

2021

Annual Report *Spotlight on Restoration*



Invested in Nature and Community

Massachusetts Department of Fish and Game

Division of Ecological Restoration

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

Charles D. Baker, Governor • Karyn E. Polito, Lieutenant Governor
Kathleen A. Theoharides, Secretary • Ronald S. Amidon, Commissioner
Beth Lambert, Director • Hunt Durey, Deputy Director

2021 Annual Report

Spotlight on Restoration



Dear friends and colleagues,

We're proud to share the Division of Ecological Restoration's (DER) 2021 accomplishments. Our passionate partners and dedicated staff worked together under challenging circumstances to make 2021 one of DER's most productive years ever.

Our success included DER guiding twelve projects into construction. These dam removal, culvert upgrade, and wetland restoration projects all improve habitat, water quality, wildlife passage, and increase recreational opportunities and climate resilience for nearby communities now and into the future. DER also accepted 20 new habitat restoration projects into our Priority Projects Program— a record number for a single year— and three organizations into our new Regional Restoration Partnerships Program. More on these and other 2021 efforts can be found in this annual report.

This year also brought mainstreaming of restoration into federal budgets, infrastructure policy, and the news media. From the news show The Chronicle to speeches given by decision-makers, projects like dam removal and culvert upgrades are now seen as common-sense approaches to the twin challenges of climate change and aging infrastructure.

It is a privilege to see restoration scaling up and to be part of the efforts to restore nature in Massachusetts. We look forward to meeting the rising demand with dedication and humility.

Sincerely,

A handwritten signature in black ink that reads "Beth Lambert".

Beth Lambert, Director

A handwritten signature in black ink that reads "Hunt Durey".

Hunt Durey, Deputy Director

A handwritten signature in black ink that reads "Ronald S. Amidon".

Ronald S. Amidon, Commissioner

An Intro to DER

The Division of Ecological Restoration (DER), part of the Massachusetts Department of Fish & Game, **restores and protects rivers, wetlands, and watersheds in Massachusetts for the benefit of people and the environment.**

Leaders in the Department of Fish and Game¹ and the Executive Office of Energy and Environmental Affairs² established DER in 2009 to bring greater statewide attention, momentum, and capacity to river and wetland restoration. Since then, DER and partners have completed nearly 80 projects, with over 40 projects in planning at any time, and leveraged over \$100 million in federal and non-state grants. DER's work includes the restoration of wetlands and floodplains,³ urban river revitalization,⁴ cranberry bog restoration,⁵ dam removal,⁶ culvert replacement,⁷ and streamflow and water quality restoration,⁸ with a focus on restoring healthy habitat while also helping communities prevent storm damage, address aging infrastructure, and improve outdoor recreation. Our projects take place through strong partnerships with communities, state and federal agencies, regional organizations, and non-profit groups.



