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A Public Agency

BRISTOL COUNTY WATER AUTHORITY

February 28, 2024

Project Name: Restoring the Ecological Resiliency of the Kickemuit River Estuary

Subaward No.: SNEPWG21-1-BCWA

Subaward Period: Dec. 31, 2023

Subawardee Organization: Bristol County Water Authority

Project Contact: Stephen Coutu, Executive Director
(401) 245-2022, ext 18
scoutu@bcwari.com

Reporting Period: January 1, 2022 to August 31, 2023

FINAL REPORT

Final Report Narrative

The Bristol County Water Authority (BCWA) proposes to remove the Lower and Upper Kickemuit Reservoir Dams (Figure 1) to restore a tidal estuary, create habitat for estuarine species, facilitate marsh migration, improve the river's water quality by increasing tidal flushing and increase community resiliency by restoring the flood plain and reduce roadway flooding. The project was supported by the USEPA's Southeast New England Program's (SNEP) Watershed Grants. BCWA utilized the SNEP grant funds so that its engineering consultant could finalize the engineering plans incorporating comments received from permitting agencies, prepare for and attend meetings as necessary with permitting agencies so that all required permits could be secured. Additionally, SNEP grant funds were utilized to prepare the bid documents, and costs associated with the bidding and contract process.

The engineering plans and permit applications for the dam removal projects were finalized by BCWA's consulting engineer, Pare Corporation (Pare), and submitted to the Rhode Island Department of Environmental Management (RIDEM) Division of Freshwater Wetlands and Division of Water Resources (Water Quality Certification Program), the Coastal Resources Management Council (CRMC), and US Army Corps in August of 2021. Jurisdictionally, the CRMC was responsible for the permitting of the Lower Dam given its location within tidal waters and RIDEM's Division of Freshwater Wetlands was responsible for the permitting of the Upper Dam given its location within a freshwater wetland.

The CRMC public hearing was held on September 27, 2022. At the hearing, the BCWA received approval for the project with the following two (2) conditions:

- i. Monitoring of private wells of project abutters
- ii. Prepare a cost estimate for running a new water line up Serpentine Road, which runs adjacent to the impoundment.

The US Army Corps of Engineers approval for both the Lower Dam and Upper Dam was received on October 4, 2022 with the following time of year restrictions on the project:

- i. Work in non-tidal waters shall be limited to the period of May 1 to Dec. 31
- ii. Work in tidal waters shall be limited to the period of July 1 to February 1

Around this time period, BCWA received a final set of comments from the RIDEM Division of Freshwater Wetlands and a revised plan set addressing those comments were forwarded to that agency on October 7, 2022.

Of significant importance to this project, the RI Department of Transportation completed its culvert improvement project on Schoolhouse Road, located just below the Upper Dam. This project was a critical first step for the BCWA dam removal project given that increasing the size of the culverts and raising the roadway was necessary to eliminate the potential for flooding and to allow tidal flow following the removal of the dams.

The formal CRMC Assent was received on April 17, 2023. Per the CRMC Assent, we offered testing of salinity for the private drinking water wells for those properties that abut the reservoir before and after the removal of the dams. A total of 27 homes in this area were identified and 12 homes participated. All the sampling was completed and tabulated. The results were sent back to the respective property owners. No sampling issues were identified. BCWA staff also prepared a cost estimate to install a new water line up Serpentine Road to serve the project abutters as required by the CRMC Assent.

A meeting was requested by BCWA with RIDEM staff to discuss the permit status. BCWA along with project consultants from Pare met with RIDEM staff from the Division of Freshwater Wetlands on February 1, 2023. At the meeting, we learned for the first time that the RIDEM Wetlands Supervisor had a concern with the loss of habitat for migratory waterfowl in the upper impoundment. Pare biologists informed RIDEM staff that reports had been previously submitted to address this concern since the habitat has been degraded due to the dam, sea level rise, and saltwater intrusion and conversion from a freshwater wetland to a saltwater estuary is already taking place. It was requested that Pare biologists provide a summary report specific to this issue. This report was submitted on February 10, 2023.

On March 3, 2023, RIDEM's Division of Wetlands issued a letter notifying BCWA that the application was complete and adequate for public notice (45-day public notice/review period). RIDEM issued a Public Notice for the project on March 15th. The public notice period expired on May 1, 2023. Per RIDEM, (4) letters in favor of the project were received, with no objections. RIDEM's Division of Wetlands permit approval was received on June 13th following 22 months of permitting. The RIDEM approval was the last remaining permit required for the project.

The RIDEM Water Quality Certification for both the Upper and Lower Kickemuit Dam Removals was received from the RIDEM's Office of Water Resources on April 26, 2023.

During this period, Pare Corp. was also preparing and finalizing the plans and bid specifications. The project was put out to bid on May 17th and bids were accepted on June 22nd.

Following receipt of the bid proposals, BCWA staff and consulting engineers from Pare Corporation met with both bidders to discuss their approach to the project. Given that both bids came in higher than BCWA's grant and budgeted funds and it was in the best interest of BCWA to not re-solicit bids under revised specifications

as this would only delay the project, we afforded both companies to opportunity to value engineer their proposals and submit revised bids, if desired. Both contractors subsequently submitted revised bids which were vetted by BCWA staff and Pare Corporation.

