Rhode Island Coastal and Estuary Habitat Restoration Fund Full Proposal Form for <u>Planning</u> Projects 2023/2024

**for design or construction projects please use Full Proposal Form

- I. PROJECT SUMMARY
- 1. Project Title: Breakheart Pond Dam Removal Feasibility Study
- 2. Project Location and coordinates (include map): The Breakheart Pond Dam is located within the Acadia Management Area in Exeter, Rhode Island. The dam and all the surrounding land are owned by the State of Rhode Island. The dam is located on Breakheart Brook, which flows into the Flat River, which is a tributary to the Wood River, which is designated as a Wild and Scenic River. Coordinates: 41°35'43.52"N; 71°42'11.71"W



- 3. Habitat type (River System, Salt Marsh, Seagrass, Shellfish Bed, other): River System
- 4. If other, please specify: N/A
- 5. Targeted restoration technique (e.g. re-vegetation, tidal restoration, etc.): Dam Removal
- 6. Potential future benefits resulting from proposed planning project: Removal of Breakheart Pond Dam would reconnect approximately 4.52 miles of stream and create over 45 acres of high value wetlands and riparian habitat once the dam is removed. The project will directly benefit diadromous

species, water quality for downstream anadromous species, and enhance habitat and water quality for SGCN including wood turtles, spotted turtles, American eels, and brook trout, all of which are known to be at the site or within the area directly benefited by the project.

- **7. Project partners** (organizations providing financial or other support to the project): Native Fish Coalition, RIDEM (Forestry and Fish and Wildlife), USFWS, Save the Bay.
- 8. Is this is an ongoing project that has previously received funds from the CRMC Coastal and Estuarine Habitat Restoration Fund? No If yes, year(s) funding was awarded:

II. PROJECT MANAGER CONTACT INFORMATION

- 1. Name: Glenn Place, Chapter President
- 2. Organization: Rhode Island Chapter of Trout Unlimited (RITU)
- **3.** Address: 203 Arcadia Road
- 4. City: Hope Valley
 5. State: RI
 6. Zip: 02832

 7. Phone: 401-225-7712
 8. Email: tu225president@gmail.com

Property Owner(s): Dam and all property surrounding Breakheart Pond is owned and maintained by the State of Rhode Island. TU has met with RIDEM, who have agreed to initiate this process. They are a vested project partner and have provided a letter of support (see attached).

III. BUDGET SUMMARY

(List individuals or organizations providing financial or in-kind support to the project under Project Partners)

Amount Requested from Trust Fund		\$38,000
Matching Funds	Project Partner(s)	Amount of Match
In-Kind	RIDEM (Forestry and Fish & Wildlife)	\$25,500
In-Kind	U.S. Fish and Wildlife Service	\$500
In-Kind	RITU	\$13,000
	TOTAL PROJECT COST	\$77,000

IV. PROPOSAL NARRATIVE (five pages maximum)

1. Justification and Purpose

RITU is proposing to conduct preliminary data collection and develop a restoration approach for the eventual removal of the Breakheart Pond Dam. Data collected through this project is required to move the dam project forward, and provide the foundation to initiate the dam removal process and support future designs, modeling, and planning. Post dam removal, RITU and RIDEM plan on developing an interpretive educational trail within the drained impoundment that connects to the existing trail network on site. Once this phase of the project is complete, RITU will work with RIDEM and project partners of additional grant funds to carry forward the preferred alternative for removal to design, permitting, and then construction.

The dam has been a barrier to aquatic organisms for over 90 years. Removal of Breakheart Pond Dam will reconnect approximately 4.52 miles of stream and significantly reduce water temperatures in Breakheart Brook, the Flat River, and adjoining watercourses. RIDEM has been monitoring Breakheart Pond and Brook for over 20 years, and has extensive data documenting the negative effects the dam has on water quality and aquatic habitat. In addition to the miles of fish passage that will be restored for SGCN and diadromous fish, the project will also create over 45 acres of high value wetlands and riparian habitat in the drained impoundment once the dam is removed. These wetlands will provide water quality benefits to downstream sections of the Pawcatuck River and anadromous fish and spawning habitat. Wetlands (such as those proposed to be created through this dam removal) have the ability to trap nutrients and sediments. Suspended sediments have been documented to stick to anadromous fish eggs and inhibit embryonic egg development.

