



Belle Isle News

Upcoming Events

Nature Walks with Sean Riley

1st and 3rd Saturdays, 7:30am
Meet at the Bennington Street
main parking lot.

Annual Meeting

Sunday, March 12, 2-4pm
St. John's Episcopal Church Hall
222 Bowdoin St., Winthrop

Spring Clean-Up

Saturday, April 22, 9am
It's Earth Day! Meet at the CVS
parking lot on Saratoga Street in
East Boston.

Contents Page

Harvest Festival	1, 7
Saltmarsh Plants	2, 3
President's Report	4
Children's Corner	5
Site Supervisor's Report	6
Job Opportunities	8

Harvest Festival 2022

Our annual Harvest Festival was back this year with a vibrant community of organizations working together to educate, entertain, and even improve the reservation.



We thank our partners and sponsors, and all the wonderful volunteers and visitors who made this day possible. For a full list of collaborators, see the President's Report (page 4). For more photos of the event, see page 7.



Unsung Heroes: Saltmarsh Plants

First in
a series

by Soheil Zende

Twice a day, tides rise and fall in sync with the rotation of the earth and the relative position of the moon. In Boston, the water level at high tide averages 10 feet higher than low tide. In that intertidal zone between high and low tide is where saltmarshes like Belle Isle Marsh grow and flourish.

A saltmarsh is defined by the plants that normally grow in it – salt-tolerant plants such as saltmarsh cordgrass (*Spartina alterniflora*) or spikegrass (*Distichlis spicata*). Saltmarsh plants are the foundation upon which other marsh denizens depend. In this article we introduce the major plant species of our local saltmarsh.

During the lunar cycle (approximately 29 days for the moon to make a complete a full orbit about the earth), twice the moon and sun line up. This causes the tides to be extra high; about every other week we have what is called a spring tide (it has nothing to do with spring, the season). Some spring high tides are as much as 11 feet above the level of low tide. At other times, high tide might be as little as 8 feet above low tide level. The degree of salt tolerance of a plant defines and limits where it can grow. Due to this variation in salt tolerance, tide level variation makes a difference in what plants grow where. Also, as we shall see in a subsequent article, tidal height variation is crucial in the survival strategy of an endemic and highly threatened bird species, the Saltmarsh Sparrow (*Ammodramus caudacutus*).

Here are brief descriptions of the major saltmarsh plants arranged by degree of salt tolerance. [English or common names for plants are not standardized,



Saltmarsh hay
Spartina patens in windrows

therefore we give the Latin or scientific names, in case you wish to further research these organisms.]

Saltmarsh cordgrass (*Spartina alterniflora*). Also called smooth cordgrass, this is the tall grass that grows in low areas of the marsh so that its roots are nearly always under water. The leaves are 3/8 to 1/2 inch in average width. In most New England marshes, this grass grows nearly always along channels and ditches in the marsh and can become 6 or 7 feet tall. In marshes south of here there is a variant of this grass that is only 2 feet tall but still has the characteristic wide leaves. Its tiny white flowers bloom from July to September.

The roots of this grass grow into the silt and mud of the marsh, intertwine and slowly form a dense matrix that holds even more silt, thus building up the marsh surface. As the stems of this plant die and break off, they become part of a floating wrack which washes over the marsh surface during extreme high tides. When this wrack disintegrates, the breakdown products are highly nutritious, feeding various small invertebrates and fish. Cordgrass is thus one of the foundations of the salt marsh food web.

Saltmarsh hay (*Spartina patens*). This is the grass in the wide open spaces of the marsh. Its long, narrow, tubular and deep green leaves lie in windrows, giving New England saltmarshes their characteristic look and feel.

Spikegrass (*Distichlis spicata*). This is the other grass which is called saltmarsh hay. The leaves are grey-green and shorter than *S. patens*, so that the plants don't form windrows.

In colonial times and for a long time after, the two grasses listed above were routinely harvested for hay and are still collected in certain marshes in mid to late summer. The surface of the marsh where these grasses grow is generally dry during most tides. High tides can make the marsh surface somewhat wet and spring tides cover all of the grasses with salt water. So these plants are salt tolerant but less so than *S. alterniflora*.

Blackgrass (*Juncus gerardii*). This plant grows at a slightly higher elevation than the previous two saltmarsh hay species. It's a darker, richer green than the others and, starting in midsummer, produces tiny

(continued on page 3)

Saltmarsh Plants

(continued from page 2)

flowers and fruit which are blackish.

