



# Fiscal Year 2024 Final Report



*Photo by Ranger Jason Taylor*

September 2024

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Massachusetts Department of Conservation and Recreation  
Division of Water Supply Protection  
Office of Watershed Management

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# **FY2024 Accomplishments**

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### **Wachusett/Sudbury Region**

#### **A. Land Acquisition**

Two projects went to record this fiscal year: a 10-acre fee acquisition in Sterling, and a 9.54-acre fee acquisition in Boylston. Eight projects totaling over 410 acres are currently underway at various stages of due diligence.

Three Wachusett Reservoir Watershed projects were approved by the board this fiscal year: a 10-acre fee acquisition in Boylston (9/13/2023), a 47-acre fee acquisition in Sterling/Holden (1/17/2024) and a 24-acre WPR acquisition in Boylston (6/24/2024).

#### **B. Watershed Preservation Restriction Monitoring**

Eighteen WPR Monitoring Visits were completed by Regional Monitors and the WPR Coordinator this FY and the WPR Coordinator reviewed all Regional Monitor reports. One Forest Legacy visit and one high priority visit were also completed this year.

#### **C. Land Management**

The Land Management Plan was implemented to the best of our ability this FY due to the Forests as Climate Solutions (FACS) initiative. The Administration's "Forests as Climate Solutions" initiative was announced on June 7, 2023. As part of this initiative, the Secretariat placed a pause on the sale of new forestry lots for six months while a panel of outside experts reviewed the Forestry Program and provided revised guidelines that take climate into consideration. The pause ended on June 10, 2024 with the release of the Response to the Report of the Climate Forestry Committee. EEA issued a statement of commitments early in June 2024, releasing all paused projects subject to compliance with new climate guidelines and considerations. All FY24 proposals will be reviewed again and updated to meet the new guidelines and be presented to the public in September 2024 as FY25 projects. Work recommenced on one forestry lot for a total of 52 acres in Holden following the end of the pause. Six lots on a combined 376 acres were supervised while five lots on a combined 282 acres were completed.

A new program was commenced to visit all regeneration openings that are at least 10 years old. The forest cover type of each opening is determined and data is collected including a list of all tree species present; the presence, percent cover and species of terrestrial invasive plants; and the presence and species of interfering native shrub species. This information is used to update the forest cover type datalayer and will allow for some analysis of the circumstances where forest regeneration is or is not successful and the extent to which invasive species and interfering shrubs are negatively affecting regeneration and the development of the young forest component.

Staff coordinated with Natural Resources wildlife biologists to ensure that breeding bird populations were protected during the spring mowing season and information was provided to a DCR hay field permit holder who cooperated fully to help protect listed bird species that breed in hay fields.

On two occasions, In April and June 2024, the Mass Department of Agricultural Resources discovered the Spotted Lanternfly on DWSP property on Turnpike Corner Middle, Middle Road and White Bagley Roads in Sudbury Reservoir Watershed. Paperwork was signed and returned and all staff reviewed the required training video. Staff has also been reminded to check their vehicles when leaving any area of this watershed.

During this FY, the number of phone calls and e-mails from abutters and town officials regarding hazardous DCR trees seems to have increased. Ninety-three trees were removed and numerous trees were inspected.

After several years of delay initiated by Covid, the Nyanza Natural Resources Damages Trust spurred DCR to determine how the remaining \$490,000 targeted for the Stearns and Brackett Reservoirs would be spent. Several meetings with the Deputy Commissioner and External Affairs culminated in a re-posting of the Request for Expressions of Interest in January 2024. The release was supported with videos and social media postings. DCR received several responses and substantive ideas were presented by Framingham State University for their management of land and buildings at 322 Salem End Rd. Meetings were held with FSU administrators to further discuss these ideas. DCR staff subsequently worked on transferring land from Watershed to State Parks, obtaining remaining Nyanza NRD funds for DCR to distribute to FSU, and drafting a ten-year lease. FSU management will be pursuing permanent legislation. These efforts are expected to be complete in FY25.