DER Staff

Beth Lambert, *Director*

Hunt Durey, *Deputy Director*

Alyssa Sciuto, *Assistant Director*

Carrie Banks
Kate Bentsen
Jessica Cohn
Kristen Ferry
Eric Ford

David Gallagher
Joseph Gould
Krista Haas
Alex Hackman
Chris Hirsch

Kris Houle
Ione Hughes
Georgeann Keer
Brian Kelder
Cristina Kennedy

Carley Przystac
Jenny Sanders
Nick Wildman
Calli Willette



www.mass.gov/der



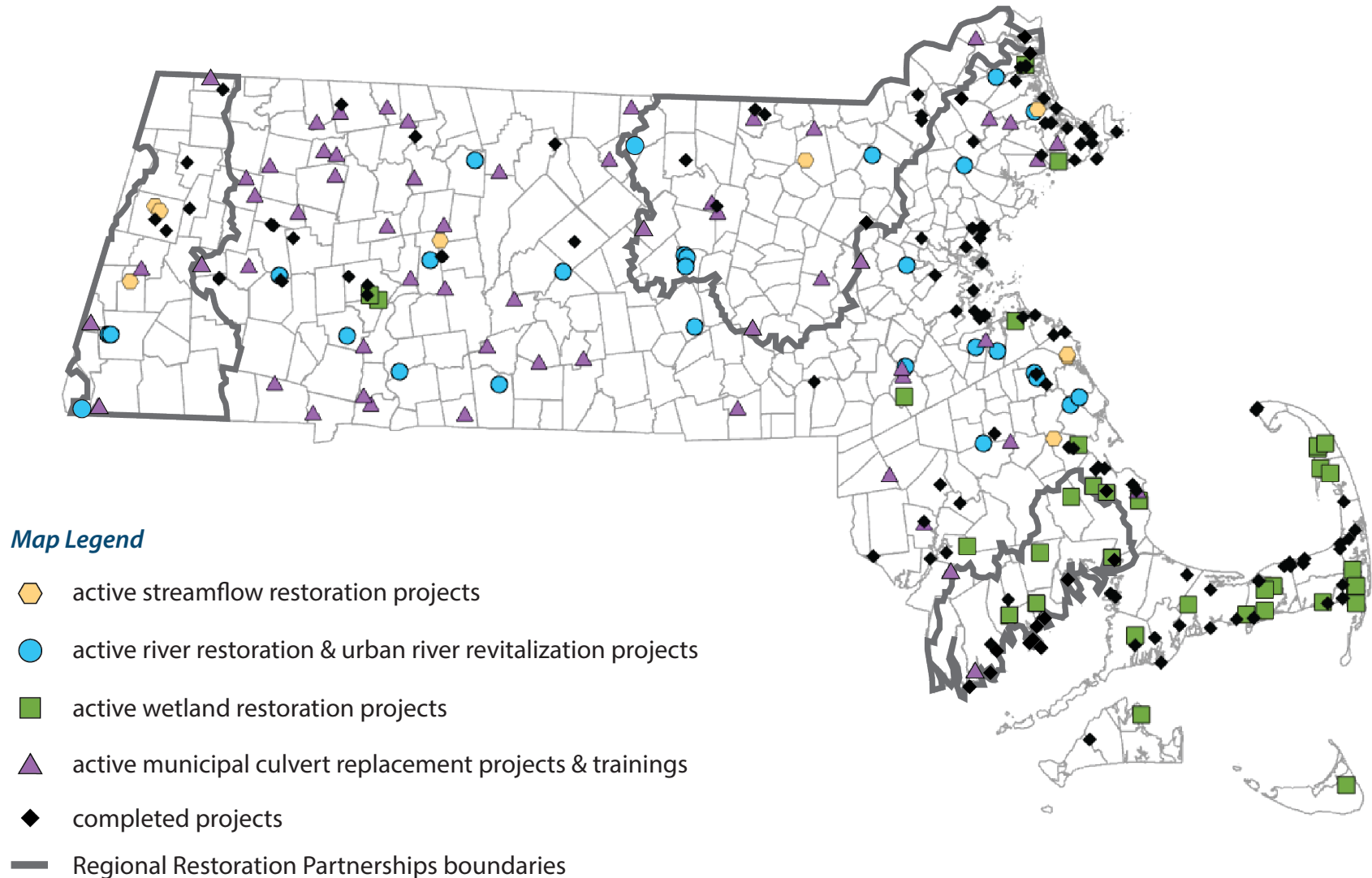
[@MassEcoRestore](https://twitter.com/MassEcoRestore)



[@MassEcoRestore](https://www.instagram.com/MassEcoRestore)

Where We Work

DER works in every corner of the state, with almost 140 active river and wetland projects underway, including dam removals, wetland restoration, culvert upgrades, urban river revitalization efforts, and floodplain and streamflow restoration. These projects restore healthy habitat and help communities adapt to climate change. Learn more about these projects by visiting DER's interactive project map⁹ on the DER website.¹⁰



2021 By the Numbers

DER worked with partners from municipalities, nonprofits, government agencies, and other organizations to accomplish restoration and adaptation goals throughout 2021.



20

new restoration projects designated as part of DER's Priority Projects Program



9

restoration projects completed



12

projects under construction



3

Partnerships established through DER's new Regional Restoration Partnerships Program



26

cities & towns supported through the Culvert Replacement Municipal Assistance (CRMA) Grant Program



~\$6.5 million

leveraged in federal & non-state funds

108 acres of salt marsh restored

9 acres of freshwater wetland habitat restored

1 dam removed

3.63 river miles reconnected

4 culverts replaced

DER Launches New Regional Restoration Partnerships Program

Partnerships are a hallmark of DER's work. In June 2021, DER launched the new Regional Restoration Partnerships Program,¹¹ which 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. Pairing partner strengths with the state's investments will empower networks of partners to restore rivers and wetlands and help people and nature adapt to climate change.

