



June 2015
Volume 3, Issue 1

FB Environmental E-NEWS

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environmental

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E-news in review

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FBE ASSISTING LAND TRUSTS ON SEVERAL PROJECTS IN MAINE AND NEW HAMPSHIRE

“FBE staff specialize in protecting and restoring our valuable natural resources. We work in an area where science meets civics to bridge the gap between sound science and policy decisions.”

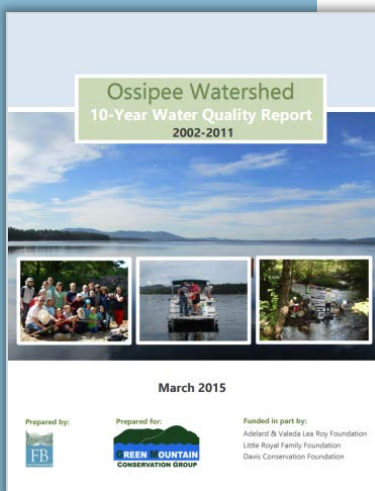
Portland, ME - FB Environmental has continued its partnership with the Southern Maine Conservation Collaborative (SMCC) and many land trusts in Maine and New Hampshire. These partnerships enable us to deliver conservation-related consulting services to SMCC’s member organizations, including land trusts and other conservation-related NGO’s. Since 2008, FBE has completed numerous projects for land trusts, including baseline documentation reports, GPS/GIS mapping and training, invasive species management plans, natural resources inventories, pond evaluations, and wetland identification & classification.



FBE is working with the SMCC and Maine Audubon to restore native plants at Audubon’s East Point Sanctuary in Biddeford Pool.

FEATURED PROJECT – OSSIPEE 10 YEAR WQ REPORT

Ossipee, NH - In collaboration with the Green Mountain Conservation Group (GMCG), FBE recently developed a 10 Year Water Quality Report for the Ossipee Lake and River Watershed, located in the New Hampshire Towns of Effingham, Freedom, Madison, Ossipee, Sandwich, Tamworth, and Eaton. The report provides water quality information, analyses, and recommendations based on data collected from 2002 to 2011 through the GMCG Regional Interstate Volunteers for the Ecosystems and Rivers of Saco (RIVERS) Watershed Monitoring Program and the GMCG Ossipee Lake and Tributaries (OLT) Program. These volunteers have regularly collected water quality information from 30 river sites and 5 lake stations within the watershed. Analyses showed that water quality in the Ossipee Watershed is very good overall, but some river sites have emerging problems for a number of water quality parameters. Although some sites show deteriorating trends in some water quality parameters, many of the parameters measured still meet State water quality standards. This presents a unique opportunity for engaged stakeholders, such as GMCG and watershed towns, to utilize restoration techniques that can stabilize or reverse these deteriorating trends in water quality. For the full report, please visit: <http://www.gmcg.org/research/10-year-water-quality-report/>.



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FBE WELCOMES THREE NEW SCIENTISTS



Maggie Burns
Hydrologist

❖ **Margaret Burns** has helped our team since she joined FB Environmental in April of 2015. She has a B.S. in Ecology and Environmental Sciences from the University of Maine at Orono and a Master's Degree in Geography with a focus in Hydrology from the University of Colorado, Boulder. At Colorado, she used fluorescence spectroscopy to identify changes in dissolved organic carbon cycling during snowmelt. In 2011, she completed an internship at the Hubbard Brook Experimental Forest in NH. She returned to Hubbard Brook research after completing her graduate work to assist with a collaborative project that examined nitrogen cycling in a forested watershed. Margaret is an important addition to the FBE Portland office, where she contributes to projects involving lake and stream water quality monitoring, climate change, GIS mapping, and hydrologic flow analysis.