The dam was inspected by the State/Contract Consultants in 2002, at which time the embankment condition was "fair," the spillway condition was "poor," and the low-level outlet condition was "fair." The dam also has an attached fish ladder which has been nonfunctioning for well over 20 years. Portions of the fish ladder holes through the concrete, exposed rebar, and chunks of concrete are sluffing off into the auxiliary spillway. Since 2002, the dam spillway and appurtenances have continued to degrade and several sections of the spillway are showing significant erosion, rebar is exposed, and portions of the spillway walls are leaning into the pond and stream. These features and their degraded condition have also resulted in the closing off of the downstream bridge which rests on the spillway walls, which is important to the highly used recreational trails around the pond. The dam does not currently have any active or pending enforcement action on it, and the RIDEM Division of Forestry and Division of Fish and Wildlife regularly observe the dam and report any issues to the Division of Dam safety as appropriate.

Based on the existing ecological data and the current condition of the dam, RITU and RIDEM are proposing analysis and investigations to support the future removal of this dam. The dam no longer serves its original purpose, and the ecological and recreational benefits of its removal outweigh the significant cost and investment to bring the structure up to current safety standards and functionality.

Short-Term Goal: collect preliminary information to support future planning and design for the eventual removal of the Breakheart Pond Dam. This information will also support future data collection and grant applications for future funding and grant applications. Long-term Goal: Acquire additional funds (state, grants, etc.) for future phases. Support RIDEM in planning, design, permitting and the eventual removal of Breakheart Pond Dam.

2. Project Activities, Schedule and Work Plan

RITU will develop a scope of work for preliminary data collection and the development of a restoration approach for the eventual removal of the Breakheart Pond Dam. An engineering firm will be hired by RITU and will be responsible for collecting all data and ensuring that it is sufficient for the incorporation and development of future designs and permitting.

This project, will include the following components:

- Conduct a topographic survey of the dam and appurtenances (including the attached bridge)
- Conduct a structural assessment of the pedestrian bridge and associated spillway walls

• Desktop review and preliminary consultation with federal and state agencies on sensitive species and habitats within or directly adjacent to the project area

- Preliminary consultation with RI SHPO
- Develop conceptual drawings
- Develop a proposed restoration approach with summary memo and figures
- Conduct a 4-month public recreational usage assessment of pond, trail below the pond, and parking area
- Collect 6 eDNA samples (to identify fish, turtles, muscles and species of SGCN that may benefit or be impacted by the project)
- Public outreach/signage

Project Timeline:

Spring 2024	Anticipated grant award notification:			
Summer: 2024	 Develop scope of services Hire consultant Initiate recreational use monitoring (ongoing through winter 2024) Collect eDNA samples Initiate preliminary agency consultations Install signage and initiate public outreach (ongoing through Winter 2024) Conduct structural assessment of bridge and spillway walls downstream of dam Wetland delineation 			
Fall 2024	 Conduct topographic site survey Develop conceptual drawings 			
Winter 2024	 Develop Restoration Approach and Project Summary Memo which will include results from all field work CERHTF final report submitted Identify grant funding to progress project to the next phases with project partners Decide next steps to advance long term goals 			

*All deliverables and work products will be coordinated and reviewed by RIDEM Division of Fish and Wildlife and Division of Forestry staff to ensure compliance and consistency with RIDEM goals, objectives, and plans for the pond and surrounding areas.

3. Coordination and Public Support

Information on the project will be posted on RITU's Facebook page and RITU will work with RIDEM representatives to coordinate public outreach through RIDEM's social media. Signs will be posted at the site informing the public of the ongoing study to evaluate dam removal at the site, and encourage the public to provide comments via a dedicated email address that will be set up for the project. RITU will also coordinate

with the Wood Pawcatuck Watershed Association to share information about the project to their membership and with National Park Services contacts through the Wild and Scenic Rivers Steering committee. Other likeminded organizations will also be informed of the project, including Protect Rhode Island Brook Trout.

