

NOAA's Restoring Fish Passage through Barrier Removal Grants Under the BIL and IRA

A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure Around the Lily Pond, Deer Isle, Maine

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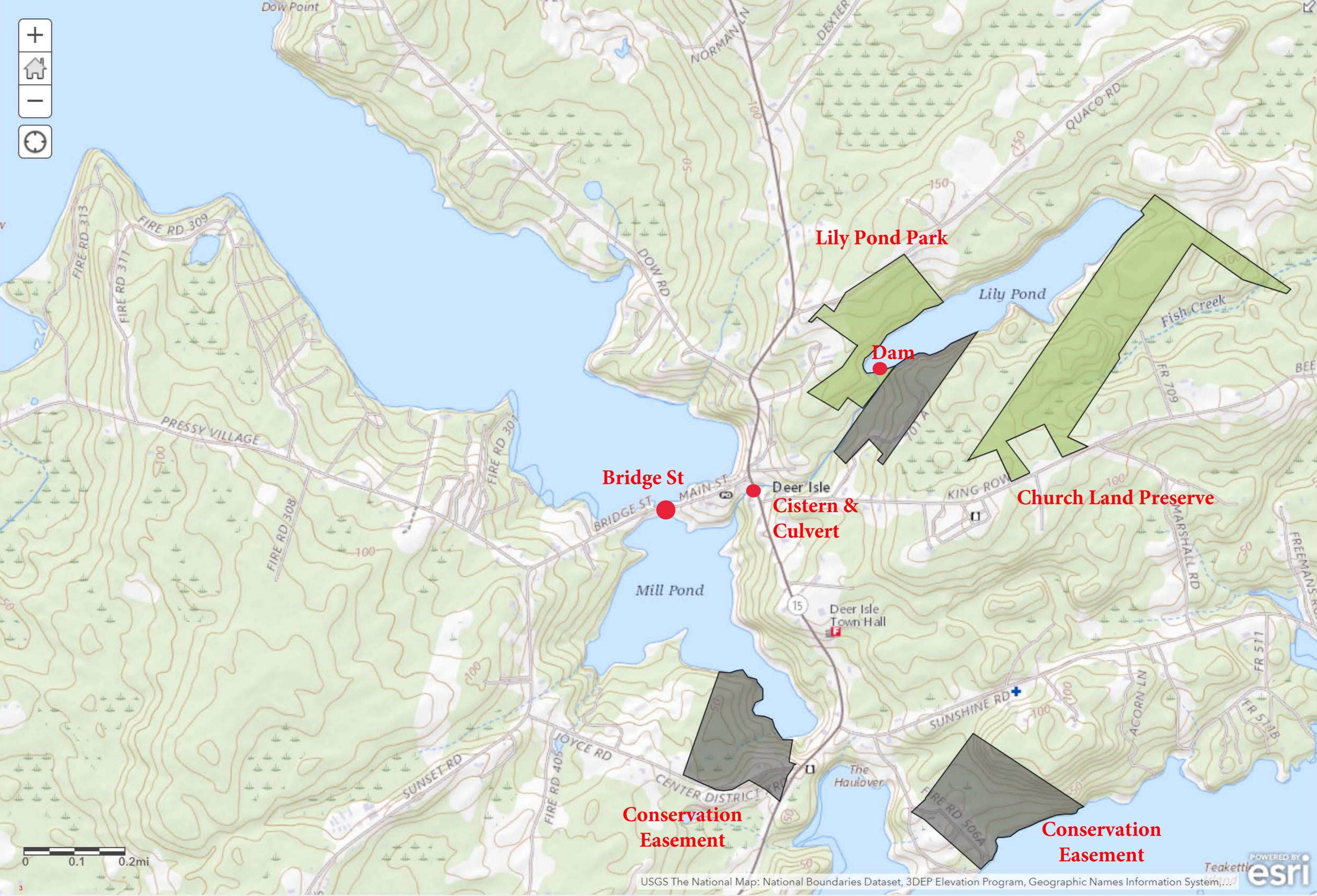
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ACADIA CIVIL WORKS



From:	Skelley, John
То:	twurglitz@islandheritagetrust.org
Cc:	pmiller@islandheritagetrust.org; Ayotte, Tara; Manzi, Andrew; Mallory, Steven
Subject:	RE: Lily Pond Dam Issues
Date:	Friday, December 20, 2019 10:27:33 AM
Attachments:	Lily Pond Report - 2013.pdf Vegetation on Left Embankment.JPG Seepage Path to Spillway Outlet.JPG Left Embankment.JPG Beaver Deceiver Vegetation.JPG Erosion on Left Embankment.JPG

Hi Tenley,

It was great to meet out in Deer Isle this past Wednesday 12/18 to partially inspect the Lily Pond Dam, a significant hazard dam as classified by MEMA. As you had alerted our office earlier this week, the spillway of the dam wasn't able to pass the flow from the rain event over the weekend, and the Pond was draining around the concrete spillway section. Please keep in mind that the following notes are not indicative of a formal inspection; a formal inspection will be performed in the spring of 2020 when ground cover and weather permits. Attached is an inspection email from my predecessor detailing his inspection back in 2013. Please let me know if you have any questions or need any more info.

Notes:

- The day was intermittent clouds and sun with a slight breeze, temps around 25F
- Light snow cover on the ground around the dam, and on top of the dam; approximately 2-3 inches in some places.
- The pond appears to still be at a high level from the recent rain event, freeboard averaged from approximately 0.75' to 2 feet along top of dam.
- Present: J. Skelley, A. Manzi, T. Wurglitz
- Findings:
 - Spillway
 - All immediate flow being diverted around the spillway opening had stopped, but the ground alongside the spillway outlet was still saturated
 - The concrete appeared to be in fair condition
 - It appears that the left concrete spillway wall (looking downstream from the top of the dam) may be rotating inward toward the spillway channel
 - It appears the spillway is fairly undersized, but a hydraulic analysis will need to be done in order to confirm
 - One stop log had been raised to the "open position"
 - A "Beaver Deceiver" was apparently just installed near the spillway this past year
 - Pond plants, sticks, and reeds have accumulated around the device fencing, and may be restricting drainage flow out of the spillway.
 - Right Embankment (looking downstream from top of dam spillway outlet)
 - No major issues could be seen due to snow cover, but the height of the dam appeared to only provide around a foot or so of freeboard (extra capacity to store water in relation to the top of dam elevation and the current water elevation)
 - Left Embankment (looking downstream from top of dam spillway outlet)

- The top of dam elevation varied significantly along this embankment section, probably due to historical overtopping and footpath traffic
- The embankment itself varies in width. No exact measurements were taken, but the width of embankment near the spillway is estimated to be about 10 feet, but in other sections, particularly around the middle of the embankment, the width is estimated to be only about 5-6 feet.
 - The width of the dam is important because the weight associated with the material in the dam helps resists the overturning and sliding forces that the water puts on the dam. Less material means less resistance, which means high chance of failure
- There seems to be erosion in the top of the embankment causing loss of stonework (sliding down to the drainage swale below) or loss of soil cover
- There is a drainage swale at the toe of the dam that directs runoff from the hill next to the dam into the downstream spillway channel
 - This appears to be natural
 - At the time of inspection, the ground was still wet and standing water was present. The storm had ended about 3 days prior to the inspection, so any runoff should have ceased at that time. There could also be pools of standing water as well.
 - Given the time delay between the storm and there still being water present at the toe of the dam, this is indicative of seepage through the dam. This is further reinforced by seeing what appears to be iron bacteria in the water (usually a result of groundwater interacting with minerals in the soil).
 - This seepage was noted by my predecessor all the way back in 2013
 - Remedial actions detailed in this report include reducing the water level in the pond to relieve the dam of hydraulic pressure (we discussed this actually, but at the time I did not know the history of the dam)
 - Other actions include hiring an engineer to assess the dam and recommend actions to improve the safety of the dam
 - Remove vegetation from the embankments
 - Clear vegetation and maintain clear flow paths around the spillway
- There are a number of trees and shrubs within both embankment confines
- Recommendations: As discussed on-site please look into the following remedial actions-
 - Immediate:
 - Research and hire a qualified engineer to assess the dam and recommend courses of further remedial action
 - Remove vegetation on the embankments, including stumps where applicable (should be done under the direction of a licensed professional engineer and removing stumps within the embankment can cause instability and a proper fix to the embankment will need to be done after the stumps are removed)
 - Clear the spillway structure of debris around the Beaver Deceiver and keep the structure clear

- Potentially sandbag the outlet structure and raise low points in the top of the dam to create more freeboard in the event of high water
- Discuss with the fire chief on the island with the potential of lowering the pond even further while still having the water access for fire-fighting demand.
 - We had discussed this on site and I wasn't sure what the probability of it happening was, but after reading past inspection notes on the dam (noted as "poor" all the way back in the early 2000s) it would be prudent to lower the lake level as much as possible until further notice
- Complete the Emergency Action Plan (EAP) which is currently being worked on, and exercise it when possible. Tara Ayotte of MEMA has been providing assistance on this matter.
- Long-Term:
 - A redesign or improvement of the spillway is likely needed to pass flows of certain storm intensity and frequency
 - The left embankment structure may need a complete rebuild, but this should be determined by a licensed professional engineer

We will place the Lily Pond Dam on our monitor list and make all the effort to make trips out to Deer Isle when requested. Please do not hesitate to ask any questions, or have us visit the dam and meet with you personally if you feel you need clarification on anything.

