

PENOBSCOT BAY STEWARDS PROGRAM 2024



*** 2024 Penobscot Bay Stewards Program ***

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*** 2024 Penobscot Bay Stewards Program ***

Welcome!

As a Penobscot Bay Steward, you join a committed and powerful group of volunteers who actively contribute to the health of our watershed and local environment.

The Penobscot Bay Stewards, along with Mid-Coast Stewards west of Penobscot Bay, started in 1995 through the NOAA-funded, state-run Maine Coastal Program. The goal was to increase coastal communities' understanding of the dynamics and needs of their ecosystems, on and offshore.

In 2005, the leaders of the Belfast Bay Watershed Coalition (BBWC) recognized that it could improve the Penobscot Bay Stewards program by more effectively recruiting participants, providing more relevant resources, and organizing better logistics for visiting local natural communities. Working with the State, BBWC received funding to take over the Stewards Program. This funding was eliminated during the LePage administration. BBWC now funds the program through the donations of its members and with support from Steve and Astrig Tanguay, owners of Searsport Shores Ocean Campground.

During this time, the Penobscot Bay Stewards program has trained hundreds of volunteers who have given of themselves, some for a year, many for the rest of their lives. They serve on boards of directors for local environmental organizations, run for public office as a voice for environmental stewardship, organize campaigns to change harmful environmental practices, and provide passion and expertise to many important sustainability projects.

Whatever their passion or focus, Penobscot Bay Stewards volunteer from a foundation of shared values and goals.

A Penobscot Bay Steward is:

- Informed and knowledgeable about multiple aspects and conditions of Penobscot Bay and the Penobscot River watershed.
- Capable of making first-hand observations about the natural world.
- Engaged in reading and listening to information from various sources and evaluating what is best for the environment.
- Always learning about the natural environment, cultivating an appreciation of the complex demands upon this shared resource, as well as the cultural, historical, and economic influences that shape these demands.
- Willing to volunteer time to conservation efforts, including, but not limited to, teaching, writing to the media, grant writing, organizing and participating in initiatives to enhance the environment, serving on local task forces, committees, and in leadership positions.
- Committed to using her/his/their knowledge and skills in various areas to ensure that a voice for sustainability and respect for our natural world is included in all discussions of how to use these shared resources.
- Available to mentor others who wish to inform themselves about the importance of our watershed and the issues that face it.

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Statement of Program Objectives

Through a series of educational field trips, the Penobscot Bay Stewards Program will introduce participants to the ecology of Penobscot Bay and its watershed and provide them with tools and inspiration to work effectively toward a healthy and sustainable future for the Penobscot Bay watershed region.

Specific Program Objectives:

- Provide participants an overview of Penobscot Bay and its watershed, with an emphasis on the diversity of marine and terrestrial ecosystems and factors that affect their health and sustainability.
- Provide participants an overview of human interaction with Penobscot Bay ecosystems and the historical impact of economic use of environmental resources.
- Provide participants direct experiences with the regional environment, and with institutions and individuals active in working in Penobscot Bay and its watershed.
- Provide participants resources and tools for further investigation of regional systems.
- Promote leadership and involvement in promoting healthy regional ecosystems based on knowledge and understanding of regional systems.
- Provide inspiration, facilitation, and context for effective individual and collective action toward building regional sustainability.

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Program Participation Good Practices

Here are a few bits of information, program rules, and good practices that will enhance your enjoyment of the 2024 Penobscot Bay Stewards Program:

- **Please be on time.** Out of respect for our presenters, who are volunteering their time, and because many of our activities are tightly scheduled, it is important that you arrive at each day's activities at, or slightly before, the scheduled time.
- **Stewards only.** Program rules do not allow you to bring along any children, guests, pets, or other animals.
- **Turn off the ringer on your cell phone.**
- **Bring a bag lunch.** Except for the closing day at the campground on June 18, and the trip to Hurricane Island, you are responsible for bringing your own lunch each program day. In some cases, the lunch break may be at a location where you can purchase lunch at a local cafe or restaurant, but if you do so, be sure to plan your meal to be finished in time to get to the afternoon activities.
- **Dress for the weather.** Be sure to check weather forecasts and dress accordingly. Dressing in layers is almost always a good practice.
- **Wear sensible shoes.** Almost all program days will require some degree of walking. Wear comfortable walking shoes. You'll be glad you did!
- **Consider sun and insect protection.** It's a sunny, insect time of year!
- **Notes and photos encouraged.** Feel free to jot down notes and take pictures.
- **EVALUATIONS:** Your reactions and input about each training day are important to us. You will receive an emailed evaluation form each week. Please help us improve this program by returning your feedback to us.

The most important good practices:

- **Stay engaged. be curious. and have fun!**

We are happy to have you as part of this new group of Penobscot Bay Stewards!

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HEALTH AND SAFETY REMINDERS

TICKS: The Maine CDC recommends taking the following steps to limit exposure to ticks and tickborne diseases:

- Know when you are in tick habitat and use caution.
- Use an EPA-approved repellent like DEET, picaridin, IR3535, or oil of lemon eucalyptus.
- Wear light-colored clothing that covers the arms and legs and tuck pants into socks.
- Perform tick checks daily and after any outdoor activity.
- For more information: www.cdc.gov/ticks/

COVID 19: Obtain a COVID-19 vaccination and booster doses when eligible.

- Wash hands often.
- Stay home if experiencing COVID-19 symptoms.
- Look at the *Together for Maine* website for additional information and resources. www.maine.edu/together/community-guidance/everyone/
- Follow CDC Quarantine & Isolation recommendations: www.cdc.gov/coronavirus/

BROWNTAIL MOTHS: We will be out and about during the active brown-tail moth season. To minimize adverse reactions to their poisonous hairs:

- Wear long pants and long sleeves when hiking. If you are concerned, also wear a mask.
- Avoid stirring up the ground when outside.
- Take a cool shower and change clothes after the training day.

CARPOOLING: Traveling to Penobscot Bay Stewards events by carpool saves on gas, keeps carbon dioxide out of the atmosphere, and is an enjoyable way to travel the often-lengthy distances required by program participation. Suggestions for successful carpools:

- Be mindful of others' needs to mask or not mask;
- Be on time to the meeting place; call the driver if you will be late or missing;
- Offer to take your turn driving or offer to share gas money;
- Be sure to take all of your things out of the car when the trip is over – especially any empty cups, wrappers, or other trash.

