

# Looking Back and Looking Forward

nnual report time is a great time to take stock of NSRWA's many accomplishments during 2007. With a small staff, a cadre of loyal volunteers, and an active, engaged board, we were able to see many projects come to fruition and many goals fulfilled. Some highlights:

- The opening of 50 more acres of clam flats in the North River;
- The completion of an interactive Herring Kiosk for display at area libraries;
- Started the process for designation of a No Discharge Zone for the coastal waters

of Marshfield, Scituate and Cohasset - including the North and South Rivers; and • Successfully advocated for a condition to be placed on Scituate's Water Withdrawal Permit that requires the town to investigate restoring flows to sup-

port the herring run on First Herring Brook.

We added new events like our Cranberry Harvest Walk, the North to South River Paddle, and Rivershed Jeopardy; saw signs installed to denote the Third Herring Brook; installed more rain gardens in the watershed and on the South Shore; and continued to provide input on local and state permit processes for decreasing impacts to the watershed from significant development projects. We also had the pleasure of working with a great intern-Lauren Gosnell. The work is never ending here to protect, restore and educate!

#### Looking Forward

It has become increasingly obvious that we each play a part in the health of our collective environment. To get this year off on the right foot, our staff compiled a list of individual actions that each of us can take to make a difference in our watershed.

1) Come to one of our paddles or walks and bring a friend to enjoy and learn first hand about your watershed.

2) Volunteer in your community for a board that makes decisions which influence the health of our water resources (Planning Board, Zoning Board of Appeals, Conservation Commission, Department of Public Works).

3) Replant some of your lawn using drought-tolerant native plants. Not only will you save water resources by reducing watering and fertilizing you will increase the diversity of your landscape and improve its beauty.

4) Plant a rain garden. By planting a rain garden you can clean and filter stormwater from your roofs and your driveway, replenishing our groundwater.

5) Buy a rain barrel. By harvesting water from your roof you can diminish the water taken from our aquifers during the summer when our rivers and streams need that water the most.

6) Vote at Town Meeting in favor of watershed friendly laws and funding.

7) Adopt a stream. Most streams are hidden and unloved in our world. They need you! Adopting a stream means cleaning it up, taking samples to monitor its health, restoring where possible, and getting involved when there are proposals that might be detrimental to it! Call the watershed office for more on adopting a stream.

Here are some resolutions from some of our more prominent watershed citizens:

Kezia Bacon Bernstein, Mariner Newspapers Correspondent - "This year I am trying to be more vigilant about reducing my use of plastic grocery bags. I keep a mesh shopping bag in my car at all times, and bring mesh and canvas bags along with me



to the grocery store. The next step will be to use these reusable shopping bags in places other than the grocery store."

Representative Frank Hynes, Marshfield and Scituate - "My wife and my own personal resolution is to step up our efforts at recycling our household solid waste. The Town of Marshfield is six months into an aggressive



recycling program. Since the start of this program we have become more aware that we can better the environment and save solid waste costs if we are diligent in our own recycling efforts."

Cary Wolinsky, National Geographic Photographer - "We have magnificent gardens; this past year was tough because of the drought. This year we resolved to research how we can recapture water from rain water or gray water in our home, store it and



use it in our gardens when there is a drought so we are not impacting our rivers and streams as much."

Tim Kelly - NECN Meteorologist - "I will not throw any little trash out the window. I will sort my refuse at home and recycle all items. I do participate in beach clean ups. I do not allow my auto fluids to leak or be improperly disposed of."



by Samantha Woods



# Letter From The President

"A civilization flourishes when people plant trees under which they will never sit." Greek Proverb

ur association (the little engine that could) has been one of the premier member-driven, grassroots nonprofits south of Boston for 38 years. Hard work, vision and a commitment to action have put us in the enviable but now requisite position to continue to grow both in membership and responsibilities. As the human population grows in our rivershed so too do the demands on our resources. As our audience expands we must find ways to reach out further to the community to fulfill our mission to protect, restore and educate. For these 38 years we have come to rely on our very dedicated membership. Our membership dues are one of the few stable and reliable forms of income we operate from. Rent, interests on small investments, and grants have allowed us to help pay for salaries, research, specific projects and outreach. We could not operate without these additional resources of income.

The value of our memberships however is priceless. We are not surprised at how many of our members are "planting trees under which they will never sit." Our members know the importance of protecting our community well into the future. So much of what we need to do today has far reaching repercussions for our next generations. We cannot afford to merely run around and put out the next fire. We have to continue to develop into an organization that has the time, resources and skills to help control the future of our rivershed.

In the last couple of years, after a fairly sharp increase in membership, we have seen a significant drop in our numbers. What at first seemed alarming, we have come to realize can be partially explained by good news. Our member's generosity and commitment to community expands well beyond the work that we do. We are honored that so many of you support us as one of your many worthwhile choices. Some of our many longtime supporters have relocated to warmer climates. Many non-profits are experiencing declines in their membership numbers as well. Most are struggling with steeper percentages than us.

There are trends that do concern us. Some folks, under the strain of the economic slowdown, have had to make some sacrifices as to where they spend their money. We lose a certain percentage of members who have joined at a specific event and perhaps if not engaged, don't continue their membership. We expect a handful have perhaps disagreed with an action we have taken. Feedback however, indicates that our membership is very satisfied with the projects we are involved with and programs we are offering. The attendance at our events has never been better.