Common reed (*Phragmites communis*). This is the very tall reed with fluffy top that grows in areas adjacent to saltmarshes. The roots are slightly salt tolerant so it thrives in areas which are just at the edge of the highest tides. *Phragmites* stands are said to indicate degraded wetlands.

Saltworts (*Salicornia* spp.). Three species of this low plant grow in heavily salted areas of the marsh. The stems are thick and fleshy. It turns a bright red in mid- to late fall, giving the marsh its autumnal glow.



Saltwort *Salicornia*

Sea Lavender

(*Limonium carolinianum*). A low rosette of broad green leaves grows close to the surface of the marsh. Out of its center springs a flowering stem which, from August on, produces small lavender flowers in a cloud. These flowers are attractive to bees and, formerly, to Common Wood Nymph butterflies. (The worldwide decline in insects is reflected in the near-complete absence of these butterflies in the marsh, compared to their abundance 40 years ago.)

Cyanobacteria. Cyanobacteria or blue-green algae, not a plant, is a common resident of the marsh. It is among the most ancient of life forms on the planet. It is easy to see as a green scum on the surface of salt pans, those more or less permanent pools of standing water which are dotted throughout the marsh. The scum is green due to presence of chlorophyll which uses sunlight and carbon dioxide to produce sugars for the plants – it is present in all green plants. A byproduct of sugar production is the manufacture of oxygen. This forms bubbles which are trapped in the algae mat and float it during daylight hours. After dark, as the oxygen slowly escapes, the green surface scum sinks to the bottom of the salt pan, only to repeat the cycle during the following sunny period. The



Sea Lavender with Common Wood Nymph butterfly

oxygen production of cyanobacteria is most active in early spring and again in mid-autumn. In the summer, if you visit a salt pan in the marsh, you may only see a few patches of floating cyanobacteria.

The water in saltmarsh pans is replenished by the highest (spring) tides and also by rains. During a period of drought or high temperatures, sometimes a salt pan will dry out completely and the cyanobacteria will sit at the bottom of the salt pan and slowly dry out until it cracks into different sized cakes in a very characteristic pattern.

There are a small number of other plants which grow in and near saltmarshes. Included in the list of these plants:

- Poverty grass (*Danthonia*)
- Panic grass (*Panicum virgatum*)
- Arrow-weed (*Atriplex*)
- Mullein (*Verbascum*)
- Seaside goldenrod (*Solidago sempervirens*)
- Seaside plantain (*Plantago maritima*)
- Marsh elder (*Iva frutescens*)



Arrow-weed *Atriplex*

Marsh elder grows in higher patches of the saltmarsh which were artificially elevated by farming practices of the past several centuries. In future installments of this series on saltmarshes, we will be discussing the long-term effects of those agricultural practices as well as their application to current conservation efforts.