Lauren Bizzari
Biologist

❖ FBE is also pleased to have **Lauren Bizzari** join our staff. Lauren received an M.S. in Environmental and Plant Biology in 2013 from Ohio University, where she evaluated the reintroduction success of blight-resistant American chestnut (*Castanea dentata*) across the Central Appalachian region. She also completed a B.A. in Biology from Colby College in 2009 and returned to her alma mater in 2013 as a lab manager for an ecological research lab, where she studied the effects of habitat fragmentation on plant diversity. Lauren has many years of field experience from a diverse range of research projects, including a forest management experiment in northern Wisconsin and a study of groundwater nitrogen removal on the shoreline of Cape Cod. As part of the FBE Portsmouth office, Lauren will contribute to projects involving restoration planning, invasive species control, natural resource inventories, wetland delineation, GIS mapping, lake and stream water quality monitoring, and stormwater sampling.



Krystal Costa
Project Scientist

❖ FBE welcomes **Krystal Costa** to our team of experienced scientists. Krystal received a B.S. in Environmental Conservation Science from the University of New Hampshire, where she focused on botany, wetland delineation, and soil science. She headed student labs for a college-level plant biology class and worked with the herbarium on a macroalgal grant project. Krystal has also helped monitor the spread of aquatic invasive species in lakes through the New Hampshire Lake Association (NHLA), served as a wilderness and wildlife educator teaching primitive skills, such as wildlife tracking and foraging, and worked with landowners to recommend and implement practices that help capture and sequester pollutants in stormwater. Working out of our Portsmouth office, Krystal's work involves habitat assessments, invasive species control, restoration planning, wetland delineation, water quality sampling, and GIS mapping.



"Sable"
Bacteria Tracker

NEW PROJECT ON LONG ISLAND, NY

FB Environmental and **Environmental Canine Services (ECS)** will be assisting the engineering firm, Horsley Witten Group, with a two-year comprehensive study of several Long Island Embayments that are impacted by bacteria pollution. FBE and ECS (and their amazing dogs) will locate and track human sources of bacteria contamination in the project area.



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RECENT & ONGOING PROJECTS

Environmental Monitoring Division

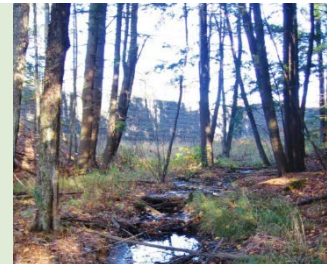


Early morning sonde deployment on Spruce Creek in Kittery, Maine

FBE's newly-appointed Project Manager and Environmental Monitoring Division Lead, **Laura Diemer**, has been working with several communities throughout Maine and New Hampshire to monitor and assess water quality in lakes, rivers, streams, and estuaries. Laura is currently assisting several lake associations and municipalities with long-term monitoring and data analysis. Of particular note is the work FBE is doing for the **City of Bangor** to help monitor several urban-impaired streams as they move ahead with restoration efforts funded by Maine DEP 319 grants and a recently-established local stormwater utility.

Watershed Management Division

FBE Owner and Watershed Management Division Lead, **Forrest Bell**, is working with several communities to assess and restore impaired watersheds, including the Topsham Fair Mall Stream watershed in the Town of **Topsham, Maine**. FBE will help Topsham lead a long-term effort to reduce chloride loads to this waterbody. Forrest and his staff are also assisting the City of Saco, the Maine Department of Environmental Protection, and the York County Soil and Water Conservation District to develop a comprehensive Watershed Management Plan for the impaired **Goosefare Brook** in Saco and Old Orchard Beach.



Topsham Fair Mall Stream

Ecological Services Division



A beaver pond at the Brox Property in Milford, NH

Project Manager and Ecological Services Division Lead, **Kevin Ryan**, has been assisting several clients with wetland delineations, natural resource inventories, and invasive plant management plans. One highly-publicized effort was the Natural Resources Inventory of the Brox Property in Milford, NH. This property features numerous high-value wetlands and also supports populations of State Endangered Blanding's turtles (*Emydoidea blandingii*) and eastern hognose snakes (*Heterodon platirhinos*). FBE has also been hired to conduct an environmental inventory of a portion of the Payson Property in Cumberland, Maine. This property was recently purchased by the Town of Cumberland and offers the community oceanfront access and a stunning vista of Casco Bay.

