



Progress Report

Help Protect Cashes Ledge from Devastating Bottom Trawling

Why I Give

Stonyfield Farm's Gary Hirshberg on CLF's Impact

Five Questions for Elena Mihaly

Our Legal Fellow Dishes on Local Food and Farming

Around CLF

Updates from Around the Region

CONSERVATION MATTERS

THE JOURNAL OF THE CONSERVATION LAW FOUNDATION | www.clf.org

COVER STORY

A NATURAL SOLUTION:

Green Infrastructure is Transforming Stormwater Management for the 21st Century



No. 3
SUMMER
2014

A NATURAL SOLUTION Green Infrastructure is Transforming Stormwater Management for the 21st Century

“We can design our built environment in a way that mimics nature and restores the ability of the landscape to soak up precipitation and filter out pollutants before the runoff reaches our waterways.”

— Anthony Iarrapino, Senior Attorney

When rainwater falls over undeveloped land, it runs off into our rivers, streams, and lakes.

Its route to get there can be circuitous, with most runoff absorbed and filtered by woods, meadows, and fields before it ever reaches a waterway.

However, in many parts of New England, those woods have been cut down, meadows paved over, and fields replaced with shopping centers and other commercial development. All that pavement and hard surface is watertight, so instead of being slowly absorbed, rain gushes off of it down gutters, into the sewer, and straight into the nearest watercourse.

Historically, moving water quickly from rooftop to river seemed like an efficient and effective way to deal with big storms. The problem, says CLF Senior Attorney Anthony Iarrapino, “is that huge volumes now flow across these hard surfaces, which end up being a big collecting plate for dirt, gas, oil, sediment, nutrients, and other pollutants.” The result: many New England waterways that are polluted, their fish and other wildlife devastated, their water unsafe to swim in or drink.

For much of the past 25 years, managing stormwater meant trying to collect it to avoid causing larger floods, with little focus on pollution control or understanding of the natural flow of waterways.



Chesapeake Bay Program via Creative Commons

Today, pipes and sewers are inadequate to deal not only with the pollutants pouring into our waters, but also the higher frequency and intensity of storms due to climate change.

CLF and its partners, including the Environmental Protection Agency (EPA), are championing a new approach to managing stormwater, one that puts nature back into the picture. “Green” infrastructure (in contrast to the “gray” infrastructure of pipes and sewers) “is about trying to design our built environment in a way that restores the ability of the landscape to soak up precipitation and filter out pollutants before the runoff reaches our waterways,” explains Iarrapino.

Unlike pipes and sewers, green infrastructure “generally involves tactfully siting a small number of elements and complementing them with the landscape,” says Wendi Goldsmith, President and CEO of Bioengineering Group in Salem, Massachusetts, and co-author of *Bioengineering Case Studies*. These elements could include a green roof on an office building, a rain garden in a front yard, a bioswale in a parking lot, or a road with permeable pavement. Together, these various components mimic nature by relying on plants and soil to soak up, store, and filter water.

Green infrastructure’s benefits are economic and social, as well as environmental.

Green roofs [left] and bioswales in parking lots [right] are elements of green infrastructure, which helps absorb stormwater pollution before it reaches waterways.

“Many people assume green infrastructure is some additional, expensive thing,” comments Goldsmith, whose firm has implemented projects in New England, as well as in Louisiana following Hurricane Katrina. “In reality, it can cost considerably less than gray infrastructure, because it’s low impact and scalable. With a tunnel, once it’s built, you have few options to update it except for costly ones. With green infrastructure, you can make small modifications or add elements over time, in ways that are cost efficient.”

Other benefits add up, too: “It creates habitat for wildlife, provides carbon storage, reduces energy costs by cooling urban neighborhoods, and improves health through cleaner air,” says Goldsmith. “Depending on what you design, you get more and more benefits.”

It also creates local jobs, says Iarrapino. “Green infrastructure can’t be outsourced,” he says. “It requires people who have expertise working with the local landscape and the built environment and who are present in the community.”

