

# Merrymeeting News

Winter 2024 Vol. XXXIV No. 1



The Newsletter of Friends of Merrymeeting Bay • PO Box 233 • Richmond Maine 04357 • 207-666-1118 • [www.fomb.org](http://www.fomb.org)

Friends of Merrymeeting Bay (FOMB) is a 501(c)(3) nonprofit organization. Our mission is to preserve, protect, and improve the unique ecosystems of the Bay through:

## Education

## Conservation & Stewardship

## Research & Advocacy

## Member Events

Support comes from members' tax-deductible donations and gifts.

Merrymeeting News is published seasonally and is sent to FOMB members and other friends of the Bay. Article hyperlinks and color images are available in our [online edition](http://www.fomb.org) at [www.fomb.org](http://www.fomb.org)

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## Print It!

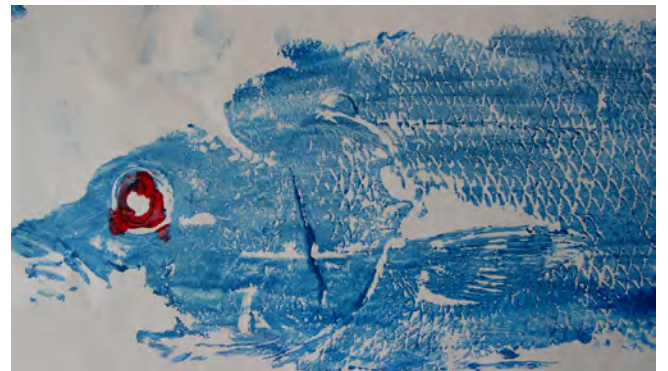
Many moons ago, while working for the Department of Marine Resources, I was stationed at Ft. Halifax, the lowest hydropower facility on the Sebasticook river. We were sorting fish species sucked up from the river below the dam. A huge commercial vacuum would literally suck the fish from the river below the dam and dump them in a 2,400 gallon holding tank in the parking lot. From this tank we would dip out the fish and put them in the 1,000 gallon tank on the stocking truck. The fish were river herring—adult alewives and blueback herring. Once the trucks were loaded with about 1,500 fish, we'd head out to the water body and dump the load. Then we'd drive back and do it all over again.

On one cycle of the pump, a large fish came out of the discharge pipe and swam wildly about the holding tank. It swam so wildly that it smashed headlong into one of the walls of the tank with an audible thump. Shortly thereafter a rather large American shad floated to the tank's surface, dead. We were all saddened at its untimely demise. The American shad is the world's largest herring. We'd been working on American shad restoration for many years in the greater Kennebec River restoration project. We'd seen our share of dead shad. Early on we'd hauled American shad from the Connecticut River in Holyoke, Massachusetts to the Kennebec River in Sidney, Maine for release. Shad don't haul well in a truck. Without very careful care, shad will die wholesale in transport. We'd killed hundreds. Seeing this dead shad was both happy (the restoration seemed to be working) and sad, because the vacuum had caught one and killed it immediately.

I had no intention of letting the shad go to waste. I was going to make a print of this magnificent fish. I stuffed the shad in a plastic bag and placed it in the fridge. After work I headed to Walmart and picked up some T-shirts and fabric ink. The next day I took out the shad, wiped it down with paper towels and proceeded to make a print: Smear the fish with ink and then carefully lay the T-shirt on top of the ink-smearred fish. Press down on the t-shirt over the fish. If all goes well, the ink will transfer from the fish to the T-shirt, and you'll have yourself a T-shirt fish print. I'd like to tell you the first prints were of the finest quality to begin with,



American shad  
Photo: Ed Friedman



Fish print  
Photo: Ed Friedman

*Continued on next page*

*Print It! Continued from page 1*

but that would be a lie. The first prints were atrocious, more akin to a bad accident changing the oil in your car. It took me about a dozen tries with various amounts of ink to come up with a print that wasn't half bad. I learned that strong spring sunlight was a bad idea. The ink would dry so fast that half the print would be welded to the fish and the other half to the t-shirt. Speed was of the essence, and a cool fish was paramount. I made at least 30 prints from this fish, and by the end the fish was leaking internal juices and smelly. So were the T-shirts. A quick wash and dry got rid of the fish funk, and soon the whole crew was clamoring for one of those shirts. I still have a few in my t-shirt drawer that I printed all those years ago.

