

**Allens Pond Wildlife Sanctuary**  
**Mass Audubon - South Coast Sanctuaries**  
**1280 Horseneck Road, Westport, MA 02790**

## **Introduction**

Mass Audubon's Allens Pond Wildlife Sanctuary, located in South Dartmouth on Buzzards Bay in southeastern Massachusetts, is comprised of 600 acres of natural communities and habitat types that currently support hundreds of resident and migratory wildlife species. Mass Audubon, the Massachusetts Department of Conservation and Recreation, and many federal, state, and local public and private partners have worked closely together for over four decades to ensure the permanent protection of the salt marsh, barrier beach, coastal heathlands, forested wetlands, and uplands. It is one of the few remaining areas of the Massachusetts coastline that still provides an incredibly rich and diverse habitat for wildlife.

The Sanctuary serves three major roles within Mass Audubon's sanctuary system: (1) preservation of the diverse and high value ecological communities (2) a model of ecological management and engagement with youth volunteers and citizen scientists involved in stewardship projects, and (3) providing a Mass Audubon presence in the South Coast region of Massachusetts. Ecological management, inventory, and monitoring have been key

foci at Allens Pond Wildlife Sanctuary since Mass Audubon first established a year-round presence in the area in 2001.

## **Background**

Allens Pond itself (165-acres) is classified as a coastal salt pond: a natural community type considered of global importance and ranked as threatened (S2) by the Massachusetts Natural Heritage and Endangered Species Program. Allens Pond has been identified as an important resource within the Westport River Focus Area of the Atlantic Coast Joint Venture Plan. Allens Pond is separated from the open waters of Buzzards Bay by a sand dune and barrier beach complex, known as Little Beach and Barney's Joy. The pond drains to the bay via a channel that has been maintained by dredging on a regular basis so that tide cycles occur twice each day and keep the pond functioning as an estuarine ecosystem.

An extensive salt marsh system totaling approximately 227 acres surrounds Allens Pond. Other habitats around the pond include sandplain heathland (ranked S1 in MA), tidal flats, red maple swamps, open fields and coastal oak woodlands. An extensive tract of globally rare coastal heathlands, including a rare species of rockrose (*Helianthemum dumosum*), are also found on adjacent uplands at Barney's Joy.

This rich coastal ecosystem is utilized by hundreds of species of birds and marine organisms. Among the bird species recorded around Allens Pond are 25 species of waterfowl and 35 species of shore birds. Each year, an average of 14 pairs of the federally-threatened Piping Plover nest on the barrier beach at Allens Pond, making this one of the more significant breeding populations in Buzzards Bay. Both the Peregrine Falcon and the federally endangered Roseate Tern, which nest on nearby Bird and Ram Islands, use the site as foraging grounds during their spring and fall migrations. Bald Eagles use the project area as an occasional winter feeding area. Short-eared owls are sporadic winter visitors and Northern Harriers occur in fall, winter, and spring.

Due to its coastal location on the Atlantic flyway, Allens Pond is an important feeding and resting area for coastal and migratory birds. Shorebirds, such as Short-billed Dowitchers, Red Knot, Greater Yellowlegs, American Oystercatcher, Sanderlings, Semipalmated Sandpipers, and Least Sandpipers forage in the intertidal wetlands. The salt marsh surrounding Allens Pond hosts several pairs of ospreys nesting on platforms. Willets, Sharp-tailed Sparrows, and a large population of Seaside Sparrows are common nesters in the salt marsh. Great Blue Herons and Great and Snowy Egrets are commonly observed foraging in the creeks and tidal flats during the summer. Black Ducks are year round residents, and the pond supports

wintering populations of Red Breasted Mergansers, American Goldeneye, and Buffleheads.

The open habitats of field, pasture, marsh, and edges attract Tree Swallow, Eastern Bluebird, American Kestrel, Barn Swallow, Willow Flycatcher, Brown Thrasher, Eastern Towhee, White-eyed Vireo, and Blue-winged Warbler. The woodland habitats around the pond and meadows provide breeding habitat for many species of landbirds, including Black and White Warbler, Veery, Red-eyed Vireo and Rose-breasted Grosbeak. The scrub habitats bordering the saltmarsh are especially important as a foraging and nesting habitat for species such as the Yellow and Black billed Cuckoos, and the Eastern Kingbird, all long-distance neotropical migrants that winter in South America.