4. Planning Consistency and Restoration Priority

- Corrective measures for upstream passage at **Breakheart Dam** are listed in the RIDEM 2002 Strategic Plan for the Restoration of Anadromous Fishes to Rhode Island Coastal Streams as a benefit to diadromous American eels, brook trout, and resident fish.
- The restoration project is also consistent with Rhode Island's Wildlife Action Plan, developed by RIDEM in 2015, which categorizes American eel, brook trout, and wood turtles as species of "Greatest Conservation Need." The proposed project will benefit habitat improvements for SGCN.
- The RIDEM Wood-Pawcatuck Rivers Watershed Plan from 2022 recommended the removal of dams in the watershed as an "Action Item." Additionally, the same report listed "Indicators to measure improvements to the health of aquatic habitat", which included "Number of waterbodies without aquatic invasive species (AIS)," "Total stream miles with improved stream connectivity due to removal of barriers," and "Acres of damaged wetlands and buffers restored," all of which the proposed project will accomplish.
- The 2017 (revised) Wood-Pawcatuck Flood Resiliency Plan identified Breakheart Pond Dam as a barrier to aquatic organisms and listed it in poor condition in the "Recommended Actions Summary."

5. Species of Concern

Restoring aquatic connectivity in Breakheart Brook at the site of the Breakheart Pond Dam will have far reaching benefits. In addition to restoring upstream access for SGCN and aquatic species, including the diadromous American eel, brook trout, and wood turtle, improvements to water quality will extend downstream into all connecting watercourses. Impoundments, such as Breakheart Pond, have adverse effects on downstream water quality, especially after over a century since construction. As sediment builds up over decades, waterbodies such as Breakheart Pond become shallower, which promotes the growth of aquatic vegetation and aquatic invasives. The removal of Breakheart Pond Dam will result in the eliminating of aquatic invasive species from Breakheart Pond, and could greatly benefit water quality and prevent further spread of invasive plants down into the mainstem of the Pawcatuck River. Excessive vegetation growth has been known to reduce or eliminate passage for migratory species including river herring. Furthermore, decomposed aquatic vegetation builds up overtime, creating layers of fine organic sediments that cover coarser substrates. Substrates such as sand and gravel provide important spawning habitat for many fish species including brook trout and river herring. Additionally, decomposing organic sediment, caused by years of decomposed vegetation, reduces and eliminates areas that may otherwise be suitable for spawning. Eliminating the dam will reduce the potential for colonization downstream in mainstem habitats (i.e. the Pawcatuck River).

Breakheart Pond has also been well documented by RIDEM fisheries experts as excessively increasing water temperatures downstream of the dam. Due to the surface area of the pond, shallow water levels, and high coverage of vegetation, temperatures become extremely elevated via solar radiation and are significantly higher at the outflow than the inlet streams. RIDEM found that water temperatures at the outflow of Breakheart Pond are the highest temperatures in the upper Wood River Watershed and the most detrimental to SGCN. High water temperatures not only displace coldwater obligate species locally, but the effects are carried throughout the lower portions of the system. Higher water temperatures also promote pathogens, nutrient levels, and invasive species. By eliminating Breakheart Pond, peak annual water temperatures will be reduced, improving the water quality within the Wood and Pawcatuck Rivers. The proposed project will

indirectly benefit anadromous fish species like river herring and shad for the reasons mentioned above. These species will be able to return to spawn in the Pawcatuck River, which the designated "Wild and Scenic" Wood River flows directly into.

In addition to the known project benefits to SCGN already identified, the eDNA samples that will be collected and analyzed as part of this project will help to identify other fish, mussels, and turtles identified as SGCN that have not yet been identified at the dam site and in the connected waterways.

6. Climate Change and Coastal Resiliency

The proposed project will address resilience to climate change by removing a deteriorating dam structure and improving water quality. As documented in the Resilient Rhody Plan, it is anticipated that the State will experience more intense storms and higher rainfall events due to climate change. This will increase the risk of failure of aging infrastructure like the Breakheart Pond Dam. The project will also improve the resiliency of river habitat by eventually reestablishing the historic natural river system through the removal of a barrier to aquatic organisms. The dam is also currently increasing downstream water temperatures to extirpating levels for coldwater obligate species (e.g. brook trout) and negatively impacting coldwater obligate species fitness. Water and air temperatures are only expected to increase with climate change and removal of the dam will remove a massive heat sink from the system that is adversely impacting watershed dynamics.

7. Environmental Justice

The project area is not located within an environmental justice "priority area." However, the project is located in Exeter, Rhode island, which is identified through Narraganset Bay Estuary Program and the RI Department of Health as a Health Equity Zone (*see figure below*). Rhode Island's Health Equity Zones are defined by stakeholders as areas of the state that are economically disadvantaged and have documented health risks (Rhode Island Medical Journal November 2016). Additionally, the Arcadia Management Area and its recreational resources (e.g. ponds, river, trails, etc.) are used by members of disadvantaged communities to escape the concrete landscapes of the cities and explore the outdoors and recreate within the area's green space. The eventual removal of Breakheart Dam will enhance the habitats and interpretive experience within the management area, and ensure the continuity of the recreational trails and resources, like fish, that attract the community.

