



**US Army Corps
of Engineers®**
New England District

Update Report for New Hampshire



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BUILDING STRONG®

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Mission

The missions of the New England District, U.S. Army Corps of Engineers include flood risk management, emergency preparedness and response to natural disasters and national emergencies, environmental remediation and restoration, natural resource management, stream bank and shoreline protection, navigation maintenance and improvement, support to military facilities and installations, and engineering and construction support to other government agencies. The six New England states cover 66,000 square miles and have 6,100 miles of coastline, 171 federal navigation projects (13 deep draft commercial waterways), 13 major river basins, and thousands of miles of navigable rivers and streams. The District operates and maintains 31 dams, three hurricane barriers and the Cape Cod Canal. Through its Regulatory program, the District processes nearly 2,500 applications per year for work in waters and wetlands of the six-state region. We employ about 510 professional civilian employees, with about 300 stationed at our headquarters in Concord, Mass. The other Corps of Engineers employees serve at Corps projects and offices throughout the region. For information on the New England District visit the website at: www.nae.usace.army.mil/; or on Facebook: [facebook.com/CorpsNewEngland](https://www.facebook.com/CorpsNewEngland); or on Twitter: twitter.com/corpsnewengland; or on Flickr: www.flickr.com/photos/corpsnewengland.

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Navigation

PORTSMOUTH HARBOR AND PISCATAQUA RIVER, NEW HAMPSHIRE (1st CD) AND MAINE (1st CD) – This study of Portsmouth Harbor and the Piscataqua River, New Hampshire and Maine was directed by Section 437 of WRDA 2000. The non-federal sponsor is the state of New Hampshire, Pease Development Authority, Division of Ports and Harbors (PDA).

The study’s purpose is to determine the navigation related needs of the area and is focusing on the upper turning basin in the river near Newington, N.H. The current 800-foot width of the turning basin causes major safety concerns for shippers and limits the efficiency of shipping operations, particularly for large LPG tankers. The §905(B) reconnaissance report was completed and approved by North Atlantic Division in September 2004.

A feasibility cost-sharing agreement for the PDA and Corps to share the cost of the feasibility study was executed on June 21, 2006. The feasibility study was initiated in 2006 using funds provided by the PDA and the FY06 E&WDA Act.

A draft Feasibility Report/draft Environmental Assessment was released for public review on March 31, 2014. The final Feasibility Report and Environmental Assessment were

approved by the Civil Works Review Board on Aug. 21, 2014. State and Agency review of the proposed Chief of Engineers Report closed on Nov. 24, 2014. The final Chief of Engineers Report was signed on Feb. 8, 2015 and the reports were submitted to Congress on June 15, 2015.

Congress authorized the project in the WIIN Act of December 2016. The Design Phase Cost Sharing Agreement between the USACE and the sponsor for the Preconstruction, Engineering, and Design (PED) effort was executed Nov. 13, 2015.

Federal and sponsor funds have been received and design phase work is underway. Key efforts in the design phase include subsurface investigations to confirm dredge material types and quantities, and final determination of dredged material disposal and beneficial use options.

PORTSMOUTH HARBOR AND PISCATAQUA RIVER, NEW HAMPSHIRE (1st CD) AND MAINE (1st CD) – Maintenance dredging of the back channels portion of the Portsmouth Harbor and Piscataqua River FNP (commonly called “Sagamore Creek”) was needed to restore the project to authorized dimensions and alleviate shoal conditions impacting safe navigation through the channels.

A solicitation including contract plans and specifications to remove approximately 4,300 cubic yards of shoal at the confluence of the Portsmouth Harbor back channels has been issued. A \$542,970 contract was awarded on Nov. 18,

2016. Dredging was completed in April 2017. Disposal of the dredged sand was used as a beneficial use at a nearshore site off of Wallace Sands Beach.

Flood Plain Management Services

LAKE MASSASECUM / WARNER RIVER, BRADFORD, N.H. (2nd CD) – The purpose of this study is to assess the problem of flooding for residents of Bradford, N.H., living near Lake Massasecum and Melvin Brook. This study assessed methods to alleviate the flooding in Bradford. It was accomplished by modeling current conditions and modified conditions within the affected area to determine what improvements could be made to the system.