The three new Partnerships supported through this program are located in the Buzzards Bay region, in the Merrimack watershed, and the Hoosic, Housatonic, and Farmington River watersheds. These Partnerships will be supported for at least three years pending available DER funding through the Partnerships Program as they plan and carry out ecological restoration actions, and will build local and regional capacity for planning and implementing restoration projects.

Regional Restoration Partnerships established in 2021

Berkshire Clean, Cold, Connected Restoration Partnership

lead: Housatonic Valley Association
Hoosic, Housatonic, and Farmington River watersheds

Buzzards Bay Watershed Restoration Partnership

lead: Buzzards Bay Coalition
Buzzards Bay region

Merrimack Restoration Partnership

lead: Merrimack River Watershed Council
Merrimack River watershed



Spotlight on Ecological Restoration

For many years, ecological restoration in Massachusetts was a niche activity supported primarily by the environmental community. Now, riding on a groundswell of support, restoration is moving into the mainstream. We see this in the growing demand on the ground, interest from decision-makers, and in the mainstream media.

Demand for restoration assistance is growing at the grass roots and municipal levels. For example, in the last few years, almost half of the municipal road managers and Departments of Public Works in Massachusetts have applied for DER assistance to upgrade culverts. Municipalities realize that river and wetland restoration are common-sense approaches to restore habitat while also improving public safety and dealing with aging infrastructure.

At the national level, the Bipartisan Infrastructure Bill,¹² signed into law in November 2021, responded to this demand by investing unprecedented amounts of funding in dam removal, culvert upgrades, and coastal resilience.

"Without action, flood risk will increase. The choices we make today to build a better Boston will significantly shape how we navigate climate change now and for generations to come."

*Mariama White-Hammond
Boston Chief of Environment, Energy,
and Open Space
[via the Boston Globe](#)*



Monitoring restoration success in Newbury

Massachusetts decision-makers are also aware of and responding to the mainstreaming of restoration. The legislature designated \$100 million of American Rescue Plan Act (ARPA) funds¹³ for environmental infrastructure projects, including river and wetland restoration. The term



Foothills Preserve in Plymouth, during restoration

"Investing in "nature-based" solutions— such as restoring wetlands and removing inactive dams to reduce the risk of flooding— would deliver among the best returns. These infrastructure investments mitigate the consequences of climate change. They also create and sustain jobs — and have the potential to protect and support historically underserved communities."

*Deb Markowitz
Director, The Nature Conservancy
[via the Boston Herald](#)*



Foothills Preserve in Plymouth, after restoration

"environmental infrastructure" reflects the growing realization that natural rivers and wetlands provide services that are just as important as traditional infrastructure.

Governor Baker's administration has long seen restoration and adaptation as a priority, with the initiation of the Municipal Vulnerability

"There's broad agreement among state leaders about the threat posed by climate change and the need to act."

