OPEN SPACES

STAMFORD LAND CONSERVATION TRUST, INC.

"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has." — Margaret Mead

SUMMER 2012

RIVER DANCE

THE DELICATE BALANCE OF HUMANITY AND NATURE PLAYS OUT IN STAMFORD'S RIVERS

— Jack Stoecker —

WE'RE ALL FAMILIAR WITH EINSTEIN'S EQUATION E=MC2, WHICH RELATES ENERGY TO MASS AND THE SPEED OF LIGHT. The relationship between forest land and clean water is much the same. One could propose that F = cw2, where forest is equal to clean water squared. More forest leads to exponentially higher water quality and improved aquatic habitat—and that makes the SLCT's mission to preserve open space one of the most valuable activities for successful water resource management in Stamford.

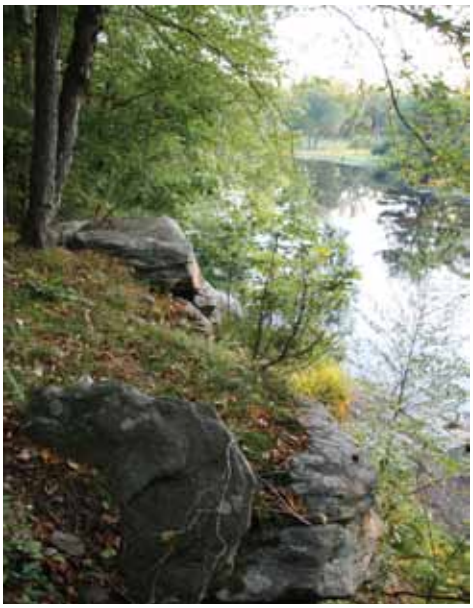

Photo by Rich Chiaramonte

When I moved to Connecticut from Los Angeles more than 12 years ago, I felt energized and intoxicated by the density of mature trees and urban forests in our neighborhoods. Mature forests sequester carbon more effectively than any other land cover, slowing the potential for climate change and providing ecosystem benefits like water quality and habitat quality, according to The Center for Watershed Protection. Forest cover is the best use of land for water storage, recharge, runoff reduction, pollution reduction, and habitat, with the amount of forest cover serving as the best indicator of watershed health.

Studies in Connecticut[i] show that adverse consequences occur when the percent of impervious cover (hard surfaces like asphalt that prevent water from percolating into the ground) exceeds 12% of watershed. That's about the same percentage we have in the suburban neighborhoods near the Mianus

(article continues on page 6)

Do you know what a Tea Cup Bazaar is? Come and find out at our 40th Anniversary Celebration.
THURSDAY, SEPTEMBER 13, 2012, 6–9 P.M., HARLAN SOCIAL, 121 TOWNE STREET, STAMFORD, CT
VISIT STAMFORDLAND.ORG FOR TICKETS

PRESIDENT'S LETTER

— Richard Chiaramonte —

WATER IS FINITE. The total volume of water on the earth and within the blanket of our atmosphere never changes by more than a molecule or two. The total volume is 1.3 billion cubic kilometers, an impossible number to get your head around. You can look at it this way: If you gathered all that water into a sphere, it would be about 841 miles in diameter. That's about the distance from Stamford to Chicago. And of all that water, about 99 percent is in the oceans. Only one percent is left for our lakes and rivers and the reasonably critical task of keeping us alive. Our job of creating a sustainable world includes the complicated and unavoidable responsibility of keeping that one percent clean and pure and available for our use and enjoyment. You could say we really don't have a choice.

Rivers and streams direct water from our watershed into our water supply. When our rivers, the Noroton, the Mianus, and in particular the Rippowam (the Mill at Scalzi Park), are compromised by siltation or pollution from industry, construction sites or farms, our water supply is at risk. The preservation of open space, our mission at the SLCT, is one of the best ways to help keep our rivers clean. To find out a bit more about how this works, take a look at our lead article by Jack Stoecker, President of the Mianus River Watershed Council. He has much to tell us about the great gift our rivers deliver.

Also, our friend Sue Sweeney has given us an update on the Scalzi River Walk and the importance of riparian buffers. Milton Puryear, Executive Director at the Mill River Collaborative, has provided some important information about river herring as a keystone in the river food chain.

I marvel at rivers. I sit by the banks of the Mianus on a hot August day and wonder why the water is still flowing. We have no majestic peaks with endless melting snowfields as in the Rocky Mountains. We have no daily afternoon thunderstorms as in tropical locations. So where does the water come from? If you also wonder about that, see the sidebar "And the Rivers Flow," on page 6.

And, of course, don't forget, coming in September will be the celebration of the 40th Anniversary of the Stamford Land Conservation Trust. It will be a BIG party. Please come and join us.

Rivers, streams, brooks, cascades, arroyos, creeks (cricks?), wadis, trickles, water courses. Whatever you call them, help keep them safe and clean.

Thanks,

COME CELEBRATE

THE 40TH ANNIVERSARY OF THE STAMFORD LAND CONSERVATION TRUST!

THE SLCT IS CELEBRATING A MILESTONE: 40 years of protecting and preserving land in Stamford! We'd love for you to celebrate with us at one of Stamford's newest and most exciting restaurants—Harlan Social. There will be a delicious variety of appetizers, food stations, wine and beer at this high-end gastro pub, as well as fantastic raffle prizes. Come have a blast and support the preservation of open space in Stamford—more than 400 acres and counting.