The hydraulic analysis focused upon the potential backwater impacts generated by the newly designed Breezy Hill Bridge over the Warner River. The most economically viable solution is flood proofing or raising individual homes around the lake to protect them from high water levels. A final report providing an engineering assessment was sent to town officials in February 2016.

NORTHERN MASSACHUSETTS/NEW HAMPSHIRE HURRICANE EVACUATION STUDY (2nd CD) – This study is being conducted under a federally funded program cosponsored by the Corps of Engineers and the Federal Emergency Management Agency.

The objective of the program is to provide a technical data report and coastal flood mapping from which the state and local communities can develop/update preparedness plans for coastal storms. It also will allow state and local officials to identify evacuation areas and routes of evacuation for various coastal events. Inundation maps have been delivered to the state and affected communities. Final census figures have been compiled and delivered to New Hampshire state and local Emergency Management officials.

Emergency Streambank Protection

This program is used to assist communities in the stabilization of streambank/shoreline emergency erosion conditions which threaten important publicly used facilities. The Section 14 authority allows the Corps of Engineers to participate in the planning and construction of stream bank erosion control projects in situations where public facilities

are threatened, in partnership with a local sponsor.

For more information on the Section 14 Emergency Streambank Protection program visit the website at: www.nae.usace.army.mil/Missions/PublicServices/ContinuingAuthoritiesProgram/Section14.aspx.

Flood Damage Reduction

This program is used to assist communities in identifying flooding problems and to formulate and construct projects for flood damage reduction. The local sponsor is required to cost-share equally in those feasibility investigations that exceed \$100,000. The Federal expenditure per project limit is \$7,000,000. The local sponsor is required to contribute 35 percent of the cost of plans, specifications and project

construction.

For more information on Section 205 Flood Damage Reduction visit the website at: www.nae.usace.army.mil/Missions/PublicServices/ContinuingAuthoritiesProgram/Section205.aspx.

Defense Environmental Restoration Program

This Congressionally directed program (PL 98-212) provides for an expanded effort in environmental restoration. It emphasizes the identification, investigation and prompt cleanup of hazardous and toxic waste; unexploded ordnance; and unsafe buildings, structures and debris at current and former military facilities.

Site and project eligibility investigations at 37 sites have been completed in New Hampshire, including 26 sites where no cleanup work was found to be necessary. Of the 11 sites

where work was needed, the following efforts are underway:

DESIGN – The former **Grenier Air Force Station, Manchester Airport, Manchester (1st CD)** has been identified as a PRP site. The New England District office, Manchester Airport, and the state of New Hampshire Department of Environmental Services are discussing the next steps.

REMEDIATION is complete for the **Mt. Washington**

Test Site (2nd CD), the Mt. Washington Equipment and Experimental Station (2nd CD), the Wright Air Development Facility, Bartlett (2nd CD), Icing Research Annex, North Conway (2nd CD), Concord Point Radar

Station, Rye (1st CD), Camp Langdon and Fort Constitution, Newcastle (1st CD), Fort Dearborn in Rye (1st CD), and at the Massabesic National Guard Training Range in Auburn (1st CD).

Support to the U.S. Environmental Protection Agency

WORK FOR THE U.S. ENVIRONMENTAL PROTECTION AGENCY – The New England District is designated as the Corps of Engineers total support agency for the U.S. Environmental Protection Agency's (EPA) Region I (New England) Superfund program for those federal-lead projects assigned to the Corps by EPA. This includes responsibility for design and/or construction execution of remediation projects. In addition, the New England District is providing technical assistance upon request to EPA New England for other federal-lead projects assigned by EPA to private firms as well as for some potentially responsible party (PRP) remediation.

Superfund

FLETCHER'S PAINT WORKS AND STORAGE FACILITY SUPERFUND SITE, MILFORD (2nd CD) – New England District is providing technical support to the U.S. EPA for the oversight of investigation and cleanup efforts by the responsible party for Operable Unit 1 (OU1), General Electric Company (GE). Specific tasks include review of

plans for soil remediation and ongoing monitoring and investigation of groundwater contamination. GE initialized certain accelerated Remedial Action Activities in the fall of 2012.