So we have accepted the challenge to reach beyond our traditional ways of increasing our membership (anybody out there own a Lorax suit and is free on Saturdays?). Yes, we will continue to send some mailings, but we are looking outside the box and our comfort zones to spread the word. Recently, we have hired Debbie Cook to help with marketing and outreach. We are exploring ways to become savvier in the electronic world. We will expand our website to include ways to engage young families. Russ Haskell, one of our board members, is planning to produce a film about the rivers. We are planning a few cocktail parties targeting specific audiences and we are even headed to "The Spit" on a busy summer weekend to deliver our message to a number of people who benefit from our hard work. Look for a hot dog and refrigerator magnet in your hand soon.

Like so many times before, we are also calling on you. We know where the best work is done. Our members, time after time, deliver the goods. We would love for you to help us plant more trees for the future. Please convince your neighbors, friends, families and especially young community members to join the "Little Engine That Could." An increase in membership will ensure the rivershed is lined with spreading branches.

Thanks, and see you on the water,

Doug Lowry

## **NSRWA PEOPLE**

## Where Are They Now? Former Intern Meg Dwyer Fills Us In On Her Life Post-NSRWA

i all! Two years ago, I spent a summer working as an intern for the NSRWA. I had a wonderful summer trekking through the marshlands of the North and South Rivers, collecting water samples, helping out with the Great River Race, and writing articles to contribute to our local newspapers. A lot has happened since, but the direction I decided to take when I signed up to work for an environmental nonprofit has remained fixed.

I graduated from Williams College in the spring of 2006, then only a month later, packed my bags and moved to China. I taught English at a large urban elementary school in the city of Shenzhen: a governmentally designated "Special Economic Zone" just across the waters from Hong Kong. Though my year was wonderful in more ways than I can explain, and I highly recommend that everyone visit China, I must admit that one of the most jarring observations, for me, was the dismal state of <u>the en</u>vironment.

he air in Beijing is dirty, as the press reports often and as I'm sure most readers are aware. I lived in the city for a month, as part of an orientation my program had arranged for our group. Smog descended and lingered on the city the day after we arrived. We saw blue sky only once during the month we spent in the historic metropolis. Sunrises were marked by a strange, glowing, opaque haze, and buildings more than a few blocks away often faded into indiscernible shadows. Within days, many people on the program, including myself, had developed strange coughs that wouldn't go away. Standing on the side of the busy roads (where stringent traffic laws have fallen to something more like frenzied crowd control), buses, cars, and bicycles whizzed by, turning up clouds of solid particulates that I could feel hitting my face and eyes. Locals walk around with

towels over their noses and mouths to avoid breathing the stuff in. We'd wash our clothes two and three times, and they'd still be dirty. A consistent question amongst all of us was, "What are they going to do for the Olympics?"

During one of my teaching breaks, I spent about a week traveling down Vietnam by bus, train, motorbike, tuk-tuk, ferry, and whatever else could get me from A to B relatively cheaply. On one long taxi ride, from Hanoi to Ha Long Bay, I remember staring out the window, my head against the glass, half asleep, listening to the low din of our driver's Vietnamese techno music, completely entranced by the lovely countryside. For what seemed like hours, we sped past long and alternating patterns of lush, green rice paddies. The short plants poked out from the mirror-like water, and a stunning reflection of bright blue sky reached all the way to the base of the hills in the distance. Farmers, standing ankle deep in the placid water, hunched over their crop in their giant straw hats, motionless in the seconds it took us to fly by.



2006 NSRWA Intern Meghan Dwyer at the Great River Race check-in table, August 2006

## Intern Opportunities

nterning with the NSRWA is a wonderful way to gain experience and help the environment. Contact us if you are interested in pursuing a career in the environment or just want to see what it is all about! We offer both paid and unpaid internships depending upon experience and funding availability. If you are interested in an internship please send a resumé, your areas of interest, and available time, whether pay is required and we will let you know whether we have the right spot for you to fit into.

Lulled by the landscape into mid-afternoon daydreams, I noticed when, suddenly, the rice paddies stopped. Within a mile or so, the color began to drain from the scenery. At first, I didn't really understand what I was seeing; the trees had turned a grayish black, then the people walking along the sides of the road had begun to take on the same dreary colorless appearance. As we entered a small town, the buildings, the cars, the clothes hanging out to dry, the stray dogs, the sooty faces of the children, the street itself - everything was covered with the thick, heavy, soot of a nearby coal burning facility.

A lot of questions ran through my head at that point, questions about the people who lived in the town, about health hazards, carbon emissions, government regulations, and questions about the desperation of a developing country trying to provide energy, in any way it can, to fund its economic growth and lift its people out of poverty.

I am currently in the process of applying to law schools, and I hope to study environmental law. My time at the NSRWA spurred much of my professional interest in pursuing this growing and necessary field of law. Thank you so much for contributing to maintaining the heath and beauty of our local rivers, I hope this update finds you well and that we all continue our commitment to environmental preservation in the future, both at home and abroad!

> by Meghan Dwyer Former NSRWA Intern 2006



Debbie Cook



Julie Uhler



Doug McPherson

# NSRWA PEOPLE People of the Watershed

#### New To The Watershed - Debbie Cook

e would like to introduce Debbie Cook, our new Communications and Marketing Director. She started her working career as a city planner for the City of Houston, Texas, eventually becoming an aide to Mayor Fred Hofheinz and assistant director of Houston's Citizen Action Center. However, when she moved back to New England and found public administration jobs were scarce, she began working in the communications field. Her most recent positions have been Director of Communications for a 400-employee inner city health center in Dorchester, and Public Relations Director for a public relations firm in the South End. She has a BA from the University of Vermont and an MBA from Northeastern University.