All photos supplied by the author

President's Report

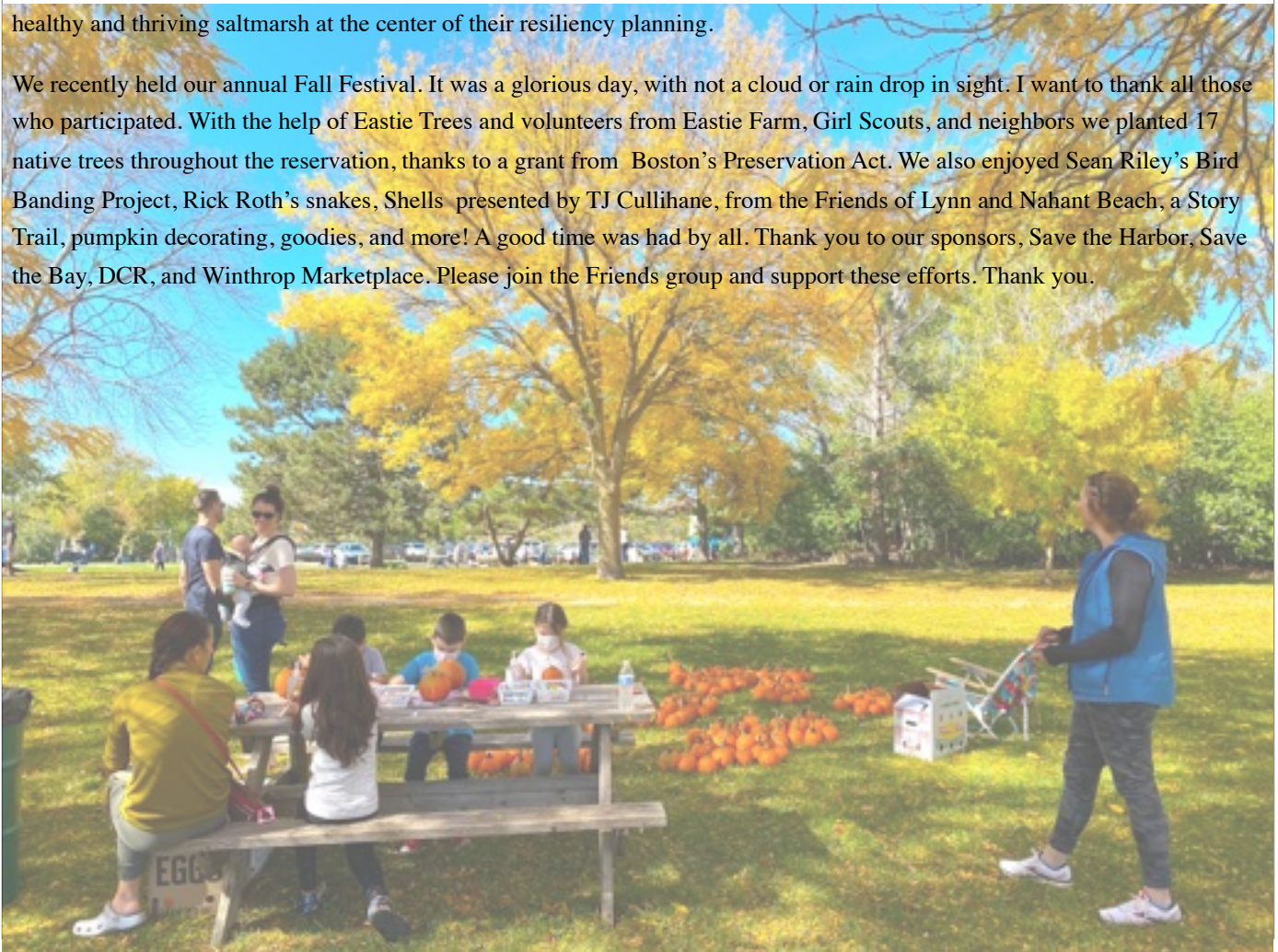
by Mary Mitchell

In an article I read recently in the November 2, 2022 Boston Globe, written by Laura Millan Lombrana, I was once again reminded of just how important saltmarsh habitats are.

“Marine and coastal ecosystems such as seagrasses, mangroves and saltmarshes capture and store planet-warming carbon dioxide from the atmosphere at a faster rate than the planet’s forests. Scientists estimate seagrasses account for 17 percent of the total carbon buried in marine sediment. That makes conservation of these habitats an essential part of the global effort to reduce greenhouse gas emissions in order to slow the pace of global warming.”

I couldn't agree more. The Friends of Belle Isle Marsh are working with The Mystic River Watershed Association, The Nature Conservancy, DCR, and Woods Hole Group to find ways to restore and protect the salt marsh in the context of global warming, sea level rise and abutting development. The saltmarsh is being squeezed and has few opportunities to migrate and create new healthy habitats. We are seeing signs of marsh degradation which, over time, will be devastating to this already compromised habitat. One of our grants (a state funded **Municipal Vulnerability Preparedness** grant) is to take a regional look at how to preserve the marsh but also protect abutting neighborhoods and infrastructure. It is imperative that our municipalities keep a healthy and thriving saltmarsh at the center of their resiliency planning.

We recently held our annual Fall Festival. It was a glorious day, with not a cloud or rain drop in sight. I want to thank all those who participated. With the help of Eastie Trees and volunteers from Eastie Farm, Girl Scouts, and neighbors we planted 17 native trees throughout the reservation, thanks to a grant from Boston's Preservation Act. We also enjoyed Sean Riley's Bird Banding Project, Rick Roth's snakes, Shells presented by TJ Cullihane, from the Friends of Lynn and Nahant Beach, a Story Trail, pumpkin decorating, goodies, and more! A good time was had by all. Thank you to our sponsors, Save the Harbor, Save the Bay, DCR, and Winthrop Marketplace. Please join the Friends group and support these efforts. Thank you.