Construction of the alternative access for Keyes Drive was scheduled to be implemented in spring 2013, but the remediation was stalled by required coordination between GE, the utility companies, and other impacted parties. Soil remediation activities at Elm Street and Keyes Drive were re-initiated in 2015. GE is scheduled to provide a revised workplan for the Mill Street site. The revised workplan is necessary to address contaminants found in bedrock at that location. The New England District is currently collecting supplemental data to determine if an update to the conceptual site model is necessary, and completion of the Remedial Investigation and Feasibility Study (RI/FS) on OU2, which will assess the need for additional remediation of contaminated sediments in the Souhegan River, is pending EPA review.

Regulatory Activities

Department of the Army permits are required from the Corps under Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection, Research and Sanctuaries Act. The Corps reviews permit applications for work affecting navigable waters under its Section 10 authority and the discharge of fill material into all waters, including inland wetlands, under Section 404. A list of Monthly General and Individual Permit Authorizations is provided at www.nae.usace.army.mil/Missions/Regulatory/PermitsIssued.aspx.

Relevant environmental documents are available upon written request. For information about Corps jurisdiction of wetlands and whether a permit is required for your work contact the Regulatory Division at 978-318-8338 or 978-318-8335 or by email to cenae-r@usace.army.mil or visit the website at: www.nae.usace.army.mil/Missions/Regulatory.aspx.

GENERAL PERMITS – The District has comprehensive Regional General Permits (RGPs) in place for each of the six New England states that authorize work with no more than minimal adverse effect on the aquatic environment. Up to 98 percent of all permits issued in New England are RGPs. Work eligible under the RGPs is generally approved in less than 60 days. The current New Hampshire

RGPs is available at: www.nae.usace.army.mil/Missions/Regulatory/StateGeneralPermits.aspx.

The District has issued the statewide New Hampshire General Permits (GPs) for minimal impact activities in U.S. waters in the state of New Hampshire. The New Hampshire GPs replace the prior statewide New Hampshire General Permit, which expired on Aug. 3, 2017, with a series of multiple GPs covering activity-specific categories. These GPs became effective on Aug. 18, 2017 and will continue the expedited review process for activities subject to Corps jurisdiction under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, and Section 103 of the Marine Protection, Research and Sanctuaries Act, located in waters of the U.S., including navigable waters, within the boundaries of the state of New Hampshire.

General Permits are used as a way to streamline state and Federal regulatory programs. The New England District already has had success with streamlining these programs with use of GPs in New England. These GPs are designed to authorize activities under the Nationwide Permit (NWP) program and the prior NH GP.

Some of the major changes from the previous GP include:

1) The new NH GPs are organized into 23 activity-specific General Permits (Appendix A). This was intended to satisfy the requirements of Section 404(e) of the Clean Water Act, which allows the Corps to issue general permits for activities that are similar in nature and will cause only minimal individual and cumulative adverse environmental effects. Identifying specific activities allows the Corps to adequately assess cumulative impacts of permitted activities, as well as fully assess impacts on threatened and endangered species. Appendix A also combines non-tidal and tidal waters and wetlands in one table instead of the previous GP's Coastal and Inland tables; 2) Updated general conditions according to current state and Federal law and policies; 3) The new NH GPs' category names have changed from Minimum to Self-verification (SV) Minimum and from Minor/Major to Pre-Construction Notification (PCN) Minor/Major to be consistent with the NWP program.

The 2017 NH GPs supersede the previous NH GP which expired on Aug. 3, 2017. Activities authorized by the previous GP but had not commenced or were not under contract to commence by Aug. 3, 2018 will need to apply for a new authorization under the new NH GPs. Conversely, activities authorized by the previous NH GP that have either commenced or are under contract to commence will have an additional year from the expiration date of Aug. 3, 2017 to complete the work. The public notice, with more specifics on the issuance of the New Hampshire GPs, can be viewed on the Corps website at www.nae.usace.army.mil/Missions/Regulatory/PublicNotices.aspx.

