THE FRIENDS OF LAKE WARNER AND THE MILL RIVER

2021 SPRING/SUMMER NEWSLETTER

A Walk in the Woods

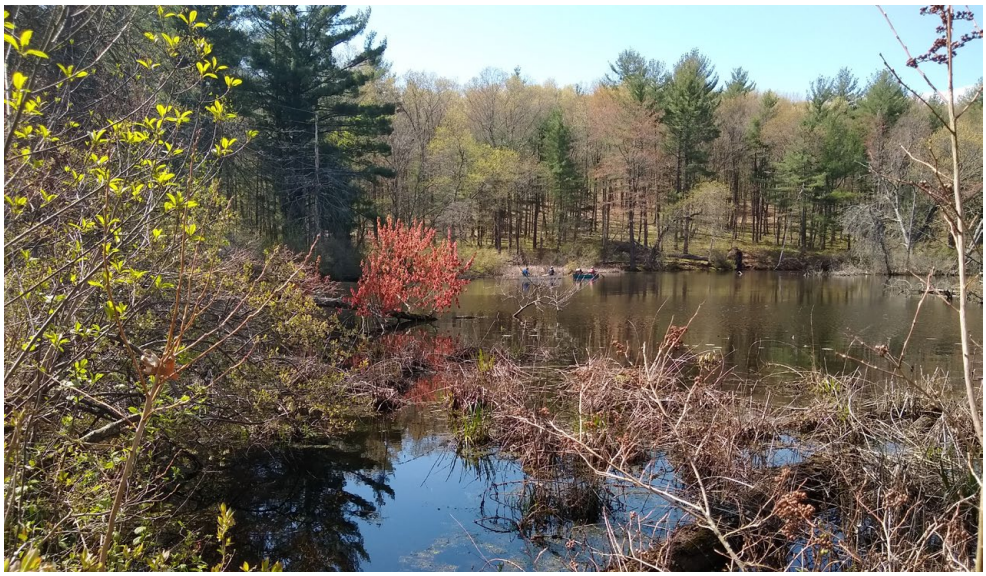
By Michele Morris-Friedman

Lake Warner's expanse of fresh water is alluring but is only a part of its charm. The lush and varied landscape that frames the lake is an attraction in itself. Given that most of the land ringing the lake is privately owned or otherwise off-limits to the public. Lake Warner enthusiasts are lucky to have a parcel , dedicated to conservation and to passive recreational use, that is open to all and reachable on foot or by boat. This parcel is commonly known as the peninsula, and can be accessed by a dirt road that runs from a small parking pad on Stockbridge Road to the north end of the lake.

I am lucky to live near the peninsula and often stop by on my way home. This spring it is where I heard my first bullfrogs and saw my first beavers and turtles. In early May I had the great fortune to walk the peninsula with Jason Johnson, our Executive Director, and David Palmer, a professor of psychology and former surveyor who generously donated his time. The mission was to check the boundary markers and signage, and in the process also note any changes on the property. Over the course of an hour or so we heard woodpeckers and myriad other birds, saw a black racer snake, tramped through skunk cabbage and ferns and poison ivy, enjoyed jack-in-the pulpit and blueberry blossoms, and noted abandoned farm implements and beaver-gnawed trees. I felt enveloped by the pulsating unfolding that is spring in New England. It was pure delight.

On the surveying mission Dave Palmer carried a stack of old deeds and maps. He pointed out that the current peninsula was once part of a large squarish parcel on the corner of River Road and Stockbridge Road. Various owners sold off parts of the original lot during the nineteenth century. In the late 1800s William Quillian sold off most of his 25 acre piece of the original parcel but retained the peninsula lot.

Why retain such a narrow, hilly and swampy lot with very little - if any - arable land? An 1859 deed mentions an adjacent plot "bounded by a private road leading to the mountain."