When: Thursday, September 13, 2012 from 6–9 p.m.

Where: Harlan Social
121 Towne Street, Stamford, CT
(next to Fairway in Harbor Point)

Price: $90 per person (includes passed hors d'oeuvres, food stations, dessert, wine and beer).

See **stamfordland.org** for up-to-date details and tickets, or e-mail us at **social@stamfordland.org**

PARCEL BY PARCEL

HERE HOW THE STAMFORD LAND CONSERVATION TRUST HAS GROWN SINCE ITS FOUNDING IN 1972.

YEAR	LOCATION	ACRES
1973, 74, 75, 85	Deep Valley Road	4
1974	Heming Way	10.3
1976	Grass Island, Stamford Harbor	6
1982	Butternut Lane	1
	Shady Knoll	6
	Wallacks Point Road	1
1982, 87, 90	Heming Way	6
1983	Butternut Lane	1
	Westover Road	5
1984	Hunting Ridge Road	1
	Westover Road	1.2
1985	Guinea Road	2
	Hunting Ridge Road	1
1986	Butternut Place	1.7
	West Trail	5
	Woods End Road	1
1987	Wallacks Point Road	1.2
1988	Brookhollow Lane	1
	Newfield Drive	1
1989	Ingleside Drive	5.4
1990	Old Mill Lane	1
1991	Happy Hill Road	1
	Riverbank Road	13.3
	Shady Lane	10
1993	High Ridge Road	7

YEAR	LOCATION	ACRES
1994	Fishing Trail	2.4
1996	Brookdale Road	1
	Mayapple Road	8.4
1997	Tanglewood Lane	1.5
	West Hill Road	1.3
1998	Guinea Road	8.3
	Long Ridge Road	2.2
	Spring Hill - Ingleside	7.9
1999	Dogwood Lane	1
	Knobloch Lane	1
2000	Mill Road	1
	Riverbank Road	3.3
2002	London Lane	1
	Mill Road	2.6
2003	Rockrimmon Road	1.1
2004	Long Ridge Road	1.2
2005	Shagbark Road	2
2007	Coach Lamp Lane	1.2
	Lumanor Drive	1
	Mill Road	1
2008	Birch Meadow	25.5
	Old Orchard Lane	1
2009	Chestnut Hill	6.3
2010	Dundee Road	171.5
	June Road	15

SAVE THE RIPARIAN BUFFER

THE RIGHT VEGETATION HELPS KEEP OUR WATERWAYS CLEAN

— Sue Sweeney —

IF YOU LIVE ALONG A WATERWAY, TENDING TO THE NATURAL RIPARIAN BUFFER IS ONE OF THE BEST THINGS YOU CAN DO FOR THE ENVIRONMENT. Riparian buffers are the strips of vegetation that naturally line the banks of waterways. These edge-of-wetland zones are extremely fertile with fresh nutrients from flooding, plenty of water, and more sun than the forest understory. In our area, along fresh water streams, rivers and ponds, the upper-story of the buffer zone is made up of trees such as black willow, sycamore, Eastern cottonwood, green and white ash, slippery elm, silver maple, and swamp maple that like wet feet and that stand up well to flooding. These trees are mostly early bloomers, a boon to early-waking pollinators. As they age, the trees develop rotted-out hollows that become homes for birds and small mammals. Meanwhile, the trees shade the river, and keeping the summer water temperature low is vital to health of the fish and other water creatures.

Photo by Sue Sweeney

Underneath the trees, the shrub layer consists of pussy willow, winterberry, arrowwood viburnum, buttonbush, elderberry, silky dogwood, swamp rose, clethra and other native shrubs. These shrubs overhang the water, providing cover and shade for water-dependent creatures. Mallard ducklings, muskrats, turtles, fish, and frogs can all be found in or near the over-hanging brush where they feel safe from predators. The shrubs are also home to many birds and provide fruit, seeds and insects critical to the birds' diets.

Finally at the ground level, there are wonderful wildflowers and grasses from mid-spring through late autumn–tussock sedge, spring beauties, blue-flag iris, swamp milkweed, turtlehead, cardinal flower, pickerel weed–the list is endless.

A healthy riparian buffer, though, does more than support wildlife (as if that wasn't enough). It filters the pollutants out of run off (e.g. lawn fertilizers and pesticides, driveway and road car wastes), improving the quality of the entire Long Island Sound watershed, and our drinking water. The buffer also holds down the soil, protecting the bank and preventing erosion–another serious form of water pollution. (A healthy riparian buffer also discourages non-migratory Canada geese from summering on your lawn.)

Clear-cutting the buffer or letting it go to invasive weeds have repercussion well beyond the individual property. It's OK to groom a few places to physically and visually access the water but preserve and protect the rest. If you must have a water view, consider a raised viewing area with a line-of-sight over the buffer's shrub layer.

GOING NATIVE

Did you know you can choose almost 100 native plants and shrubs (from buttonbush to vibernium) for your wildlife garden or restoration area? There are also well over 40 local trees. See Sue Sweeney's comprehensive lists and tips at **http://nativeplantwildlifegarden.com/native-shrubs-for-southern-new-england/** and **http://nativeplantwildlifegarden.com/native-trees-for-southern-new-england/**

SCALZI RIVERWALK NATURE PRESERVE

WE'RE DOING SOMETHING RIGHT

— Sue Sweeney, Volunteer Head Stewardship for the Scalzi Riverwalk Nature Preserve —

IN FALL 2009, THE SLCT NEWSLETTER PUBLISHED "THE RIVERWALK AT SCALZI PARK, STAMFORD'S BEST KEPT SECRET". The story detailed a proposal to save and enhance this little-known urban gem, teeming with wildlife but threatened by quickly encroaching invasives and use proposals that did not take into account the area's unique character.

