

# Lower Blackstone Fish Passage Project

Core Team Meeting #1  
September 30, 2021

*Presentation Annotated With Meeting Notes (11/3/21)*

Note: In this presentation yellow text is new information and red text are questions collected at the September meeting or afterwards via comments on the draft of this annotated presentation.

# Project Purpose

- Create a realistic, consensus path for fish to pass the first four dams on the Lower Blackstone River that
  - Is created through an open collaborative process,
  - Maximizes realization of the needs of key stakeholders, and
  - Can be used to secure funding to complete the project
- Will revisit at end of meeting to confirm shared purpose

# Project Approach

- Rules
  - Everyone has an equal voice--speak your mind!
  - Share your perspective at the meetings (no sidebars)
  - No bad ideas or questions
  - Will use a “parking lot” to put issues on hold if necessary
- Process
  - Aim to meet once a month--will not meet to meet!
  - Strive to have hybrid meetings that are half day
  - Use smaller groups/meetings to address certain issues
  - Expand Core Team along the way as needed

# Your History

- Each Core Team member to share their:
  - Interest in the project (why are you here?)
  - Organization's/personal past involvement in the project (what did you do?)

# Attendees

Simeon Bruner, Blackstone Hydro Associates	Melissa Grader, USFWS	John Marsland, BRWC/FOB
David Clemente, City of Pawtucket	Anthony Herbert, City of Pawtucket	Jason McNamee, RIDEM
Eric Breitreutz, NPS	John Kennelly, USACE	Jon Petrillo, Gravity Renewables
Megan DiPrete, RIDEM	Reid Lichwell, USACE	Kristine Reed, USACE
Phil Edwards, RIDEM	Sue Kiernan, RIDEM	Bryan Sojkowski, USFWS
Celeste Fay, Gravity Renewables	John O'Brien, TNC	Pooh Vongkhamdy, NRCS
William <b>Fay</b> , Blackstone Hydro Associates	Steve Olausen, Old Slater Mill Assoc	
Mike Gerel, NBEP	Jordan Macy, USACE	

# Priority Needs From Pre-interviews

<p><b>FUNDING</b></p>	<p>1. <b>Funding for planning</b> for fish passage for construction (e.g., studies, designs) that achieves <b>diadromous fish passage above Valley Falls Dam to Lonsdale Marsh.</b></p>
	<p>2. <b>Funding for construction</b> of passage that achieves <b>diadromous fish passage above Valley Falls Dam to Lonsdale Marsh.</b></p>
<p><b>LAND CONTROL</b></p>	<p>3. Non-federal entity to <b>control east bank parcel at Slater Mill Dam</b> for fish passage.</p>
<p><b>DESIGN</b></p>	<p>4. <b>Science-based engineering designs</b> that achieve constructability and maximize passage <b>above Valley Falls Dam to Lonsdale Marsh.</b></p>
	<p>5. Retain <b>historical character</b> and visual continuity at Slater Mill through engineering and easements.</p>
	<p>6. <b>Minimize cost</b>/lost revenue for dam/hydropower system owners--maintain commercial viability.</p>
	<p>7. Better understand <b>circumstances at Elizabeth Webbing</b> (e.g., requirement to keep dam, new hydro application).</p>
	<p>8. Stability of <b>Slater Mill dam and abutment</b> (cost and safety issue).</p>
	<p>9. <b>Maintenance and safety</b> of dam and fish passage structure.</p>
<p><b>PROJECT MANAGEMENT</b></p>	<p>10. Key Role #1: <b>Project lead(s)</b> to convene team, ensure open communication, and seek firm path forward. <b>[COMPLETED]</b></p>
	<p>11. Key Role #2: Partner(s) that can <b>convey federal funding</b> for effort (e.g, Corps NRCS).</p>
	<p>12. Key Role #3: <b>Entity to manage money/engage contractors</b> for project execution (especially for FERC dams).</p>
<p><b>COST/BENEFIT</b></p>	<p>13. Seek <b>balance/justification</b> across project cost and <b>outcomes (biological, historical, economic).</b></p>