At their meeting of July 27, 2023, The BCWA Board of Directors approved and awarded a contract to the lowest responsive bidder, Lucianos Excavation Inc. from Taunton, MA for the removal of both the Upper and Lower Kickemuit River Dams for \$3,881,620.

A pre-construction meeting was held on August 31st and the contractor mobilized on-site the first week of October. The construction work to remove the dams is underway and in progress.

Project Results

The project goals specific to this SNEP grant were to perform the engineering work necessary to obtain all regulatory permits so that the dam removal project could be put to bid and awarded. Although the time frame for this effort took longer than initially estimated, this aspect of the project is considered a success given that all permits were received and the dam removal project was awarded. The SNEP grant funds were extremely helpful for BCWA to achieve this result as the permitting process required more meetings and plan revisions than envisioned, as well as unexpected permit conditions (ie. sampling of private groundwater wells).

Next Steps

Following receipt of the bids on June 22, 2023 and it was apparent that additional funding would be needed to complete the dam removal project. BCWA working with its project partner, Save The Bay, applied for additional grant funding for the construction phase from the SNEP Stormwater and Natural Infrastructure Grant Program. BCWA was successful and was awarded an additional \$600,000 for the removal of the Kickemuit River dams.

Presently, construction activity for dam removal project is in progress and underway. Most of the Lower Dam has been removed and all impacted sediments just upstream of the Lower Dam have been removed and properly disposed of. Upon completion of the channel grading at the Lower Dam and removal of additional sediment that may migrate downstream, the contractor will focus on the completion of the Upper Dam removal after May 1st, in accordance with the regulatory time of year restrictions.

Compliance

It was determined early in this process that a Quality Assurance Project Plan (QAPP) would not be applicable given that the grant funds were being utilized for engineering consulting purposes.

All Permit approvals were received from the RIDEM, CRMC, and US Army Corps

Project Partners

Save The Bay has been an extremely supportive project partner since the idea of removing the dams came to light in 2016. Save The Bay has assisted BCWA in finding and applying for grants for this project. Additionally, Save The Bay is very instrumental in garnering support for a project of this nature from other agencies and groups. Specific to this grant and project, in addition to Save The Bay, a letter of support was received from NOAA Restoration Center, and also established a partnership with the Town of Warren, RI and RI's Chief Resiliency Officer. This partnership was successful in convincing the RIDOT to expand its scope of work on

Schoolhouse Road to install large capacity culverts. This project was critical for the advancement of the removal of the Upper Dam.

As word spread regarding this project, the BCWA has also partnered with a number of agencies interested in conducting research on this water body, pre and post dam removal. In this regard, BCWA has partnered with URI Watershed Water to perform water quality assessments. URI researchers have been studying blue crabs within the former reservoir. A URI researcher is also studying methane flux measurements pre and post dam removal and a professor and students from Roger Williams University are measuring the water levels, and conductivity.

Volunteer and Community Involvement

As part of this phase of the project there have been no volunteer or community involvement during this period. However, once the dams have been removed, Save The Bay will be coordinating volunteers to assist with restoration plantings along the new exposed shoreline.

Outreach and Communications

Project partners and stakeholders have been kept apprised of the project status through email communications from the BCWA Executive Director. Additionally, press releases have been issued and the press has been contacted at significant project milestones. E-mail communications and newspaper articles have been appended to this report.

Project Budget Report

The following grant funded work was completed through contractual engineering services by Pare Corporation.

- Coordination with permitting agencies
- Prepared and submitted responses to comments from regulatory agencies
- Completed additional modeling to support responses to comments
- Conducted a Shellfish survey
- Prepared for and attended Public Hearing for CRMC application
- Prepared and submitted additional hydraulic and hydrologic figures and data to support responses to comments to RIDEM Engineers
- Conducted a drone flyover during low water for permitting
- Prepared for and attended meeting with RIDEM Wetlands staff
- Prepared response to address RIDEM comments from meeting and submitted additional hydraulic and hydrologic figures and data to support responses to comments to RIDEM Engineers
- Issued public notice documents to RIDEM
- Preparation of plans, specifications, and bid documents
- Prepared for and coordinated pre-bid meeting and subsequent addenda
- Received copies of bids and prepared bid tabulation
- Scheduled and sampled water from 12 residences along the Kickemuit Reservoir as required by CRMC Assent.
- Meetings with two bidders and evaluation of value engineered bids.
- Prepared and issued bid evaluation letter
- Coordination with Save The Bay and RIDEM for oyster relocation plan.
- Reviewed and prepared contract construction documents

- Attended pre-construction meeting
- Review of Submittals and Shop Drawings

The following match funded work was provided by BCWA in-kind services:

- 100 hours by the Executive Director for the following:
 - Project Administration and oversight
 - Project meetings
 - CRMC Hearing
 - Correspondence with RIDEM and RIDEM meetings
 - Review of report prepared by Consultant for RIDEM
 - Correspondence with Project Partners regarding RIDEM public notice period
 - Review of final plans and bid documents
 - Attendance at pre-bid meeting
 - Attendance of meeting of Warren Conservation Commission to provide project update
 - Bid Proposal and value engineering review
 - Meetings with engineering consultant and bidders
 - Review of Contract Documents
 - Correspondence with Stakeholders and Preparation of Press Release
 - Prepare for and attend contract award meeting
 - Pre-construction meeting.
- 75 hours by the Operations Manager for the following:
 - Review of consultant work
 - Project meetings
 - Meeting at RIDEM
 - Coordination of testing of private drinking water wells
 - Review of final plans and bid documents
 - Attendance at pre-bid meeting.
 - Bid proposal and value engineering review
 - Meetings with engineering consultant and bidders
 - Review of contract documents
 - Attendance at contract award meeting
 - Pre-construction meeting.
- 41 hours by the staff engineer for the following:
 - Provide shellfish survey support
 - Provide general project assistance
 - Provide support with drone flyover
 - Work with consultant on obtaining private drinking water well samples within project area
 - Assist with oyster relocation plan
 - Assist stakeholders with deployments of measuring devices in the reservoir.
- 37 hours by the Project Engineer:
 - Review of consultant work
 - Review of consultant invoices
 - Assist with bid and addendum issuance
 - Assistance with construction contract plans
 - Attend project meetings

The following match funded work was provided by BCWA's attorney:

- Legal Fees associated with CRMC Hearing
- Legal fees associated with review of bid proposals, Pare Corp analysis, contract review, and meeting

Summary Budget Tables

- See attached Summary Tables 1 and 2.

Supporting Materials

- Email notifications to project supporters and stakeholders
- Press Releases and Newspaper Articles

Certification

The undersigned verifies that the descriptions of activities and expenditures in this progress report are accurate to the best of my knowledge and that the activities were conducted in agreement with the grant contract. I also understand that matching fund levels established in the grant contract must be met.

Signature: 

Name: Stephen Coutu, P.E.

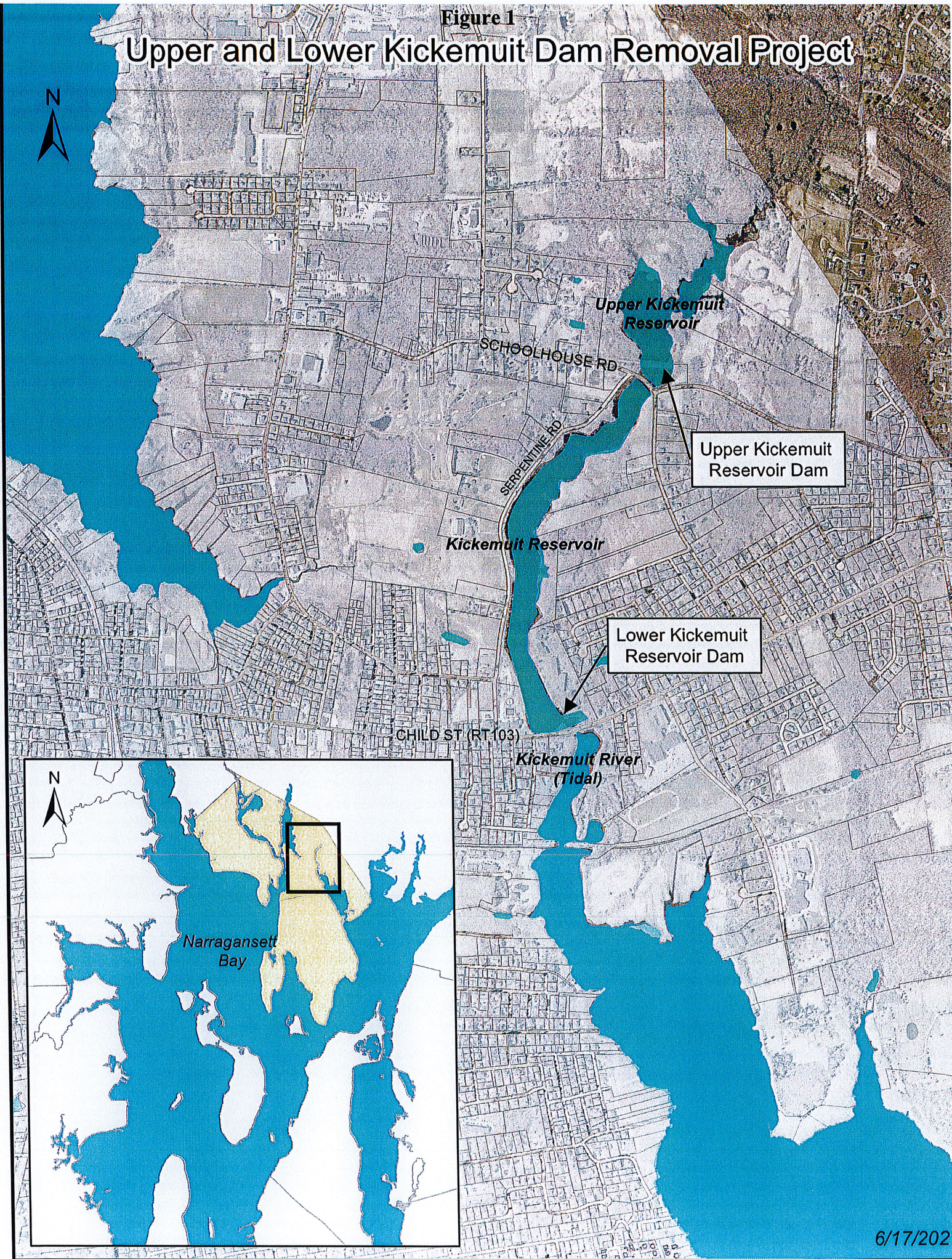
Title: Executive Director

Date: February 28, 2024

Organization: Bristol County Water Authority

Figure 1

Upper and Lower Kickemuit Dam Removal Project



Summary Budget Table 1: Expenditures by Federal Cost Category

Project Name: Restoring the Ecological Resiliency of the Kickemuit River Estuary
 Subaward No.: SNEPWG21-1-BCWA