Fast forward 20 years, and I wound up at Bay Day doing fish printing. Apparently, according to Wikipedia, this art form came from mid-19th century Japan, and it has a name, "Gyotaku." Gyo means "fish," and taku means "impression." So, fish impression. At FOMB we have a bunch of life-size molds in a rubber-like compound that we use to do fish printing. We use freezer paper instead of rice paper and a whole

slew of different water-based inks and paints. We have American shad, Atlantic salmon, striped bass, rainbow smelt, river herring, small sturgeon, a sea star, and a convincing snapping turtle that refuses to be easy to print.

Imagine the 10-year-old kids coming to a table covered in rubber fish, paint, and paper. The whole affair is a blast, and the kids make some great prints. They learn about these species in the Merrymeeting Bay complex, their role in the ecosystem, and the method and origin of this fine art form. I encourage you to give it a try, either using a real fish or a faux one. Then, in the age-old tradition, you can brag about the one that didn't get away and prove it.



Photos above and right: Ed Friedman

*Nate Gray*

## ***FOMB Preliminary 2023 Financial Statement***

We have not yet received all the information to officially close our books on the prior fiscal year, but the dust has settled for the most part and, while still preliminary, I am confident of offering a substantially accurate summary of FOMB financial results for 2023.

Receipts exceeded expenses by \$33,700 last year, with key revenue sources and expenses broken out in the schedule below. Total unrestricted liquid assets are approximately \$452,000 with an additional \$50,000 in restricted stewardship funds for a total of \$502,000. Our organization remains on firm financial footing.

*Respectfully submitted,  
Vance Stephenson – Treasurer*

<b>2023 Income \$72,300</b>		<b>2023 Expenses \$38,600</b>	
Annual Appeal	35%	Programs	76%
Membership	30%	Administration*	21%
Grants	28%	Membership & Fundraising	3%
Other	7%		

\* With much lower total expenses, our fixed administrative costs for monthly office rent (still a bargain), phone, and internet represented a much larger percentage of total expense than normal.

**Cash Income less Cash Expense for 2023: \$33,700**

## From the Chair

Perhaps the most significant FOMB accomplishment for 2023 was our successful appeal of the Class C Water Quality Certificate (WQC) that DEP issued for the Androscoggin Pejepscot dam. When the Class C WQC was issued, the river had already been upgraded to Class B, but the legislation hadn't gone into effect yet (new legislation doesn't go into effect until 90 days after close of session). During this interim period, the DEP issued the Class C certificate, which would have set Class C conditions in stone in this river reach for the **next 40 years**. Differences between Class B and Class C are significant for minimum levels of dissolved oxygen (DO). Forty more years of lower Class C standards when river conditions actually surpass Class B would have effectively resulted in a license to pollute.

Fortunately, the Board of Environmental Protection (BEP) agreed with FOMB and our coappellants (Grow L+A, Downeast Salmon Federation, Friends of Sebago Lake, and Native Fish Coalition Maine Chapter) as represented by attorney Scott Sells. The higher Class B water quality will now be preserved from Worumbo dam to Merrymeeting Bay.

Other important accomplishments for the year include our ongoing sampling of PFAS contamination in the area, often in partnership with Brunswick Sewer District. On the former Brunswick Naval Air Station we identified a previously unknown major PFAS hot spot with a signature indicative of legacy firefighting suppressant. As with our work on the Water Quality Certificate appeal, our PFAS work using inexpensive screening tools is another example of how regulatory agencies who should be doing this work are, for a number of reasons, dropping the ball—balls that we and other NGOs are continually forced to juggle. If the current SCOTUS has their way, there may soon be no regulations to worry about.

Another great, and this time wonderful, achievement was the premiere in May of our theater/film production resulting from a week-long residency held by the Piti Theatre Company with 80 Bowdoin Central School students. The production focused on history in the town of Bowdoin and should be long remembered by students and teachers.



Wrapping up 2023 with the Androscoggin in flood  
Photo: Rachel Quinlan, WCSH News Center Maine



Bay Day was back!  
Photo: Ed Friedman

It was also terrific to bring back Bay Day in the fall, after a multi-year hiatus, to the squeals of delight from 230 kids from seven area schools. Digital distractions generally met their match on September 26 with mud, dogs, birds, fly rods, flowers, fish, artifacts, maps, bugs, and a beautiful day outside.

And, speaking of fish, in the spring, FOMB volunteers counted 10,000–16,000 American shad unable or unwilling to find and ascend the fishway at Brookfield's Brunswick/Topsham dam. This will be a cornerstone piece of evidence during upcoming dam relicensing.

