Organization for the Assabet River

Newsletter May 2010

Thinking Differently about Water

Alison Field-Juma

We are starting to think differently about water. Stormwater is no longer an abstract idea: we now know exactly what a 50-year flood looks like. Twice—in one month! The day it started raining was the day of our forum on "Smart, Clean, Green: Innovative Water Systems for Our Communities." The forum was held in Maynard on March 13 and attracted over 70 participants. In it we challenged ourselves to think in entirely new ways about how we use and dispose of water. There is no absolute shortage of water—but there is a growing shortage of clean water, and it is clean water that is essential to public health, economic activity, and our local ecology. We are also using ever more energy to clean water so that we can drink it, or to treat wastewater so that we can discharge it into the environment. Is there a way to manage water so that we generate less greenhouse gasses rather than more?

The host of the forum, Massachusetts State Senator Jamie Eldridge, chairs the new Senate Water Infrastructure Finance Commission. While the name may sound bureaucratic, his proactive approach is anything but. Our water infrastructure—the systems that bring us our drinking water, and take away our wastewater and stormwater—are nothing short of antiquated. Often ignored and usually invisible, these systems have made our society possible and eliminated most water-borne diseases. Yet they are in urgent need of repair. The Commission plans to begin hearings this month to find ways to finance these essential systems.

There is, however, an important question to ask: Should we just aim to repair and extend the water systems we have in place, or should we find new ways to manage our water? In Massachusetts most people are served by centralized water supply and wastewater systems. These systems were developed to manage waste in communities with abundant clean water and large areas of low population density. Our stormwater systems were designed

State Senator Jamie Eldridge. "Clean water is the foundation of our communities, and is an essential element for growth and productivity in our economy."

Where does it go?
What happens to the nutrient-rich sludge from our wastewater treatment plants (including septage from septic tanks)? Most of it is taken to Fitchburg or Worcester where natural gas and electricity are used to incinerate it. The ash is buried in a landfill. Does this system make sense for the future?

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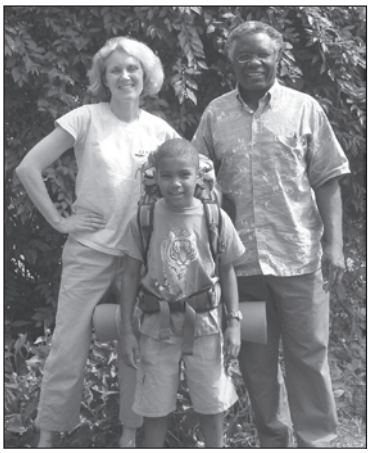
OAR Policy Director Promoted to Executive Director



OAR is delighted to announce the appointment of Alison Field-Juma as Executive Director. Alison joined OAR in 2005 as Policy Director.

Alison grew up in Boston, spending every weekend and summer in Shirley, Mass. at her family's conservation area/tree farm. She received a BSc in Biology at Tufts University. After a stint working for the town of Wellesley's Wetlands Protection Committee she returned to her education and earned an MSc in Natural Resource Policy and Planning at Cornell University. Her wide-ranging work experiences have included directing the Environmental Governance Programme at the African Centre for Technology Studies, a policy think-tank in Nairobi, Kenya, and serving as the Managing Director of Initiatives Ltd., a scholarly publishing company also in Nairobi. Although spanning the continents, her work has had a consistent theme— improving environmental policy-making by bringing in new knowledge, particularly science. We know that Alison's dedication to OAR and to science-based advocacy will serve our members and our whole watershed well.

Alison lives in Cambridge with her husband Calestous and twelve-year-old son, Eric.

Inside This Issue

OAR

The Organization for the Assabet River is a nonprofit organization established in 1986 to protect, preserve, and enhance the natural and recreational features of the Assabet River, its tributaries and watershed.

OAR Newsletter

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Looking Ahead at OAR

Spring is here, and after a very wet and sometimes contentious (yes, we did file an appeal) winter I thought about OAR members and our colleagues in other watershed organizations and felt very good. I feel a sense of excitement, of optimism that all our years of work are now bearing fruit and will continue to do so. OAR has advocated consistently for the Assabet River, never flinching from making difficult decisions, while at the same time actively promoting the enjoyment and use of this marvelous community resource. I am honored to be the Executive Director of such an organization.