Phase 1 of the Natural Resources Climate Change Vulnerability Assessment (CCVA) was completed. This project does not appear in the FY24 Work Plan and associated reporting tables as it quickly developed after the start of the fiscal year; Phase 2 is part of the FY25 Work Plan. Vulnerability Assessments often focus on infrastructure, such as buildings and roads. The CCVA focuses on natural assets - rivers, streams, forested watersheds, aquifer systems, wetlands, and other natural features within each watershed – that act as a biological filter for excellent water quality. Understanding their vulnerability to climate change is key to informing and prioritizing future management decisions to ensure the ongoing health of the watersheds and stability of the drinking water supply. DWSP was able to coordinate with DCR’s Office of Climate Resilience to obtain \$200,000 in funding through EEA’s ResilientMass implementation (the Commonwealth’s 2023 State Hazard Mitigation and Climate Adaptation Plan) to initiate the CCVA. Natural Resources and Planning staff developed an RFP and selected Tighe and Bond as a consultant to work on Phase 1 of the CCVA in the second half of FY24. The consultant worked on three major tasks for Phase 1 of the project: Identification of Critical Natural Assets, Current State of Critical Assets, and Identification of Data Gaps. Significant collaboration with DWSP staff, including the Director, Regional Directors, Forestry, Environmental Quality, Engineering, GIS, Natural Resources, and Planning, informed the work of consultant’s subject experts. Another \$200,000 in FY25 funding has been approved by ResilientMass for work on Phase 2 of the CCVA, which will evaluate the anticipated near and long-term vulnerability of forest and natural assets based on exposure to extreme weather, climate effects, and adaptive capacity.

#### **D. Wildlife Management**

The Bird Harassment Program operated from October 2 through March 29 with shoreline personnel only three evenings a week. Daily bacteria samples from the Carroll Water Treatment Plant were bacteria-free 54% of the time during the program and none were above the regulatory threshold of 20 CFU/100mL. For the first time, a BHP wrap up meeting was held for all

participants of the program and a [detailed history of the Bird Harassment Program was written, distributed and placed on the DCR website.](#)

Twenty-nine roost counts were conducted at Wachusett Reservoir from September to April this FY year with an average roost of 773 gulls. The number of gulls on the roost ranged from a low of zero gulls to a high of 2,443 gulls. Unmanned Aircraft Systems were used in conjunction with MassDOT to document the gull roost on a schedule of about one time a month to help staff calibrate their shoreline counting and provide additional information.

Fifty-six Canada Goose eggs from ten nests were treated in FY2024 at Wachusett Reservoir and one hundred fifty eggs from thirty-two nests were treated in FY2024 at Sudbury Reservoir in an effort to decrease this population on the drinking water supply.

Four beavers were trapped and removed from the non-pathogen zone of Wachusett Reservoir in FY2024. Fecal samples indicated that one beaver kit trapped from South Bay in December was positive for Cryptosporidium. Beaver dams were present in a few concerning areas around the watershed and were addressed as needed. Ten beavers were removed by a licensed trapper contracted by the Town of Sterling DPW to address flooding concerns around Campground Road.

Analysis of the deer harvest data is complete and the 2023 Deer Report can be found online at [DCR DWSP 2023 Deer Hunt Harvest Summary](#). Plans for the 2024 hunt have been finalized and hunting will take place on all DWSP properties in the Wachusett and Sudbury Watershed. All DWSP properties in the Wachusett and Sudbury watershed are now under the 5-year Watershed Hunting permit.

#### **E. Public Access Management**

There were a total of 14,032 visitor contacts, 1,088 total violations. and a total of 49 parking tickets issued during FY24. The highest number of violations were wading or swimming. Thirteen referrals or request for law enforcement assistance occurred. One new full-time Watershed Ranger was hired, and it is expected that the ranger group will be fully staffed in early FY25.

The Public Access Plan Update was completed in June 2023 and FY24 was the first year that fishing season was extended until December 31. No conflicts with expanded hunting or other major problems occurred.

#### **F. Watershed Security**

Ranger staff continue to maintain an active presence in the watershed. All Wachusett/Sudbury staff inform Rangers of any unusual activities. Interactions and coordination with MWRA, State Police, Environmental Police, and other law enforcement personnel continued throughout the year. DCR Rangers and Massachusetts Environmental Police met and coordinated plans for joint enforcement on Opening Day of Fishing.

#### **G. Infrastructure**

Assessments were completed of both Wachusett and Sudbury dams, spillways, and dikes on a monthly basis as well as monitoring of conditions and maintenance activities, taking piezometer readings and observation wells. Maintenance work requests were prepared for Framingham

Reservoir #3 parking lot, Wachusett South Dike Turf management project, Framingham Reservoir #1- and #2-hole filling, and Wachusett spillway vegetation cutting. A majority of this work has been completed with the remainder to be addressed in FY25. An emergency inspection of the Wachusett Dam was completed quickly after the New Jersey earthquake.