For additional information or to request a copy of the New Hampshire GPs contact Permit Project Manager Lindsey Lefebvre at the U.S. Army Corps of Engineers, New England District, Regulatory Division, 696 Virginia Road, Concord, MA 01742-2751; or by phone at 978-318-8295 or toll free 800-343-4789 or 800-362-4367 (if calling from within Massachusetts) or by email to: lindsey.e.lefebvre@usace.army.mil.

Special Studies

GULF OF MAINE INITIATIVE – The New England District is a member of the Gulf of Maine working group, providing this joint U.S./Canadian committee with water resource planning expertise. Corps staff members provide technical

NEW HAMPSHIRE IN-LIEU FEE PROGRAM (1st & 2nd CDs) – In 2008 the District and the New Hampshire Department of Environmental Services (NHDES) signed a Memorandum of Agreement (MOA) on an In Lieu fee (ILF) program called the Aquatic Resource Mitigation (ARM) Fund to provide an alternative to project-specific mitigation when the Corps requires mitigation. Site-specific mitigation for many of these projects has had limited ecological value due to their size, location, and/or permittee's ability to provide appropriate stewardship.

The original program was developed prior to the Federal Mitigation Rule (33 CFR 332). A rule-compliant instrument was signed on May 18, 2012. The ILF program provides applicants an efficient and workable alternative of paying a fee if the District, in consultation with the federal resource agencies and the state, agrees it is the best alternative. The fees are aggregated by service area, based on hydrologic unit codes, within the state of New Hampshire and must be used, within a specified time period, to restore or create aquatic resources and/or preserve aquatic resources and their associated uplands.

To date, more than \$14 million has been paid into the Fund and 84 projects have been approved for funding across the state. Twenty-one projects in seven service areas (Pemigewasset-Winnepesaukee River, Salmon Falls/Piscataqua River, Merrimack River, Lower Connecticut River, Contoocook River, Middle Connecticut River, and Upper Connecticut River) totaling \$2.5 million were approved by the Corps and state Wetlands Council in the 2016 round of grants. There will be no RFP solicitation for projects in 2017 as the sponsor's staff uses the time to prepare a Status and Trends report for the program, reviews selection criteria for potential changes, and performs other administrative tasks for the program. *The 2018 solicitation is scheduled to be publicized in February 2018.*

assistance in areas relating to our missions. Opportunities for Corps participation in ecosystem restoration are being continually considered.

Other Current Activities

AQUATIC ECOSYSTEM RESTORATION, MILL POND, NASHUA (2nd CD) – The city of Nashua requested that the Corps study restoration of the aquatic ecosystem of the Mill Pond and canal in Mine Falls Park. The Corps is conducting this project under authority of the Aquatic Ecosystem Restoration Program, Section 206 of the Water Resources Development Act (WRDA) of 1996.

The objective of the study is to restore the fish and wildlife

habitat associated with the pond and canal system. The canal starts at the Mine Falls historic gatehouse, circa 1888, where water is diverted from the Nashua River. The gatehouse is in need of repair to regulate water flows into the canal and pond. The canal system extends about two miles from the gatehouse, ending in an industrial/mill complex where the canal water drops through conduits through the complex and back into the Nashua River. The canal system includes a 20-acre pond called Mill Pond.

We partially completed the feasibility study, identifying several potential restoration alternatives. We closed out the study in July 2014, finding that the potential aquatic ecosystem benefits of the alternatives we examined did not meet aquatic ecosystem restoration criteria as being nationally significant.

CONNECTICUT RIVER ECOSYSTEM RESTORATION STUDY – Authority to conduct an ecosystem restoration study in the upper Connecticut River watershed is provided through a resolution adopted by the Committee on Environment and Public Works of the U.S. Senate on May 23, 2001. A reconnaissance report identified several ecosystem restoration opportunities along the main stem of the Connecticut River. Since then the Water Resources Development Act of 2007 authorized the Corps to partner with The Nature Conservancy (TNC).

A feasibility study was initiated with TNC in 2008. The study is investigating alternatives to manage flow for the 73 largest dams in the basin with the goal of improving aquatic habitat while maintaining human uses such as flood risk management, hydropower, water supply and recreation. Various tools (e.g. operation and optimization computer models) have been developed to assess these management measures. A draft report is currently undergoing peer review. It is anticipated that the draft report will be available for public review in early 2018.