Well established in pockets of the country, such as the Pacific Northwest, green infrastructure has yet to take hold widely in New England. CLF is working to change that. “Everywhere CLF is doing clean water work today, green infrastructure fits in,” says Iarrapino. It was a major component of the 2012 settlement of the citizen suit brought by CLF and EPA against Boston Water and Sewer Commission (BWSC) for its failure to control pollution from its storm drain system. “BWSC has committed to complete three high-profile demonstration projects within the next year, including at City Hall Plaza,” says Iarrapino. Once these projects are complete, the City will develop a comprehensive plan that will transform how it protects the health of its waterways and residents.

Elsewhere in New England, CLF is pushing local regulatory and municipal agencies to

include green infrastructure requirements in permitting programs. “We’re in the first decade of its widespread acceptance as an effective pollution control and flood mitigation solution,” says Iarrapino. With communities from Boston, to South Portland, Maine, to St. Albans, Vermont, making green infrastructure a key component of their stormwater and flood management, Iarrapino is confident the technology will soon reach a tipping point. “CLF’s clean water advocacy is helping to grow green infrastructure adoption throughout New England; with the many benefits it provides, more green infrastructure is bound to take root.”



Aaron Volkering via Creative Commons

DIY GREEN INFRASTRUCTURE

It’s tempting to leave the problem of stormwater runoff to cities, towns, and businesses to solve. But “your house – and the roads, sidewalks, and driveway leading to it – also take away the landscape’s ability to soak up precipitation naturally,” says CLF’s Anthony Iarrapino.

That’s why many homeowners today are using small-scale green infrastructure solutions to reuse and slow down the flow of rainwater and snowmelt from their roofs and yards. Solutions can be as simple as buying a rain barrel and planting a rain garden, or more complex, such as adding a vegetated swale between your yard and the road. “If you capture stormwater and reuse it, you reduce the flow that would normally be swept into the storm drain, and you save money on your water bill, too,” says Iarrapino.

Many communities, organizations, and state agencies offer programs and resources to help you start greening your home landscape.

EPA Soak Up the Rain Program
epa.gov/region1/soakuptherain/

Connecticut:
Reduce Runoff reducerunoff.org

Maine:
Think Blue Maine thinkbluemaine.org

Massachusetts:
Massachusetts Watershed Coalition
commonwaters.org/billion-gallons-a-year-campaign/

New Hampshire:
Stormwater Management for Homeowners
des.nh.gov/organization/divisions/water/stormwater/



Seuss via Creative Commons

Rhode Island:
Rhode Island Stormwater Solutions
web.uri.edu/riss

Vermont:
Lake Champlain International Blue Program
mychamplain.net/blue-program
Low Impact Development Guide to Residential and Small Sites vtwaterquality.org

PROTECTING CASHES LEDGE

Remarkable Ocean Habitat Under Threat



©Brian Skerry

Cashes Ledge is home to the largest coldwater kelp forest along the Atlantic.

“The permanent protection of New England’s special ocean places like Cashes Ledge is a vital step in restoring New England’s depleted fisheries, maintaining high-quality habitat for ocean wildlife, and promoting the restoration and overall health of our precious ocean ecosystem.”

— Priscilla Brooks, Vice President for Ocean Conservation

THE PROBLEM

About 100 miles southeast of Portland, Maine, Cashes Ledge rises from the ocean floor, peaking just 40 feet from the water’s surface. This massive underwater mountain range is as old as New Hampshire’s Presidentials – and as beautiful, though far fewer people have experienced its grandeur.

That relative isolation has made Cashes Ledge one of the best remaining examples of an undisturbed ocean ecosystem in the entire Gulf of Maine. Home to the deepest and largest coldwater kelp forest along the Atlantic coast, Cashes Ledge provides food and habitat for species both common and rare. It’s become a vital refuge for threatened groundfish species, such as Atlantic cod, whose populations have been depleted in other parts of the Gulf. Cashes Ledge’s abundance also draws in ocean wildlife, such as migrating schools of bluefin tuna, blue and porbeagle sharks, and passing pods of highly endangered North Atlantic right whales.