The design for the Malden Brook Restoration project was finalized and staff prepared plans and supporting hydrology and hydraulic report in preparation for permitting. Department of Ecological Restoration funded a consultant to prepare a peer review of the design and supporting computations and to provide comments. Staff anticipate revising the plans and documents and to begin preparing for permitting in FY25.

Boat ramps were constructed on Acre Bridge Road and East Main Street in the Sudbury Reservoir watershed to aid in emergency operations and consultant work.

Demolition projects (Kush, Hulick properties) were funded by the DCR statewide demolition contract and completed this fiscal year. The ADA walkway project at the Wachusett Promenade began and will be completed in early FY25. Almost all of North Dike fencing has been replaced, the roof at the Clinton Ranger Station was replaced, and a study is being performed to evaluate the load of a new roof for the Stillwater Farm barn, with the ultimate goal of structurally stabilizing the building and putting on a new metal roof.

#### **H. Watershed Protection Act**

Twenty-four applications were reviewed this FY and staff started a review of all past projects approved with ongoing conditions and are following up with property owners accordingly. Staff have noticed the bulk of their time is being devoted to engineers, property owners, developers, builders, and town officials who are reaching out for guidance on the WsPA Regulations as well as other overlapping Regulations (Drinking Water, Wastewater, etc.) and how they apply to their properties and specific projects.

#### **I. Education and Outreach**

Seventy-nine programs were offered in FY24 with an attendance of 10,835, which includes 8,200 for the Spring and Fall Dam Days. Record-breaking attendance at the First Day Hike and both Dam Days lead to planned improvements such as a Dam Day walking tour from Gate 39 to alleviate the parking stress. Staff engaged the public through historical displays, hiking series, presentations, and educational programs. “Watershed Wednesdays”, a series of monthly presentations was held evenings at John Augustus Hall throughout the year and featured staff speakers. Non-personal media was created, consisting of five Recommended Hike [StoryMaps for Gate 22, 25, 36, 39](#), and the [Sterling Sensory Trail](#) and finalized a [Loons Call on the Reservoirs video](#) which was posted to the DCR YouTube playlist.

Using a Hidden Treasures Stipend from Freedom’s Way National Heritage Area, education staff created a macroinvertebrate touch tank. This mobile, oxygenated tank allows for identification and investigation of live macroinvertebrates and can be used in both the field and classrooms. We developed a sensory trail along the Sterling section of the Mass Central Rail Trail to provide an educational experience for those who have difficulty learning in the traditional manner.

The Watershed Management website was updated regularly with new information, programs, and videos. Efforts have been made to meet the new accessibility requirements as set forth by the Governor and EOTTS. A “Water Supply Protection Spotlight” promotional page was

established, which will be updated quarterly with a new topic. This year focused on Salt Reduction, Engineering, and Public Access. Staff coordinated with DCR Administration and Finance to have documents and brochures translated into six foreign languages under an agency-wide contract.

Staff supported the Massachusetts Envirothon by serving as the Water Station coordinator and Wachusett Watershed hosted the 2024 annual competition.

## **J. Water Quality and Hydrologic Monitoring**

Tributary sampling took place two times a month, while nutrient, chloride, alkalinity and TSS samples were taken monthly throughout FY24. A total of 106 phytoplankton samples were analyzed this fiscal year, seven snow surveys and 47 profiles were collected in conjunction with phytoplankton and nutrient sampling. Real time flow monitoring occurred at ten tributaries, groundwater at seven wells was measured monthly and continuously monitored by USGS at Sterling and West Boylston. Monthly water quality summaries and an annual report were produced.

Staff analyzed UV254 trends in the reservoir and tributaries to provide context for MWRA reservoir operations discussions and the impacts of climate change on the water system. Several Environmental Quality staff responded with field surveys of road damage, checking booms, and documenting conditions after extreme climate events, like the September 2023 9" of rain in Princeton. Record turbidity values of up to 13.7 were recorded for the Stillwater River after the river increased 4 feet in elevation with flows increasing from 35 to 1450 cfs.