Approximately 60 acres of upland fields (formerly in corn), adjacent to the saltmarsh, have been planted in a mixture of native warm-season grasses. A management goal of our grassland restoration project is to provide nesting and/or wintering habitat for Short-eared Owls and Northern Harriers as well as Bobolink, Grasshopper Sparrow, and other grassland obligate songbirds. A research and monitoring component of this project is studying the use of the planted fields by birds and invertebrates for foraging and breeding habitat.

Other state-listed species that benefit from maintaining the intact integrity of the Allens Pond ecosystem include

the Northern Blazing Star [NE Blazing Star is listed as “special concern] (*Liatris scariosa var. novae-angliae*) which inhabits the sandplain heathland behind the barrier beach. Also present on the coastal barrier is a state-listed moth species, the Chain Dot Geometer (*Cingilia catanaria*). Diamondback Terrapins (state Threatened) have been recorded in the pond and are nesting in the sand adjacent to the saltmarsh.

The salt pond has been s a productive estuarine environment for aquatic invertebrates such as Blue Crabs, Soft-shelled Clams, Oysters, Razor Clams, and Quahogs, as well as serving as a nursery for saltwater fish species - all of which contribute to the rich feeding grounds for wading and diving birds.

Buzzards Bay has only a few coastal salt ponds, and as they are productive habitats for wildlife, such as fish, shellfish and birds, they are a particularly valuable resource to protect. Because of their relative rarity and vulnerability to pollution and other threats, coastal salt ponds are rated S2 in Massachusetts according to the Massachusetts Natural Heritage and Endangered Species Program (MNHESP) and Nature Conservancy (TNC) biodiversity rating system. An S2 rating means that there are “typically 6-20 occurrences or that the habitat is particularly vulnerable to extinction” (Swain and Kearsley 2000). Allens Pond is specifically mentioned as a prototype coastal salt pond in MNHESP’s Classification of Natural

Communities of Massachusetts (Swain and Kearsley 2000), and the pond is considered an exemplary natural community according to MHNEP's BioMap (MHNEP 2001).

Allens Pond hosts beds of submerged aquatic vegetation (SAV) comprised of *Zostera marina* and *Ruppia maritima*. SAV is known to be important as nursery areas for juvenile fish and shellfish. In past surveys, we observed a variety of fish species in the pond, including mummichog (*Fundulus heteroclitus*), striped killifish (*Fundulus majalis*), Atlantic silversides (*Menidia menidia*), nine-spined stickleback (*Pungitius pungitius*), alewife (*Alosa pseudoharengus*), and winter flounder (*Pleuronectes americanus*). Other fish known to occur in the pond and streams, at least seasonally, are sea-run brook trout, striped bass (*Morone saxatilis*) and American eel (*Anguilla rostrata*). More extensive surveys would undoubtedly reveal a larger number of species. Marine invertebrates that occur in the pond include blue crab (*Callinectes sapidus*), softshell clam (*Mya arenaria*), quahog (*Mercenaria mercenaria*), Eastern oyster (*Crassostrea virginica*), bay scallop (*Argopecten irradians*) and blue mussel (*Mytilus edulis*). Other coastal ponds in the region have lost their SAV due to poor water quality and have seen a subsequent loss of their fish and shellfish resources. The protected land around Allens Pond provides a buffer and reduces the amount of polluted runoff and septic leachate that enters the estuary and pond, thus protecting the fish habitat.

### **a. Federally listed species**

Since 1984 the Lloyd Center for Environmental Studies and Mass Audubon have closely monitored the population of Piping Plovers on the barrier beach at Allens Pond. Plovers have ranged from two to 18 pairs during this period, with an average of 14 pairs nesting since 2003. Through ownership and management partnerships, Mass Audubon takes action to protect the beach and the Allens Pond estuary – actions that help bring this rare and vulnerable species closer to recovery. As a complement to the habitat protection efforts, Mass Audubon staffs seasonal field technicians to monitor and protect the nesting sites from direct human impacts.

In addition, both the Peregrine Falcon and the Roseate Tern use Allens Pond Wildlife Sanctuary as foraging grounds during the spring/fall migration. The Roseate Tern also uses the area as summer foraging grounds, since roughly 50% of the entire North American population nests on Bird Island, Marion and Ram Island, Mattapoissett, in adjacent Buzzards Bay. The Bald Eagle uses the project area as an occasional winter feeding area.

