Assessment of Five State Rare Plant Populations at Cove Point Marsh (Year 2009)

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

No populations of *Ammannia latifolia* or *Fuirena pumila* were found in 2009. 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.

Assessment of *Carex hyalinolepis* population

The population's size was measured on 6 June, 2009. 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. No plants of *Carex hyalinolepis* were found in the marsh in 2008 or 2009 and one patch measuring 13 m x 5 m was observed on the sandy dune in 2009. The maximum number of fruiting stems observed within a square meter of the population was two. The estimated average number of fruiting stems per square meter was 0.1. A much larger (nearly a tenth of an acre) population of *Carex hyalinolepis* was discovered for the first time at the end of Webster Drive on the southern end of the marsh during the 2009 inventory.

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, as is the population at the end of Webster Drive. 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 *Vitus 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 6 June and 11 September 2009. On 6 June the maximum length measured 7.0 meters and the maximum width was 2.0 meters. A total of 61 stems were counted (more than double the number counted in 2008) and the maximum number within a square meter was 9. No plants were observed in flower. When the population was revisited on 11 September only one stem could be found.

For the second year in a row it was observed during the September site visit that someone had trimmed the red maple trees along the boardwalk and piled the cut branches

on top of the *Scutellaria galericulata* population. Also the *Phragmites* stems growing within the *Scutellaria galericulata* population had evidently been treated with herbicide as they were standing but dead. If care was not taken to protect the *Scutellaria galericulata* population under the *Phragmites* it may also have been hit by the herbicide and killed. The Maryland State rare species *Oldenlandia uniflora* (S3) that was found growing within the *Scutellaria galericulata* population in 2008 was also not found in 2009 and also could have been killed by an herbicide application. This may account for only one *Scutellaria galericulata* stem being present during the September site visit when at nearly the same time in 2008 a total of 37 stems were counted and all but 3 had set fruit with four plants still in flower.

Assessment of *Potomogeton foliosus* population

No plants of *Potomogeton foliosus* were observed during site visits on 6 June or 11 September, 2009. This plant has not been present at Cove Point for many years.

Assessment of *Zizaniopsis miliacea* population

This population was measured on 6 June, 2009. The maximum length measured 55.4 meters and the maximum width was 15.0 meters. The maximum number of fruiting stems per square meter was two. The estimated average number of fruiting stems per square meter was 0.5. *Phragmites australis* was thick on the north and east sides of the *Zizaniopsis miliacea* population and this may account for fewer plants on the east side of the population and thus a reduction in the population's total length..

Assessment of *Leptochloa fascicularis* population

This population was examined on 11 September, 2009. For the first time no plants of this species were found in the marsh. This species is considered to be tolerant of brackish conditions and it absence was likely due to high water levels in 2009. Since the marsh in now tidally connected to the Chesapeake Bay, the peat mats that were historically exposed during droughts are much less extensive, and thus habitat once present at Cove Point Marsh is not there. This species is no longer listed as rare by the State of Maryland.

During the 2009 surveys, three species never before recorded at Cove Point were discovered. These are *Spartina alterniflora, Salicornia europaea*, and *Sesuvium maritimum*. *Sesuvium maritimum* is a State endangered (S1) species and was found to occupy nearly an acre of the marsh. All three of these species are typically found in brackish water conditions.