# Division of Ecological Restoration 2024 Annual Report

# Celebrating 15 Years of River & Wetland Restoration

DIVISION OF ECOLOGICAL RESTORATION DEPARTMENT OF FISH & GAME • COMMONWEALTH OF MASSACHUSETTS

Maura T. Healey, Governor • Kimberley Driscoll, Lieutenant Governor Rebecca Tepper, Secretary • Tom O'Shea, Commissioner Beth Lambert, Director • Hunt Durey, Deputy Director • Alyssa Sciuto, Assistant Director

## **Letter from Leadership**

Dear friends and colleagues,

This year marked the Division of Ecological Restoration's (DER) 15<sup>th</sup> anniversary and has been a time of both reflection and action.

We've learned valuable lessons over the last 15 years that will guide us into the future. These lessons include 1) **rivers** and wetlands can recover quickly from past damage when key stressors—like dams or culverts—are removed; 2) the benefits of river and wetland restoration are far-reaching, from job creation to clean water, safer infrastructure, and improved outdoor recreation; and 3) communities are eager to restore rivers and wetlands but need resources and technical assistance to do so. Finally, we've seen first-hand the **power of partnerships**. All of our work takes place in partnership with communities, regional organizations, non-profit groups, and state and federal agencies. This is the only way to get restoration done.

DER has been expanding its work over the last five years to meet communities' needs, and this year's accomplishments reflect our expanded impact. In 2024, together with our partners, we broke ground on 10 river and wetland restoration projects and completed five others. We awarded over \$13 million to cities, towns, and partnering organizations to support restoration work throughout the state; removed three dams; reconnected 37.8 river miles; and restored 103 acres of freshwater wetland habitat. All of this work helps people and nature adapt to climate change. We thank our partners and the Healey-Driscoll Administration for making it possible.

In the next few years, we look forward to expanding regional restoration partnerships; taking on new river and wetland restoration projects across the state; providing additional funding and technical assistance to communities; and launching trainings, toolkits, and other restoration resources for use by municipalities, landowners, and non-profit organizations.

We'll see you on the river,

Beth Jamber

Beth Lambert, Director

Hunt Durey, Deputy Director

Alyssa Scinto Alyssa Sciuto, Assistant Director

Thomas & D'Slew

Tom O'Shea, Commissioner









## **15 Years of DER**

DER was established in 2009 when the Riverways and Wetlands Restoration Programs combined to form a nonregulatory, science-based division—the Division of Ecological Restoration. This division of the Department of Fish and Game (DFG) within the Executive Office of Energy and Environmental Affairs (EEA) was formed to bring greater statewide attention, momentum, and capacity to river and wetland restoration. With an emphasis on strong partnerships, DER advances restoration in the Commonwealth through dam removal, culvert replacement, restoration of wetlands and retired cranberry bogs, and building capacity of restoration partners throughout the state. This work restores healthy habitat while also helping communities increase climate resilience, prevent storm damage, improve opportunities for outdoor recreation, and address aging infrastructure and public safety concerns.



## Where We Work

DER advances restoration throughout Massachusetts. See the map below for where we work, or learn more and find a project near you by visiting *DER's interactive project map* on the *DER website*.





Working closely with .communities, state and federal agencies, regional organizations, and non-profit groups, DER is proud of the progress made toward our restoration goals in 2024.





projects under construction, including **5** dam removals, **3** cranberry bog restorations, and **1** wetland restoration project



projects completed, including **3** dam removals and **2** cranberry bog restoration projects



Priority Projects in planning, design, permitting, or construction



people reached through outreach efforts about DER and restoration

103

acres of freshwater

wetland habitat restored

53 cities and towns received funding support for river and wetland restoration projects





dams removed



50

priority restoration projects advancing through DER's Regional Restoration Partnerships Program



river miles reconnected

# 2024 Accomplishments: Dollars & Cents

DER is proud to continue to offer financial support to partners throughout the Commonwealth for river and wetland restoration. awarded to **37** cities and towns for culvert replacement projects. Overall, **67** cities and towns requested over **\$10.8 million** in funding.

**\$ ~ \$1,798,200** 

awarded to **7** Priority Projects in **8** cities and towns.

6

# **7 (\$)** \$854,635

awarded to support **3** Restoration Partnerships through the Regional Restoration Partnerships Program. For every **\$1** invested by the state, DER's Partnerships Program leveraged an additional **\$7** in outside funding for ecological restoration throughout their regions.



awarded to cranberry and wetland restoration projects in **12** cities and towns.

\$13,526,378 awarded to support

restoration in 2024.



