

Ellisville Marsh Backgrounder

Ellisville Marsh, situated on the Massachusetts coast five miles north of the Cape Cod Canal, is a fisheries and wildlife habitat restoration opportunity of incomparable value. Historical documents and maps attest to the fact that the 71-acre salt marsh, former Ellisville harbor, and channel have been a center of fishing, shellfishing and farming for over 250 years. Thoreau in his Journal (1857) noted seeing "...menhaden skipping in the pond as I came along, it being connected to the sea." In fact, fish were so abundant that a fishing weir with nets was operated at the mouth of the tidal inlet channel from the early 1890's until the 1920's. Eels were also harvested from the marsh during winter by cutting holes through the ice.

While several tributaries feed the Ellisville Marsh estuary with fresh water, the channel providing salt water from Cape Cod Bay is crucial to the marsh's survival. Major coastal storms, particularly nor'easters, have periodically blocked the channel through a process known as 'avulsion,' filling the channel with sand and diverting it in a southwesterly direction as shown in the figure. Channel avulsion at Ellisville Marsh is known from historical accounts to have occurred as far back as 1791. For several hundred years, local residents and fishermen dredged and maintained the channel after coastal storms to protect and preserve this rich ecosystem. Dredging was also done periodically throughout the 20th century by the Commonwealth of Massachusetts or Town of Plymouth.



Ellisville Marsh, showing early formation of the barrier spit that diverts the inlet and causes tidal restriction, resulting in changes in salinity and inundation period that cause marsh grass die-off (denuded area at top of photograph).

Events in the Life of the Salt Marsh and Channel

A complex series of natural, legal and regulatory events over the past century has impacted the vitality of Ellisville Marsh, as measured by its level of water quality and capacity to support wildlife and fisheries:

- A number of protective structures were built at various times at the mouth of the channel – in 1910 a wooden jetty was installed on the north side; this was replaced with stones in 1935.
- In 1961, Ellisville Harbor was designated a “Harbor of Safe Refuge” by the Commonwealth of Massachusetts. The Massachusetts Department of Public Works (MA DPW) then removed the 1935 jetty and reused the stones to build the current rock groin about 100 feet to the north of the channel, at the same time reshaping the channel mouth and ocean floor in the immediate vicinity. According to informed local sources, the Commonwealth had stated its intention to armor the channel with rock but failed to complete the project for unknown reasons.
- The Ellisville Harbor area was designated an Area of Critical Environmental Concern (ACEC) by the Massachusetts Secretary of Environmental Affairs in 1980. Recognizing the rights of local fisherman, the area at the mouth of the channel was excluded from the ACEC specifically to permit maintenance dredging. However, dredging was halted in 1987 after legal action was taken against a local fisherman by the Commonwealth.
- The “No Name” storm in 1991 closed the channel by avulsion. Subsequent migration of the inlet 1,500 feet to the south over the following years significantly impeded tidal flows into and especially out of the

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marsh. This caused massive changes in salinity and deteriorating overall water quality, growth of algal mats and large, new mud areas, extensive die-off of salt marsh vegetation, migration of *Spartina alterniflora* into previously high marsh areas, and virtual disappearance of certain fish and wildlife species. Moreover, the channel migration caused severe and irreversible erosion damage to the coastal bluff at its new outlet some 500 yards south of its recent, historical location.



- Assessments of Ellisville Marsh by federal and state agencies in 2001 led to the conclusion that the “...wetlands are drowning and are experiencing a drastic salinity change due to tidal restrictions.” (Comment by Army Corps of Engineers staff person).
- This loss of marsh vegetation continued unmitigated until late 2003 when a private property owner whose bluff had been severely damaged by the migrating channel shouldered the financial burden of obtaining the necessary permits and covering the construction cost associated with reopening the channel inlet in its historical location.
- The Blizzard of 2005 closed the channel inlet and the channel again began migrating in a southwesterly direction. Permits in effect at the time did not allow reopening of the blocked inlet.
- A state report released in April 2007 indicated that Ellisville Marsh was among the most severely affected by tidal restriction of twenty-five coastal sites surveyed during 2006.

Other Relevant Facts

- The channel location is contained in a 45-acre parcel that was donated in 2003 to the Wildlands Trust of Southeastern Massachusetts, a non-profit land trust and environmental steward that is supportive of efforts to restore and protect the marsh. The mouth of the inlet is NOT located within the adjacent Ellisville Harbor State Park.
- Ellisville Marsh is also designated a Massachusetts Important Bird Area (IBA). The Friends partner with Mass Audubon’s Coastal Waterbird Program to protect threatened shorebird nesting areas. This program has received national attention through US Fish and Wildlife’s web site
- Anecdotal evidence indicates that water quality, wildlife and fish populations began to rebound shortly after the 2003 channel re-dredging.
- The Friends of Ellisville Marsh, Inc. was incorporated in July of 2007 and is a designated 501(c)(3) nonprofit organization by the Internal Revenue Service.
- The Ellisville Marsh Restoration Project had by late 2010 obtained all permits necessary to resume maintenance of the Ellisville inlet. These included a MEPA determination, Order of Conditions from the Plymouth Conservation Commission, MassDEP Chapter 91 waterways permit and 401 Water Quality Certification, and US Army Corps of Engineers Programmatic General Permit.
- The inlet has been maintained by the Friends four times since permits were issued—in early 2011, 2012 and 2013 (twice – due to late winter storm damage).
- Nine environmental monitoring programs are conducted by the Friends as a condition of permits.
- No taxpayer funds have been used in this marsh restoration project. All funds have been raised from private donations and grants. There is no paid staff and approximately 7,000 unpaid, volunteer hours have been contributed to the project.