

Winter 2024

SEBAGO IN DEPTH

Water, Land, Community



Photo by: Brad Rounds

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25 Years of Shorefront Improvements for Lake Protection

SEBAGO LAKESCAPING



By Brie Holme
Water Resources Specialist Brie Holme can be reached at bholme@pwd.org

The year 2024 marks 25 years of “Sebago Lakescaping” - the District’s program that helps shorefront landowners improve their properties while protecting the lake and providing wildlife habitat at the same time. It’s a win-win-win situation because landowners receive financial assistance to improve their property, the lake is better protected, and wildlife habitat is expanded. Over the past 25 years, \$325,000 in matching Lakescaping grants have been awarded to landowners who have completed 804 projects. Because landowners have added their own money to this amount, more than \$1.2 million worth of land improvements have been done around the lake, as part of this program.

Sebago Lakescaping protects water quality

What do Lakescaping projects look like? We recommend different “tools” to address different problems, so each one

is different and tailored to the property, but they all have the same goal. They are designed to absorb stormwater and make soil less likely to erode. Absorbing water from storms and snowmelt means it doesn’t move across the land, picking up pollutants and eroding soil, before flowing into the lake. Soil naturally contains nutrients which feed algae and can cause algae blooms when washed into the lake. The best tool in the Lakescaping toolbox is a good buffer of trees, shrubs, and groundcovers between your house and the lake. The deep root systems of these plants help to hold soil in place and absorb runoff and excess nutrients. Other tools, like rain gardens, dripline trenches, or dry wells, can be installed to capture roof runoff. Water bars and erosion control mulch can prevent erosion on pathways, and infiltration steps can be used on steeper slopes. Lakescaping tools can also prevent soil erosion due to wave action and vehicles. Properly constructed gravel roads, ditches, and culverts are common tools to reduce the impact camp roads have on water quality (read more on page 4).

Lakescaping Successes



Blueberry Sod



Erosion Control Mulch



Infiltration Steps



Rain Garden

Sebago Lakescaping supports wildlife

As our population grows, wild landscapes are increasingly replaced with grass lawns and hard surfaces and also non-native perennials and shrubs that support very few species of Maine's native wildlife. Native wildlife, and especially birds and insects, depend on native plants, not non-native ones, for food and shelter. Our Lakescaping reports often recommend adding plants because of their ability to protect water quality, but we also recommend native ones because they are well-adapted to local soils and climate conditions, less dependent upon irrigation and fertilizer, less likely to become invasive, and best support birds, pollinators, and other wildlife. Even small planting choices you make can have a big impact on your local food web.

Apply for a Sebago Lakescaping Grant

If your property is within 250 feet of Sebago Lake or a tributary to the lake, you may be eligible for a matching grant of up to \$1,000 for individuals or up to \$2,000 for associations, businesses, municipalities, or other groups. The process begins with a free consultation with one of our water resources specialists. After discussing options with you on-site, you'll receive a free report detailing our recommendations, with no obligation to do anything. Once you have the report, you can apply for a matching grant, and once approved, hire your own contractor to do the work or, when possible, complete the project yourself. After a final site visit by us, submit your receipts or contractor's invoice to receive your matching grant reimbursement. Contact us at sebagolake@pwd.org to get started!

25 YEARS of Sebago Lakescaping

The best lake-protection measure is a good buffer of trees, shrubs, and groundcovers between your house and the lake.

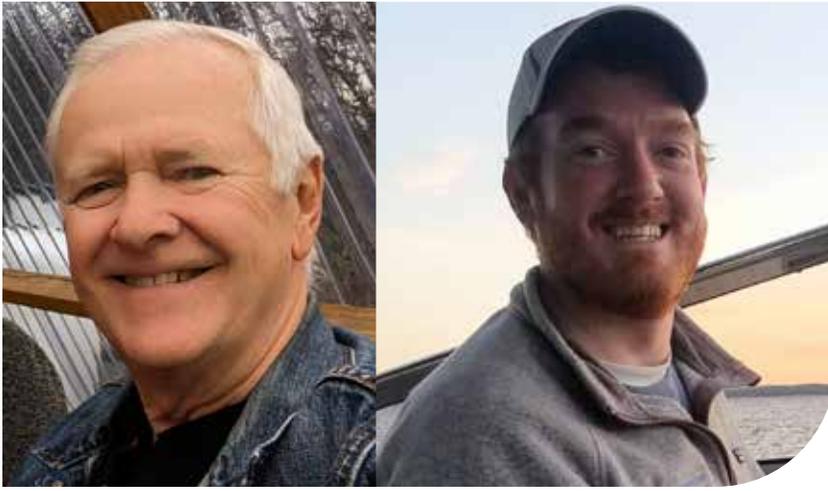
If your property is within 250 feet of Sebago Lake or a tributary to the lake, you may be eligible for a matching grant of up to \$1,000 for individuals or up to \$2,000 for associations or other groups. E-mail sebagolake@pwd.org to get started.