FINAL

Reporting Period: January 1, 2022 to August 31, 2023

Federal Budget Category	Total		Grant Funds		Match Funds		Match Source (cash or in kind)
	Budgeted Fur	Budgeted Match	Expended this Period	Expended Cumulative	Expended this Period	Expended Cumulative	
a. Personnel	\$0.00	\$12,240.00			\$3,470.00	\$14,849.50	in kind
b. Fringe Benefits	\$0.00	\$2,754.00			\$780.75	\$3,341.14	in kind
c. Travel	\$0.00	\$0.00					
d. Equipment	\$0.00	\$0.00					
e. Supplies	\$0.00	\$0.00					
f. Contractual	\$80,000.00	\$20,000.00	\$2,676.88	\$80,000.00	\$3,922.12	\$3,922.12	
h. Other	\$0.00	\$0.00			\$1,032.50	\$4,528.25	Legal fees
TOTAL DIRECT	\$80,000.00	\$34,994.00	\$2,676.88	\$80,000.00	\$9,205.37	\$26,641.01	
TOTAL INDIRECT	\$0.00	\$0.00					
TOTAL COST	\$80,000.00	\$34,994.00	\$2,676.88	\$80,000.00	\$9,205.37	\$26,641.01	

Summary Budget Table 2: Expenditures by Project Task (Grant Funds Only)

Project Name: Restoring the Ecological Resiliency of the Kickemuit River Estuary
 Subaward No.: SNEPWG21-1-BCWA

Reporting Period: January 1, 2022 to August 31, 2023

Budget Category	Budgeted		Expended		Actual Expended	
	Grant Funds	Progress Period 1	Progress Period 2	Progress Period 3	Progress Period 4	Progress Period 5
Task 1: Project Mgmt	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Task 2: Engineering	\$80,000.00	\$10,176.31	\$27,341.00	\$39,805.81	\$2,676.88	\$80,000.00
Task 3: Construction	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total	\$80,000.00	\$10,176.31	\$27,341.00	\$39,805.81	\$2,676.88	\$80,000.00

Stephen Coutu

From: Stephen Coutu
Sent: Wednesday, August 3, 2022 3:08 PM
To: Michael Crawford; Dave Dasilva; wferguson (wferguson@savebay.org); Topher Hamblett; rcalabro@savebay.org; kmichaud@townofwarren-ri.gov; kcronin@townofwarren-ri.gov; Matt Bellisle; Seaver Anderson; Brian Dutra; janeharrison@fullchannel.net; sorourke@riib.org; annmorrill@cox.net; durban23@gmail.com; cbrown@town.swansea.ma.us; peter.alviti@dot.ri.gov; Edwards, Phillip (DEM); Ifeldman@crmc.ri.gov; James Turek - NOAA Federal; stevem@rissa.org; ejennyk@inbox.com; Jan Reitsma; rep-knight@rilegislature.gov; rep-speakman@rilegislature.gov; Senator Cynthia Coyne (sen-coyne@rilin.state.ri.us)
Subject: RE: Kickemuit Dam Removal Project Update
Attachments: DJI_0129.JPG

To All the Members of the Steering Committee and Supporters of the Kickemuit Dam Removal Project,

It has been almost a year since I provided an update on the status of the removal of the Kickemuit River Dams.

With the RIDOT recently commencing work to replace the culverts and raise the elevation of Schoolhouse Road (see attached photo), I thought it might be a good time to provide everyone with an update on the dam removal project. The RIDOT project is a key element of the dam removal projects since it will reduce the flooding of Schoolhouse Road, a critical emergency access road for the Town of Warren and will improve water flow with the installation of larger culverts. BCWA and our project partners commend RIDOT for advancing this project which is a critical first step towards the ecological restoration of the Kickemuit River and will increase the resiliency of this roadway.

Last August, Bristol County Water Authority's engineer, Pare Corp, submitted the permit applications, engineering plans and supporting documentation to the respective State agencies within RIDEM and CRMC, as well as the Army Corps of Engineers (ACOE) for the removal of the upper and lower dams.

In the fall, CRMC and DEM's Water Quality Certificate program held a public comment period and received public comments on the project. Thank you to all our partners that provided comment letters during the public comment period.

In January of this year, BCWA received review comments on the plan submission from DEM's Water Quality Certificate program and the DEM Wetlands program. BCWA through Pare Corp responded to the comments in March and we continue to work with those agencies through the permitting process. Pare Corp recently received some minor comments from the ACOE and we are still awaiting comments from the CRMC. We will keep you posted on the status of the permitting process as we hear from those agencies.

The project continues to garner support from environmental organizations evidenced by the grant awards received late last year. With assistance from Wenley Ferguson of Save the Bay, the BCWA received a grant in the amount of \$1.4 million from the National Fish and Wildlife Foundation, as well as a grant for \$80,000 from Restore Americas Estuaries (Southern New England Program). The federal funds will be used to match the \$1.3 million in construction funding previously received from RIDEM's Climate Resilience Fund. To date, we have now secured over \$2.8 million in grant funds for this project which will help fund most, if not all, of the project costs.