*** 2024 Penobscot Bay Stewards Program ***

1. Tuesday, May 7 - Opening Day

Day Coordinators: Greg Biddinger (713-203-0066), Cloe Chunn, Marcia Cooper, Howard Green, Marjie Gormley, Cyrene Slegona

Overview:

Welcome to the 2024 edition of the Penobscot Bay Stewards Program. Today, you will have an opportunity to meet your classmates, meet the steering committee members who organized this year's program, and learn a little more about Penobscot Bay and the Penobscot Bay Watershed. We will also give you a preview of the outings and activities we will be undertaking with you in the coming weeks.

Agenda: Searsport Shores Ocean Campground, 216 W Main St, Searsport

8:30 Registration, pick up materials and coffee

9:00 Welcome and introductions

9:45 Program Overview and Introduction of Day Coordinators

10:15 Icebreaker – coffee break as needed

11:00 Climate Change and Penobscot Bay: Dr. George Jacobson, speaker

Weather depending, we will travel to Sears Island for lunch and afternoon activities.

12:30 Lunch on Sears Island

1:00 Sears Island – History, Ecology and Future of the Windport: Rolf Olsen

1:30 Walk and Talks on Sears Island

- Penobscot Watershed: Geography and Ecology - Cloe Chunn
- The Value of Nature - Greg Biddinger
- Monarch Butterfly Habitat and Tagging – Cyrene Slegona and Ashley Megquier

3:30 Searsport Shellfish Association – David Bond and Mike Bowe, speakers

4:00 Q&A's – Briefing for next program day.

4:30 Adjourn

Tides - High 11:00 am and Low 4:59 pm

Tips for the day - In the afternoon we will be walking on sandy beaches and hiking trails, so sturdy footwear is advised. A walking stick may be useful. Be aware of potential for trips and falls due to exposed roots and rock as well as slick surfaces. Insect life may be active this time of year so insect repellent advisable.

Directions:

To Searsport Shores Ocean Campground

From the South:

- Take Route 1 North from Belfast. Travel ~ 5 miles, Searsport Shores Ocean Campground will be on your right (oceanside). The campground is ~ 1 mile beyond Moose Point State Park.

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From the North:

- Take Route 1 South from Stockton Springs.
- Proceed through downtown Searsport and the campground will be ~ 1 mile south of Searsport on the left (oceanside).
- Note: In 2024 there will be road work underway in and around Searsport. If there is road work, you may detour around downtown Searsport. Follow the detour signs to Prospect St. Turn left on Prospect St. and follow until it reaches Route 1 south of Searsport. Turn right on Route 1 going south. The campground will be about 1 mile south on left (oceanside)

To Sears Island

From Searsport Shores Ocean Campground:

- Turn right onto Rt 1 while exiting the campground.
- Travel through Searsport and continue north on Rt 1 for approximately 3.2 miles.
- Look for the sign to Sears Island and turn right onto Sears Island Rd. Drive onto the causeway and park up near the front gates.
- Note: If there is construction you will be directed through downtown Searsport heading north.
- At the end of the day, if you depart Sears Island and head south on Route 1 when you get to Searsport you will likely be detoured around town. You will eventually be reconnected with Route 1 at the south edge of town. Just turn right and you will be back on Route 1.

Reading Materials and Resources

- *The Lobster Coast: Rebels, Rusticators, and the Struggle for a Forgotten Frontier*, Colin Woodard, Penguin Books. 2004. 372 pps.
- *Robin Wall Kimmerer [Braiding Sweetgrass] Wants to Extend the Grammar of Animacy*, www.sciencefriday.com/articles/braiding-sweetgrass-excerpt/
- *Sacred Instructions-Indigenous Wisdom for Living Spirit-Based Change*, Sherri Mitchell (Weh'na Ha'mu' Kwasset, *she who brings the light*), 2018, North Atlantic Books 234 pp.
- *Video – Archaeology of Sears Island and Upper Penobscot Bay: 12,000 years of history beneath our feet* - Paul Bock <https://www.youtube.com/watch?v=3Vsw3JqKJv0&t=8s>
- *Maine Geological Facts and Localities – Sears Island Searsport, Maine*, Ryan Gordon, February 2018
https://digitalmaine.com/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1534&context=mgs_publications
- Friends of Sears Island – friendsofsearsisland.org
- Alliance for Sears Island – allianceforsearsisland.org

2. Thursday, May 9 - Wabanaki and Penobscot River History

Day coordinators: Cloe Chunn, (207-338-1147/home), (207-323-8961/cell: only for May 9); Josh Goldstein (617-953-9865)

Overview:

To learn about geographical and cultural origins of the Penobscot watershed, we will devote a day to learning:

- Wabanaki history as it has been affected by colonization
- Wabanaki stewarding of the Penobscot River and watershed
- The Penobscot River Restoration
- Current issues with Wabanaki/State relations.

Agenda:

8:45 Meet at Congregation Beth El, 183 French Street, Bangor
BYO coffee, snack, bag lunch.

9:00 **Maulian Bryant, Penobscot Nation Tribal Ambassador**

Snack and exercise break

11:00 **Interacting with Wabanaki/Maine History** (without interruption), presented by Wabanaki REACH.

1:00 **Bag lunch with Maria Girouard**, Executive Director of Wabanaki REACH and a tribal historian

2:00 Drive north to Howland, to the Fish By-pass of the Piscataquis River

2:45 **Speakers:** Chuck Loring, Director of the Natural Resources Dept. of Penobscot Nation, and Don Hudson, President of the Penobscot River Restoration Trust

Topics: the Penobscot River Restoration Project, a collaboration of immense proportion; introduction to the Penobscot Nation Natural Resources Department

Notes: Short walk in Howland to the Fish By-pass. Wear warm layers.

Directions:

To Congregation Beth El in Bangor:

- Take I-95 to Bangor, exit 185 South to Rt.15/Broadway. Go 1 mile, turn right on Rt. 2. Go 1 block, turn right on French Street. Look for 183 on the right.

From Bangor to Howland (Piscataquis River Fish By-pass):

- Go back up to I-95 North, then drive 32 miles to Exit 217 East on Rt. 6/155. Go 1 mile to a rotary, and take Rt. 155 off the rotary. Go past the Handy Stop, Carwash, and turn left into the Town Office driveway. Park behind the office.

