

WATERSHED

A Newsletter of the Wood-Pawcatuck Watershed Association

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WINTER 2004

WPWA takes pro-active stance to protect environment

Robert Schiedler

The mission and actions of the Wood-Pawcatuck Watershed Association are ever evolving as the watershed faces new and intensified environmental challenges and concerns.

Washington County is the fastest growing county in Rhode Island. Its population increase of 12.3% over the 1990-2000 decade alone is three-times that of the entire state. The watershed towns of Stonington and North Stonington Connecticut are facing similar development pressures.

During the past eighteen months or so, development interests have noticeably accelerated in the western Washington County area and eastern Connecticut towns located within the Pawcatuck Watershed. These pressures primarily relate to large-lot single family homes, a variety of commercial enterprises, possible on-river industrial development, and a new concern intro-

duced by recent R.I. legislation that attempts to provide more affordable housing units while allowing for higher-density developments that lack adequate infrastructure.



The Exit 1 Hopkinton debate weighs economic development against village life interests.

Development interests profit which the environment likely loses. In addition to private development endeavors, some officials of local governments also seek commercial, industrial and age-restricted residential developments in order to build their tax bases, an ever-present competitor of environmental protection.

WPWA Organizational & Action Adjustments

WPWA's Board of Trustees, recognizing the need for the association to effectively address the emerging demands on its mission to protect the

environment within the watershed, adopted changes in June 2003 to its organizational structure and strategic Pawcatuck Watershed Action Plan.

First, a Development Review Committee was created with the assigned responsibility to track major development proposals within the watershed and to make recommendations to the Board regarding them. Three board members with career experience in local government planning and administration were appointed to serve on the new committee.

Second, the Pawcatuck Watershed Action Plan was amended wherein an early and more expansive pro-active stance would be taken in reviewing impending development propositions with respect to their potential negative impacts on the natural resources of the Wood-Pawcatuck Rivers and their tributaries.

Developments Under Review

Westerly:

The Town rezoned approxi-

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Grills Family, Westerly Land Trust preserve 499 acres on river

In what is certainly one of the most important open space acquisitions in the watershed, the Grills Family of Bradford Dying Association has transferred ownership of 499 acres along the Pawcatuck River in Bradford, a village that lies at the borders of Westerly and Hopkinton RI, to the Westerly Land Trust.

The Westerly Land Trust has pledged to pay \$2.75 million for the land over the next five years. The value of the land is assessed much higher, constituting a charitable donation on the part of the Grills family. The RI De-

partment of Environmental Management, and The Nature Conservancy, will be asked to help in paying for the acquisition.

Land Trust president Harvey C. Perry was quoted as saying the acquisition of this land "is critically important to the Westerly Land Trust Pawcatuck River Corridor Initiative designed to protect and preserve the scenic, recreational, wildlife habitat and water quality resources along the Pawcatuck River."

The Grills family indicated that the establishment of a conservation area on their land had been a long-time desire that is now a reality. The property, to be

known as "The Grills Preserve," will offer some public use. The preservation of the property as open space results in the conservation of 2.5 miles of Pawcatuck River frontage in perpetuity. The family owns approximately 1500 acres in Bradford surrounding their early 20th century millsite.

The Westerly Land Trust is considering the sale of water rights to the underlying Bradford Aquifer to the town of Westerly for future water supply development. The town currently owns wells in the Bradford Aquifer on an adjacent parcel of land.

President asks your help in improving communication

As the designated Watershed Council, WPWA has a responsibility to identify issues affecting the quality of our watershed and to inform our members, so they can participate in decisions on these issues. Often important meetings on proposed developments are held with very little notice, and getting the necessary information to members who are most likely to be concerned is difficult. Mailings are expensive, and telephone contacts are time-consuming for our staff and are quite inefficient. We believe that effective use of the Internet will provide the most effective way to reach many of our members in a timely fashion.

Nationally over 60% of house-

holds have Internet access, and the percentage for Rhode Island should be somewhat higher, given easy access to broadband and DSL. This note is a special request for you to send an e-mail to us at info@WPWA.org, telling us your email address. Please inform us of any special concerns you may have about the protection of the environment in the watershed, and name the towns where you wish to participate in decisions. This will give us an accurate e-mail address for you and will allow us to categorize our e-mailing lists by location and interest.

Each year, at membership renewal time, we have asked members to provide their e-mail addresses, but we have never explained why we need these addresses, and few addresses

are provided. Some may be reluctant to provide their addresses in fear of increasing their spam vulnerability or may simply wish to avoid heavy e-mail traffic. To reassure you - we pledge that we will not release the e-mail addresses of our members to any other organization. Further, we will use the lists sparingly, when a particularly important issue is under debate, or to remind you of WPWA events.