So what happened next? A stewardship committee was formed, modeled after that at the Cove Island Wildlife Sanctuary, and work began. The volunteer staffing was a small group of dedicated neighbors and Master Gardeners (from the Bartlett Arboretum- UConn Master Gardener program). The Stewardship reports to Erin McKenna in the Land Use Bureau with much-appreciated operational support from the Parks and Recreation Department for mowing, snow plowing, hardscape maintenance, and the like.

Two full years later, things are coming along well. The Preserve is first and foremost about the wildlife and the urban residents who enjoy it. We're pleased to report that the wildlife is flourishing, and we get daily positive feedback from visitors, many of whom live or work near Scalzi Park.

Our wildlife stars last summer included mallard ducklings, a mink family, three great white egrets, a resident green heron, nesting Baltimore orioles, painted turtles, plus a huge snapper with a carapace over two feet long. This year's winter residents included red-tailed hawks and hooded mergansers, as well as the winter mallards and migratory Canada geese. Lucky visitors might also glimpse other over-wintering water fowl from great blue herons to pied-billed grebes. Osprey are visiting in season but not yet nesting, so the Parks Department is adding an osprey platform in Scalzi Park proper as they redo the ball field lights (using only wildlife-friendly cut off lights, thank you!). Documented species to date are 100 animals and 200 plants–the total number is much higher.

Due to much hands-on volunteer effort, the riverwalk looks neat and cared for–the trees are pruned, and unruly vegetation has been trained to stay off the path. We do have some dying trees and scattered brush piles, but in a nature preserve, this is valued habitat. Thanks to the Parks and Recreation Department, the broken, graffiti-covered benches have been restored, the grassy areas are neatly mowed, and the concrete pathway and railings are in good repair. About half of the invasive plants along the riverwalk itself have been defeated without the use of chemicals or power equipment; the habitat is in good shape even if

(article continues on page 8)

WAYS TO KEEP RIVERS CLEAN

1. If you see sediment run-off going into streams, call Citizen Services at 203-977-4140 and detail the location and problem.
2. Use rain barrels to collect water for gardening, watering, etc.
3. Avoid blowing leaves or other debris into rivers and waterways
4. Use organic fertilizers and employ organic gardening and lawn-care methods.
5. Leave a natural buffer of meadow grass or forest between any streams and your lawn (See "Save the Riparian Buffer" by Sue Sweeney on page 4).

—the editors—

When it comes to protecting open space in our community, the Stamford Land Conservation Trust leads the way and has for 40 years. Come help us celebrate our birthday!

THURSDAY, SEPTEMBER 13, 2012
FROM 6–9 P.M.
HARLAN SOCIAL
121 TOWNE STREET
STAMFORD, CT

AND THE RIVERS FLOW

In the heat of August, when it hasn't rained for weeks, how does the water keep flowing in our rivers? Where does it come from to fill the tributaries that turn into the Mianus, Mill and Noroton rivers? The amount of water needed for the "baseflow" of a river during drought conditions is actually a small percentage of the total groundwater flow in the vicinity of a river segment.

Around here, we don't have large caverns of water underground. What we do have is rock, mostly the fractured bedrock you see in your backyard, intermixed in places with glacially ground up rock deposits. Unseen pathways between the rocks transmit water, slowly and surely and on a massive scale. The rate of flow is controlled by the elevation change of surface topography, as well as recent precipitation (the rate of system recharge), and percolation (how easily the water can move through the particular rock characteristics). Consider that the cross section (width and depth) of groundwater flow is very large as the water makes its way through the tiny pores and fissures in the rock.

The release of groundwater into the stream channel for many miles accumulates and contributes to the flow you see in a stream during an extended dry period. It is a slow, steady and massive release of large quantities of water. During a drought, that steady release lasts a long time, though an extended drought can drain the aquifer, reducing or even stopping streamflow, until rainfall resumes and groundwater is replenished.

— Jack Stoecker

River where the SLCT protects open space. How would we want to design and manage the forest landscape to minimize impact to water quality, aquatic habitat and other wildlife, while maintaining an acceptable human habitat? Good environmental planning is not easy, as it requires us to make choices about the quality of life for wildlife, the environment and for us. Fortunately, academics have been working on urban planning since the beginning of civilization. Today we call it "planning and zoning," but a better name might be "planning for sustainability." The original goals were to prevent waterborne disease. Now the goals consider the quality of life for a variety of species, as well as the sustainability of our natural resources.

Decisions on how to develop and redevelop property are made each and every month in marathon sessions at Planning and Zoning Board hearings. Those decisions, along with the designs and plans for construction, drainage and public health have an impact on our watershed. Unfortunately, the human development and encroachment in our watersheds accumulates annually and results in the gradual degradation of water quality and habitat. This means that, along with the mission to preserve open space, we need the very best management practices to minimize damage.

I'm involved in watershed management planning for the Mianus and Byram Rivers. I find it enlightening, fascinating, fragmented and frustrating. Watershed planning asks you to list what you value about your river community and then define what is needed so those values can be measured, monitored, protected or restored. It reminds me of one of my favorite quotes, by Senegalese environmentalist Baba Dioum: "In the end, we will conserve only what we love. We will love only what we understand. We will understand only what we are taught."