### **b. State listed species**

State-listed species around Allens Pond include four endangered birds, seven threatened species (3 birds, 1 reptile, 1 amphibian, 1 plant), and 13 species of Special

Concern. The latter group includes the regional endemic plant, Northern Blazing Star (*Liatris scariosa* var. *novae-angliae*), which inhabits the low scrub vegetation behind the barrier beach and is censused each year by staff and volunteers. Sanctuary staff and student interns also conduct surveys for Diamondback Terrapins (threatened) which have been observed nesting on the beach and marbled salamanders (threatened) in some of the vernal pools in the adjacent uplands. Short-eared Owls and Northern Harriers may use this area to a growing extent given our commitment to native habitat management (e.g., converting agricultural lands to grassland habitat).



Birds that *may* be observed at Allens Pond include:

Horned Grebe	Mourning Dove	Field Sparrow
Common Loon	Turkey Vulture	Dark-eyed (Slate-colored) Junco
Red-throated Loon	Black Vulture	Song Sparrow
Great Black-backed Gull	Northern Harrier	Swamp Sparrow
Herring Gull	Sharp-shinned Hawk	Eastern Towhee
Ring-billed Gull	Cooper's Hawk	Northern Cardinal
Laughing Gull	Red-tailed hawk	Rose-breasted Grosbeak
Forster's Tern	Red-shouldered Hawk	Scarlet Tanager
Common Tern	Broad-winged Hawk	Barn Swallow
Roseate Tern	Bald Eagle	Tree Swallow
Least Tern	Peregrine Falcon	Bank Swallow
Northern Gannet	Merlin	Northern Rough-winged Swallow
Great Cormorant	American Kestrel	Cedar Waxwing
Double-crested Cormorant	Osprey	Red-eyed Vireo
Common Merganser	Short-eared Owl	Warbling Vireo

Red-breasted Merganser	Northern Saw-whet Owl	White-eyed Vireo
Hooded Merganser	Eastern Screech-Owl	Black-and-white Warbler
Mallard	Great Horned Owl	Blue-winged Warbler
American Black Duck	Snowy Owl	Northern Parula
Bufflehead	Yellow-billed Cuckoo	Cape May Warbler
Common Eider	Black-billed Cuckoo	Yellow Warbler
Black Scoter	Belted Kingfisher	Black-throated Blue Warbler
White-winged Scoter	Hairy Woodpecker	Yellow-rumped (Myrtle) Warbler
Surf Scoter	Downy Woodpecker	Magnolia Warbler
Canada Goose	Yellow-bellied Sapsucker	Chestnut-sided Warbler
Atlantic Brant	Red-bellied Woodpecker	Bay-breasted Warbler
Mute Swan	Northern (Yellow Shafted) Flicker	Blackpoll Warbler
Glossy Ibis	Chimney Swift	Blackburnian Warbler
Great Blue Heron	Ruby-throated Hummingbird	Black-throated Green Warbler

Great Egret	Eastern Kingbird	Pine Warbler
Snowy Egret	Great Crested Flycatcher	Palm Warbler
Black-crowned Night Heron	Eastern Phoebe	Prairie Warbler
Yellow-crowned Night-Heron	Eastern Wood Pewee	Ovenbird
American Woodcock	Willow Flycatcher	Northern Waterthrush
Common (Wilson's) Snipe	Alder Flycatcher	Common Yellowthroat
Short-billed Dowitcher	Horned Lark	Yellow-breasted Chat
Red Knot	Blue Jay	Wilson's Warbler
Purple Sandpiper	American Crow	Canada Warbler
Least Sandpiper	European Starling	American Redstart
Dunlin	Bobolink	House Sparrow
Semipalmated Sandpiper	Brown-headed Cowbird	American Pipit
Sanderling	Red-winged Blackbird	Northern Mockingbird
Marbled Godwit	Eastern Meadowlark	Gray Catbird
Greater Yellowlegs	Orchard Oriole	Brown Thrasher

Lesser Yellowlegs	Baltimore Oriole	Carolina Wren
Solitary Sandpiper	Common Grackle	House Wren
Willet	Purple Finch	Marsh Wren
Spotted Sandpiper	House Finch	Brown Creeper
Whimbrel	American Goldfinch	White-breasted Nuthatch
Black-bellied Plover	Snow Bunting	Tufted Titmouse
Killdeer	Savannah Sparrow	Black-capped Chickadee
Semipalmated Plover	Saltmarsh Sharp-tailed Sparrow	Golden-crowned Kinglet
Piping Plover	Seaside Sparrow	Blue-gray Gnatcatcher
Ruddy Turnstone	Nelson's Sharp-tailed Sparrow	Wood Thrush
American Oystercatcher	White-crowned Sparrow	Veery
Ring-necked Pheasant	White-throated Sparrow	American Robin
Rock (Dove) Pigeon	Chipping Sparrow	Eastern Bluebird