Thanks,

John Skelley, P.E.

State Dam Inspector Maine Emergency Management Agency 72 State House Station 45 Commerce Drive Augusta, ME 04333 Desk: (207) 624-4465 | Cell: (207) 458-9556 john.skelley@maine.gov



STATE OF MAINE JANET T. MILLS GOVERNOR MAJ GEN DOUGLAS A. FARNHAM COMMISSIONER STATE OF MAINE DEPARTMENT OF DEFENSE, VETERANS AND EMERGENCY MANAGEMENT MAINE EMERGENCY MANAGEMENT AGENCY 72 STATE HOUSE STATION AUGUSTA, MAINE 04333-0072 PHONE: 207-624-4400/800-452-8735 FAX: 207-287-3178



Peter J. Rogers Director

DAM SAFETY

March 8, 2022

Island Heritage Trust Attn: Alex Drenga PO Box 42 Deer Isle, ME 04627

Subject: Acknowledgment of EAP #106 Lily Pond Dam

Dear Mr. Drenga:

Thank you for sending the updated information for the Emergency Action Plans & Notification Procedures for the Lily Pond Dam dated March 4, 2022. The EAP's will remain "current" on our database until March 4, 2024.

Should you have any additional updates between now and the next scheduled revision date, please notify our office immediately. Our office appreciates the efforts of all involved in public safety. I will send a reminder about the required revision prior to its expiration.

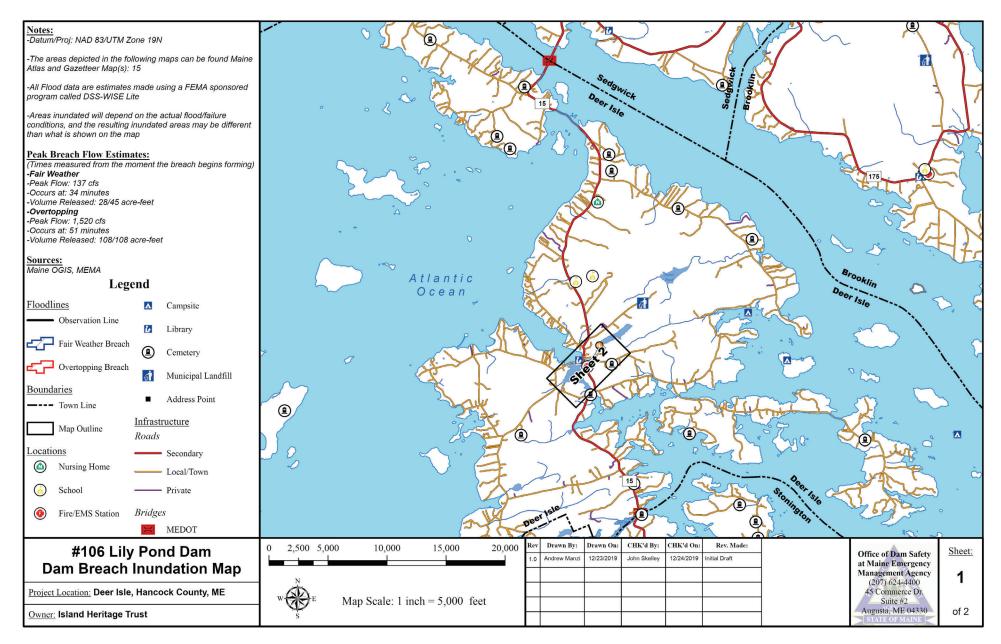
Best Regards,

Tara apotte

Tara Ayotte Dam Safety Administrator

CC: Andrew Sankey, Hancock County EMA Director

VI. INUNDATION MAPS



D Bridge St./Mill Pond Outlet Fair Weather Stormy Day Time to Wave Arrival 1 hr 7 min 33 min Time to Peak Stage 1 hr 20 min 3 hr 28 min River Rise (ft) 0.5 2 Peak Flow (cfs) - 30	Brugess		Deer is eRd	QuacoRd
		Village Insert	time to Peac River Ris	17 High Clearing Rd Fair Weather Stormy Day ve Arrival 33 min 11 min ak Stage 40 min 53 min
	Time to Wave Arrival Time to Peak Stage River Rise (ft) Peak Flow (cfs)	30 King Row Fair Weather Stormy Day 39 min 15 min 45 min 55 min 2.5 7 130 1,510 Church St. Fair Weather Stormy Day	Mainest C C C C C C C C C C C C C C C C C C C	
#106 Lily Pond Dam Dam Breach Inundation Map	Time to Wave Arrival Time to Peak Stage River Rise (ft) Peak Flow (cfs)	43 min 19 min 48 min 56 min 2.5 5 130 1,510 500 Rev Drawn By: Drawn On: CHK'd By:	State Rev. Made: 12/24/2019 Initial Draft	Office of Dam Safety at Maine Emergency Management Agency (207) 624-4400 2
Project Location: Deer Isle, Hancock County, ME Owner: Island Heritage Trust	Map Scale: 1 inch = 400 feet			45 Commerce Dr. Suite #2 Augusta, ME 04330 STATE OF MAINE



Joseph M. McLean, PE

Principal Engineer Licensed in ME, NH, MA, & RI

Acadia Civil Works Leeds, ME 2018 – Current Principal Engineer Owner/Founder	In 2018, Joe McLean founded Acadia Civil Works with a vision to provide clients with exceptional service and value, while also designing responsible civil engineering infrastructure for the public and environment. As the Principal Engineer and Owner of Acadia Civil Works, Mr. McLean brings two decades of civil engineering design and construction management experience to his client's projects. With a focus on water resources and environmental restoration, Mr. McLean provides sound technical expertise in the design of traditional civil engineering infrastructure for an array of municipal, state, and federal clients, as well as non-governmental organizations.
Wright-Pierce Topsham, ME 2010 - 2018 Senior Project Manager Civil Team Leader Associate Shareholder	 Supervise engineering staff across multiple regional offices Technical focus on water resources and civil infrastructure Management of multi-disciplinary project teams Mentor to junior engineering and technical staff Business development across northern New England
Sebago Technics/ Technical Services, Inc. Lewiston & Auburn, ME 2004 – 2010 Project Manager Lead Project Engineer	 Managed variety of civil, municipal, and private projects Lead engineering design on major site developments Developed internal standards on technical initiatives Coordinated permitting with State and Federal regulators Facilitated public meetings and presentations
Gorrill-Palmer Gray, ME 2002 – 2004 Project Engineer	 Assisted in assembly of technical construction specifications Supported project civil engineering design efforts Wrote technical reports and engineering memorandums On-site construction management for various clients
Modern Continental Construction Boston, MA 1999 - 2002 QA/QC Engineer Traffic Manager CAD Technician	 Supervised traffic management and planning efforts Inspected structural construction for quality assurance Coordinated with State and Federal Inspectors CAD coordination with multi-disciplinary design team Supported Superintendents with RFI requests and design Developed creative construction sequencing processes
Tufts University Medford, MA Class of 2001	 Bachelor of Science in Civil Engineering President, ASCE Student Chapter Linebacker/Defensive End, Varsity Football Captain, ASCE Steel Bridge Team
Accreditations	 Leadership in Environmental Engineering Design (LEED AP) Certified Professional in Erosion and Sedimentation Control (CPESC) Certified Erosion, Sediment, and Stormwater Inspector (CESSWI)

Recent Resume Project Highlights



Dam Evaluation, Rehabilitation, Reconstruction and Removal

- Veazie Dam Removal Veazie and Eddington, ME
- Second Roach Pond Dam Reconstruction Unorganized TWP, ME
- Mittersill Alpine Resort Dam Rehabilitation Franconia, NH
- College Pond Dam Spillway Reconstruction Weston, MA
- Old Wilton Reservoir Dam Assessment Wilton, NH
- Pleasant Lake Dam Breach Analysis New London, NH
- Cranberry Meadow Pond Dam Reconstruction Peterborough, NH
- Calef Lake Dam Assessment Auburn, NH
- Upper Dam of Martin Brook Removal Madawaska, ME
- Wenscott Reservoir Spillway Rehabilitation North Providence, RI
- Rainbow Lake Dam Reconstruction Unorganized TWP, ME
- Marston Mills Dam Assessment Barnstable, MA
- Bristol Mills Dam Assessment Bristol, ME
- Sabattus Lake Outlet Dams Assessment Sabattus, ME
- Marsh Stream Dam Assessment Frankfort, ME
- Temple Stream Dam Assessment Farmington, ME
- Durham Reservoir Dam Breach Analysis UNH, Durham, NH