With your cooperation, we should be able to increase the efficiency of our communications significantly, and consequently also the effectiveness of our organization in representing environmental interests in our watershed. We look forward to hearing from you (virtually).

Harold Ward, President

The Importance of Land and Sea

Wally Fulweiler

As a new student at the Graduate School of Oceanography I imagined my thesis research would include endless blue ocean, wave-swept adventures, and hours of ship time. As it turned out, however, I started working on the south coast of Rhode Island, in Little Narragansett Bay. From the bay, I turned my attention inland, and finished my thesis working on the Pawcatuck River and the Wood-Pawcatuck Watershed. I am often asked why an oceanographer would be interested in processes occurring on the land. Through my work on the Wood-Pawcatuck Watershed I can easily answer this question.

Coastal receiving waters, in this case Little Narragansett Bay, are intimately connected with the terrestrial environment. One reason for the connection is because, like a funnel, the land area draining to the coast is often much larger than the receiving waters. For example, the surface area of the Wood-Pawcatuck Watershed is over eighty times larger than the surface area of Little Narragansett Bay. Therefore processes occurring on the land can have profound effects on downstream ecosystems.

These two systems, one terrestrial, one marine, are connected by yet another, freshwater system, the Wood and Pawcatuck Rivers. Riverine transport of dissolved and suspended material

is the most important route by which the weathering products of terrestrial soils and many pollutants from human activities on land reach the ocean. There are many ways in which anthropogenic activities may influence the nitrogen, phosphorus, and total suspended matter carried by rivers. Obvious sources include fertilizer application, human and animal metabolic wastes, industrial wastes, and land disturbances. On the other hand, dams, wastewater treatment, forest re-growth, and crop export act as storages within or losses from the watershed. For this reason, numerous efforts have been made to measure the flux of pollutants and other materials in a wide variety of river and streams at or near where they first encounter salt water. By collecting water samples at such a location the combined effects of both the sources and the sinks of nutrients within the watershed can be observed.

For me, this meant collecting water samples at the Stillmanville Dam in Westerly, Rhode Island because it is the last dam before the Pawcatuck River meets tidal waters. This is also the location of a United States Geological Survey (USGS) water quality monitoring station. The USGS began sampling here in 1976 and continued on a monthly basis until 1990, which allowed comparison between my study and the USGS long-term record. I analyzed water samples for carbon, nitrogen, phosphorus, silica, and suspended matter over an annual

cycle. For this article I will concentrate on some of my nitrogen results.

Nitrogen is an important nutrient in coastal systems because it is essential for phytoplankton growth. However, like most things, too much nitrogen can cause serious problems including increases in the intensity, duration, and frequency of phytoplankton blooms. Increased phytoplankton blooms can lead to decreased light penetration in the water column, anoxic and/or hypoxic events, and shellfish and fish losses. Excess nitrogen can also alter phytoplankton species and increase the growth of macroalgae, which may lead to the loss of eelgrass beds.

When I began this study I expected that the amount of nitrogen exported from the Wood-Pawcatuck Watershed to Little Narragansett Bay would have increased from when the USGS first began to monitor water quality in the late 1970s. After all, the two main sources of nitrogen in the watershed, fertilizer use and human population, have increased steadily. However, the average concentration of dissolved inorganic nitrogen in the Pawcatuck River has decreased by almost 30% since 1980. This decrease is despite a greater than 40% increase in nitrogen fertilizer application and a population that has more than doubled between 1970 and 2000 in towns within the watershed. While I am not certain of the reasons behind this decrease, one plausible explanation is a change

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From the Executive Director

Happy New Year!

2004 will bring its share of challenges to the Pawcatuck Watershed.

Increases in land use throughout the region will require diligence and participation to protect natural resource interests.



Activities to improve public access, such as the Switch Road enhancement project, Laurel Street site, and portage improvements associated with the Bradford fishway rehabilitation project are on tap for this coming year into 2005.

Efforts to increase the return of diadromous fisheries, such as the Parke Pond project in North Stonington, the rehabilitation of the Bradford fishway, and the upgrade of the Potter Hill fishway platform, have begun and extend into the next few years.

Juggling these initiatives with our own operational needs as an organization, and competing demands for funding for programs, buildings, and endowment.

Growing as an organization means dealing with all kinds of challenges. We talk about these things in terms of "bringing wpwa to the next level" as an organization. I guess we define that as taking on more intense projects, increasing membership, increasing staff, and supporting a higher budget that enables us to do more.