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3. Tuesday, May 14 - The Ecology, Fisheries and Economics of the Blue Hill Peninsula and Deer Isle

Day coordinators: Coordinator - Jacquie Gage (207-322-2168) and Nancy Trimper (919-624-5520), Ann Kennedy, Katie McDonald

Overview :

This day will explore the intersection of people and their environment on the Blue Hill peninsula and Deer Isle. We will visit alewife runs that have replaced dams on the Blue Hill Peninsula, the Lobster Co-op in Stonington, and learn how, in the past, people utilized the geology of the area to build an economy based on stone cutting.

Agenda:

7:30 Meet at Mermaid Plaza to carpool, 1 East Main Street, Searsport

9:00 Alewife Run – Wight Pond, Penobscot

Speaker: Bailey Bowden, fisherman, citizen scientist and activist

10:15 Walker Pond, Brooksville

Speaker: Mike Thalhauser, Collaborative Management Specialist, Maine Center for Coastal Fisheries

11:30 Maine Center for Coastal Fisheries, 13 Atlantic Avenue, Stonington

Group will split in two, spending 30 minutes at each site

- Tour of Center and bag lunch
- Tour of the Granite Museum

12:45 Settlement Quarry, Settlement Road, Stonington

Speaker: Martha Bell, Island Heritage Trust. Martha will guide us on a walking tour of the preserve that includes the geology of the island and the history of the quarry.

2:00 Stonington Lobster Co-op, 51 Indian Point Road, Stonington

Speaker: Ronnie Trundy, manager and fisherman: Tour of the Co-op and description of Stonington's lobster industry.

3:00 Driving Tour of West Side of Deer Isle: Stonington to Deer Isle Village

Brief stops at lobster pounds, Sand Beach and entrance to Barred Island Preserve. Stewards will be given information about Barred Island Preserve.

Notes:

Settlement Quarry trail is an easy quarter-mile walk up a gradually sloping path with some walking through and around the quarry.

Directions:

GPS can supply most directions except those to and from the ponds. They are below:

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From Belfast to Wight Pond:

- Take Rt. 1 North. Rt. 1 forks just past Stockton Springs. Veer right to continue on Rts. 1 and 3 toward Bucksport. Cross the Bucksport Bridge and continue on Rt. 1 / 3 through Verona Island. Turn right at the light in Bucksport and continue on Rt. 1 / 3 / 15 for 4 miles.
- Turn right on Rt. 166. Drive 8 miles.
- Turn left onto New Road (Rt. 175). When New Road ends, turn left onto 175/199. Drive 2.9 miles. (At 1.8 miles, look to the right to see the Skeleton Playground.)
- Turn left onto Rt. 177. Drive 1.8 miles. A posted dirt road to the left takes you to the parking lot at the outlet of Wight Pond and the alewife ladder. Don't be deterred by the posted signs on both sides of the road. The properties on both sides of the road are private but the road is public. (If you get to the little bridge and/or "Welcome to Blue Hill" sign, you've missed it, so turn around.)

From Wight Pond to Walker Pond:

- Turn right out of Wight Pond parking lot. Drive 1.7 miles.
- Turn left onto Rt. 175. Drive 9 miles. (In 7 miles, this road will become Rt. 176 / 15.)
- Turn right onto Rt. 175 N (Coastal Road) toward Brooksville. Drive .4 miles. The parking lot for Walker Pond is on the right.

Preparation:

Optional: Binoculars

Watch:

Running of the Alewives, MPT Borealis (YouTube: search "Running of the Alewives, Borealis")

Jacob Knowles Videos – 5th generation Lobsterman with a variety of entertaining and informative videos (www.youtube.com/@jacobknowles5421)

Read:

"January storms nearly wiped out Maine's lobster industry. Now comes the hard part." Boston Globe, January 28, 2024.

<https://www.bostonglobe.com/2024/01/28/science/after-major-storms-the-maine-lobster-industry-is-rebuilding/>

Stonington Lobster Co-op: [Our History — Stonington Lobster Co-Op](https://www.stoningtonlobstercoop.com/history)

<https://www.stoningtonlobstercoop.com/history>

Explore:

Maine Department of Marine Resources Website:

<https://www.maine.gov/dmr/fisheries/commercial/fisheries-by-species>

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4. Thursday, May 16 - Belfast Waterfront

Stewards will have the opportunity to gain a clearer understanding of the economic, cultural, and environmental issues impacting Belfast Bay and be introduced to some volunteer opportunities that BBWC offers.

Day Coordinators: Kathleen Reilly-Repass (kreilly20024@gmail.com; 202-253-6768), Mike Repass (mike@mikerepass.net; 202-256-4639), Marcia Cooper (marciacooperaca@gmail.com, 207-841-6489), Marjorie Gormley (marjie.gormley@gmail.com (207-505-6244)

Agenda:

- 9:00 Bird Watching and Natural Literacy – Meet at Belfast Footbridge – Cloe Chunn**
Learn about local birding opportunities (Winter Footbridge Watch, May Bird Week), the Natural Literacy Initiative in elementary schools, the Merlin Club at the middle school, Hurricane Island Science and Leadership summer camp for middle school students, and "Be a Naturalist!" -the Adult Nature Class.
- 9:45 Butts be Gone – Harborwalk behind Front Street Pub**
Kate Hanson will explain this BBWC initiative
- 10:00 Water Quality Monitoring – Lot near Harbor Master's Office**
Joy Bowles will give a brief introduction to the BBWC water monitoring program.
- 10:30 Belfast Harbor – Harbormaster's Office at foot of Main Street**
Kathy Given, Harbormaster, will share with us the varied activities happening in the harbor.
- 10:45 On the Water – Come Boating Shed**
Russ Eagleston will explain the Come Boating Program to the group.
- 11:00 History of working and living along Belfast Bay-Small park behind Come Boating shed**
Megan Pinette, Director of the Belfast Historical Society and Museum
- 11:45 Fish Friends - Small park behind Come Boating Shed**
Kip Hillman
- 12:00 Business Community – Chamber of Commerce office at 33 Main Street**
Scott Smith, Assistant Director of the Belfast Chamber of Commerce, will discuss the Chamber's work with community organizations, businesses, and city entities on green and sustainability projects.
- 12:15 Lunch**
Bring your packed lunch to Park on Main – just across the driveway from the Chamber office.
- 1:00 Climate Action in Waldo County – Belfast Free Library, 106 High St.**
Waldo County Climate Action Coalition Overview - Greg Biddinger
Belfast Climate, Energy and Utilities Committee -Climate Action Plan and related city actions - Jonathan Beal

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2:00 Belfast Sewer Facility – Across from Front Street Pub

Travis Long, Manager of Operations, will give us a tour of the facility.