\$325,000 in matching grants awarded to landowners

804 projects completed

more than \$1.2 million worth of land improvements on Sebago Lake





PROFILE OF A SEBAGO PROTECTOR

{ Paul LaLiberty and Eric Sands

Road Commissioners,
Musson Road Association

Musson Road on Raymond Cape is a typical private camp road on Sebago Lake. It runs toward the lake, crossing low lying wetlands, and then turns and runs parallel to the lake, providing access to driveways along the shoreline. Camp roads can be significant sources of pollution to lakes. With each storm event, stormwater washes away a little bit of the road, which is a mix of soils commonly referred to as dirt or gravel, which often ends up in the lake. Through the Sebago Lakescaping Program, Portland Water District (PWD) provided design assistance and grant funding to the Musson Road Association to help them make improvements.

How long have you lived on Sebago Lake?

Paul: 24 years, purchased in January 1999

Eric: It will be 8 years in July.

What are some of the biggest changes you have seen over the years?

Paul: Musson Road was primarily all seasonal camps when first developed on Sebago Lake, so there was very little use of the dirt road in the fall, winter, and spring months. Now, more and more homes are being converted to year-round use, and the road was not originally designed for that level of traffic and usage. Over the years we've

made many road improvements to the grade and drainage, and upgraded surface materials to enhance the quality and accessibility of the road.

What are your favorite things about Sebago Lake?

Paul: Having a waterfront home with an amazing view and waking up to beautiful sunrises, finding a cove and spending the day tied off with family and friends rafting and socializing, sunset cruises, and most of all how calming and beautiful being on the lake can be.

Eric: Nothing beats summer on Sebago Lake. I really enjoy swimming so it is nice to know that the lake is being cared for to maintain a high level of cleanliness.

What aspects of managing a private camp road are the most challenging?

Paul: The most challenging of all is dealing with the spring thaw when roads can become unpassable and the secondary roads are posted with load restrictions. One thing we have learned over the years is to have a pile of gravel material for emergency road repairs prior to winter so road work can be executed in the early Spring when the dirt roads are at their worst.

Eric: It can be challenging to keep up with the road maintenance throughout

the year. During the summer months, the road is used more frequently. When combined with a heavy rain, it doesn't take long for potholes and muddy areas to develop. These repairs all come at an added cost for the homeowners, which needs to be managed appropriately each year. Finding contractors to execute the work has been challenging during the last couple of years.

What aspects of PWD's Lakescaping program are most beneficial?

Paul: Having the PWD expertise at our disposal to assess erosion and environmental concerns has been so helpful. PWD's Nate Whalen has worked with us over the years to recommend improvements that reduce runoff to the lake, prevent erosion, and reduce road repairs. He has been really helpful. Having access to PWD grant money also helps take the sting out of costly road improvements.

Eric: PWD's Lakescaping program has been a huge help for Musson Rd. Not only do we receive additional funding to subsidize the ongoing projects, but they also come onsite for road improvement designs and consultations at no added cost. Working together, we have identified key areas for improvements. This leads to a higher quality road and less maintenance.



LEA Protects Water Quality and Improves Fish Passage at Burgess Brook

Last fall, Lakes Environmental Association replaced a crushed and undersized culvert with an open-bottom bridge on Burgess Brook in Jugtown Forest, Naples. Now this water flows more freely and is cleaner as it makes its way to Sebago Lake from the Crooked River. With this upgrade, the brook is better protected from the flooding and erosion that can result from severe weather events, which we're seeing more of. Plus, an additional two miles of habitat are open to brook trout and landlocked salmon making their way to and from Sebago Lake.

