

WATERSHED

A Newsletter of the Wood-Pawcatuck Watershed Association

Volume 24 No. 4

FALL 2007

Asiatic Clam *Corbicula fluminea* Invades Worden Pond

By Ray Hartenstine

On a visit to the Worden Pond boat launch in late August, the invasive Asiatic clam *Corbicula fluminea* was found. The first evidence of its presence was dead Asiatic clam shells. The following day, ten to fifteen qualitative random samples were taken with a modified quahog rake, and living adult clams were found. Subsequent collections of twenty quantitative samples within a 750 square centimeter area with the quahog rake unearthed two caddis fly cases, one juvenile *Campaloma decisun* snail, forty-one live *Corbicula*, and 76 live native Unionid mussels. It should be noted that this data is preliminary, and further sampling is planned.

The invasive adult *Corbicula* is sub-oval in shape and looks like a miniature marine Quahog clam. It is gold to gold-brown in color and typically measures 10 to 22 mm long. For physical comparison, the common native

RI adult *Elliptio complanata* freshwater

ter mussel is sub-rhomboidal in shape and measures 60 to 120 mm. It is black-brown to black in color.

In comparing the relative abundance of dead *Corbicula* shells found in Tiogue Lake in Coventry, where the clam was first discovered in 1999, to those found in Worden Pond, it appears that *Corbicula* has been in Worden Pond for a shorter period of time and likely a more recent introduction. The recommended next investigation would be to sample several locations throughout Worden Pond to see if the Asiatic clam has been introduced widely in the water body.

There is a suspicion that *Corbicula* could alter the trophic structure of the pond. For instance, in the early 1980's the pond had a greater abundance of *Campaloma* snails, which seemed at the time to be one of the most abundant mollusks around the public boat launch.

During quantitative sampling in late August of this year how

ever, only one live *Campaloma* snail was found, and no dead snail shells were found. How the presence of *Corbicula* could impact the native invertebrate population is not entirely clear. What is known, however, is that large *Corbicula* populations in other lakes and or rivers do have periodic die-offs, resulting in the release of decay products. One of these is un-ionized ammonia, which has been known to kill native mussels and other invertebrates. Once these huge *Corbicula* die-offs begin to occur, the environmental conditions within the lake itself could be permanently impacted.

Worden Pond is a shallow, sand-silt bottom environment which is ideal for *Corbicula* clam growth. Populations of 10,000 to 20,000 per meter are not unheard of, and a population of this size will affect and change the phytoplankton, invertebrate and vertebrate populations, as well as the organic dynamics of the pond. The Wood-Pawcatuck Watershed is the cleanest and most



Asiatic clam *Corbicula* found in Worden Pond in August

From the Executive Director

A season of change at WPWA

It has been my pleasure to serve as your executive director for this second tenure of seven years, as well as the earlier three.

I am very proud of what we have accomplished together, to make WPWA a celebrated leader in watershed management, and a model for other organizations.

Among my most proud occasions have been those that have celebrated others.

In the fall of 1993, I proudly stood aside Jay Cronan to dedicate our new headquarters in honor of Charles H. Wright, and I was deeply moved to stand before a Jay's friends and family this past July to posthumously dedicate the John M. "Jay" Cronan River Access to him.

It felt wonderful in May to initiate the Saul B. Saila Fellowship in honor of my friend and mentor, and to have him present for the occasion. He has given so much of himself for us.

It was bittersweet to enjoy one last lunch with Mitch and Betty Salomon together in the fall of 2005, after selling off Betty's revered orchid collection to benefit the Salomon Endowment. Laughing with Mitch that sunny afternoon is a treasured memory today.

Denise Poyer without question has been the best partner of my professional career. I want everyone to know how valuable she is to the organization, and that it is her hard work, often overlooked, that carries us. I am so glad we had the opportunity to

work together again. She is a fine and dedicated scientist and educator, and a truly irreplaceable asset.

Ray Cherenzia's willingness to share his expertise so freely with me is the reason so many of our projects have come to life. I owe him an enormous debt of gratitude for his time and assistance.

Many charitable foundation leaders have also put a great deal of faith in me, and supported WPWA because of it. Tom Black, Doug Lattner, Dave King, Keith Lang, Devon Preston, Peter Arnold, and many others- I sincerely appreciate your consideration.

I appreciate our trustees' willingness to let me lead in my own way, and follow my vision for WPWA. Thank you for the opportunity to do so.