Debbie has been an environmentalist since her teens. She says her environmentalism began when she was fourteen, sailing on Long Island Sound through unswimmable oil-slicked water. She vowed then and there that she would commit herself to cleaning up the environment. True to her word, she began the first recycling program at Houston City Hall, collecting and driving all the cans and bottles to Rice University, the only recycling site in the city.

When she moved to Cohasset, she brought her environmental passion (and a sense of civic responsibility) with her. She has served on the Finance Committee, Community Preservation Committee, Water Resources Protection Committee, and the state-appointed Citizen's Advisory Committee for the Restoration of the Greenbush line. She has chaired the Open Space Committee and the Conservation Commission, and served as president of the Cohasset League of Women Voters. She considers one of her proudest accomplishments, (besides her two children), being part of the effort to preserve three large pieces of property in Cohasset, including over 150 acres in the Lily Pond watershed.

Her husband Tom is a hydraulic engineer, specializing in fish passage restoration throughout the Eastern Seaboard. She and Tom love travelling to just about anywhere, sailing, tennis and skiing.

She says, "I'm really happy to be working at NSRWA. I can't think of a better place to work, giving me the opportunity to combine my professional skills with my passion to improve the environment." Then she added, "There is never a dull moment at NSRWA. Something different and exciting is always going on at this amazing organization."

#### Goodbye To Julie Uhler

e were sorry to say farewell to Greenscapes Program Manager Julie Uhler this past year, who has moved on to pursue other professional and personal goals. Julie contributed greatly to the Greenscapes program and the NSRWA overall and was the key ingredient to the successful South River Festival held in the fall of 2006. Her enthusiasm, commitment to the watershed, and good cheer will be missed here at the NSRWA, though she still remains a committed volunteer and supporter of the organization. Thank you Julie for the time you gave us! We wish you and your family all the best in your future endeavors ... and we will see you on the rivers!

#### Thank You To Doug McPherson

ver the winter break we were fortunate to have Doug McPherson help us with some of the day-to-day work of the watershed . . . answering emails, phones, mailings, and helping us with our many outreach and education events. Doug needed to fulfill some community service hours and thought immediately of an organization close to his heart - the NSRWA! Doug is a biology major at James Madison University and grew up on the North River with his family in Norwell. Thank you Doug!

### **NSRWA PEOPLE**

## Rivershed Steward Profile: Jencie Stewart

ean (Jencie) Stewart is no stranger to the NSRWA. Carrying on the tradition of her family, Jencie has volunteered for years. She brings her skills as a bookkeeper and advocate to assist the NSRWA with our mission. People often comment on Jencie's good nature and positive attitude; our staff in particular have appreciated her work at the office. Any of you that have raced in our Great River Race have benefited from her encouraging words as she and Ellyn Einhorn have pointed the way towards the take out point. Like so many of our volunteers, Jencie helps with the day to day challenges for our rivershed but work done today also ensures we can continue to be effective in the future. Jencie's work and her investment in the rivershed's future is celebrated as we select her as a Rivershed Steward in this edition's Stewardship Profile.

Your family has a long legacy in stewardship for the North and South Rivers watershed. How did this play into the development of your interest in the watershed?

Both my uncle and my brother were involved in the early days so, although I didn't live in the area at the time, I was aware of the Watershed Association's existence from the beginning. It was easy to draw on their positive experiences of the organization, so I've always felt favorably inclined towards the Watershed. When I moved back to the area in the 1980s I started canoeing the rivers and that made me appreciate even more the importance of the NSRWA's protection & advocacy. It was just good timing that when I had some extra time to give, there was a need for a volunteer bookkeeper.

What drives you to volunteer and in turn, continue your family's legacy?

There is a strong tradition of service in our family—particularly in the realms of land use and

conservation; volunteering is a natural thing to do. Helping where I can has always been a given with me. I'm fortunate that I've been in a position where I've been able to contribute time & energy to worthy organizations. Although never enough time and energy—there's always more to do!

What are some of your favorite places in the watershed? Any favorite moments?

I'm lucky that I live right on the South River—it's definitely one of my favorite places. It's a good fishing spot, so it's always a delight and a seasonal rite to see the striped bass fishermen magically arrive at some point during the spring.

Around The Crotch—the confluence of the Indian Head River & Pembroke's Herring Brook—at the beginning of the North River is another lovely area. In late summer I'm often there helping guide Great River Racers towards the final takeout. There's a dramatic contrast between the excitement of the arriving paddlers and their various getups and the vast quiet & beauty of the fresh water marsh with its wild rice, cardinal flower, sagittaria, and inevitable egrets.

What are some of your major concerns about the future of the watershed?

The development pressures that continue to mount even in the current housing slump. Every additional piece of altered land affects the water quality of the watershed. There is still a disheartening igno-



rance of the profound effect our individual land use actions have on the watershed.

What gives you hope about the future of the watershed?

The tireless efforts for good by the fabulous staff of NSRWA.

The enthusiastic response to many of the NSRWA's programs—which provide a good opportunity for education about the watershed.

What are two things you think everyone living within the watershed should know about the watershed?

Cigarette butts & dog poop, two things largely invisible to most people, slip quickly into rivers & streams and can have a significant & harmful effect on water quality. They're pet peeves of mine!