This project was made possible by the support of Hancock Land Company and the Casco Bay Estuary Partnership. Sebago Clean Waters also helped fund the work with funding from the NRCS Regional Conservation Partnership Program (RCPP) award. There are more projects planned for this RCPP award. LEA will work with landowners and municipalities to upgrade more undersized and failing culverts in the Sebago Lake watershed as part of its collaborative work with Sebago Clean Waters. Learn more: Mainelakes.org/stream-connectivity



Photo by: Kristin Johnson

WHAT'S MAKING WAVES: AROUND SEBAGO LAKE

New Clean, Drain, Dry Law

The "Clean, Drain, Dry" law was passed in June of 2023 to safeguard Maine waters against microscopic invasives like zebra mussels, in addition to invasive aquatic plants. The law requires boaters, paddlers, anglers, and users of any other watercraft to clean plant debris, mud, and algae from all boating and fishing gear and dispose of it in the trash, drain the live well, bilge water, and engine water away from the water body, and dry any gear that comes in contact with water.



Increased Sightings of "Orange Stuff"

Last year saw an increase in sightings of orangey, rusty staining around streams, seeps, and ditches. The good news is that this staining is caused by a harmless bacteria. All the rain we had meant a lot of groundwater flow out of the ground and into streams. Groundwater in this area is rich in iron, so the increased flow led to an explosion of iron-oxidizing bacteria. These naturally-

occurring bacteria draw energy from iron molecules, causing the iron to rust. They can also form stringy, slimy growths. While it looks unsightly, it is not harmful to people or animals.

A New Lake Protection Project Under Way

In October, the District began the Fifth Phase of the Sebago Lake Watershed Protection Project. This new phase of lake protection work is funded in part by the United States Environmental Protection Agency under Section 319(h) of the Clean Water Act. Over the next two years, the grant will allow us to correct soil erosion problems at seven sites around the lake, including more shoreline stabilization work at Sebago Lake State Park. We'll also be holding a gravel road workshop and making improvements to the lake-friendly practices at our Lake Protection Office.

Mountain Division Rail Trail Construction Planning

In 2023, the Maine Legislature passed a bill authorizing the Department of Transportation (MDOT) to replace the unused Mountain Division rail line from Standish to Fryeburg with a trail. Part of the rail corridor runs along the shore of Sebago Lake on the west side of Lower Bay and MDOT has no trail rights there. Portland Water District has offered the use of adjacent District-owned lands to accommodate the trail. Staff are currently working with MDOT and their consultants to help determine options for a trail while minimizing risk to the safety and security of the water supply.



Photo by: Kendra Raymond

LAKE FRIENDLY PROPERTY TIPS

Wondering how you can do your part to protect Sebago Lake? **Start here.**



By Amanda Pratt
Water Resources Specialist Amanda Pratt can be reached at apratt@pwd.org

Pick Up Your Dog's Waste

We love our furry friends, but we can't avoid the reality that dog waste poses a significant threat to water quality and human health. Leaving pet waste on the ground or flinging it into the woods may seem harmless, but if it's anywhere near the lake or a stream, it's likely to be washed into the lake when it rains. Pet waste contains nutrients like phosphorus and nitrogen that can lead to algae growth in near-shore waters, as well as bacteria and pathogens that can make people sick. You wouldn't leave human feces on your lawn because it's a health hazard, and you shouldn't leave your dog's, either.

Around water bodies, you should always dispose of pet waste in the trash.



It's a common misconception that because wild animals leave their scat, it's OK to leave pet waste on the ground. Wild animals are part of the natural ecosystem, recycling nutrients from within the system. Dogs are not a natural part of the

landowners should know where their septic tank and leach field are located, and should make sure to pump the tank every 3-5 years

ecosystem, and their waste adds excess nutrients (from kibble rather than foraged or hunted foods) and can be a source of pathogens that are especially dangerous given that Sebago Lake is a drinking water supply. Around water bodies, you should always dispose of pet waste in the trash.

Know Your Septic System

On the subject of waste, do you know where the water goes when you flush the toilet? For most waterfront landowners, it's going into a septic tank and disposal field, known as a septic system, which treats waste on-site. Some properties may have holding



tanks or even cesspools if they've been around a long time (cesspools were outlawed in the 1970s, but existing ones are allowed to be used as long as they are still functional). Leaky, old, or poorly designed systems may discharge wastewater before it is properly treated – so they may be causing harm to the environment even if they appear to be “functional.” Malfunctioning septic systems and cesspools can add nutrients, bacteria, chemicals and pathogens to the lake, as well as threaten nearby wells.

Lakefront landowners should know where their septic tank and leach field are located, and should make sure to pump the tank every 3-5 years, depending on how much it is used. Older systems should be inspected by a third-party inspector to ensure they are operating properly and replaced if needed. If you still have a cesspool, consider upgrading to a septic system.

