



# Native Plant Quest- Identifying and Mapping the Locations of Native Trees, Shrubs, and Perennials Along the Marginal Way.

Written by Shawn Jalbert  
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## Background

The Marginal Way trail is being assaulted by an invasion of non-native shrubs and vines. A relatively new occurrence, black swallowwort vine (*Cynanchum louiseae*), is spreading at an alarming pace. Morrow's honeysuckle shrub (*Lonicera morrowii*) and bittersweet vine (*Celastrus orbiculatus*) are now occupying the majority of growing space along this coastal trail. Native shrubs are in the minority and herbaceous native perennials, in particular, are in a losing battle against the non-native invaders. Much is at stake; markedly increased maintenance is needed to keep bullish non-native vegetative growth from choking off the path, adding more pressure to an already stressed municipal budget. As native plants are displaced, whole communities unravel, leaving birds, insects, and mammals without food and shelter. As caretakers, we have the responsibility, and most importantly, *the ability*, to take corrective action. We need not sit idly by watching this place of beauty turn into a bland monoculture of invasive plants.

## Objective

Our *long term* primary objective is to *manage* the invasive shrubs and vines along the Marginal Way and to encourage and restore native plant communities.

Initial control efforts will be directed toward specific areas along the Marginal Way with significant native plant communities. Prioritizing targeted locations along the Way makes the best use of labor and resources. Liberating the entire length of the Marginal Way by eliminating invasive plants is simply not realistic. We need to take a time sensitive approach to saving the native plants that have managed to survive this onslaught. Once the defense perimeter around these carefully selected areas has proven effective, we can move outward, up and down the Way, with tested restoration methods.

## Findings

During the summer of 2014, non-native and native plants growing along the trail were identified and are presented in Table 1. Haine's *Flora Novae Angliae* (2011) was used for identification and naming of plant material. It should be noted that an exhaustive inventory of all plants growing along the Way was not the intent of this project. Significant stands of individual native plants and native plant communities were delineated and recorded on accompanying maps. Ten areas along the Marginal Way were identified as having significant native plant populations and are shown in Table 2 and on the maps. Several different criteria were informally considered when choosing these areas; native plant diversity, health of plants, and invasive plant infestation.



Black swallowwort vine in flower.

Non-native, invasive shrubs and vines are everywhere along the Marginal Way, which is not new knowledge. Morrow's honeysuckle, oriental bittersweet, black swallowwort, and Japanese barberry (*Berberis thunbergii*) consistently saturate large areas along the length of this scenic trail. Other invasive species including multiflora rose (*Rosa multiflora*), purple loosestrife (*Lythrum salicaria*), Japanese knotweed (*Fallopia japonica*), and Phragmites (*Phragmites australis*) are patchy, with a few dense "hotspots". Purple loosestrife is spreading north on prevailing winds at or near the high tide line, from a large parent patch found at the Frazier Pasture South access point. The ubiquitous rugosa rose (*Rosa rugosa*) forms large drifts in many areas as well. A non-native species of morning glory (*Ipomea sp.*) is starting to show invasive qualities on the southern end of the trail.



Three toothed cinquefoil at Devils Kitchen.

On a more optimistic note, surveys revealed a surprising number of native plant refugia, supporting a diversity of trees, shrubs, and perennials (refer to Tables 1 and 2). Two types of natural communities were identified along the Marginal Way, the rose maritime shrub land and early successional forest (Gawler and Cutko 2010).