3:00 Place to be determined.

Dan Miller, founder and owner of Belmont Boatworks, will discuss the evolving uses and regulation of Belfast Harbor, including some of the possible changes being proposed to the City Council.

4:00 Free At Last!!

The afternoon program will end. Participants will be free to go about their lives again or gather at Marshall's Wharf to compare notes on the day's activities.

Parking Directions:

- Park in the Upper Parking Lot at Bridge and Pierce Streets. Your day will begin at the Belfast Footbridge.

Notes:

The morning will be entirely outside, so bring rain gear if the outlook is for rain.

5. Tuesday, May 21 - Rockland Day: Birds, Bivalves and Brown Algae

Day co-coordinators: Jane Hardy (janehardy22@gmail.com, 207-763-3720), Paul DeOrsay (pdeorsay@gmail.com, 516-672-4544)

Overview:

During the morning session, Stewards will be introduced to the extensive and fascinating work of the Maine Coastal Islands National Wildlife Refuge staff on nearly 10,000 acres of coastal and island refuges spread between the mouth of the Kennebec River and the Canadian border. The afternoon takes us down the St. George peninsula to visit a small oyster farm on the Weskeag, and to meet with a kelp farmer in Wheeler Bay.

Agenda:

9:30 Maine Coastal Islands National Wildlife Refuge Visitors Center, 9 Water St., Rockland
Refuge staff will introduce Stewards to the work of the refuge to monitor, sustain and restore seabird populations in the face of challenges which include predators, habitat loss and climate change.

12:00 Lunch Break

1:30 Weskeag Oyster Farm, 62 Elm Street, South Thomaston (207-596-0007)
Farm staff will show Stewards their facility while explaining the process of growing market-sized shellfish from hatchery-spawned seed oysters. Ralph and the crew will show us around and explain the business and science of growing oysters from seed to harvest (both bottom and cage grow-out), including environmental considerations, investment, marketing, and concerns for the future. The farm has been working to reduce their carbon footprint, and donates a portion of its revenue to ocean conservation.

NOTE: Oysters retail on site for \$1 each, and are prepared in bags of 10 and 20; correct change is required. Bring a cooler with ice to get them home safely.

3:00 Hurricane Island Outward Bound HQ, 113 Marina Road, Spruce Head
Keith Miller, commercial seasonal lobsterman and kelp farmer will explain the mechanics and economics of kelp farming from his harvesting boat at the dock. (This is harvest time for the kelp crop. Keith will arrive by boat so that he can demonstrate the equipment employed in the harvest, and bring product samples for taste-testing.)

Directions:

National Wildlife Refuge:

- Parking lot is very small. No parking on Water Street.
- Park on South Main Street (Rte.73) or North Street.
- Indoor facility, minimal walking.

Weskeag Oyster Farm:

- Parking is limited. No parking on Rte. 73.
- Additional parking ¼ mile past the farm entrance at town launching ramp.

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Hurricane Island Outward Bound:

- Drive past the large barn and look for parking on the right side of the road. Outdoor session; moderate walking; rustic facilities.

Notes: Outdoor session; moderate walking; ticks and mosquitoes can be bothersome. No restrooms.

Pre-reading and Preparation:

Wildlife Refuge:

- Friends of Maine Coastal Islands National Wildlife Refuge: mainecoastislands.org
- Maine Coastal Islands National Wildlife Refuge: fws.gov/refuge/maine-coastal-islands-complex

Oyster Farm:

- “What It Takes to Farm 10,000 Oysters a Week in Freezing Temperatures — How to Make It” - YouTube

[What It Takes to Farm 10,000 Oysters a Week in Freezing Temperatures — How to](#)

[Make It](#)

- “Oyster Farming: Everything You Need to Know” – YouTube

[Oyster Farming: Everything You Need to Know](#)

Kelp Farm:

- “Kelp Farm Design: The Basics”; PWS EDD Mariculture in Prince William Sound Webinar Series

https://c8be42b4-031d-4ec7-a1ff-3eb5903ef54d.usrfiles.com/ugd/c8be42_ea1cb75d51fe415c89ac0e0b105d30fb.pdf

- “Green Wave: How to Start a Kelp Farm”;

<https://www.greenwave.org/how-to-start-a-kelp-farm-2022>

- Atlantic Sea Farms www.atlanticseafarms.com

6. Thursday, May 30 - Blue Hill: Shaw Institute, Hatcheries, Great Pond Mountain

Day Coordinator: Skip Luken (207-323-6972)

Overview:

Today we will visit the Shaw Institute in Blue Hill; U.S. Fish & Wildlife Service Green Lake National Fish Hatchery; U.S. Fish & Wildlife Service Craig Brook National Fish Hatchery; and Great Pond Mountain Conservation Trust.

Agenda:

8:00 Meet at Reny's parking lot, Belfast. Driving time: 45 minutes.

9:00 Shaw Institute, 55 Main Street, Blue Hill

Charlie Rolsky is the Executive Director and Senior Research Scientist and he will present the work of the Shaw Institute, a nonprofit scientific research organization founded in 1990 by environmental health scientist Dr. Susan Shaw. Over three decades, research on plastics, ocean pollution, flame retardants, and climate change has informed public opinion and fueled policy, impacting millions of people in the U.S. and worldwide. Through its focused initiatives, the Institute addresses critical health and environmental issues related to toxic chemical exposure among people and wildlife. From ocean plastics to human and wildlife exposure, science-based solutions are brought to these priority concerns.

11:00 U.S. Fish & Wildlife Service Green Lake National Fish Hatchery, 1 Hatchery Way, Ellsworth
Green Lake National Fish Hatchery works with partners for the conservation and recovery of Atlantic salmon in the Gulf of Maine Distinct Population Segment. Fred Yost and Catherine Johnston will present how the Hatchery cultures Atlantic salmon in an effort to prevent its extinction and preserve the genetic diversity of the populations.

