



**Belfast Bay
Watershed**

BELFAST BAY WATERSHED NEWS

Stream Barrier Survey Completed

Board members Tom King and Skip Pendleton, assisted by Gil Albert, volunteered two summer/fall seasons surveying the entire Belfast Bay Watershed and then some, to locate and document the condition of every brook and stream crossing, a total of 197 sites. They assessed, photographed, and reported all dams, natural barriers, and culverts with regard to movement of aquatic species. Although dams and natural barriers are not features easy to deal with, the preponderance of barriers—improperly installed culverts—can certainly be changed. Most culverts in history have been installed for water passage, not fish and wildlife passage.

The study is part of a national effort to expand connectivity for aquatic species and improve water quality and habitat. In Maine, the USFWS (U.S. Fish and Wildlife Service) works through its branch in Falmouth, the Gulf of Maine Coastal Program. The entire Maine survey can be viewed at this link— <http://mapserver.maine.gov/streamviewer/index.html>



Maine

Hung culvert: difficult or impassable

J.Bell photo



Properly installed culvert with natural bottom, no pour-off. D.O.T. photo

The Belfast Bay Barrier Survey Atlas is in print and available to peruse at our monthly programs at the library. It covers the towns of Belfast, Belmont, Brooks, Knox, Morrill, Northport, Searsport, Stockton Springs, Swanville, and Waldo. Some sites were hard to find or reached with great difficulty. They are located on both private and public property.

In some cases, culverts have separated brook trout populations long enough to produce two separate subspecies above and below the culvert. Barriers can slow or stop the flow of water, effectively damming a stream, causing siltation, which when sun warms the darker silt particles, heats up the stream water from 50 or 60 degrees to the 80s. This releases dissolved oxygen, (see p.3)

Belfast Bay Watershed Coalition

P.O. Box 152, Belfast, ME 04915

www.belfastbaywatershed.org

Evening Programs at the Belfast Library

Our educational programs are offered on Thursday evenings once per month in the Abbott Room. Programs are free and open to all. Light refreshments are served.

December 11, 6:30 pm. “Hit the Trail!” with Cloe Chunn and Skip Pendleton, who will update us on new trails in our area, including the In-Town Nature Trail, Meadow Brook Preserve Trails, and Hills to Sea Trail, among others.

January 15, 2015, 6:30 pm. “A Look at Head of Tide Preserve’s Food Producing Past and Future.” Karin Wittmann, organizer of the Head of Tide project. More than a beautiful place to walk, Coastal Mountains Land Trust’s Head of Tide Preserve, is becoming a permaculture experimentation site in which Belfast area community members are combining their efforts to revitalize old fields, forest edge, and deep forest. Efforts are underway to grow and harvest in a sustainable manner edible perennials, heritage grains, and other plant products. Karin will share a brief overview of permaculture, a slideshow of the projects, and have time for community discussion and involvement.

February 19, 6:30 pm. “Bats: Aerial Acrobats of the Night.” Katelin Craven, bat biologist. Ever wonder about life in the woods after dark and the elusive aerial acrobat, the bat? Come learn about the ecology of the nine local bat species. Bats are integral to keeping the Maine ecosystem in balance, reducing agricultural and garden pests, and reducing insect born disease by consuming large quantities of insects each night. A single little brown bat can eat up to a 1,000 insects in an hour and can eat its entire body weight equivalent in insects each night. Unfortunately local bats and bats across North America are experiencing unprecedented mortality rates due to White-nose Syndrome.

March 19, 6:30 pm. “Bird Migration,” Jody Telfair. Jody has chased birds all over the globe, and will share what she knows about birds and their migratory behavior, especially birds we consider “ours” in Maine. She will emphasize how we can help them succeed in their current struggle for survival.

April 16, 6:30 pm. “Current Topics of Climate Change.” Sid Quarrier. A brief summary of topics such as Antarctica, the Arctic’s effect on weather patterns, the role of methane, and tipping points, followed by a group discussion of what is known about climate change and why procrastination makes it increasingly difficult to solve problems.

May 21, 6:30 pm. “The Arctic: Eye Witness to Change.” Karen and Rick Miles, owners of the *Wanderbird*, will share their long-term observations of climate and conditions in the Arctic, as they have led tour groups on their boat *Wanderbird* for decades.

Annual Meeting

As every year, the BBWC Annual Meeting will occur briefly before the January 15 evening program at the library. BBWC members (defined by a contribution of \$5 or more in 2014) will have the opportunity to vote on the slate of new and renewing board members. Please arrive at 6:15 so we can start early and thus not take time away from the program. Thank you.

(continued from p.1) asphyxiates fish, and can kill off a population.

Not just fish, but turtles, newts, salamanders, and frogs use culverts. Mammals like otters, muskrats, even foxes also move through them. Ducks and other birds as well. Tom King, who headed up the Belfast Bay project, says, "This is an attempt to be better stewards of our most precious natural resource, water."

Next steps: Our team has contacted all town managers and select boards and asked them to review the report and look at culverts designated inadequate. They should then contact the USFWS, Gulf of Maine Coastal Program in Falmouth, for assistance for correct replacement of offending culverts over time. **Maine voted overwhelmingly to fund the Clean Water Bond (Question #6) in November, which sets aside funds for repairing barriers to fish passage. Let's use these funds!**

Private landowners may seek funding from the Farm Bill by consulting Autumn Birt at the NRCS office just past the Belfast Transfer Station on the left.