# Any Priority Needs Missing?

1. **Water chestnut** degrading future fish habitat.
  - Seeing water chestnut across lower Blackstone, including Valley Falls Pond
  - RIDEM has grant with Central Falls to evaluate water chestnut problems. May develop some hydrologic information.
  - New agreement to begin coordinated management planned for 2022.
2. **Urban congestion** near dams provides limited space to construct fish passage especially at Valley Falls--fold into engineering design need
3. Do not fixate on **one approach**--stay open to new ideas--fold into engineering design need

1. <b>Funding for planning</b> for fish passage for construction (e.g., studies, designs) that achieves diadromous fish passage above Valley Falls Dam to Lonsdale Marsh.
2. <b>Funding for construction</b> of passage that achieves diadromous fish passage above Valley Falls Dam to Lonsdale Marsh.
3. Non-federal entity to <b>control east bank parcel at Slater Mill Dam</b> for fish passage.
4. <b>Science-based engineering designs</b> that achieve constructability and maximize passage above Valley Falls Dam to Lonsdale Marsh.
5. Retain <b>historical character</b> and visual continuity at Slater Mill through engineering and easements.
6. <b>Minimize cost</b> /lost revenue for dam/hydropower system owners--maintain commercial viability.
7. <u>Better</u> understand <b>circumstances at Elizabeth Webbing</b> (e.g., requirement to keep dam, new hydro application).
8. Stability of <b>Slater Mill dam and abutment</b> (cost and safety issue).
9. <b>Maintenance and safety</b> of dam and fish passage structure.
10. Key Role #1: <b>Project lead(s)</b> to convene team, ensure open communication, and seek firm path forward. <b>[COMPLETED]</b>
11. Key Role #2: Partner(s) that can <b>convey federal funding</b> for effort (e.g, Corps NRCS).
12. Key Role #3: <b>Entity to manage money/engage contractors</b> for project execution (especially for FERC dams).
13. Seek <b>balance/justification</b> for project cost, biological outcomes (fish return, connectivity, water quality), and historical preservation.

# Initial Next Steps Brainstorm

- In this exercise we will **capture information** to help address each need:
  - **DO NOT** need exact answer/solution now--just want information and potential next steps to move the ball forward
  - Ideas captured during interviews included—these are not final and are just ideas so may not be perfect or agreeable



# 1. Planning Funding

- What is cost of remaining planning (e.g., studies, designs, permitting, take to bid, etc.) to achieve purpose?—**Is \$400K a reasonable estimate for now?**
  - It is presumed that federal funding can be used for **planning** for FERC dams (Main Street, Valley Falls)—is this true?
- Potential planning leads and funders—**How should the Core Team approach fish passage planning as of Sept 2021?**
  - **USACE** can lead planning and cover planning costs for dams allowed by law
    - Entity/funding that will pay for installation costs **above \$10M USACE ceiling must be identified** to move toward final designs
      - ✓ USACE has spent about \$1M on design and study to date—so ~\$9M remaining
      - ✓ **If USACE isn't planning lead, are these funds still available for planning/construction?**
    - Would need Project Purchase Agreement--agreement between USACE and non-federal sponsor(s) to go from design to construction
    - USACE has completed NEPA Environmental Assessment study at conceptual level--study is not complete primarily because unsure of land control and lack of final designs
    - Conceptual designs and study have not been published yet
      - ✓ USACE to ensure summary of federal modeling of specific passage designs with the Core Team
  - **NRCS** is another option for planning and related costs
    - Past WHIP funds have expired
    - Would need new authorization and new program to convey money (WHIP is gone)
  - **RIDEM** has \$900K from Bay and Watershed Restoration Fund (bonds) under contract with TNC for this project
    - Regs call for construction focus—**Can some of these funds be used for planning?**
  - **Subgroup of Core Team**—team approach with federal (Corps, USFWS) and non-federal (RIDEM, TNC, dam owners, consultants) entities may be good option to consider existing and new approaches
- Lands that can host fish passage **must** be in non-federal control for federal government to be involved in planning