The NSRWA is grateful for our vested volunteers like Jencie. The value of your work and the inspiration you spark in others is essential to the health and effectiveness of our association. Thank you Jencie.

by Doug Low**r**y

The NSRWA Steward Profile is a series of interviews of active volunteers that have contributed their skills, hard work and commitment to the North and South Rivers watershed community. The NSRWA thanks each of our volunteers our organization thrives because of your participation.

### WATER QUALITY

## Greenscapes – Taking it to the People

s the new manager of Greenscapes, my first task was to familiarize myself with all aspects of the Greenscapes program. I learned it was created five years ago by NSRWA to promote ecologically sound landscaping practices to preserve water quality and quantity. And I also learned that the accomplishments of a handful of people working part-time created this farsighted, far-reaching program.

# Greenscapes - Laying the Groundwork

I tallied all the tasks the staff accomplished each and every year. A huge effort was the mailing of a comprehensive guidebook to every household in 12 South Shore towns, chock full of advice about healthy lawn/yard care that respected the environment. The staff also developed a lecture series featuring landscaping professionals, created sophisticated informational displays, organized irrigation audits and on-site lawn care consultations. They sold rain barrels, gave presentations, attended meetings and fairs. They did public relations around events, created public service announcements for the radio, designed inserts for utility bills, developed e-mail newsletters and created and maintained the Greenscapes website. Whew!



Here is just one fact to think about: watering one acre of land with an inch of water uses 26,000 gallons of water...more than a 16 x 32 foot swimming pool! Watering at this rate over a 12-week summer season could use the equivalent of 12 swimming pools of water.

#### Greenscapes - Kicking it Up a Notch

After five years, it seemed time to take an assessment of where we are with Greenscapes. Our previous efforts have been successful at laying the groundwork to educate people about the environmental impacts and the solutions surrounding landscaping. However, we decided it was time to take the program to the next phase, engaging people to change their behavior using a more proactive approach. This year we are going to the people! Instead of mailing a guidebook to every household we have decided to focus on networking and communicating these solutions to people directly. Through outreach efforts at local fairs, town meetings, Rotary, PTOs, Mother's Groups - wherever people have gathered together, we plan to be with our Greenscapes message. In addition, we are reaching out to high-water use businesses in visible locations, offering them a free irrigation audit in exchange for following our irrigation advisor's recommendations - a win-win for the business and the town's water supply. We're even planning to go house-to-house with the Greenscapes message in some high-water use neighborhoods.

Yes, we're still planning to offer the lectures, displays, rain barrels and watering timers. We will still have the booklet printed and available to hand



out. We will still do the PR around events, radio PSA's, utility bill inserts, e-mail newsletter, etc. but this year we are going straight to the people, armed with powerful power point presentations and compelling facts and figures.

#### Greenscapes - Help it Grow!

We need your help! We are looking for groups and events where we can spread the Greenscapes message. We welcome any ideas, and appreciate any contact information you have. The benefits will be healthier yards for families, and preserving water, our most vital resource. Please either call me at (781) 659-8168 or e-mail me at debbie@nsrwa.org. We're looking forward to hearing from you!

> by Debbie Cook Greenscapes Program Manager

Do you want to create a green, healthy yard? Check out www.green scapes.org You'll find everything you need to know!

Do you want to know what you should do and when you should do it to have a green, healthy yard? Sign up for our e-mail newsletter, which comes 6 times a year, and explains in simple terms what should be done each month of the growing season. You can sign up at www. greenscapes.org.

## WATER QUALITY

# **Citizen Scientists Needed in the Watershed**

uch of the data that the NSRWA collects depends on volunteers to collect it. Here are some projects that we have worked on over the past few years that need your help this spring and summer:

#### River Watch Water Quality Monitoring

Non-point source pollution from stormwater and septic systems are common sources of bacterial pollution and the reason our rivers do not meet their designated uses under the Clean Water Act. This summer will be the 15th year of River Watch, which has been our most consistent and popular monitoring effort. We monitor ten different sites around the watershed and check for changes or signs of pollution. Last summer, we were able to expand the parameters that we test to include dissolved oxygen and conductivity (in addition to temperature and salinity) and enterococcal bacteria (in addition to fecal coliform.) River Watch testing requires a commitment of 3 hours or so on a summer morning and the ability to drive a car. We generally test every other week from June - August and hold training sessions in late May - early June.



#### Herring Counts

In recent years, the herring populations have plummeted. One of the major issues the NSRWA is concerned about is restoring habitat for these fish to spawn in. There are multiple impediments to fish passage throughout the watershed. Both the North and South Rivers support populations of herring that swim upstream in the spring to spawn in the tributaries, but these herring are only able to travel as far as the first obstruction. We count herring in the tributaries to assess potential for restoration and to keep a record of changes in the populations from year to year. This monitoring requires an hour of commitment, twice per week during the months of

April and May. Last year we had very poor turnout for herring counts — please help us do a better job this year!

#### Marine Invasive Species Monitoring

Many of our docks, piers, and other hard surfaces have become home for invasive species. During the summer of 2006 we did an intensive survey for marine invasives in the North and South Rivers with support from a grant from the Massachusetts Coastal Zone Management. This summer we hope to do another survey, expanding the area we examine beyond the North and South Rivers and combining our data with other volunteer efforts around Massachusetts Bay to develop a largescale data set. We are still developing our plan, but we will most likely survey once a month through the summer. This will entail explorations of tidepools as well as looking at the submerged portions of docks.