The very things that make Cashes Ledge such a haven for ocean wildlife also make it especially vulnerable to commercial fishing, especially bottom trawling gear. A trawl could ravage the seafloor and devastate the tremendous diversity of plants and wildlife that flourish here.

Cashes Ledge has been closed to bottom trawling and scallop dredging for 15 years, but a shortsighted proposal from the New England Fishery Management Council (NEFMC) could see 75 percent of this critical protected habitat opened to commercial fishing by next year.

CLF IN ACTION

Our ocean and the communities – human, fish, and animal – that depend on it are under severe pressure from decades of overfishing. Climate change is expected to increase these stressors by altering ocean temperatures, salinity, and acidity, making life even harder for species already strained by overfishing.

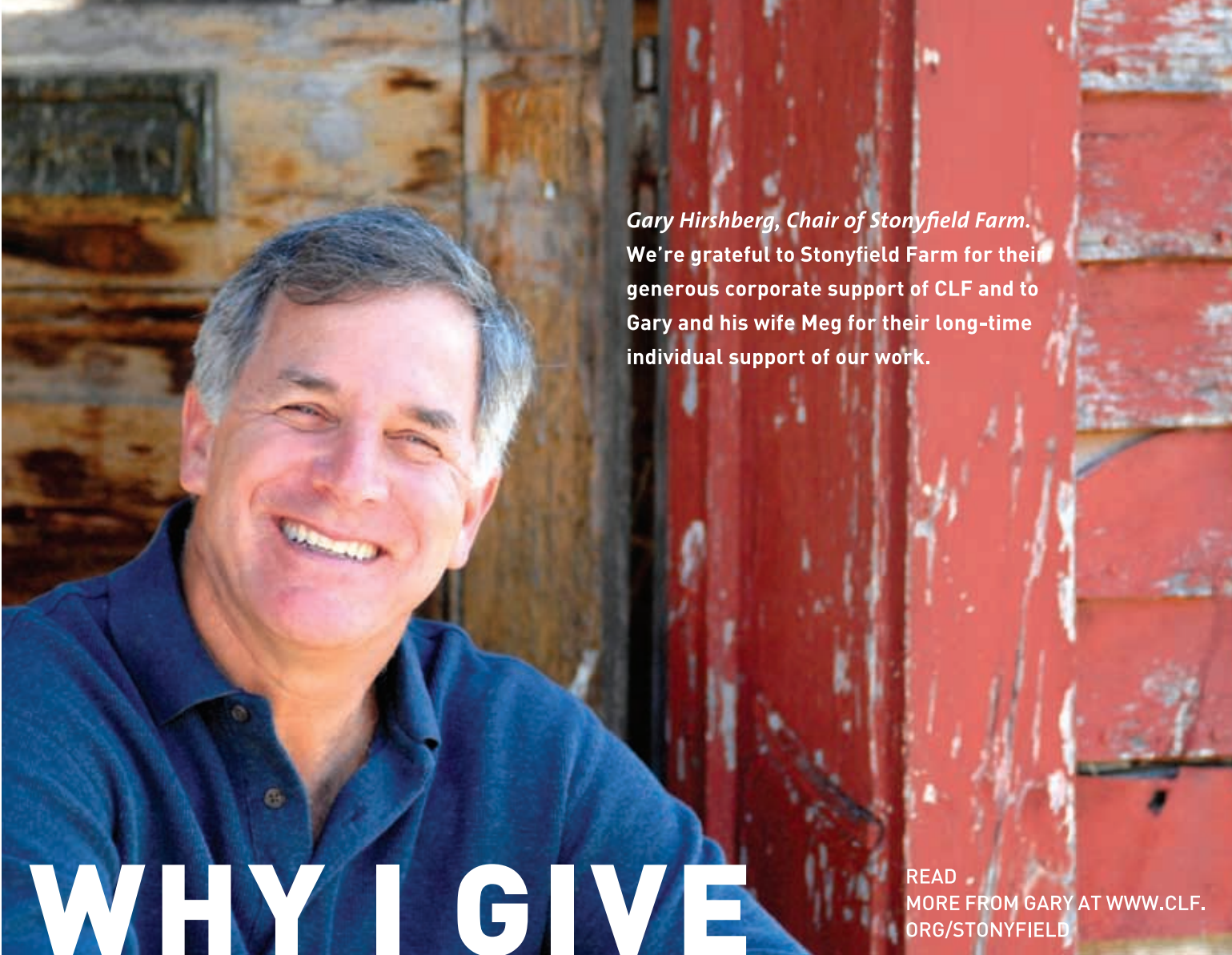
CLF has worked for decades to ensure responsible, science-based management of our oceans and to overcome irresponsible fisheries management that has encouraged, rather than controlled, overfishing. By working with a range of stakeholders – scientists, fishermen, government, and industry – CLF is pushing to find a better way to manage, protect, and restore our ocean and coastal ecosystems.