Fish Passage and Fishway Structures

- Patten Stream "Nature-like" Fishway Surry, ME
- Center Pond Fishway Improvements Phippsburg, ME
- Nequasset Lake Fishway Reconstruction Woolwich, ME
- Dresden Bog Fishway Evaluation Dresden, ME
- Togus Pond (Lower) Dam Fish passage Improvements Chelsea, ME
- Megantic area Ponds Fish Passage Improvements Unorganized TWP, ME
- Middle Pond Fishway Flume Restoration Barnstable, MA
- Long Pond Fish Passage Improvements Barnstable, MA
- South Branch Lake "Nature-like" Fishway Sebois, ME
- Orange River Dams Fish Passage Assessment Whiting, ME
- Bagaduce River "Nature-Like" Fishways Penobscot and Brooksville, ME

Stream and Riverine Crossing Structures

- Blackstone Brook Bridge Reconstruction Blanchard TWP, ME
- Transfer Station Bridge Replacement Weston, MA
- Lubberland Creek Crossing Assessment Newmarket, NH
- Crystal Brook Culvert Replacement Mount Chase, ME
- Wallace Shore Road Marsh Restoration Harpswell, ME
- Red Mill Lane Culvert Replacements Rye, NH
- Thomaston Road Culvert Replacement Rockland, ME
- Stone Box Culvert Rehabilitation Concord, NH
- Moose Brook Bridge and Stream Restoration Houlton, ME
- Warm Brook Culvert Replacement Phillips, ME
- Hampshire Road Culvert Replacement Brownfield, ME

Municipal Infrastructure

- Southside Drainage Project Weston, MA
- CSO Separation and Complete Streets Reconstruction Lebanon, NH
- Spring Street Reconstruction Hallowell, ME
- Elm and Belknap Streets Reconstruction Dover, NH
- Main Street and Cemetery Road Reconstruction Somersworth, NH
- Brunswick Naval Air Station Redevelopment Brunswick, ME
- Richardson Street Flood Mitigation Bath, ME
- Town-wide Drainage Infrastructure Assessment Rye, NH
- Taylor Pond Outlet Evaluation Auburn, ME



Town of Deer Isle, Maine

P.O. Box 627 Deer Isle, ME 04627 207-348-2324

October 5, 2023

To Julia Zell,

Select Board Ronald Eaton Peter Perez Percy Brown

Staff James Fisher Town Manager

Judy Dunham Treasurer Tax Collector

Heather Cormier Town Clerk

Ed Billings Environmental Planner

Kenneth Eaton Road Foreman

Brent Morey Fire Chief

Chris Robbins Transfer Station Operator

Raelene Pert Shellfish Warden

The Town of Deer Isle Selectboard is happy to support the NOAA proposal by Island Heritage Trust for stabilizing the Lily Pond Dam, improving fish passage under Route 15 and creating a replacement supply of water for the fire department.

Lily Pond is a valuable asset to the Town of Deer Isle providing all-season recreational opportunities and an emergency water supply for our fire department. This grant will make Lily Pond more sustainable and will facilitate necessary improvements to the Lily Pond Dam.

This project may also serve as a model for coordinated planning and infrastructure development between Island Heritage Trust, MaineDOT and the Town of Deer Isle to pursue our multiple objectives. Please do not hesitate to contact the town if you need additional information or technical support for this initiative.

Ronald B. Eaton

Peter P. Perez

Percy L. Brown



207-367-2351 / www.stoningtonmaine.org

October 16, 2023

Re: Opportunity #NOAA-NMFS-HCPO-2023-2008056

Application title: A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure around Lily Pond, Deer Isle Maine

To whom it may concern,

On behalf of the Town of Stonington, Maine, we offer this Letter of Support for Island Heritage Trust's project to remove two barriers and to rehabilitate the Lily Pond Dam to restore aquatic connectivity from the Lily Pond to the Mill Pond.

This project benefits our entire island community in multiple ways, and we are grateful for the opportunity to address these issues and to improve community infrastructure and resilience.

The Lily Pond is one of the island's most beloved recreational assets. Island residents and summer visitors alike flock there to enjoy swimming, fishing, walking, and ice skating through the year. Rehabilitating its ancient and deteriorating dam in order to install a nature-like fishway provides unparalleled community benefit on its own merits.

In addition to the dam, this project includes replacing the undersized culvert beneath the island's primary transportation corridor that connects this fish passageway to its outlet. Replacement of this culvert will not only improve fish passage but also create needed resilience for State Route 15 in light of the more frequent and severe storms and flooding we experience due to climate change. This work also includes long overdue replacement of an aged firewater supply system which is currently one of the barriers to aquatic connectivity.

Our primary transportation corridor, State Route 15, is a vital economic lifeline for Stonington – Maine's #1 Lobster Port in value and amount of landings. Multiple truckloads of lobster, as well as granite quarried from Stonington's Crotch Island, transit this corridor daily getting our product to market and bringing labor to our harbor. It is part of our Economic Resiliency Strategy, adopted in June 2023, to maintain this infrastructure for safe, all-weather passage.

Together, these four different actions improve fish passage and provide benefits to our entire community. Thank you for this opportunity to support these impactful efforts. We look forward to further discussions.

Most sincerely, Linda L. Nelson, Economic & Community Development Director, Town of Stonington

Linda L Nelson



September 22, 2023

NOAA Grant Review Committee

Re: Proposal by Island Heritage Trust at Lily Pond, Deer Isle, Maine

To Whom it May Concern:

I write this letter to express the enthusiastic support of Maine Coast Heritage Trust for the application to funding opportunity NOAA-NMFS-HCPO-2023-2008056 for Restoring Fish Passage Through Barrier Removal, by Island Heritage Trust for the Project entitled: A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure around the Lily Pond, Deer Isle Maine.

Led by the local land trust on this coastal island community, this project is centered around removal of an existing earthen dam barrier and involves a multi-year, multistep plan to restore the health and connectivity of the entire stream and pond system. Because the stream runs under a state route and through a village center, this project involves many community stakeholders and will provide community and economic benefits including improved transportation safety and infrastructure resilience; and improved fire safety infrastructure resilience and access for all of the residents of these coastal island towns. This project builds on years of proactive conservation work around Lily Pond -- not only important ecologically as one of the few freshwater ponds on this coastal island, but also a beloved community recreation destination for swimming and ice skating.

Maine Coast Heritage Trust is pleased to play a partner role in this effort. MCHT partnered in the conservation efforts around this pond for two decades, and has been involved since the early days of this barrier removal project by providing staff time and technical advising to Island Heritage Trust, which we plan to continue.

I hope that you will not hesitate to contact me if additional information is needed or with any questions.

Cine S. reelist

Ciona S. Ulbrich Senior Project Manager

James A. Saltonstall 1045 North Road 895 Southern Bay Road Carlisle, MA 01741 Penobscot, ME 04476

NOAA Grant Review Committee

October 12, 2023

Re: Proposal by Island Heritage Trust (IHT) at Lily Pond, Deer Isle, Maine

To Whom it May Concern:

I write this letter to express the enthusiastic support of the Bagaduce Watershed Association for the application to Restore Fish Passage Through Barrier Removal, submitted by Island Heritage Trust and identified as NOAA-NMFS-HCPO-2023-2008056. This project in entitled: A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure around the Lily Pond, Deer Isle, Maine.

I understand that Island Heritage Trust (IHT) in Deer Isle, Maine is proposing this project to restore fish passage from Northwest Harbor into Lily Pond via Eel Creek on Deer Isle. Further, I understand that IHT has been using some of the work recently completed in the nearby Bagaduce River watershed as a model.

I am writing as the current President of the Bagaduce Watershed Association. I have followed and supported the series of projects in the Bagaduce watershed that have resulted in the Bagaduce being the first "accessible" river in Maine to river herring, trout, other fish and eels. This work, coordinated by Maine Coast Heritage Trust and Blue Hill Heritage Trust, involved the removal of several dams, improving fishways and providing a source of pond water to use as needed by local fire departments. My understanding is that the proposed Lily Pond project will have similar goals.