We will be holding trainings for these projects in the late spring, so watch our Rivernet e-newsletter for announcements. If you would like to sign up to help the NSRWA with these projects and others, we ask that you fill out a volunteer registration form (at

www.nsrwa.org). If you have already filled one out, we'll be contacting you as projects come up.

Becoming a citizen scientist has great value not only for the rivers but the participants. Many of our volunteers are middle, high school and college age students who use the experience to gain a better understanding of the watershed and environmental science and apply it in their education or pursue it as a career. For those who are "students of life" the experience can open their eyes to the hidden nature that surrounds them.

by Sara P. Grady

## NATURE

# **Getting a Head Start**

or trees, as for all living things, life is a competition. It is a competition for space, for survival, for breeding rights, for water and for food. Since trees acquire their food through photosynthesis, it is also a competition for light. Send your leaves high enough to reach the sunlight you feed. Get shaded by some larger tree - you starve.

#### Importance of Light

Photosynthesis takes place in the chloroplasts, the green parts of the tree. The chloroplasts are concentrated in the leaves. Leaves are perfect solar collectors. They are very wide and very thin. Being wide, they present a large surface to the sun, maximizing the amount of sunlight they can collect. And since sunlight can't penetrate very deep into the leaves, leaves don't need to be thick. Being thin, the leaves are light in weight. This is very important to a tree as it needs to send its leaves as high as possible to outcompete a neighboring tree for sunlight. As well as sunlight, trees need water. Water, along with carbon dioxide, are the raw materials in photosynthesis that combine to make sugar the tree's food. Water is also the liquid that fills up the tree's cells. And it is the lifeblood of the tree, carrying nutrients to all parts of the tree. Trees can't do without it.

Here in New England, this competition that is the tree's life comes to a halt in the winter. It comes to a halt for two reasons: food and water - the two most basic needs of the tree.

The rate of photosynthesis, and therefore the amount of food a tree is producing, depends in part on temperature. As the temperature falls in winter, photosynthesis slows down until it stops altogether. The leaves are no longer producing sugars. They are no longer doing their job. Now, rather than being an asset to the tree, the leaves are a liability. They are a liability because of water.

#### The Need for Water

Trees take up water through their roots. At the other end of the tree, the water evaporates from specialized cells in the leaves called stomata\*. As the water evaporates from the stomata, it draws water up behind it, eventually pulling more water, as well as nutrients, in through the roots. As long as there is enough water entering the roots to replace the water exiting the leaves, everything is fine. In winter, however, the water in the ground may not be able to enter the tree because it may be frozen. And yet, water can still leave the plant through the leaves. While the stomata may be closed tight, water will evaporate through the surface of the leaf. In fact, the greater the difference in the moisture content between the inside of the leaf and the surrounding air, the faster the evaporation. Considering how dry the air is in the winter, it is not surprising that the trees' leaves are a liability in the winter. To prevent the tree from drying out, the leaves must go.

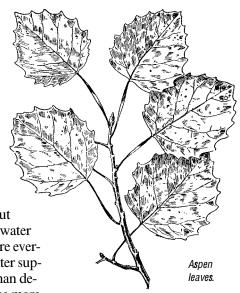
Evergreen trees - pines, hemlocks, spruce etc. - have evolved another solution to winter dehydration. Their leaves - the needles - have much less surface area and have a thick waxy coating. This minimizes the amount of water loss. Therefore they can keep their needles year round (evergreens actually do shed their needles just like deciduous trees, but not all at once. Each fall, they shed the older needles only, the ones that are a few years old. The new needles remain). But needles don't eliminate water loss altogether. Therefore evergreens need a larger water supply during the winter than deciduous trees and may be more susceptible to winter droughts.

So it would seem that in this competition between deciduous and evergreen trees, the deciduous strategy of shedding leaves might be a better strategy for surviving the winter. And yet, when we think of northern forests, the ones that survive long winters, we think of evergreens. The evergreen's advantage is food.

As the weather warms and photosynthesis becomes possible again, evergreens can start to feed right away. Their needles are ready to start producing the sugars necessary for growth. Meanwhile, deciduous trees must first expend time and energy making leaves before food production can start. Therefore, everything else being equal, the evergreens have an advantage for early growth. Growing faster, they win the competition for sunlight, food and survival. If only the deciduous trees could get a head start.

#### Reaching for the Sun

Aspen trees have come up with a way to get this head start. There is no rule in nature that says that photosynthesis must happen in the leaves. It can happen any place in the plant that sunlight can reach. For instance, it could happen in the bark of the tree if the plant were to produce chlorophyll in the bark. While sunlight



doesn't penetrate the bark as easily as the leaves and photosynthesis is not as efficient in the bark as the leaves, every little bit helps.

Scratch the bark of an aspen tree and you might see a layer of green just below the bark. In fact, some aspens have a greenish tinge to their bark. This green is, of course, chlorophyll. As soon as the temperature warms enough for photosynthesis, the aspen can start to produce food in its bark. Not enough to feed the tree completely, but enough to give it just the little bit of a head start it needs to compete with the evergreens.

While researching this story, I happened to notice a young pine tree standing next to an aspen tree. The bark of the pine was green! Seems like the aspen is not the only tree looking for a head start.\*\*

\*Deciduous trees have stomata on the underside of their leaves. Some stomata are big enough to see with the naked eye. Others can be easily seen with a magnifying glass.