Soon OAR will enter its 25th year, a quarter century of science-based advocacy to restore the health of our river. The next 25 years are full of promise, and full of challenges. Our Smart, Clean, Green forum on innovative approaches to managing water resources, the cover story of this Newsletter, encouraged us to think entirely differently about water. "Wastewater" is not actually waste, it is a resource. Value is added to development by making our cities and towns "act like forests." When forests get the kind of rainfall we have just experienced, they absorb it, and it nourishes them in the coming summer months. Our challenge is to change what we think is possible.

None of this is dreaming; it is being done right now in our own watershed and across the state, and indeed the world. With climate disruption hard on our heels, there is no better time to act than now.

And speaking of turning crisis into opportunity, our recent experience with the Assabet entering our office uninvited has encouraged us to make more of our records digital. Thanks to a volunteer who has been scanning them for us, many of our paper reports and data with historical value are now in a more usable and permanent form.

Very truly yours,

Alison Field-Juma
Executive Director

Saving Water and Trees—and Helping Your Contributions go Further

From time to time we have been using email notices to let you know what is going on at OAR. Many of you have told us that you appreciate our "Action Alerts" (and we appreciate your Action!).

We would like to be able to reach more of you with our electronic communications. In addition, everyone who has given us a valid email address will be able to receive our next newsletter via email.

Please take the time to email us at oar@assabetriver.org with your preferred email address. Also remember to remove us from your spam filter list.

Using less paper and fewer stamps helps us save money. By going electronic, more of your donations can go directly to the work we do. Your email information will only be used for OAR communications. We do not share any of our members' personal information with other groups.

We also appreciate any feedback you may have on our communications—too many? Too few? Unexplained acronyms? OAR staff have been busy keeping our Web Home page full of up-to-date information about events and news, so do pay us a visit often at www.assabetriver.org.

Call for Water Sampling Volunteers on the Sudbury, Assabet & Concord Rivers

OAR's water quality monitoring program is looking for volunteers to particpate in our 2010 water quality sampling. You will learn how to take measurements at one of our training sessions, and then work with our team of volunteers over the summer. The data you collect will help us understand the long-term water quality trends of the Sudbury, Assabet, and Concord rivers and their main tributaries.

Training sessions will take place in Sudbury, Acton, and Hudson (see box for details). Sampling is on six Sunday mornings between May and November at sites along the Sudbury, Assabet, and Concord rivers and in their tributaries. Sampling starts at about 5:30 am and takes about three hours. Each team of three volunteers samples at 4 - 6 sites in their assigned section and drops the samples off at the OAR office. You can sign up to help on all six Sundays or as few as three.

If you would like to participate in our water quality monitoring program, please contact Sue Flint (sflint@assabetriver.org. 978-369-3956) to sign up for a training session.

Train sessions for new and returning volunteers:

Sat., May 8, 8:00-9:30 a.m., Sudbury
Sun., May 23, 8:00-9:30 a.m., Acton
Tues., May 25, 7:00-8:30 p.m., Hudson

Sampling dates:

Sunday, May 16
Sunday, June 13
Sunday, July 18
Sunday, August 22
Sunday, September 19
Sunday, November 14

High School Students Vie to Solve Water Issues

The Intel-OAR Environmental Innovators Contest challenged and inspired local high school students to develop creative ideas on how to improve the environment in their community. Their projects focused on water issues in the Concord River Watershed (containing the Assabet, Sudbury and Concord rivers).

Seventeen teams from five area high schools stepped up to the challenge to creatively solve a variety of local water problems. On December 16th at the Stow Town Hall, finalist teams from Marlborough High, Algonquin Regional High, and Nashoba Valley Technical High presented their environmental innovation projects.

Representing Marlborough High School, the winning team of Jon DiBello and John Kasaras set out to develop a way to prevent the leaching of toxins from discarded cigarette stubs into our rivers, earning them a $600 prize. Also from Marlborough High, Daniel Suvalskas placed second for his activated charcoal filtration system designed to reduce phosphates from stormwater runoff entering our rivers. In third place, the Marlborough High team of Alexandra Swanson, Pat Daly, Jessica Terrasi, and Jess Semedo proposed removing the invasive plant purple loosestrife through the use of beetles. The other finalists were Algonquin Regional High's Mark Van Orden and Marlborough High's Kyle Condry, Aakash Patel, and Vasilios Regan.

OAR Board member and MIT Instructor, Pete Shanahan noted " As a teacher at MIT, you can imagine how many student presentations I have seen. But this set of presentations stands out, and is truly at the college level. Congratulations to all the students who worked so hard to produce such high quality work."

