Connecticut River Watershed Council

CRWC Launches One Great River Initiative
BY ANDREW FISK

The tidewater estuary of the Connecticut River is a really long way from the Fourth Connecticut Lake. From top to bottom, our river has a wide variety of river reaches, land forms, and habitats. All these differences have helped create the diverse natural, cultural, and economic regions throughout the four states in our watershed.

Despite these differences, the Connecticut is still one great river that connects the human and natural communities along its banks, and we should see it with a unified vision. There are innumerable differences between people, critters, and governments in our watershed, but there should not be a difference in our goals and how we go about reaching them.

The Clean Water Act requires us, the public who own these waters, to be actively engaged in meeting its core aspiration, which is "the restoration of the chemical, physical, and biological integrity of our nation’s waters.” The CRWC has been working very hard to that end for a long time and we’ve made progress.

But we are not there yet.

As the only advocacy organization created to act on behalf of the entire watershed, your Council is embarking on a campaign to take a unified look at the River by erasing state boundaries and asking simple and hard questions about the entirety of our watershed. The most important of these questions is whether the water quality standards in each of our watershed’s states are ambitious enough and consistent enough to ensure the Clean Water Act is being met.

The answers we are finding are “not always” and “not enough.” So we are launching our One Great River initiative, combining scientific analysis and advocacy to focus on four broad areas of work:

1. **Stronger traditional water quality standards are needed** to ensure that requirements for dissolved oxygen, temperature, and toxicity are strong enough that native cold water fish such as brook trout, sculpin, and Atlantic salmon can thrive everywhere in the watershed. Today, in parts of the watershed, current water quality standards can be a death sentence for juvenile cold water fish.

2. **Getting good standards off the shelf and on the River**: Two states in the watershed have good standards for coldwater fish, but...
Mission
CRWC works to protect the Connecticut River basin’s diversity of habitats, communities and resources. We celebrate our four-state treasure and collaborate, educate, organize, restore, and intervene to preserve the health of the whole for generations to come.

Board of Trustees
James Okun (Chair), Christine LeBel (Secretary), Ed Gray (Treasurer, VT/NH Chair), Raul de Brigard (CT Chair), John Sinton (MA Chair), Ken Alton, Mark Goodwin, Rick Hartmann, Phyllis Magoon, Sue Merrow, Robert Moore, Caprice Shaw, Brewster Sturtevant, Stanley Swaim, Hooker Talcott, Jr., Honorary Trustees: Astrid Hanzalek, Tom Rice. In Memoriam: Tony Lovell.

Staff
Andrew Fisk, Executive Director; Chelsea Gwyther, President; David Deen, River Steward (Upper Valley); Andrea Donlon, River Steward (MA); Ron Rhodes, River Steward (North Country); Jacqueline Talbot, River Steward (CT); Richard Ewald, Planning and Development Director; Marion Griswold, Membership Assistant; Pat LaMountain, Finance Director; Alan Morgan, Regional Office Manager; Angela Mrozinski, Volunteer and Outreach Coordinator.

Currents & Eddies
Editors: John Sinton and Richard Ewald

© 2011 Connecticut River Watershed Council, a 501(c)3 nonprofit. Contributions are tax-deductible.

Contact Information
15 Bank Row Greenfield, MA 01301
Phone: (413) 772-2020
Email: membership@ctriver.org
Web: www.ctriver.org

Comments about this newsletter?
E-mail us at: editor@ctriver.org

Printing generously donated by
DARTMOUTH PRINTING COMPANY

We need you! Sign up to volunteer with CRWC at www.ctriver.org/support/volunteer

From the
Executive Director and President

The Council is growing – in the number of people on our staff, in the programs we are undertaking to protect and improve our communities, and in the number and diversity of supporters and volunteers – to meet the ambitious goals the Board of Trustees has set out for the organization. This past year the Board decided to increase the organization’s capacity by creating a new role of President to focus on engaging people in our work and bringing in a new Executive Director to head up our programmatic initiatives.

Noting this decision, The Hampshire Gazette (MA) declared in an editorial that the Council is “making changes that give it new depth and effectiveness.” We couldn’t agree more. Our staff is now working to implement a range of new programs and projects that are a result of strategic planning conducted at the end of 2010.