To our many friends at RIDEM- Christine, Brian, Phil, John, Lisa and others- your open doors and cooperative nature have been a tremendous part of our success.

Charlie Hickox and his namesake, Charlie the Heron-I have enjoyed your impromptu visits, and your collective inspiration.

Marty my dear- thank you for sparing me the lawn mowing!

I hear the music is playing in the background now, so to everyone else, best wishes and a fond farewell.



Brian A. Wagner appointed executive director of WPWA

Brian A. Wagner of Narragansett is the newly-appointed executive director of WPWA.

An environmental attorney who served sixteen years on staff at RIDEM, Wagner earned a Juris Doctor from Tulane University School of Law, where he was founding editor of the Environmental Law Journal. He also holds a Bachelor of Arts in Geography and Marine Affairs from the University of RI, and is well-trained in mediation.

Wagner will be welcomed aboard officially on October 15.

Fred Sculco of Westerly joins the Board of Trustees

Fred Sculco, a retired environmental educator, has been voted the newest member of WPWA's Board of Trustees. He will attend his first meeting on October 18.

A Westerly native, Sculco has an impressive resume of professional training and experience in the physical sciences. He holds a Master of Science degree in Virology, and has had extensive continuing education in science and biomedical disciplines.

Professionally he has received numerous awards of excellence for his teachings. He has worked at the secondary and college levels, primarily in the Greater Boston area, leading several academic departments in Biology, Biomedicine, Chemistry, and Forestry. Among his efforts is the establishment of a monitoring program for the Charles River Watershed.



Photo of Charlie the Heron by Diana Norton-Jackson

Fish passage alternatives presented in Shannock Fish Passage Feasibility Study

The recently completed Shannock Fish Passage Feasibility Study, compiled by engineering consultants Milone and MacBroom, Inc. of Cheshire, CT, outlines several alternatives for achieving fish passage on the upper Pawcatuck River and the Worden Pond spawning habitat.



Shannock Horseshoe Falls on the upper Pawcatuck River

The study, funded by RI Coastal Estuaries Habitat Trust, NOAA-American Rivers Partnership, US Fish and Wildlife Service, and WPWA, began in the summer of 2006. The scope of work included field inspections at three dams in Shannock and Kenyon, namely the lower Shannock Falls dam, the upper Shannock Horseshoe Falls dam, and the Kenyon Dam at Kenyon Industries; review of available mapping and storm data; preliminary historic and cultural investigations; and field sampling of sediment and water quality parameters. Following this, potential alternatives for restoring passage were analyzed by running their scenarios through engineering models of river flow and conditions.

Three public meetings were held during the process to gauge public interest in the potential alternatives, to collect locally-known data and information about river use and history, and to generally give the public an opportunity to express their

opinions about the structures.

The resource value of achieving successful passage at the three obstructions is the potential to open up nearly 1300 acres of spawning habitat for diadromous species that historically ran the system, and freshwater fish species that are known to reside year round.

It is WPWA's further intent to use this passage to improve aquatic habitat for the native Brook Trout, encouraging design that accommodates this weaker swimmer.

Now that the feasibility report is complete, the next step is to determine consensus on the part of partners and stakeholders with regard to which alternatives to pursue at each location. Once determinations are made, funding can be sought for design and planning for alternatives, and the next phase of necessary additional archaeological and historic investigations.

Grant monies are available for fish passage projects from various state and federal sources, and private interests.

The Feasibility Report is available for review at WPWA. The Richmond Town Planner also has a copy. Advance appointment is recommended.

URI Watershed Watch 2007 season comes to a close

WPWA is especially grateful to our Watershed Watch volunteers for twenty-six weeks of monitoring our surface waters this season.

Carol Ann and Mark Baker, Harvey Buford, Pat Fontes, Criag Hotchkiss, Lorraine Joubert and George Loomis, Bill Hixson, Tony Imbriglio, Bruce Burns, David Smith, Patrick Gallagher, Al Ball, Lawson Cary, Mike Walsh, Thomas and Michele McCormick, Kristin and Don Chambers, Anne Marie Tavares, Werner Wiskari, Stephen and Marie Leinhaas, Karen and Mike Cryan, Sandy Neuschatz, Judy Kaplin, Keith Manning, Sam Curry, Sue Cerullo, Jim Cummings, Peter and Ginny Stack, Sindy Hempstead, Virginia Wootten, Chris Turner, Deb Luz, Gerri Miceli, Anne Sheffield, J. Benjamin Bradley, and Sher and Jim Schroer – many many thanks for your time and efforts. Linda and Elizabeth may now enjoy running your samples all winter!

