

Nantucket Land Bank

FALL 2023

NEWSLETTER



Photo by Bill Hoenk

Conservation,
recreation, and
agriculture for the
benefit of the public
in perpetuity.

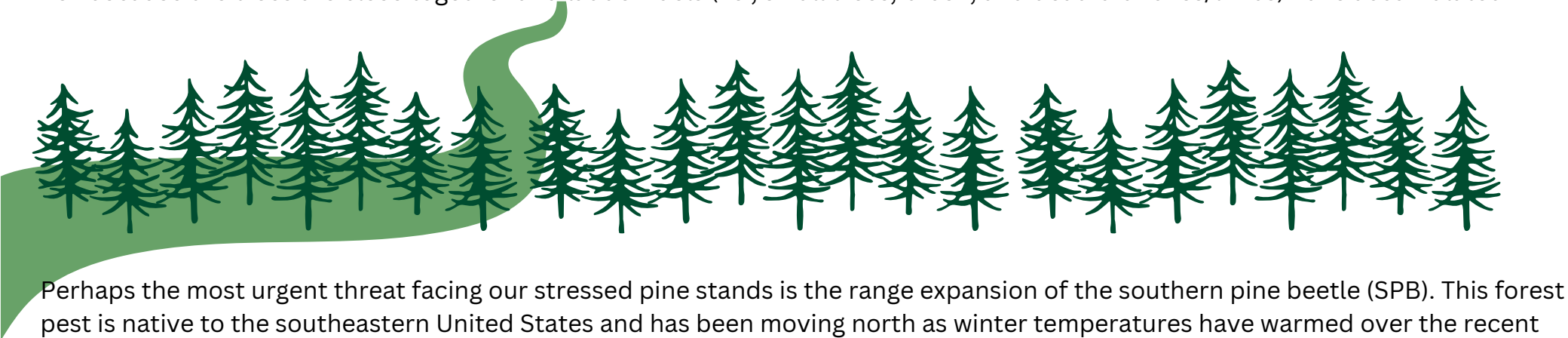
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Active Management for Resilient Forests

Scraggly pitch pine and scrub oak forests like those found at Gardner Farm are an iconic habitat of southeastern Massachusetts, the Cape, and the Islands. Despite their current ubiquity on the island, pitch pines were introduced to Nantucket in the 1800s to form a windbreak along Milestone Road. Pitch pine and scrub oak thrive on the low nutrient-sandy soils and harbor a plant and animal community that is adapted to withstand and flourish in the presence of frequent fire and other natural disturbance such as salt spray and drought. This habitat is often termed [“pitch pine – scrub oak barrens”](#). European settlers used the term barrens because they could not cultivate their crops in these landscapes, but the areas are anything but bare. The unique barrens ecosystems support a diversity of rare plants, insects, and animals such as box turtles and bats. The Land Bank has big plans to actively manage these ecosystems to foster more resilient forests on island!

The pine barrens on Nantucket and regionwide have deteriorated due to minimal management and fire suppression since European settlers arrived. The habitats are now overmature; trees are densely packed and stressed for resources, and the understory diversity is decreased due to less sunlight reaching the ground through the crowded canopy and the deep layer of old needles and woody debris smothering new growth. The lack of host plants (i.e., plants that organisms live and subsist on) in the understory means there may be fewer moths and other insects available to support the federally endangered northern long-eared bat, which resides in these woods on Nantucket.

When under such stress, these characteristic ecosystems are not resilient in the face of multiple and increasing threats due to climate change. Our summers are becoming hotter, with droughts and stronger storms a more frequent occurrence. The stressed trees are vulnerable to forest disease. Wildfire and running crown fire, where fire jumps from tree to tree in the canopy, are a greater risk because the trees are close together and ladder fuels (i.e., small trees, brush, and dead branches/limbs) have accumulated.



Perhaps the most urgent threat facing our stressed pine stands is the range expansion of the southern pine beetle (SPB). This forest pest is native to the southeastern United States and has been moving north as winter temperatures have warmed over the recent decades. These beetles can disperse long distances in the air currents and prevailing winds. Once they infest a tree, they release pheromones which call in other beetles, quickly overwhelming the tree’s defenses. Trees attempt to “pitch out” the beetles by pushing them out with their sap or pitch. Stressed trees cannot mount an effective defense against the SPB and quickly succumb to the infestation within weeks. Recently an [outbreak of SPB](#) was discovered by the Nantucket Conservation Foundation in their West Gate property and they acted quickly to halt the infestation by cutting trees showing signs of SPB. This forest pest has also caused [several infestations](#) this year on [Martha’s Vineyard](#).