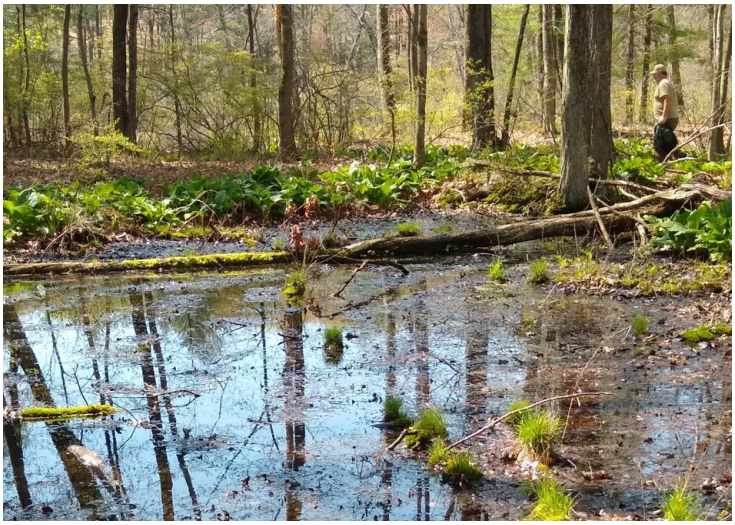
In This Issue

The Friends of Lake Warner
P.O. Box 11 Hadley, MA 01035

The dirt road we walk to go to the northern shore of Lake Warner was once a cart path that linked the neighborhood lowland pastures to grazing fields on Mount Warner via a bridge that is long-gone. When the water level of the lake is low paddlers and hikers can catch a glimpse of the former bridge's abutments.

I do not know when the bridge reached the end of its life, or the history of the peninsula during the 20th century, but I do know that we are lucky to have the parcel preserved in this century. Kestrel used a state grant to conserve the 5-acre parcel in 2008; the Hadley Conservation Commission holds a conservation restriction on it that ensures it will remain undeveloped and accessible to the public in perpetuity. When Kestrel merged with the Valley Land Fund in 2011, it acquired the Lake Warner dam as well. The dam was rebuilt in 2017; following which Kestrel handed over ownership of both the dam and the peninsula to the Friends of Lake Warner and the Mill River.

FoLW manages the peninsula according to the guidelines of the Conservation Restriction to maintain the conservation values: preserving open space, wildlife habitat, and water quality while providing opportunity for passive recreational activities. The



peninsula remains a popular fishing, boat-launching and nature observation spot. In fact, it was recognized by the National Heritage and Endangered Species Program as a Massachusetts 2006 Massachusetts Estimated Habitat of Rare Wildlife. My birding friends go there to listen for screech owls and great horned owls in the cold months, and visit at dawn and dusk in the warmer seasons to photograph the wildlife. There is much more to convey about the peninsula: its place in the larger history of Hadley; its special habitats, including rare Tupelo- Oak forest, FoLW's future plans for improving the trail and inviting the public to help in clearing invasive flora; and the importance of observing the conservation restrictions. I plan to write more in upcoming editions of the newsletter. Meantime, the public will have an opportunity to enjoy the peninsula this summer or fall on a fern walk led by Janice Stone of the Hadley Conservation Commission; check the website and the Facebook page for the date. Meanwhile, when you get the chance, stop by the peninsula and enjoy a different perspective of our beautiful lake and its surroundings.

The American Eel

By Jason Johnson

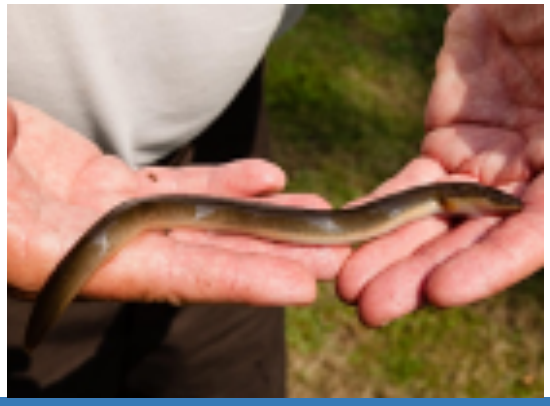
The American Eel (Anguilla rostrata) is a smooth snake-like fish with a greenish, yellow-brown to black body. Its continuous fin stretches around its rounded tail from its back to its belly. Males grow to two feet in length and females grow three to five feet in length. Adults can weigh up to 9 pounds. Their coastal range extends from Greenland to Venezuela. It lives in rivers, streams and other freshwater areas throughout the Connecticut River watershed. It is a facultative catadromous (rearing in freshwater and spawning in saltwater) fish found on the eastern coast of North America. Freshwater eels are fish belonging to the elopomorph superorder (ray-finned fish), a group of phylogenetically ancient teleosts (fish with movable jaw bones that allow them to extend them, grab prey and draw them into their mouths).The one characteristic uniting this group of fishes is they all have leptocephalus (flat/transparent) larvae.