Connecticut has the highest percentage of forest cover in the nation. If we value that, then we need to explain why it has value and nurture the "citizen love" that will sustain its preservation. In this way, we unify ourselves around a shared vision. We are trying to include the preservation of open space along with other initiatives in the watershed management plan for the Mianus River. That plan will be available for public comment this summer and involves specific remediation projects throughout the Mianus Watershed.

The valuable goals of setting aside open space can't be done without measuring, monitoring and occasionally engineering and landscaping. Unregulated recreation can have as nega-

tive an impact on water quality as land development. An open space resource such as the Mianus River Park can be "loved to death" without proper management. (I recently met a fisherman there who had traveled all the way from Brooklyn! He said it was the closest place for high quality winter trout fishing.) The Friends of Mianus River Park have been working for many years to address the substantial impact of streambank and parking lot erosion due to heavy recreational use there. The Friends, the City of Stamford, Trout Unlimited and Mianus River Watershed Council are working to find funding for a streambank and riparian corridor restoration. As we continue to urbanize, we will be faced with the problem of managing the demand on our open spaces. The Mianus River Park problem is a microcosm of the entire watershed. The most important message is that

> All water has perfect memory and is forever trying to get back to where it was.
> — Toni Morrison —

everything is linked, and we all need to have a broad understanding of the benefits and consequences of land development, design and management decisions. There is no water quality czar, so individuals within all levels of government and the NGO's

> Nothing is softer or more flexible than water, yet nothing can resist it.
> — Lao Tzu —

responsible for managing, protecting or advocating for water quality need to align and take action.. According to one expert, "successful water managers must become educators, communicators, and, most importantly, leaders in the service of water stewardship."[ii]

A Chinese proverb says: "The last thing a fish will discover is the existence of water," meaning people have special traits and attributes, which they don't even recognize as talents because they take them for granted. Let's not be the last to discover water quality. We are surrounded by high quality water and we tend to take it for granted. Consider that all the ways you interact with water are an opportunity for disease. The World Health Organization estimates that over 3 million people die each year from water-related disease.[iii] Our local water quality results from a long history of public health planning, civil engineering and environmental planning. The effort and cost that is needed to maintain high quality drinking water and to treat wastewater is almost invisible to us. We need to be grateful for our standard of living, access to health care and public-health based planning. The simplest method of assuring public health is to protect and preserve open space, especially forests. Accessible open space with water resources are valuable as outdoor classrooms and laboratories for students of all ages to discover water quality.

It's not going to take an Einstein, or a complicated equation such as E=MC2 to save and protect our precious resources, just forward thinking and teamwork. Mianus River Watershed Council will continue our support of open space land preservation and stewardship this year. We plan to work with local Land Trusts to draw attention to undeveloped properties along the Mianus River; they must be permanently protected to complete the Mianus River Greenway, preserve corridors for wildlife and to protect water quality and aquatic habitat. We would like to fill in the gaps of unprotected land in the Mianus River Greenway. The critical work of SLCT will enable this to happen some day.

Jack Stoecker is President of the Mianus River Watershed Council. He also serves as the Coordinator for the Byram Watershed Coalition BWC and is on the Board of Directors for the Friends of Mianus River Park. In addition, he is a volunteer at the Mianus River Fish Ladder. He has previously worked for USEPA in Industrial Pretreatment and Drinking Water Quality and for environmental consulting firms on stormwater management.

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[i] CT DEP, 2007. A Total Maximum Daily Load Analysis for Eagleville Brook, Mansfield, CT. Available on-line: http://clear.uconn.edu/projects/tmdl/library/tmdl/reports/eaglevillefinal_TMDL.pdf

[ii] Mehan, Tracy 2005. The Imperative of Integrated Water Resource Management," November 1.

[iii] World Health Organization 2008. Safer Water, Better Health: Costs, Benefits, and Sustainability of Interventions to Protect and Promote Health.

still partially consisting of invasive plants. The plan for the first five years is to stabilize the east bank of the riverwalk, controlling the invasives and reintroducing native plants as needed; then focus will turn to the west bank, and then finally the wooded strip north of Bridge Street.

Do you think when we're 50 we can join AARP? Come celebrate 40 with us at our Anniversary Party.

THURSDAY, SEPTEMBER 13, 2012
FROM 6–9 P.M.
HARLAN SOCIAL
121 TOWNE STREET,
STAMFORD, CT

In the second phase of Scalzi Park construction, the City plans to replace the broken chain-link fence by the footbridge and create a handicapped-accessible path from the Scalzi parking lot to the Bridge Street sidewalk closest to the Riverwalk north-end access ramp (at Bridge Street and Washington Boulevard). Once this is done, the Riverwalk will be fully handicapped accessible by car as well as foot and bus. Further, with the new fence in place, we will be able to restore the decorative spring-flowering trees in the grassy area by the footbridge, using lovely natives this time.