8. Permitting

At this stage of the project no federal, state, or local permits are required to complete the feasibility study. However, once a project has been selected we anticipate the following permit applications:

- State: RIDEM Wetlands Application to Alter Freshwater Wetlands
- Federal: Army Corps of Engineers General Permit
- State: Review by the Rhode Island Historical Preservation & Heritage Commission

9. Capacity of Lead Organization (attach additional materials if necessary)

RITU leaders Glenn Place (President), treasurer (Lawson Carry III), and conservation chair (Rich Benson), will be responsible for project management, grant/financial reporting, oversight of the consultant, public outreach assistance, and coordination with RIDEM staff. In the last 5 years, RITU has successfully received and executed over \$300k in projects focused on habitat assessment and dam removals. RITU is a leader and model chapter

for TU across the country, and Chris Wood, the CEO of Trout Unlimited National, has recognized RITU as such. As a result, RITU is fully confident we can manage the project with the technical resources and support from project partners, all who have worked with RITU for several years in the Big River Management Area. In addition, if any unforeseen issues arise, RITU can always reach out to the hundreds of TU National technical staff for support. RITU will also have the full support of RIDEM Division of Forestry and Division of Fish and Wildlife, who will be available to review deliverables, attend meetings, lend their time and expertise to the project, and serve as subject matter experts. Jamie Masterson from the US Fish and Wildlife Service will also be providing technical support for this project, and has offered to enlist assistance from her regional engineering and fish passage team if questions or technical input is needed during this phase of the project.

10. External Factors and Climate Change

The biggest external factor impacting the site currently is the runoff from extreme precipitation events. Evidence of the runoff is the ongoing erosion that is deteriorating the dam site and causing excessive sediment to enter the stream at the dam site. Although the project cannot control the runoff from upstream or extreme precipitation, the project will make the dam more stable and reduce the risk of dam failure by removing this aging dam and infrastructure from the watershed. Additionally, the other external factor impacting this site is recreational users. The pond is frequented by the public, and despite RIDEM's efforts, foot traffic on the dam embankment, spillway, and around the pedestrian bridge, make the area susceptible to and accelerate habitat degradation and erosion on the site.

The Resilient Rhody Plan of 2018 stated that climate change is expected to contribute to more intense and wetter precipitation events, and that southern New England will experience significant increases in both flood frequency and flood severity, including a doubling of the frequency of flooding and an increase in the magnitude of flood events. The continued frequency of these events and the increasing volume of consecutive storms places continued strain on the dam infrastructure and appurtenances at the site. The eventual removal of the dam and restoration of the site to historically natural conditions will increase the site resiliency, and reduce the risk of the dam failing and damaging road systems recreational trails downstream, and reduce the risk of injuries or potential death to motorists, pedestrians, and recreational users.

a. EVALUATING PROJECT SUCCESS (one page maximum)

1. Performance Measures and Deliverables

Tasks	Output	Deliverable	
 Develop scope of services Hire consultant Initiate recreational use monitoring (ongoing through winter 2024) Collect eDNA samples Initiate preliminary agency consultations Install signage and initiate public outreach (ongoing through Winter 2024) Conduct Structural assessment of bridge and spillway walls downstream of dam Wetland delineation 	 Recreational user data eDNA data and results Agency consultation letters and responses Signage for the dam site Structural analysis Wetland delineation 	All data and results will be provided in a final restoration approach document	
 Conduct topographic site survey Develop conceptual drawings 	 Site survey Conceptual drawings 	All data and results will be provided in a final restoration approach document	
 Develop Restoration Approach and Project Summary Memo which will include results from all field work CERHTF Final Report submitted Identify grant funding to progress project to the next phases with project partners Decide next steps to advance long term goals 	 Restoration Approach and Project Summary Memo CERHTF final report Call with RIDEM to discuss next steps 	 All data and results will be provided in a final restoration approach document CERHTF Final Report RIDEM call summary memo 	

*all deliverables will be provided to RIDEM and USFWS for review and comment

2. Monitoring Plan

Since this project is still in the initial development stage, a monitoring plan is not appropriate at this time. However, RITU is currently looking to monitor the "bounce back" of the site post dam removal with aerial imagery using drones, eDNA for species richness and diversity, and on-site vegetation and stream geomorphological assessments.