- Following dam removal preliminary design studies in seven cities and towns during which one was identified as an imminent public safety risk, DER and partners <u>removed the Dudleyville Pond Dam</u> through an emergency order in the Town of Shutesbury. An excellent example of the importance of partnership and collaboration for restoration, many groups came together to make this dam removal happen, which eliminated a public safety hazard, benefitted water quality, and improved passage for important coldwater fish species like eastern brook trout.
- DER <u>published a new report</u> on salt marsh tidal restoration monitoring, in partnership with the Association to Preserve Cape Cod. The report, *Monitoring* and Analysis of Eight Salt Marsh Tidal Restoration Projects on Cape Cod, Massachusetts, details the results of pre- and post-restoration monitoring at eight different salt marsh sites restored between 2002 and 2010. Long-term monitoring is critical to understand how salt marsh ecosystems respond to restoration after decades of impairment and to inform how to advance the practice of salt marsh restoration.
- **DER and partners celebrated the completion of the High Street Dam Removal and Bridge Replacement Project in Bridgewater** with a ribbon cutting event. This project removed the obsolete High Street Dam and replaced the over 100-year-old High Street Bridge on Town River, which were causing localized flooding and acting as barriers to many fish and wildlife species. This project increased climate resilience and opened 10 miles of river habitat.
- DER held a free culvert replacement training for cities and towns, hosted in the Town of Ashburnham. The training covered topics including the process of culvert replacement, Massachusetts Stream Crossing Standards, steps in a site assessment, funding opportunities, case studies, and offered an opportunity to visit a soon-to-be-replaced culvert.
- Construction is wrapping up on the Quinapoxet Dam Removal Project in West Boylston. This project will remove an aging dam just upstream of where the Quinapoxet River and the Wachusett Reservoir meet. The dam removal will restore passage for landlocked salmon, trout, and other fish and wildlife and enhance public access to the river through a new trail and an improved ADA walkway and fishing platform.





\* that's the equivalent of more than 2,272 football fields 🥚

#### over \$77M granted to advance restoration throughout Massachusetts

including support for priority restoration projects and capacity-building support for partners

over 65 dams removed

# **15 Years:** By the Numbers

#### over 900 jobs

estimated to have been created or maintained, and

#### over \$135M in extra economic activity

estimated to have resulted from DER's restoration funding

more than 120 culvert replacement projects advanced in 90 cities and towns



~700 river miles reconnected

\* that's about the direct distance from Boston to Myrtle Beach



## **DER Over the Years**

Since 2009, DER has worked with partners to advance projects that restore and protect Massachusetts' rivers, wetlands, and watersheds. This work has proven to have many benefits for both people and nature. Ecological restoration projects build climate resilience, improve water quality and wildlife passage, increase public safety, boost the economy, and provide recreational opportunities so Massachusetts citizens and visitors can visit and appreciate their natural spaces. DER looks forward to continuing to meet the rising demand for restoration and the challenges of climate change. As we look ahead to 2025 and beyond, here's a look back at where we've been.

#### 2009

The Riverways and Wetlands Restoration Programs are combined to create the Division of Ecological Restoration (DER), a new division under the Department of Fish and Game.





The site of the Eel River Restoration, pre-restoration in 2003

The site of the Eel River Restoration, post-restoration in 2023

#### 2010

The Eel River Restoration Project in Plymouth is completed and receives a National Coastal America Award. This project—the first cranberry bog restoration in Massachusetts— restored about 60 acres of retired cranberry bogs into wetlands and included stream channel and floodplain reconstruction, multiple dam removals and culvert replacements, and extensive plantings including 20,000 Atlantic white cedar trees.



#### 2011

Primarily based out of Boston, DER establishes a regional office in Westfield in partnership with the National Parks Service and Westfield State University. This new location makes it easier for DER staff to connect with and serve partners in the western regions of the state.

#### 2012

DER commissions a study to investigate the <u>economic impacts of ecological restoration</u> in Massachusetts. This investigation found that for every \$1 million spent on restoration projects, 12.5 jobs are created or maintained and \$1.75 million in economic activity is produced.



#### 2011

DER and partners complete major construction on the Broad Meadows Salt Marsh Restoration Project in Quincy. This project, the largest wetland fill removal project in Massachusetts, excavated about 500,000 cubic yards of dredged material to restore over 50 acres of salt marsh and other valuable coastal habitats.



Construction at the Broad Meadows Salt Marsh Restoration.