How can we help? As citizens who want to expand connectivity and water quality for aquatic species, we should view the link above, find out which culverts are barriers to movement, and talk to our towns and neighbors about replacing them.

As a partner in the Salmon-in-Schools program, BBWC has now funded and installed chilled salmon tanks in 10 schools, where students will have the privilege of learning and caring as they raise salmon fry from eggs, releasing them into the Belfast Bay watershed each spring. To keep the life cycle going, as well as promote other aquatic species, we need to insure that these babies have clean, oxygen-rich water to grow in, and barrier-free streams and brooks when they migrate to the sea and back upstream to spawn.

View an excellent powerpoint about Maine culverts at this link:

<http://fishpassage.wsu.edu/pdfs/RichardBostwick.pdf>

The New Face of Head-of-Tide Preserve

BBWC is collaborating with Coastal Mountains Land Trust, Belfast Transition, and the Garden Club to make Head-of-Tide Preserve into working food production for humans and wildlife. One field at a time, we are developing ideas and demonstrations of food forest, community garden, water catchment, edible landscape, while maintaining recreation.

The preserve on the Doak Road in Belfast is almost 100 acres of old farm fields, woods, and river frontage on the Passagassawakeag. Two large connecting loop trails offer access for hiking, snowshoeing, and XC skiing. The people-friendly preserve will allow combined experiments in food and forage management techniques and recreation. This process will take several years, with volunteers supplying labor and skills.

If you wish to get involved in this first-of-its kind collaboration of a land trust and community, please call or email Denis Wang, 338-3866 or email drdeniswang@gmail.com

Sun and Moon in Winter	
Dec. 6	Full Moon
Dec. 21	Solstice
Jan. 4	Full Moon
Feb. 3	Full Moon

BBWC Board
 Tom King, President
 Francine Brown, Vice Pres.
 Cloe Chunn, Secretary
 Debbie Mitchell, Treasurer
 Maynard Clemons
 Cathy Morgan
 Skip Pendleton
 Heide Purinton-Brown
 Janet Weinberg
 Karin Wittmann

Monthly Outings

2014-2015

Anyone is welcome on outings. For more information, or in questionable weather, call 338-1147 for details.

Dec. 13, Sat., 10:00-2:00. Hike new and old trails at Head of Tide Preserve, Doak Road, Belfast. Bring water, lunch, warm layers. Cosponsored with CMLT.

Jan. 3, Sat.. 115th Christmas Bird Count. To participate, call 338-0940. Beginners welcome!

Jan. 10, Saturday, 10:00-2:00. Winter outing and potluck social at Cloe and David's farm, 210 Oak Hill Road, Swanville. 10:00 snow shoeing and XC ski; or just come at noon for potluck.

Feb. 7, Sat. 10:00-2:00. Snowshoe/ski Meadow Brook Preserve to Hurds Pond, Swanville. Meet at Mailbox #399 Oak Hill Road. Bring water, lunch, warm layers.

Feb. 14, Sat. Birding from Footbridge. To kick off the Great Backyard Bird Count, Ron Harrell will set up a spotting scope, help folks find birds, and answer their questions between 8:00 and 11:00.

March 14, Sat. 10:00-2:00. Snowshoe/ski the Gibson Preserve, Searsmont. Meet at Renys outer parking lot at 10:00 to carpool. Georges River Land Trust.

April 11, Sat. 10:00-1:00. Passy Rail Trail, footbridge to RR museum and return, 4 miles RT. Meet at Footbridge.

Calendar of Events

- Dec. 11, Thurs. Program: Hit the Trail! see p. 2.
 Dec. 13, Sat. Hike Head of Tide Preserve, left.
 Jan. 3, Sat. Christmas Bird Count, see left.
 Jan. 10, Sat. Outing and social in Swanville, left
 Jan. 15, Thurs. 6:30 pm, Forest Garden and Multi Use at Head of Tide Preserve. p. 2.
 Feb. 7, Sat. Ski/snowshoe Meadow Brook Preserve and Hurds Pond, left.
 Feb. 14, Sat. 8:00-11:00. Footbridge Birding, left
 Feb. 19, Thurs. 6:30 pm. Bats: Acrobats of the Night. p. 2
 Mar. 14, Sat. 10:00-2:00. Outing at Gibson Preserve. See left.
 Mar. 19, Thurs. 6:30. Bird Migration Program, p.2
 Apr. 11, Sat. 10:00-2:00. Passy Rail Trail outing, see left.
 Apr. 16, Thurs. 6:30 pm. Climate Change Program , p.2.

You are invited to participate

The Belfast Bay Watershed Coalition invites you to help with our mission of exploring and enjoying our watershed, educating others about it, and raising community awareness about issues in our watershed.

Please feel free to attend a program or an outing and see what we are doing. To subscribe to the newsletter on-line, contact Francine Brown at fbrown711@roadrunner.com

Mission: The Belfast Bay Watershed Coalition is a group of organizations and individuals working to support conservation and stewardship of natural, scenic, historic, and public access resources of the Belfast Bay watershed through research, community-building, and education.