FOMB continues as one of the few organizations in the country working in a holistic fashion when it comes to environmental issues, researching the intricacies of these issues, letting the research inform our advocacy, protecting valuable habitat, and educating adults and future generations about this special island in space we call home. We couldn't do it without your support, so thank you!

*Ed Friedman, Chair*

# *Friends of Merrymeeting Bay*

## *2023 Accomplishments and Partners*

### **Media**

Print, TV, internet: (Over 35), Merrymeeting Bay, Androscoggin upgrade, land protection, PFAS, Bowdoin history project, Speaker Series, GE salmon, water monitoring, Bay Day, etc.

### **Volunteers**

Approximately 2,455 volunteer hours (307 days)  
110 volunteers

### **Membership**

450 households  
Newsletters (4)

### **Grants**

\$10,000—Education  
\$9,000—General Operating  
\$1,600—PFAS Testing

### **Education**

Zoom Speaker Series – 511 registrants  
Bowdoin Central School history/film/theater project (80 students)  
Speaker Series broadcasts on community cable TV stations  
Website updates  
School visits (240 students)

### **Conservation and Stewardship**

Additional easement work  
Continuous landowner outreach  
Ongoing easement monitoring  
Maintain Pork Pt. field  
Control Bowdoinham phragmites

### **Research**

Water quality monitoring—17 sites  
Shad counting at Brunswick dam  
Prehistoric/historic fish weir  
PFAS sampling

### **Advocacy (postings, letters, testimony, etc.)**

EMF health effects  
GE Atlantic salmon  
Lower Androscoggin upgrade (passed)  
Healthy Rivers/Healthy Gulf promoting safe fish passage  
Successful appeal of Pejepscot Dam water quality certificate issued for Class C  
Various national efforts—NEPA, ocean plastics, ESA, climate, etc.  
PFAS monitoring/detection at former Brunswick Naval Air Station, Androscoggin discharges

## **Primary Partners**

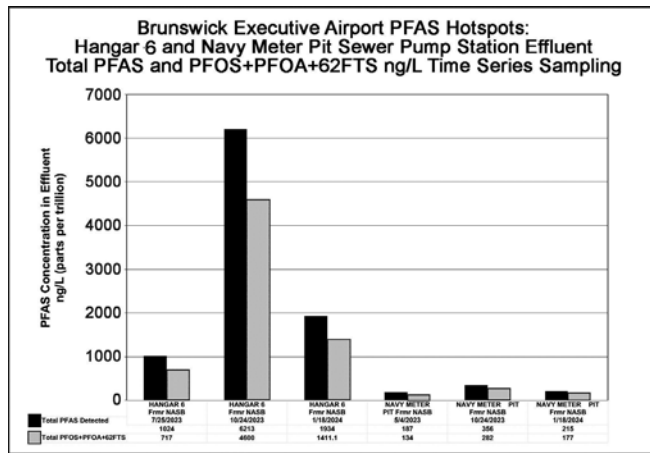
The Archaeological Conservancy  
Maine Coalition to Stop Smart Meters  
Maine Historic Preservation Commission  
Department of Inland Fisheries and Wildlife  
Department of Marine Resources  
Bowdoinham Public Library  
Maine Land Trust Network  
Brunswick Sewer District  
Harraseeket Inn  
Friends of Sebago Lake  
Department of Environmental Protection  
Downeast Salmon Federation

Native Fish Coalition  
Piti Theatre  
Earthjustice  
Save the Colorado  
Endangered Species Coalition  
Center for Food Safety  
North American Versatile Hunting Dog Assoc.  
Brunswick Citizens for a Safe Environment  
Bath Savings Institution  
New England Foundation for the Arts  
Bigelow Laboratory for Ocean Sciences  
Maine Master Naturalist Program

## New PFAS Hot Spot Found

In the [Fall 2023 issue of Merrymeeting News](#), we charted PFAS levels at a number of Brunswick Sewer District (BSD) pump stations. Results indicated several hot spots on the former Brunswick Naval Air Station (BNAS), with highest contamination levels from a pump station draining Hangar 6 (now with several private tenants) near the north end of the airfield. The particular PFAS species found here are indicative of aqueous film forming foam (AFFF) fire retardant, which still resides in the hangar. The effluent sample from this BSD pumping station, connected with and next to Hangar 6, in July 2023 showed 1,024 ng/L total PFAS, 459 ng/L 6:2FTS, and 246 ng/L PFOS. The 6:2FTS is a marker for the legacy AFFF, ansulite, and PFOS is the marker for the older and more hazardous AFFF, 3M Light Water.