Boston Globe Editorial Board



Taking measurements at Broad Meadow Brook

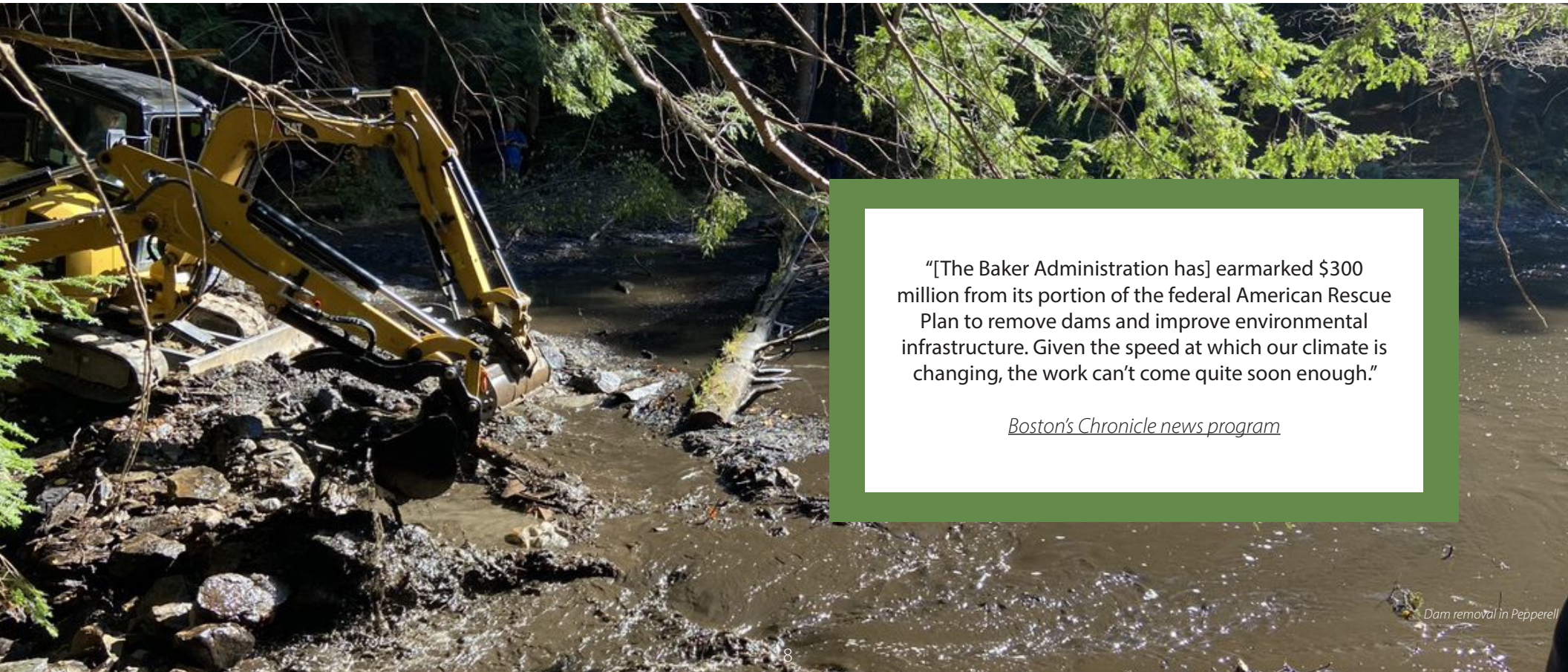
Preparedness (MVP) program¹⁴ and increases to DER's budget. In a July 2021 press release¹⁵, Governor Baker remarked "[The investment of funds] for culvert replacement, dam removal, and wetland restoration is critical to the long-term resiliency of our transportation network and our natural environment."

Finally, the news media are bringing restoration into the mainstream, highlighting dam removal and culvert replacement for those who wouldn't encounter it otherwise. A September 2021 editorial by the Boston Globe Editorial Board emphasized the importance of replacing undersized culverts.¹⁶ WCVB's Chronicle ran episodes on dam removal¹⁷ and cranberry bog restoration.¹⁸

impacts of climate change are becoming more prevalent and the urgency to take action is increasing. DER and partners continue to work to keep up with the demand and look forward to continuing to serve the ecosystems and communities of Massachusetts into the future.

"[The Baker Administration has] earmarked \$300 million from its portion of the federal American Rescue Plan to remove dams and improve environmental infrastructure. Given the speed at which our climate is changing, the work can't come quite soon enough."

Boston's Chronicle news program



Dam removal in Pepperell



Adamsville Road culvert, before replacement



Adamsville Road culvert, after replacement with normal flow



Adamsville Road culvert, during Hurricane Henri

"I just wanted to share [an image] of that culvert replacement project we did on Adamsville Road. I took this [photo during Hurricane Henri] when the water was at its peak level. This project worked out great and I look forward to working with you in the future!"

Scott from the Colrain Department of Public Works, who saw firsthand the importance of improved infrastructure during September's Hurricane Henri. At the site of a recently-completed culvert replacement project which helped to increase the climate resilience of Colrain, Scott noticed the high flows passing through the new culvert that would have overwhelmed the old culvert.