Thank you for your ongoing support and partnership on this project as we continue to advance though the permitting process. As always, if you have any questions on this project or other BCWA matters, please feel free to contact me.

Stephen Coutu

From: Stephen Coutu
Sent: Friday, June 16, 2023 4:40 PM
To: Michael Crawford; Dave Dasilva; wferguson@savebay.org; Topher Hamblett; rcalabro@savebay.org; 'kmichaud@townofwarren-ri.gov'; 'kcronin@townofwarren-ri.gov'; 'Matt Bellisle'; 'Seaver Anderson'; 'Brian Dutra'; 'janeharrison@fullchannel.net'; 'sorourke@riib.org'; annmorrill@cox.net; durban23@gmail.com; cbrown@town.swansea.ma.us; peter.alviti@dot.ri.gov; 'Edwards, Phillip (DEM)'; Ifeldman@crmc.ri.gov; 'James Turek - NOAA Federal'; 'ejennyk@gmail.com'; 'Jan Reitsma'; rep-knight@rilegislature.gov; rep-speakman@rilegislature.gov
Subject: FW: Kickemuit Dam Removal Project Update

Hello Everyone,

I would like to inform you that after 22 months of permitting, the BCWA received the RIDEM Wetlands Permit this week which was the last remaining regulatory permit required for the project. During the RIDEM's public comment period, they received three (3) letters, all in support of the project. Thank you to all those that wrote or have written letters of support for this environmental improvement project. We have also been out to bid for the project for the past few weeks with bids due next week on June 22nd. We have received good interest to date from experienced dam removal contractors and are hopeful for favorable bid submissions.

In related news, we commenced Phase I of the treatment plant demolition which includes the removal of the exterior tank structures and piping. Substantial completion of this work is scheduled for the end of this month.

Thank you for your continued support, and if you have any question, please feel free to contact me.

Steve
Stephen Coutu, P.E.
Executive Director and Chief Engineer
BRISTOL COUNTY
WATER AUTHORITY
450 Child Street | Warren, RI 02885

From: Stephen Coutu
Sent: Friday, March 24, 2023 3:25 PM
To: Michael Crawford <mcrawford@bcwari.com>; Dave Dasilva <ddasilva@bcwari.com>; 'wferguson (wferguson@savebay.org)' <wferguson@savebay.org>; 'Topher Hamblett' <thamblett@savebay.org>; 'rcalabro@savebay.org' <rcalabro@savebay.org>; 'kmichaud@townofwarren-ri.gov' <kmichaud@townofwarren-ri.gov>; 'kcronin@townofwarren-ri.gov' <kcronin@townofwarren-ri.gov>; 'Matt Bellisle' <mbellisle@parecorp.com>; 'Seaver Anderson' <sanderson@parecorp.com>; 'Brian Dutra' <bdutra@parecorp.com>; 'janeharrison@fullchannel.net' <janeharrison@fullchannel.net>; 'sorourke@riib.org' <sorourke@riib.org>; 'annmorrill@cox.net' <annmorrill@cox.net>; 'durban23@gmail.com' <durban23@gmail.com>; 'cbrown@town.swansea.ma.us' <cbrown@town.swansea.ma.us>; 'peter.alviti@dot.ri.gov' <peter.alviti@dot.ri.gov>; 'Edwards, Phillip (DEM)' <phillip.edwards@dem.ri.gov>; 'Ifeldman@crmc.ri.gov' <Ifeldman@crmc.ri.gov>; 'James Turek - NOAA Federal' <james.g.turek@noaa.gov>; 'ejennyk@inbox.com' <ejennyk@inbox.com>; 'Jan Reitsma' <janhreitsma@gmail.com>; 'rep-knight@rilegislature.gov' <rep-knight@rilegislature.gov>; 'rep-speakman@rilegislature.gov' <rep-speakman@rilegislature.gov>
Subject: RE: Kickemuit Dam Removal Project Update

Dear Members of the Steering Committee and Supporters of the Kickemuit Dam Removal Project,

As we move into Spring of 2023, we finally appear to be making some headway on the permitting process to remove the dams and restore the Kickemuit River Estuary. As previously reported, we received the approval of the CRMC for the Lower Dam Project at their public hearing held on Sept. 27th, 2022. Shortly thereafter, we received the approvals from the US Army Corps for both the Lower and Upper Dam projects on Oct. 4th. The Army Corps approval came with the following time of year restrictions to perform the work:

- i. Work in non-tidal waters shall be limited to the period between May 1 and December 31.
- ii. Work in tidal waters shall be limited to the period between July 1 and February 1.

Just recently, following a lengthy review period (applications were submitted in August 2021), RIDEM Wetlands issued their Public Notice for the Upper Dam Project (attached). The RIDEM Wetlands permit is the final regulatory hurdle for the project. Given this, we plan on going out to bid in the near future so that we are ready to advance the project to the construction phase once the RIDEM permit is secured and we can meet the time of year restrictions per the US Army Corps approval.

As always, I thank you for your continued support and if you have any questions, please feel free to contact me.