BUDGET CATEGORY	CRMC REQUEST	MATCH	MATCH PENDING OR SECURED? (select one)	SOURCE OF MATCH	TOTAL
Preliminary Restoration Engineering Assessment and Data Collection	\$38,000	\$26,000	Secured	 RIDEM Division of Forestry (In-Kind) Structural Assessment and Technical Assistance USFWS (In-Kind Technical Assistance) RIDEM Division of Fish and Wildlife (In-Kind Technical Assistance) 	\$64,000
Project Management and Grant Management, Wetlands Delineation	0	\$13,000	Secured	Rhode Island Chapter of Trout Unlimited (In-Kind)	\$13,000
TOTAL	\$38.000	\$39.000		TOTAL PROJECT COST	\$77.000

b. PROJECT BUDGET TEMPLATE

c. BUDGET NARRATIVE (one page maximum)

RITU will develop a scope of work for preliminary data collection and the development of a restoration approach for the eventual removal of the Breakheart Pond Dam. An engineering firm will be hired by RITU and will be responsible for collecting all data and ensuring that it is sufficient for the incorporation and development of future designs and permitting.

Preliminary Restoration Engineering Assessment and Data Collection

\$38,000 CRMC Ask | \$26,000 Match | \$64,000 Total Cost

RITU will hire a qualified consultant who provides the best value to RITU and prudent use of CRMC funds. The consultant will complete the following tasks below:

- Conduct a survey which will include site topography, dam, appurtenances (including the attached bridge), and the stream bed
- Conduct structural assessment of pedestrian bridge and associated spillway walls (*RIDEM Match*)
- Desktop review and preliminary consultation with federal and state agencies on sensitive species habitat and historical/cultural resources within or directly adjacent to the project area
- Develop conceptual drawings
- Develop a proposed restoration approach with summary memo and figures
- Conduct a 4-month public recreational usage assessment of pond, trail below the pond, and parking area using trail cameras
- Collect 6 eDNA samples (to identify fish, turtles, and muscles and species of SGCN that may benefit or be impacted by the project) and send to laboratory for analysis
- Public outreach/signage

The RIDEM Division of Forestry will be providing a match (approx. \$24,500) during this task that will include a structural assessment of the bridge directly below the dam that is resting on the walls of the auxiliary spillway. This engineering assessment will be conducted by a Licensed State of Rhode Island Professional Engineer. This assessment is necessary for planning future design phases and will be provided at the end of the project. This information will also be critical to take into consideration for the channel realignment post dam removal and for the continuity of recreational trails being carried by the bridge currently. The Division of Forestry will also be providing technical assistance by reviewing project deliverables and attending project calls and meetings.

The RIDEM Division of Fish and Wildlife will also be providing technical assistance (approx. \$1K) by reviewing project deliverables, supporting eDNA site selection, and attending project calls and meetings.

The USFWS will also be providing technical assistance (approx. \$500) by reviewing project deliverables and attending project calls and meetings.

Project Management and Grant Management, Wetlands Delineation

\$0 CRMC Ask | \$12,447 Match | \$12,447 Total

Glenn Place, President and Project Manager for RITU, will be supported by James Less (Vice President), Lawson Cary III (Treasurer), and Rich Benson (Conservation Chair). These dedicated RITU volunteers will support this project at the current standard volunteer rate of \$31.80/hr. for an estimated 100 hours, or more as necessary to fully execute the project. Their work will include: communication/coordination with RIDEM, project management, grant reporting and administration, public outreach, trail camera monitoring, and review of project deliverables. RITU has also secured in-kind services from a wetland scientist who has agreed to provide a U.S. Army Corps of Engineers compliant wetland delineation for the project which TU will provide as part of its matching contribution in support of the project and upcoming phases. This deliverable will make up the remainder of the matching contribution under this task.