Eels have been a part of the human diet, especially in Europe and Asia, for hundreds and even thousands of years. In many European countries, eel populations have decreased dramatically, possibly as much as 99 percent, and there has been concern that the American eel populations, particularly those in fresh water, are following that same downward spiral. American eels are economically important in various areas along the East Coast as bait for fishing for sport fishes such as the striped bass, or as a food fish in some areas. Their recruitment stages, the glass eels, are also caught and sold for use in aquaculture, although this is now restricted in most areas. Eels were once an abundant species in rivers, and were an important fishery for aboriginal people. The construction of hydroelectric dams has blocked their migrations and locally extirpated eels in many watersheds. According to the International Union for Conservation of Nature, the American eel is at very high risk of extinction in the wild. The U.S. Fish and Wildlife Service reviewed the status of the American eel both in 2007 and in 2015, finding both times that Endangered Species Act protection for the American eel is not warranted. Commercial fishing harvest is open on American eels at least 9 inches in length. You cannot harvest smaller glass eels in Massachusetts. Recreational fishing of American eels is also permitted with a daily bag limit of 25 eels. American eels are currently listed as endangered in Massachusetts.

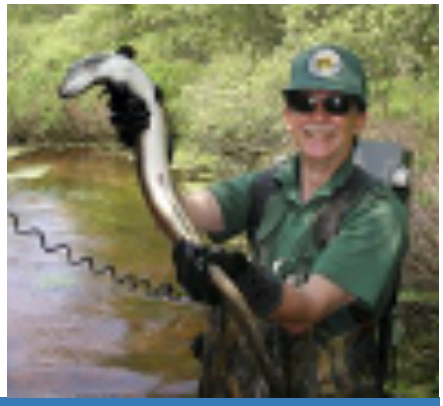
Fisheries surveys by the Massachusetts Division of Fish and Wildlife in Lake Warner in 1985 and 2015 identified American Eels as present in the lake. It's common to find American eels in undammed tributaries connected to the Connecticut River and the Atlantic Ocean. But how did adult eels get into Lake Warner, a dammed river with a 14-foot-high dam blocking passage a ¼ mile from the confluence with the Connecticut River? A dam in some form has been present at its current location since about 1670. Prior to 1670 the Mill River upstream from this site would have been available to anadromous (spawning in fresh water and rearing in salt water) and catadromous fish species migrating upstream from the Atlantic Ocean via the Connecticut River including; Atlantic salmon, American Shad, Blueback Herring, Sea Lamprey and American Eels.

Over centuries and before large flood control dams were built

Baby "Glass Eel" stage



Juvenile "Yellow Eel" stage



Adult Eel stage

throughout the mainstem of the Connecticut River, seasonal flooding would damage grist mill-dams like the one on the Mill River in North Hadley. There was a dam below the Route 47 bridge that "floated out" entirely following a large flood on the Connecticut River. The dam in its current location was damaged several times by flooding and comments from the owner to state fisheries managers in the early part of the 20th century indicate that the water level in the pond could not be guaranteed due to cracks and leaking. Even after major repairs in 1947 and the raising of the dam height by three feet, leaks ensued and the slide gate was stuck open for decades. This unintentionally allowed some access to the lake and river above the dam, where under certain flow conditions eels certainly could have gained access through the dam. Strategizing ways to support the connection upstream and downstream of the dam is an ongoing goal of the Friends of Lake Warner and the Mill River.