Some of that new capacity is reflected in our hiring of Ron Rhodes as our North Country River Steward, operating in both northern New Hampshire and Vermont, and Angela Mrozinski as Volunteer and Outreach Coordinator. In these pages you can read about Ron’s experience and a few of the projects he will be focusing on, and learn about a rain harvesting and water quality project that Angie led in partnership with several local organizations. These two positions allow us to engage with many more watershed residents on a wide variety of advocacy, stewardship, and educational projects.

The watershed is a big place and we are growing so that we can do more good work on its behalf and create opportunities for you to protect and enjoy the watershed you care deeply about. To learn more about all of the work we are undertaking, join us online at www.ctriver.org or on Facebook www.facebook.com/connecticutriver.

On behalf of the entire staff – new and old – we are grateful for your passion for the river and your support of our growing mission.

Chelsea
President
cgwyther@ctriver.org
413-772-2020, X202

Andy
Executive Director
afisk@ctriver.org
413-772-2020, X208
S andwiched between a devastating tropical storm and a rare late-October snowfall, CRWC’s 15th Annual Source to Sea Cleanup succeeded thanks to the dedicated efforts of 1,454 volunteers and more than two dozen corporate sponsors. Sixty-six cleanup groups in four states conducted 80 separate cleanups over the first two weekends in October, hauling more than 51 tons of trash out of the rivers from 60 miles of shoreline, and pitching in to help communities pull themselves back together after Tropical Storm Irene.

While the effects of Irene differed dramatically throughout the watershed, floodwaters in the Connecticut River and its tributaries tore out many roads and bridges, destroyed homes and businesses and reshaped stream beds. Floodwaters impacted the Cleanup by scouring some Cleanup sites of trash and depositing unstable piles of uprooted trees, rubbish, and construction debris in nearby floodplains. Since sewage and a variety of hazardous materials had entered the waterways at some sites, there were potential threats in handling trash.

CRWC responded to these challenges by inaugurating early communication with Cleanup group leaders, urging them to put safety first, conduct pre-Cleanup assessments of their sites to evaluate safety issues and in some cases identify alternative Cleanup sites. As another precaution, CRWC added dust masks to the gloves and garbage bags we distributed to group leaders.

“Every year the Cleanup demonstrates that thousands of people love this river and are willing to go to extraordinary lengths to make it better,” said Chelsea Gwyther, CRWC President. “Those 51 tons of trash our volunteers collected this year are a monument to their dedication and perseverance in the face of incredibly adverse conditions.”

With many groups targeting areas hard hit by Irene, the Cleanup took on the aspect of “neighbor helping neighbor,” possibly nowhere as clearly as in Vermont, where the storm’s toll prompted nearly 500 volunteers to turn out, up dramatically from the 162 volunteers last year. Those Vermonters, in 15 groups, cleaned up 24 sites. In other states: CT – 286 volunteers in 26 groups cleaned 27 sites; MA – 600 volunteers in 19 groups cleaned 21 sites; NH – 68 volunteers in 6 groups cleaned 8 sites.

“We really appreciate how well prepared our groups were to deal safely and effectively with the complexity of the work this year,” said CRWC Cleanup Coordinator Jacqueline Talbot. “And for the support they provided to our volunteers in the field, we’d also like to tip our hats to local businesses, construction companies, state agencies, town fire and highway departments, and schools and universities.

“The collaborations we saw this year, the commitment of our hard-working volunteers, the tremendous support from our sponsors – all mean cleaner water, improved habitats and communities coming together, and that’s what this event is all about,” Talbot said.

Title sponsor for the Cleanup was NRG Middletown Power, and major support was provided by TransCanada. Generous donations were also made by Lane Construction Corporation, the Metropolitan District (MDC) and Covanta Energy. Many other companies in the region provided in-kind services, such as trash removal and disposal, and gifts of gloves, bags and food for volunteers. CRWC’s 66 volunteer groups were also supported by an additional 65 local businesses, state agencies, corporations, construction companies, schools and municipalities, reflecting the broad community support the Cleanup has built over 15 years.
WATERSHED-WIDE

Connecticut River a Potential National Blueway
The Council – in conjunction with the Silvio Conte Refuge and many other state, local, and nonprofit partners – has taken up the challenge of President Obama’s America’s Great Outdoors Initiative. In a meeting this summer in Hartford, high-level Department of Interior officials challenged all of us working on the Connecticut River to give them bold and fresh new ideas for cross-cutting programs to get people outdoors more often and in more ways.