OAR wishes to thank the contest judges for volunteering their expertise and Intel for the funding to make this competition possible.

The contest will be held again this year. Submissions will be due in the fall of 2010 with presentations and awards in March 2011. If you are a high school student or teacher and would like to participate, please contact us at oar@assabetriver.org.

Top: Mark Van Orden of Algonquin Regional High presenting his project on raising awareness of non-point source pollution. *Middle:* Nashoba Valley Technical High student explaining her poster presentation on invasive plant removal. *Bottom:* Winner Jon DiBello (partner John Kasaras not shown) of Marlborough High School with OAR Executive Director Alison Field-Juma and Contest Coordinator Sarah Edward.

Wild and Scenic Film Festival Draws a Crowd

On Wednesday, March 2, festival goers filled the Fine Arts Theatre for an evening of entertaining and inspiring films.

This year's film selections tackled some of the most pressing environmental issues of our day—from hard-hitting stories to comical shorts. The 13 short films included a thought provoking discussion of the controversial Cap and Trade carbon system, the clever idea of Piano Stairs, and the Missouri Stream Team river clean-up, in which tens of thousands of volunteers participated. For a list of the films and a link to their trailers, visit www.assabetriver.org.

Now in its second year in Maynard, the festival has truly become a community event. The films drew repeated applause from the audience and intermission provided a welcome opportunity to leave the winter doldrums behind and share lively conversation with friends and watershed neighbors.

The Organization for the Assabet River would like to thank the Fine Arts Theatre and the Town of Maynard Selectmen for making the evening possible. We also wish to thank our Supporting Sponsors: Patagonia Boston, Kangas & Arnold, P.C., and O'Reilly, Talbot & Okun Associates. Thank you to our Community Sponsors: Dunia, Nashoba Brook Bakery, Concord Outfitters, Global Goods, EMS, Zoar Outdoor, REI, Cast Iron Kitchen, West Concord Liquor Store, Acton's Colonial Spirits, CACDigital, Millstream Liquors, and Stow's Colonial Spirits. The film festival was also made possible thanks to National Sponsors: Patagonia, Osprey, Tom's of Maine, Cliff Bar, and Sierra Nevada.

A big thank you to our emcee EJ Labb, and the theatre tech crew Dan LaChapelle and Ashley McFarland. OAR also wishes to thank our volunteers and everyone who came out to see the films and support clean water in our local rivers!

We plan to bring back the Wild & Scenic Environmental Film Festival next year!

Emcee EJ Labb having some fun while introducing the films.

Water Wise Workshops were a Big Success, Planned Again in 2010

Thank you to Intel, Rohm & Haas, and the Greater Worcester Community Foundation for sponsoring our programs, as well as Stoneyfield Farms, Russell's Garden Center, and Village Nursery & Landscape for their donations of supplies.

100 children attended the workshops that were held at Fort Meadow Reservoir in Marlborough, Lake Chauncy in Westborough, and Lake Boon in Stow. They gained knowledge about the environment that they live in, how their actions affect their environment, and what they can do to protect it.

Some of the favorite activities were building their own watersheds out of sand. The children also surveyed the waters for small creatures called macroinvertebrates and found a variety of organisms they never imagined existed, like stonefly and caddisfly nymphs.

Artistic endeavors were also pursued when the participants painted pots that they later used to plant native perennial plants. Last but not least, with the help of Dave Griffin, the youth were able to take focused and creative nature photographs which were later displayed in local community spaces around their towns.

OAR Thanks our 2009 River Cleanup Sponsors and Donors

Despite the wet weather, over 100 intrepid volunteers came out to clean up the Assabet River on Saturday, September 12th. In towns all along the river volunteers pulled out tires, bicycles, car parts, computer monitors, air conditioners, and bottles. In Hudson alone, volunteers pulled out 1.5 tons of trash and this did not include the more than 40 tires pulled from the river. Cleaning the river is hard, dirty work and we are truly grateful for all the volunteers who came out to help. Thank you to all who participated!