We now know that SPB is a threat that all pitch pine forest property owners will potentially have to grapple with in the near future. What can landowners and conservation groups do to prepare their forests to be resilient in the face of this threat and others, such as drought, disease, and wildfire? It turns out that the best recommendations from professional foresters, as well as state and federal agencies, center around managing the forests for “ecological integrity” and diminishing tree stress. Achieving more resilient pitch pine forests is the Land Bank’s management goal for these habitats. In the coming years, habitat management to reinforce the health of the overall forest habitat will include thinning overmature and overcrowded tree stands to maximize sunlight and airflow within the forest, promoting healthier trees and understories and more diversity in vascular plants, insects and the other animals that depend on these resources.

[Want to learn more? Click here to sign up for our public walk with licensed Forester, Adam Moore, at Gardner Farm on Friday, November 10th at 9:00 AM.](#) We will discuss the ways the Nantucket Land Bank and other pitch pine forest landowners can improve the resilience of these habitats through active management.

Gardner Farm

Overmature tightly stocked trees with sparse understory



Post forest resilience management example

Open canopy, healthy trees, and rich green understory



Property Spotlight: Eel Point Trail

If you're looking to get off the beaten path, try walking the Land Bank's **new** Eel Point Trail! Starting across the street from 169 Eel Point Road and situated on our 13.5-acre property, this 0.45-mile trail provides a safer and more convenient path for walkers and bikers along this corridor of Eel Point Road! Though the path runs parallel to the road, you would never know it when you're out hiking or biking. The thick shrubs that border the path block any view of the road, immersing you in eye catching bayberry and winterberry. If visiting in the late summer or early fall, you'll also see golden rods lining the edges of the trail, adding a vibrant pop of yellow to the landscape. You'll often see harriers in the area year-round, as well as ospreys during the breeding season. The trail abuts Linda Loring Nature Foundation's (LLNF) 275-acre property, which contains a mix of coastal heathlands, sandplain grasslands, and vegetated wetlands. While you're in the area, be sure to check out their property located at 110 Eel Point Road! In addition to this property's proximity to LLNF, the Land Bank trail ends across the street from 40th Pole Beach, providing an excellent alternative access to the beach for residents of the neighborhood!



Please keep in mind that it takes a new trail a while to naturalize. You can help us out by walking or biking the path to help it establish more quickly. Happy trails!

An Introduction to Ecosystem Services

Nantucket is known for its natural splendor and open spaces. There are countless ways for the public to connect to our island’s diverse ecosystems, from walking trails that weave through forests, grasslands, and wetlands, to miles of shoreline that provide access for surfing, swimming, and soaking up the sun. Beyond recreation, these ecosystems provide a variety of natural benefits to the well-being of people, also known as **ecosystem services**, which help provide clean air, clean water, and fertile soil. These services are critical to our daily lives but they often go unrecognized because we don’t receive a bill for them – which has led some scholars to try to quantify their economic value.

Researchers and policymakers have discussed ecosystem services since the Stockholm Convention in 1972, which was the first time a global treaty considered monetizing the concept. Since then, the World Bank, United Nations, and Paris Agreement have all deliberated the question of how to quantify the economic value of these services but have struggled to find the most optimal strategy.



The Folkets Hus building (center) in Stockholm, Sweden, which hosted the United Nations Conference on the Human Environment, 16 May 1972. UN Photo/Yutaka Nagata

While the method of assigning a price to ecosystem services is tricky, there are scholars who have endeavored to put a dollar value on some of these natural benefits. For instance, in 1997 it was estimated that ecosystems provided at least [\\$33 trillion](#) worth of these services per year, of which coastal ecosystems, such as the ones on Nantucket, contributed 63% [1]. In a 2014 update to this study, scholars estimated that these services increased to [\\$125 trillion per year](#). In a more specific example, coastal wetlands were credited with preventing \$625 million in flooding damages caused by Hurricane Sandy [2]. So, not only do these open spaces provide opportunities for people to connect with the outdoors, but they also provide significant economic value to communities.



