

Assessment of Five State Rare Plant Populations at Cove Point Marsh (Year 2010)

Assessments of *Ammannia latifolia* and *Fuirena pumila* populations

No populations of *Ammannia latifolia* or *Fuirena pumila* were found in 2010. These species were last observed along the marsh / beach dune interface in 2006 and 2005, respectively. Both species appear to have succumbed to the brackish water inundation of the historically freshwater marsh. Since the closing of the tidal gut between the marsh and the Chesapeake Bay in 2010 the marsh is rapidly converting back to a freshwater system. Brackish water species that were abundant in the marsh in 2009 such as *Aster subulatus* were rare in 2010 and other brackish water species such as *Salicornia europaea* and *Spartina alterniflora* observed in 2009 are now apparently absent in the marsh.

Assessment of *Sesuvium maritimum* population

During the 2009 survey, a large population (estimated to occupy nearly an acre of the marsh) of *Sesuvium maritimum* a State endangered (SI) species was found for the first time at Cove Point. *Sesuvium maritimum* is a brackish water species. The construction of the breakwater and subsequent conversion of the marsh back to a freshwater system has nearly extirpated this species from the marsh. On 26 September, 2010 only four plants were found, all of these along the marsh edge of the barrier dune (see attached map). None of the thousands of plants that were observed in the marsh in 2009 were found in 2010 and this species can be expected to soon be lost from the marsh as were *Fuirena pumila* (S2S3), *Lemna trisulca* (SI), *Limnobiium spongia* (SI), *Polygonum densiflorum* (SI?), *Potamogetonfoliosus* (SI), *Ammannia latifolia* (S2), *Bidens discoidea* (S3), and *Eleocharis flavescens* (SI) during the brackish water intrusion of the marsh.

Assessment of *Carex hyalinolepis* population

The population's size was measured with GPS on 18 June, 2010. The sandy dune that historically separated the marsh from the Chesapeake Bay is moving toward the marsh and is now on top of the *Carex hyalinolepis* population which in 2007 was observed along the marsh / dune ecotone and historically was found in Cove Point Marsh. Most of the *Carex hyalinolepis* population now occurs on the dune between the Chesapeake Bay and Cove Point Marsh. GPS measurements in 2010 show a length of 75 ft. and a width of 30 ft. for this population (see attached map). The maximum number of fruiting stems observed within a square meter of the population was five. The estimated average number of fruiting stems per square meter was 0.2. A much larger population of *Carex hyalinolepis* at the end of Webster Drive on the southern end of the marsh discovered during the 2009 inventory measured 380 ft. x 102 ft using GPS (see attached maps).

It is unknown whether the *Carex hyalinolepis* population on the dune will be able to survive in the much drier conditions since it is a species generally found in marshes. The population at the end of Webster Drive seems secure. Most of the plant species currently associated with the *Carex hyalinolepis* population on the dune are species typically found in dry upland sites such as *Rubus*, *Lonicera japonica*, *Toxicodendron radicans*, and *Vitis labrusca*. Some stems of *Phragmites* also found within the *Carex hyalinolepis* are probably plants that were in the marsh in 2007, but are now covered by the dune.

Assessment of *Scutellaria galericulata* population

This population was measured on 18 June and 26 September, 2010. On 18 June the maximum length measured 75 ft. and the maximum width was 27 ft. (see attached map). A total of 47 stems were counted (a decline of 14 stems from the 2009 total) and the maximum number within a square meter was 7. No plants were observed in flower. When the population was revisited on 26 September no plants were observed probably due to the late summer drought of 2010.

The Maryland State rare species *Oldenlandia uniflora* (S3) that was found growing within the *Scutellaria galericulata* population in 2008 was not found in 2009 or 2010.

Assessment of *Potamogeton foliosus* population

No plants of *Potamogeton foliosus* were observed during site visits on 18 June or 26 September, 2009. This plant has not been present at Cove Point for many years.

Assessment of *Zizaniopsis miliacea* population

This population was measured on 18 June, 2010. The maximum length measured with GPS was 255 ft. and the maximum width was 80 ft. (see attached map). The maximum number of fruiting stems per square meter was seven. The estimated average number of fruiting stems per square meter was 3.0. *Phragmites australis* was thick on the north and east sides of the *Zizaniopsis miliacea* population and is commingled with it. Treating the *Phragmites* with by hand with herbicide is recommended in this area.

Assessment of *Leptochloa fascicularis* population

This population was examined on 26 September, 2010. As in 2009 no plants of this species were found in the marsh in 2010. The absence of this species is unexpected since it is considered to be tolerant of brackish or fresh water conditions and appropriate habitat seemed abundant along the marsh edges. This species is no longer listed as rare by the State of Maryland.