Not only has the Bagaduce project fully restored fish passage, but it has generated considerable community support. Members of the Blue Hill Peninsula communities have rallied around the Bagaduce projects – they followed the construction, they "checked out" the work and many individuals have volunteered to "count alewives" in the last few years to verify the increases in fish passage. Our local news media have also "advertised" the whole process to keep community members informed and involved. These projects have been a real source of pride in our communities.

I wish the same for the Deer Isle community.

James & Saltonstall

James A. Saltonstall, President, Bagaduce Watershed Association



LETTER OF SUPPORT

October 13, 2023

Melanie Gange NOAA Office of Habitat Conservation Melanie.Gange@noaa.gov

Dear Ms. Gange,

I am writing on behalf of the Downeast Salmon Federation in support of Island Heritage Trust's (IHT's) Restoring Fish Passage Through Barrier Removal Grant application for *A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure around Lily Pond, Deer Isle Maine*. Lily Pond is a 37-acre freshwater pond situated in a 297-acre watershed. Most of its shoreline is currently undeveloped, but development pressures persist. It is regularly stocked by the Maine Department of Inland Fish and Wildlife with Brown and Brook Trout and is highly valued by local anglers. Apart from presumed American eel migration, the existing barriers are a complete block to the other Target Species. This watershed is located within the USFWS Atlantic Salmon DPS and NOAA's Penobscot Watershed Habitat Focus Area (HFA).

This project is primarily focused on alewife, sea-run rainbow smelt, sea-run brook trout, American eel, and forage fish population restoration and sustainability. Removal of these barriers would restore access to freshwater refuges and spawning habitats for target species populations. The Town of Deer Isle is coordinating with the Maine State Department of Transportation to replace the narrow culvert passing under Route 15. In addition to improving infrastructure resilience to the effects of sea level rise, the project will remove two complete barriers to migratory fish passage from the Mill Pond to the Lily Pond, ultimately freeing a complete watershed to allow fish passage through Northwest Harbor to Penobscot Bay.

The Downeast Salmon Federation's mission is to conserve wild Atlantic salmon, other sea-run fish and their habitats, restore a viable recreational salmon fishery, and protect other important river, scenic, recreational, and ecological resources in eastern Maine.

Dungue Mh

Dwayne Shaw Executive Director



October 13, 2023

The Maine Center for Coastal Fisheries would like to express its support for the Island Heritage Trust (IHT) Project to restore connection between Lily Pond and the marine environment.

IHT is working on this project because it is something that the community cares about and knows the benefits of doing this kind of work. This work is in line with the "bottom up" approach that is MCCF supports, where work is led by the communities that are harmed by disconnected systems and that will benefit once they are connected.

MCCF will support this project in any way that it can, through letters of support, but also in work to help build a coalition and a plan around post restoration monitoring that IHT plans to undertake to show the true benefits of this work.

This work will be part of community, regional and statewide work to look at sustainability and infrastructure and ecosystems in the same view and to take a holistic look at our collective futures.

We stand beside our partner IHT in this work and very much recommend it for funding. Please reach out with any questions.

Sincerely,

Mike Thalhauser Collaborative Management Specialist

Alexa M. Dayton, PhD • Executive Director MCCF Board of Directors

Joan Sorensen, Chair • Dave Thomas, Vice Chair • Charles Rudelitch, Treasurer • Jane Osborne, Secretary Marsden Brewer • Michelle Carter • Dwight Carver • Elizabeth Jewett • Nancy Knowlton James Markos • Sarah McCloskey • Dana Morse • David Tarr • Carl Wilson October 13, 2023 NOAA Grant Review Committee Re: Proposal by Island Heritage Trust at Lily Pond, Deer Isle, Maine

To Whom it May Concern:

I am writing to express the enthusiastic support of Downeast Trout Unlimited (DETU) for the application to funding opportunity NOAA-NMFS-HCPO-2023-2008056 for Restoring Fish Passage Through Barrier Removal, by Island Heritage Trust for the Project entitled: A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure Around the Lily Pond, Deer Isle, Maine.

Downeast Trout Unlimited (DETU) is a local chapter of Trout Unlimited, a national conservation organization with over 400 chapters and state councils, whose mission is to protect, conserve, and restore native cold water fish species and their habitat. DETU partnered with Island Heritage Trust earlier this year to provide brook trout fishing and flytying demonstrations and educational activities for area youth on Lily Pond. Maine has the largest remaining population of native Brook Trout in the United States as well as the largest number of sea-run brook trout in the country. Lily Pond has been known to support a Brook Trout population; DETU is extremely interested in providing connectivity to the ocean on coastal streams, thus increasing access to the ocean for Brook Trout. This project, in addition to improving coastal Brook Trout habitat, will increase the opportunity for educational and recreational activities for residents young and old in Downeast Maine.

Sincerely, Robert Packie

Robert Packie, President Downeast Chapter, Trout Unlimited <u>rbpackie@gmail.com</u> PO Box 117 Hulls Cove, ME 04644



October 12, 2023 NOAA Grant Review Committee Re: Proposal by Island Heritage Trust at Lily Pond, Deer Isle, Maine

To Whom it May Concern:

I write in support of Island Heritage Trust's pursuit of application to federal funding opportunity NOAA-NMFS-HCPO-2023-2008056 for Restoring Fish Passage Through Barrier Removal, for the project entitled: A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure around Lily Pond, Deer Isle Maine.

I have taught at Deer Isle Stonington Elementary School since 2011 and I am a fervent believer in embedding outdoor learning into the school culture. I have brought my students to the Lily Pond Park every school year since. I have also visited the park with the Nature Club from our After School Program. This park has given us opportunities to observe and record the phenology of the area as well as tree identification and issues involving invasive species. I am excited at what this project will provide for new learning opportunities on Deer Isle.

Island Heritage Trust seeks to rehabilitate the Lily Pond Dam and remove two complete barriers to fish passage within Lily Pond's watershed. With the success of this project, students will visit the pond to learn about the importance of aquatic connectivity and the widespread benefits of freeing a complete watershed. This project will resonate with these children as many recreate at the pond and picnic area with their families and friends throughout the year. Once this project is funded, school children will engage in educational programming and monitoring efforts. By allowing the children to be involved in this restoration project from the beginning, they will better understand the value and importance of the Targeted Species, the ecosystems they call home, and the ripple effects supporting a resilient community.

Studies at Stanford University demonstrated that environmental education has led to a number of positive impacts, from improving academic performance to enhancing critical thinking skills to developing personal growth and life-building skills including confidence, autonomy, and leadership. In addition, it was shown that environmental education increased civic engagement and positive environmental behaviors. (https://naaee.org/programs/eeworks/benefits-k12-students)

Please contact me (<u>mflores@dises.org 207 460-6038</u>) for details on past and current projects the students and I have undertaken. We would be pleased to add this project to our efforts.

Mickie Flores Mickie Flores Science Teacher



WILLIAM J WIEGMANN 9 North Wind Lane Deer Isle, ME 04627

NOAA Grant Review Committee

Re: Proposal by Island Heritage Trust at Lily Pond, Deer Isle, Maine

To Whom it May Concern:

I write this letter to express my enthusiastic support for the application to funding opportunity NOAA-NMFS-HCPO-2023-2008056 for Restoring Fish Passage Through Barrier Removal, by Island Heritage Trust for the Project entitled: A Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure Around the Lily Pond, Deer Isle Maine.

I have been a resident of the Town of Deer Isle for 16 years. After retiring from practicing law for almost 30 years, I have mostly been engaged in volunteer work on the Island: I volunteer as an EMT for our local ambulance service and serve as President of its Board of Trustees; I am chairing the Steering Committee for the Comprehensive Plan for the Town of Deer Isle; and I am a member of the Board of Trustees of Island Heritage Trust and Chair of its Land Committee. I have been closely involved in addressing the issues arising out of the potential failure of the Lily Pond Dam and the proposed rehabilitation solutions.

The Lily Pond is an essential resource for the Island community, and Island Heritage Trust is proud to have played a key role in securing its benefits for future generations. Innumerable residents have told me how much they value the Pond: how they have fished or ice skated on it, learned to swim there, hiked its trails or just enjoyed taking their children to the Pond's beach area. There are no other comparable freshwater resources on the Island readily accessible to all. Rehabilitation of the Lily Pond Dam is essential to the continued use and enjoyment of the Pond by the public. Restoration of fish passage would be an ecological boon to not only the Lily Pond, but also Eel Brook, the Mill Pond and Northwest Harbor.

Route 15 is a lifeline for the Island economy. The daily catch from the largest lobster port in Maine reaches the world by this route. Alleviating the risk of the road's destruction from a Dam failure or other extreme weather event would benefit the entire Island and region.

The Deer Isle Fire Department is a volunteer force that does an outstanding job protecting Islanders from fire risks and other public safety threats. The risk of fire may well increase if climate change leads to less rainfall or more lightning storms, for example. The Department's efforts to protect the public are hampered by the inadequacies of the current fire water cistern at Route 15. A new fire water system drawing on the Lily Pond waters could save lives and property.