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Marlborough: Classic Pizza, Home Depot, Price Chopper
Maynard: Maynard Pizza House, Pizza Express
Northborough: Northboro House of Pizza
Stow: Shaw's Supermarket
Westborough: Bertucci's, Uno's Pizza
Other: B-P Trucking, McGeoghean Waste Systems

Towns:
Acton Natural Resources Department
Hudson Department of Public Works
Marlborough Department of Public Works
Maynard Department of Public Works
Northborough Department of Public Works
Stow Highway Department

From River Cleanup to River Steward

Left: Taken in 2001, Andrew Ossman at his first OAR cleanup in Acton. This photo became famous when Tom's of Maine used it on their website and promotional materials! *Right:* Taken in 2009. As part of his Eagle Scout project, Andrew (in back, holding the wheelbarrow) led Boy Scouts from Troop 1 in constructing steps into the Assabet at the boat launch in Acton.

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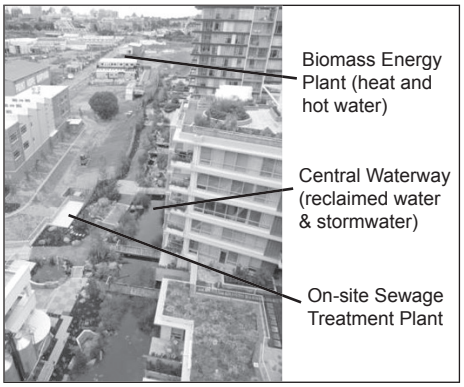
to pipe stormwater as far away from our homes and businesses as possible. Unfortunately, by putting water in pipes, to either bring it to us or take it away, we have severely disrupted the water balance in our watersheds. The clean rainwater that should be feeding our wells and streams is instead piped away, often flooding out whoever is downstream.

Sanitary sewers are leaky by nature and huge amounts of groundwater seep in and are piped away. According to panelist Bob Zimmerman, Executive Director of the Charles River Watershed Association, "infiltration and inflow into the sewer pipes sends the equivalent of one Charles River of clean water to be processed by the MWRA's Deer Island wastewatter treatment plant each year. A second Charles River (90 billion gallons of flow a year) is lost to stormwater runoff from impervious surfaces in the 43 communities that make up the MWRA service area." This is clean water that should have stayed in the ground or in local streams and rivers. The same thing happens to some degree in every municipality with an extensive sewer system. The end result is inadequate groundwater to feed our wells, rivers and streams. It is becoming clear that these highly centralized systems will fail us if we rely on them for our future of high-density living. So what are the alternatives?

Patrick Lucey, President of Aqua-Tex Scientific Consulting in Vancouver, BC suggests that we design cities like forests. He has done just that, with large urban and smaller suburban developments that use wastewater and stormwater as a resource and profit handsomely in the process. He argues that managing all water as a single system not only pays for itself, but raises property values and turns managing waste into a profit center. He has the photos and the numbers to prove it, including the Olympic Village in Vancouver and a suburban development in Sweden. Biogas is produced from the wastewater, which powers the water treatment and reuse process; stormwater flows through the site to be used in various ways. Those apartments looking out on the stream have higher value due to the aesthetic beauty of the re-created natural water feature. He also notes that they had to break some laws to design it—our current regulations often promote old ways of doing things rather than new more sustainable ways.



Integrated Resource Management at Dockside Green, Victoria BC (Patrick Lucey)

Jim Kreissl, formerly EPA's principal expert for small community wastewater collection, treatment, and reuse systems, showed how retaining a decentralized system of sewage treatment is still the best way to manage wastewater in most cases. These systems are mainly septic systems and small cluster treatment plants with disposal into the groundwater. There are many new and alternative small-scale systems approved by Mass. DEP so that homeowners can replace old and failing septic systems rather than seek a connection to the town sewers. This will help recharge the aquifers which keep our wells and streams flowing. Soil and subsoil is also particularly effective at removing many pollutants, such as phosphorus and many (but not all) pharmaceuticals and personal care products.

Bob Zimmerman presented the results of the recent study of nutrient pollution of the Charles River (TMDL) that showed that phosphorus carried into the river by stormwater was the main culprit. Stormwater from commercial/industrial landuse contributed the most phosphorus to the river, followed by phosphorus from wastewater treatment plants. High density residential land use also contributed disproportionately high phosphorus loads. The problem is caused by large impervious areas. New efforts to reduce nutrient pollution from stormwater include retrofitting existing large parking lots and roofs to treat and recharge stormwater. This is a significant change from simply recharging

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Wastewater Permitting is Back on Track

On February 22, 2010 the EPA withdrew the permit modification they had issued to allow the Marlborough Westerly wastewater treatment plant (WWTP) to increase its discharge by 44%. OAR and the town of Stow had appealed the permit modification, and the National Park Service, US Fish and Wildlife, Conservation Law Foundation and many others had registered their concerns. This EPA action means that the process of developing the next 5-year NPDES discharge permits for the four Assabet River WWTPs can begin in earnest. EPA and DEP aim to achieve a holistic, watershed approach to address phosphorus impairment in order to achieve water quality standards in the river by 2015. They plan to issue draft permits for the four plants by the end of this year. OAR will be involved in this stakeholder process and will advocate for effective implementation of the Clean Water Act so that our river is indeed restored to health by 2015.