1:00 U.S. Fish & Wildlife Service Craig Brook National Fish Hatchery, 306 Hatchery Road, East Orland

Denise Buckley will present the work of Craig Brook National Fish Hatchery, which functions as a conservation hatchery to restore the last remaining natural populations of Atlantic salmon in the United States for seven river-specific stocks. CBNFH is responsible for maintaining genetic integrity, creating genetic diversity and ensuring fry production in each river stock.

3:00 Great Pond Mountain Conservation Trust, 24 Don Fish Trail, Orland

GPMCT preserves the Wildlands: 5,000 acres of mountains, woods, and water managed for wildlife habitat, sustainable forestry and community trails. Landon Fake and Jennifer Riefler will discuss a forestry program including high stump cut beech trees, a new fish passage bridge, and a mountain bike trail.

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Directions:

From Belfast to Shaw Institute:

- From Reny's parking lot, drive 23 miles on US 1 North toward Searsport/Ellsworth. Keep right to stay on US 1 N, and turn right onto Route 15 South. Continue 12 miles, then turn right onto Main Street, Blue Hill. The Shaw Institute is 300 feet on your left (55 Main Street). Parking is on Main Street.

From Blue Hill to Green Lake Fish Hatchery:

- From Blue Hill take Rt 172 toward Ellsworth. Merge onto Rt 1 in Ellsworth and travel to the second stop light.
- Turn left onto Rt 1A toward Bangor, then turn right on Rt 180(4.2 miles). Turn left at Green Lake NFH sign.

From Green Lake Fish Hatchery to Craig Brook Fish Hatchery:

- From the Green Lake parking lot, turn right onto Rt. 180. Turn left onto Rt 1A and make a right turn onto Rt 1. Turn right onto Hatchery Road in East Orland and follow Hatchery Road 1.4 miles into Craig Brook's parking lot.

From Craig Brook Fish Hatchery to parking for Great Pond Wildlands:

- From Craig Brook parking lot, go left and drive or walk up through the gate onto the gravel Don Fish Road to Dead River Entrance. The Wildlands gate and parking lot are on the left.

Resources:

Shaw Institute (2019) *Guide to Microplastics Identification, A Comprehensive Methods Guide for Microplastics Identification and Quantification in the Laboratory*, Shaw Institute, Blue Hill, Me.

The President's Salmon - Restoring the King of Fish and its Home Waters by Catherine Schmidt
2015, Down East Books

Websites:

- shawinstitute.org
- fws.gov/fish-hatchery/greenlake
- fws.gov/fish-hatchery/craigbrook
- greatpondtrust.org

Notes:

Visiting the Shaw Institute provided evidence of plastic pollution in Penobscot Bay which aided the *Ban the Bag in Belfast* initiative to ban single use plastic bags in 2017. Stewards from the classes of 2016 and 2017 worked over 1-1/2 years to convince the City Council to pass ordinances to ban single-use plastic bags as well as Styrofoam take-out food containers. The State of Maine finally adopted a law to ban single use plastic bags. Five of the committee members had limited experience dealing with local government; no one had an educational background in ecology, or environmental science. The group gathered scientific information, spoke at city council meetings, wrote letters to the editor, made a video, held educational talks, took surveys, made posters and bookmarks, obtained funding through state-wide organizations, passed out reusable bags, and met with multiple entities, including a state senator and National Resource Council of Maine representatives. They also shared their experience with "A Climate to Thrive" members of Mount Desert Island by attending a fair and encouraging their volunteer efforts.

7. Tuesday, June 4 - Sustainable Communities

Day Coordinators: Greg Biddinger (713) 203-0066, Mickey Green (202)425-9566,

Overview:

Today we will focus on how you and the broader community can act to contribute to the sustainability of your hometown. We will evaluate how buildings and landscapes can be designed to ac

hieve sustainable outcomes and reduce contributions to the climate crisis. We will also focus on initiatives to eliminate the use of plastic in Belfast and to enhance the use of composting on a city-wide basis.

Agenda:

8:30 Opal Build Workshop (Belfast Armory, 42 U.S. 1, Belfast)

Matt O'Malia, founder of Opal Build, will discuss green building design and construction. After the discussion we will tour the manufacturing facility which will include both prefabricated wood components and wood-based insulation products.

11:30 Reducing Plastic in our Lives and Enhancing Composting, Belfast Free Library (Abbott Room)

We will discuss how we can reduce the use of plastics in our lives and review local efforts to start a city-wide composting initiative. During this period, we will take a break for lunch as well. The session will cover the following topics:

- **BBWC Plastic Pollution Solutions initiative:** Jacquie Gage and Kris Shula
- **Demonstration of plastic substitution products:** Ellie Daniels, The Green Store
- **City-wide Composting in Belfast:** Dianne Torresen, Corliss Davis, and Brenda Harrington

2:00 Sustainable Landscape / Permaculture Demonstration Projects, 274 High Street, Belfast *Dirtgoat Permaculture* – Demonstration projects. Teddy Mattson will talk to us about landscape design focused on vegetation strategies for water management. He will take us to two of his projects in Belfast. A second location will be confirmed before the program day.

4:00 Debrief and discussion of next program day

4:30 Adjourn for the day

Tips for the Day:

Walking on this day should be limited, surfaces will be flat. Exposure to insect activity should be mild.

Directions:

- *To **Opal Build** (Former Belfast Armory Building) at 42 US Route 1, Belfast, Maine 04915. The former Armory is located on the west side of Route 1 in Belfast. It is north of Congress Street and south of Lincolnville Avenue (Maine Rt 52).*

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- **Belfast Free Library (106 High Street, Belfast Maine, 04915) from Opal Build:**
Take a right onto Route 1 from the Opal Build parking lot. Almost immediately take a left onto Congress Street. Then take the first right onto Wight St. Follow Wight St. to Northport Ave (you will be facing City Park). Turn left onto Northport Ave. and take it into town. Northport becomes High Street, and the Library will be on the left, across from the Grasshopper Shop and Belfast Dance Studio.
- **Teddy Mattson's Demonstration projects: 274 High Street**
From the Belfast Library, head west on High Street. Drive through the stop light at High Street and Main Street. Continue to High Street past Waterfall Arts. 274 High Street is just past Waterfall Arts on the same side of the street. You can park at Waterfall Arts or along High Street.