It's a
work
pro -

Lori Urso in

gress.

2004 Calendar of Events

per person covers bait and hotdog picnic.

PRE-REGISTRATION IS REQUIRED.

January 3-4 Country Cape Antique Shows *Saturday & Sunday*.

This popular yearly antique show will be held the Mystic Hilton, Mystic, CT. All proceeds from door admission of \$4.50 will benefit Wood-Pawcatuck Watershed Association.

March 11 Volunteer Recognition Party *Thursday 5-9 p.m.*

WPWA Volunteers are invited enjoy an evening on us at our renovated facility to honor their contributions and learn some of the results of their work.

April 10 Opening Day in the Watershed *Saturday 6-10 am.*

WPWA celebrates the opening of trout season with this annual litter awareness event. Free coffee served to reusable mug holders.

April 24 Earth Day River and Access Clean-Up *Saturday 10 am to 2 pm.* Call 401-539-9017 to volunteer.

May 1 AMC Naturalist Wetlands Program *Saturday 10 am to 2 pm.*

June - National Rivers Month

June 5, 12, 19, & 26 --- Wood River Source to Sea Canoe Trips Over 4 Saturdays in June you can paddle a different section of the Wood River from its source in Exeter, through the confluence with the Pawcatuck River, and then to mouth in Little Narragansett Bay. Put-in time is 9 am. \$10 per person; \$7 for WPWA, RICKA, or AMC members. PRE-REGISTRATION IS REQUIRED.

June 19 RI Rivers Day Check newspapers for Rivers Day events all over South County.

July - Learn-to-Fish Month

July 9 Family Fun Fishing Day *Friday 10 am-1 pm.* Kids learn to fish at a well stocked pond managed by RI DEM Aquatic Education Program. Fishing poles are available or bring your own. \$5

July 10 AMC Naturalist Dragonfly Program *Saturday 10 am to 2 pm.*

July 16 Fly-tying Workshop *Friday 5-7 pm.* Youths and adults can learn to tie their own flies from experienced flyfishermen from Trout Unlimited. \$5 for snacks and materials. PRE-REGISTRATION IS REQUIRED.

July 23 Fly-fishing the Wood River *Friday 5 to 7 pm.* Learn to flip that fly just right and get other tips from flyfishing enthusiasts from Trout Unlimited. \$5 per person. PRE-REGISTRATION IS REQUIRED.

July 30 Family Fun Fishing Day *Friday 10 am-1 pm.* Kids learn to fish at a well stocked pond managed by RI DEM Aquatic Education Program. Fishing poles are available or bring your own. \$5 per person covers bait and a hotdog lunch. PRE-REGISTRATION IS REQUIRED.

August 5 Summer Splendor Paddle *Thursday 5-8 pm* Learn to identify some of the flowers on the water and along the banks of the upper Wood River on this relaxed evening paddle. \$5 per person. Meet at the WPWA campus. Limited number of kayaks are available to rent. PRE-REGISTRATION IS REQUIRED.

October 16 Autumn Heritage Mill Tour *Saturday, 1-4* Join WPWA Executive Director, Lori Urso, and other experts on a bus tour of many of the historic mill sites in the Pawcatuck Watershed. PRE-REGISTRATION IS REQUIRED. CALL 401-539-9017 OR EMAIL info@wpwa.org.

Please call in advance to confirm dates and times. For information on

Member gifts help support operations

December's annual fund appeal has generated over \$8000 in additional operating support. Our thanks to all who have made a contribution in support of the local environment.

Leadership Giving (\$1000 and up)

Ashaway Line and Twine
Richard and Ardis Holliday
Harold Ward

Major Donor (\$500 to 999)

Liepold Tool & Die

Founders Society (\$250 to 499)

Pamela A. Crandall

Trustee's Circle (\$100 to 249)

Grania H. Ackley
Manfred & Dan Armbruster
Philip Brencher
John Colozzi
Louise Durfee
Ana Flores & Gabriel Warren
Dante G. & Angela B. Ionata
Peter and Marnie Lacouture
Gaytha Langlois
John McCormick
Stephen and Ruth Morgan
Pfizer Foundation
Doug and Barbara Piehler
Bradford and Nok Preston
William Riggs
Tom and Helen Rowe-Drake
Saul and Jennifer Saila
Bob and Betty Schiedler
Thurman and Doris Silks
Burt Strom
United Builders Supply Co.
Westerly Savings Bank
Myrth B. York

Watershed Club (\$50 to 99)