Since the Stewardship is non-funded, we propagate our own native plants at the Bartlett Arboretum. The Prop Lab, as it is called, has already successfully produced 1,000 local genotype native plants from swamp roses and buttonbush to meadow rue and swamp milkweed. Over 200 of these plants are now thriving at Scalzi Riverwalk Nature Preserve, others were donated to the Cove Island Wildlife Sanctuary, the Bartlett Arboretum, Mianus River State Park, and the Stamford Museum and Nature Center. Some rare specimens are now in the Brooklyn Botanic Gardens' collection. A sale of excess plants last summer netted $1,200 for the Bartlett Arboretum; and got these wonderful native plants into local backyards. The best-sellers included Scalzi Riverwalk Nature Preserve's own Eastern joe-pye weed, a particularly attractive naturally-occurring cultivar.

The Stewardship has an annual intern program to train conservation area management volunteers, using the Scalzi Riverwalk Nature Preserve's non-chemical, minimally-disruptive techniques.

More information about the Scalzi Riverwalk Nature Preserve, and pictures of the plants and animals, can be found at scalziriverwalk.com (Facebook). The Stewardship hosts weekly tours, weather permitting. E- mail scalziriverwalk@yahoo.com for the schedule.

SPAWNING SUCCESS

We can point to one great success story on the Mianus River: The fish ladder at the dam on Route 1 in Cos Cob. Just like the legendary salmon runs of the Pacific Northwest, we have annual fish runs of alewives, blueback herring and eels. The alewives and herring provide a food source for birds and otter, and are a desirable sport fish in Long Island Sound. From Colonial days, Connecticut streams began to be dammed for energy. Dams and fish barriers (perched culverts) prevented fish from swimming upstream to spawn. Consequently, the populations of alewives, herring and eels are now threatened and the state has imposed fishing bans until their populations are restored.

The Mianus River fish ladder, built in 1993, is the most successful fish ladder in Connecticut. I once counted thousands of fish there and could barely move a net through the turn pools, there were so many. The data collected there helps the State make decisions about managing the fish species that form a vital food source for the health of Long Island Sound.

If you haven't visited the fish dam, go! The roar of the Mianus flowing over the dam and down the fish ladder is invigorating. In Spring, I really feel a connection with the reawakening of life there and I'm humbled by the extraordinary efforts of the fish to get back to their freshwater spawning habitat and complete their life cycle. It's been going on for thousands of years and it now takes place in an urban setting. With the SLCT's efforts to preserve open space and forest cover, which sustains high water quality, the alewives and blueback herring will regain their populations and improve the health of Long Island Sound.

—Jack Stoecker—

http://mianusriver.org/*fishcamera.html*

NO RED HERRING

THE PRESENCE OF A SPECIAL FISH IS THE REAL CLUE TO OUR RIVERS' HEALTH

— by Milton Puryear —

HERRING USED TO BE ONE OF THE FIRST HARBINGERS OF SPRING IN CONNECTICUT, OUR RIVERS THICK WITH SILVERY SCHOOLS FIGHTING THE CURRENT TO RETURN TO FRESHWATER SPAWNING GROUNDS. The fish are a lynch pin in the food chain of our rivers and Long Island Sound, feeding osprey, river otter, and countless other birds and land animals, as well as larger fish, dolphins and whales at sea.

Here in Stamford, the population has declined alarmingly since the first dam was built on the Rippowan River in 1641, but several projects are giving this fish a fighting chance.

Each spring for the past two years Connecticut Department of Energy and Environmental Protection Inland Fisheries Division staff have released 400 adult alewife river herring into the Rippowam river just south of Scalzi Park in order to reboot the spring migrations. There are still four low-head dams between Cold Spring Road and the Merritt Parkway that obstruct migration to the northernmost reaches of the Rippowam (they spawn south of Cold Spring Road currently). The herring releases will continue for three more years. It takes river herring four years to grow to spawning maturity, so the success of the effort will not be seen until 2014 to 2015.

Nearby in the Mianus River, a fish ladder at the dam just north of Route 1 (see story on page 8) has led to a dramatic reestablishment of the herring population there. The Herring Alliance (yes, there is such an organization—see herringalliance.org) lists the Mianus as the largest herring run in Connecticut at 94,000 returning adults. However, the CT DEEP Fisheries Division staff say Brides Brook in Eastern Connecticut is bigger.

Herring Facts

River herring can be found along the Atlantic coast of North America, from the maritime provinces of Canada to the southeastern United States. The coastal ranges of the two local herring species overlap, with blueback herring (Alosa aestivalis) found in larger rivers and a more southerly distribution ranging from Nova Scotia down to the St. John's River, Florida; and alewife (Alosa pseudoharengus) found in a more northerly distribution, from Labrador and Newfoundland to as far south as South Carolina. Adults are most often found at depths less than 100 m (328 ft) in waters along the continental shelf. Blueback herring prefer swifter moving waters.

Throughout their life cycle, river herring use many different habitats ranging from the ocean, up through estuaries and rivers, to freshwater lakes and ponds. The substrate preferred for spawning varies greatly and can include gravel, detritus, and submerged aquatic vegetation.

LARGEST RIVER HERRING RUNS BY STATE IN 2008

(Number of fish)

Nemasket River, MA
848,848

Nonquit River, RI
24,506

Mianus River, CT
94, 215

Androscoggin River, ME
92,283

Lamprey River, NH
36,247

River herring are anadromous, meaning that they migrate up coastal rivers in the spring from the marine environment to estuarine and freshwater rivers, ponds, and lake habitats to spawn. Depending upon water temperature, blueback herring typically spawn from late March through mid-May. For the last few years along the coast of Connecticut, alewife have returned in April.