2021 Accomplishments

DER and our partners continued to restore and protect rivers, wetlands, and watersheds in Massachusetts throughout 2021. Here are our shared accomplishments over the last year:

Projects Underway

- DER continued to advance **over 70 river and wetland restoration projects** as part of its Priority Projects Program.¹⁹ This Program is one of the vehicles by which DER pursues wetland and river restoration, urban river revitalization, and streamflow restoration projects that present the greatest benefit to the Commonwealth ecologically, socially, and economically.
- DER designated **20 new Priority Projects** in 2021.^{20,21} The new projects included dam removal, cranberry bog restoration, coastal wetland restoration, and other restoration projects in Ashburnham, Barnstable, Billerica, Carver, Chatham, Dennis, Falmouth, Great Barrington, Monson, Nantucket, Newbury, Northampton, Plymouth, West Boylston, Weymouth, Worcester, and Yarmouth. DER will guide these projects from inception through construction. As part of the Priority Projects Program, the projects are also eligible to receive technical assistance from DER staff, technical services by qualified contractors, and/or direct funding.



Dam removal Priority Project in Pepperell



Construction at the Childs River Priority Project in Falmouth

- Working with municipal, state, federal, and other partners, DER supported **construction for 12 river and wetland restoration projects** in 2021. Nine of those projects were completed. Construction projects included work in the Towns of Amherst, Boxford, Dighton, Falmouth, Newbury, Pepperell, Plymouth, Saugus, Truro, and Yarmouth, and the Cities of Northampton and Taunton. These efforts resulted in one dam removed, four culverts replaced, 108 acres of salt marsh and nine acres of wetland habitat restored, and almost four river miles reconnected.
- In August, DER and project partners including the Town of Braintree, Executive Office of Energy and Environmental Affairs, Division of Marine Fisheries, and NOAA Restoration Center **hosted Boston's Chronicle news program** producers at the site of the Monaquot River Restoration Project in Braintree. This project is part of a broader effort to restore the Fore River watershed system and includes the removal of the aging and hazardous Armstrong and Ames Pond Dams, as well as the removal of about 3,600 tons of polluted sediment and the construction of a fishway to restore fish passage in the Fore River system. Filming and interviews at this location were used as part of a Chronicle episode¹⁷ on dams in Massachusetts and were used to highlight the benefits of dam removal.

Funds Awarded

- DER awarded **\$2,195,500 to 20 ongoing restoration projects**^{15,20,22} in Braintree, Bridgewater, Carver, Chicopee, Chilmark, Easthampton, Fairhaven, Falmouth, Hardwick, Ipswich, Mattapoisett, Mount Washington, Nantucket, Norwood, Pepperell, Plymouth, Rochester, Southampton, Truro, Wellfleet, and Worcester. This funding supports feasibility study, engineering, design, permitting, and construction of dam removal work, as well as coastal wetland, freshwater wetland restoration, culvert replacement, and other restoration projects.
- DER awarded **\$2.75 million in new grant awards** to 26 communities¹⁵ through the Culvert Replacement Municipal Assistance (CRMA) Grant Program,²³ after receiving 70 applications to the 2021 Request for Responses. This funding more than tripled the size of the CMRA Program, which awarded just under \$807,000 to 14 communities the previous year. CRMA grants support local culvert upgrade projects that improve public safety and river health. DER also awarded \$132,000 in grants to two communities through the Culvert Replacement Training Initiative,^{20,22} through which DER provides hands-on training to road managers at culvert upgrade sites around the state.



Work on the Traphole Brook Priority Project



Construction at the Crescent Marsh Restoration Project in Saugus

Projects Completed

- In the fall of 2021, DER, the Pepperell Conservation Commission, Squan-a-Tissit Chapter of Trout Unlimited, MassWildlife Natural Heritage and Endangered Species Program, and other partners **removed the Sucker Brook Dam** and replaced a culvert upstream with a larger structure that meets the Massachusetts Stream Crossing Standards.²⁴ This work improved water quality and opened wildlife passage in Sucker Brook, a Coldwater Fishery Resource that connects to the Nissitissit River.
- Through the work of DER, the Massachusetts Department of Transportation, and other partners, the **Crescent Marsh Restoration Project in Saugus was completed** in 2021. This project is located in the Rumney Marshes Area of Critical Environmental Concern and worked to restore tidal flow to 23 acres of salt marsh that became degraded due to a tidal restriction caused by the collapse of a small culvert. Work included the replacement of the culvert with a larger design that meets that Massachusetts Stream Crossing Standards.