Year-end opportunity to make charitable gifts from your IRA

The two-year IRA charitable rollover provision, adopted for 2006 and 2007 only, permits individuals aged 70 1/2 or older to make gifts to non-profits directly from their IRA, tax-free.

This special provision allows transfers of up to \$100,000. You may ask your IRA custodian to transfer money directly to charities, such as WPWA, to exclude that distribution from your taxable income.

To initiate an IRA charitable rollover, speak with your IRA administrator. You may designate your gift anyway you'd like, for general support or endowment purposes.

Battling blowdowns to keep paddlers afloat

By Denise J. Poyer

Paddling on the Wood and Pawcatuck Rivers is a fun, healthy outdoor activity, and a great way to see this beautiful resource up close. However, because these are fairly small rivers in heavily forested areas, it is not uncommon to have trees fall across the channel, completely blocking passage by canoe and kayak. This is a natural occurrence caused most often by storm activity, or the undercutting of a tree on the bank by the river current. These felled trees are referred to as "blowdowns," and they can turn a fun trip into an arduous journey. Anyone who has had to drag a canoe up and over a blowdown, or portage around one through mud and briars, has had their patience and endurance tested. Low water, especially as low as can occur in late summer months, can aggravate the situation and add hours onto what may have been an easy paddle in the early spring.

A common question asked by paddlers in the area is "who's responsible for clearing trees out of the river?" Unfortunately, the answer is "no one." However, for the past two decades, WPWA has taken on the task of river trail maintenance, including the periodic management of blowdowns as a service to the paddling community. Though it is difficult to respond immediately to each individual tree that

has fallen, as navigation becomes severely impaired by several obstructions, WPWA rounds up volunteers and staff, and when necessary landscape professionals, to take on these gentle giants.

Blowdown clearing for the purpose of restoring navigation is permitted as an exempted activity under the RI Freshwater Regulations, Rule 6.02, Limited Cutting or Clearing of Vegetation, section J: "The cutting is performed to remove individual trees or portions thereof that have fallen over or into rivers normally accessible by canoes, kayaks, or boats."

Though WPWA has engaged the services of professional landscapers in the past, more recently the cooperation of volunteers alongside staff has been tested in the field. It seems many are drawn to an opportunity to use their chainsaws and hacksaws, and sink their teeth (litterally) into this type of physical challenge. In recent months, WPWA has been fortunate to have the open-ended energy, expertise and equipment of Susan Cerrulo, Jim Cole, Lisa Dennihy, Christopher Hawver, John Buscaglia, Sejal Harde, Charlie Hickox, Chet Hickox, Brett Mayette, and Christopher Quinn. These hardy folks have braved cold water conditions to assist staff in the tackling of heavy limbs and fat tree trunks, in order to make paddling a

more pleasurable experience for the many boaters who pass through our river system. To the others who have offered, don't despair. There are plenty of trees standing by the riverside, just waiting to topple over one day.

The combined number of felled trees along with low water conditions rendered the rivers practically unnavigable this summer. Ten combined

outings were necessary between June and September to keep the rivers clear. Areas that needed particular attention included the upper Wood River, above the Barberville Dam; lower Wood from Switch Road down to the confluence with the Pawcatuck; and the Pawcatuck River from Rt. 112 to Burdickville.

In the process of clearing river obstructions, it is necessary to be sensitive to the value that this woody debris provides for aquatic species. Fallen debris creates very important habitat for all aquatic life that inhabit a river. Without woody debris in the water, there are few places for juvenile fish to hide from predators. Macroinvertebrates also colonize woody debris, and they in turn become food for the fish. Therefore, when river trails are managed, it is only to the extent necessary to allow a canoe or kayak to pass. The intent is never to remove all obstacles from the channel. This is nature, after all. The challenge of skirting around, over under, or even



Volunteer Lisa Dennihy using clippers to clear limbs from a blowdown on the Wood River.

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Blowdowns

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through blowdowns, provides an element of fun and interest to a river trip.

When paddling the rivers, be aware that different water levels present different problems with blowdowns. For instance, high water levels were predominant in June, during outings on the Pawcatuck between the Jay Cronan River Access on Rt. 91 and the Burdickville Road bridge. At the same river segment in September, the water level was so low that formerly submerged blowdowns became exposed and caused big problems for boaters. Clearing this segment the second time around required two days of work. Until much-needed precipitation allows the water levels to rise again, paddling may continue to be tricky on all river segments for this same reason.