American Eels are an aquatic species shrouded in mystery. Even more mysterious than how they overcame the obstacle of Warner Dam is their complex life history. Eels are catadromous, meaning they live in freshwater rivers and spawn in the ocean. They are the only catadromous fish species in North America. In October, sexually mature eels swim out of tributary streams and rivers and head to the Sargasso Sea. The Sargasso Sea is an area of the Atlantic Ocean slightly northeast of Cuba and the Bahamas, east of the North American coast. The Sargasso Sea is bounded by four ocean currents. In the west by the Gulf Stream; in the north by the North Atlantic Drift; in the east by the Canary Current; and in the south by the North Equatorial Current. The Sargasso Sea is two million square miles in size and is carpeted with vast sticky brown algae called Sargassum, which is where the sea gets its name. Drifts of seaweed thousands of feet across blanket the surface, providing food and shelter for millions of creatures. In January, the eels spawn there, then die. A mature female American eel can produce 20-30 million eggs. Tiny transparent eel larvae, only a few millimeters long, drift in the ocean for 9 to 12 months. During this time, larvae transform to the "glass eel" stage, they are still almost entirely transparent, two to three inches in length. Ocean currents carry the transparent glass eels thousands of miles to the U.S. coast. Before entering the Connecticut River, the glass eels become pigmented. These brown eels, called elvers, are only about 2-4 inches long, their bodies become serpentine and muscular. Their jaw becomes developed. Their gills are small and almost completely concealed. Fins stretch along the entirety of its back and belly. Their skin develops a pigment, coloring shades from brown to yellow to grey, it becomes covered in scales so tiny they cannot be seen or felt. Some elvers stay in the river, but most continue to swim many miles upstream to smaller tributaries or lakes and ponds. After a few months, the elvers transform into the adult "yellow eel" stage. Adults remain in freshwater rivers and streams for the majority of their lives. This eel feeds at night on worms, small fish, clams and other mollusks, crustaceans and almost anything else they can catch and eat. Larger fish and fish-eating birds such as gulls, eagles and osprey prey on the American eel. The eel is a favorite prey of striped bass.

Once they have found a home they stay there, normally wandering only within a radius of a few hundred yards to forage for food. If relocated they return as quickly as they can to their chosen place. Eels caught by researchers, tagged with radio transmitters, and released many miles from their point of capture have returned to where they were captured within a week or two. No one knows how exactly how they find their way back. After as few as three, and for the females, possibly as many as 40 years living in freshwater streams, the yellow eels begin to sexually mature. Eels that remain in estuarine and marine waters undergo the same changes but mature earlier than those in fresh water. Size is the defining characteristic. Whether an eel is slow-growing (those in freshwater streams) or fast-growing (those in estuaries), their size at maturation is the same, and both sexes seem to mature at the earliest opportunity. Once they reach sexual maturity, they become silvery or black, their eyes get larger and they stop eating. American eels can absorb oxygen through their skin as well as their gills, making it possible for them to travel over land, particularly in wet grass or mud, which may help them move around barriers in streams. They swim up to thirty miles a day, sometimes as deep as three thousand feet below the surface. They may make the trip in six months or stop for the winter. Very little is still known about this migratory journey, just that they return to the Sargasso Sea to spawn and die. American eels usually live for at least five years, though some eels can reach 15 to 20 years old. Eels are one of our most mysterious residents, and though seldom seen are an important part of our river and lake ecosystem.

Evening Idyll

By Stephen Braun

It was an ordinary evening on Lake Warner. A friend and I paddled under calm, cool, overcast skies. Nothing special.