It is thought that river herring return to their natal rivers for spawning. Connecticut Department of Energy and Environment fisheries Biologist Steve Gephard observed that they navigate by smell and that each river's olfactory signature is a

(article continues on page 14)

FLORA FILES

SKUNK CABBAGE

— Tara Gravel —

SURE, IT STINKS AND HAS A FUNNY NAME, BUT THERE'S A LOT TO LIKE ABOUT SKUNK CABBAGE. You could even say it's hot—biologically—as one of a handful of plants that uses a process called thermogenesis. The flowers heat up to 35 degrees above air temperature to push through ice and snow, arriving as early as February. Happy crocuses they're not, but the odd-looking flowers have their own distinctive character—tropical lily meets Little Shop of Horrors.

The actual flower, a bumpy sphere called a spadix, is surrounded by a purplish peaked hood, called a spathe, which is mottled with bright yellow or green. The warmth inside the hood spreads the flower's fetid scent, which attracts pollinating flies. They're not the only critters who find it appealing. "It's a unique plant, related to tropical plants, and a first source of pollen for bees," says Ted Gilman, Education Specialist and Naturalist with Audubon Greenwich. "The green leaves are a source of food for black bears when they come out of hibernation, and wood ducks like it too."

People have also put it to use through the years: Some Native Americans used it as an herbal remedy for asthma, and in the 1800s in the U.S. it was used to treat respiratory and nervous diseases. But as far as food, it's better left for woodland creatures: Its roots are toxic and its leaves contain calcium oxalate crystals, which burn the mouth.

SKUNK CABBAGE FACTS

Scientific name: Simplocarpus foetidus

Common names: Clumpfoot Cabbage, Meadow Cabbage, Polecat Weed, Skunk Cabbage, or Swamp Cabbage

Related to: The peace lily, and other plants in the Araceae family, which are characterized by a spadix flower surrounded by a spathe, or modified leaf

Where: Wetland areas

When: Flowers emerge in February and early March, leaves unfold in April, and the plant bears a deep-red fruit in June

Resilience: The root system is massive and complex, with lots of little tentacles. It's nearly impossible to fully dig one out.

Lifespan: Some plants live to be 100 to 200 years old!

Photo by Sue Sweeney

Save a tree, save a forest, save a meadow, save a river. That's the idea and that's what we've been doing for 40 years. Come celebrate with us.

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CRITTER FILES

AMERICAN MINK

— Tara Gravel —

EVERY EVENING A FEW SUMMERS AGO, I'D SEE A FERRET-LIKE CREATURE BOUNDING ACROSS MY BACKYARD, RIGHT ON THE EDGE OF THE LAND TRUST'S FISHING TRAIL PRESERVE. It was dusk and my eyes aren't great (hello, bifocals at age 10), so in the twilight I'd try to guess what it was. Squirrel? Nope—this creature was too long and lean. A stray kitten? Not slinky and low enough. River otter? They're much bigger than this guy.

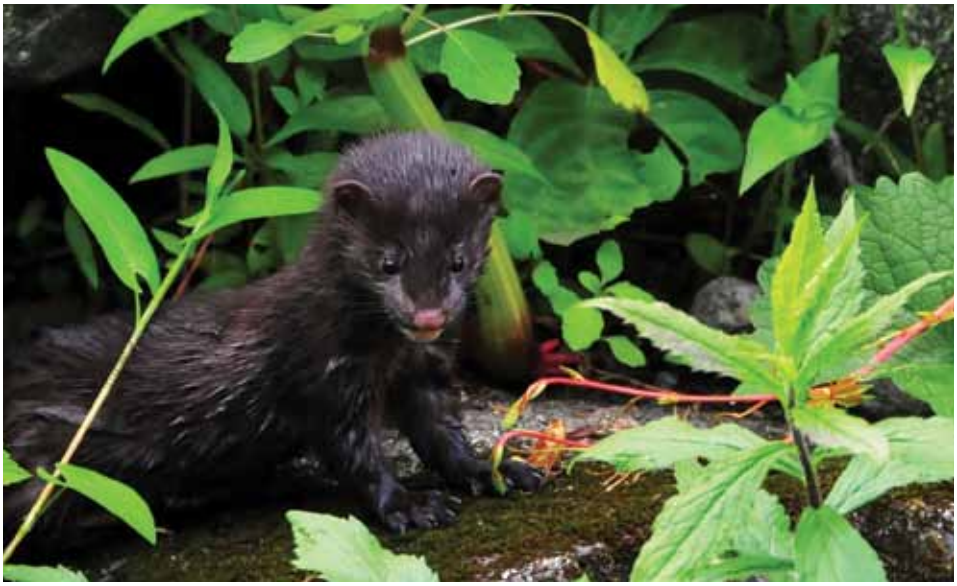

Photo by Paul Pan

Then, one Saturday afternoon, my husband ran in the house and said, "You have to see this! Come outside RIGHT NOW!" Our mystery animal turned out to be one of the cutest and craftiest creatures roaming Stamford's waterways—the American Mink. That day, an entire family swam up a small stream that runs through the preserve, chattering the entire way. Luckily, hubby got there in time to take some pictures.

Turns out, the mink is more common than you'd think in Stamford, due to the amount of food available for it, like fish and chipmunks. They've even been seen downtown in Scalzi park (see Sue Sweeney's excellent story on the Riverwalk there on page 5). Because they are nocturnal, and awfully smart, they're not an easy spot, but you just might see one if you spend enough time enjoying the scenery around our waterways.