As Chair of the Steering Committee for the Deer Isle Comprehensive Plan, I can also report that the current draft plan includes support for Island Heritage Trust's reconstruction of the Lily Pond Dam, upgrading the Fire Department's fire water system and review of the Lily Pond as a potential future drinking water source. The draft plan also identifies the Route 15 culvert and cistern as fish passage barriers and recommends that the Town explore grant funding for improvements. The draft plan is subject to modification as a result of public comments and review by the State Department of Agriculture, Conservation and Forestry.

Please feel free to contact me if I can be of any assistance in your consideration of the Island Heritage Trust's application.

Very truly yours,

William J. Wiegmann (H) 207-348-2714 (C) 207-610-4007 williamwiegmann@msn.com

DATA MANAGEMENT PLAN

Island Heritage Trust will ensure all records are managed in accordance with its board-approved records policy. This policy states that all project files be maintained permanently, and data from this project will be filed with the Lily Pond Park project files.

Collaborative Project to Restore Connectivity, Improve Resilience, and Improve Community Infrastructure Around the Lily Pond, Deer Isle, Maine, implemented by Island Heritage Trust (IHT) and partners will generate environmental data and information, including topographic survey data, fish passability and species appearance data through an underwater camera and citizen science projects, as well as counts of volunteers and tracking of any press or events in the community, which the Applicant, Island Heritage Trust, will ensure is shared with NOAA, with project partners, and with the Town Government of Deer Isle, thereby making the data part of the public records which are and will be available to the public at the Town office. In addition, one public informational meeting on this project has already been held, at which designs and data will be shown, shared, and made available. Data will be gathered by a number of project partners and volunteers, but the Applicant will serve as the point to ensure that it is properly documented and made accessible.

The information already captured in the initial design plans is available on IHT's website, has been given to Town Selectmen, and will be available on file in public records available at the Town of Deer Isle Town office and gladly available to NOAA upon request. With this being a project with town involvement, the project reports and steps will very much be in the public eye.

The information to be gathered will include topographic and bathymetric/transect data gathered using standard survey techniques, recorded electronically and in field notebooks. Fish passage and habitat utilization data (presence of and passage by target species) will be generated by a combination of volunteer counters, video monitoring, and electrofishing. All data will be collected with field data sheets and, when possible, electronically. All non-electronic data will be transcribed into spreadsheets and stored electronically. Topographic and bathymetric data will be incorporated into reports by contractors, and those reports will be on file at the town office and available to the public.

The Applicant plans to engage The Nature Conservancy and US Fish and Wildlife to conduct pre/post stream simulation surveys to capture changes to the stream resultant from the dam rehabilitation, fishway installation, and removal of the barrier and culvert replacement. Tracking the resultant changes to stream bedform and substrate size class distribution allows TNC to directly compare the proposed design to the as-built projects and assess how the slope and substrate of the crossing naturalizes over time, an effective assessment of how a stream responds to the installation of aquatic organism passage designed road/stream crossings.

This data will be kept with the other data within the NOAA Habitat Blueprint Focus Area as part of the effort to rebuild the Penobscot River Watershed, as well as made available to the Applicant and the Town of Deer Isle within one year of each stage of the data being gathered.

Data will be made available on an ongoing basis as it is received or collected. As mentioned, most, if not all, of the data will be shared with the community in public meetings and with interested parties, as well as on file at the Town Office in Deer Isle, as part of the community and partner engagement. Data will also be included in grant reporting to NOAA and can also gladly be requested of the Applicant's point person, Julia Zell, at jzell@islandheritagetrust.org or (207) 348-2455.

< On the dam crest facing NE. Current undersized spillway and walkway with beaver deceiver pipe and structure inflow. Sandbags have been placed around sites of previous over-topping. Photo by Joe McLean.

Looking at the outflow side of the spillway and to the sandbags around a "boil" downstream. Photo by Joe McLean >





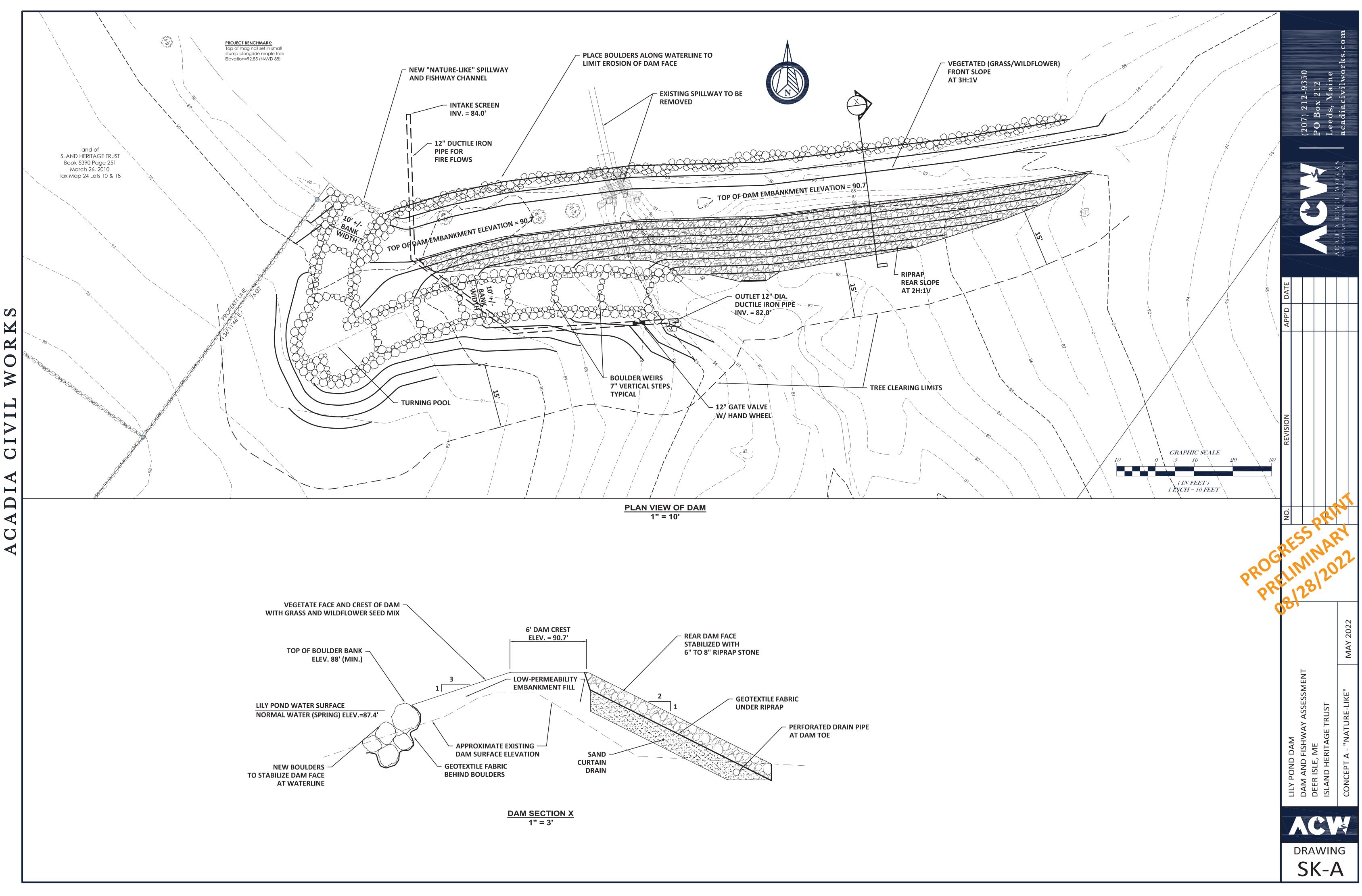
^ Family attends "Family Fishing Day" held at the Lily Pond on open fishing weekend: June 3-4, 2023. Raffle prizes included push-button rods and one grand prize life-time fishing licesne sponsored by Sportsman Alliance of Maine. Maps of IHT preserves and our Engineer's scope and assessment report were available to view. Photo by IHT staff.