The following is a list of state-listed species that occur in the Allens Pond area

<b>Vertebrates</b>	State Status
American Bittern - <i>Botaurus lentiginosus</i>	Endangered
Peregrine Falcoln - <i>Falco peregrinus</i>	Endangered
Roseate Tern - <i>Sterna dougallii</i>	Endangered
Short-eared Owl* - <i>Asio flammeus</i>	Endangered
Bald Eagle - <i>Haliaeetus leucocephalus</i>	Threatened
King Rail - <i>Rallus elegans</i>	Threatened
Northern Harrier - <i>Circus cyaneus</i>	Threatened
Piping Plover - <i>Charadrius melodus</i>	Threatened
Diamondback Terrapin - <i>Malaclemmys terrapi</i>	Threatened
Marbled Salamander - <i>Ambystoma opacum</i>	Threatened
Common Loon – <i>Gavia immer</i>	Special Concern
Common Tern - <i>Sterna hirundo</i>	Special Concern
Least Tern - <i>Sterna antillarum</i>	Special Concern
Long-eared Owl – <i>Sternula antillarum</i>	Special Concern
Sharp-shinned Hawk - <i>Accipiter striatus</i>	Special Concern
Eastern Box Turtle – <i>Terrapene carolina</i>	Special Concern

<b>Moths</b>	State Status
Chain Dot Geometer - <i>Cingilia catenaria</i>	Special Concern
Coastal Heathland Cutworm - <i>Abagrotis nefascia benjamini</i>	Special Concern
Dune Noctuid Moth – <i>Sympistis riparia</i>	Special Concern
Spartina Borer – <i>Photedes inops</i>	Special Concern
<b>Plants</b>	State Status
Grass-leaved Ladies'-tresses - <i>Spiranthes vernalis</i>	Threatened
New England Blazing Star - <i>Liatris scariosa</i> var. <i>novae-angliae</i>	Special Concern
Sea-beach Knotweed – <i>Polygonum glaucum</i>	Special Concern
Saltmarsh Foxtail - <i>Setaria parviflora</i>	Special Concern

Eighteen species of odonates (dragonfly and damselfly) were recorded at APWS in 2004 and 2005 as part of Mass Audubon's MET funded odonate inventory. We have only added two new species since then, suggesting that the total present list of 20 species is relatively complete. This is a low species richness compared to other sanctuaries,

suggesting that certain types of odonate habitat (e.g., freshwater marshes and streams) are limited at APWS. On the other hand, coastal migrants, such as black saddlebags and wandering glider can be quite abundant in late summer.

Allens Pond Wildlife Sanctuary was surveyed for ants on July 26, 2007 as part of Mass Audubon's collaborative statewide ant inventory with Harvard Forest, the University of Vermont, and The Trustees of Reservations. Ten species of ants were observed. The three habitats sampled were the warm season grassland (2 species), the coastal oak forest (7 species), and the maritime dunes (3 species).

Moths were surveyed at APWS in 2006 and 2007 as part of the shrubland restoration project. Samples were collected by sanctuary staff and identified by Mark Mello of the Lloyd Center. Thirty-one samples, 13 from 2006 and 18 from 2007 were collected at the boardwalk in the Zylfee Brook trail system, the Allens Neck shrubland area, and in a freshwater cordgrass (*Spartina pectinata*) marsh just off the boardwalk. Two hundred sixty-four species of macrolepidoptera were identified, 125 of which were seen during both years. Two were state-listed moths (see above section).

Butterflies have been inventoried at APWS as part of the monitoring program for the grassland and shrubland restoration project as well as during annual visits in

September of the Massachusetts Butterfly Club. At present, our butterfly database for APWS includes 32 species, including:

Black Swallowtail		White M Hairstreak		Question Mark
Spicebush Swallowtail		Pearl Crescent		Common Buckeye
Cabbage White		Mourning Cloak		Least Skipper
Orange Sulphur		Red Admiral		Sachem
Clouded Sulphur		American Lady		Ocola Skipper
Cloudless Sulphur		Painted Lady		Fiery Skipper
American Copper		Monarch		Zabulon
Eastern Tailed Blue		Mourning Cloak		Snowberry Clearwing
Gray Hairstreak				