We have submitted a proposal to create a Blueway designation for the entire watershed that will significantly expand access to the River as well as recreational sites for camping, boating, hiking, and biking. It also proposes a number of unique land and water stewardship programs. The Blueway will build on the many existing local efforts around the watershed and ideally provide new resources to make this a watershed wide program of recreation and stewardship.

In a similar initiative, CRWC facilitated the participation of dozens of partnering groups to obtain the 1996 designation of the Connecticut River as one of the country’s 14 American Heritage Rivers. AF

VERMONT AND NEW HAMPSHIRE

Nine Upper River Major Permits in 2011 and Counting
So far in 2011 CRWC has commented on 9 individual permits in addition to our active involvement with Federal Energy Regulatory Commission (FERC) licensing proceedings. The permits covered a wide range of projects, including: a shopping center indirect discharge septic permit on the shore of the West River in VT; riprap projects in lower NH and in the far north at the CT Lakes region; a sludge-spreading permit and a rock quarry runoff discharge permit in the White River watershed; the huge Northern Pass power transmission line in northern NH; an effluent spray disposal system in Dover, VT. In most cases our comments were taken to heart by the permitting agency, conditioning the permit to help better protect the river while not denying the applicant the permit. DD

Hydro Projects
Several Federal Energy Regulatory Commission (FERC) license applications in the upper valley have moved forward this year. The twin applications for the US Army Corps of Engineers dams in Townshend and Jamaica have now submitted their final application. CRWC submitted comments during project scoping. We will not know the results of our involvement until the draft license is issued later this fall or winter. Fish passage, the safety of the flood control dams and water quality are the issues we continue to address in this process.

The Canaan Dam appeal of the Vermont 401 water quality certification has ended for now. CRWC, two states and Public Service of New Hampshire agreed among ourselves to dismiss the appeal without prejudice. This will give us some time to agree on a fishery habitat assessment plan and carry it out over the next field season without taking up court time while we complete these tasks. The case may be brought back to court by any of the parties at any time. CRWC still supports the 401 condition that requires up and downstream fish passage at the Canaan Dam.

The Twin Falls (Westminster, VT) final application has been submitted and CRWC has requested that FERC condition the license with a requirement for a study on fish habitat and a close review of the project for visual impact on the remarkable natural gorge where it would be located. We await the issuance of the draft license by FERC.

There has been no further substantive action on the Murphy Dam, the three Ashuelot River dams and the Mascoma Dam in terms of their FERC applications. DD

 MASSACHUSETTS

New car top access to the Connecticut River in West Springfield, MA
The Thomas A. Lagodich Riverfront Park Canoe and Kayak Launch in West Springfield opened to the public on

Out & About continued on page 9
Irene, the ninth storm of the 2011 hurricane season, roared into the Connecticut Valley on August 28th as a tropical storm, but produced far more damage than most such storms. More than 50 people in the Northeast died. In our watershed, Vermont and parts of the northern hill towns of Massachusetts suffered the worst flooding in memory. Early damage estimates in the Northeast ranged from $10 to $15 billion dollars.

Tropical storms take notoriously quirky paths. Irene left much of the region east of the Connecticut River relatively untouched except for some wind damage, while it dumped rain and wreaked havoc on parts of Connecticut, Massachusetts and especially Vermont. Half the state of Connecticut went dark as electric lines went down.

In the days and weeks after the storm, helicopters buzzed overhead, delivering supplies to towns isolated from the world by the flooding. It seemed that every dump truck in the region was in constant motion, hauling stone and gravel to rebuild roads so schools could open and people could go about their normal lives again. Governments declared disaster areas up and down the valley to help farmers recoup the losses caused chiefly by polluted flood waters that inundated crops which had to be plowed under. Rebuilding of roads and bridges in the MA hill towns and in many parts of Vermont continued into autumn. And then an unprecedentedly heavy late October snow storm further complicated the work.

Irene is assuredly not the first, nor will she be the last, destructive storm. We live in a rainy climate where rivers are accustomed to reclaiming their seasonally dry flood plains. We can expect annual spring freshets when ice breaks and snow melts, and in late summer and early fall occasional tropical storms can turn our rivers into torrents.

When the Connecticut’s flood history is written, Irene will take her proper place in the order of great floods:

- **1955 was the most recent comparable flood** when twin hurricanes hit New England – Connie on August 11th and Diane on August 13th, devastating Connecticut, where 80 people died and property losses were in the billions of dollars. But Irene was far more destructive in the Upper Valley than were Connie and Diane.