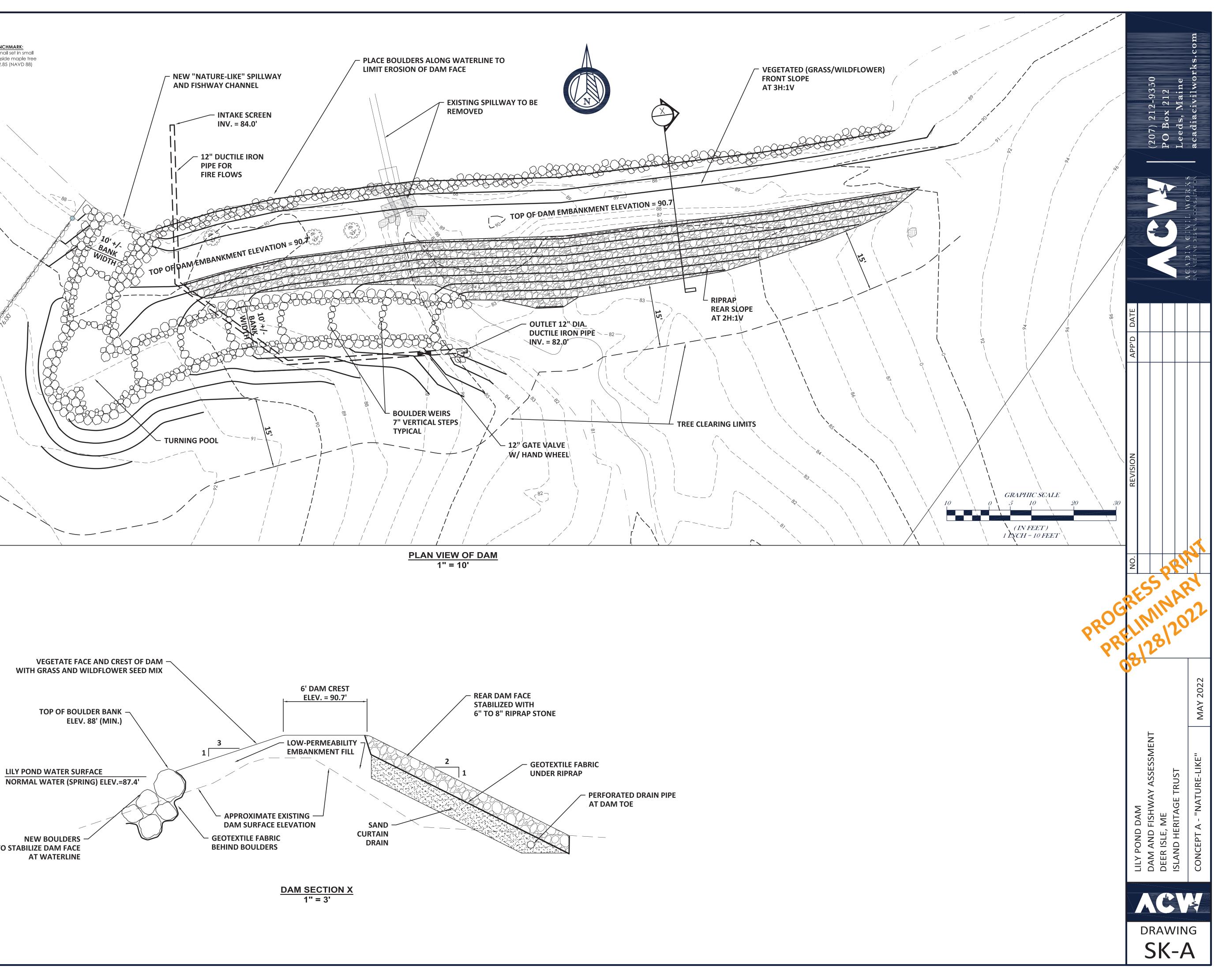
< IHT Stewardship Director, Alex Drenga, teaches a "Family Fishing Day" attendee how to fish at the Lily Pond. Photo by IHT staff.



< SW side of Route 15 with the firewater cistern and access hatch. Photo by Joe McLean.

<NE side of the Route 15 culvert, currently undersized for the stream. Photo by Joe McLean.





DEER ISLE PROPOSED WATER SUPPLY Details 08/06/2023

EXPLAINATION - DETAILS

At the Deer run site along the entrance drive where the power lines pass over the road Versant owns several aces of property. At the head of the pond Heritage Trust and Haskell Family own access to the pond The concept of this design involve this area and is as follows;

At the pond a 6" intake pipe would be extended out into the pond farther enough to always be below lake traffic and high enough off the bottom to never silt up, at the end of the pipe would be a screen / filter, the pipe would be installed below grade to prevent any freeze up

during cold seasons, and exit into a small pump house which would house the electrical controls, valves for emergency hook up to a fire truck or portable pump in a case of power outage or equipment break down, and controls for water level at the storage tanks and a heat source and alarms to prevent freeze up.

Water would flow from pump house #1 downhill via a buried water line to pump house #2 along side of an electrical conduit which would supply pumphouse #1 with power for the pump and control switching for tank level Pump house #2 would house the electrical service (100a / 3ph) the control level equipment for the tanks, and valves for emergency hook-up to a fire truck pump or a portable pump in case of an power outage or breakdown

Incoming water would pass through to tank #1 and a suction tube in tank #1 would be connected to a 250 gph electric pump, this pump would supply 1 or 2 fittings connected to the outside of the building which would refill tankers as necessary (approximate 6 min per tanker)

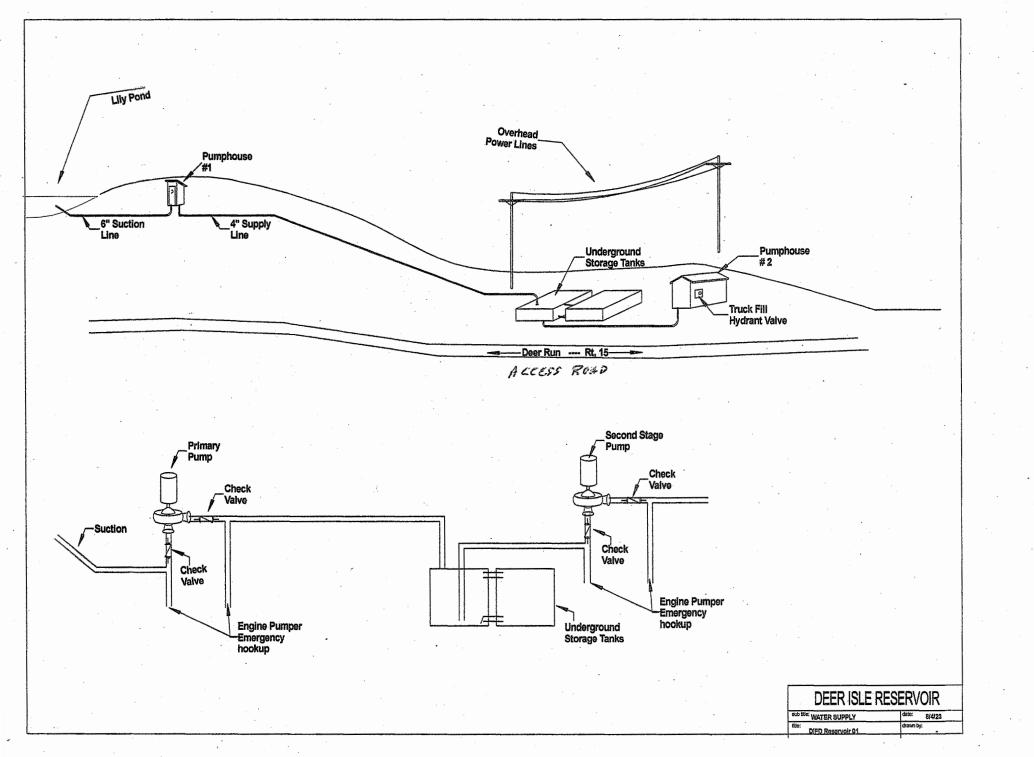
Tank1, the first to fill, has a flapper valve at the bottom to prevent water from flowing from tank1 to tank 2 at that level, there is an over flow at the top between the two tanks that allows them to equalize. when both tanks are full the pipe at the bottom will allow both tanks to drain equally until tank 1 starts to recover. tank 1 will tell pimp 1 at the pond house to maintain a constant full level

