

Cumberland Marsh Dam Removal Project: Wetland and Stream Restoration



Sensitive joint vetch
at Cumberland Marsh

Site Description and Condition Prior to Restoration:

The Cumberland Marsh Preserve is located in New Kent County, VA in the York River basin and contains an unnamed tributary to Holt's Creek. The Nature Conservancy (TNC) has managed the land since purchasing it in 1993. In total, the preserve consists of 1,094 acres, including freshwater tidal marsh, streams, non-tidal wetlands, open water, wooded upland areas and agricultural fields. One of the nation's largest populations of the federally-threatened sensitive joint vetch (*Aeschynomene virginica*), a warm season annual legume plant, is located at



February 2007: Initial site conditions

Cumberland Marsh. This rare species occurs in tidal river systems with high plant diversity, and is at risk due to a number of threats, including competition from non-native species, dams, and habitat loss/alteration. Prior to removal, two earthen dams on site restricted water flow and contributed to sediment build up. Failure of dams, especially during heavy rains, threatened wetlands and the sensitive joint vetch population.

Restoration Goals and Methods:

In February 2007, the Virginia Aquatic Resources Trust Fund approved funding for the Cumberland Marsh restoration project. In August 2010, the U.S. Army Corps of Engineers granted TNC a permit for the removal of two earthen dams within the Cumberland Marsh Preserve. To begin, TNC removed the upper dam and conducted inspections



October 2010: Construction begins on
the lower dam.

of exposed sediments before beginning to reintroduce indigenous plant species to the site. These species were intended to reinforce the riparian buffer as they grew in. The process was repeated after the removal of the lower dam. Grading and stabilization were applied along the channel of the unnamed tributary on site.

Goals of the restoration include:

1. Restoring 1730 linear feet of stream.
2. Creating 3.15 acres of new freshwater tidal wetlands.
3. Creating 4.38 acres of palustrine wetlands.
4. Retaining existing wetlands on site.
5. Enhancing existing wooded buffers along Holt's Creek and the Pamunkey River.
6. Returning the unnamed tributary on site to a free-flowing condition.

Benefits of the restoration include:

1. A stable system preventing erosion and sedimentation.
2. Preservation of the maximum possible acreage of existing wetland.
3. Restoring maximum acres of tidal and non-tidal wetlands and reconnecting the tributary to Holt's Creek.
4. Increasing the area of suitable habitat for sensitive joint vetch.

Status and Outlook:

Today, tidal and non-tidal wetlands are re-establishing, a stable unrestricted stream channel has developed, and the sensitive joint vetch population is expanding and healthy. The restoration at Cumberland Marsh will continue to be monitored until 2020 to ensure success of the native plants and continued stability of the site. It will be maintained in perpetuity.



August 2016: Unrestricted stream flow
through re-establishing tidal wetlands.