Prior to publication of the fall newsletter we had conducted follow-up sampling of two pump stations, Hangar 6, and Navy Meter (on Bath Road), which collect all sewage from businesses on the former base, including Brunswick Executive Airport. The results were not returned before press time for that issue. Fall findings compared with earlier testing show a dramatic increase in PFAS levels, indicating ongoing and seemingly escalating contamination of the



Hangar 6: 3 left bar pairs; Navy Meter (showing dilution effects): 3 right bar pairs

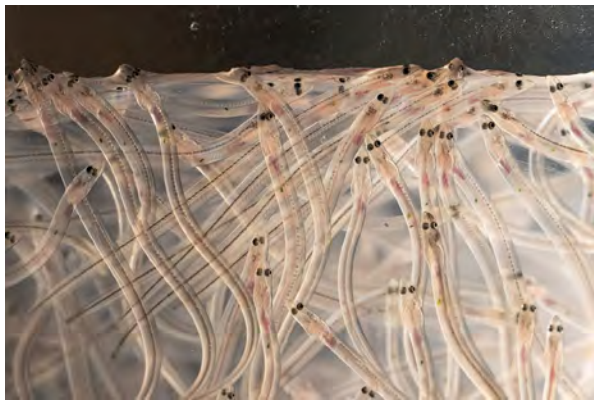
BSD system and ultimately the Androscoggin River where BSD treated effluent is discharged. October results for Hangar 6 were 6,213 ng/L total PFAS; 2,624 ng/L 6:2FTS; and 1,871 ng/L PFOS. Navy Meter showed proportionate increases in these PFAS species (see chart). Newly received results from follow-up sampling on 1/18/24 at almost all previously tested BSD sites (on the base and around town) indicate the October peaks may have reflected a discrete spill. Full January results are posted in the Chemical section of the FOMB web Cybrary.

These pump station (and tank) PFOS levels are concerning not only for occupational health issues in Hangar 6 but because the eventual disposal of PFAS-based AFFF material from there will be more complicated and costly due to high levels of PFOS in a product that should be PFOS-free. We should know what is actually in the AFFF tanks at the Brunswick Executive Airport,

since it is still finding its way into the BSD wastewater system. And how is it getting there? A preliminary inspection of the Hangar 6 pump room on November 6, 2023 revealed no obvious leaks. The airport owner, Midcoast Regional Redevelopment Authority (MRRA) and Maine DEP, USEPA, and the Navy clearly need to address this problem and other contamination issues at the north end of the former BNAS that are affecting Brunswick drinking wells and the Androscoggin River.

*Ed Friedman*

## American Eel Extirpation?



Glass eels packed to travel  
Photo: Eladio Fernandez

For years, FOMB has worked on American eel conservation. Often we have called attention to needless deaths of out-migrating adult eels from hydroelectric turbine mortality. Our efforts and those of others have brought slow improvements, typically by reducing bar or hole spacing on screens or “trash racks” originally designed to keep branches and logs from entering turbines but still allowing eel and fish entry. The increasing use of eel ramps is also helping juveniles surmount dam barriers in their multi-year migrations upstream where they will live most of their lives.

Maine and South Carolina are the only states permitting commercial harvest of glass eels or elvers, the initial life stage of eels as they enter our rivers after drifting north from the Sargasso Sea where they are born. In South Carolina, there is a 6" minimum length for elvers to be kept and only 10 harvest permits are granted. The fishery is tiny. In Maine we have no minimum size restriction, and the quota for the last few years has been a bit less than 10,000 pounds, which is about 20,000,000 elvers. At about

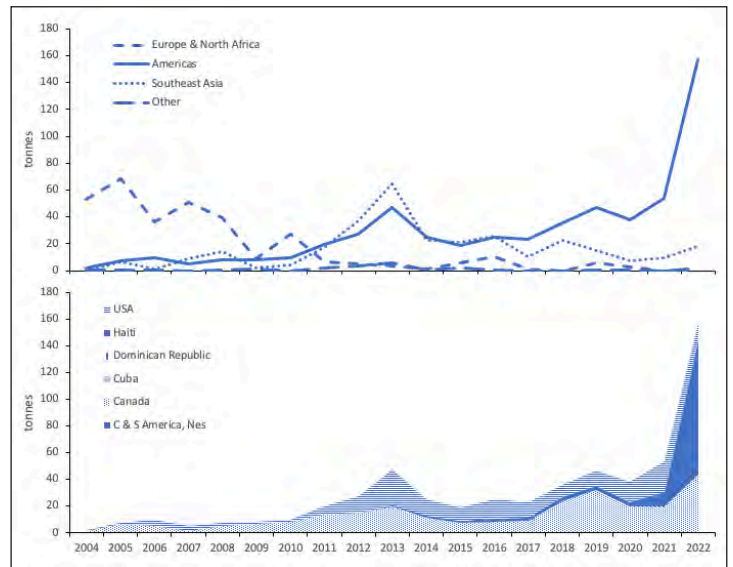
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**American Eel Extirpation? Continued from page 5**