Foothills Preserve, just after restoration



Foothills Preserve, six months after restoration

- In 2021, DER, the USDA Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Ducks Unlimited, Mass Audubon, the Town of Plymouth, and other partners **completed construction of the Foothills Preserve**. This site is part of the broader Tidmarsh Farms Restoration, for which over 200 acres of former commercial cranberry farmland was restored in 2016 and is now open to the public as the Mass Audubon Tidmarsh Wildlife Sanctuary,²⁵ a site that has since been highlighted in 2021 by both Boston's Chronicle news program¹⁸ and in the New York Times.²⁶ The work at the Foothills Preserve restored approximately 50 additional acres of wetlands, removed several dams, and reconstructed over a mile of stream channel.
- In the fall of 2021, DER and the Town of Amherst **completed the lower Fearing Brook Restoration Project**.²⁷ This project improved water quality, channel stability, and habitat in Fearing Brook, an urban stream in the Town of Amherst. The project reconnected the stream to the natural floodplain, restored native plants, and enhanced the channel.

- DER, the Town of Yarmouth, and other state and federal partners **completed work on the Parkers River Bridge and Seine Pond Restoration Project**²⁸ in 2021. The undersized Parkers River Bridge was located on Route 28 in Yarmouth and impacted water quality and tidal flow to the saltmarsh. The bridge was replaced with a larger span structure, which improved habitat for wildlife, fish passage, water quality, and overall ecosystem health in 217 acres of estuarine habitat.
- After several years of work, DER and partners including the Falmouth Rod and Gun Club **completed the Upper Childs River Restoration Project**^{29,30} in Falmouth and Mashpee. The project included removing an earthen dam, replacing an undersized road culvert, re-establishing the channel and wetland floodplain, and restoring two retired cranberry bogs to their natural wetland state. This work is expected to improve water quality, restore stream connectivity, and improve fish passage. The completion of this project was celebrated with a well-attended ribbon cutting event in September and a visit from the Massachusetts Joint Committee on Environment, Natural Resources, and Agriculture.³¹



Looking to the Future

We look forward to the following activities in 2022:

- DER will continue to oversee 74 active projects as part of the Priority Projects Program.
- DER will offer new opportunities for culvert upgrades through our Culvert Replacement Municipal Assistance Grant Program.²³
- Eleven restoration projects are expected to start construction in 2022. DER anticipates this will include coastal wetland restoration in Truro, restoration of retired cranberry farmland in Freetown, dam removals in Braintree, Norwood, and Southampton, and culvert replacements in Leverett, Leyden, Pepperell, Topsfield, Windsor, and Ashfield.
- DER will launch a statewide culvert replacement toolkit as a web-based resource. The toolkit will provide tools and resources for municipalities and other partners to assist them through the various stages of replacing aging and undersized culverts to meet the Massachusetts Stream Crossing Standards.
- DER's Cranberry Bog Program⁵ will expand pre- and post-monitoring efforts in 2022, working with partners to learn about project outcomes and improve restoration projects over time.