Pre-meeting Resources:

- Waldo County Soil and Water Conservation District - waldocountysoilandwater.org/
- Conservation Landscaping - waldocountysoilandwater.org/conservation-landscaping
- Certification program - waldocountysoilandwater.org/conservation-landscape-certification-intro

8. Thursday, June 6 - Farm & Forest

Day Coordinators: Paul Briggs, Kip Hillman (312-933-0060), Dianne Torresen (202-550-6113)

Overview:

We will visit the Maine Organic Farmers and Gardeners Association (MOFGA) Common Ground Education Center and a nearby farm to learn about forest stewardship, healthy soil, watershed protection, and sustainable agriculture practices.

Travel time from Belfast to MOFGA ~ 30 minutes.

Agenda:

9:30 Forest Stewardship, Low Impact Forestry, and Watershed Protection, Maine Organic Farmers and Gardeners Association, 294 Crosby Brook Rd, Unity

- Foresters Allyssa Gregory and Maddie Eberly will teach us tree identification, native and invasive species, responsible land management, importance of forests for protecting soil and water, while we walk on forest trails and the low impact forestry demonstration forest on the MOFGA campus. Representatives from Friends of Lake Winnecook (aka Unity Pond) will tell us about their watershed protection plan.

11:30 *Lunch at the MOFGA Common Ground Education Center*

1:00 Villageside Farm, 122 Belfast Road, Freedom

We will take a tour with farmer Prentice Grassi, and Soil Management and Conservation expert Ron Desrosiers to learn about organic farming practices and the proper use and conservation of soil and water resources.

3:00 Optional: Lake Winnecook (aka Unity Pond), Kanokolus Beach

Visit the public beach and park on the west side of Lake Winnecook. Bald eagles may still be at their nest and there are usually quite a few loons near the Kanokolus Point parking lot.

Directions:

To MOFGA (Maine Organic Farmers and Gardeners Association), 294 Crosby Brook Rd, Unity

- Take Rt. 137 West (Waldo Ave./Waterville Road) ~14 miles to Rt. 220 in Knox
- Turn right on Rt. 220 and go ~4 miles to Crosby Brook Road
- Follow signs to MOFGA

To Villageside Farm, 122 Belfast Road, Freedom

- Turn left out of MOFGA main entrance (Crosby Brook Road)
- Travel to Rt. 220, turn right onto Rt. 220
- Go ~4 miles to Rt. 137. Turn right (at Ridgetop Restaurant)
- Travel ~2 miles, through village of Freedom, past Post Office. "Villageside Farm" sign on left.

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To Lake Winnecook (Unity Pond), Kanokolus Road, Unity

- Turn left from Villageside Farm onto Rt. 137
- After 1.8 miles, keep right to remain on Rt. 137 toward Unity
- Turn right onto Rt. 202 (Main Street, Unity) and continue 6.5 miles
- Turn left on Kanokolus Road and continue 1.5 miles to Kanokolus Point

9. Tuesday, June 11 - Hurricane Island

Day Coordinator: Cyrene Slegona (207-838-6652)

Overview:

We will travel to Hurricane Island to visit the Hurricane Island Center for Science and Leadership. The boat ride to Hurricane Island Center for Science and Leadership takes about 1/2 hour.

The center is “a scientific and education community that provides experiential, hands-on education programs and research opportunities focusing on marine sciences, STEM education, human ecology, sustainable living technology, citizen science initiatives, and leadership in environmental stewardship for all ages from middle school to adults.” The goal of the Center is, “to excite people about doing science and about being leaders in the next wave of scientific discovery and environmental conservation.”

We will learn from staff of the Center about work they are doing, have a guided tour of the research areas, experience some hands-on learning and share a lovely lunch made by kitchen staff. We will also have a chance to explore some of the island’s interesting landscape on our own in the afternoon.

Things to bring – sunscreen, hat, insect repellent, water bottle, layered clothing, rain jacket. Snacks are encouraged. It will be a wonderful day.

Agenda:

Plan your driving departure time to arrive at the dock in Rockland by 8:00 a.m. **The boat will leave promptly at 8:30.** Parking is not available at the office, so please plan ahead.

8:30 Depart Rockland for Hurricane Island

9:00 Arrival, welcome

9:30 HICSL overview

10:00 Science and Research overview, data collection - marine debris, scallop aquaculture, etc.

12:30 Lunch

1:30 Science-centered opportunities, continued

3:00 Free time to explore island

4:00 Depart Hurricane for Rockland

Resources:

- Hurricane Island history: www.hurricaneisland.net/history
- Hurricane Island research: www.hurricaneisland.net/field-research-station
- Pieces, Patterns, & Processes - Hurricane Island: issuu.com/hurricaneisland/docs/

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Directions:

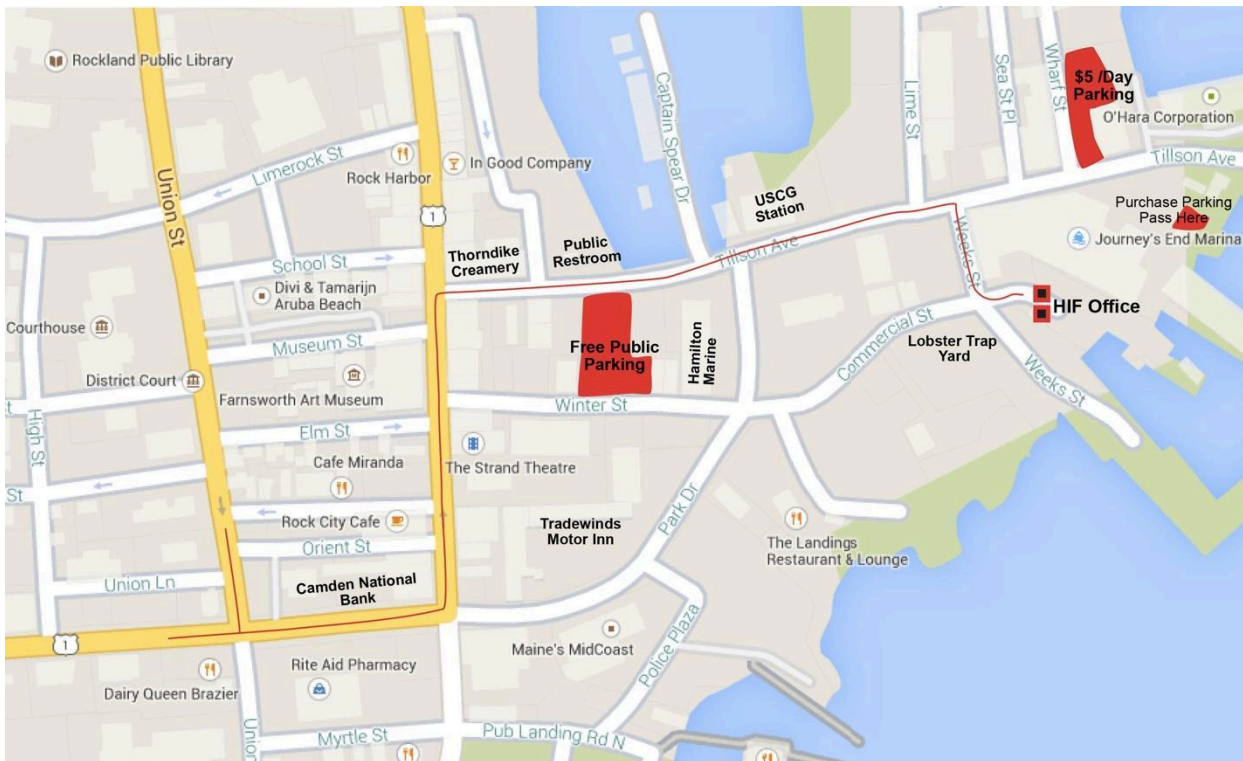
- Look for a small gray office building located by Journey's End Marina in Rockland. Office is on the second floor.
- The address is 19 Commercial Street, in Rockland. You may also type Hurricane Island Center for Science and Leadership into your GPS for exact directions.