Albert J. Ball
Philip L. Budlong
Judith H. Chick and
William L. Fanning
Annette W. & John R. Coleman
Tim & Brenda Drury
Dennis and Mary Gibbons
Roger and Linda Greenall
Robert B. Hertling, Jr.
John Howland
Kenyon Industries
John C. Levanti
Thomas Lloyd
Dennis M. Loudon
Alyson McCann & Jake O'Neil
Bill and Kathy McKendree
Steven Miller
Candace Oviatt
Sandra M. Poirier
Mr. And Mrs. John S. Pope
Anna F. Prager
Sylvia D. Rice
J.D. and Hope S. Rider
Noel B. Rowe
Betty and Mitch Salomon

Stream of Friends (up to \$49)

A & B Oil Company
Harriet A. Allen
Anonymous
Peter August
Alan Banister
Nina Rooks Cast
Joseph and Joan Ceo
Mr. & Mrs. James T. Clancy
Richard Cooper
Katherine E. Cowles
Joseph Czerwinski
Caleb and Barbara Davis
Carol M. Deberry
Alan and Charlene Desbonnet
Mike Dirney
Nathaniel P. Dodge
Larry Fine
Lisa L. Gould
Peter S. Innis

John Lowe
Doug MacPherson
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Bryan Rabbett
Robert Rohm
Dr. Richard E. Slimak
Karin Soderberg
Melissa Sousa
Steven E. Stillson
Mary Anne Sumner
Mr. & Mrs. Eugene E. Tougas
Persis Winship-Carter
Jake and Linda Wise

* * * * *

**RI Rivers Council
RI Land Trust Council
RI Association of
Conservation Commissions**
Announce

**The RI Land and Water
Conservation Summit**

Saturday, March 20, 2004
9:00 – 3:30
North Kingstown
High School

Track 1: Building Strong
Organizations
Track 2: Land and Water
Conservation Tools
Track 3: Land Protection

For information contact
Meg Kerr
401-714-2313
Megkerr@cox.net

Development Review

Cont'd from Page 1

mately 500 acres along the Pawcatuck River for industrial development. WPWA fought for expanded riparian buffers as a requirement under the new zone. The property includes more than 2.5 miles of river frontage. Status: the Westerly Land Trust and the Grills family struck a deal to preserve 499 acres as open space in perpetuity.

Richmond:

A large mixed-use development plan at I-95's Exit 3, encompassing approximately 500 acres, and designated Enterprise Zone by RI Economic Development Commission, calls for extensive flex tech and commercial development as well as age-restricted housing uses to be phased in over 30 years. WPWA and others testified for controlled density on the basis of water availability and treatment. Status: Richmond Commons Master Plan approval was granted October 2003 with 30 conditions attached. It is good for one year. The project requires a new well. Experts predict a need to double the capacity of the town water system to serve it.

Hopkinton:

Two proposals to construct "big box" retail stores at I-95's Exit 1 (some 822 acres) conflicts with the Town's draft Master Plan for a Village Center that combines retail, commercial and residential uses. WPWA and others testified for an extended moratorium on development at the site, effective through March, 2004, allowing the Master Plan to be completed and adopted prior to changes in zon-

ing.

Stonington:

The Town is considering changes to its zoning regulations that would reduce the limits on impervious surfaces at the I-95 Exit 92 interchange zone, allowing for construction on more than 60% of a parcel. Affected would be properties on Route 2 to the west of the I-95 Exit #2 in Connecticut. Status: A planning consultant will be hired to recommend possible changes to the land use regulations.

North Stonington:

A Developer presented a proposal to the Town's Economic Development Commission in December, 2003 to construct a 140,000 seat, \$400 million NASCAR racetrack and concert facility on some 400 acres along Routes 2 and 184, east of the I-95 Exit 92. Status: A formal proposal is expected in March of 2004.

Charlestown:

The town received a proposal to build 200 residences on an 82 acre parcel under the new state law allowing for high density developments if 20% of the units are so-called "affordable". Similar proposals have been submitted in several other watershed communities. Status: The proposal is under careful scrutiny of the Town's Zoning Board. If rejected, it may be appealed to the R.I. Housing



Zoning amendments that would increase development potential at Exit 92 in Stonington are being studied.

Appeals Board. Statewide there is a growing lobby to repeal state regulations that have opened affordable housing construction to commercial developers who can easily meet requirements allowing density bonuses. Other watershed towns, such as Westerly, West Kingstown, and Exeter, are facing similar proposals.