- **In the Upper Valley, only the Great Hurricane of 1938** can compare to Irene in terms of damaging impacts in the last century – it hit Vermont and New Hampshire as a category 1 hurricane and, as the water moved downriver, did immeasurable flood damage to Hartford and Middletown, Connecticut.

- **The most damaging flood in the Connecticut River Valley** in the last 150 years occurred in March of 1936 when an early, quick thaw melted a heavy snowfall and broke up millions of tons of ice, forcing both tributaries and the main stem out of their banks, overtopping Vernon dam by 19 feet, destroying most of South Hadley Falls, killing 171 people, and leaving hundreds of thousands homeless.

- **1927 was the year of Vermont’s “Greatest Natural Disaster,”** a November flood that destroyed 1,283 bridges, innumerable homes and businesses, and accounted for 84 deaths. The damage, however, was limited to the state of Vermont.

- **The 1862 “Lincoln” flood** was, perhaps, the highest in the 19th century, greater than the freshet of 1840, which created the famous Oxbow at Northampton. The 1828 flood was damaging, but not as bad as the 1801 “Jefferson” flood, perhaps the only one comparable to the “Lincoln” flood. The worst 18th Century flood was reported to be that of 1769, and the Great Flood of 1691 may have been the highest of all, but we only have hints of its destruction from early chronicles.
Irene’s unrelenting rain turned our rivers to silt-laden torrents. They jumped their banks, flowed onto floodplains where they could and into our streets, farms, and homes where they couldn’t. We’re left with widespread devastation and sad memories of those killed or injured.

Now people are asking: “What went wrong with our rivers?”

The answer is: There is nothing wrong with our rivers, but there is a problem with our expectation that we can engineer a river’s behavior. A river is an exquisitely balanced natural system, controlled by the laws of nature of gravity, force, work and friction. Rivers behave according to those laws, which we ignore at our own peril.

An unmodified river during high water transports two primary things – water and sediment. The greater the amount of water entering the river, the faster it flows and it erodes more material from the banks and bottom, carrying ever more sediment downstream. And, of course the steeper the gradient, the faster the flows and the greater their sediment loads. When the rushing waters from our tributaries hit the main stem of the Connecticut, they add to the rising waters in the valley. The great flood plains and meadows of our big valley allow the river a second home, as flows top the primary river bed, spreading water, silt, and detritus out over the plain. That flood plain, provided to us by nature, diffuses the power of all that moving water over a wider area.

The damage we see during Irene’s flooding is, in large measure, due to our own activities that encroach physically on our rivers. In the 19th century, we stripped our forests, eroding the topsoil and choking our river valleys with sediment washed down from our mountains. Our rivers are still recovering. We covered areas next to our streams with roads and parking lots, preventing the water from filtering into the soil and causing it to shoot straight into our rivers.

We increased erosion by filling in wetlands and stripping our riparian zones of vegetation. By trying to stabilize our banks and pinch their width when we build bridges, by straightening and dredging the river, we have destabilized the river itself. Nature will inevitably provide an overabundance of rain and snow, and the rivers, just as surely, will move that water and sediment, regardless what we do to force it to conform to our habits and customs. In short, many of our actions are guaranteed to increase damage to property during flooding.

We will not stop rivers from flooding by making the rip rap stone larger, removing gravel, constructing higher berms or making rivers arrow straight. The laws of nature will defeat such approaches. We should facilitate a river’s access to its floodplains and wetlands where the river flows can spread out and slow down. We should allow rivers to form meanders, even in locations that may threaten us because the meanders absorb the force of the river flows. And we should allow rivers to deposit gravel naturally.

We need to be smart about where and how we work with rivers and judge whether we’re fixing problems that don’t exist. Once our infrastructure is repaired, we should be thoughtful about making any further changes in our rivers. If we respect the laws of nature we can anticipate what a river will do in flood. If we want healthy streams and safe houses, we should listen to the rivers. The rivers are saying: “We will stabilize ourselves despite your misguided attempts to control us.”

Our Rivers Are Not Broken – Stop Trying To Fix Them

BY DAVID DEEN

Much of the post-flood reshaping of riverbeds went far beyond the replacement of roads and bridges and is likely to increase future flooding and prolong the return of fish and their food sources.