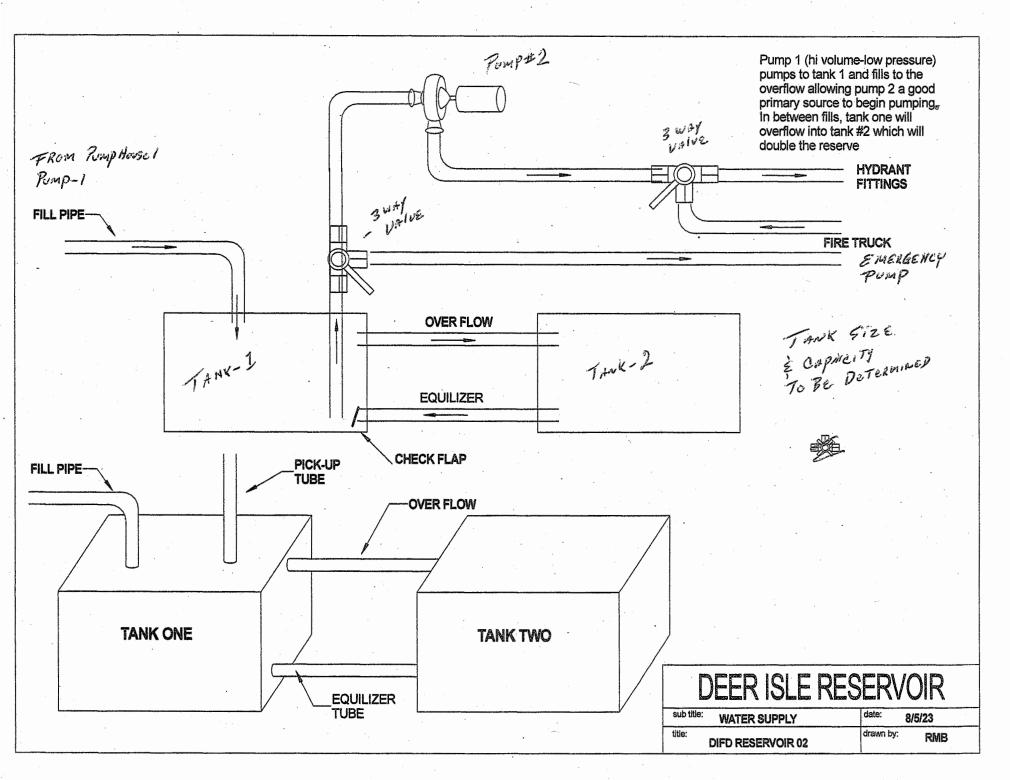
Building #2 would house the electrical service and the controls for both pumps and the tank water level. it would need to be heated (50 deg.) possibly a heat pump that could be run with a small portable generator in case of an emergency, and would be placed close enough to the drive to allow trucks to pull up along side to fill

This system would be central located, close to power lines, easy access for trucks easy turn around at the community center not subject to parking problems and a good supply of clean water. Hopefully an agreement could be reached with Versant to lease a sub terrain plot for a tax break or other kudos and the same with the pond' other land owners. This would free up the present reservoir site to be dismantled an allow the state to replace the stone culvert.

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DEER ISLE R	ESERVOUR
^{sub tille} expanded explanation	date: 8/6/23
tile: DIFD Reservour explained	d drawn by: RMB

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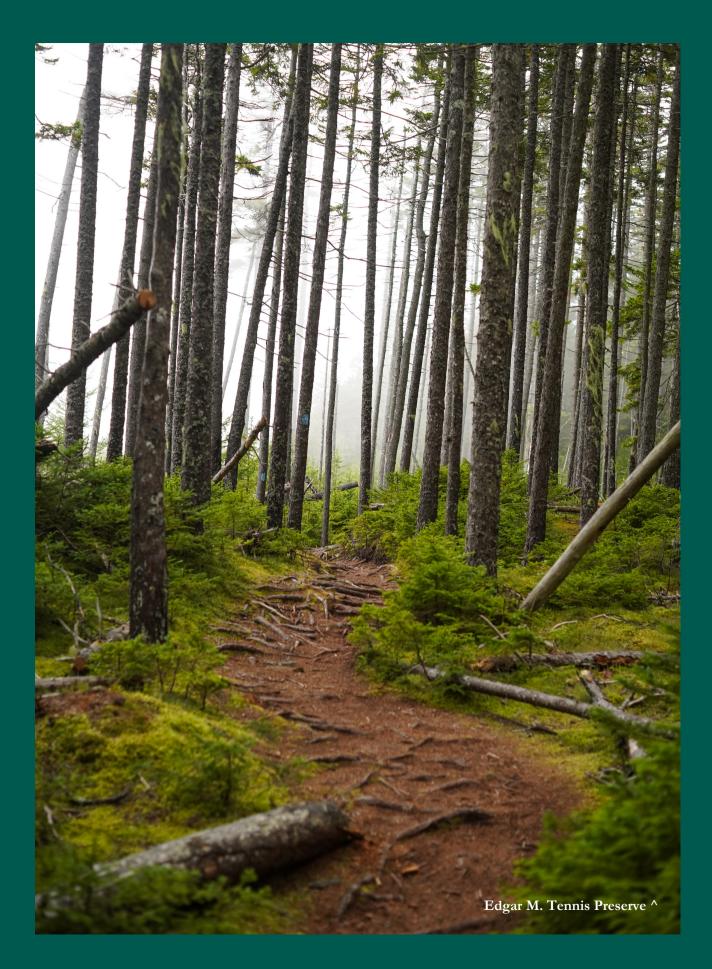




2022

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420 Sunset Road, Deer Isle, Maine 04627 www.islandheritagetrust.org



SENSE OF PURPOSE

In early 2022 Island Heritage Trust (IHT) shared the news of our successful accreditation by the Land Trust Accreditation Commission, the culmination of years of effort by the Board of Trustees, multiple Executive Directors, and staff. The year-round staff journeyed to New Orleans in September 2022 for the National Land Trust Alliance Conference, RALLY, to be celebrated amongst the other Class of 2022 accredited and renewal land trusts and join our colleagues in a robust professional development opportunity. The team brought back an enlivened sense of purpose, new ideas for solving old problems, strategies for implementing best practices in our work, and perhaps most importantly: a feeling that IHT is on par with our peers and even a leader in some areas. We may be one among many regional land trusts across the country, but rest assured that we are doing exemplary work on Deer Isle and beyond!

We learned at RALLY that 2022 was another banner year for land conservation, with a strong reminder that local actions can have global impacts. Over 61 million acres of land were conserved by 1,281 individual land trusts across the country, including over 6 million acres in Maine by 72 currently active land trusts. IHT plays a critical role in this success by paying close attention to the specific needs in our region in the context of the larger whole.

And what are those specific needs in our area? We're considering what climate change and sea level rise mean for Deer Isle and the lands we steward. We need to understand that land and infrastructure – like the Deer Isle Causeway – must be reassessed. What are the greatest land use needs of our community? We're thinking about cultural and economic use and options for furthering our mission beyond typical conservation methods, such as fostering neighborhood coalitions to support the health of their adjacent woodlots and tackle harmful invasive species. We must provide a truly inclusive opportunity to access our services, with more open space and educational programming, and adapt our current systems to better welcome all who want to participate. At IHT, we are pulling on these various threads to see where they take us and are hopeful to be a vital part of this resilient community into the future.

While we look back on 2022 with gratitude for all our successes and look ahead with excitement to share new conservation projects in the works, we always come back to the present – the joy found by families splashing in the tide, the awe found in the bioluminescent sparkle of a late summer evening, and the quiet calm found by walking through the woods. We take comfort in knowing we are working to care for many of the things that make this place special and that it wouldn't be possible without all your support.

Thank you.

DIANA HARTNETT Board Chair

plina Jell

JULIA ZELL Executive Director







A C H I E V E M E N T S

HIGHLIGHTS FROM 2022

• We were once again awarded a recipient of the Richard G. Rockefeller **Conservation Internship** program through Maine Coast Heritage Trust, providing us funds to take on a paid intern for ten weeks of the summer. Jessica Crandell, who has family ties to Deer Isle, was integral to all aspects of IHT's success during Summer 2022. She has since graduated from Slippery Rock University and will fulfill her dream of moving out West and working for a land trust.

2. We acquired our first boat for stewarding our offshore islands and a new stewardship truck after our previous one died. Successful "Giving Tuesday" campaigns funded both of these efforts. Now our Stewardship Director and Summer Stewardship Assistant have the tools to access all of IHT's conserved lands and ensure proper monitoring and annual care.

3. Our Board of Trustees Secretary, Mickie Flores, received a Presidential Award for Excellence in Mathematics and Science Teaching. Recent efforts resulted in a Rethinking Remote Education Ventures grant to complete an accessible boardwalk and Outdoor Classroom expansion for the school's nature trail.

4. We were awarded a Land and Climate Grant by the Open Space Institute and Land Trust Alliance to embark on a one-year pilot project at Scott's Landing Preserve to provide us. and other land trusts around the country, with a dynamic template for re-envisioning how to highlight indigenous voices, particularly around climate change, into our communications on the land and with each other. We are just beginning this learning journey and look forward to sharing more as we grow.

THANK YOU TO OUR 2022 DONORS

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Heritage Society Members are IHT's planned giving donors.

The names listed in this report reflect gifts & pledges from the 2022 fiscal year, which ended October 31, 2022.



* Denotes Luna Society Members

Our Luna Society is made up of recurring monthly donors. Their pledged commitment to the Island Heritage Trust leads to sustainable support of our mission.