References

- 1 Massachusetts Department of Fish and Game. <https://www.mass.gov/orgs/departement-of-fish-and-game>
- 2 Executive Office of Energy and Environment Affairs. <https://www.mass.gov/orgs/executive-office-of-energy-and-environmental-affairs>
- 3 Massachusetts Division of Ecological Restoration. *Wetlands Restoration*. <https://www.mass.gov/wetlands-restoration>
- 4 Massachusetts Division of Ecological Restoration. *Urban River Revitalization*. <https://www.mass.gov/urban-river-revitalization>
- 5 Massachusetts Division of Ecological Restoration. *Cranberry Bog Program*. <https://www.mass.gov/cranberry-bog-program>
- 6 Massachusetts Division of Ecological Restoration. *River Restoration: Dam Removal*. <https://www.mass.gov/river-restoration-dam-removal>
- 7 Massachusetts Division of Ecological Restoration. *River Restoration: Culvert Replacements*. <https://www.mass.gov/river-restoration-culvert-replacements>
- 8 Massachusetts Division of Ecological Restoration. *Streamflow Restoration*. <https://www.mass.gov/streamflow-restoration>
- 9 Massachusetts Division of Ecological Restoration. *The Division of Ecological Restoration Project Map*. <https://www.mass.gov/service-details/the-division-of-ecological-restoration-project-map>
- 10 Massachusetts Division of Ecological Restoration. <https://www.mass.gov/orgs/division-of-ecological-restoration>
- 11 Massachusetts Division of Ecological Restoration. *DER's Partnerships Program*. <https://www.mass.gov/how-to/ders-partnerships-program>
- 12 The White House. *President Biden's Bipartisan Infrastructure Law*. <https://www.whitehouse.gov/bipartisan-infrastructure-law/>
- 13 Executive Office for Administration and Finance. (2021, December 13). *Governor Baker Signs \$4 Billion Federal COVID-19 Relief Funding Spending Bill*. <https://www.mass.gov/news/governor-baker-signs-4-billion-federal-covid-19-relief-funding-spending-bill>
- 14 Executive Office of Energy and Environmental Affairs. *Municipal Vulnerability Preparedness (MVP) Program*. <https://www.mass.gov/municipal-vulnerability-preparedness-mvp-program>
- 15 Executive Office of Energy and Environmental Affairs. (2021, July 14). *Baker-Polito Administration Awards \$4 Million to Support Climate Change Adaptation and Ecological Restoration Projects*. <https://www.mass.gov/news/baker-polito-administration-awards-4-million-to-support-climate-change-adaptation-and-ecological-restoration-projects>
- 16 The Editorial Board. (2021, September 19). Massachusetts lawmakers should move urgently on climate threats. *The Boston Globe*. <https://www.bostonglobe.com/2021/09/19/opinion/massachusetts-lawmakers-should-move-urgently-climate-threats/>
- 17 Chronicle. (2021, September 22). *The Division of Ecological Restoration is spearheading dam removal throughout Massachusetts* [Video]. WCVB5. <https://www.wcvb.com/article/whats-the-dam-story-the-division-of-ecological-restoration-is-spearheading-dam-removal-throughout-massachusetts/37698209>

- 18 Chronicle. (2021, January 4). *Massachusetts has lost about a quarter of its cranberry farms in the last decade* [Video]. WCVB5. <https://www.wcvb.com/article/passion-fruit-massachusetts-has-lost-about-a-quarter-of-its-cranberry-farms-in-the-last-decade/35122158>
- 19 Massachusetts Division of Ecological Restoration. *Become a DER Priority Project*. <https://www.mass.gov/how-to/become-a-der-priority-project>
- 20 Executive Office of Energy and Environmental Affairs. (2021, December 20). *Baker-Polito Administration Awards Grants to 25 Ecological Restoration Projects and Partnerships*. <https://www.mass.gov/news/baker-polito-administration-awards-grants-to-25-ecological-restoration-projects-and-partnerships>
- 21 Executive Office of Energy and Environmental Affairs. (2021, January 20). *Baker-Polito Administration Designates Eight New Priority River and Wetland Restoration Projects*. <https://www.mass.gov/news/baker-polito-administration-designates-eight-new-priority-river-and-wetland-restoration-projects>
- 22 Executive Office of Energy and Environmental Affairs. (2021, March 9). *Baker-Polito Administration Announces Grants for River and Wetland Restoration Projects*. <https://www.mass.gov/news/baker-polito-administration-announces-grants-for-river-and-wetland-restoration-projects>
- 23 Massachusetts Division of Ecological Restoration. *Culvert Replacement Municipal Assistance Grant Program*. <https://www.mass.gov/how-to/culvert-replacement-municipal-assistance-grant-program>
- 24 Massachusetts Division of Ecological Restoration. (Winter 2022). Project Highlight: Sucker Brook. *Ebb & Flow, Winter 2022*. <https://www.mass.gov/info-details/ebb-flow-winter-2022#project-highlight:-sucker-brook-restoration->
- 25 Mass Audubon. *Tidmarsh Wildlife Sanctuary*. <https://www.massaudubon.org/get-outdoors/wildlife-sanctuaries/tidmarsh>
- 26 Foderaro, L. W. (2021, April 15). *Birds by the Billions: A Guide to Spring's Avian Parade. The Northeast: a festival of songbirds*. The New York Times. <https://www.nytimes.com/2021/04/15/travel/birding-america.html>
- 27 Massachusetts Division of Ecological Restoration. *Fearing Brook, Amherst Update - Exciting Times*. <https://www.mass.gov/news/fearing-brook-amherst-update-exciting-times>
- 28 Massachusetts Division of Ecological Restoration. (Summer 2021). Project in Construction Highlight: Parkers River Bridge Restoration, Yarmouth. *Ebb & Flow, Summer 2021*. <https://www.mass.gov/info-details/ebb-flow-summer-2021#project-in-construction-highlight:-parkers-river-bridge-restoration,-yarmouth->
- 29 Association to Preserve Cape Cod. (2021, September 20). *Childs River Restoration Complete*. <https://apcc.org/childs-river-restoration-complete/>
- 30 Massachusetts Division of Ecological Restoration. (Late Fall 2020). Project Highlight: Childs River Restoration. *Ebb & Flow, Late Fall 2020*. <https://www.mass.gov/info-details/ebbflow-late-fall-2020#project-highlight:-childs-river-restoration->
- 31 Commonwealth of Massachusetts. *Joint Committee on Environment, Natural Resources and Agriculture*. <https://malegislature.gov/Committees/Detail/J21/>