GREAT BAY OYSTER RESTORATION (1st & 2nd CDs) – The Nature Conservancy (TNC) received approval for funding to restore oysters in Great Bay, New Hampshire, under the Estuary Restoration Act. The work will be conducted by the TNC in partnership with the Corps of Engineers under a cooperative agreement. The project will restore 10 acres of oyster reef (eastern oyster *Crassostrea virginica*) to provide ecosystem services (especially filtration and nutrient control) and to benefit diadromous and estuarine dependent fish, benthic invertebrate communities and eelgrass beds.

Oyster reefs provide ecosystem services, including water filtration, nutrient control and fish production. As late as 1970, surveys showed up to 900 acres of live oyster reefs in the Great Bay estuary, but by 2006 the system had lost an

estimated 90% of adult standing stock. This project will begin to restore the lost benefits of those reefs. TNC is working to develop methods to ensure the long term protection of restored reefs prior to executing the cooperative agreement.

MERRIMACK RIVER WATERSHED STUDIES (SECTION 729) (1st & 2nd CDs) – *The overall purpose of the watershed assessment study is to conduct a comprehensive field program and data collection effort combined with watershed and river modeling to provide information to stakeholders to guide local water resource management decisions. The assessment of the Merrimack River and its watershed is a multi-phase effort that is being conducted in collaboration with multiple partners and stakeholders.*

This study is being conducted under the authority provided in Section 729 of WRDA 1986 as amended and titled “Water Resources Needs of River Basins and Region.” The Section 729 study requires (75 percent federal/25 percent nonfederal) cost sharing. The Lower Merrimack River Assessment Phase 1 efforts were performed at a cost of about \$2 million and cost shared with nonfederal interests in Massachusetts and New Hampshire. The study was initiated in the spring of 2002 and the Phase 1 report was completed in September 2006.

Phase II efforts on the Upper Merrimack River Basin in New Hampshire began in 2007. The Phase II report will be completed in 2018. The estimated cost for the Phase II Merrimack study efforts is about \$1.6 million. In 2013 the Corps started the final phase (Phase III) studies on the Lower Merrimack River Watershed. Field Sampling Plans for the Merrimack River and tributaries were completed in 2014. Water quality sampling events were conducted in 2014, 2015 and 2016. Watershed modeling will be completed in 2018. The Draft Merrimack River Watershed Assessment Summary report will be available for public review in fall 2018. For more details on the Merrimack (Upper) River Watershed Assessment Study visit: <http://www.nae.usace.army.mil/Missions/Projects-Topics/Upper-Merrimack/>.

For more details on the Merrimack (Lower) River Watershed Assessment Study visit: <http://www.nae.usace.army.mil/Missions/Projects-Topics/Lower-Merrimack/>.

Interagency and International Support

SUPPORT TO THE U.S. DEPARTMENT OF VETERANS AFFAIRS – The New England District has teamed up with a sister federal agency in an effort to improve the care Soldiers are receiving at military hospitals. The U.S. Department of Veterans Affairs (VA) and the Corps of Engineers entered into an interagency agreement in 2001 for the goods and services the Corps may provide to the VA when needed. These include project management, design services, construction management services, environmental services, preliminary technical investigations, surveying,

and historical presentation compliance at VA facilities. In 2008, the VA started exercising its agreement with the Corps in New England and NAE is now supporting the VA with services at several facilities in New England. Current or recent projects are in Massachusetts, Rhode Island and Connecticut.

SUPPORT TO THE COLD REGIONS RESEARCH AND ENGINEERING LABORATORY – The New England District works to support the environmental and engineering/

construction requirements, as requested, of the Corps' Cold Regions Research and Engineering Laboratory (CRREL) in Hanover, New Hampshire. A \$418,990 contract was awarded June 26, 2015 for a renovation project at CRREL. Work included 3rd floor and 2nd floor renovations and office cubicle construction. The project involved the preparation of design drawings followed by demolition, renovation, and construction work necessary to prepare the area for the construction of the cubicles, including electrical and telecommunications infrastructure.