Parking Instructions:

There is no parking space available at the office. There is parking within walking distance. Free parking on Winter Street.

Notes:

Amount of walking, physical considerations: Boarding and departing Equinox boat at docks (support provided as needed), walking to nearby buildings. Walking tour in the afternoon is optional and most of the island is easily accessible via trails.



10. Thursday, June 13 - Trails Day

Day Coordinators: Greg Biddinger, Joy Bowles, Kip Hillman, Skip Luken, Dianne Torresen (dktorresen@gmail.com, 202-550-6113)

Overview:

We will walk a land trust trail, learn about water quality testing and stream ecology. After lunch, Troy Howard Middle School garden coordinator and students will show us their garden and we will do some trail work on the Little River Community Trail.

Starting location: Stover Preserve, Belfast (see directions to parking lot below)

Agenda:

9:00 Stream Ecology and Water Quality Monitoring, Stover Preserve, Belfast

We will walk a Coastal Mountains Land Trust (CMLT) trail, the Stover Preserve, perfectly timed for spring wildflowers and bird migration! We will also learn about stream ecology and water quality monitoring from John Tipping.

12:00 Waldo County YMCA, 157 Lincolnville Avenue, Belfast

Bag lunch in the YMCA pavilion. Leaders of Coastal Mountains Land Trust will tell us about the organization, its mission and accomplishments. After lunch, we'll take a short walk on the Little River Community Trail through the community garden at the Y to Troy Howard Middle School.

1:15 Troy Howard Middle School Garden tour

Teacher and Garden Coordinator Chantal Brouillard and some of her students will give us a tour of the school's greenhouse and beautiful gardens.

2:00 Little River Community Trail exploration and work project

Proceed to trail behind Troy Howard.

Notes:

- For the morning hike, bring water, binoculars, and protection against insects, ticks, and rain. Stover Preserve trail is a one-mile loop with rugged wet terrain.
- Bring your own lunch. For trail work, bring work gloves, loppers, and bow saws. If you plan to paint blazes on trees, wear a smock and latex gloves. Paint and brushes will be provided. Waterproof boots useful all day.

Directions:

To the Stover Preserve (Head of Tide Preserve Parking lot):

- Meet at the parking lot for Head of Tide Preserve, 85 Doak Road, Belfast. Park in the lot, or on one side of the road only. From Main St. in Belfast, take Waldo Ave. (Route 137) and turn right on Doak Road. Travel .8 miles; parking will be on your right.

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11. Tuesday, June 18 - Closing Day

Day Coordinators: Greg Biddinger (713-203-0066), Cloe Chunn, Marcia Cooper, Pat Gladding, Josh Goldstein, Marjie Gormley, Jane Hardy, and Ann Kennedy

Overview:

We are back where we started at the **Searsport Shores Oceanfront Campground**. We start this day with a talk from Tom Groening of the Island Institute on working waterfronts. After that we switch to the focus of the day, a discussion of how you can get involved in efforts to conserve and protect the natural resources in Penobscot Bay and the Belfast Bay watershed. Along the way we will include a potluck lunch, a tour of the campground and a hands-on service project at the campground.

Agenda:

8:30 Arrive, gather, and socialize

9:00 The Working Waterfront: Much More Than Lobster - Tom Groening

10:00 Break

10:15 Overview of BBWC history, programs, and volunteer opportunities - Cloe Chunn

10:45 Penobscot Bay Stewards Alumni Association – Pat Gladding

11:00 Group discussion – Volunteer interests – Greg Biddinger

11:30 Summary program feedback/evaluation – 2024 Stewards and Greg Biddinger

12:30 Potluck picnic lunch with slide show of 2024 program

1:30 Tour of Searsport Shores Ocean Campground – Steve and Astrig Tanguay

2:00 Campground project

3:30 Clean-up break

4:00 Wrap-up and social time

Tips for the day:

We will be doing a work project in the afternoon as a thank you to the Tanguays for use of their campgrounds. Most likely we will be installing some plants for them. So, dress for yard work, bring work gloves and be prepared with sunscreen and insect repellent.

Directions: See Opening Day.

Pre-meeting resources:

Island Institute - www.islandinstitute.org/

The Working Waterfront - www.islandinstitute.org/stories/the-working-waterfront

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An Abridged History of the Belfast Bay Watershed Coalition

The Belfast Bay Watershed is spread out over 69,657 acres (108 square miles) in Waldo County, Maine. It includes the watersheds of the Little River, Passagassawakeag River, Westcott Stream, and the Goose River in Belfast and parts of Brooks, Frankfort, Knox, Morrill, Northport, Searsport, Swanville, and Waldo.