Staff continued with the salt reduction program throughout this FY with reductions in use being noted. Sterling reported a 52% decrease in total salt applied in the 2023-2024 winter compared to their previous four-year average, while Paxton, Sterling, and Holden reported decreases of 45%, 48% and 24% respectively. These results are extremely encouraging for salt reductions in the watershed and hint at progress achieved through the education, training, grant program, and proper salt spreader calibration. All salt reduction grant award contracts were completed for a total of 50k of awards to the towns of Sterling, Princeton and Holden that received salt grants.

## **K. Watershed Monitoring and Assessment**

Working with GIS staff, a new database using GIS was created to modernize file creating, updating and monitoring efforts. Updates were made to more than 600 current and historic Environmental Quality files to bring them up to date. More than 67 field site visits were conducted and details were added to the database. Hazardous release and spill sites, underground storage tanks, and agricultural sites were monitored or inspected. The Waushacum Brook Environmental Quality Assessment report was completed. Recommended tasks were reviewed and added to the FY25 Work Plan as appropriate.

Town conservation commission and planning board minutes, agendas and plans were reviewed and comments to protect water quality were provided as needed.

## **L. Aquatic Invasive Species**

The partnership between MWRA and DCR on AIS removal in Wachusett Reservoir continued in FY24. Biologists continued support of removal efforts by maintaining ArcGIS Online tools for data collection from contractors and sharing with project partners. Biologists also inspected



watercraft prior to equipment launch and assisted in allocating diver effort. Biologists also inspected watercraft prior to equipment launch for routine contractor activities, MDOT bridge inspections, and several emergency response training events which included boats and dive teams.

An educational presentation on AIS and cyanobacteria was presented to the Wachusett Rangers and interpretive staff. Staff were also provided a cyanobacteria observation reporting form and identification guide for cyanobacteria and AIS. Information was also provided in response to current events; in October a fact sheet on cyanobacteria was developed and provided ahead of Dam Day due to the presence of cyanobacteria scums the week before the event. This information gave staff the knowledge to answer any questions from the public in an appropriate manner.

### **M. Wastewater Management**

Staff entered multiple years (2019-2023) of septic repairs and Tittle V inspection data from the Sterling Board Of Health and July 2023 - June 2024 information from the towns of Holden and Boylston into the wastewater database. Requested data from Princeton and West Boylston Boards Of Health is pending. As built septic plans for WsPA 2000-2023 filings were obtained and added to the appropriate Watershed Protection Act project files on SharePoint. Sewer connection information was obtained from the Town of Holden.

Sewer bills and subsequent payments were issued and forwarded in a timely manner. There has been no movement on developing an updated Sewer Use Agreement with the City of Worcester or any of the DCR sewer communities

### **N. Stormwater Management**

Tighe & Bond has advanced the design from 75% to 100% plans and has prepared environmental permitting documents for the Route 110 direct discharge project. More permitting and documentation than expected was required.

Staff provided watershed communities with information and literature to meet the town MS4 requirements. Salt Smarter, Not Harder signs were placed at the DPW public sand/salt piles.

Staff continued communication with Watershed town DPW Directors to address stormwater and drainage issues that could lead to water quality impacts. We coordinated with the Boylston DPW to address drainage and erosion issues along West Temple St. and continued to work with the Sterling DPW to address the drainage issues on Mortimer Rd.

### **O. Emergency Response**

The focus on training this year was for new staff to gain knowledge in how to respond to events on the reservoir or in case of a terrestrial spill.

The work and support for the hazardous waste contractor to address an oil release from the boiler room at John Augustus Hall during Fy24 will continue for the foreseeable future.

### **P. Support**

The FY24 PILOT total of \$8,492,448 was successfully administered. Payments were calculated, funds requested from MWRA, and payments were distributed to the towns. This was an increase of 0.2% from FY23. The total “hold harmless” value (provision in the legislation that requires

any payment never to be less than the previous year's payment) for FY24 PILOT was \$1,899,127. Wachusett towns' share is \$3,564,910, or 42% of total PILOT. Sudbury towns' share is \$855,461, or 10% of total PILOT. FY25 PILOT is estimated to increase 0.1% to 1.2%, depending on towns' tax rates, to a total of \$8.5 - \$8.6 million.

There were many important project initiatives in FY24, however the [DCR-DWSP Public Access Map](#) stands out as a particularly important achievement. This new public tool distills our complicated public access plans and makes it easier for the public to determine what they can do in the watersheds. This was a massive collaborative effort that wouldn't have been successful without staff input. We continued to support, enhance and expand internal workflow capabilities using ArcGIS Online. This is a critical tool to the success of GIS at DWSP.