NEXT STEPS

Scientists agree that removing protection for important fish habitat like Cashes Ledge is the wrong direction to take if we hope to reestablish healthy populations of Atlantic cod and other depleted species. But the NEFMC seems poised to do just that. The recommendation to open nearly all of Cashes Ledge is one part of the “Omnibus Habitat Amendment” (OHA), a fisheries plan that could go into effect as early as 2015. The NEFMC is expected to have a formal public comment period later this summer before it votes on the final plan later this fall. However, CLF and our supporters are not sitting back to wait. The National Oceanic and Atmospheric Administration (NOAA) Regional Administrator needs to hear from you. CLF is asking our members and the public to weigh in now and urge NOAA to follow the advice of its science advisors by fully protecting Cashes Ledge.

HELP PROTECT CASHES LEDGE TODAY

1. Join our petition TODAY asking NOAA to fully protect Cashes Ledge! Go online to www.clf.org/cashes-ledge/. Then share the petition with your friends.
2. Find out when the public comment period will open and stay up to date on our work to protect Cashes Ledge at www.NewEnglandOceanOdyssey.org.
3. Support CLF’s work to protect and restore New England’s ocean for the benefit of all! www.clf.org/donate



Gary Hirshberg, Chair of Stonyfield Farm.
We're grateful to Stonyfield Farm for their generous corporate support of CLF and to Gary and his wife Meg for their long-time individual support of our work.

WHY I GIVE

READ MORE FROM GARY AT WWW.CLF.ORG/STONYFIELD

New England has some of the most beautiful and incredible natural places – the majestic White Mountains of New Hampshire, the stunning beauty of our many lakes and rivers, and a gorgeous coastline. These special places are home to many unique species and ecosystems, but they're also right next door to approximately 15 million people. We're lucky to have such natural beauty right nearby, but the pressure of having so many people in this region means we need to pay special attention to conserving these natural resources if we want future generations to be able to enjoy them.

Name any of the most pressing environmental challenges facing New England in the past two decades, and CLF has been there, leading the way with innovative solutions and pragmatic tactics for getting things done. Not only is CLF leading the way on important issues like the fight to shut down New Hampshire's costly and polluting coal-powered power plants – they're also working to make sure that we have the right policies to encourage clean energy alternatives in their place. CLF can do this because they have a combination of a talented, dedicated staff and a unique focus on our region.

GIVE ONLINE, GIVE WITH EASE

Contact us today to learn more about giving to CLF.

Becca Elwin
Development Assistant
617.850.1729
belwin@clf.org

CLF makes it easy to give online through our website.

Want to give monthly? Want to find out if your company will match your gift? Want to give an honorary or gift membership? Want to learn more about planned giving?

You can do it all online in a few clicks. It's that easy.

So come visit us online and make your donation today.
www.clf.org/donate/

ELENA MIHALY

Healthy Communities and Environmental Justice Legal Fellow

Elena dishes on local food and local farming – and how to serve up more of both on New England tables.