The WPWA website is a resource for information on river conditions. The organization hopes to develop this feature more formally with an online blog in the future. Until then, members and river users can email denisep@wpwa.org to report obstructions and low-water conditions for posting on www.wpwa.org. As conditions improve and obstructions are cleared, the information will be updated. Remember, resource limitations and safety concerns make it impossible to respond immediately to each and every obstruction. Most of this work is concentrated in August and Sep-

tember, though some is conducted in the spring prior to the Source-to-Sea paddle in June.

For the adventurous who attempt the wild stretch from Worden Pond to Biscuit City Landing, aka the Charles River, beware. There are several natural obstructions from Beaver activity along this relatively narrow channel. As it is the most pristine section of river in our watershed, and in RI, this area is left to its own devices. WPWA makes no attempt to clear it, and does not promise to do so in the future. Should you decide to attempt it, be prepared for a challenge. Some may enjoy it, others will be overwhelmed.

The one type of obstruction WPWA opts to ignore is the beaver dam. Though pesky at times, the beavers' work is considered a natural obstruction and a normal part of the river landscape. Also, they tend to be more toward the surface of the river, as opposed to blowdowns which can rise several feet above the surface. Under normal flow conditions, most boaters can paddle over the top of them with just a little extra effort. Moreover, the removal of beaver-created obstructions is truly an exercise in futility, as no sooner is the obstruction cleared by man, nature's engineers very quickly, overnight usually, rebuild the dam. The RI Department of Environmental Management also maintains a hand-off approach toward all beaver dams, as they are considered a part of the normal ecosystem.

Best wishes to our URI Coastal Fellow Michelle Hetu

She has spent three summers collecting bugs, deploying temperature loggers, collecting water samples, and sampling fish (and that's the abbreviated list), and now in her senior year at URI, Michelle Hetu has finished up her third and final summer internship at WPWA.



Michelle arrived earlier than us, left later, and even put in a Saturday now and again. She has been a very dedicated, Jill-of-all-trades, and we have appreciated her contributions and her company.

In her final year as an Environmental Science major, Michelle is presently weathering the storm of Frank Golet's infamous wetland class, currently suffering through Pete August's acronym-filled GIS course, and enjoying a respite of birding in the Ornithology class.

Michelle had become quite a soil scientist over the past few years, participating in several soil judging competitions. She also created and exhibited posters for WPWA at two RI Natural History Survey conferences.

We sincerely thank Michelle for her fine work and commitment to our organization. It will be very difficult to find another intern of her caliber or dedication. We wish Michelle the very best in the future.

Corbicula

(Continued from Page 1)

Rhode Island. An Asiatic clam infestation could have a serious adverse impact on this. Moreover, the fact that Worden Pond sits at the headwaters of the Pawcatuck River could give rise to a downstream migration into the system.

Recently a series of press releases has been distributed to local journals advising shoreline residents to refrain from using the Asiatic clam as fishing bait, and to refrain from other activities that would encourage the spread of the clam to other regional waterbodies. Additionally, residents who pump water from these surface water sources should be advised that the clams can migrate into pipes and clog them, if they are located near the bottom or in the substrate.

In a recent conversation with native mussel specialist Ethan Nedeau, who identified *Corbicula* at similar boat launches on Cape Cod, the possibility of young clams attaching to boat bottoms was discussed. In Nedeau's opinion, the clams might survive a couple of days out of the water, long enough to allow them to be transported as the boat launches into its next surface water body. One recommendation is steam cleaning of the boat bottom to kill any microscopic clams before launching the vessel elsewhere. This type of service is provided in states where Zebra mussels are found, as a preventative measure.

In terms of monitoring the

spread of the clam, specialists should take note, and get involved in the tracking of phytoplankton and zooplankton, mollusk, insect and fish populations, along with chemical and biochemical changes that may occur. Another suggestion is for colleges and universities in our state set up a consortium to study this event and share data and documentation on the growth of the clam in Worden Pond and elsewhere.

As a final note, this clam is edible, and in lakes of sufficient water quality, it may be harvested just like fish. However, elevated levels of mercury are often found in freshwater lakes in RI. So consumers should be advised that any limits on consuming fish in those ponds would also apply to *Corbicula* clams.

Ray Hartenstine is a RI Watershed Steward, and a WPWA Volunteer. He can be reached at 401-456-1905.