In addition to the economic benefits, they also provide environmental benefits. In the face of climate change, these benefits cannot be overstated. According to [National Geographic](#), “Studies have shown that the natural world can provide one-third of all climate mitigation efforts. Land and marine ecosystems currently absorb about half of the human-generated carbon dioxide emissions, with forests alone removing 2.6 billion tons of carbon from the atmosphere each year.” On Nantucket, we know that inland wetlands such as the Lily Pond serve an important role by filtering stormwater entering the harbor as the frequency and intensity of precipitation events is expected to increase. We also know that having marshes, dunes, and parks along the coastline can help absorb water, buffer wave energy, and prevent flood damage to built infrastructure. In other words, ensuring that these ecosystems are robust and intact will go a long way in helping to mitigate the anticipated impacts of climate change.

In sum, natural ecosystems provide a host of services and benefits to people on an environmental, societal, and economic level. Luckily on Nantucket, there are many groups committed to protecting these ecosystems, including the Nantucket Conservation Foundation, Mass Audubon, the Linda Loring Nature Foundation, and many more. Stay tuned for future newsletters where we will continue to highlight unique Nantucket habitats and the value they provide to the island!

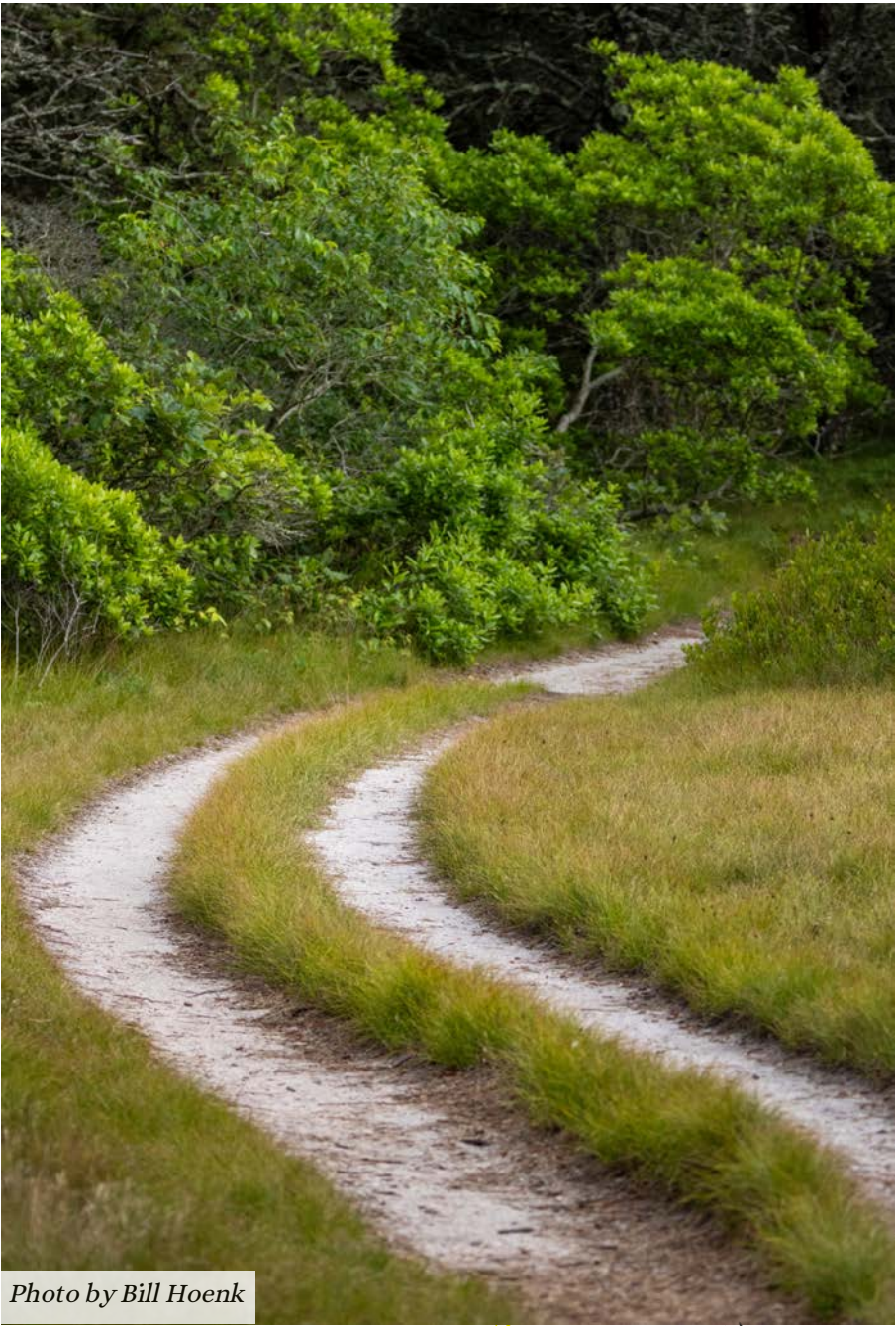


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[1] Costanza, R., d'Arge, R., De Groot, R., Farber, S., Grasso, M., Hannon, B., ... & Van Den Belt, M. (1997). The value of the world's Ecosystem Services and natural capital. *nature*, 387(6630), 253-260.
[2] Narayan, S., et al. 2017. “The value of coastal wetlands for flood damage reduction in the Northeastern USA.” *Scientific Reports* 7, 9463 (2017).

Staff Spotlight: Meet Our Seasonal Crew!

With summer behind us, and fall just beginning, it's the perfect time to look back on the amazing work our seasonal staff accomplished this summer! The Land Bank seasonal crew this year was comprised of Anna DeCarlo (Ecology & Land Management Technician), Cory Partida (Ecology, Land Management and Shorebird Technician), Diana Silvestri (Land Steward), and Bozhin Angelov (Assistant Property Manager). They were kept busy with rare plant surveys, habitat assessments, pond monitoring, invasive species removal, GIS, gardening, trail maintenance, and more! We were lucky enough to have an alumna from last summer, Cory, rejoin us this year. He shared about his experience in last year's newsletter – read about it [here](#)! Read more below about the new faces at the Land Bank, Anna, Diana, and Bozhin, their experience this summer, and where they are off to now!