DAVID DEEN
August 2011 was the second wettest on record in Massachusetts in the last 117 years with Western Massachusetts receiving 329% of average rainfall for August. Although the winds from tropical storm Irene were barely felt, the 4-10 inches of rain resulted in record flows. In Massachusetts, nine USGS gaging stations recorded floods of record, including all five on the Deerfield River.

Rivers rose rapidly, going from a tranquil 80-100 cfs (cubic feet per second) on Saturday on the North River to a torrential 53,100 cfs on Sunday. As the waters receded, large trees could be seen resting in farmers’ fields almost a 1/2 mile away from the river channel, a dam had been breached and numerous roads and homes washed out.

Anyone standing near a river or stream during the flood got a sense of the power of water as they listened to the grinding of rocks as the stream bottom tumbled downstream. During the flood, large amounts of land eroded away and silt was deposited in the adjacent floodplain. Riparian vegetation was uprooted from stream banks and piled along the edges and on sediment bars. Channels and confluences were reshaped and gravel and sediment bars reformed.

Although we were struck by the destructive nature of the flood event, in the eyes of the river these transformations are vital to its ecosystem in many ways. Floodplain forests, the endangered Tiger Beetle and other critters rely on floods to reinvigorate their habitat niches. The newly exposed gravels and cobbles may also provide perfect spawning habitat for Brook Trout this fall. However, the level of magnitude of this flood is something we have not seen before. These riparian ecosystems may take some time to bounce back and this will occur only if no other substantial events further stress the system as it recovers.

**Record Flows in Wake of Irene in Massachusetts**

**BY CARRIE BANKS, MASS. DIV. OF ECOLOGICAL RESTORATION**

<table>
<thead>
<tr>
<th>Station</th>
<th>Drainage (sq. mi)</th>
<th>Irene Peak Flow</th>
<th>Previous Peak</th>
<th>Flood Records</th>
</tr>
</thead>
<tbody>
<tr>
<td>North River</td>
<td>89</td>
<td>53,100 cfs</td>
<td>18,800 cfs in 2005</td>
<td>71 yrs of records</td>
</tr>
<tr>
<td>Conway</td>
<td>24</td>
<td>12,700 cfs</td>
<td>8,770 cfs in 2005</td>
<td>45 yrs of records</td>
</tr>
<tr>
<td>Deerfield River</td>
<td>557</td>
<td>103,000 cfs</td>
<td>61,700 in 1987</td>
<td>71 yrs of records</td>
</tr>
<tr>
<td>Colrain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green River</td>
<td>41</td>
<td>17,500 cfs</td>
<td>6,540 in 2005</td>
<td>44 yrs of records</td>
</tr>
</tbody>
</table>

USGS Provisional Data, Stream flow Peaks Resulting from Hurricane Irene Rainfall, in cubic feet per second (cfs). The USGS gage on the Deerfield River in Charlemont is not included as peak flows are still being calculated. Based on initial observations, flows at this station also peaked well above the previous peak level set in 1938. This station has 98 years of flow records. CFS equals cubic feet per second.

Above, the Connecticut River’s sediment plume as seen from a NASA satellite. Below, flooding on the Green River in MA breached Greenfield’s water supply dam and washed out the road leading to the Eunice Williams Covered Bridge.
Floods, Fish, and Recovery

BY DAVID DEEN

We know how damaging floods can be for people, but how about life in the river itself? Where do the fish go when the rivers turn muddy brown and trees and boulders are moving downstream? What happens to all the aquatic insects? For anyone who witnessed the devastating power of the floodwaters firsthand, it is hard to imagine how any aquatic life survived.

First, fish have natural protection in high water. They have float bladders within their bodies to maintain neutral buoyancy, so a fish is virtually weightless in water. They have streamlined shapes designed to minimize resistance to water and are equipped with an epidermis that secretes slimy mucus, causing less friction in water. But all this is insufficient protection from a flood that can carry cars and houses downstream.

Second, fish instinctively move away from increasing flows into quieter places. They find eddies caused by stream obstructions and quiet pockets along the stream edges that are protected from the main force of the current. Fish also tend to swim near the bottom where the velocity is lower by a factor of three than at the surface, but this haven is threatened when a raging stream begins to move its own bottom downstream. Some fish actually migrate temporarily into the floodplain areas for the duration of the high water. These are escape zones that all fish use, but, unquestionably, the tributaries lost a lot of aquatic life, and in particular, the invertebrates on which fish feed.

Juvenile fish and aquatic insects are vulnerable to heavy losses during extreme floods especially in high-gradient streams, such as the tributaries to the Connecticut River.

