



The Great Swamp Watershed

Submitted by Jill Eisenstein and Laurie Wallace of the Friends of the Great Swamp (FrOGS)

The Great Swamp lies in a 20-mile long valley at the eastern edge of the ancient Hudson Highlands. Covering over 6,000 acres, it is one of the largest freshwater wetlands in New York State. Like a giant sponge, it absorbs the runoff from nearly 63,000 acres of forested uplands, roadbeds and backyards in Putnam and Dutchess Counties. Winding through a changing landscape of villages, farms, forests, and increasing commerce, it plays many important roles - providing flood control, water filtration, diverse habitats, quality of life, inspiration and recreation.



Kayaking the Great Swamp (Credit: Diana Lee)

The water in the Great Swamp flows in two directions from its high point in Pawling. The Swamp River flows north then east to drain through Connecticut while the larger East Branch Croton River moves water south to a series of reservoirs that supply clean drinking water

downstream. As the water passes through the swamp, it is sweetened by minerals in the marble bedrock and cleaned by the filtering action of wetland vegetation. Flood control and water filtration are the major wetlands functions of the Great Swamp. New York State ranks it as a Class I wetland, meaning it provides the most critical of the state's wetland benefits.

Biologically, the Great Swamp is an ecological treasure. From acidic bogs of sphagnum to alkaline fens, it supports invaluable biodiversity and many unusual, rare, and even endangered plants and animals, including the New England cottontail, northern metalmark butterfly, and several species of turtles. Along its corridor lie also wet meadows, shrub swamps, floodplains, marshes, ponds and tributary streams. One of the tributary streams, populated by native brook trout, has been classified by the DEC as a

"reference" stream because of its "least disturbed" state. The newly-discovered Atlantic Coast Leopard Frog has been found in one of the shrub swamps. According to "The Great Swamp: A Watershed Conservation Strategy", published and funded by an EPA grant to The Nature Conservancy in 1999, the Great Swamp 16 years ago was home to 8 significant ecological communities; 185 species of birds, 10 of which were listed as rare; 20 species of reptiles; 17 species of amphibians; 70 species of butterflies; 29 species of fish; 27 species of mammals, one of which was a candidate for listing as endangered; 19 species of rare plants....and counting. Since that study of the Swamp was completed, researchers have discovered three additional rare animal species, all of which are under consideration for listing as an endangered species.

Recognizing that such a vital wetland needs study, understanding, and a steward, an all-volunteer non-profit organization, Friends of the Great Swamp (FrOGS), was formed. We have been working to preserve and protect the health of the Great Swamp watershed through research, education and conservation for 25 years.

FrOGS has conducted biological monitoring of bog turtles for over 17 years, wood turtles for 14 years, and is in its third year of radio-monitoring box turtles. We began counts of migrating waterfowl five years ago, as the Great Swamp is a significant rest-stop for black ducks, wood ducks, mallards and others in both spring and fall and a major breeding area for wood ducks. We also conduct butterfly counts in the watershed.



Protecting wood turtle eggs (Credit: John Foley)

We began a water quality monitoring program in 2010, enlisting the professional assistance of Watershed Assessment Associates to train volunteers to conduct sampling of rivers and tributaries in order to create a water quality baseline report and then reports on water quality changes at various sites in the watershed. Besides sampling the water itself and the benthic macroinvertebrates, FrOGS is observing inputs from various sources that may impact water quality.

Education is a big part of our job. FrOGS conducts educational hikes and rambles in every season, canoe trips, and special educational presentations and programs, including presentations to school groups and the public to foster appreciation for and understanding about the Great Swamp and its inhabitants, and the importance and

functions of wetlands. We produce a widely-acclaimed, informative and educational newsletter which is distributed to our members. FrOGS also presents results of its research and studies to municipal leaders. We are currently working on a Great Swamp video to show at public presentations. We sponsor an annual juried art and photography show that only takes entries of Great Swamp subjects. But we have found that getting people into the swamp through our Annual Paddle for the Great Swamp and our naturalist-led canoe trips has been most instrumental in fostering an appreciation for this incredible natural resource.



Great Swamp Forest (Credit: Laurie Wallace)

But research and education is not all we do. In 2003, FrOGS partnered with fourteen other organizations including the DEC, and received a North American Wetland Conservation Act (NAWCA) grant of \$940,000 to purchase wetlands in the Great Swamp for preservation. Over 700 acres of wetlands and 400 acres of adjoining uplands were protected.

FrOGS received a second NAWCA grant of one million dollars in 2013 and added the Town of Dover, the Dutchess Land Conservancy and the Westchester Land Trust as additional partners. In 2014, 48 wetland acres and 77 upland acres were protected. In 2015 to date, 108 acres of wetlands and 38 acres of uplands have been protected as well. Efforts to protect additional wetland acres continue.

FrOGS worked with a private developer in 2014 to re-install water flow gauges at two points on the Swamp River to better predict potential flooding downstream on the Swamp River.

We have recently partnered with the Westchester Land Trust, the Putnam County Land Trust, the Oblong Land Conservancy, and Bedford Audubon Society in the Hudson to Housatonic (H2H) Initiative to engage forest landowners in the uplands of the watershed to manage their properties in ways that conserve water resources of the watershed. In addition, FrOGS is collaborating with the Dutchess County Soil and Water Conservation District and the Housatonic Valley Association in the formation of an official watershed management group and plan for the Swamp River and Ten Mile River.

For more information, visit our Facebook page at www.facebook.com/FriendsOftheGreatSwamp.FrOGS.NY or our website at frogs-ny.org