ALL ABOUT THE MINK

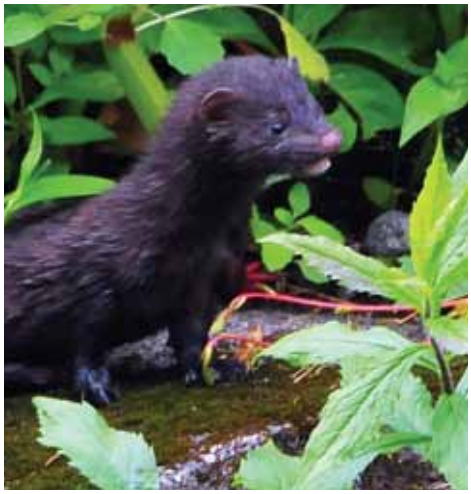

Photo by Paul Pan

Scientific name: Neovision vision

Range: All of North America except desert areas

Habitat: Forest near marshes, ponds, lakes, streams and rivers

Size: About 24" long from head to tail

Lifespan: Up to 7 years

Mating season: February to April with kits born in late April or early May

Home: Hollow logs or burrows near water

Diet: Frogs, fish, birds, rabbits, mice, and chipmunks

Predators: Wolves, foxes, owls

Bet you didn't know: Babies are called kits or cubs, adult females are sows and adult males are boars

Bet you didn't know II: Minks kill snakes, but don't eat them.

WATER, WATER, EVERYWHERE...

WORDSEARCH

E Z Y S G C K N A R R O W Y T H T I G R I S J G W B O N Z R T Z I B T Q U Z V D
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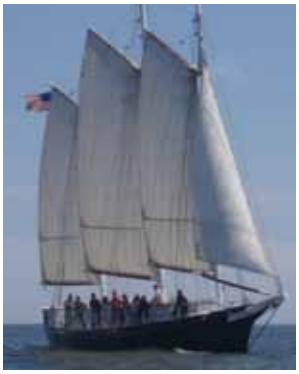
WATER, WATER, EVERYWHERE...

LOOK FOR AND THEN CIRCLE THESE WORDS:

AIRYS LAW
ALLUVIAL
ALLUVIUM
ANASTAMOSING
ANASTOMOSE
BANKS
BEDROCK
BILLABONG
BIOTICSTATUS
BODY OF WATER
BOILZONE
BOURNES
BRAIDED
BRAZOS
BROOK
BURN
CANOEING
CARVED
CAVERNS
CAVES
CHANNEL
CONNECTICUT
CREEK
CRENON
DANUBE
DELTAS
DOWNRIVER
DRAINAGE BASIN
EBRO
ENERGY
EPHEMERAL
EROSION
ESTUARIES
EUCRENON
EUPHRATES
EUTROPHIC
FLOODPLAIN
FLOOD WATERS
FLOW
FLOWING
FRESHWATER
GANGES
GEOMORPHOLOGISTS
GLACIERS
GRADIENT
GROUND
GROUNDWATER RECHARGE
HEADSTREAM ZONE
HUDSON
HYDROLOGICAL CYCLE
HYPOCRENON
HYPORHEIC ZONE
ICE
INDUS
INTERCONNECTING STREAMS
LAKE
LARGE
LIMESTONE
LITHOLOGY
MEANDERING
MELTWATER
MOUTH
NARROW
NILE
OCEAN
OHIO
OLIGOTROPHIC
OXBOW
PARANÁ
PENEPLAINS
PERMANENCE OF FLOW
PERMEABLE
POTAMOLOGY
PRECIPITATION
RHITHRON
RILL
RIPPOWAM
RIVERBED
RIVULET
SAINT LAWRENCE
SEA
SEDIMENT
SNOWPACKS
SPRINGS
STREAM
SUBGLACIAL
SUBSURFACE
SUBTERRANEAN
SURFACE RUNOFF
THAMES
TIGRIS
TOPOGRAPHY
TOWARDS
TRIBUTARY
TRINITY
UPRIVER
VARIABLE RAINFALL
WANDERING

WE SET SAIL—AND YOU CAN TOO!

SOUNDWATERS BRINGS FUN, SUN AND SERIOUS LEARNING ABOARD ITS CRUISES



SOUNDWATERS, AN ORGANIZATION DEDICATED TO THE PROTECTION OF LONG ISLAND SOUND THROUGH EDUCATION, hosted a private sail for Stamford Land Conservation Trust Members and friends in July aboard its three-masted, 80-foot Schooner. Learning stations set up by the crew taught us about the importance of upland conservation (go trees and open space!). We sampled and tested water quality, learned about hypoxia (lack of oxygen), analyzed groundwater filtration, and worked together to raise the sails. We learned that sea grasses, such as the ones found on our own Grass Island preserve in Stamford Harbor, are vital and efficient filters of acidic rainwater and other pollutants.

In its educational cruises, SoundWaters also showcases the rich diversity of life beneath the waves with live creatures caught in a dragnet. The highlight for us: A mantis shrimp, which looks like a cross between a lobster and the shrimp in your scampi, and which has one of the fastest strikes of any animal on the planet. Its lightning-fast claws can break through aquarium glass!

If you'd like the same educational experience, or to simply enjoy the fresh breezes and fantastic views of the Sound on a two-hour sunset cruise, visit **soundwaters.org** for more information.

function of the geology, flora and urban impacts through which it runs. Sometimes the fish will colonize areas other than their native spawning grounds.