# 2. Construction Funding

- Need cost estimate for final designs
  - Estimate for denial ladders at Main Street and Slater Mill is **~\$15.3M**
  - To achieve passage past Elizabeth Webbing, cost could go up to **~\$20M**
  - Need estimate for vertical slot past Main Street/Slater Mill, and final designs for Elizabeth Webbing and Valley Falls
- Funding in place for planning and construction
  - USACE has ~\$9M
  - RIDEM has ~\$900K
- Constraints on use of federal funding for construction
  - Can't cover any costs at Valley Falls Dam
    - **Can/should the non-federal sources of funding help pay for passage at Valley Falls Dam?**
  - Can't cover Elizabeth Webbing if active hydro license (firm considering restarting hydro); if no license federal money can pay
  - Can pay for Slater Mill if land where fish passage is to occur is non-federally owned
  - Main Street is a mixed—some elements can use federal, others not (e.g., dam owner would cover tailrace distraction to fish)
- USACE as funder
  - Can cover planning and construction costs up to \$10M (~\$9M now) or new Congressional approval needed under Continuing Authorities Program (Section 206)
    - Team can choose an option that goes over the ceiling, but other sources would need to pay difference
  - Requires 65% USACE, 35% other
- Potential other funding sources
  - New State bond funds
  - Community Project (old earmark)
  - Watershed Protection and Flood Prevention Act (PL566) via NRCS
  - Private foundations
  - Power Purchase Agreement spread out over ratepayers/time--market is not attractive now, but there are some mechanisms with a modest law change where Gravity Renewables could contribute via RI Renewable Energy Growth Program
- Having designs and estimated costs in place will enable pursuit of these and other funding sources

# 3. Slater Mill Land Control

- Clarification of land control at Slater Mill is viewed as a top priority need before final designs and cost can be created
- Current land control and potential actions by Old Slater Mill Association (OSMA), National Park Service (NPS), and RIDEM include
  - OSMA owns and controls the dam, abutment, and the parcel on river left (east bank of river), across the dam from the Old Slater Mill, Wilkinson Mill, Sylvanus Brown House, Hodgson Rotary Park and the parking lot
  - NPS is committed to acquiring the entire dam structure (including the abutment) hopefully within the next year
    - NPS is unclear as to the exact definition of “the dam abutment”—the site work noted below is designed to determine what is the structural extensions of the dam and what is the final “river left parcel” so appropriate property lines can be drawn
  - OSMA has not decided whether to sell any property—their Board is considering
    - Initial desire was for NPS to acquire all property, however with the discussion about the river left parcel hosting fish passage, the transfer was put on hold because federal-ownership would preclude use of federal dollars for passage
    - If the river left parcel is transferred to accommodate fish passage, OSMA would seek a scenic easement
  - RIDEM would be willing to talk to OSMA if they decide to sell the river left parcel
  - City of Pawtucket could have a role in river left parcel
  - Regardless of property transfer plans, OSMA will look to execute an easement to allow the NPS to access the dam for maintenance
  - If there is a transfer of the river left parcel or an easement for the fish passage, OSMA would put a scenic easement on the property
- Ongoing site work
  - Per contract with RIDEM, TNC hired Fuss & O'Neill to complete a geotechnical assessment of the river left parcel to inform a future property line between the parcel and the dam (including structural connections between dam and abutment) and otherwise evaluate site conditions
  - Report has been submitted to RIDEM, who will share with others after internal review
    - **Should RIDEM legal review report prior to release?**
    - **Who/when should receive a copy of the report?**
- Forming a Land Control Subgroup ASAP of OSMA, NPS, RIDEM, Pawtucket, and Fuss & O'Neil may be an option to ensure coordination