Small fish can be decimated during floods and most probably were washed downstream. The loss of fish in the tributaries is, however, a short-term gain to those in the main stem, especially larger species – the big brown trout, bass, catfish, carp, sturgeon, and walleye – that feast on what’s been washed down from the tributaries.

How long will it take for the fish to come back? Trout, for example, will repopulate streams within two or three years, depending on the condition of the stream bottom (the substrate) and the availability of aquatic insects. Having scour ed the river bottom, Irene left different substrates in different reaches. A substrate of silt, gravel, cobble or boulders and the particular mix of each will determine when and which invertebrates will return to that river reach, if indeed they have a chance. In particular, a load of silt dumped on a gravel bottom will destroy trout spawning habitat, but provide a home for worms and lamprey fry.

Fish will adjust to the new watery landscape after the flooding wrought changes by finding new sheltering and feeding lies but unfortunately, unless everything goes right, it could be a while before our streams are back to any kind of “normal.” So it is the long term effects of Irene that are of real concern from a fishery perspective. We now enter the wait-and-watch stage as we hope to see aquatic life in our rivers recover as quickly as possible.

Some Words of Thanks To Our Local Heroes

BY ANDREW FISK

The Council wants to extend its appreciation to all of those dedicated public servants across the watershed who responded to the devastation and threats to public safety.

To the many public employees around the watershed who worked long hours and days to stop sewage discharges to the river when floodwaters overwhelmed treatment plants, we owe thanks to you, too. For example, in Ludlow, VT, the Black River damaged both buildings and equipment but municipal employees worked tirelessly for nine straight days to get the facility back on line. Brattleboro, VT public works employees worked quickly to reestablish broken sewer lines within days of the damage by the waters of Whetstone Brook. In Greenfield, MA the Deerfield River flooded the wastewater treatment plant with over 20 feet of water, but within days the plant was disinfecting its effluent while longer term repairs were being assessed.

We would like to echo the words of Vermont Governor Peter Shumlin who publically praised members of the Vermont National Guard for spending more than a month rebuilding roads washed out by the storm and said, “Your service and sacrifice will be remembered for generations to come.” Thank You.
August 3, 2011. It is located off Riverdale Street near the Pride gas station across from Elm Street just outside of the flood berm. A parking lot is available near Riverdale Street, and a long circular drive allows access to the river. Several picnic tables are located at the end of the circular drive. This is the town’s only river access point, and the park will be tied into a riverside bicycle trail at some point in the future. This fall’s frequent drenching rains and flooding have not been kind to the drainage design and actual access point (very muddy), but we are happy to have one more site to add to our next edition of the Boating Guide. AD

**10 years of progress on CSOs**

Over the summer, CRWC received an update from the MA Department of Environmental Protection on the overall progress of combined sewer overflow (CSO) elimination efforts in the Connecticut River watershed over the last 10 years. We are happy to pass along the news of the following key milestones reached as of the end of 2010:

1) The annual volume of untreated CSO discharge in western MA has been reduced by approximately one billion gallons/year, from approximately 1.7 billion gallons/year in 2000 to 0.7 billion gallons/year in 2010.

2) CSOs have largely been eliminated along 23 miles along the Chicopee River and tributaries from the Palmer/Warren town line to a point along the Springfield and Chicopee town line. Three miles of the lowest segment of the Chicopee River remain to be tackled. AD

**Another good shad passage year at Turners Falls gatehouse entrance**

American shad passage in 2011 was the best since 2003, with 249,480 individual fish having been counted in the main stem Connecticut River or its tributaries. The number of shad that passed above Turners Falls was again very strong (16,798), a number quite similar to 2010. FirstLight Power Resources installed a new fish entrance to the gatehouse – the final step for fish to get from the river or canal to the main river channel upstream of the Turners Falls Dam – two years ago with help from the USGS Conte Anadromous Fish Laboratory. Based on the shad numbers at gatehouse the past two years, it seems that the new entrance has significantly improved the chances that shad will pass above Turners. In 2010, when the Northfield Mountain Pumped Storage facility was off line, 10.2% of the fish that passed Holyoke passed the gatehouse at Turners Falls; in 2011, the percentage decreased to 6.9%. AD