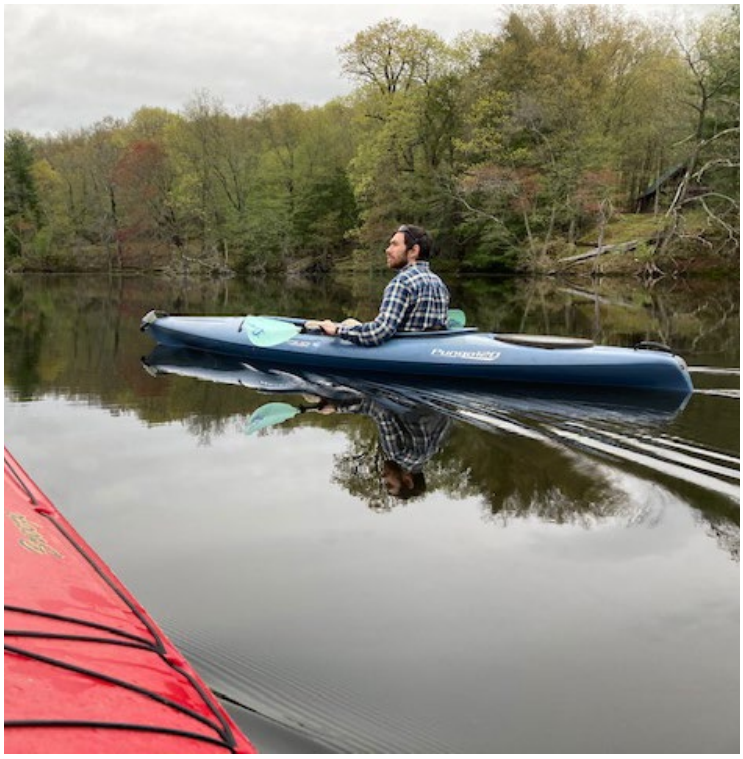
About a dozen Canada geese were paddling about near the dam. Why have these birds not joined their brethren in the typical summer breeding grounds in their namesake country? They wouldn't let us get near enough to ask, rousing themselves when we approached with a cacophony of honking and a great slap-slap-slapping of webbed feet running on the surface of the water as they worked to get their heavy bodies airborne. It's possible this crew will stay put all summer, breeding and raising their young without the usual migration. But it's more likely that these are simply stragglers using the lake as a rest stop on their way farther north.

We paddled on, and a belted kingfisher scolded us from a branch hanging over the water. They love those kinds of perches because it allows them to watch for the fish that make up much of their diet. If a potential meal swims into view, the kingfisher will plunge into the water using its distinctively long beak to grab its prey and carry it back to the perch for consumption, which often means swallowing the victim whole.

As we glided eastward the sound of traffic faded. Often we would stop paddling and drift, enjoying the quiet and the background music of mourning doves and red-winged blackbirds.

Some eastern kingbirds, flying with the speed and precision of swallows, zoomed low over the water hunting insects, although that evening was blessedly free of the wee beasties that like to dine on human flesh.

A great blue heron, its considerable bulk supported on a single reed-like leg, eyed us warily as we passed. He or she (the sexes are very difficult to tell apart) was probably trying to stay warm with its unipedal posture. That's the theory, anyway, and it certainly makes sense since bird legs are typically uninsulated. The arteries and veins of bird legs run very close together in a pattern called "rete mirabile" (Latin for "wonderful net"). This system warms blood returning from the cold feet and allows the feet to stay quite cool without unduly chilling the rest of the body. Still, that adaptation can only get you so far. Many birds, not just herons, will stand on one leg, tucking the other one up close to their bodies to further reduce heat loss. This heron seemed unfazed by our approach, although we didn't get too close, in deference to its seeming contentment.



Toward the eastern end of the lake, where it narrows into the Mill River, I noticed some small bubbles rising in the water just off my bow. Then the bubbles became a trail, moving ahead of me. I could see nothing below the surface, and no ripples betrayed an animal such as a beaver or muskrat that might be swimming just below the surface. After a minute, the trail of bubbles stopped, mysteriously. The bubbles were very small, not like those you'd expect from some animal exhaling as it swam. So I suspect that a large bottom-dwelling fish or turtle was swimming ahead of me, stirring up the muck as it went, releasing a trail of trapped gasses. But who knows? Nature is full of these kinds of miniature mysteries.

We dawdled a bit where the river became impassable without leaving the boats, then headed back. The air at that end of the lake was redolent of pine, ferns, and a clean marsh smell and evoked memories of wilderness paddles in the Adirondacks. How fine to feel so far from civilization when, in fact, we were surrounded by it.