\$2,000 per pound, this is a significant Maine fishery. Because we catch elvers and we kill out-migrating adults in their one effort to reach the Sargasso, to spawn and die, we are, as now-deceased Green politician John Rensenbrink used to say, “eating our seed corn.”

Eels have not been bred successfully in captivity at a commercial scale, so every eel eaten in a restaurant or otherwise sold, was caught in the wild as an infant, raised on an eel farm (usually in Asia), harvested, processed, and sent to markets around the world. Imports to Asian aquaculture farms of live American glass eels from Canada and the Caribbean, as well as from Maine and South Carolina, have reached an all-time high, surging from 2 tonnes in 2004 to 157 tonnes in 2022. European and Japanese eels have been listed as endangered for some time and, despite American eels being listed since 2014 as Endangered on the IUCN Red List, the trade continues. USFWS has rejected two petitions to list the American eel as endangered.

Newly published research ([Early warning of an upsurge in international trade in the American Eel](#)) by Hiromi Shiraishi, researcher at Chuo University in Japan, shows the steep rise in American eel imports to Asia. Surprisingly, in the last few years the largest catch has come from Haiti. According to the research, “Hong Kong, an important trade hub for live eel fry destined for farming operations in East Asia, reportedly imported 100.6 t, 43.4 t, 12.7 t, and 0.2 t of live eel fry from Haiti, Canada, the US, and the Dominican Republic, respectively, in 2022. Hong Kong’s import data also suggested that almost all live eel fry originating in Haiti were traded via Canada or the US.” Given the horrible social and economic current and historical conditions in Haiti (Spanish, French, and American exploitation, revolutions, dictatorships, widespread corruption, disease, earthquakes, hurricanes, HIV, drug trade, gang wars, etc.), the high prices for glass eels and the way we destroy resources even under the best of conditions (i.e., the American buffalo), the species outlook does not look great for *Anguilla rostrata*.



(Top) Imports of live eel fry into East Asia from the other regions based on East Asian Customs data, 2004-2022. (Bottom) Imports of live eel fry into East Asia from the Americas based on East Asian Customs data, 2004-2022.

Graphs and caption: Hiromi Shiraishi

Ed Friedman

## Maine’s Endangered Redfin Pickerel: Closing the Loop

In addition to the common chain pickerel, *Esox niger*, which are native to the lower half of the state, Maine is also home to the northeastern-most populations of wild native redfin pickerel, *Esox americanus americanus*, in the United States. While chain pickerel are relatively common, redfin pickerel are listed as Endangered at the state level in Maine (since 2006), and they are the only freshwater fish so classified.\*

According to an IFW blog post, redfin pickerel are found in only two locations, both of which are in the Merrymeeting Bay area. Our knowledge of their distribution is, however, incomplete, and there could be additional populations.

I discovered that although they are covered under the Maine’s Endangered Species Act (MESA), no pickerel of any sort were included in Maine’s angling regulations. Thus, there were no size or bag limits or provisions for incidental catch. There is only this (from IFW), “Due to its status as endangered in Maine, if you happen to accidentally angle up a redfin, please let the fish go, unharmed, as quickly as possible.” The punishment for “take” of an endangered species in Maine is a Class E misdemeanor, “for which a fine of \$1,000 must be adjudged, none of which may be suspended...”

There is nothing in the IFW fishing laws telling anglers not to harvest redfin pickerel nor any informational signs in the field saying where they may be found. This leaves little room for interpretation or leniency on the part of law enforcement and courts. Anyone caught with a redfin pickerel would be at risk of legal repercussions.

Continued on next page

\*Note: Atlantic salmon are federally protected under the Endangered Species Act, and wild US Atlantic salmon exist only in Maine. For political reasons, Maine refuses to list them under MESA. See [Merrymeeting News, Spring 2021](#).