**The SoundVision Action Plan**

River Stewards Andrea Donlon (MA) and Jacqueline Talbot (CT) joined Save the Sound in the unveiling of its SoundVision Action Plan, a guidepost for the continued restoration of Long Island Sound. The Plan outlines action steps toward four main goals of protecting clean water, creating and protecting vibrant ecosystems, building jobs through a healthy Sound and enhancing the Long Island Sound Partnership. CRWC shares many of these same challenges and goals for the Connecticut River and stands ready to partner with our neighbors toward these common visions. JT

**Bank Stabilization in Middletown**

CRWC provided comments on an Army Corps of Engineers bank stabilization project meant to protect a well field in Middletown, CT. According to the public notice, the well field currently provides approximately 70% of the drinking water for Middletown, a city of approximately 48,000 residents. CRWC values the protection of drinking water quality and agrees the well field should be protected. Specifically, we have asked that an inventory of existing vegetation and a replanting plan be completed, that herbaceous vegetation and tree cover be maximized and that an Operations and Management Plan be required to ensure clarity in regards to compliance and maintenance responsibilities. JT

**Disinfection Window Should Reflect River Use**

Approximately 18 high school and college athletes were dumped into the Connecticut’s cold and strong waters when their shells capsized during the Connecticut Regatta in mid-October. Since we want to ensure the safety of our citizens, we’ll be working with the state agencies and affected facilities to try to expand the disinfection period for bacteria beyond the current May 1-September 30 window, as the present requirement does not accurately reflect the true recreational period. JT
Harvesting Rain in the Pioneer Valley

BY ANGIE MROZINSKI

Stormwater run-off is the most common source of pollution in America’s waterways, according to the U.S. Environmental Protection Agency. When it rains, or when snow melts, some water filters through the soil to become groundwater. But most of it runs off rooftops, yards, driveways, parking lots, and roads on its way to a storm drain. Along the way, it picks up fertilizers, pesticides, oil and other automotive fluids, yard waste, animal waste, trash, and many other pollutants.

Some towns – but not all – direct storm water through a wastewater treatment plant. But whenever it rains, many undersized and combined sewer & stormwater systems become overwhelmed with water and send polluted stormwater and sometimes raw sewage straight into the river. Some solutions to stormwater pollution are complicated and expensive, involving major reconstruction of urban wastewater systems. But some incremental improvements are simple and inexpensive.

For example, this past year, CRWC partnered with Coca-Cola, Inc of Northampton to promote the use of rain barrels. Rain barrels offer a means to collect and store rain water from roofs that would otherwise run into storm drains and streams. To kick off the project, Coca-Cola hosted the initial workshop at its plant and donated their used 55-gallon syrup concentrate drums and all materials necessary to convert the drums into rain barrels.

Overwhelming interest from the community quickly filled these workshops, indicating the market and need for low-cost stormwater solutions in this region. Forty-five participants took part in the workshop, each going home with a rain barrel to install at their home or workplace. Coca-Cola continued to donate barrels throughout the summer to CRWC for distribution to community groups for additional rain barrel workshops.

Overall, they donated over 150 additional barrels, keeping over 9,000 gallons of polluted stormwater out of the River each time it rains. Rain barrels also keep water onsite for use by home owners, and can save homeowners approximately 1,300 gallons of water in the summer months, reducing municipal water usage.

Some of the local organizations that received barrels and held local workshops include: Community Involved in Sustaining Agriculture (CISA), Gill Energy Commission, Western Massachusetts Master Gardeners, The Trustees of Reservations, and Northfield Mountain Environmental & Recreation Center.

One Great River Initiative continued from page 1
unfortunately they aren’t used nearly enough. Many stream segments around the watershed support cold water fish, but are left without the protections they need.

3. Finishing the job Congress started: Traditional water quality standards are important, but they can’t do everything the Clean Water Act requires because they cannot by themselves ensure the biological health of our rivers. We need to create numerical standards that define diverse and healthy bug, algae, and fish communities. That would help us ensure that pristine waters stay pristine and beleaguered waters get well, and prevent healthy rivers from slowly diminishing in quality.

4. Looking at dams collectively and not individually: While the thousands of dams throughout the watershed were built one at a time, they act together to significantly control the hydrology and impact habitats. We need to view how dams and impoundments in aggregate impact water quality. One of the most important upcoming opportunities to exercise this vision over the next several years will be the coordinated relicensing of five major hydropower facilities (Wilder, Bellows Falls, Vernon, Northfield Mountain, and Turner’s Falls) located on the river’s main stem. This is a once-in-our-lifetime chance to improve the health of 200 miles of the Connecticut River – nearly half its length.