The Belfast Bay Watershed Coalition (BBWC) provides leadership for the protection of this valuable landscape of relationships. BBWC grew out of the work begun in the late 1990's by the Passy Coalition, an organization that focused on the health of the Passagassawakeag River. In 2004 the Coalition decided to expand its conservation efforts to the Belfast Bay Watershed; the Belfast Bay Watershed Coalition was formed, incorporating as a 501(c)3 in 2006. Its mission was and is to support conservation and stewardship of natural and public resources in the Belfast Bay watershed through research, community-building, and education.

Since then, the Belfast Bay Watershed Coalition has provided leadership and undertaken projects, programs, and other initiatives for preserving the Belfast Bay watershed and educating the public about it. Over the past twenty-eight years, the BBWC has made an enormous impact on our watershed community. The list that follows highlights some of the efforts that continue to benefit us all.

Since 2004, volunteers have been instrumental in working with teachers on environmental education and citizen science. Volunteers facilitated the school programs until 2018 when BBWC hired a half-time Natural Literacy Educator. Over the years, BBWC has created dozens of partnerships with schools, youth groups, and specific classes, all aimed at educating the next generation about the important diversity of our watershed and about the importance of their leadership in preserving it. Ongoing projects include the Atlantic Salmon Federation's Salmon-in-Schools Program, a.k.a. Fish Friends; Earth Day and Arbor Day activities; partnerships with teachers on specific programs; and collaborations with the Belfast Free Library.

In 2005, following approval by the Belfast Water District, BBWC volunteers began building the 4-mile Little River Community Trail that extends between the former site of the Belfast Water District on Route 1 (by the dam), along the shores of the reservoirs, to Walsh Ball Fields on Route 52; continuing past the YMCA and Troy Howard Middle School. If you haven't hiked this beautiful trail, you are missing a great experience!

On a very cold day in January 2004, seven hardy souls joined BBWC's first field trip to part of the Westcott Stream watershed. Since then, BBWC has offered hundreds of field trips to diverse locations with topics from "Keeping a Nature Journal" to "What do the insects tell us?" Check the BBWC calendar—there is sure to be something great scheduled soon.

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In May 2006, with financial support from a number of sponsors, BBWC held its first Belfast Bird Day on International Migratory Bird Day. Bird Day became Bird Days and then Belfast Bird Week, which in 2017 was named in honor of Cathy Morgan, birder, volunteer, and board member with BBWC.

Starting in 2011, BBWC was a key player in the development of the Hills to Sea Trail, a continuous 47-mile footpath between Belfast and Unity that was completed in 2016. Developed over four years, the trail connected existing trails on conservation or public lands with new trails built by volunteers. More than 60 landowners granted permission for the trail to cross their properties.

In 2007, BBWC began water quality sampling and testing, a project it has continued in the Passagassawakeag, Wescott Stream, and Belfast Bay. Trained volunteers do official certified water quality surveys. BBWC's mapping and marking of storm drains in Belfast facilitated awareness of the need to improve storm water drainage into Belfast Bay.

In 2015, BBWC took over responsibility for the Penobscot Bay Steward Program which had been run by the State of Maine for decades. Each year BBWC accepts 20 new Stewards into an enriching weeks-long educational adventure that highlights the environmental, cultural, economic, and historic impacts on our shared watershed. These 20 Stewards then go into the community and offer at least 30 hours of environmentally-focused volunteering to further the mission of the BBWC.

In 2020, BBWC volunteers installed 12 Butt Buttlers (cigarette discard containers) in downtown Belfast; they are intended to keep chemicals in cigarette filters from washing into the Bay and other waterways. These containers have helped recycle thousands of cigarette butts.

Volunteers make the BBWC possible. Over the past twenty-eight years, thousands of people have stepped up to help with these and other efforts, proving the power of community-building and focused action.

Check out a fuller history and our quarterly newsletters on our website to get a more complete picture of what the BBWC has accomplished in its varied history:

<https://belfastbaywatershed.org>.

Volunteer Opportunities with BBWC

ORGANIZATIONAL DEVELOPMENT

Assistant Treasurer. Person with bookkeeping or accounting experience to work with treasurer Gene Randall.

Volunteer coordinator. Keep track of volunteers and what they do. Give them feedback, thanks, etc.

Development Committee. Help secure funding for various initiatives.

Communication Committee. Work to ensure that everyone knows about BBWC!

Promoting Diversity and Inclusion in BBWC membership and board. Creative thought and action needed! It could include collaborations with groups.

COMMUNITY OUTREACH AND PROGRAMS

Trail crew. We need worker bees! We maintain the Little River Community Trail (5 miles) and the Davis Bog Trail in Morrill.

Butts Be Gone. Looking for someone to take the lead on this important initiative. Includes periodic emptying of 12 Butt Buttlers around town, counting and sending to Terracycle. Great opportunity for creating community partnerships.

Writing articles about BBWC's activities and initiatives for the media, website, etc. Reporting, composing, photography, editing.

Leading outings. Low tech (weekly or monthly walking group; hiking, XC skiing, snowshoeing, paddling, cycling, birding, nature study..... exploring in general.)

Program Committee. Help brainstorm appropriate evening programs wanted/needed by the community. Welcome attendees, introduce presenters. Help with scheduling and thanking presenters.

Earth Day and Arbor Day Committee. Organize, plan events or activities for both occasions (or one of them).

Plastic Pollution Solution. join the Plastic Pollution Solutions committee in grassroots advocacy — role modeling with family, friends and neighbors to be mindful about using and disposing of plastics, carrying reusable cups and cutlery for takeout, and politely saying “no thanks” to plastic straws, cutlery, etc. at restaurants and other businesses.

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EDUCATION

Natural Literacy. Our half-time Educator can use help from volunteers with expertise in natural systems or outdoor education, geology, biology, ecology. Help chaperoning is also welcome (chasing kids outdoors).

Merlin Club: Middle school nature club that explores nature season by season.

Penobscot Bay Stewards 2025 Steering Committee. Help organize and present Penobscot Bay Stewards for 2025.

RESEARCH

Water Quality Monitoring. Assist with the organization and conducting of onshore and offshore sampling of Belfast Bay periodically throughout the summer months by small groups of WQM Team members. No previous water sampling experience is required.

For more information about any of these opportunities, please email:
info@belfastbaywatershed.org

A Board member or committee member will get back to you to discuss your interests.

We welcome your involvement!