

# SOFO naturalist

Each quarter SOFO features eco-links, written by a member or friend of the Museum. If you wish to submit an article please contact us.

## eco links

### Leaping away - The Disappearance of the Southern Leopard Frog from Long Island.

Thirty-seven resident species of reptiles and amphibians have been documented on Long Island, making it one of the most diverse regions for reptile and amphibian diversity in New York State. However, land use, habitat loss, and other human activities have severely impacted more than 30 percent of these species on Long Island (including northern cricket frogs and timber rattlesnakes, which are now both extirpated from Long Island).

Another species, the southern leopard frog (*Rana sphenoccephala*), was once considered to be one of the most abundant frogs on the Island, occurring throughout parts of Queens and Nassau counties as well as nearly all of Suffolk County. The species was particularly common along the South Shore and places like Peconic Bay, the Central Pine Barrens region, Shelter Island, and parts of both the North and South Forks. However, recent times have not been kind to Long Island leopard frogs. The species has suffered a relatively sudden and drastic Island-wide decline over the past 20 to 40 years, and in many cases there does not appear to be any clear-cut logic or reason as to how and why these frogs have vanished from many locales. From Queens to Montauk, this disappearance has occurred across a variety of landscapes and habitats ranging from areas of significant urbanization to the most pristine and well-protected natural areas on Long Island - an unusual trend for one of North America's most widespread and successful frog species. The species now appears to be dangerously close to extirpation, if not entirely extirpated from Long Island already. Sadly, this seems to have occurred without much fanfare or major concern by most local and regional biologists and has only become a significant concern within the past few years. And while the pressures of development and vanishing habitats are usual sure-fire culprits in the decline of many species on Long Island, these factors may not fully explain what has happened here since there is still a significant amount of good leopard frog habitat remaining and



protected in areas where the frogs once occurred. Thus, the story may be a bit more complicated than we realize.

While the exact cause or causes of this specific decline are still unknown, research is now being done to try and figure out why this species has declined. Over the next several years, the leopard frog decline (and a possible reintroduction effort) will be the focus of my doctoral research project through Rutgers University, the Brookhaven National Lab, and the Foundation for Ecological Research in the Northeast (FERN). This project may also rely on a number of other groups such as the Wildlife Conservation Society (which manages the Bronx Zoo, the Prospect Park Wildlife Center and several regional zoos) and a number of government agencies and nonprofit organizations.

Very few, if any, examples of southern leopard frog declines have been reported outside of Long Island and Staten Island, making the situation all the more unique and locally important. Of course, it is important to note that Long Island represents the extreme northern range limit where this species naturally occurs. Yet unlike many species that often struggle to survive on the edge of their ranges, records show that the southern leopard frogs were widespread and common even in this most extreme of northern locales. Furthermore, with the factors of global warming actually making Long Island seemingly more hospitable to this southern species, this decline seems counterintuitive and even more mysterious.

In addition to their value as essential components of regional biodiversity, amphibians are also excellent bio-indicators because of their sensitivity to environmental change and disturbance. Thus, understanding amphibian declines is important for both conservation purposes and possible human health considerations, especially in cases where toxins and contamination might be factors. Potential causes for this decline may include disease, invasive vegetation, habitat change, suppression of wildfires (that could potentially serve to maintain proper habitats), competition with more aggressive species, and pesticides or contaminants. However, research on this is only just beginning despite the fact that there has been strong worldwide scientific concern regarding amphibian declines for well over a decade.

At this point, hope lies in the possibility that one or two local populations still exist and can be found, protected, and used to start a captive

*continued on page 3*



*Southern Leopard Frog*

## On the Right Track Town of Southampton Preserves Mulvihill 26 Acres With Community Preservation Funds

On July 25 of this year the dream of the late William P. "Bill" Mulvihill became a reality when the Town of Southampton purchased 26 acres in Bridgehampton for preservation from Bill's wife, Mary M. Mulvihill.

You may remember we profiled Bill in a past issue of the newsletter where we printed an Eco-links article he wrote titled Trees. In this profile we talked about Bill, a SoFo member and a noted writer, as being a staunch environmentalist. For years he tried to convince Southampton Town to purchase this Bridgehampton acreage, in an area known as the "Great Swamp," because of its critical importance for ground water protection. In addition to its importance for our water supply, it contains a large block of mature forest - vital to our perching birds that migrate from the tropics into our area in the summer to breed. Within these wooded acres are numerous ponds, marshlands, vernal ponds, and springs which, combined with flora of varied species, create habitats for common, uncommon, rare, and threatened plants, mammals, insects, reptiles, and birds.

This purchase would be good news in and of itself, but it is even better news that it was purchased with funds from the Community Preservation Fund, the monies of which fund Southampton Town's open space preservation efforts. This is a prime example of how important these monies are. Put into action in 2002, the program is currently funded by a 2 percent real estate transfer tax.

We know that Bill would be so pleased to see these funds used in a way that will ensure that some vital areas are protected from development. Not only did these woods give him pleasure for his mind, they also gave him something deeper - a pleasure for his soul.

Now Bill can share this pleasure with us.

### *Leaping Away continued from page 1*

breeding colony to assure long-term survival. Thus far, intensive efforts have not found anything, although some hopeful leads are being investigated. Nonetheless, much fieldwork still remains including efforts to gain access to shallow open wetlands on private property throughout Suffolk County. Concerned residents are urged to share this information and help provide access to such private lands wherever and whenever possible. To help, please contact Jeremy Feinberg at 917-482-3705 or e-mail at [jfeinberg@bnl.gov](mailto:jfeinberg@bnl.gov).

Bio: *Jeremy Feinberg is a doctoral student in the graduate program in Ecology and Evolution at Rutgers University where he is currently studying the decline of the southern leopard frog on Long Island.*