Anna DeCarlo, Ecology & Land Management Technician

Anna DeCarlo was the Land Bank's Ecology & Land Management Technician this summer. Her various responsibilities included going out in the field to collect plant survey data, conducting tree plots, and invasive species management, to name a few. Currently, Anna is studying Natural Resource Conservation with a concentration in Environmental Conservation at the University of Massachusetts Amherst. Anna would love to return to Nantucket next summer, and eventually hopes to go out west to be a park ranger!



Tell us about your background.

I grew up here on Nantucket, born and raised! Besides living in this amazing and unique place, my AP Environmental Science [class] really led me to [think this type of work] would be cool to go into.

What drew you to work at the Land Bank?

Growing up seeing Land Bank signs out in nature is very nostalgic to me, and I knew I wanted to be on Nantucket for the summer because who wouldn't? My dad [worked] here and he loved it, and I just knew this is where I wanted to be.

What's the most interesting thing about your job?

I really love botanizing! Learning all the plants and having this plant dictionary in my brain is really cool. Being able to identify plants to my friends and family is really fun.

How do you anticipate your role here will benefit you in your future professional endeavors?

I think that it will benefit me greatly. If you want to go into conservation, you have to know plants, if you want to get into plants, you have to know soil, if you want to get into soil, you need to know water... it all builds upon each other. So, I feel like knowing plants and their environment is a good skill in conservation.

What are some of the biggest challenges of your work?

Mostly just the elements, the sun, and the occasional rain, but also remembering plant names and being able to ID them because there are a lot of similar looking plants!

What's your favorite Land Bank property and why?

Smooth Hummocks – I've spent the most time out there. I grew up going to 14 A Beach, which we call Fat Ladies or Split Rail, so that's just always been a part of me and my family. Now knowing most of the plants [that grow out there] and being familiar with the management practices... it's super fun! I also really love 158 Orange Street. I love sitting at the end of the dock and looking at the Ottison property. I just love the Creeks. I took my roommates there and they loved it... we saw ducks and crabs and egrets!

Is there anything else you want to share?