1 What first drew you to environmental law?

I've always loved getting outside and enjoying the outdoors with others. I appreciate the power of outdoor education and have remained amazed by the complexity of the biological connections in nature. When I was an undergrad majoring in Environmental Science, I realized my strengths weren't as much in understanding the science of environmental problems, but more in helping fix these problems. I saw environmental law and policy as a powerful avenue for this type of work.

2 How are you putting those ideals to work at CLF?

I am interested in the intersection of humans and the environment. And that's why I love working in the Healthy Communities & Environmental Justice Program. Since joining CLF, a lot of my work has been on the Farm & Food Initiative, where, among other things, I am helping cities and local food policy councils consider reforming zoning codes to allow for urban agriculture. I also regularly attend Massachusetts Metropolitan Planning Organization meetings to ensure federal transportation dollars

are spent in accordance with the Commonwealth's climate and transportation equity goals. And I'm also leading the development of a Legal Services Food Hub.

3 Can you say more about the Legal Services Food Hub and what it will do?

A robust movement is afoot to sustain New England's communities with fresh, local food. But many farmers and food entrepreneurs struggle with the high legal fees associated with starting a farm or business, acquiring land, entering into contracts, and other business matters. These costs can prevent people from entering the local food business or maintaining a viable enterprise.

CLF created the Legal Services Food Hub to provide pro bono legal services to address this problem. The name plays off the phrase food hub, which is an entity where farmers can bring their products for processing and distribution. Our Hub will act as a clearinghouse for farmers, food entrepreneurs, and food justice-related organizations to come to CLF with their legal issues. CLF will play matchmaker, linking Hub participants to attorneys who have offered their services

for free. The Hub will pilot in Massachusetts starting in June, and, depending on future resources, we hope to later expand it throughout New England.

4 How else do you think New England communities can be made healthier and more sustainable?

One problem is the affordability of fresh, healthy, local food. Making local food items affordable for low-income populations would be a real boon to creating healthy communities. The other thing is to make sure that bodies of decision makers are diverse. At many food systems planning meetings I attend in Massachusetts, decision makers and audience members are still predominantly white and not representative of our state's diversity.

5 What's most exciting to you about working at CLF?

I think it's the regional impacts of our work – and the people I work with. I am constantly learning from them and am proud to be working alongside them. It's great to wake up every day and feel a sense of pride in the organization that you work for.

Dig deeper into our Farm & Food Initiative at www.clf.org/farmfood



©EcoPhotography/Jerry Monkman

MAINE

Maine has become the first East coast state to take action on the threat of ocean acidification. A new law passed in April addresses the potentially devastating impacts of rising carbon dioxide levels in the ocean on habitat and commercial shellfish. CLF, in partnership with other nonprofit organizations and commercial fishermen, led the effort to draft and enact the bill, which is a critical tool in helping to identify and enable work to find solutions before the impacts of acidification become irreversible.

MASSACHUSETTS

Leaks from aging natural gas infrastructure throughout Massachusetts threaten public safety, the environment, and consumers' wallets. CLF drew attention to this triple threat with its launch in March of www.clf.org/map, an interactive website designed to help the public visualize the thousands of natural

gas leaks in the state. The launch coincided with a successful effort to advance a bill in the state legislature that will force action to fix the leaks.

NEW HAMPSHIRE

In a win for a cleaner Great Bay estuary, voters in Exeter overwhelmingly voted to fund the first steps in building a new sewage treatment plant – one that will replace the outdated plant that discharges into the Squamscott River, which flows into Great Bay. The campaign for this positive outcome was the first outing for CLF's new Clean Water Advocates for Great Bay network, a local citizens action group organized by our Great Bay–Piscataqua WATERKEEPER®.

RHODE ISLAND

A new bill that will drastically increase the amount of clean, renewable energy in Rhode Island is making its way through the General Assembly. CLF

worked with the bill's Senate and House sponsors to craft the bill, which, if passed, will quadruple the size of Rhode Island's existing distributed generation program – energy from small-scale renewable projects such as rooftop solar panels and single wind turbines at a school.