Children's Corner

A winter walk out in nature can be invigorating and peaceful. I find it is the perfect

thing to do on a sunny, not so freezing winter afternoon. Some of my favorite places include Belle Isle Marsh of course, but also sister DCR properties such as Walden Pond in Lincoln or Halibut Point State Park in Rockport.

Before venturing out on a family adventure, read **In the Snow: Who's Been There**. Look for signs of fellow winter animals making their homes in the forest, the beach or along a meadow pathway. Do you see tracks, an abandoned nest, or perhaps a cocoon hanging from a milkweed plant still swaying in the breeze? At the end of the day, you and your little one might like to read **You Nest Here With Me**, a lovely story and perfect ending to winter outdoor family adventure!

In the Snow: Who's Been Here by Lindsay Barrett George, Greenwillow Books, 1350 Avenue of the Americas, New York, N.Y. 10019, 1995.



“Cammy, do you want to go sledding on the hill by the old school?” William asks. “Sure” Cammy says. Thus starts an engaging walk along a wooded path to the sledding hill. They hear “Whoit, Whoit, Whoit,” but the animal is gone, and only red berries are scattered on the snow. Who was here? Turn the page and

see a beautifully illustrated cardinal atop a sumac tree eating the fuzzy red seeds. They continue along the adventure finding signs of life, a nest high in an oak tree, a pellet and feathers beneath the white pine, and broken acorn shells near a tunnel entrance. Who has been here? (A squirrel, a great horned owl, and a chipmunk.) This book is delightful, beautifully illustrated with winter scenes that artfully answers the question, Who Was Here? by turning the page.

You Nest Here With Me by Jane Yolen and her daughter Heidi E.Y. Stemple, illustrated by Melissa Sweet,

by **Mary Mitchell**



Boyd Mills Press, 815 Church Street, Honesdale, Pennsylvania, 18431, 2015.

“My little nestling, time for bed. Climb inside, you sleepyhead. Like baby bird, your nest can be anywhere there’s you and me.” Thus

begins a lovely rhyming tale with the repeated line “You nest here with me” every page or two. The book depicts all kinds of birds in their nesting habitats: tiny wrens in shoreline sedges, some owls nesting in oak tree boles, and plover’s nests on sandy shores.

The reader follows along to find birds can nest in many places, but it is best that the little human one should nest at her very own home. I really loved this book and can’t wait to read it to my own little ones, grandsons Mateo and Oliver. Please note that Jane Yolen is a Massachusetts author who also wrote **Owl Moon**, which I have reviewed for this article in years past.

Clothes We Wear in Winter

A	C	A	P	S	S	C	A	R	F
U	G	J	M	N	H	V	P	M	F
M	L	S	J	O	C	O	A	T	F
I	O	O	S	W	E	A	T	E	R
T	V	C	P	S	V	R	B	A	B
T	E	K	L	U	H	M	O	V	P
E	S	S	G	I	A	N	O	Z	Z
N	U	U	C	T	T	D	T	U	E
S	J	A	C	K	E	T	S	V	M
E	A	R	M	U	F	F	S	N	N

Can you find these words?



- boots
- cap
- coat
- earmuffs
- gloves
- hat
- jacket
- mittens
- scarf
- snowsuit
- socks
- sweater

©2007, Julie Vickery-Smith

<http://www.theholidayzone.com/>

Site Supervisor's Report

by Sean Riley

Well, it has been a busy year over at DCR. I apologize for missing the last newsletter submission. There is so much to recap; I will try my best to touch on the highlights. We had a full spring, summer and fall season at the reservation.

This spring we focused on continuing our Saltmarsh Sparrow Research. We banded another 31 new birds, bringing our total number of banded Saltmarsh Sparrows to 48, with many more birds still un-banded flying around. Considering we once thought that we had between 8 and 12 Saltmarsh Sparrows at Belle Isle, we now know that attempting to survey this species without a banding component is impossible to determine a site's overall population. Our work at Belle Isle will likely lay the groundwork for a population assessment model for Massachusetts. While we are only 2 years into this project, we are already learning that many, if not most, of our birds are returning each year to Belle Isle, in addition to the birds that are born there. These factors make preservation of this small marsh all the more vital.