We look forward to working with our members, our governments, and the many public and private users of our river to complete the work of the Clean Water Act through this important new initiative.
Thermal Pollution at Vermont Yankee: Looking for Answers

BY DAVID DEEN

Climate change and industrial hot-water discharges are heating the Connecticut River’s cold water fisheries to warm, disrupting fish life cycles and altering habitats, but until now, no one has been taking the river’s temperature. This past year, CRWC began working with the US Fish & Wildlife Service (USFWS) to establish a series of temperature loggers over the length of the main river, with particular attention to the reach from Bellows Falls to Turners Falls. Temperatures in this reach are directly affected by thermal discharges from Entergy’s Vermont Yankee (VY) nuclear power plant in Vernon, VT.

With the assistance of Soren Paris, a graduate school intern from Antioch New England University, we are beginning to use the raw USFWS data combined with other sources to create a first-ever database of temperatures in the CT River.

This information will enable CRWC to track temperature impacts from the Entergy VY thermal discharges as part of our continuing effort to get VY to halt this pollution. It will also help create baseline data that will allow CRWC and others to look at the effects of hot runoff from concentrations of impervious surfaces near the river like roof tops and parking lots during summer months as well as the possible long term effects of climate change on river temperatures.

CRWC’s partner, Vermont Law School’s Environmental Law Center, through Freedom of Information Act requests, received copies all of the temperature data available from Vermont Agency of Natural Resources (ANR). The records provided by Entergy to ANR are daily averages, so they do not include data from shorter time periods when the temperature in the river would likely spike during thermal discharges to levels higher than the daily average. Since these daily averages are not sufficient to prevail in the demanding permit and legal proceedings CRWC is engaged in, we are also trying to obtain the underlying raw short time interval data Entergy used to compute the daily averages.

It is as exciting to be part of building this data base as it is surprising that this information has never been collected before our involvement in this effort.

CRWC Trustee Leads the Way with Legacy Gift

CRWC Trustee Brewster Sturtevant has given more than 30 years of unstinting service to CRWC. Recently, Brewster made a significant contribution toward construction of CRWC’s new Water Quality Laboratory in our Greenfield headquarters, a project he had championed for many years. Now, through a planned gift to CRWC, Brewster will be supporting our programs for many more years to come.

Legacy gifts may take many forms, each based on the needs and the wishes of you and your family. Among the easiest and most common is to make a bequest to CRWC in your will, or you may make a gift of personal property or real estate. It is also relatively simple to make CRWC a beneficiary of a life insurance policy, IRA, or retirement plan. CRWC can also assist you in setting up a charitable trust that provides you with lifetime income and ultimately provides CRWC with the remaining capital to carry out critical protections of the Connecticut River.

If you would like to discuss a legacy gift to CRWC, contact Richard Ewald, Planning & Development Director, at (413) 772-2020 x206 or rewald@ctriver.org.
Ron Rhodes, River Steward for the North Country

WE’RE PLEASED to welcome Ron Rhodes, the newest addition to our CRWC staff, who will join David Deen as a river steward for Vermont and New Hampshire, working in the region from the Hanover area north in collaboration with David.

Ron has been a leader in of the Upper Valley chapter of Trout Unlimited and is a long time member of the board of the White River Partnership, two organizations with which CRWC has worked for over a decade. His years invested in learning the local waters as a licensed NH guide gives him first-hand knowledge of the big river and its tributaries. Ron will be taking the lead on the Northern Pass electric transmission line, the Murphy Dam hydro project and the Canaan Dam.

Welcome, Bob Moore, Our Newest Board Member

CRWC DIRECTORS AND STAFF welcome Robert Moore, who brings a lifetime of water quality work to his new position as board member. Until his retirement in April, Bob was Chief Administrative Officer for the Metropolitan District in Hartford, Connecticut. With degrees in both Civil and Sanitary Engineering, Bob previously worked for Connecticut’s Department of Environmental Protection for 24 years, rising to Deputy Commissioner and Chief Administrative Officer. He was an independent environmental consultant for Malcolm Pirnie, Inc., before moving to the MDC in 2000.

“I got interested in environmental work in my undergraduate courses at UConn and started working in the field in 1967 just after the passage of the Connecticut Clean Water Act,” Bob recently told an interviewer. CRWC is fortunate to have the support and service of one of Connecticut’s foremost clean water advocates. He lives in Durham, CT.