Projects are managed by the Corps under the supervision

of a Corps' Quality Assurance Representative to assure compliance with contract requirements.

WORK FOR THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT – The Corps of Engineers has entered into an interagency agreement with the Department of Housing and Urban Development. In accordance with the agreement the Corps of Engineers performs physical inspections, contract administration reviews, drawings and specifications reviews, and final inspections for Housing Authorities located throughout the state of New Hampshire.

Flood Risk Management Dams, Recreation and Natural Resources Management

The New England District constructed and operates and maintains seven flood risk management project dams in New Hampshire. All are located in the 2nd Congressional District, and information on each is provided below. In addition, the Corps is responsible for the conservation of natural resources held in public trust at civil works water resources projects. Recreation areas at the 31 federal flood risk management protection projects and the Cape Cod Canal within New England are managed for multiple uses. In some areas, management is delegated to the states for specific purposes, e.g., campgrounds, wildlife management and forestry. Recreation areas at these facilities are generally open from mid-May to mid-September.

For information on Corps recreation in New England visit the website at www.nae.usace.army.mil/ and select "recreation" or for New Hampshire projects go directly to the weblink at www.nae.usace.army.mil/Missions/Recreation/NewHampshire.aspx.

BLACKWATER DAM on the Blackwater River in Webster and Salisbury was completed in 1941 at a cost of \$1.3 million. The 1,150-foot-long, 75-foot-high dam has a reservoir storage capacity of 14.9 billion gallons of water and has prevented damages of \$77.6 million to date. Recreational opportunities at Blackwater include hiking, biking, boating, fishing, hunting, horseback riding, dog sledding and snowmobiling with several thousand people visiting the reservoir area each year. The forest management program continues to have frequent harvests which maintain and promote healthy successional forest growth.

Project staff are currently managing the winter season. Over the next couple months, visitors will be enjoying fishing, hiking, and nature viewing. Others will just be enjoying being out in a beautiful natural setting while the staff will be busy patrolling the property, planning for the summer recreation season, and scheduling required maintenance for the next year.

For up-to-date information, call (603) 934-2116 or visit

our website at: www.corpslakes.us/Blackwater or at www.nae.usace.army.mil/Missions/Recreation/BlackwaterDam.aspx.

Controlled releases of water are planned by the Corps from Blackwater Dam in Webster and Salisbury on Saturday and Sunday, April 14-15, 2018 to provide adequate river flows for recreational canoeing, kayaking and rafting on the Blackwater River. The Corps will provide a water release of approximately 650 cubic feet per second (cfs) on Saturday and Sunday from about 8 a.m. until about 5 p.m. each day, or until the available volume of water is depleted on Sunday. This water release is subject to change or cancellation, if conditions require.

To view the 2018 White Water Release Schedule with many other activities planned visit the Corps website at www.nae.usace.army.mil and select Reservoir Control Center and then Whitewater/Recreation.

Situated on Nubanusit Brook in Peterborough, **EDWARD MACDOWELL LAKE DAM** was completed in 1950 at a cost of \$2 million. Edward MacDowell Lake consists of an earth fill dam with stone slope protection 1,100 feet long and 67 feet high with a capacity of more than four billion gallons of water and has prevented damages of about \$20.8 million to date. There is a conservation pool at Edward MacDowell Lake covering an area of 165 acres and having a maximum depth of about seven feet. The flood storage area of the project totals 840 acres and covers parts of Hancock, Dublin and Harrisville. The lake and all associated project lands cover 1,469 acres. This is equivalent to 5.4 inches of water covering its drainage area of 44 square miles.

The Corps operates a small recreation area. Amenities include two pavilions, multiple picnic and grill locations throughout the park, beach, volleyball net, horseshoe pits and playground. Canoes, rowboats and other small boats are permitted on Edward MacDowell Lake. Project lands also offer trails for hiking and cross country skiing; snowmobile trails; undeveloped open space for ball playing and other sporting activities; drinking water; and sanitary

facilities. More than 146,000 visitors annually enjoy the picnic areas, swimming areas, hiking trails, boating, fishing, hunting and snowmobiling available at Edward MacDowell Lake. For up-to-date information, call (603) 924-3431 or visit the lake's web site at www.corpslakes.us/EdwardMacdowell or at www.nae.usace.army.mil/Missions/Recreation/EdwardMacDowellLake.aspx.