PENJAJAWOC STREAM
Penjajawoc Stream Watershed-Based Management Plan
Bangor, Maine
1st DRAFT - March 2015

Prepared by: FB Environmental Associates
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Prepared for: City of Bangor
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BIRCH STREAM
Birch Stream Watershed-Based Management Plan
Bangor, Maine
1st DRAFT - June 2015

Prepared by: FB Environmental Associates
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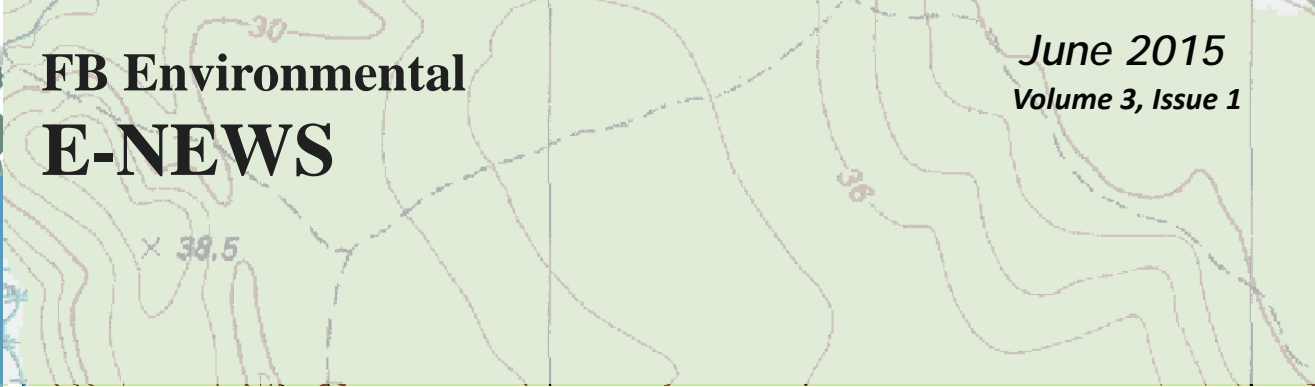


FBE is assisting the City of Bangor with monitoring and updating the management plans for Birch Stream, Penjajawoc Stream, Capehart Brook, and Arctic Brook.



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WETLAND NEWS

FBE Wetland Scientist Kevin Ryan's Recent Publications in the Journal of Herpetology

Ryan, K. J., and A. J. K. Calhoun. 2014. **Post-breeding Habitat Use of the Rare Pure-Diploid Blue-spotted Salamander (*Ambystoma laterale*)**. Journal of Herpetology. 48:556-566.
Link to abstract: <http://journalofherpetology.org/doi/abs/10.1670/13-204>

Ryan, K. J., A. J. K. Calhoun, J. D. Zydlewski, and B. C. Timm. In Press. **Monitoring Eastern Spadefoot (*Scaphiopus holbrookii*) response to weather using a passive integrated transponder (PIT) system**. Journal of Herpetology.
Link to abstract: <http://journalofherpetology.org/doi/abs/10.1670/12-230?journalCode=hpet>

RECENT FBE CONFERENCE PRESENTATIONS

New England Association of Environmental Biologists Conference Bartlett, NH – March 18th-20th

- ❖ Forrest Bell presented on **Addressing Bacteria Impairments in Coastal Streams**.
- ❖ Laura Diemer presented with Jake Riley of Stantec on the **Projected Thermal Habitat Impacts to Brook Trout from Climate and Land Use Changes in the Kezar Lake Watershed**.

New Hampshire Land Trust Conference Weare, NH – April 11th

- ❖ Kevin Ryan and Forrest Bell led a 90-minute workshop on **“How to Develop a Comprehensive Climate Change Monitoring Program at the Local Level”**.

NEIWPC Annual Nonpoint Source Conference Freeport, ME – April 29th-30th

- ❖ Forrest Bell presented on **“Innovative Tools for Bacteria Source Tracking”**.
- ❖ Laura Diemer and Jennifer Jespersen presented on **“Cost-effective Impaired Stream Restoration in Capehart Brook in the City of Bangor”**.

JOURNAL
OF
HERPETOLOGY



SOCIETY FOR THE STUDY OF AMPHIBIANS AND REPTILES



Beaver Brook in the Kezar Lake watershed



Bacteria tracking in the Ogunquit River watershed

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