The rose maritime shrub land community extends from the Beachmere Inn to the geology sign area. It consists of medium height shrubs such as bayberry (*Morella caroliniensis*), winterberry (*Ilex verticillata*), Virginia rose (*Rosa virginiana*), elderberry (*Sambucus nigra ssp. canadensis*), chokecherry (*Prunus virginiana*), low bush blueberry (*Vaccinium angustifolium*), and black chokeberry (*Aronia melanocarpa*). These natives make up 30%-60% of the total plant cover, with sporadic occurrences of herbaceous perennials such as goldenrods (*Solidago spp.*) and other aster species (*Symphyotrichum spp.*). One noteworthy perennial flourishing atop the ledge outcrop in the Devils Kitchen area is three toothed cinquefoil (*Sibbaldiopsis tridentata*); a hardy little plant that grows from the ocean's edge to the mountain tops. Gawler and Cutko note that most of the areas supporting the rose maritime shrub land community are known to have been used as grazing pasture in the past. The presence of this habitat may be the result of these historical land uses. As we know from photo-documentation and place names (e.g. Frazier Pasture), the northern part of the Marginal Way was indeed used as pastureland.

The second natural community growing in the southern half of the Marginal Way, from the geology sign south to the Perkins Cove area, is the early successional forest community. Trees such as poplar (*Populus spp.*), red maple (*Acer rubrum*), white pine (*Pinus strobus*), fire cherry (*Prunus pensylvanica*), and sumac (*Rhus hirta*) signify this area was cut off or disturbed in the recent past; perhaps cleared for pasture land or for better ocean views. The presence of oaks (*Quercus rubra*) in some areas may indicate patches of land that have had more time to revert back to forest. Unlike the coastally restricted rose maritime shrub land community, successional forests occur through-out Maine. Gregarious entangling growth of bittersweet vine and Morrow's honeysuckle will make invasive plant management challenging. However, liberation of native plants should be considered here due to the large diversity of native trees and shrubs present.

Two unexpected micro-habitats were discovered while conducting surveys; both supporting unique vegetation because of the presence of year round water. A spongy bed



Marsh fern at the Winterberry Seep site.





Purple loosestrife is a merciless invader of wetland habitats.

of marsh fern (*Thelypteris palustris*) was found growing in the Winterberry Seep area (near bench number 25), kept consistently moist by fresh water draining off from the inland landscape. The wetland fragment found at the South Frazier Pasture access point supports a veritable food buffet for wildlife; purple chokeberry (*Aronia floribunda*), arrowwood viburnum (*Viburnum dentatum*), and winterberry were all producing abundant amounts of fruit. Boneset (*Eupatorium perfoliatum*) and fox grape (*Vitis labrusca*) can also be found growing here as well.

It is obvious that this wetland fragment represents the remains of a larger complex that probably succumbed to the relentless pursuit of “progress”. Disturbance to the hydrology is undoubtedly responsible for the invasive plants that are covering most of the wetland area here; Phragmites, purple loosestrife, and multiflora rose. The remaining native plant sites identified and described are more typical of their respective communities (refer to accompanying maps).

#### How this information may be put to use.

We have an unprecedented opportunity and responsibility to preserve, enhance, and showcase this important sea-side habitat. It is all too easy to take the Marginal Way for granted after we have walked it a few times, but we must keep in mind that *this is not a typical place*. Most of the rocky southern Maine seacoast is off limits to the public and/or has been irrevocably damaged by development.

Immediate action plans will make use of the locational information of native plants presented in this report to prioritize invasive control efforts. Future plans should include the collection of native plant propagation material for the purpose of restoring areas along the Way that have been cleared of invasive plants. These local selections would be far superior to any nursery grown ornamental cultivars, having been the progeny of parents that have proven to be hardy, tolerant, and capable of thriving in this challenging sea-side environment. As years go by we will measure our success as more areas are released of invasives and replanted with native plants of local provenance. With our plant assets inventoried, and a flexible strategy formulated, we can wage a well calculated battle against these aggressors who have invaded this beautiful place by the sea.

## References

Gawler, S. and A. Cutko. 2010. *Natural Landscapes of Maine: A Guide to Natural Communities and Ecosystems*. Maine Natural Areas Program, Maine Department of Conservation, Augusta, Maine.

Haines, Arthur. 2011. *The New England Wildflower Society's Flora Novae Angliae*. Yale University Press, New Haven and London.