It was a busy year with lots of infrastructure improvements for the Edward MacDowell Lake Flood Risk Management Project. The first project was completed with great success. Somatex was able to refurbish the three flood control operators and motors that were originally installed in 1949. This was an important effort to ensure that all bearings, seals, gears and electrical components were in good service condition.

The second project is the Dam Crest Project which involves upgrading the electrical system, the communication lines and the water line. In addition, improvements have been made on the dam crest for storm water runoff and new pavement. The construction effort has significantly brought us up to today's standards with the electrical system, replacing the original direct burial line from 1948. The lines are in proper conduits and encased in concrete and with the addition of manholes for future access. The new communication lines are also in conduits and we also have fiber optics. The water line that was replaced was from the 1980s and now we have the proper standard water lines. Stone swales were created to improve water drainage and eliminate erosion effects on the dam slopes. The new pavement is now properly sloped and is a big improvement to the dam crest.

A \$148,862.00 contract was awarded on Nov. 3, 2017 for masonry repairs at the gate tower of the Edward MacDowell Dam. The project consists of: installing new external brick masonry expansion joints on all four sides of the gatehouse; installing steel anchor rods at the corners; re-pointing all four walls of masonry in their entirety; repointing the limestone belt near the top of the gatehouse; replacing all loose or cracked bricks; replacing the cracked limestone lintel located to the east side of the entrance door above the window; removing old failed paint on eight transoms as well as window jambs by using hand tools such as chipping hammers or wire brushes; applying an epoxy rust penetrating sealer product to the transoms once the failed paint is removed; overcoating the sealer on the transoms with a paint product as recommended by the manufacturer of the sealer, in a color to match the existing color of the existing paint system.

We also have scopes of work ready to go for replacement of steel doors for the gatehouse and a new roof hatch.

Construction of **FRANKLIN FALLS DAM** in Franklin was completed in October 1943 at a cost of \$7.9 million. Situated on the Pemigewasset River in the town of Franklin, the 1,740-foot-long, 140-foot-high dam impounds a permanent pool of 440 acres with a maximum depth of about seven

feet. The flood storage area of the project totals 2,800 acres and can store up to 50.2 billion gallons of water for flood risk management purposes.

The project has prevented damages amounting to more than \$178.3 million to date. Additionally, more than 100,000 visitors annually enjoy the recreational opportunities at Franklin Falls which include designated hiking trails, mountain biking trails, snowmobiling trails, picnicking, fishing, boating, wildlife viewing, hunting, horseback riding, dog sledding and disc golf.

Project staff are currently managing the winter season. Concrete work to repair portions of the service bridge has been completed and preparations are underway for painting the service bridge. Over the next couple months, our visitors will be enjoying winter activities. Others will just be enjoying being out in a beautiful natural setting while our staff will be busy patrolling the property, planning for the summer recreation season, and scheduling required maintenance for the next year.

For up-to-date information, call (603) 934-2116 or visit our website at: www.corpslakes.us/FranklinFalls or at www.nae.usace.army.mil/Missions/Recreation/FranklinFallsDam.aspx, or on Facebook: <https://www.facebook.com/FranklinFallsDam> or on Instagram: [franklin_falls](https://www.instagram.com/franklin_falls).

The **HOPKINTON - EVERETT LAKES** flood risk management project is a two-dam system of flood protection for the Merrimack Valley. **Hopkinton Dam, on the Contoocook River in Hopkinton**, is 790 feet long and 76 feet high and can impound a 3,700-acre lake. Nearby **Everett Dam, on the Piscataquog River in Weare**, is 2,000 feet long and 115 feet high and can impound a 2,900-acre lake. The lakes have a combined storage capacity of 51 billion gallons of water and are linked by a canal, which allows water to be diverted between the two pools. Construction of the dual facility was completed in 1962 at a cost of \$21.5 million. During the 1987 flood this combined project utilized 95 percent of its storage capacity and prevented \$24.5 million in flood damages. Since the construction in 1962, the two dams are credited with preventing more than \$217.1 million in damages. In addition, excellent recreational opportunities are available on project lands, including picnicking, swimming, boating, fishing, hunting and snowmobiling. An estimated 450,000 visitors come to the Hopkinton-Everett project annually.

