 1, 1999 at the University of Rhode Island's Ranger Hall in Kingston, Rhode Island with 20 members and guests present.

Vice President Lisa Standley welcomed everyone to the meeting, most of whom had attended the afternoon's field trip to Worden Pond. The reading of the minutes by Paul Somers was followed by a few comments by Les Mehrhoff on a memorial service held in honor of Dr. William Niering. Les reported that as a tribute to Bill's dedication to field botany and ecology, he was interred not only with his academic robes but with a set of field clothes equipped with notepad and pencil. Lisa then announced the publication of the long awaited *Flora of the Northeast* by Dennis W. Magee and Harry E. Ahles (deceased) and the speaker for the next meeting, Bruce Sorrie. The introduction of the evening speaker was done by Les Mehrhoff.

Rick Enser, State Botanist with the Rhode Island Natural Heritage Program, presented a slide lecture entitled "The Flora of Block Island, Rhode Island." Introducing his talk, Enser explained that in his overview of Block Island's flora, he would attempt to answer three questions about the island: how it came to be, what habitat types are present, and what factors are influencing the current vegetation and flora? Addressing the first question, he stated that Block Island's flora and fauna relate to the island's glacial history. The island is a product of glaciation, resulting from an ice sheet pushing up ocean sediments consisting primarily of clay to form much of the island's mass and characteristic bluffs. Glacial till and debris cap the sediments in places and bedrock is absent. The 6030-acre island is about 4.5 miles wide at its widest point. Using maps of the coastal islands and the continental shelf as they appeared following the retreat of the glaciers, he suggested that the flora and fauna of Block Island became isolated from the mainland about 8-9000 YBP (years before present), much earlier than occurred on Martha's Vineyard and Nantucket, which he dated at about 4000 YBP. This long isolation, he feels, is a primary reason for the depauperate flora and fauna on the island relative to some other islands of its size in the region. The indigenous fauna of the island, he pointed out, includes only two mammals, four amphibians, and six reptiles. Another reason suggested for the depauperate biota is the island's lack of a glacial outwash-plain.

Documentation of the early flora and vegetation of the island is limited. Livermore, in 1875, cited historic records from the 1600's about certain trees being used as boundary markers and surmised from this that forest must have been present on the island previously, even though it and the boundary trees were absent by his time. Pollen and wood fragment data suggest that a deciduous forest was once present on the island, too. From the time of the Revolutionary War to the present, the island has been largely an open, agricultural landscape grazed by livestock such as horses, cows, and sheep. Early botanical exploration by James W. Robbins in 1829 documented two Rhode Island records, *Arenaria caroliniana* and *Hydrocotyle verticillata*, not seen since on the island. Other botanical explorers of the island to follow were Henri Young, Stephen T. Olney, and William W. Bailey. In an 1893 article in the *Bulletin of the Torrey Botanical Club*, Bailey reported an island flora of 294 species. An interesting record by Bailey

was *Ranunculus cymbalaria*, which he described as abundant around the perimeter of Great Salt Pond. This once-brackish pond has since been permanently breached and the buttercup can no longer be found there, Enser said. Botanists following on Bailey's heels included Arthur Hollick, James F. Collins, and M.L. Fernald. Interestingly, in 1913, Fernald was the first to collect *Liatris scariosa* var. *novae-angliae* on Block Island. "Could this conspicuous species have been overlooked by the earlier botanists?" Enser asked. Grazing by livestock and deer, he added, is now widespread on the island and threatens this species and others. Fenced exclosures are being used by conservationists to protect selected sites for the species. Some species such as *Platanthera lacera*, he suspects, are gone because of the heavy deer browsing activity. Despite some losses, the number of species documented for the island has increased to around 760, Enser said, but primarily because of intensive exploration and the increase in the number of nonindigenous species present. Block Island's flora includes most of the region's most invasive taxa, and Enser estimated that about 30% of its current flora is introduced. *Populus alba*, for instance, was introduced about 1850 and now has dense colonies established about the island.

Habitats on the island include extensive dunes; salt flats and marshes; freshwater ponds; sedge meadows; shrub thickets; inland shrub communities dominated by *Viburnum dentatum*, *Myrica pensylvanica*, and *Amelanchier* spp.; managed open grasslands used for grazing and hay fields; and a depression area with a pocket of forest possessing *Nyssa sylvatica* and *Fagus grandifolia*. Also in this depression are the island's only woodland wildflowers such *Maianthemum canadense*, first found by Fernald, and *Anemone quinquefolia*, discovered for the first time on the island only a couple of years ago. Perhaps the most important plant community on the island in Enser's eyes are small areas of open moraine with maritime grasses and herbs, located on slopes and tops of knolls. Here, indigenous species prevail and rare plant taxa for the island and state persist. In these areas one can find *Liatris*, *Helianthemum dumosum*, *Aristida purpurascens*, and *Chrysopsis mariana*.

In closing remarks, Enser said that the future for natural vegetation on the island appears dim despite 25% of the land base being in conservation management. Nonindigenous species, including many invasive species, comprise more than 50% of the island's vegetative cover, and development pressures for additional housing and recreation are on the rise.

October 1999 Field Trips. On Friday afternoon, preceding the Club's evening meeting, about 15-16 enthusiastic club members and friends explored the south shoreline of Worden Pond in South Kingstown, Rhode Island, led by Rick Enser. The water level was relatively low, so walking was mainly on mudflats among beds of exposed wetland plants that are typically emergent from standing water. The area was scoured for plants, both familiar and new. Dominant species included *Juncus militaris*, *Euthamia tenuifolia*, and *Gratiola aurea*. Locally dense patches of basal rosettes belonging to *Sabatia kennedyana* could be found below the taller vegetation, but not a single flowering stem was seen; it was suspected that this was, in part, because of two successive high-water years. Some of the more uncommon finds of the day were occasional fruiting stems of *Ludwigia sphaerocarpa*, a plant or two of *Glyceria obtusa* bearing dense panicles of long spikelets, and a few clumps of *Rhynchospora macrostachya*. Aquatic finds included *Elatine minima* and *Vallisneria americana*, the latter possessing mature fruits attached to elongated scapes, coiled as they do following anthesis.

On Saturday, a small group of 8-10 Club members, led by Dr. Keith Killingbeck of the University of Rhode Island and by Rick Enser, toured Ell Pond in Hopkinton, Rhode Island. The site is owned by The Nature Conservancy and is the only designated National Natural Landmark in Rhode Island. The vertical relief of the site surprised many as we scrambled upward along a trail of granitic bedrock and boulders. Alongside the trail we examined a mature, mixed hardwood/conifer forest where we found *Chamaecyparis thyoides*, *Pinus strobus*, *Tsuga canadensis* (some infested with hemlock adelgid), *Nyssa sylvatica*, *Pinus rigida*, *Quercus coccinea*, and *Q. prinus*: an uncommon mixture of species characteristic of either wet, mesic, or dry, well-drained sites. Another special feature of the site was the abundance of *Rhododendron maximum* in the understory, giving one the feeling of being in the Southern Appalachians. The group could not resist a quick foray to the edge of Ell Pond where some typical bog species such as *Rhynchospora alba*, *Vaccinium macrocarpon*, *V. oxycoccos*, and *Sarracenia purpurea* were seen on a narrow *Sphagnum* mat that edged the pond.