As is Compliance

The Hudson wastewater treatment plant's upgrades were completed last summer. It is the first plant on the river to meet the 2005 discharge permit limits. In December 2009 the EPA and DEP issued a Compliance Order to the City of Marlborough requiring the city to start construction of the Westerly WWTP phosphorus removal system by January 2010 and complete it by February 28, 2011. According to this Order, the 2005 phosphorus limits will be met by that plant by March 1, 2011.

Welcome, New Members!

Jon Adams
Harland Alpaugh
Jen and Rick Boudrie
Elissa Brown
Jeffrey Burson
Patrick Chase
Dia Chigas
Kevin Clasby
Stuart Cogan
Luke Cressman
Cynthia Cummings
Linda and Radford Decker
Rosie DeQuattro
Jeff Desjardain
Lee Doyle
Michael Geis
Tracey and Bradford Guth
Kenneth Heim
Christopher Jenkins
Richard and Sarah Jordan
David Khorana and Kara Schwartz
Michelle Lavers
Karen LeBlanc
Clifford D. Martin
Terri Morse
Mary Mullen
Jim O'Brien
David O'Loughlin
Karin Panquin
Milind Dinkar Pawar
Janis Puibello
Romaine Randall
Nancy Scott
Sapan Shah
Dan Smith
Christopher Spizuoco
Amy Karp and Larry Stern
Ana Maria Thompson
Thomas Ukena
Grace Velardi
Henry Viles
Village Nursery, Asaph Himmelman
John Walker
Brian Wilford
Carter and Lissa Winstanley

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stormwater from new developments. He showed that the cost of retrofits is significantly lower than previously estimated.

Brent Reagor drew on his experience in the health departments of Concord and Acton and statewide health committees to suggest that water reuse won't take place unless there are effective drivers. Water reuse drivers are: limits on water withdrawals; economic development opportunities; limited wastewater disposal options; and consumer demand and acceptance. He gave examples where these drivers have been in place resulting in successful water reuse projects, including Gillette Stadium in Foxborough, The Fay School in Southborough, Wrentham Mall, EMC in Hopkinton, and the Falmouth golf course. Recharging water in or near a water body or public well (Zone II) is also considered reuse. He noted that there is no shortage of effective methods and technologies to use, once the decision is made to use them.

Weston town center solar aquatic wastewater treatment plant. Photo by Miriam Fuchs. (ITDG)

Alison Field-Juma of OAR put it all into our local context. A USGS study of the Assabet watershed shows that our streams will dry up if we continue to extend sewers and ignore stormwater recharge, particularly in Northborough. Climate change will further stress our water systems—there is already a 60–year trend in New England of increasingly intense storms which will result in more floods but less recharge of essential aquifers. An alternative approach scaled to many of our communities is the case of Weston. Twelve years ago the town installed a greenhouse-based wastewater treatment system right in the town center that serves 20 businesses and recharges 4,000 gallons of clean water every day into the ground. More effort in utilizing the energy content of wastewater is needed, through regional or municipal biogas production. This turns wastewater into energy (methane) and fertilizer, and is becoming common in Europe.

The Smart, Green, Clean forum was co-sponsored by OAR, Clean Water Action and Clean Water Fund. It was funded in part by the Sudbury, Assabet and Concord Wild & Scenic River Stewardship Council. If you know of any groups in your community who would like to hear an edited presentation of the forum, please let us know and we will be glad to come. Please visit our website www.assabetriver.org/threats/water-pollution to learn more.

River Day 2009

Congresswoman Niki Tsongas with Sarah Edwards, Alison Field-Juma and Julia Khorana of OAR, August 15, 2009. The rivers have formed the communities and economies of Tsongas's district, from Hudson to Lawrence.

OAR

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Thank you for your support!