

## **Pocasset River Area of Critical Environmental Concern (ACEC)**

<b>Designation Date:</b>	December 5, 1980
<b>Total approximate acreage:</b>	160 acres
<b>Watershed/subwatershed:</b>	Cape Cod/Pocasset River
<b>Municipalities:</b>	Bourne

### **What makes this area so special?**

#### ***Designation Overview***

The Pocasset River ACEC is a small river and estuarine system on the eastern shore of Buzzards Bay. It was nominated by the Town of Bourne Conservation Commission, Board of Selectmen, Finance Committee, and Planning Board and was designated as an ACEC in 1980 because of its extraordinary natural resources. The ACEC boundary generally runs from the Shore Road Bridge to the headwaters of the Pocasset River by following the 100-year flood line and 100-foot buffers to wetland resources. Important habitats in the area include salt marsh, floodplain, tidal flats, wetlands, streams, and freshwater ponds. These areas provide flood control, storm damage prevention, improved water quality, wildlife habitat, and recreation opportunities to the surrounding community.

#### ***Wildlife Habitats***

The diverse and relatively unaltered habitats of this ACEC provide feeding, spawning, and nursery grounds for numerous shellfish, finfish, amphibians, reptiles, birds, and mammals. The spring-fed, freshwater ponds generally do not freeze over in the winter and provide habitat for water birds and other wildlife. At least 40 bird species are probable or confirmed breeders in the area. In addition, the estuary supports a productive oyster crop while the freshwater ponds have healthy trout populations. Presently, there are no migratory fish runs in the Pocasset River, although there is evidence of an established historic run that might be restored if fish ladders are constructed. Studies have documented that populations of American eels migrate from the upper freshwater ponds to spawn at sea. In the 1960s, several scientific studies were conducted, including a comprehensive ecological inventory of the lower portions of the estuary, and a new species of crustacean was first discovered in the Pocasset River. Habitat for softshell clams, quahogs, and oysters can be found within the ACEC boundary according to draft maps made in 2003 by the Division of Marine Fisheries and based on historical information and interviews with local shellfish officers.

In 2002, the state's Natural Heritage and Endangered Species Program (NHESP) listed the diamondback terrapin (reptile) and the water-willow stem borer (moth) as Threatened species and the eastern box turtle (reptile) as a species of Special Concern in the ACEC. The NHESP also identified approximately 40 acres or 25 % of the ACEC as core habitat through their BioMap project, which highlights areas in Massachusetts with high biodiversity and most in need of protection.

### ***Land Use***

Two-thirds of the land within the ACEC boundary is covered by either forest or salt marsh habitats, and almost 70% of the area is located within the 100-year floodplain. While only 15% of the land has a mix of low and medium density residential areas, a large portion of the land immediately adjacent to the ACEC is dominated by this type of development. The 80 acres of open space, which are primarily in the salt marsh and upper pond habitats, are protected and owned by the Town.

### ***Economy***

Bourne's economy is tied to this area since local fishing and tourism industries are dependent on the natural resources and productive wetland habitats. Historically, Mill and Shop Ponds were sites for the Pocasset Iron Foundry (1822-81) and the Tahanto Art Works (1882-1900), which both made use of the native bog iron. The foundry constructed a series of dams to create the upper ponds for water storage. Later a fish hatchery was created and located adjacent to Mill Pond. The upper ponds in the ACEC now provide recreational fishing opportunities while one of the town's most productive oyster crops are found in the estuary. Residents and tourists are also drawn to the area for recreational activities such as boating, bird watching, and hiking.

### ***Archaeology***

An archaeological site of unknown cultural significance is recorded within the Pocasset River ACEC. Although human activity in this estuary may not have been as diverse and dynamic as others on Cape Cod, the low number of archaeological sites here is not a reliable indicator of prehistoric times. Instead, the lack of historic sites is best explained by the lack of attention it has drawn from collectors, which suggests that there is a greater likelihood of intact and undisturbed sites surviving here than in other ACECs on Cape Cod.

### **What are some stewardship activities?**

One goal of the ACEC program is to promote stewardship of this area's resources through the participation, cooperation, and expertise of many interest groups. The Buzzards Bay Baywatchers have been testing water quality and evaluating nutrient loading in the area for several years. Their samples indicate that the Pocasset River system is a relatively healthy estuary. The Bourne Selectmen's Taskforce on Local Pollution is also testing water quality and is putting up interpretive signs in the ACEC. By becoming active stewards, community members can help monitor the condition, target problems, and find ways to improve and protect the natural resources in their ACEC.

If you have any questions or ideas for stewardship in the Pocasset River ACEC, please contact the Massachusetts Office of Coastal Zone Management's ACEC Stewardship Coordinator, Katie Lund, at (508) 289-2889 or the Department of Conservation and Recreation's ACEC Coastal Coordinator, Liz Sorenson, at (617) 626-1394.

### ***Local ACEC Stewards***

Town of Bourne  
Buzzards Bay Baywatchers  
Buzzards Bay Coalition  
Buzzards Bay Project National Estuary Program  
Bourne Selectmen's Taskforce on Local Pollution

## What coastal resources are included (partially or entirely) in the ACEC?

**Harbors, sounds, and bays:** none

**Rivers:** Pocasset River

**Lakes, Ponds:** Freeman Pond, Mill Pond, Shop Pond, Upper Pond

**Brooks, Creeks:** Unnamed

**Outstanding Resource Waters (ORWs):** Pocasset River, Freeman Pond, Mill Pond, Shop Pond, and Upper Pond. *(ORWs are waters, such as public water supplies and vernal pools that are protected by the most stringent standards because they constitute an outstanding resource as determined by their socio-economic, recreational, ecological, and/or aesthetic values)*

## NATURAL RESOURCE ACREAGE ESTIMATES

*Note: acreages are estimated using Massachusetts Geographic Information System data (2001).*

HABITAT TYPE	ACREAGE in ACEC	% of ACEC	LAND USE	ACREAGE in ACEC	% of ACEC
barrier beach	--	--	recreation	--	--
eelgrass	--	--	agriculture	--	--
salt marsh	50	30	residential	25	15
tidal flat	10	6	commercial	--	--
freshwater wetland	10	6	industrial	--	--
cranberry bog	--	--	OPEN SPACE		
forest	45	29	federal	--	--
open water	30	19	state	--	--
100 yr floodplain	110	69	municipal	80	50
			private/nonprofit	1	1
			chapter 61	--	--
			protected	81	51