\*\* Scientists have identified over 50 trees that are capable of photosynthesis in their bark.

by Don Salvatore





Benefactor (\$1000+) Anonymous (2) Paul Coolidge Mark DiRico First Parish Unitarian Church Craig & Daniel Hannafin Alan & Janet Holbrook Pam Kohlberg Rockland Federal Credit Union Carol M. Sullivan

Patrons (\$500-\$999) Black Pond Veterinary Service Vulcan Company

Horsley Witten Group Kezia Bacon-Bernstein Susan & Gib Hammond Bruce & Debbie Lenahan Scituate Federal Savings Bill Stanton & Lisa Lenon Sylvester Fund/Thomas Hall Trustee

Sponsor (\$100-\$499) Nils & Martine Anderson Joe Armstrong Scott & Marcia Babcock Eliot & Constance Beal Alvin Bennett Len & Dolly Bicknell Daniel Blaney John & Linda Bodenmann Jonathan & Joyanne Bond James & Betty Brabazon Brant Rock Fish Market Robert Brian Kathleen & Christopher Burgess

Eggerstedt Joanne Butterall Michael Caplan & Melissa Robin Joseph Carty Norman Cedarstrom Jean & Jack Christensen Joan & Bob Christie Citizen's Bank of Massachusetts Richard & Patricia Clemence Brian & Gracemarie Concannon Susan Cooper Cronyn Barry & Deborah Cornwall John Cotter Clayland & Clayland Cox Roger Crawford Andrew & Janie Culbert David & Lynn DeGhetto Alison & Ned Demong Peter Demong Digger & Susan Donahue Kathleen & David Donahue Charles & Sandra Drea Mary Eliot Janet & William Fairbanks Peter & Roberta Fairbanks Peter & Wynn Fargo Nancy & Gar Ferguson Glendine Fields Harold Flight Aretas & Mary Floyd Jack Foley Susan Gallagher Arthur & Jacqueline Garceau Carvl & Carvl Gaudette Giuseppe Gioioso

## **NSRWA MEMBERS**

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# From the President:

As always, we are grateful for your continued (or new!) support of the NSRWA through your membership and donations for the rivershed. Your membership dues and donations are critical for our operation. Consider for a moment how far beyond the monetary benefit your membership and donations provide. When you choose to renew or join or make a donation, you bestow profound gifts for the health of our mission. Here are some other ways your contribution helps us, perhaps less obvious but as important;

Membership numbers give us clout and integrity. The larger our membership numbers are, the more leverage we are afforded when it comes time to influence legislation both on a local and statewide level. Politicians listen, especially when our message is delivered by the strength of numbers.

Your membership and attendance at events inspires. Our staff, Board of Directors, and volunteers are encouraged by your support and presence. It is so fulfilling to organize an event like our Benefit Auction or Kayak Expo and have people participate. Seeing each membership renewal or new addition come into the office gives us hope and renewed energy.

Your support radiates through our community. As our membership grows so does our message. Our best outreach resource is your voice. The power of non-profits is derived from the truth, investment and wisdom of its individual members. As your message radiates through the community it is the single most effective way to engage others.

Thank you for your choice to support the NSRWA.

Donna Burrell & Jane

Brian & Leslie Golemme

#### THE NORTH AND SOUTH RIVERS WATERSHED ASSOCIATION

The mission of the North & South Rivers Watershed Association is to preserve, restore, maintain and conserve in their natural state, the waters and related natural resources within the watershed.

Our goals are to: • Restore the water quality of the rivers by identifying and correcting adverse impacts;

 Encourage stewardship of the watershed through public education, outreach and recreation programs; and

 Promote responsible growth by working in partnerships to preserve open space, scenic vistas and sensitive natural resources.

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Address Correspondence to: NSRWA P.O. Box 43 Norwell, MA 02061 phone: 781-659-8168 www.nsrwa.org

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## NORTH AND SOUTH RIVERS WATERSHED ASSOCIATION • 2007 Statement of Financial Position

Total Assets	<b>\$</b> 525,862
Total Liabilities	<b>\$</b> 66,226
Net Assets	<b>\$</b> 459,636
Total Liabilities and Net Assets	<b>\$</b> 525,862

#### **Statement of Activities**

Revenues Restricted Grants Unrestricted Donations Program/Events All Other Total Revenue	\$315,963 75,986 39,968 20,432 <i>452,349</i>
Expenses Payroll Contract Services Occupancy and Utilities Printing and Postage All Other Total Expenses	\$147,121 143,403 8,390 48,100 61,899 <i>408,912</i>
Net Revenue <b>s</b>	<b>\$</b> 43,438

#### Major Sources of Funds

002	wajor sources of runus			
226	Government Grants:	<b>\$</b> 271,556		
636	Executive Office of Environmental Affairs			
862	Environmental Protection Agency			
	Department of Environmental Protection			
	Department of Conservation and Recreation			
	Gulf of Maine Council			
3	Massachusetts Bays Program			
6	Town of Cohasset			
8	Town of Duxbury			
2	Town of Hanover			
9				
	Town of Marshfield			
	Town of Norwell			
1	Town of Pembroke			
3	Pine Hill <b>s</b>			
)	Town of Plymouth			
0	Town of Scituate			
9	City of Weymouth			
2	Foundations and Trusts:	<b>\$</b> 43,075		
8	Sheehan Family Foundation			
	Island Foundation			
	Ma <b>ss</b> achu <b>s</b> ett <b>s</b> Environmenta	l Trust		
	Individuals & Corporations:	<b>\$</b> 131,003		

## Treasurer's Report

The year 2007 was another financially good year for our organization. Grants provided nearly 71% of our total income. We continue to seek grants to sustain our mission of preserving, restoring, maintaining and conserving, in their natural state, the waters and related natural resources within the watershed.