**Maine’s Endangered Redfin Continued from page 6**

I passed the information on to IFW, as well as to the [Maine](#) chapter of Native Fish Coalition. I also wrote about it twice in the Bangor Daily News. In addition to my biological concerns, I believe that IFW was in violation of MESA in regard to “take” of listed species. In several meetings with NFC, IFW acknowledged there was a possible loophole in statutory regulations but disagreed with our legal assessment about the agency’s compliance with MESA.

A few weeks after meeting with IFW, I learned they had apparently reversed course and were proposing to amend the fishing rules to prohibit angling for redfin pickerel and the only other state-listed fish species, the “Threatened” swamp darter. A couple of weeks later, IFW announced that the proposed change in regard to redfin pickerel had cleared the legal hurdles with no opposition and, effective January 1, 2024, is now law.

While recreational angling may not be the biggest threat to Maine’s redfin pickerel, we believe some threat remains due to their low abundance, especially since redfin are actively angled where more prolific. We also feel that there is conservation value in drawing attention to rare and threatened species. Prior to this, no one was even talking about redfin pickerel. This shows that anglers and conservationists have a voice if we are willing to speak up. It also shows that while you don’t always get what you ask for when you ask for it, positive changes often come after things settle down. Most importantly, it shows what organizations (like NFC, IFW, and FOMB) can do when they work together.

*Bob Mallard*

*Bob Mallard is a writer, author, and founding member and Executive Director for Native Fish Coalition. He can be reached at [Info@NativeFishCoalition.org](mailto:Info@NativeFishCoalition.org).*

**WE NEED YOU! PLEASE SUPPORT OUR IMPORTANT WORK**

**FOMB Leadership**

Our accomplishments are due to the hard work of dedicated volunteers, especially those who serve on our committees. If you want to get involved and serve, please contact the committee chair or Ed Friedman. We always welcome member input and we’d love for you to join us!

**Steering Committee**

- Ed Friedman, Chair (Bowdoinham)
- Vance Stephenson, Treasurer (Beavercreek, OH)
- Tom Walling, Secretary (Bowdoinham)
- Simon Beirne (Gardiner)
- Becky Bowes (Brunswick)
- Phil Brzozowski (Brunswick)
- Nate Gray (Vassalboro)

**Education Committee**

- Betsy Steen, Co-Chair, 666-3468
- Tom Walling, Co-Chair, 666-5837

**Conservation and Stewardship Committee**

Chair Vacancy

**Membership and Fundraising Committee**

Nate Gray, Chair, 446-8870

**Research and Advocacy Committee**

Ed Friedman, Chair, 666-3372

Friends of Merrymeeting Bay · PO Box 233 · Richmond, Maine 04357

**Membership Levels**

- |   |   |                                     |
|---|---|-------------------------------------|
| <input type="checkbox"/> \$1,000+ Sturgeon  | <input type="checkbox"/> \$250 Striped Bass | <input type="checkbox"/> \$20 Smelt |
| <input type="checkbox"/> \$750 American Eel | <input type="checkbox"/> \$100 Shad         | <input type="checkbox"/> Other      |
| <input type="checkbox"/> \$500 Wild Salmon  | <input type="checkbox"/> \$50 Alewife       |                                     |

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|-------------------------------------|---|
| <input type="checkbox"/> Renewal    | <input type="checkbox"/> Send information about volunteer opportunities |
| <input type="checkbox"/> New Member | <input type="checkbox"/> I would like a sticker                         |

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for a copy of  
Conservation  
Options: A  
Guide for  
Maine Land  
Owners [\$5  
for book, \$2  
for postage].



Thanks to Rebecca Bowes for newsletter layout.



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*Native Fish Coalition (NFC) partnered with Friends of Merrymeeting Bay to develop an informational sign denoting the presence or possible presence of endangered redfin pickerel.*



Bob Mallard (L) recently joined ME NFC Chair Larry Bastian (R) and FOMB Chair Ed Friedman to post signs at the first locations, including this one by the Abbagadasset. FOMB and NFC will work together to post the rest of the signs.  
Photo: Ed Friedman

## ATTENTION



This water may be home to redfin pickerel. These fish are designated as Endangered at the state level due to their limited range and low abundance. Redfin pickerel are readily discernable from common chain pickerel by their reddish fins, darker flanks and vertical bars. It is illegal to target, collect or harm redfin pickerel. If you encounter one, please release it immediately and unharmed. Please report any redfin pickerel sightings to FOMB at 207-666-1118.

**Please help protect Maine's wild native fish.**



[www.fomb.org](http://www.fomb.org)

