

Description of Troy Meadows & its Ecology

Troy Meadows or simply the "Meadows" is a freshwater wetland oasis consisting of some 3,000 acres, primarily open marsh (flooded meadow), true swamp (flooded timber), and upland meadows, interlaced with upland deciduous forests, typical of the Piedmont Geophysiographic Zone. Located and centered in the northeastern quadrant of Morris County, Troy Meadows is a remnant of Glacier Lake Passaic surrounded by suburban sprawl. Ancient Lake Passaic was formed by waters released from a retreating Wisconsin Glacier, 12,000 - 14,000 years ago. So when you take a stroll through the Meadows today, what you're really doing is walking on the bottom of a still draining ancient lake bed!

The waterways that run through the Meadows are the tranquil Troy Brook and Whippany River. All tributaries to the Passaic River- Troy Brook empties into the Whippany River, the Whippany empties into the Rockaway River, and the Rockaway eventually empties into the Passaic River.

The Whippany River, once known as "Whippanong" derives its aboriginal name from the Lenape dialect of the Algonquian Americans. It has been interpreted to mean "place of the arrow wood" and refers to a plant the Lenape used to craft shafts for the arrows in their bows. Some interpret the "arrow wood" to be the native black willow tree, but the author of *A Place Called Whippany*, also an authority on Troy Meadows believes that the "arrow wood" refers to common cattails that fill the Meadow surrounding the river.

The black willow (*Salix nigra*) is a dominant floodplain-loving tree and cattails (*Typha angustifolia*, *Typha latifolia*), are dominant marshland plants, both growing abundantly in the Meadows.

During the past 12,000 years this ancient glacier lake has been dewatering through an arterial network of rivulets, tributaries, streams, and rivers; the Passaic River being the last in the series. Eventually this river drains all watersheds associated with it (the Meadows being part of both the Passaic and Whippany River Watersheds) through a gorge at Paterson Falls and into the Newark Bay and inevitably destined for the Atlantic Ocean. In response to all this draining a series of dominantly-based bottomland habitats have emerged.

The Meadows is just one of series of ecologically complex mosaics that transect three counties and thirty miles. Most people in the region recognize the others before giving our beloved Meadows a second thought. Great Swamp, the largest and what was the deepest part of the glacial lake is probably the best known and most cared for. Great Swamp, Black Meadows, Hatfield Swamp, and Great Piece Meadows are ecologic homologues with Troy Meadows, but of varying size and scope.

It is not surprising that the NJ Department of Environmental Protection officially registers Troy Meadows as a NJ "Natural Area." Being part of the NJ Natural Area system is (quote): "official recognition of the site's important nature features which are worthy of preservation by the property owner."

In order to be registered as a NJ Natural Area, the site must satisfy one or more of the following criteria (Troy Meadows satisfies all three criteria for inclusion in the NJ Natural Area System):

1. Endangered species habitat: The site is verified as supporting a significant, viable natural occurrence of one or more plant or animal species, or both, determined to be rare, threatened, or endangered in the State or United States;
2. Natural community: The site supports a significant, viable example of a rare natural community or an extremely high quality representative of other natural communities of New Jersey. Quality includes, but is not limited to, characteristics of structure, composition, age, size, and degree of disturbance;
3. Wildlife habitat: The site provides spawning, breeding, nesting, resting, or feeding habitat which is highly significant for supporting resident or migratory wildlife, or both, of the State, the United States, or the world.

The US Department of Interior once rated Troy Meadows as the "highest quality inland wetland for waterfowl and wildlife in the State of New Jersey" (US Fish and Wildlife Service, National Wetland Inventory, NJ Inventory, 1954).

The US National Park Service designates the Meadows as a "National Natural Landmark," and the US Environmental Protection Agency calls it a "Priority Wetland."

Even with all these positive scenic and biological, state and federal designations, in many ways the Meadows has become the red-headed stepchild, neglected and abused. Since the 1950s Troy Meadows has been reduced by half its size and continues to be whittled away at its corners and more overtly abused in its core by what the Board of Public Utilities deems as the "greater good".

This is not to say that the Meadows is ecologically inert, to the contrary the complex remains a haven for a vast panoply of biodiversity. Many species that make up this diversity are either threatened, endangered, or in decline. Probably the poster-child of Troy Meadows most imperiled fauna is the blue spotted salamander (*Ambystoma laterale*). For the species, the Meadows remains a global stronghold, second to only the Great Swamp (emphasis on the word "global").

Troy Meadows Habitat

Troy Meadows is a large, diverse freshwater marsh with a complex mosaic of marshland plant communities and wildlife habitats. It was once a vast plain of cattail, including marsh, swamp and floodplain communities. It serves as a valuable wildlife habitat for a variety of birds, butterflies, mammals, reptiles and amphibians, and ordinary, threatened and endangered species of fauna and flora.

Until recently (within the past 40 years) this National Natural Landmark was the largest remaining cattail marsh in New Jersey. Some parts of Troy Meadows have progressed to swamp forest through the process of succession and the cattail communities of Troy Meadows, Black Meadows, and Hatfield Swamp are being filled by silt and replaced by an invasive species of reed grass, *Phragmites communis*.

Troy Meadows is located along the Atlantic flyway and serves as a staging area for migratory waterfowl. It is an exceptional sanctuary for numerous breeding species of birds and for large concentrations of migratory waterfowl. Interesting vegetation at this site includes large stands of native wild rice, spotted touch-me-not, false nettle, tuckahoe, duckweed, and various sedges. Noteworthy birds include many species of rail, bittern, heron, duck, and hawk. A great blue heron rookery can be seen in Troy Meadows; American bald eagles also nest in Troy Meadows (feeding in Troy Brook, Troy Forge Pond and the Jersey City reservoir).

Troy Meadows is known as the state's premier habitat for the endangered blue-spotted salamander. Its abundant vernal pools serve as breeding sites for the endangered amphibian. Troy Meadows is also one of the few places in New Jersey where bog turtles can be found. Bog turtles have probably never been abundant because of their unusual requirement of swampy or boggy land combined with a slow-moving stream passing through.