Steve
 Stephen Coutu, P.E.
 Executive Director and Chief Engineer
BRISTOL COUNTY
WATER AUTHORITY
 450 Child Street | Warren, RI 02885

Stephen Coutu

From: Stephen Coutu
Sent: Friday, August 25, 2023 2:46 PM
To: Michael Crawford; Dave Dasilva; wferguson@savebay.org; Topher Hamblett; kmichaud@townofwarren-ri.gov; Keri Cronin (kcronin@townofwarren-ri.gov); 'Matt Bellisle'; 'Seaver Anderson'; 'Brian Dutra'; Jane Harrison; annmorrill@cox.net; durban23@gmail.com; cbrown@town.swansea.ma.us; peter.alviti@dot.ri.gov; 'Edwards, Phillip (DEM)'; Ifeldman@crmc.ri.gov; 'James Turek - NOAA Federal'; ejennyk@gmail.com; 'Jan Reitsma'; rep-knight@rilegislature.gov; rep-speakman@rilegislature.gov; Rock Singewald; Serena Moseman-Valtierra; Singley, Joel
Subject: RE: Kickemuit Dam Removal Project Update

To All the Members of the Steering Committee and Supporters of the Kickemuit Dam Removal Project,

On this rainy Friday afternoon, I would like to update everyone on the latest developments on the dam removal project. I am pleased to let you know that the BCWA Board of Directors approved a contract award to the lowest responsive bidder, Lucianos Excavation, Inc. of Taunton, MA for \$3,881,620.00. The selected contractor has successfully performed similar dam removal/remediation projects throughout Eastern Massachusetts. Work is scheduled to commence in mid-September and continue through to the end of the year. Restoration work that is not completed this year, will continue the following construction season. Most of the project costs will be funded through grants provided by the National Fish and Wildlife Foundation (1,391,000) and the RIDEM's Climate Resilience Fund (1,200,000). We continue to seek out and apply for additional funding to offset the balance of the project costs. Thank you to everyone who recently provided a letter of support for our grant application to the EPA's Southeast New England Program (SNEP) 2023 Bipartisan Infrastructure Law grant.

Thanks again to everyone for their continued support, and if you have any questions, please feel to contact me.

Steve
Stephen Coutu, P.E.
Executive Director and Chief Engineer
BRISTOL COUNTY
WATER AUTHORITY
450 Child Street | Warren, RI 02885

From: Stephen Coutu
Sent: Friday, June 16, 2023 4:40 PM
To: Michael Crawford <mcrawford@bcwari.com>; Dave Dasilva <ddasilva@bcwari.com>; wferguson@savebay.org; Topher Hamblett <thamblett@savebay.org>; rcalabro@savebay.org; 'kmichaud@townofwarren-ri.gov'; 'kcronin@townofwarren-ri.gov'; 'Matt Bellisle' <mbellisle@parecorp.com>; 'Seaver Anderson' <sanderson@parecorp.com>; 'Brian Dutra' <bdutra@parecorp.com>; 'janeharrison@fullchannel.net'; 'sorourke@riib.org'; annmorrill@cox.net; durban23@gmail.com; cbrown@town.swansea.ma.us; peter.alviti@dot.ri.gov; 'Edwards, Phillip (DEM)' <phillip.edwards@dem.ri.gov>; Ifeldman@crmc.ri.gov; 'James Turek - NOAA Federal' <james.g.turek@noaa.gov>; 'ejennyk@gmail.com'; 'Jan Reitsma' <janhreitsma@gmail.com>; rep-

LOCAL

Kickemuit dam removal in Warren gets key approval, neighbors object



Alex Kuffner

The Providence Journal

Published 5:01 p.m. ET Sept. 29, 2022

WARREN – A plan to restore the Kickemuit River to its natural state has taken a key step forward with the approval of an application to remove a concrete dam that was built across the waterway nearly 140 years ago.

The Rhode Island Coastal Resources Management Council on Tuesday granted a request from the Bristol County Water Authority to take down the Lower Kickemuit Dam, which is located near Child Street and serves as a dividing line between the fresh- and saltwater portions of the eight-mile-long river that runs from headwaters in Rehoboth to Mount Hope Bay in Bristol.

The water authority's proposal to demolish the Upper Kickemuit Dam, a newer earthen embankment less than a mile upstream, is still pending before the state Department of Environmental Management.

Environmentalists in favor, but neighbors object

The dams were built to create reservoirs that were integral to the drinking water system for Barrington, Bristol and Warren. But with the water authority buying supplies from the Scituate Reservoir and now working on a backup connection through East Providence, the reservoirs no longer serve any useful function for the county's water system and have fallen into disrepair.

Their removal has the support of Save The Bay, which has advised the authority on the project, and the DEM's Division of Fish and Wildlife. The Kickemuit River Council is also in favor of removing the dams and restoring the natural tidal flow along the full extent of the river. The groups say ecologically valuable salt marshes will be created, that river herring will be able to reach spawning habitat more easily, that access for kayakers and fishermen will be improved, and that the work will help with flood resiliency.

“We believe the dam removal project will restore the Kickemuit River to its original state and help in the migration of native species back to our waters,” wrote David Durban, of the river council, in a letter to the coastal council.

But neighbors have objected to the plan, saying it could harm property values and cause saltwater contamination of their wells. They say the water authority was irresponsible in failing to maintain the dams and should make repairs rather than tear them down.

“Now the risk, because they didn’t do what they were supposed to do under Rhode Island law, is being passed to the community,” Robert Botelho, a resident of Serpentine Road, told the council at Tuesday night’s meeting.

He called on the authority to install a new water main to ensure his house and others aren’t harmed if the underground aquifer is tainted as saltwater starts mixing with freshwater in the reopened portions of the river.