The project's winter season is underway. Boaters are using the Hopkinton Lake for fishing and other visitors are using the property to relax and enjoy nature. Project staff is busy assisting visitors, patrolling the property, performing required inspections and maintenance, and working to improve recreational access and opportunities for the public.

For up-to-date information, call (603) 746-3601 or visit the website at www.corpslakes.us/HopkintonEverett or at www.nae.usace.army.mil/Missions/Recreation/HopkintonEverettLake.aspx.

OTTER BROOK LAKE on Otter Brook in Keene was completed in 1958 at a cost of \$4.4 million. The 133-foot-high, 1,288-foot-long dam can impound a reservoir with a storage capacity of 5.7 billion gallons of water. During the 1987 flood, this dam utilized 100 percent of its storage capacity and prevented \$3.6 million in damages. Since the construction in 1958, the dam has prevented flood damages of \$47.4 million. More than 39,000 visitors annually enjoy the swimming, picnicking, boating, fishing and hunting available at the 458-acre facility. For up-to-date information, call (603) 352-4130. The website is www.nae.usace.army.mil/Missions/Recreation/OtterBrookLake.aspx.

In 2003, the Corps reevaluated the spillway capacity at Otter Brook, using revised storm data generated by the National Weather Service. As the spillway was determined to be too small, a design to accommodate larger flood flows was completed. This effort resulted in a new concrete spillway weir with mechanical fuse plugs designed to fail prior to exceeding discharge capacity. This project was completed in the summer of 2006.

Construction to remove and replace asphalt pavement for the access road at Otter Brook Lake dam in Keene was completed under the terms of a \$97,797.00 contract awarded by the New England District in late 2014. The work on this project consisted of providing materials, labor, testing and equipment for performing all operations necessary to remove and replace asphalt pavement, for the upper west access road, parking lot to the utility building, and the driveway to the operator's building at the Otter Brook Lake dam. Work requirements were managed by the Corps under the supervision of a Corps' Quality Assurance Representative to assure compliance with contract requirements.

The Corps plans controlled releases of water from Otter Brook Dam in Keene on Saturday and Sunday, May 5-6, 2018 for recreational canoeing, kayaking and rafting on the Otter Brook. The flows will be approximately 300 cubic feet per second (cfs) starting at about 9 a.m. both days and

continuing until about 3 p.m. or until the volume of water stored for the release is depleted. This water release is subject to change or cancellation if conditions require.

To view the 2018 White Water Release Schedule with many other activities planned visit the Corps website at www.nae.usace.army.mil and select Reservoir Control Center and then Whitewater/Recreation.

SURRY MOUNTAIN LAKE on the Ashuelot River in Surry, just north of Keene, was completed in 1941 at a cost of \$2.8 million. The 1,800-foot-long, 86-foot-high dam has a reservoir storage capacity of 10.6 billion gallons of water. During the 1987 flood, this dam utilized 100 percent of its storage capacity and prevented \$8 million in damages. Since construction in 1941, the dam has prevented damages estimated at \$149.5 million. For up-to-date information, call (603) 352-2447 or (603) 352-4130. The website is www.nae.usace.army.mil/Missions/Recreation/SurryMountainLake.aspx.

In addition to its flood risk management benefits, Surry Mountain Lake also provides recreational opportunities, such as fishing, swimming and boating to 58,000 visitors annually. Restrooms, drinking water and picnic shelters also are available.

The Corps plans controlled water releases from Surry Mountain Dam, in Surry on Saturday, April 28, 2018, to provide flows for recreational canoeing, kayaking and rafting on the Ashuelot River. The Corps will provide flows of approximately 275 cubic feet per second (cfs) from about 5 a.m. until about 1 p.m. or until the water stored for the event is depleted. This water release is subject to change or cancellation, if conditions require.

To view the 2018 White Water Release Schedule with other activities planned visit the Corps website at www.nae.usace.army.mil and select Reservoir Control Center and then Whitewater/Recreation.