Interest income increased over 37% as a result of our repositioning existing bank accounts to achieve higher yields. Rental income also increased from the previous year because we had a tenant in the upstairs apartment for the entire year.

We have created an endowment fund committee to establish an endowment fund so that our organization can continue to thrive in future years. We expect to have this fund in place this year. This endowment fund will provide an improved means for those members who wish to remember our organization in their will or who may wish to give a gift of appreciated stock and reduce their own tax liability.

Finally, your organization continues to appreciate the support of all of it's member and thanks all of you for your contributions from dues and gifts which constitute an important source of income for the NSRWA.

Richard E. Leach, Treasurer

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Earl Allsop

Cathy Alm

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Jim Brown

Kethro & Thomas, P.C.

# Watershed Notes

#### FREE PASSAGE: RESTORING RIVERS AND HERRING - INTERACTIVE DISPLAY NOW AT LOCAL LI-

<u>BRARIES</u>: Herring, treasured by fishermen and an important food source for many fish, birds and mammals, and part of our cultural heritage, are disappearing from the rivers of Southeastern Massachusetts and throughout the eastern seaboard. That is why the Watershed Action Alliance of Southeastern Massachusetts has teamed up with local libraries to create an interactive display to educate people about the importance of herring to our ecosystem.

People of all ages will enjoy the incredibly beautiful and unusual video clips of herring swimming in their natural habitat, and the maps, charts and photos explaining the herring's lifecycle and the obstacles that need to be overcome in order to bring them back to our rivers.

People don't realize that the loss of herring is a symptom of a greater issue - free-flowing rivers that are needed to maintain a broad and healthy diversity of plant and animal life.

Jeanne Ryer, reference librarian at the Norwell Library where the kiosk has been on display is thrilled by the reaction visitors have to the kiosk. "People will come up to me amazed to learn that there are so many dams and astounded that the river herring population has decreased so dramatically over the last 10 years."

The interactive display, operated by a simple touch screen, will be at the following libraries:

- \* Duxbury Library: March 28th-April 30th
- \* Scituate Library: May 19-June 20



Please check our website (nsrwa.org) for additional libraries and public venues to be scheduled throughout summer and fall.

<u>SCITUATE STORMWATER BYLAW</u>: Recently, the NSRWA staff attended a Scituate Planning Board hearing to encourage them to place a stormwater bylaw for the Spring Town Meeting - to be held March 29th, 2008. The Stormwater Bylaw provides the town with a mechanism for controlling runoff through a permitting process to prevent pollution of water resources. Stormwater runoff is the number one cause of water pollution—nationwide and in our watershed. The Clean Water Act mandates that communities deal with this issue and requires that communities adopt bylaws and regulations that allow them to control this source of pollution. The proposed bylaw in Scituate would allow the Planning Board to have oversight over clear cutting and development and redevelopment over 15,000 sq feet of land. As of the writing of this newsletter we will be advocating for a lower threshold-5,000 sq ft to trigger the permitting process and will be asking our Scituate members to support this bylaw at the Scituate Town Meeting. We'll let you know how it goes! This is the first of our watershed communities to propose a stormwater bylaw - we will be working to support similar efforts in other watershed communities to ensure compliance with the Clean Water Act.

## Here's A Winning Combination: Save Money and Help the NSRWA



# Did you know your membership in NSRWA can still save you money off your auto insurance?

Your membership in NSRWA still lets you save money on your auto insurance under the new "managed competition" insurance laws. Get a 3% discount on your personal auto insurance, OR take a 1% discount, and have the remaining 2% go to your favorite charitable organization: NSRWA! This is in addition to other credits you may already be eligible for, including airbag credits, alarms, low mileage, good students, and so forth.

#### Call Gordon Insurance Agency in Norwell Center at 781-659-2262 for details.

If you decide to take advantage of this program, the folks at Gordon take care of notifying your previous company, agent, and bank or leasing company (if you have one). Plus, you'll can get Plymouth Rock's unique endorsements on true replacement cost coverage, OEM parts, accident forgiveness, and take advantage of their "Myles" program for no charge. Visit www.agordon.com for more.

To sign up or for more information contact us at 781-659-8168 or paula@nsrwa.org

## Discover Hidden Greenbush

#### Sunday, April 27th at 11 am

New sidewalks, walking trails, and bike paths have made hidden gems of the Greenbush area more accessible. Join NSRWA Board Member Carolyn Sones on a walking adventure to explore this historical, recreational and diverse natural area. Meet at the Driftway Conservation Park and Boat Ramp (across from the Widow's Walk Golf Course in Scituate). The program is limited to 20 participants. Pre-registration is required. Suggested donation is \$ 5.