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Island Heritage Trust (IHT) contributes to the well-being of the island community by conserving its distinctive landscapes and natural resources, maintaining public access to valued trails, shoreline, and islands, and by providing educational programming for all ages.

CELEBRATING 35 YEARS

IHT celebrated its 35th Anniversary in 2022. From a fledgling idea started around a dining room table, through years of dedicated volunteer leadership and action, to where we are today – it is a remarkable journey. Our deepest gratitude goes to the many hands that have played a role in making this all happen.



PROGRAM SPOTLIGHT:

ENVIRONMENTAL EDUCATION

2022 projects included citizen science work and helping to expand the School Nature Trail by building a second outdoor classroom on the trail. Being outdoors during the school day calms students' minds and sharpens their focus, allowing them to learn in new ways. Students now have more room, and the trail's boardwalks are broader, creating greater accessibility for limited mobility visitors.

We launched the first Project Monarch in 2022, a collaboration with the Deer Isle-Stonington schools and The Garden Project. Individual volunteers from the community also helped prepare seedlings and garden beds, including the Mariners Soar! after school program. With events spanning the seasons, the efforts focus on the importance of pollinators, such as the monarch butterfly, and how anyone in the community can help support their health and habitat.

IHT's Environmental Educator, Martha Bell, continues to be present nearly every day in our local schools, and special programs such as the collaboration with Creating Healthy Oceans Project brought our environmental education from land to sea. We helped teachers, the lobster industry, and community members teach our students about climate change and the action necessary to keep plastic out of our oceans.

Education can sometimes feel intangible, but we're grateful for your support in shaping the next generation of open-minded thinkers.







BY THE NUMBERS:

55 FIELD TRIPS TO IHT PRESERVES

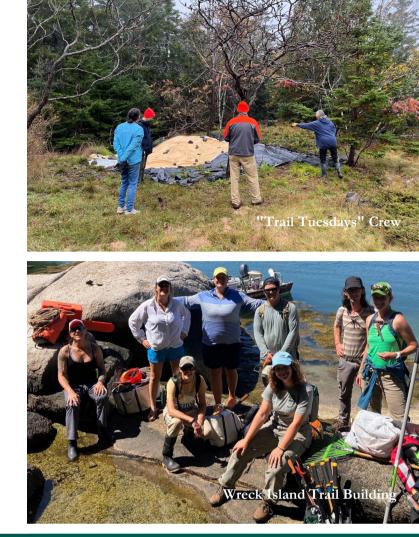
500 + STUDENTS SERVED **1,830 ft.** BOARDWALK AT THE SCHOOL NATURE TRAIL

PROGRAM SPOTLIGHT:

STEWARDSHIP

With nearly 1,500 acres of conserved land, including 21 additional offshore islands, proper stewardship requires a great deal of capacity. Thankfully, 2022 proved to be another successful year of volunteer "Trail Tuesdays," including being awarded a winner of the "Love Maine Trails Month" for *Most Volunteers and Volunteer Hours in 1-2 Project Days* for our efforts to define a path protecting sensitive beach grass and work to open a new trail on Wreck Island Preserve.

By engaging in a rooted experience nurturing the land, we find a deeper relationship with this place and how Deer Isle connects Island Heritage Trust's community worldwide. We hope you enjoy another year of getting outside and engaging with the environment. We appreciate your commitment.



"TRAIL TUESDAYS":

Island Heritage Trust's Stewardship Director, Alex Drenga, has fostered such a welcoming and engaging community of volunteers that several of the "Trail Tuesdays" crew have become committee members, and one has even joined IHT's Board.

"As an avid hiker, I have thoroughly enjoyed and appreciated the many beautiful IHT preserves on the Island and in the bay. I was thrilled to join a robust group of volunteers who gather every Tuesday to work on the various trails. I have learned a great deal through my involvement with IHT: from conserving habitats for wildlife to providing educational programs for all ages. After two years, I'm excited to expand my involvement with IHT by becoming a member of the Board of Trustees."

- Catherine Washburn

IT TAKES A VILLAGE:

2,100 + VOLUNTEER HOURS

\$55k + VALUE OF IN-KIND TIME **30** + stewardship volunteers



IHT PRESERVES

PRESERVES OPEN FOR USE:

- 1. Bowcat Overlook
- 2. Causeway Beach
- 3. Church Land
- 4. Crystal Cove
- 5. Lily Pond Park
- 6. Lisa Tolman Wotton Nature Preserve
- 7. Pine Hill
- 8. Reach Beach at Gray's Cove
- 9. Scott's Landing
- 10. Settlement Quarry
- 11. Shore Acres

CO-MANAGED PRESERVES:

- 12. Barred Island The Nature Conservancy
- 13. Crockett Cove Woods The Nature Conservancy
- 14. Holt Mill Pond Town of Stonington
- **15.** Edgar M. Tennis Preserve *Maine Bureau of Parks and Lands*

OFF-SHORE ISLANDS:

- 16. Bradbury Island
- 17. Carney Island
- 18. Whig Island
- 19. Polypod Island
- 20. Mark Island
- 21. Wreck Island
- 22. Round Island
- 23. Millet Island



4 PRESERVES CO-MANAGED BY IHT

21 MILES OF PROTECTED SHOREFRONT

21 OFF-SHORE ISLANDS CONSERVED BY IHT

> **25** PRESERVES OWNED BY IHT

38 CONSERVATION EASEMENTS

1,450 ACRES OF PROTECTED LAND

2022 FINANCIALS

With gratitude, 2022 was another solid financial year. Net income for 2022 was \$160,301, an increase of 44 percent from the prior year, and our revenue increased by 25 percent. Contributions were \$531,000 from 714 donors, including 122 new donors. As COVID restrictions lifted, we resumed programming, including the popular "Wings, Waves and Woods" event in the spring, which is reflected in our revenue.

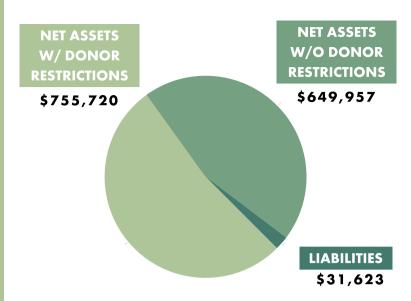
Expenses increased by 20 percent in 2022 and totaled \$470,518. 62 percent of our total expenses supported programs, including purchasing a new stewardship truck and boat. Management expenses also increased as we were fully staffed and began paying health reimbursement benefits.

Our Total Net Assets totaled \$1,437,300, down 3 percent from 2021. Our investment portfolio of donor-restricted and unrestricted funds was \$835,929 at the end of our fiscal year, a decrease of 17 percent from the prior year due to market declines. It has since recovered.

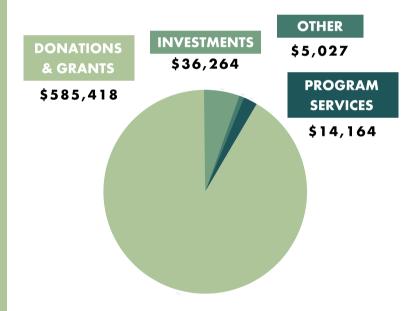
In 2022 we set aside funds to repair the Heritage House, our headquarters. This work provides needed maintenance and makes the building a safer and more attractive workspace for staff and volunteers. Future plans include renovating the barn for year-round use, including lectures and programming.

We were awarded national accreditation in early 2022. Financial planning played a big part in the application process, which required thorough documentation of our financial position and needs. Thanks to the generosity of supporters, we established a board-designated fund in 2022 to meet our future obligations.

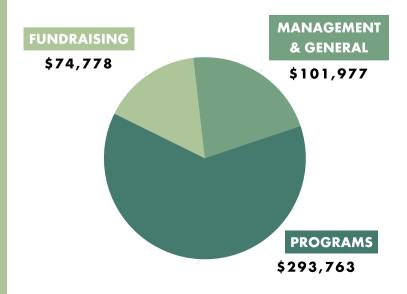
TOTAL LIABILITIES & NET ASSETS: \$1,437,300



TOTAL REVENUE: \$630,819



TOTAL EXPENSES: \$470,518



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Julia Zell, Executive Director

Martha Bell, Environmental Educator Alex Drenga, Stewardship Director Pat Gross, Bookkeeper Jacob McCarty, Development Associate Terry Real, Summer Stewardship Assistant Noël Ruth, Outreach Manager

BOARD OF TRUSTEES

Diana Hartnett, Chair Bill Wiegmann, Past-Chair Karen Hill, Treasurer Mickie Flores, Secretary

Dave Bayley, Board Member Elke Dorr, Board Member Anna Goff, Board Member Jeff Hartnett, Board Member Woodley Osborne, Board Member Catherine Washburn, Board Member Douglas Wilson, Board Member

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Causeway Beach ^ Front Cover: Barred Island ^