

## Assessment of Five State Rare Plant Populations at Cove Point Marsh (Year 2005)

### Assessment of *Carex hyalinolepis* population

The population's size was measured on 22 May, 2005. It was observed to be somewhat triangular in outline. The maximum length measured 6.2 meters and the minimum length was 4.2 meters. These measurements indicate a reduction in size of this population from all previous measurements. As indicated in 2002, 2003, and 2004 this population is probably succumbing to the encroachment of the native cat-tail (*Typha angustifolia*) which appears to be out-competing the *Carex hyalinolepis*. The maximum number of fruiting stems observed within a square meter of the population was 11, an increase compared to the number observed in 2004. The estimated average number of fruiting stems per square meter was five. A few single fruiting stems were observed within a 15 meter radius of the main population. A few stems of *Phragmites australis* were observed along the edges of the *Carex hyalinolepis* population. It is recommended that wick treatments with the herbicide RODEO be conducted on *Typha angustifolia* and *Phragmites australis* occurring within the *Carex hyalinolepis* to facilitate its return to historic levels. As indicated in 2004, it would also be helpful to treat the *Ailanthus altissima* (tree-of-heaven), an aggressive non-native species, which is also quickly colonizing the dune area adjacent to the *Carex hyalinolepis* population.

### Assessment of *Scutellaria galericulata* population

This population was measured on 16 July, 2005. It was observed to be generally rectangular in outline. The maximum length measured 11.2 meters and the maximum width was 2.5 meters. The maximum number of flowering or fruiting stems observed within a square meter of the population was 2. The estimated average number of flowering or fruiting stems per square meter was 0.1. A thick stand of *Phragmites australis* was observed along the northern side of the *Scutellaria galericulata* population and may be causing some unwanted shading.

This is the smallest the *Scutellaria galericulata* population has measured since this study began. The large mats of peat that were deposited on the eastern end of the population during hurricane Isabelle have changed the microtopography and probably the hydrology of this site to the species detriment. The native herb *Saururus cernuus* is becoming more common at this site and may be competing with the *Scutellaria galericulata*. It is recommended that wick treatments with the herbicide RODEO be conducted on the *Phragmites australis* occurring along the northern edge of the *Scutellaria galericulata* population.

### Assessment of *Potamogeton foliosus* population

No plants of *Potamogeton foliosus* were observed during site visits on 16 July, or 24 September, 2005. The drought conditions of 2002 and the heavy sedimentation resulting from the unusually wet years of 2003 and 2004 have stressed the *Potamogeton foliosus* population. The status of this population is tenuous and it may be extirpation from this site. Two other submerged aquatic species, *Utricularia gibba* and *Utricularia vulgaris*, were common in the area where *Potamogeton foliosus* historically occurred.

#### Assessment of *Zizaniopsis miliacea* population

This population was measured on 16 July, 2005. It was observed to be arched in outline. The maximum length measured 75.7 meters and the maximum width was 15.5 meters. The maximum number of fruiting stems observed within a square meter of the population was four. The estimated average number of fruiting stems per square meter was 1.0. *Phragmites australis* most closely approached this population along its northeastern corner and near its northern edge.

These measurements are similar to those obtained during the past five years. Wick treatment of the *Phragmites australis* along the northeastern edge of the *Zizaniopsis miliacea* population is recommended.

#### Assessment of *Leptochloa fascicularis* population

This population was examined on 24 September, 2005. Because of the dry summer and the very dry September, I had expected that the ponds in Cove Point Marsh would be much drier than they were. This annual has proven to be extremely variable in population size, being rare or absent in wet years and abundant in drought years, so I was expecting to see an abundant population of *Leptochloa fascicularis*. However, the ponds were only dry around the edges and thus the *Leptochloa fascicularis* was observed only at a few locations at these sites. Other state rare annual species such as *Ammannia latifolia* (S2) and *Fuirena pumila* (S2S3) were also present in this habitat at time occurring with the *Leptochloa*. Large stands of *Phragmites australis* occurred on the barrier berm near where a portion of the *Leptochloa* population has been observed in past years.

Because of the dry summer and resulting abundance of State rare annual species present along the edges of the drought drawn-down ponds it is recommended that no aerial herbicide spraying occurred in 2005. It is recommended that back-pack spraying be conducted along the edge of the ponds to treat the *Phragmites australis* and that the *Phragmites* patches described above occurring near rare plant populations be treated with RODEO.