WPWA Member Participation

Members and friends of the Wood-Pawcatuck Watershed have opportunities to assist the WPWA board and its Development Review Committee in their efforts to influence sound development pursuits and decisions in their respective communities. Several suggestions in this respect are:

- Notify WPWA's executive director of any new development in your town which you believe may have environmental concerns.
- Contact local planners, Planning Commission members, Town Councilors & Zoning Board officials to inquire about the details of development proposals and to express any specific concerns you may have regarding them. Attend public hearings on development applications and express your concerns. Write to your local officials and to your local newspapers on the matter.
- Influence state government officials to adopt policies that will favor environmentally responsible development.
- When necessary, join in organizations whose purpose of environmental protection is in agreement with yours, and encourage others to do the same.

WPWA CANOE AND HIKING GUIDES

Order Form

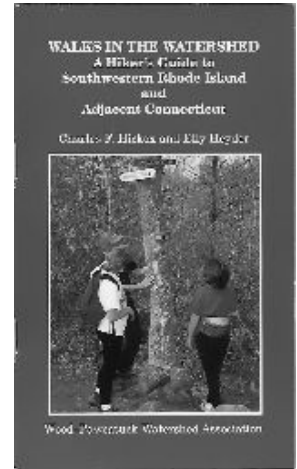
Wood-Pawcatuck River Guide

By Charlie Hickox and Elly Heyder
 \$4.50 per copy (\$3.50 members)
 Navigate the Wood and Pawcatuck Rivers from source to sea with this colorful folded map.



Walks in the Watershed

By Charlie Hickox and Elly Heyder
 \$4.50 per copy (\$3.50 members)
 Sixteen of the watershed's best loop hikes contained in a handy pocket-sized guide



Quantity:

_____ *Wood-Pawcatuck River Routes Map*
 _____ *Walks in the Watershed*
 _____ *Pawcatuck Watershed Report (free)*

Add \$1.50 postage and handling per item.

Name _____

Address _____

Mail form and payment to:
 WPWA
 203 Arcadia Road
 Hope Valley, RI 02832

Charitable Grant Funds Awarded to WPWA

Rhode Island Foundation
 \$10,000

Third and final year of funding provides operational support for WPWA in its role as Watershed Council for the Pawcatuck.

Horace A. Kimball Foundation
 \$10,500

Combined capital (\$6500) and operational (\$4000) funds toward the completion of WPWA facility renovations.

Forrest C. Lattner Foundation
 \$10,000

Provides operational support for WPWA in pursuit of water quality monitoring program goals.

Land and Water
Continued from Page 3

in agricultural practices within the watershed. Before 1980, potatoes were the main crop, but turf fields dominate today. More fertilizer may be applied to turf fields than applied to potato fields, but the application process is very different and less fertilizer is lost to the environment. Irrigation practices have also changed which means less water carrying the fertilizer away from the crops and into the stream.

Unfortunately, Little Narragansett Bay is still heavily nitrogen loaded. Together, the Pawcatuck River and the two wastewater treatment plants (Pawcatuck-Stonington and Westerly) that discharge into the Pawcatuck River

estuary deliver approximately 275 metric tons of nitrogen per year to Little Narragansett Bay. This makes Little Narragansett Bay more heavily polluted, per square kilometer, than its larger, more urban counter part, Narragansett Bay proper. The RI DEM, with help from the WPWA, is in the process of establishing TMDL levels for the estuary. Limits on stormwater discharge may also contribute to decrease in Nitrogen over time.

Despite the lack of saltwater in my research I cannot imagine a better a thesis project. Through this work I learned of the importance of both land and sea. Although I was not on a research vessel, I did canoe most of the Pawcatuck and found plenty of adventure along the way.

Application for Membership

Name _____

Street _____

City _____ State _____ Zip _____

Phone _____ Email _____

- _____ Individual \$25
- _____ Family \$40
- _____ Contributor \$50
- _____ Corporate \$100
- _____ Supporter \$100
- _____ Sponsor \$250
- _____ Patron \$500
- _____ Benefactor \$1000

In addition to my dues, I am enclosing an additional contribution of \$ _____

All but \$5.00 of your dues is tax deductible within the limits of the law.

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WPWA Campus

203 Arcadia Road, Hope Valley
 at Barberville Dam
 401-539-9017
 info@wpwa.org
 www.wpwa.org



Wood-Pawcatuck
 Watershed Association



Workers for RI Department of Environmental Management install a new gate and platform at the Potter Hill Fish Ladder on the Pawcatuck River.

Opinions expressed in *Watershed* are not necessarily those of WPWA, its Board of Trustees, or staff.

Bulk Rate
 US Postage
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 RI

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 203 Arcadia Road
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