Midway back we caught up with a pair of common mergansers, the brown-headed female sporting a classy rearward crest of feathers, the male a study in contrast, with a jet black head and back and snowy white breast and lower body.

Then, as we passed the two large beaver lodges adjacent to the small island at the western end of the lake, a mature bald eagle flew low over the water, heading northwest, flapping heavily, with a fish clutched in its yellow talons. I've seen enough eagles to know that sometimes these creatures can look quite ratty indeed, and they have a deadly seriousness to their disposition that I find a bit unnerving. Nonetheless, they are simply magnificent, and I can't help thrilling at a close encounter.

Bald eagles are worth a column of their own, but I'll just mention one aspect of their physiology I find amazing: their visual acuity. Eagles have roughly a million cells per square millimeter packed in the fovea of their retinas, compared to about 200,000 cells/mm2 in humans, and they can see a wider spectrum of colors than we can, including ultraviolet. What I wouldn't give to see the world through an eagle's eyes for just a few minutes!

We watched the eagle depart, then finished the paddle. It had been a perfectly ordinary evening on Lake Warner…and perfectly extraordinary.

[Editor's note: a version of this article originally appeared in the online Amherst Independent.]

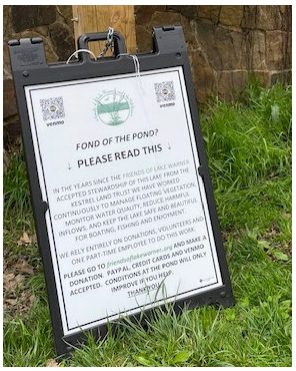
Meet FoLW's New Board Member - Melissa Frydlo

I joined the Friends of Lake Warner in March of this year, simply, because of the fine, extremely respectable, existing board members. There is great energy in this group and I expect to learn a lot. I believe it is important to contribute to the local and global natural and built environment and to collaborate with the people in our lives. I want to help in anyway that I can to meet the Friends of Lake Warner's existing goals and be a part of making new ones. I come to the board with a couple decades and a half of volunteerism, serving on boards. With that, I am inspired by the age in which we live in and appreciate the amazing ways in which we are able to share information and communicate with one another. The board is a very communicative, open, fun group in which to practice and experience this. My current chapter in life is to build teams to develop, shape and reshape the Western Massachusetts region through conscious growth. I am beginning to write about such ideas which revolve around a thematical, economic development approach. Since we are fortunate to be in an intellectual corridor, we can easily harness, what I consider, this renewable resource. The world is expanding too quickly to comprehend, with the most amazing innovation, technologies and common visions. I run my own business and have just begun to develop my ideals. We are beginning to scale and develop exciting projects with the greatest satisfaction I could ever imagine and I am not even in the thick of things. I very much look forward to serving the Friends of Lake Warner for the next couple of years and whole-heartedly thank the board for voting me in.

Survey for Healthy Soil

American Farmland Trust and the Massachusetts Department of Agriculture have convened a Soil Health Advisory Committee who are working to identify how technical support and financial assistance for healthy soils practices can be strengthened in the Commonwealth. Your feedback will help to inform and shape future technical support, financial assistance, and other programs. Provide feedback by May 31st at https://www.surveymonkey.com/r/MASoilHealth

New Fishing Line Recycling Container Installed at the Boat Ramp!



Big thank you to David Moskin for constructing and installing Fishing Line Recycling Container and Venmo Signs!

2021 SPRING AND SUMMER CALENDAR OF EVENTS AND ACTIVITIES

Workshop
May 27, 9:00 am - 1:00 pm

The Massachusetts Department of Public Health (DPH) will be hosting a virtual half-day Harmful Algal Bloom (HAB) workshop. Registration is free. To register for the event, please use the following link:
https://attendee.gotowebinar.com/register/4539157148566370062

Hike & Cider
May 29

Adventure East is having a lake hike and Carr's cider tasting event. You can sign up at Adventure East's website at:
https://www.adventureeast.com/

Water Chestnut Pulls
June 13 and 26
July 17 and 18 (rain date)
August 7, 22, and
August 28/29 (if necessary)