IX. ADDITIONAL MATERIALS

Please include the following with your application:

- ✓ Site and Locus Maps
- ✓ Ground-level photographs of existing site conditions
- Aerial photographs, if available
- ✓ Preliminary design drawings, maps or engineering plans, if available
- Yertinent physical, ecological, biological, and cultural / historical survey data
- ✓ Letters of support

Date

AUTHORIZED AGENT OF LEAD ORGANIZATION

Signature

03/30/2024

Return your completed proposal by 4:00 p.m. on April 1, 2024 to:

Caitlin Chaffee NBNERR **RI Dept. of Environmental Management 235 Promenade Street** Providence, RI 02908

caitlin.chaffee@dem.ri.gov

Applicants are required to submit one (1) signed hard copy of the proposal form and one (1) electronic copy in Adobe PDF format. **Please submit electronic copy as a SINGLE PDF FILE containing all application materials.**

Contact Caitlin Chaffee at 401-222-4700 xt. 277-4417 with any questions.



Additional Application Materials













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Letters of Support



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF THE DIRECTOR 235 Promenade Street, Room 425 Providence, Rhode Island 02908

Rhode Island Chapter of Trout Unlimited (TU225) Attn: Glenn Place 203 Arcadia Road Hope Valley, Rhode Island 02832

RE: Breakheart Pond Dam Feasibility Study

Dear Mr. Place,

The purpose of this letter is to indicate support of the Rhode Island Department of Environmental Management (RIDEM) for Trout Unlimited (TU) to pursue funding from the CRMC Habitat Trust Fund to conduct a feasibility study of the Breakheart Pond Dam. The dam is located in the Arcadia Management Area and the site requires improvements and enhancements from both structural and ecological aspects. Failure of the downstream wing walls and bank erosion continues because of recent storms. Furthermore, Breakheart Pond has been identified as a source of high-water temperature, effectively warming stream temperatures in the upper Wood River watershed and reducing the quality of habitat for fish and other aquatic species.

With climate change threatening ecosystems throughout Rhode Island, warming water temperatures pose a threat to aquatic species ranging from headwater to coastal streams. Projects to mitigate the current and future effects of climate change on riverine ecosystems are of top priority. Numerous species of greatest conservation need (SGCN) are present in Breakheart Brook, throughout the Wood- Pawcatuck watershed, and south to the coastal margin. A sample of these species include Eastern Brook Trout, River Herring, Shad, American Eel, Wood Turtle, and Eastern Pearlshell Mussel. RIDEM has worked with partners on numerous projects to improve fish passage and habitat quality throughout the Wood-Pawcatuck watershed and is currently looking at restoration alternatives at the Breakheart Pond Dam. Understanding project options that will address the structural integrity of the site and the ecological implications of potential alternatives will be a benefit to RIDEM. The outcome of this study is intended to produce a list of future project alternatives that will have ecosystem benefits extending throughout the watershed.

This project is very important to the goals and objectives of RIDEM to protect SGCN by restoring connectivity, restoring habitat, and improving water quality. RIDEM supports TU's plan to conduct a feasibility study of Breakheart Pond Dam and would be willing to provide necessary data for support and staff time to assist with coordination of the study.

Let me know if I can be of additional assistance.

Sincerely,

Jasof McNamee, PhD Deputy Director for Natural Resources RIDEM Director's Office



United States Department of the Interior

FISH AND WILDLIFE SERVICE Central New England Fish and Wildlife Conservation Office 151 Broad Street Nashua, New Hampshire 03063



March 26, 2024

Rhode Island Chapter of Trout Unlimited (TU225) Attn: Glenn Place 203 Arcadia Road Hope Valley, Rhode Island 02832

Subject: Letter of Support for the CRMC Habitat Trust Fund

Dear Mr. Place,

The Central New England Fish and Wildlife Conservation Office fully supports the Rhode Island Chapter of Trout Unlimited in their project to conduct a feasibility study of the Breakheart Pond Dam.

Breakheart Pond is located in the upper Wood River, the Wood-Pawcatuck Watershed has been listed as a priority under the USFWS Watershed Investment Map. Removal of Breakheart Pond Dam would reconnect approximately 4.52 miles of stream and connect over 45 acres of high value wetlands and riparian habitat for brook tout, American eel, wood turtle and spotted turtle. This project is one of the highest priority cold-water stream enhancement projects in the State of Rhode Island and is a priority for RIDEM.