Plant a Buffer of Vegetation

One of the best things you can do for lake protection is to add plants to your property. Sure, having a lawn right down to the water's edge might be appealing, but the truth is it's not good for the lake. Lawns do not soak up stormwater nearly as well as natural forests do. During storms, rain "washes" the land

and picks up soil (which contains algae-feeding nutrients), and the fertilizers and chemicals associated with lawn care. Without a buffer between the land and the water, this cocktail of pollutants ends up in the lake.

Some lawn areas are needed for you to fully enjoy your property. But for areas that are seldom used, especially along the waterfront, consider adding native vegetation. Some common and easy to grow native buffer plants include low bush blueberry, buttonbush, bayberry, sweet fern, and bearberry. Check out PWD's publication, *Lakes Like Less Lawn*, for buffer planting tips, or call us to schedule a consultation and see if you qualify for a grant to install lake-friendly practices on your property.



DISTRICT STAFF } Nate Whalen PROFILE } Water Resources Specialist

Nate Whalen has worked for Portland Water District for 26 years. Before he became a Water Resources Specialist he spent four years working in the laboratory at the Sebago Lake Water Treatment Facility. He enjoys the people he works with, the variety of different projects he works on, and PWD's lake protection mission.

When asked if he has ever had a scary or thrilling day on the lake, Nate replied, "Many. One day I was chased down the lake by a fast-moving lightning storm while in a slow-moving pontoon boat. I abandoned the boat on a secluded beach and jogged back to the office. Another time I was 1,000 feet up in the sky in a two-seat Cessna airplane flying over the Sebago Ice Fishing Derby. The wind was blowing 30+ mph and the plane was like a leaf drifting around in the wind. The pilot was composed during the flight but said, 'wow, I'm glad we made it back' when we landed."

Nate explained that water resources specialists use science skills to understand complex environmental systems. They need good interpersonal skills to communicate with contractors, property owners, and the general public. The job requires blending these two very different personality traits together to understand and then explain the lake to the public because protecting the lake requires the participation of everyone.

While he worries about climate change affecting Sebago's water quality in the future, he says the data show that currently the lake is as clean as it was in the mid-1970s. Sebago is larger, deeper, rockier, sandier, has less aquatic vegetation, and is more transparent than 99.9% of all the lakes in Maine. Probably the world, too. On a scale from 1 to 10, Sebago Lake would get a 9.5 water quality score. How can we keep it that way? Nate suggests you "keep your rain to yourself." By that he means that any time we let rain water flow off our property, it flows into the ditch, into the nearest stream and eventually into the lake. Make sure rain water and the soil and pollutants it carries with it are absorbed into the ground and filtered by vegetation. That is the best way to keep lakes clean.



ADDITIONAL FORESTS

Conserved to Protect Sebago Lake

Sebago Clean Waters, established in 2017, is a collaborative of 11 organizations, including the District and local land trusts, whose goal is conserving 35,000 more acres of land in the Sebago Lake watershed by 2032. In 2023, our land trust partners closed on seven individual land deals that have permanently protected 1,621 acres of forests that naturally filter the water moving towards Sebago Lake. Building on conservation successes in previous years, these seven land deals bring us to nearly 16% of the watershed conserved and nearly a third of the way to our acreage goal. Portland Water District provides financial contributions to these land deals because, by naturally filtering water, forested land helps to protect the water quality of Sebago Lake. The remarkable success of Sebago Clean Waters would not be possible without landowners willing to protect the forests and wildlife habitat that make Maine the place we all love.



FLINT MOUNTAIN WILDLANDS PRESERVE Mahoosuc Land Trust

This new 295-acre forever-wild preserve in Albany Township is protected from development and open for low-impact recreation. Two separate land deals in 2023 made this preserve a reality.



TWIN BRIDGES PRESERVE EXTENSION Western Foothills Land Trust

The Twin Bridges Preserve, conserved in 2015, just got 820 acres bigger through three separate land deals. The preserve now protects over 4 miles of the Crooked River and its tributary streams in Harrison, Norway, and Otisfield.



SEBAGO COVE FOREST Loon Echo Land Trust

Roughly 360 acres right along Sebago Lake in Naples will remain forested forever to protect nearly half a mile of shorefront, this stream, and upland wetlands through a conservation easement now held by Loon Echo Land Trust.



SAWIN HILL Mahoosuc Land Trust

More forests in Albany Township will be forever-wild and will continue filtering the water moving towards the Crooked River, and ultimately, Sebago Lake. Mahoosuc Land Trust now holds a conservation easement on these 146 acres.

To learn more about land conservation in the watershed
visit www.pwd.org/land-conservation or www.sebagocleanwaters.org.



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