Water Chestnut Pulling Events Meet at the Lake Warner Boat Ramp at 10 am on the following dates, or pick a date to participate and pre-register. Bring water, lunch, and your own boat and life jacket. If you need a boat, please call Jason ahead of the date to reserve one, 413-320-3386, or friendsoflakewarner@gmail.com

Watershed Summit
September 20 - 23, from 12:00 -1:30 daily

The Friends of Lake Warner is hosting an inspiring Watershed Summit from September 20th -23rd, from 12:00-1:30 daily. Sixteen speakers in four days and an innovation contest for anyone wanting to participate from September 24th-26th. The cost to attend is twenty-five dollars and free to students through Eventbrite. All proceeds will go to the Friends annual operating budget. An email with more details and updated information as the event gets nearer.

Please contact event organizer Melissa Frydlo at: melissa.frydlo@outlook.com with questions.

Temporary Event Website:
https://melissafrydlo.wixsite.com/watershed-summit

Event Trailer: https://youtu.be/ZMijlTYPdIg

Eventbrite link: https://www.eventbrite.com/e/friends-of-lake-warner-watershed-summit-10-tickets-156152134237

Fern Walk
Date and Time to be determined

Stay tuned for a Fern walk on the peninsula in late summer or early fall.

Lake Warner Plein Air Painting

If you are interested in participating at an event at Lake Warner contact Susanne Personette at susannepersonette@gmail.com

In Memoriam

William J. Dion Jr. of Hadley, 56, affectionately known to most as Billy D., passed away on February 28th after a long, courageous battle with cancer. He was born in Northampton on September 26, 1964 to William Sr. and Margaret (Devine) Dion. Billy graduated from Hopkins Academy, where he excelled at soccer and basketball. He went on to graduate from the Stockbridge School of Agriculture and the University of Massachusetts with degrees in Animal Science. Billy's biggest passion was his profession as a farmer. He was so proud to have been a partner in Devine Farms Inc, established in 1905 by his grandfather John Devine Sr. Billy was a well respected Herdsman who really understood and cared for the cows. He could often be heard in the barn referencing the cows by their number, and letting them know "I am not in the mood today". Billy enjoyed many pleasures and interests with his family and wide circle of friends. He especially loved all types of sports, both competing and as a fan. He was a fierce competitor on the field or the ice, earning him many awards throughout his life. He loved watching the Boston Bruins and attending the games with friends. Billy also spent a lot of time on the water fishing, whether it was on the ocean, the river or a frozen pond.

Composed By The Side Of Grasmere Lake, 1806

by William Wordsworth

CLOUDS, lingering yet, extend in solid bars
Through the grey west; and lo! these waters, steeled
By breezeless air to smoothest polish, yield
A vivid repetition of the stars;
Jove, Venus, and the ruddy crest of Mars
Amid his fellows beauteously revealed
At happy distance from earth's groaning field,
Where ruthless mortals wage incessant wars.
Is it a mirror?--or the nether Sphere
Opening to view the abyss in which she feeds
Her own calm fires?--But list! a voice is near;
Great Pan himself low-whispering through the reeds,
'Be thankful, thou; for, if unholy deeds
Ravage the world, tranquillity is here!'

HOW TO DONATE TO FOLW

Mail donations to:
The Friends of Lake Warner
P.O. Box 11 Hadley, MA 01035

Donate at our website:
http://friendsoflakewarner.org/donate/

Venmo donations using this QR code. →

Please Join The Friends of Lake Warner and The Mill River. We Need You!

We are a non-profit, citizen community organization. • Members receive a bi-annual newsletter. • Members are invited to participate in our activities, workdays and social events. • Your tax-deductible dues support our efforts to preserve, clean and maintain our lake. • Your dues also support the printing cost of our brochures and newsletters.

I want to join ☐ Individual membership - $25 ☐ Family membership - $35 ☐ Sustaining membership - $100

Name _____ Phone _____

Street Address _____ City _____

State _____ Zip _____ Email _____

Please make checks payable to: Friends of Lake Warner (FOLW) Checks should be mailed to: Friends of Lake Warner, PO Box 11, Hadley, MA 01035