#### 2013

DER and partners remove the Whittenton Dam in Taunton. Part of the Mill River Restoration Priority Project, the Whittenton Dam drew national attention in 2005 when it nearly failed during a record flood, resulting in the evacuation of downtown Taunton. This was the second of three dam removals that, together with a new fish ladder, restored migratory fish access throughout the Mill River. DER removed the first dam in 2012 and the final dam in 2018 to eliminate associated public safety hazards and reconnect over 30 miles of the Mill River.



DER staff and partners assess a culvert in need of replacement.

#### 2017

DER's Stream Continuity Program launches the <u>Culvert Replacement</u> <u>Municipal Assistance (CRMA) Grants</u>, which support cities and towns as they work to replace undersized and failing culverts with larger, safer structures. In its first year, the CRMA grants awarded \$905,000 to 13 cities and towns. Seven years later, DER has awarded over \$13,000,000 to support over 120 projects in 90 cities and towns across the state through this grant program.





**2019** DER celebrates the Division's 10th anniversary.

#### 2015

DER and partners remove the Plymco Dam in Plymouth as part of the Town River Restoration Project. The Town River Restoration was one of the earliest and most comprehensive river restoration projects in Massachusetts and included the removal of four dams, a bridge replacement, and the installation of a fish ladder, with the final barrier removed in 2019. This restoration work restored fish passage to an important and historic herring run, including access to hundreds of acres of prime spawning habitat.



The Plymco Dam Removal Project during construction.



#### 2018

DER establishes the <u>Cranberry Bog Restoration Program</u> (<u>CBRP</u>), which focuses on restoring wetlands on former cranberry farmland. Now six years old in 2024, the CBRP has completed construction on seven cranberry bog restoration projects, restoring more than 400 acres of wetlands. DER has 14 projects underway, with an anticipated 750+ acres of wetlands expected to be restored in the coming years.



DER launches the <u>Regional Restoration</u> <u>Partnerships Program</u>. This Program helps non-profit organizations and Regional Planning Agencies increase their capacity to lead and support ecological restoration within their regions through financial and technical assistance. In the Program's first year, three Partnerships were designated as Regional Restoration Partnerships.



The Sucker Brook Dam before removal.

#### 2020

Along with DER's partners and people around the world, DER endures the impacts of the COVID pandemic. With rigorous safety protocols in place, DER was able to move restoration work forward with no major construction delays.

#### 2021

The Sucker Brook Restoration Project is completed in Pepperell. An <u>excellent example of a whole-system restoration</u> approach, a dam removal and culvert replacement were completed as part of a larger effort by local partners to restore and protect the Nissitissit River and its tributaries. This project built on previous dam removal and culvert replacement projects and, together with conservation efforts, improved water quality, stream processes, wildlife habitat, and connectivity.



The Sucker Brook Dam Removal during construction.

#### 2022

DER secures over \$40 million for restoration, including \$35 million in American Rescue Plan Act (ARPA) funding. These funds have been invested in restoration projects throughout the state and DER estimates they will generate over 435 jobs and an additional \$61 million in economic activity in the Commonwealth.



Construction begins on the Herring River Estuary Restoration Project in Wellfleet and Truro. Over two decades in the making, this project is the largest tidal estuary restoration ever undertaken in Massachusetts and the northeastern United States. With many benefits for both people and the environment, this project will restore up to 890 acres of salt marsh and other estuarine habitats.





2024

**DER celebrates** 

15 years



# **Spotlight on Restoration**

Throughout the past 15 years, DER has seen the media spotlight on ecological restoration grow as the benefits of restoration have increasingly captured interest. This growing attention helps build support for restoration at the community, state, and national levels. In 2024, the restoration work led by DER and partners was front page news—both literally and figuratively—in many media outlets. Here's a sample of some of the restoration work that made its way to various audiences through the media.

- **Boston 25 News:** <u>'The threat is real': Aging dams a potential hazard to homeowners and infrastructure across Mass.</u>
- **Greenfield Recorder:** <u>Centuries-old Dudleyville Pond Dam in Shutesbury being removed</u> <u>following years of safety warnings</u>
- Lower Cape News: <u>Restorations Securing Cape Cod's Future</u>

#### **FRONT PAGE NEWS:**

- **The Boston Globe:** <u>Massachusetts cranberry bogs were hit hard by climate change. Now, they're</u> <u>a tool in the battle against it.</u>
- The Boston Globe: In the Berkshires, an effort to corral climate change, one stream at a time
- The Boston Globe: <u>Removing dams can prevent flooding in</u> <u>Massachusetts. But for the owners, it's bittersweet.</u>
- The Washington Post: <u>Why cranberry country is turning into</u> <u>wetlands</u>

DER is also proud to share restoration stories on social media. Follow us on <u>LinkedIn</u> and <u>Instagram</u>.