## Yoga at the River's Edge

Saturdays at 8:30 am June 14 - September 20 at various sites along the rivers

Now in its 12th year, this is one of NSRWA's most popular programs. Yoga is a delightful way to begin a summer day. Join local teachers at various outdoor sites to relax, stretch and breathe. *Please bring a blanket, large towel, or sticky mat. Beginners are welcome—no previous yoga experience is necessary. Suggested donation per class: \$ 10. No classes on rainy days. Visit our website after May 15 for more information.* 

# NSRWA's Spring 2008 Events

## NSRWA's 21st Annual Clean Up Day

Saturday, May 17•9 am - noon

All are invited to join us for this important community event. This is our 21st year of scouring the shores of the North & South Rivers and their tributaries. We provide the trash bags, rubbish disposal and the cookout at the Driftway Conservation Area. You supply the energy to get the job done. *Watch your mailbox for more info.* 

## **NSRWA Rowers' Row**

Sunday, June 1 • 8:30 am

Discover another great way to enjoy our beautiful rivers, come rowing with us on the North River. Join in on a pleasant recreational row on the North River and ride the tide up and back from Union Street up to Route 3, stopping at Couch Beach for a picnic and swim on the way back. Meet at the Marshfield Canoe Launch at 8:30 am. Both fixed and sliding seat boats are welcome. All boats and rowers should be equipped with proper safety gear and PFD's. Pre-registration a MUST, and the number and size of the boats participating may be limited, so you must sign up before May 23rd. Suggested donation is \$10 per boat.

## Full Moon Paddle

Driftway Park in Scituate to The Spit Thursday, July 17 • moonrise is at 8:10 pm

Join us on a paddle to watch the rising of the Full Moon. We will paddle as a tight group to the Spit to watch the rising of the full moon and share a story or two. Please bring a flashlight and a garlic clove for each boat. Pre-registration and PFD's are required as the paddle is limited to 10 boats. There is no on-site registration. Suggested donation is **\$**15.

## South to North River Paddle

From the Keville Bridge behind Marshfield's CVS to the Hanover Canoe Launch Saturday, June 28 • 11 am to 7 pm

Back by popular demand! This paddle is on the ambitious side and some experience is required. We will travel all of the navigable waters of both the South and North Rivers and take the whole day, riding the tide down the South River and then riding it up the North River after slack.We will make time to stop for a late afternoon cook-out as we cover the route. If you are a photographer, we also plan to take a number of photos to add to our library for future web site and pod-cast projects. Preregistration and PFD's are required as the paddle is limited to 8 boats. There is no onsite registration. Suggested donation is \$20 per boat. Additional time will be required at each end to shuttle cars.

# Hunting Fireflies

Friday, June 27, 7:30 - 9:30 pm

Many people have wonderful childhood memories of warm summer nights in meadows alive with the flashing of fireflies. These days, we rarely see them. Have fireflies disappeared from our landscape? Join insect expert, Don Salvatore in a hunt for fireflies and learn what's really happening in a firefly meadow. Location of hunt to be determined. Dress for mosquitoes and bring insect repellent. *Registration for members open April 1st - June 2nd, nonmember registration opens June 3rd. Suggested donation is § 3.* 

#### Where have all the Fireflies Gone?

We rarely see them. Have fireflies disappeared from our landscape? Help researchers find out where the fireflies have gone by joining the Museum of Science and researchers from Tufts University and Fitchburg State College in a Citizen Science Project designed to track the fate of these amazing insects. To learn more, log in to www.mos.org/firefly.

### Mark Your Calendar for NSRWA's 18th Annual Great River Race • August 2, 2008

## **NSRWA EVENTS**

# New Year's Day Walk Warms Body and Soul

### NSRWA's 14th Annual New Years Day Walk at Luddam's Ford Park - Hanover

hardy and happy crowd of over 85 people defied the elements and joined board member Carolyn Sones for our annual New Years Day walk in the pouring rain along the old railroad bed at Luddam's Ford Park. After the walk the crowd huddled under a tent and enjoyed the hot dogs, chili and other refreshments provided by Carolyn, Don & Louise Salvatore and Janice Dayton. After many requests, we are printing Janis Dayton's now famous NSRWA New Year's Day chili recipe.

## Janis Dayton's Annual NSRWA New Year's Day Vegetarian Chili • For 10 to 15 servings

- 1 15 ounce can of black beans
- 1 15 ounce can of red kidney beans
- 1 15 ounce can of cannellini beans or white pinto beans (May use dried beans...about 1/3 lb each soak overnight then drain, cover with water and simmer for 1.5 hours until tender.)
- 1 28 ounce can of diced tomatoes
- 1 28 ounce can of crushed tomatoes
- 2 to 4 garlic cloves chopped
- 2 fresh sweet green peppers chopped
- 1 small spanish onion chopped
- 1/2 cup diced fresh carrots
- Fresh jalapeño pepper diced or small can of diced green chili peppers
- 1 to 2 tbsp. of chili powder (There are some chili powders with garlic and oregano already in it. I have used both kinds)
- 1 to 2 tbsp.cumin
- 1/2 tsp. cayenne pepper (or more to taste)
- 1 tsp black pepper

#### 1 tsp dried oregano

1/2 tsp. ground cinnamon or corriander or both Red Hot sauce to taste Salt to taste

In a large pot, put 2 tbsp. olive oil and warm over medium heat. Add diced onions, peppers, carrots, garlic and chili peppers. Cover and cook 5 minutes until onions are clear, then add seasonings and cook another 5 minutes.

Add diced and crushed tomatoes and simmer 1/2 hour. Add beans (If canned, drain half the liquid out. When using cooked dried beans drain and save

1 cup of liquid.). Add 1/2 tsp hot sauce. Simmer the chili mixture for 1 hour. Taste ... add salt or more seasoning to taste. If chili is too thick, add reserved bean liquid.





RiverWatch THE NORTH AND SOUTH RIVERS WATERSHED ASSOCIATION, INC. P.O. BOX 43 NORWELL, MA 02061 www.nsrwa.org

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