Historically, alewives, close cousins of the Atlantic herring, poured by the hundreds of millions into New England rivers to spawn in lakes and ponds. Abundance declined in seven out of fourteen rivers in New England from the late 1960s to 2007, with no obvious signs of recovery; however, since 2004, there have been some signs of recovery in five rivers. Coast-wide declines have been observed, particularly in southern New England. In the Connecticut River the number of blueback herring passing Holyoke Dam declined from 630,000 in 1985 to a low of 21 in 2006.

Maine Department of Marine Resources biologist Nate Gray sees this more recent decline as the result of several stressors, including loss of habitat, hydropower dams, overfishing, beaver dams, predators and pollutants.. When the fish get to a dam they swim around looking for a way past. They are running on a fixed budget of fat reserves. Being jammed at the foot of a dam burns that reserve. Survival rates are affected by the number of obstacles they encounter.

Keystone Species

Gray describes herring as "purpose built…eat[ing] small stuff (plankton) [and] bringing nutrients up the food chain." Herring are vital to the marine food chain above them. The fish at the top, such as cod, haddock and stripers, get the most attention in conservation and preservation efforts, but they are all dependant on herring. The stocks of river herring and Atlantic herring, and the habitats they depend on, need to be prioritized before the species above can recover.

Major losses in the ocean

Currently a further massive plunge in alewife populations (3.5 million pounds to 100,000 pounds) in New England rivers has lobstermen, fishermen and scientists very concerned.

Commercial landings show an overall decline beginning in 1975. Foreign factory ships brought on an Atlantic herring collapse at that time. Midwater trawlers came in the 1990s.

According to the Herring Alliance, populations of Atlantic herring are jeopardized by an industrial-scale fishing method known as midwater trawling. These trawlers haul huge cone-shaped nets the size of a football field with a two-inch mesh capable of bringing in hundreds of thousands of pounds of herring in a single tow. Although targeting Atlantic herring they also have a major bycatch of river herring. Data show that the fleet of mid-water trawlers catches enormous numbers of river herring in single-net tows. According to the Herring Alliance, one tow has the potential to wipe out an entire river's population.

While river herring seem to have fallen through the cracks of fisheries management, it is not too late to take action. The restoration of the Mill River, including the removal of the Mill Pond dam and the Pulaski Street dam, will hopefully make a difference in providing another sanctuary for spawning river herring in Connecticut.

ALEWIFE

Alosa pseudoharengus: Range extends from Newfoundland, Canada, to North Carolina.

BLUEBACK HERRING

Alosa aestivalis: Range extends from Nova Scotia, Canada, to Florida.

Maximum Weight: Less than a half-pound

Maximum Size: 14-16 inches

Maximum Age: 8-10 years

Reproductive Maturity: 3-4 years

Spawning Season: March to June

Diet: Zooplankton, small fishes, eggs and larvae of other species

Predators: River otters, seals and other marine mammals, birds (cormorants, ospreys, herons and eagles) and other fishes (bass, trout, cod and tuna)

Gear: Targeted commercially using stationary fishing gear (weirs, pound nets and gill nets); caught recreationally using hook and line, dip nets and seines; caught as bycatch in small-mesh ocean fisheries.

Sources: National Marine Fisheries Service; Froese, R., and D. Pauly (eds.), 2009, FishBase; Atlantic States Marine Fisheries Commission

NEW & NOTEWORTHY

THE 40TH ANNIVERSARY OF THE STAMFORD LAND CONSERVATION TRUST!

When it comes to protecting open space in our community, the Stamford Land Conservation Trust leads the way and has for 40 years. Come help us celebrate our birthday!

Thursday, September 13, 2012 from 6–9 p.m.
Harlan Social, 121 Towne Street, Stamford, CT
visit: **stamfordland.org for tickets**

KEEPING IT GREEN

If you'd prefer to receive this Amazing Newsletter electronically (as in a PDF sent via e-mail) rather than the colorful and tactile paper version, please let us know—e-mail **news@stamfordland.org**

VOLUNTEERS WANTED

Are you an agile and expert Tweeter and Facebook poster who knows how to generate a following? We're looking for a social-media-savvy volunteer to help with our Twitter and Facebook accounts, posting weekly updates, photos and news. Please contact us at **social@stamfordland.org** if this sounds like you!

"Here, on the river's verge, I could be busy for months
without changing my place, simply leaning a little more to right or left."
—Paul Cezanne—

STAMFORD LAND CONSERVATION TRUST
P.O. BOX 3247 STAMFORD, CT 06905-0247 | WWW.STAMFORDLAND.ORG | 203.325.1850

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Enclosed is my: ❑ Individual Membership $25 ❑ Family Membership $50 ❑ Sponsor $100
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Name _____

❑ Check this box if this is a new address

Address_____
City _____State _____ Zip _____
E-mail _____
I would like to volunteer my services
❑ Land Steward ❑ Land Donation ❑ Other_____

Please send all mail to: Stamford Land Conservation Trust, P.O. Box 3247, Stamford, CT 06905-0247

Contributions to the SLCT are tax deductible.

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Photo by Sue Sweeney

STAMFORD LAND CONSERVATION TRUST, INC.

MISSION STATEMENT

The mission of the Stamford Land Conservation Trust is to seek and accept land through donations or by purchase to hold in perpetuity as open space. The SLCT acts as steward over such lands. It assists governmental and non-governmental organizations to protect and preserve open space.