## **Hear From Our Partners**

DER is grateful to the local, state, and federal organizations that we work with to advance river and wetland restoration across the state. From its inception, partnership has been a hallmark of DER's work. Restoration can only happen with strong collaboration between landowners, municipalities, non-profit organizations, and state and federal agencies. Hear from some of DER's partners about what DER has meant to them:

"[DER] has been an enduring and true partner to Friends of Herring River (FHR) in Wellfleet, MA... FHR owes DER deep gratitude and celebrates its first 15 years of accomplishments and positive impact!"

- Christa Drew, Executive Director, Friends of Herring River

> "The work DER does to bring rivers back to life has been transformative for our state...We wish them continued growth and success over the next 15 years and beyond, and look forward to many more years of shared accomplishments!"

> - Julia Blatt, Executive Director, Massachusetts Rivers Alliance

"Across Massachusetts, cities and towns are already experiencing unprecedented impacts of climate change and biodiversity loss. For 15 years, the Division of Ecological Restoration has played a leading role in helping communities face these challenges head on—providing critical support, capacity-building, technical assistance, and funding to restore resilient ecosystems for people and nature."

- Tom O'Shea, DFG Commissioner

"DER has been a long-standing partner with the Town of Plymouth. A partner in the truest sense of the word. One that assists, provides support and the means to accomplish our shared goals and visions for our local rivers, bogs and

"I've worked with DER for all of its 15

years plus several years prior with

Riverways. Through innovations in

science, practice, and policy over

two decades, dam removal has gone

from nearly impossible to being

a mainstream solution for flood

risk reduction and aquatic habitat

restoration..."

- Alison Bowden, Director of

Conservation Science & Strategy,

The Nature Conservancy

"The creativity, expertise, and

enthusiasm DER staff consistently

provide has made it a cherished and

invaluable partner on many Mass

Audubon projects..."

- Tom Lautzenheiser, Senior

**Conservation Ecologist, Mass** 

Audubon

wetlands."

 David Gould, Dept of Marine & Environmental Affairs Director, Town of Plymouth

> "...Through both financial support and technical assistance, DER works to increase our capacity to take on more and bigger projects. Much more than simply a funder; they make Buzzards Bay Coalition and our local partners better at doing restoration..."

> > - Mark Rasmussen, President, Buzzards Bay Coalition (Buzzards Bay Watershed Restoration Partnership)

has achieved what once seemed impossible. For 15 years, DER has offered financial support and invaluable guidance, enabling communities of all sizes to benefit from successful restoration projects..."

"Working alongside

incredibly talented and

dedicated partners like

DER, the Town of Pepperell

- Paula Terrasi, Conservation Administrator, Town of Pepperell

"HVA continues to witness firsthand DER's commitment to engaging local communities, stakeholders, and other partners in the critical work of restoring the commonwealth's aquatic habitats and strengthening human connections to the land and water..."

- Lynn Werner, Executive Director, Housatonic Valley Association (Berkshire Clean, Cold, Connected Restoration Partnership)

"... Without question, DER is one of the NOAA Restoration Center's most important state partners in the northeast..."

- John Catena, Northeast and Great Lakes Regional Supervisor, NOAA Restoration Center

Action Team (BEAT) is deeply grateful to [DER] for its commitments to uplifting organizations working on issues of wildlife connectivity and healthy river ecosystems..."

"Berkshire

Environmental

- Jane Winn, Executive Director, Berkshire Environmental Action Team (BEAT)

15

"...DER has proven a reliable on-the-ground

partner that is willing to see large-scale

complex projects through to completion."

- Curt Rogers, Executive Director, Merrimack

**River Watershed Council (Merrimack** 

**Restoration Partnership**)

# What's Next for DER?

DER will continue to expand its project management, technical assistance, and capacity-building to meet the growing need for river and wetland restoration. DER will also play a crucial role in helping Massachusetts achieve nation-leading biodiversity conservation goals as called for by <u>Governor Healey's Executive Order No. 618</u>, and to advance the goals outlined in the <u>Department of Fish and</u> <u>Game's Strategic Plan for 2025–2030</u>. As DER dives into 2025, the Division anticipates prioritizing the following actions:

- Breaking ground on at least six river and wetland restoration projects.
- Completing at least four projects.
- Continuing to oversee over 85 projects, with the intention to add additional projects.
- Supporting new Partnerships through the *<u>Regional Restoration Partnerships Program</u>*.
- Awarding additional funding to advance priority restoration projects throughout the Commonwealth.
- Awarding new <u>*Culvert Replacement Municipal Assistance (CRMA) grants*</u> to replace undersized and deteriorating culverts in various cities and towns.
- Leading additional free culvert replacement trainings for cities and towns as an opportunity to share valuable resources and information related to culvert replacements.
- Completing preliminary design studies for potential dam removal projects throughout the state, *announced in early 2025*.
- Completing a needs assessment of restoration partners and communities to inform future DER technical services and capacity building priorities.
- Wrapping up data collection and early design for <u>two potential culvert replacement projects</u> in Gloucester and West Newbury. These culverts, which are expected to be impacted by sea level rise in the future, will serve as case studies for this type of work and inform guidance for similar future projects.



## **Photo Captions & Credits**

*cover:* DER Stream Continuity Program Manager Holden Sparacino discusses a culvert replacement project during a MassDOT Rivers and Roads training in September 2024. (*Credit: DER*)

*page two:* Vinica Brook meaders through the forest in Wales, MA. (*Credit: DER*)

page three, left; and page eleven, top right: DER staff pose for a photo in October 2024. (Credit: DER)

page three, right; and page nine, top left: DER staff pose for a photo after officially becoming a division in 2009. (Credit: DER)

*page four, top right:* The sun shines over the Great Marsh Area of Critical Environmental Concern (ACEC) in Newbury, where DER and partners are working to restore degraded marsh. (*Credit: DER*)

page four, middle left: An excavator actively removes the 40-foot tall Upper Roberts Meadow Dam in Northampton in 2018. (Credit: DER)

page four, middle right: Crews work to remove the Tel-Electric Dam in Pittsfield in 2019. (Credit: DER)

page four, bottom left; and page eleven, top left: DER staff and partners assess a culvert in need of replacement. (Credit: DER)

*page six, left:* DER Restoration Specialist Jess Cohn takes notes at the site of the Windswept Cranberry Bog Wetland Restoration Project on Nantucket. (*Credit: DER*)

page seven, left: DER Stream Continuity Program Manager Holden Sparacino assesses a culvert in Western Massachusetts. (Credit: DER)

*page eight, top left:* Crews remove the Dudleyville Pond Dam through an emergency order in the Town of Shutesbury. (*Credit: DER*)

*page eight, bottom right:* "Restoration in Progress" at the site of the Cold Brook Restoration in Harwich. (*Credit: DER*)

page nine, top middle: The site of the Eel River Restoration in Plymouth in 2003, prior to restoration. (Credit: DER)

page nine, top right: The site of the Eel River Restoration in Plymouth in 2023, thirteen years after restoration. (Credit: DER)

*page nine, bottom right:* The site of the Eel River Restoration in Plymouth during construction. (*Credit: DER*) *page ten, top left:* The site of the Whittenton Dam Removal in Taunton, after removal of the dam. (*Credit: DER*) page ten, top right: The site of the Whittenton Dam Removal in Taunton, during removal of the dam in 2013. (Credit: DER) page ten, bottom left: Construction at the site of the Broad Meadows Salt Marsh Restoration Project in Quincy in 2011. (Credit: DER) page eleven, bottom: DER staff at the site of the Plymco Dam Removal Project in Plymouth during construction in 2015. (Credit: DER) page twelve, top left: The Sucker Brook Dam in Pepperell, just prior to removal. (Credit: DER) page twelve, top right: Sucker Brook in Pepperell in 2022, nine months after removal of the dam. (Credit: DER) page twelve, bottom right: Two excavators working together to remove the Sucker Brook Dam in Pepperell in 2021. (Credit: DER) page thirteen, bottom left: People gather in Wellfleet for the Herring River Estuary Restoration Project groundbreaking event in March 2023. (Credit: DER)

*page thirteen, bottom right:* Construction crews work on the Herring River Estuary Restoration Project in Wellfleet in September 2024 (*Credit: DER*)

*page fourteen, top left:* A front-page story in The Boston Globe in September 2024 about the Dudleyville Dam Removal in Shutesbury. (*Credit: The Boston Globe*)

*page fourteen, bottom left:* A front-page story in The Washington Post in November 2024 about cranberry bog restoration. (*Credit: The Washington Post*)

*page fifteen:* DER and partners look out upon the site of the completed Eagle Neck Creek Restoration Project in Truro, where salt marsh monitoring continues. (*Credit: DER*)

*page sixteen:* DER's Stream Crossing Specialist David Azinheira assesses a culvert in Western Massachusetts. (*Credit: DER*)