Photo Captions & Credits

cover: DER Project Manager Kris Houle, project partners, and Executive Office of Energy and Environmental Affairs Secretary Kathleen Theoharides discussing the removal of the Armstrong Dam as part of the Monaquot River Restoration Project. (Credit: DER)

page two: A Massachusetts wetland and heron. (Credit: DER)

page three: DER staff. (Credit: DER)

page five: The Monaquot River flowing through the woods. (Credit: DER)

page six, top: Volunteers work together to plant trees in Northampton as part of an effort to restore a floodplain forest at Mass Audubon's Arcadia Wildlife Sanctuary. (Credit: DER)

page six, middle: DER's Joe Gould speaks to students about reading plans. (Credit: DER)

page six, bottom: A group of kayakers paddles down the Ipswich River. (Credit: DER)

page seven, top: Monitoring restoration success at the site of the Kent's Island Restoration Project in Newbury. (Credit: DER)

page seven, bottom left: DER's Cranberry Bog Program Manager Alex Hackman at the site of the Foothills Preserve Restoration Project in Plymouth, just after restoration work completed. (Credit: DER)

page seven, bottom right: DER's Cranberry Bog Program Manager Alex Hackman at the site of the Foothills Preserve Restoration Project in Plymouth, almost one year after restoration work completed. (Credit: DER)

page eight, top left: DER's Kate Bentsen and Cindy Delpapa install a gauge to monitor streamflow at Broad Meadow Brook in Worcester. (Credit: DER)

page eight, bottom: Two excavators work together to remove the Sucker Brook Dam in Pepperell in October 2021. (Credit: DER)

page nine, left: DER's Carrie Banks takes a measurement at a culvert in Colrain, prior to its replacement. (Credit: DER)

page nine, middle: A new, recently replaced culvert in Colrain, with minimal water flowing underneath. (Credit: DER)

page nine, right: A still image from a video of a newly-replaced culvert in Colrain with a large volume of fast-moving water flowing underneath. This video was taken during Hurricane Henri in August 2021 and demonstrates how the new culvert span can now accommodate these increased flows, increasing the climate resilience of the road and crossing. (Credit: Scott Sullivan)

page ten, top right: An excavator working to remove the Sucker Brook Dam in Pepperell in October 2021. (Credit: DER)

page ten, bottom left: A view of the restoration construction at the Upper Childs River Restoration Project in Falmouth. This project completed in September 2021. (Credit: Inter-Fluve)

page eleven, top right: A group surveying for fish and other wildlife in Traphole Brook in Norwood, using electrofishing gear and nets. (Credit: DER)

page eleven, bottom left: Construction underway at the site of the Crescent Marsh Restoration Project in Saugus. (Credit: DER)

page twelve, left: A view of the Foothills Preserve, just after restoration construction completed around January 2021. (Credit: DER)

page twelve, right: A view of the Foothills Preserve, about six months post-restoration, in June 2021. (Credit: DER)

page thirteen, top right: Construction underway in February 2021 at the Parkers River Bridge and Seine Pond Restoration Project in Yarmouth.
(Credit: Gerry Beetham, for the Association to Preserve Cape Cod)

page thirteen, bottom left: Sections of a replacement culvert are lowered into place at the site of the Upper Childs River Restoration Project in Falmouth. (Credit: Dennis Martin)

page thirteen, bottom right: The new culvert in place at the site of the Upper Childs River Restoration Project in Falmouth. (Credit: DER)

page fourteen: DER staff monitor the conditions in Third Herring Brook following the removal of Peterson Pond Dam in November 2020.
(Credit: DER)