I have really loved my experience here, and all the cool experiences like being able to tag along with Guthrie [the Land Bank's Field Ecology Coordinator] to pine beetle meetings and the Coastal Conference. I've learned so much!

Diana Silvestri, Land Steward

Diana Silvestri, the Land Bank's Land Steward, spent her summer checking our properties for problems and making sure that our open spaces were clean, safe, and accessible to the public. She attended the University of Hartford and the University of Hawaii at Monoa, where she studied Cultural Anthropology, Environmental Science, and Polynesian Cultural Studies. Now, she regularly travels between Hawaii, Nantucket, and Morocco, and enjoys being part of these different cultures and lifestyles!

Tell us about your background.

I'm a lover of all things wild and of different cultures and different places. I'm from the east coast and was working as an outdoor educator and just really believe in playing outside and being on the land. I love ethnobotany, the relationships between plants and people.

What drew you to work at the Land Bank?

I [had] been working as an inn keeper and managing properties and houses for the past couple years, and that's what brought me to this beautiful island. I fell in love with [Nantucket]! I'm really drawn to the mission of the Land Bank and creating public spaces for people to be on the land and to wander this beautiful island and experience the beauty.

What's the most interesting thing about your job?

Being on the land and getting to know the different properties is really interesting to me. I also like to meet the people who hang out at those properties and building those relationships with others who [equally appreciate] these spaces.

How do you anticipate your role here will benefit you in your future professional endeavors?

Tending to a place and being a caretaker is important to me, so getting to know the properties and the plants and the animals will help me.

What are some of the biggest challenges of your work?

I think the biggest challenge is just the lack of mindfulness when it comes to people not having accountability for their own trash. It's a global problem, it's not just here.

What's your favorite Land Bank property and why?

I really love being in Head of the Plains. I love that area especially when it's foggy - it's really dreamy. I really love Madequecham. It's magical out there and driving there is just an adventure. Stump Pond - the wildness of that part of the island. There's also the cultural aspect - like Easy Street's morning people, and their routine, and getting to know them... I like that too. A gathering place for people to be together is nice. So, yeah...it's a hard question and I think I like them all!

Is there anything else you want to share?

I'm really radical. Earth first!



Bozhin Angelov, Assistant Property Manager

Bozhin Angelov was the Land Bank's Assistant Property Manager. His role was to maintain all the Land Bank properties, parks, and trails, and to make them accessible, appealing, and safe for the public. Bozhin is currently studying at the National Sports Academy in Sofia, Bulgaria. He is studying to be a P.E. teacher, a ski instructor, and a table tennis coach, and expects to graduate next year! After graduating, he hopes to live in different countries to experience different cultures before settling back down in Bulgaria.



Tell us about your background.

I grew up in this small town near the mountains in Bulgaria, so I grew up skiing a lot and doing a lot of outdoor activities and sports in general. Doing sports allowed me to travel as well - I traveled all around Bulgaria and the countries around Bulgaria.

What drew you to work at the Land Bank?

My father has a farm, and before I came here, I was looking for something similar to do. I already had experience at a landscaping company here on the island. I saw this job opportunity for the Land Bank, and I applied, and it worked out perfectly.

What's the most interesting thing about your job?

The most interesting thing [is that] there's always something exciting every day, whether it's going to a new property that I haven't seen before or a new piece of equipment. There's always something new.

How do you anticipate your role here will benefit you in your future professional endeavors?

All the experience with the machinery is definitely going to be helpful in the future. Also, I get to work by myself sometimes and it requires more responsibility; you really have to know what you're doing out there, so it builds the work ethic and will be helpful for sure.

What are some of the biggest challenges of your work?

The best thing about the job is that you're outdoors... it's also the biggest challenge, especially in the summer when it's 90 degrees, there are mosquitos and poison ivy. But I prefer being out there [to] anything else.

What's your favorite Land Bank property and why?

Settler's Landing at Madaket Harbor, because when we go to mow all the Madaket properties that's the last one that we mow and to know that it's the end of the day and you can just sit on the deck and watch the boats, it's nice. All of them are cool, especially the ones that have access to ponds or water in general.

Is there anything else you want to share?

I loved this summer and all the guys that I worked with. They're super cool, and everybody helped me along the way.