Brook trout are listed as a Tier III, American eel is Tier II, and wood and spotted turtles are listed as At-Risk species in the US Fish and Wildlife Service (FWS) Northeast Region Fish and Aquatic Conservation (FAC) Program Strategic Plan as "Species of Conservation and Management Concern". Reconnecting priority areas will greatly improve resiliency and the ability of these species to persist into the future in the face of climate change. Opening full aquatic organism passage allows species to reach quality habitat, seek thermal refugia in the summer, and give access to spawning and rearing habitat. Watersheds throughout New England, such as the Wood-Pawcatuck Watershed, have been severely segmented by dams. Removal of these dams, such as the Breakheart Dam, will restore upstream passage, sediment transportation and water quality. Dam removal can also remove hazards from the river, reduce maintenance, and improve flood resiliency.

Thank you for your hard work on these vital conservations efforts and please feel free to contact me with any questions or concerns. The U.S. Fish and Wildlife Service are a proud partner and supporter of these efforts.

Sincerely,

Keith McGilvray Project Leader, Central New England FWCO



Rhode Island Chapter of Trout Unlimited (TU225) Attn: Glenn Place 203 Arcadia Road Hope Valley, Rhode Island 02832

Subject: Breakheart Pond Dam Removal Feasibility Study

Dear Mr. Place,

This letter serves as formal support from Native Fish Coalition of the Rhode Island Chapter of Trout Unlimited (RITU) goal of gaining funding from the CRMC Habitat Trust Fund to conduct a feasibility study in regard to the removal of Breakheart Pond Dam. The dam, located in Arcadia Management Area, has been identified as a source of water temperature warming which is negatively impacting the upper Wood River watershed and stressing wild native fish and other aquatic lifeforms.

Breakheart Brook and the Wood- Pawcatuck Watershed are home to a number of fish classified as Species of Greatest Conservation Need (SGCN) including brook trout, river herring, American shad, and American eel, as well as some non-fish species such as wood turtle and Eastern pearlshell mussel. Having recently removed a barrier on the Flat River, RITU is looking to continue improving habitat for native species.

Native Fish Coalition believes that this project is critical in regard to restoring and reconnecting important habitat for native fish and other aquatic life. We fully support the initial phase of the project, and look forward to supporting future efforts involving the watershed as more funding becomes available.

Thank you for your work on behalf of wild native fish and please feel free to contact us with any questions or concerns you may have. Native Fish Coalition is proud to partner in this and related efforts that benefit our wild native fish.

Sincerely,

Bob Mallard – Executive Director, Native Fish Coalition Emily Bastian – National Chair, Native Fish Coalition Brian Cowden – National Vice Chair Northeast, Native Fish Coalition



THE BAY CENTER 100 Save The Bay Drive Providence, R.I. 02905 phone: 401-272-3540 8 Broad Street Westerly, R.I. 02891 phone: 401-315-2709

HAMILTON FAMILY AQUARIUM 23 America's Cup Ave, First Floor Newport, R.I. 02840 phone: 401-324-6020

March 27, 2024 Rhode Island Chapter of Trout Unlimited (TU225) Attn: Glenn Place 203 Arcadia Road Hope Valley, Rhode Island 02832

Subject: Letter of Support for the Breakheart Pond Dam Removal Feasibility Study

Dear Mr. Place,

Save The Bay fully supports the Rhode Island Chapter of Trout Unlimited's (RITU) application to the CRMC Habitat Trust Fund to conduct a feasibility study of the Breakheart Pond Dam. The dam is in the Arcadia Management Area and the site has been identified as a source of high-water temperature, effectively warming stream temperatures in the upper Wood River watershed and reducing the quality of habitat for fish and other aquatic species. I am personally very familiar with Breakheart Pond and the dilapidated fish ladder there, and regularly run and bike on Breakheart Trail.

Numerous species of greatest conservation need (SGCN) are present in Breakheart Brook, throughout the downstream areas below the dam, and in the watershed. Some of these species include Eastern Brook Trout, River Herring, Shad, American Eel, Wood Turtle, and Eastern Pearlshell Mussel. RITU is currently looking to continue native aquatic species and habitat restoration improvements. In light of recent structural issues at the site from heavy rain storms, there is greater interest in removing the dam and making the site more resilient.

Save The Bay understands that this project is a very important first step to reconnect and restore critical habitat and improve water quality in Breakheart Brook. We fully support this initial phase of the project, and look forward to supporting future projects at the site, as funding becomes available.

Thank you for your hard work on these vital conservation efforts!

Sincerely, Kate McPherson Narragansett Bay Riverkeeper

> savebay@savebay.org SAVEBAY.ORG