VERMONT

For decades, Vermont's land use law, Act 250, has provided important protections for the state's natural landscapes, farmland, and communities. This past legislative session, several bills threatened to weaken the law by making it easier to develop farmland. CLF successfully defended this critical law by preventing the bills' passage. At the same time, CLF worked with partners to strengthen the law by promoting an amendment that clarifies the process and protections for farmland.

FOLLOW CLF ONLINE

Sign up for email alerts @ www.clf.org

In between quarterly issues of *Conservation Matters*, stay informed about what CLF is doing and how you can get involved. Doing so is easy – just find us at any one of the following websites.

- CLF's blog: clf.org/blog/
- Twitter: @theclf
- Facebook: facebook.com/TheCLF
- LinkedIn: linkedin.com/company/Conservation-Law-Foundation

CONSERVATION MATTERS

THE JOURNAL OF THE CONSERVATION LAW FOUNDATION | VOLUME XVII, NO. 3 | SUMMER 2014 | ISSN 1521-9941

LETTER FROM THE PRESIDENT



When Tropical Storm Irene battered New England communities in 2011, it didn't just overwhelm our riverbanks and tide breaks. It also highlighted the vulnerability of the

mechanisms we've relied on to control storm and flood waters for 50 years – tunnels, sewers, and pipes – in the face of bigger and more destructive storms.

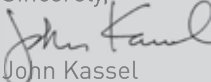
It's not just super storms and hurricanes that are overpowering this old infrastructure, however. Climate change has already increased annual rainfall in New England and made extreme weather events more frequent. Flash floods are more common as a result, and with them have come skyrocketing costs to cities, towns, and homeowners for repairs and clean up after the waters have receded.

That's just one of the reasons why CLF is pushing hard to make green infrastructure a central part of stormwater and flood management across the region. As you'll read in our cover story, its poten-

tial to prevent polluted stormwater from fouling our waterways is dramatic. But by absorbing more stormwater into the ground as it falls, the potential to reduce flood risks – and costs – is equally significant.

In this way, green infrastructure benefits both the environment and the economy. The savings from fewer flood events are easy to quantify, but green infrastructure can also cost less to implement and maintain than traditional "gray" infrastructure. And, with green infrastructure in place, we use less energy for heating and cooling buildings; reduce costs for water treatment, since there's less to treat in the first place; and lower carbon emissions.

Even if we could adequately adapt our current infrastructure to meet the changes wrought by climate change, the economic benefits – not to mention the environmental and social ones – of more sustainable, nature-inspired infrastructure are staggeringly positive. And that's just the kind of win-win-win solution that everyone can agree on.

Sincerely,

John Kassel

Copyright ©2014 Conservation Law Foundation. Printed on 100% post-consumer content recycled paper with soy-based inks

John Kassel
President

Sara Molyneaux
Chair, Board of Trustees

Peter Nessen
Vice Chair, Board of Trustees

Gordon Hall III
Vice Chair, Board of Trustees

Eugene H. Clapp
Treasurer, Board of Trustees

Thaleia T. Schlesinger
Clerk, Board of Trustees

Daniel Amory, Esq.
Chair, Maine Board

John B. French, Esq.
Chair, Massachusetts Board

Martin L. Gross, Esq.
Chair, New Hampshire Board

Kate Kilguss
Chair, Rhode Island Board

Ann Seibert
Chair, Vermont Board

CLF Maine / 47 Portland Street, Suite 4
Portland, ME 04101 P: 207.210.6439

CLF Massachusetts / 62 Summer Street
Boston, MA 02110 P: 617.350.0990

CLF New Hampshire / 27 North Main Street
Concord, NH 03301 P: 603.225.3060

CLF Rhode Island / 55 Dorrance Street
Providence, RI 02903 P: 401.351.1102

CLF Vermont / 15 East State Street, Suite 4
Montpelier, VT 05602 P: 802.223.5992

Editor: Laurie O'Reilly
Graphic Design by: Fyfe Design
Printing by: The Print House
Cover Photo: New England
Interstate Water Pollution Control



RECYCLED
Paper made from
recycled material
FSC® C103525