# 4. Engineering Design and Costs--Slide #1

- Design and cost is the other top priority right now
- USACE has 20 conceptual designs that have been costed out for dams—**Can these be shared with the Core Team?**
- Dam-by-dam design information
  - Main Street and Old Slater Mill
    - Denil fishway proposed in 2012 proved too expensive
      - ✓ USACE has many conceptual designs that look at dam and/or its abutment, modeling of each, and their biological outcomes
      - ✓ For Main Street and Old Slater Mill a vertical slot fishway is viewed as superior--will get the most different sizes of fish (denil limits size/species of fish), works better with hydraulics at Main Street, and O&M is easier
        - Must address fish attraction issues at Main Street
    - Fuss & O'Neill used NRCS funding to complete a 30% design for a vertical slot fishway past Main Street and Slater Mill dams
      - ✓ **Who has a copy of this design and can it be shared with the Core Team?**
  - Elizabeth Webbing
    - RIDEM purchased the dam with restrictive covenant that the dam must stay but can be lowered up to 2 feet--landowner holding easement likes water sound to block-out I-95
      - USACE has five potential designs and modeling--lowering dam 2-ft and denil, same height and denil, raceway around dam--options are simple and straightforward
      - Can use designs with or without renewed hydro operation
      - USACE did a study on dam and has shared with RIDEM and USFWS—**Can this study be shared with Core Team?**
  - Valley Falls
    - Heavily developed area with site constraints--only space is in Valley Falls Heritage Park.
    - USACE has some preliminary design ideas--conceptual design for river left using denil (left abutment is in park)—**Can these be shared with Core Team?**
    - FERC/USFWS can mandate action when definitive plans, funding, and permits are in place for the downstream dams
    - Per FERC permitted documents Blackstone Hydro has proposed to provide downstream passage and protection measures and upstream eel passage facilities within a few years of issuance—**Is this correct?**

# 4. Engineering Design and Costs--Slide #2

- All want science-based design at each dam that maximizes achievement of regulatory requirements and stakeholder needs
- USACE has offered to present their conceptual designs at a future meeting
- Do not fixate on one approach--remain open to scenarios/options that have not previously been considered that achieve purpose and meet needs
- Suggestion to form Engineering Design Subgroup to evaluate existing data/options, create evaluation criteria, narrow down to designs (w/costs) that address needs, and explore definitive steps to advance designs (who to pay, who to lead, who to complete engineering, etc.)
  - Group could include USACE, NRCS, USFWS, RIDEM, NPS, RI Natural Historical Preservation, and dam owners—see note about Section 106 on next slide—Should Fuss & O'Neil be invited to join this group based on their past work on the dams?
  - Can USACE/NRCS/RIDEM/others share existing studies, designs, modeling, and other information with this subgroup and/or Core Team for independent review?—Mike could maintain on SharePoint
- Bottom line: Must have **designs AND estimated costs** to pursue necessary construction funding

# 5. Retain Historic Character at Slater Mill

- Final structure that does not harm visual continuity
  - Potential for fish ladder in trench on river left
- Use bricks, colors, and other historical features
  - It was noted that some heritage-friendly designs were previously completed—Who has this work and can it be shared with the Core Team?
  - Fuss & O'Neil report noted on the "Slater Mill Land Control" slide includes some historic review of the site, with a focus on river left parcel
- Core Team shared desire to pursue designs that blend into environment
- Kept historic character piece as a separate need to ensure it does not get lost
- All historic character interests will be invited to participate in Engineering Design Subgroup—Would Section 106 public notice requirements apply to these preliminary discussions or does it kick in with NEPA process?
- Discuss further at Meeting #2

## 6. Minimize Dam Owner Cost

- Dam owner costs limited to that required by law
  - Gravity Renewables previous financial obligation around passage has been met through investment in trash rack
- Engineering designs that maximizes existing flow regime/head as much as possible
- “Off-take agreement” that compensates dam owners for lost revenue would require law change
- Valley Falls Dam owner awaiting action on lower dams before considering designs or taking other concrete action beyond that required by FERC
- Discuss further at Meeting #2

## 7. Circumstances at Elizabeth Webbing

- RIDEM cannot remove dam but can lower 2 feet--Is this negotiable?
- Assess implications/reality of new hydro at Elizabeth Webbing
  - USACE has prepared designs that will work regardless of hydro situation
- Further discuss at Meeting #2



# Slater Mill Dam and Abutment Issues

- This has been wrapped into the “Engineering and Cost” and “Slater Mill Land Control” Needs