The largest GIS-related Special Projects included a field survey written in Survey123 as well as a Dashboard with data update capabilities to assist the engineering staff with Sudbury reservoirs observation well readings, edits made to the Wachusett Hydro datalayer, and migration of an application that allows NR staff to assign pool numbers to new vernal pools.

## DCR/DWSP Office of Watershed Management FY2024 End of Year Highlights

### Quabbin/Ware Region

#### **A. Land Procurement**

Seven Quabbin projects protecting 464 acres (144 acres in fee; 320 acres in WPR) went to record this fiscal year. Two Ware River projects protecting 81 acres (74 acres in fee; seven acres in WPR) went to record this fiscal year. Sixteen projects are currently underway at various stages of due diligence including nine projects totaling 290 acres in Quabbin and seven projects totaling 530 acres in Ware River.

#### **B. Land Preservation/Watershed Protection Restriction (WPR) Program**

WPR Coordinator and Regional Monitors completed 58 WPR monitoring visits this fiscal year. WPR Coordinator assisted Regional Monitors with training, monitoring visits, and report writing as needed. Four baseline reports were completed this year (two in-house and two contracted). Two issues of [WPR e-newsletter – A Watershed Moment](#) – were sent to WPR landowners.

#### **C. Land Management**

Much of the year was spent working with other agencies and EEA on activities related to the Forests as Climate Solutions committee report. The moratorium on forest management wasn't lifted until June 2024. The harvest lots at Quabbin and one in the Ware River were shown in June.

Forestry staff provided oversight and supervision on five active timber sales in FY24 that were sold prior to the moratorium.

Work continued on the long-term paired watershed study. Planned event sampling was cancelled because SOP sampling requirements were not met.

Ongoing work on CFI analysis continued. Regeneration survey plots were completed by watershed foresters.

Approximately 21 miles of boundary were located, marked and maintained.

About 42 acres of watershed lands were treated with prescribed fire.

Phase 1 of the Natural Resources Climate Change Vulnerability Assessment (CCVA) was completed. This project does not appear in the FY24 Work Plan and associated reporting tables as it quickly developed after the start of the fiscal year; Phase 2 is part of the FY25 Work Plan. Vulnerability Assessments often focus on infrastructure, such as buildings and roads. The CCVA focuses on natural assets - rivers, streams, forested watersheds, aquifer systems, wetlands, and other natural features within each watershed – that act as a biological filter for excellent water quality. Understanding their vulnerability to climate change is key to informing and prioritizing future management decisions to ensure the ongoing health of the watersheds and stability of the drinking water supply. DWSP was able to coordinate with DCR's Office of Climate Resilience to obtain \$200,000 in funding through EEA's ResilientMass implementation (the Commonwealth's 2023 State Hazard Mitigation and Climate Adaptation Plan) to initiate the CCVA. Natural Resources and

Planning staff developed an RFP and selected Tighe and Bond as a consultant to work on Phase 1 of the CCVA in the second half of FY24. The consultant worked on three major tasks for Phase 1 of the project: Identification of Critical Natural Assets, Current State of Critical Assets, and Identification of Data Gaps. Significant collaboration with DWSP staff, including the Director, Regional Directors, Forestry, Environmental Quality, Engineering, GIS, Natural Resources, and Planning, informed the work of consultant's subject experts. Another \$200,000 in FY25 funding has been approved by ResilientMass for work on Phase 2 of the CCVA, which will evaluate the anticipated near and long-term vulnerability of forest and natural assets based on exposure to extreme weather, climate effects, and adaptive capacity.

#### **D. Wildlife Management**

The gull harassment program operated for 28 consecutive weeks from 10/2/23 - 4/12/24. Boat harassment was used on 5 nights between late January and early February. There were no coliform exceedances during the program. All operations were performed safely, and training continues on program orientation, cold water and trailer operations, pyrotechnics and laser use.

Unmanned Aircraft System (UAS or "drones") flights were conducted at Quabbin weekly from October 2023 to mid-April 2024. The UAS program has been very successful and a very useful tool for the Bird Harassment Program. The weekly roost counts varied weekly with the highest count of 1,082 gulls on February 15, 2024.

The Canada goose control zone was surveyed during the nesting season; two nests were located. One nest had seven eggs and the other nest had five eggs which were treated to prevent hatching. The annual report was produced. Six beaver were removed from the Wildlife Pathogen Control Zone and two beaver were removed from a non-pathogen zone site. In addition, work continued to prevent beaver-related flooding issues including monitoring and maintaining culverts, maintaining culvert fence guards, and repairing beaver-deceiver piping.