River House for Rent

WPWA is officering for lease a three-bedroom cottage that sits on the property of our Barberville campus, alongside the upper Wood River.

The house has an eat-in kitchen, living room, bathroom with tub and shower, full basement, and lots of closets. .

The monthly rent is \$1250. Minimum one-year lease. Occupancy is available for November 1. WPWA prefers non-smokers and no pets.

Interested parties may call 401-539-9017 for more information.

WPWA participates in Trail Planning and Design Session

The Trail Planning and Design Workshop for Rhode Island Land Trusts, Watershed Organizations, and Other Grassroots Groups, was held at the Audubon Society Headquarters in Smithfield RI on October 13. The event was sponsored by RI Land Trust Council, Narragansett Bay Estuary Program, and the National Park Service, and was organized on behalf of the Land and Water Partnership by Meg Kerr and Rupert Friday.

John Munroe of the National Park Service was the workshop instructor. He began the event with a discussion of the Guiding Principles for trails, and how they mesh with each organizations mission.

More than 35 individuals from various statewide organizations attended the event. Participants looked at trail planning and design using their groups mission statements and specific geographic areas as guides. The process of working with private landowners to establish trail easements was discussed, as well as the wetland permitting process. Field sessions included identifying trail problems and brainstorming possible solutions.

All of the workshop information is available online at www.landandwaterpartnership.org/library.

WPWA CANOE AND HIKING GUIDES

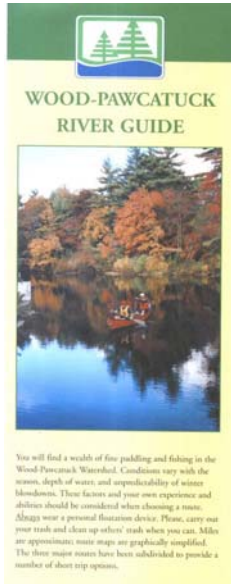
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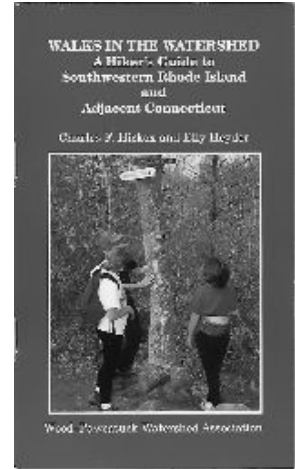


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Current water conditions delay fall trout stocking

The RI Department of Environmental Management says that due to elevated water temperatures and low water conditions, fall trout stocking has been delayed. The Wood River, due to its cool water and rapid flow, is the only location that was stocked before Columbus Day weekend.

Fall is traditionally an excellent time of the year to enjoy trout fishing in Rhode Island. RIDEM expects to stock approximately 10,000 trout before the end of October for anglers to enjoy. Generally, about 20 lakes and rivers are stocked in the fall.

A list of stocked ponds and other information of interest to anglers can be found on

www.dem.ri.gov, by clicking on "Fish and Wildlife" under "Offices and Divisions", then choosing "Freshwater Fisheries".

Small game, upland migratory bird hunting season posted

The RIDEM Division of Fish and Wildlife has set the seasons and bag limits for the Rhode Island small game hunting season that begins this year on Saturday, October 20. Seasons and bag limits for small game were set following a public hearing that was held in June. The 2007-08 Hunting and Trapping Season Abstract summarizes various laws and regulations affecting wildlife and specifies season dates and bag limits for game species. The Abstract is available from all license vendors as well

as RIDEM's Division of Fish and Wildlife offices in Wakefield and West Kingston and the Division of Licensing in Providence.

Best wishes to John O'Brien

WPWA trustees and staff extend fond wishes to John O'Brien, who recently retired as deputy director of RIDEM's Division Fish and Wildlife.

During his tenure, O'Brien worked to improve recreational fishing and hunting in RI though the acquisition of thousands of acres of open space.

A true friend and partner to WPWA, O'Brien played a crucial role in the establishment of the Barberville public access and permanent WPWA headquarters on the Wood River.

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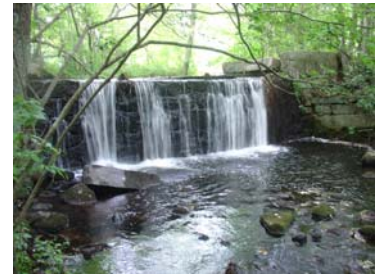


Photo by Jim Cook

Lower Barberville Falls on the upper Wood River, off Arcadia Road.

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