Despite the concerns raised by Botelho – the only objector to testify at the meeting – the council approved the water authority’s application. But as part of their decision, council members instructed the authority to test wells for salinity before and after the lower dam is removed. Authority executive director Steve Coutu also told the council that the water main installation would be assessed for cost and feasibility.

He said after the meeting that the studies conducted by engineers hired by the authority concluded that the wells won’t be impacted. At this point, there’s no plan to preemptively run a new water line under Serpentine Road.

“They’re deep wells and we don’t anticipate any issues,” Coutu said.

Dams in disrepair, no longer needed

The 250-foot-wide lower dam was built in 1883 to store drinking water for the residents of Warren, Bristol, and later, Barrington. The upper dam and the reservoir above it followed in 1961, coming after Hurricane Carol in 1954 contaminated the lower reservoir with saltwater.

But the reservoirs largely became redundant in 1998 when the water authority completed a pipeline under the Providence River and became a wholesale customer of Providence Water, which gets its water from the Scituate Reservoir. The Kickemuit reservoirs were maintained as a backup supply, but they’re no longer needed with a plan underway to hook into the Pawtucket Water Supply Board’s system.

With maintenance costs mounting and no use for the dams anymore, it made no sense for the authority to pay to repair them, said Coutu.

The same goes for the circa-1908 treatment plant that the authority owns near the lower dam. It was decommissioned in 2019 and is planned for demolition.

Climate change is one factor in the authority's decisions. The infrastructure along the Kickemuit is seen as vulnerable to extreme storms and surges, which are reaching higher with sea level rise. By taking out the structures, the authority would open up more areas to hold floodwater.

Engineering studies project that removing the two dams would reduce the frequency of flooding above the lower dam. While flooding could go up slightly in places in some scenarios, it would go down during a 100-year storm, the baseline event used to measure flood risk.

Staff at the coastal council raised no concerns about the plan for the lower dam and recommended approval.

Grants to pay for removal

Grants from the state and federal government totaling \$2.6 million are expected to cover the entire cost of removing both dams, said Coutu.

The authority is awaiting word from the DEM on the upper dam. The state agency is also assessing water quality impacts stemming from the removal of both dams. And the U.S. Army Corps of Engineers must also sign off on both projects.

The DEM is expected to wrap up its reviews within the next month or so, according to spokesman Michael Healey. Staff at the agency support the project because they believe it will reduce stagnant conditions in the reservoirs and "significantly improve both water quality and habitat for a wide variety of fish and wildlife," he said.

"At the same time, though, we cannot prejudge a permit," he said. "A project must still meet environmental standards."

If all goes well, the project could go out to bid this winter and demol could start this time next year.

"It's a good milestone for us," Coutu said of Tuesday's decision.



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PRESS RELEASE – For Immediate Distribution

Contact: Stephen Coutu, P.E.
Executive Director
401-245-2022

BCWA APPROVES CONTRACT FOR THE REMOVAL OF THE UPPER AND LOWER KICKEMUIT RIVER DAMS

At their meeting of July 27, 2023, the BCWA Board of Directors awarded the contract for the removal of the Upper and Lower Kickemuit River Dams to the lowest responsive bidder, Lucianos Excavation Inc. of Taunton, MA, for \$3,881,620.00. Following an extensive permitting process that took nearly two years, the project was reviewed and subsequently approved by the following regulatory agencies: RI Coastal Resources Management Council, U.S. Army Corps of Engineers, the RI Department of Environmental Management's Division of Water Resources and Division of Wetlands.

The selected contractor, Lucianos Excavation, has successfully performed similar dam removal and environmental remediation projects throughout Eastern Massachusetts. The work is scheduled to commence in mid-September and continue through to the end of the year. Restoration work that is not completed this year will continue the following construction season.

Most of the project costs will be funded through grants provided by the National Fish and Wildlife Foundation (\$1,391,000), the RIDEM's Climate Resilience Fund (\$1,200,000), and EPA's Southeast New England Program: Restore Americas Estuaries (\$80,000). Additionally, the BCWA has applied for additional funding to offset the balance of the project costs.

For additional information regarding this project, please visit the BCWA website at www.bcwari.com.

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Demolition to begin soon at Kickemuit Reservoir dams



(<https://epsilon.creativecirclecdn.com/eastbayri/original/20210901-152402-Reservoir%20Project%205.png.jpg>)

Removal of the two dams holding back waters that make up the former Warren Reservoir will result in the re-establishment of a tidal estuary in the area.

ETHAN HARTLEY



Posted Wednesday, September 27, 2023 12:45 pm

At their meeting of July 27, 2023, the Bristol County Water Authority Board of Directors awarded the contract for the removal of the Upper and Lower Kickemuit River Dams (<https://www.eastbayri.com/warren/stories/project-to-revert-kickemuit-reservoir-into-tidal-estuary-begins,92676>) to the lowest responsive bidder, Lucianos Excavation Inc. of Taunton, Mass., for \$3,881,620.

Following a permitting process that took nearly two years, the project was reviewed and subsequently approved by the following regulatory agencies: RI Coastal Resources Management Council, U.S. Army Corps of Engineers, the RI Department of Environmental Management's Division of Water Resources and Division of Wetlands.