## 8. Maintenance and Site Safety

- Consider maintenance issues in selecting design—vertical slot will be easier
- Ensure access is controlled during construction and after completion to prevent public access to structures that could be hazard
- Include long-term maintenance costs in estimates
- Will discuss at Meeting #2

# Key Role #1: Project Lead

- RIDEM has assumed role as project coordinator
- RIDEM brought on the Narragansett Bay Estuary Program to develop and manage the project process

## 9. Key Role #2: Conveyer of Federal Funding for Planning and Construction

- USACE can funds up to \$10M ceiling
- NRCS has conveyed planning funds in the past—**with WHIP program/money gone, new mechanism would need to identified and new funding authorization provided**
- **Different funding sources may require different conveyers**
  - **Based on existing and potential funding sources who are the best/most likely conveyers of federal dollars?**
- **Discuss at Meeting #2**

## 10. Key Role #3: Money/Contractor Manager

- TNC is currently under contract to manage \$1M (\$914,500 left) and contractors
  - Can TNC manage all funding sources (federal, state, other)?  
Other options to consider?
- TNC has indicated a preference to keep Fuss & O'Neill involved based on past work on project
  - Anticipate that Fuss & O'Neil would not charge to participate in early Engineering & Design Subgroup meetings.
- Discuss at Meeting #2

# 11. Cost/Benefit Considerations

- Must consider both the:
  - **Cost** of planning, installation, operation, and maintenance, and
  - **Benefits** of new fish moving up the Lower Blackstone **AND** benefits to the greater Blackstone River, Narragansett Bay, and North Atlantic (fishery, water quality, ecosystem, tourism, culture)—this is not solely a fish counting exercise
- Need modeling/data that supports creation of a consensus position that the cost of the final agreement is justified for the expected outcome (especially important for elected officials)
  - NRCS did an Environmental Assessment in 2008, which includes discussion of benefits
  - USACE has completed some modelling that would inform this discussion
- Discuss at Meeting #2

## 12. Water Chestnut & Other Upstream Fish Habitat Issues

- Discuss at Meeting #2

# Revisit Purpose & Approach

- Is the purpose described at the beginning of the meeting shared by the group? How should it be changed?
  - *Development of a realistic, consensus **agreement for improving river connectivity on the Lower Blackstone River by achieving diadromous fish passage above the Valley Falls Dam to the restored Lonsdale Marsh system** that is created through an open collaborative process, maximizes realization of the needs of stakeholders, and can be used to secure funding to complete the project*
- Any changes to the approach based on today's meeting or further thought?
  - **Approach is sound.**
  - **Use Microsoft Teams for virtual meetings**
  - **Keep virtual meetings to 2 hours if possible**
  - **Like idea of forming subgroups to get into nitty-gritty of 'first-step' solutions (e.g., land control, engineering design) that create pre-conditions for other actions**



# Add Members to Core Team

- Suggestions during pre-interviews of others who should join us:
  - Save The Bay
  - RI Natural Historical Preservation and Heritage Commission
  - City of Central Falls
  - Town of Cumberland
  - FERC
  - NOAA-NMFS
  - USGS
  - Nipmuc Nation
  - Bay commercial/recreational fishing
- Who should be included?\*

Who	When (next meeting, future)	How (full team, smaller group)
Jeff Emidy, RI Natural Historical Preservation and Heritage Commission	Next meeting	Full meeting

\*Note that USACE is required to seek public comment on design, so wider engagement will be required before final approach in place.

# Next Meeting

1. Make any final edits to this annotated presentation and share new information since last meeting.
2. Finish discussing 8 needs (Needs #5-#12) not fully covered in September.
3. Identify existing information/data help by Core Team members that is germane to the project and what can/should be shared with the rest of the team via the new SharePoint folder.
4. Confirm necessary subgroups to form this winter to address “must happen first” needs.

# Action Items

1. NBEP to annotate this presentation with meeting notes and return to group.
2. NBEP to invite Jeff Emidy with RI Natural Historical Preservation and Heritage Commission to next meeting.
3. NBEP to send out Doodle to schedule next meeting virtually over Teams for early November.
4. USACE to share summary of modeling of specific passage designs with the Core Team.
5. NBEP to compile additional and seek answer to questions in red text.