While our Osprey camera viewership exceeded over 1 million viewers (which is incredible), we were all deeply saddened that none of our Belle Isle chicks survived and fledged. It was a tough summer with overwhelming heat, and very little rain. Our

male Osprey just did not provide enough fish to the young, which provides the chicks with all the necessary water they need to consume for their survival. Climate change will likely change feeding dynamics for many species, as we see drastic changes in weather patters. We just don't know how species, or even individual birds, will adapt to the varied changes year to year.

We had a pretty exciting season at the banding station, banding a few hundred new birds. A few years in we are also now starting to gather data on site fidelity. We have returning species like: American Robins, American Woodcocks, Warbling Vireos, Yellow Warblers, Northern Flickers, Song Sparrows and Redwing Blackbirds, all birds banded the previous season, and birds all returning to breed at Belle Isle. Without banding these birds, we would never know these are returning birds. This also starts to paint a picture that these locations are hugely important to maintaining wild bird populations, as they return to the same locations year after year.

For additional good news, we are also wrapping the climate assessment that was completed by Wood Hole Group. We have our identified areas of need, and we hope to start the long process of permitting some of the restoration interventions. Years of work and weekly meetings have gone into project form, spearheaded by FBIM, MyRWA, and us over at DCR. With careful stewardship, we hope to pave the way for the reservation to thrive in the future, even under difficult and stressful natural conditions. Hopefully 2023 will be a great year! See you all out in the field.

Winter Robins at Belle Isle by Conal Foley

Lingering straggler braving the bitter
New England cold
what are you doing here this time of the year?
Is it the global harming that has messed
up your global clock?
Or are you a long standing exception to
the rule as harbinger of Spring?

We can understand the plump, lazy geese
with their heavier
protective layer of fat and down
hunkering down,
defying the rules of the game.
But your startling coastal winter sightings
even as far north as Newfoundland — robins!



You know, of course, you're crowding the slim pickings
of the mockingbird's dinner plate as the frozen ground
turns you to winter berries. We've seen their
flashing bravado
chase you from winter's meager banquet table.

But we need these unnatural
surprises.
We who are choking in this
intellectual bozone layer
of industrial smog, smugness
they dare to call the "price of
progress".

We need a good surprise - a good
jolt -
to stir us from the lethargy of our conceit.

Harvest Festival 2022



Photos provided by Barbara Bishop, Gail Miller, Mary Mitchell, Daniela Foley, and Leonora Foley.

Under its Community Preservation Act, the City of Boston funded a large number of trees to replace many lost in harsh weather events. Tree Eastie and the Friends at the Harvest Festival completed the task of planting 17 trees at this Fall's Harvest Festival in October. Thank you, City of Boston, for adding to the sorely needed tree canopy in East Boston!



Friends of Belle Isle Marsh (FBIM) Annual Membership dues:

Family.....	\$15
Individual.....	\$10
Seniors and Youth (under 16)...	\$5

FBIM is a registered nonprofit corporation. Contributions are tax-deductible. Thank you for your continued support.

FBIM is a volunteer organization dedicated to the preservation of this marsh. We believe that protection ultimately depends on public awareness of the value and beauty of this natural resource. Our focus is mainly educational.

For more information or to add your name to our email list, write to: friendsofbelleislemarsh@comcast.net with the subject "subscribe."

Facebook:

Friends of Belle Isle Marsh

Website:

www.friendsofbelleislemarsh.com

*Friends of Belle Isle Marsh
P.O. Box 575
East Boston, MA 02128
Address services requested*

Non-profit Org.
U.S. Postage
PAID
Boston, MA
Permit no. 3225



FBIM is hiring!

Keep an eye on our website (<https://www.friendsofbelleislemarsh.com/>) and our social media (especially Facebook, <https://www.facebook.com/BelleIsleMarsh>) for postings of two paid opportunities, one focusing on conservation and the other on operations. These roles will help further FBIM's mission of protecting and preserving the marsh, thanks to a budget earmark by Senator Lydia Edwards, with the funds coming to us as a grant from the Division of Ecological Restoration.

Belle Isle News Contributors

- Daniela Foley, Editor
- Ellen Baxter
- Barbara Bishop
- Leonora Foley
- Gail Miller
- Mary Mitchell
- Sean Riley
- Soheil Zende

Please send your comments and suggestions for future newsletter articles to: friendsofbelleislemarsh@comcast.net

If you would like to be included in our new email list, please send a message entitled "subscribe" with your name to friendsofbelleislemarsh@comcast.net.

Thank you.

We don't share our lists with anyone.