"The selected contractor, Lucianos Excavation, has successfully performed similar dam removal and environmental remediation projects throughout Eastern Massachusetts," reads a press release from BCWA. The work is scheduled to commence during the first week of October and continue through to the end of the year. Restoration work that is not completed this year will continue the following construction season.

Most of the project costs will be funded through grants provided by the National Fish and Wildlife Foundation (\$1,391,000), the RIDEM's Climate Resilience Fund (\$1,200,000), and EPA's Southeast New England Program: Restore Americas Estuaries (\$80,000). Additionally, the BCWA has applied for additional funding to offset the balance of the project costs.

For additional information regarding this project, please visit the BCWA website at www.bcwari.com (<http://www.bcwari.com>).

ENVIRONMENT

In Warren, a dam comes down to restore a river. How that helps wildlife and reduces flooding



Alex Kuffner

Providence Journal

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WARREN – And just like that, the lower dam on the Kickemuit River was gone.

After years of planning and months of staging, the 250-foot-wide dam near Child Street went down in just a few days, marking the biggest step yet in the restoration of the 8-mile-long river that runs from headwaters in Rehoboth, Massachusetts, to Mount Hope Bay in Bristol.

The concrete barrier had stood across the Kickemuit since 1883, when it was built to create a reservoir for the storage of drinking water for residents of Warren, Bristol and, later, Barrington.

Bristol County residents have long since ended their reliance on the murky waters held behind the lower dam and a second barricade, built higher up the river, close to the Massachusetts state line, after Hurricane Carol in 1954.

The dams had become a maintenance burden for the Bristol County Water Authority, which since 1998 has been getting its water from the Scituate Reservoir and is hooking up to the Pawtucket system for backup supplies. State authorities found the dams to be critically vulnerable to flooding and other impacts of climate change.

So, with guidance from Save The Bay and support from a slew of federal and state agencies, an effort began nearly a decade ago to raze the dams and bring the river back to its natural state.

Restoration is part of a statewide program

Removing the dams will mean a narrower river channel flanked by mudflats and marshes, cleaner waters, and, hopefully, more wildlife.

“We’re restoring the Kickemuit to the tidal system it historically was,” said Wenley Ferguson, director of habitat restoration for Save The Bay.

The work comes amid a larger campaign to tear down some of the hundreds of dams that were built across Rhode Island’s rivers to power mills and store water. Many no longer serve any purpose and have fallen into disrepair, so in places like the Wood-Pawcatuck River and the Ten Mile River, they’re being demolished to create spawning habitat for fish and improve the natural flow of water.

On the Kickemuit, the earthen embankment that makes up the upper dam was breached first, but only a portion was taken out. Work was suspended over the winter so as not to disturb turtles and amphibians that hibernate around it. The rest of the berm won’t be removed until the spring.

Flooding delayed removal of the lower dam

The lower dam took more time.

It historically marked the dividing line between the Kickemuit’s saltwater and freshwater portions, but the barrier was overtopped time and again by storm surges and higher-than-normal tides exacerbated by rising sea levels. The waters were so brackish that the upper river was full of blue crabs.

This flooding was part of the reason it took longer than expected to demolish the dam. A crew with Taunton, Massachusetts-based Luciano’s Excavation started prep work in the river in late October.

First they removed 12,000 cubic yards of riverbed sediments contaminated with copper sulfate, a compound used to kill algae that clogged the stagnant waters above the dam. The plan was to take out the barrier itself by mid-December.

But in order to get their equipment on site, the workers had to de-water the channel. That proved to be a challenge. First, there were the incoming tidal waters that were so high they poured over the super-sacks of sand piled up to block off the dam.

“It was like a waterfall,” Ferguson said.

And then there was the series of heavy downpours over the last month that brought runoff washing in from the watershed above the dam.

It wasn't until early last week that the water had drained enough that an excavator could start tearing into the structure. By Friday, not much of the dam was left.

The project also aims to reduce flooding

All told, it cost about \$5 million to take out the dams. The work was funded by the state Department of Environmental Management, the National Fish and Wildlife Foundation, the U.S. Environmental Protection Agency, Restore America's Estuaries and others.

Climate change was one factor in the efforts. The infrastructure along the Kickemuit was seen as vulnerable to extreme storms and surges. By removing the structures, the Water Authority is opening up more areas to hold floodwaters.

Engineering studies project that demolishing the two dams would reduce the frequency of flooding above the lower dam. While flooding could go up slightly in places in some scenarios, it would go down during a 100-year storm, the baseline event used to measure flood risk.

“This is a poster-child climate-resilience project,” said Stephen Coutu, executive director of the water authority.

While some neighbors objected to the dam removals, raising concerns that saltwater could contaminate their wells, studies commissioned by the water authority found that wells wouldn't be affected.

Potential habitat for oysters and diamondback terrapins

What the river will look like over time is still a bit of a mystery. Ferguson expects marsh grasses and other plants to grow along the riverbanks and fill in the area around the channel.

As for the waters in the river, they will undoubtedly be healthier than in the past, when they were plagued by high nutrient levels that fueled algae growth and low oxygen levels.

It's unlikely river herring will spawn in the Kickemuit, but its waters could become habitat for wild oysters, diamondback terrapins and all sorts of shorebirds, according to backers of the project.

“When you restore that true estuarine geography, you’re supporting all these species that could make it home,” said Thomas Ardito, director of the Southeast New England Watershed Grants Program at Restore America’s Estuaries.