Research and management for common loons on DSWP waterbodies continued and the annual report was completed for the 2023 season. The lead tackle and fishing line canister program was completed for the 2023 season; 15 pounds of lead and seven miles of fishing line were collected. Seven active eagle nests were confirmed in 2023.

Deer hunting was conducted at Quabbin in New Salem, Pelham and Hardwick during the two-week shotgun season in December 2023. A controlled hunt was held on Prescott Peninsula and Petersham and 81 deer were harvested. Quabbin Park was hunted during a two-day controlled hunt and 37 deer were taken. The final deer report was completed and shared with staff ahead of the 2024 deer hunt planning meeting.

#### **E. Public Access Management**

Information on access policies and regulations was distributed through the Quabbin Visitor Center and through numerous public contacts by the watershed rangers. The rangers logged approximately 26,000 visitor contacts during FY24.

The three Quabbin Boat Launch Areas (BLAs) operated daily. The 2023 season opened on its normal date in April to private boats and rental boats. The 2023 season closed on October 14, 2023. The boat inspection and decontamination programs were implemented again this year, with both boat washings and cold weather quarantines overseen by DWSP staff. Staff continued to use iPads

to implement the boat seal program. All three BLAs continued with credit payment only systems. No cash payments were allowed.

EQ staff conduct regular inspections through EQA fieldwork that occasionally uncover recreation-related water quality concerns. These concerns are analyzed and mitigated as needed.

The Ware River Public Access Management Plan was completed.

Staff provided support and maintained the boat launch at Comet Pond. Staff expanded parking at Comet pond.

Eleven research permits were issued this year and the annual report was compiled and distributed.

## **F. Watershed Security**

The watershed rangers conducted regular patrols of high-vulnerability areas around the reservations, and weekly summaries were submitted to MWRA. Rangers documented 79 violations in Quabbin and 357 violations in the Ware River.

Inspections of gates and bar ways on the reservations were performed and necessary repairs made.

Interactions and coordination with the State Police, Environmental Police, the State Police Marine Unit and other enforcement personnel continued throughout the year.

## **G. Infrastructure**

Civil Engineering staff performed and reported on monthly inspections and piezometer readings. DWSP staff conducted mowing, brush-cutting, and other maintenance operations on dams and dikes.

CE staff monitored failing conditions of the historic Keystone bridge on the middle branch Swift River in New Salem. In addition, a number of culverts and bridges were inventoried and inspected.

Work was completed to reclaim and repave Boat Launch Area 3 entrance road from the gate to just before the bridge.

Routine grounds maintenance was completed in Quabbin Park, including field mowing, weed whacking, and the removal of several hazardous trees or limbs. Staff prepared for Memorial Day in the Quabbin Park Cemetery with numerous plantings and assisted with burials in the cemetery.

Road work performed by DWSP staff included clearing several miles of roadside brush, cleaning drains, and filling potholes in Quabbin Park.

DWSP staff also monitored gravel extractions by the towns of New Salem and Petersham.

A new 40'x60' storage facility was constructed at the New Salem field office.

Over 250 Quabbin Park Cemetery records were scanned into a digital database.

## **H. Watershed Protection Act**

Staff implemented the Watershed Protection Act through the review of applications, site visits, meetings with applicants and their representatives, holding variance hearings, and the issuance of decisions. Staff received 30 cases in the Quabbin and Ware River Watersheds. Staff investigated several violations in the Ware River and Quabbin watersheds.

Agendas and minutes were reviewed for all the relevant town boards in both watersheds. Staff contacted several towns regarding projects within WsPA jurisdiction.

## **I. Interpretive Services**

The Quabbin Visitor Center was open to the public all year, with a six-day per week schedule. About 6,000 people visited the Visitor Center. Twenty-two presentations were presented to the public. In addition, 32 programs were presented to schools.

The DCR website was regularly updated with new information about the Quabbin Controlled Deer Hunt, fishing programs, AIS, meeting announcements, the boat decontamination program, plan developments, area closures, and forestry projects.

## **J. Water Quality and Quantity Monitoring**

EQ staff conducted routine biweekly water quality monitoring of Quabbin Reservoir watershed (Reservoir and tributaries) and Ware River tributaries. Phytoplankton sampling was conducted following the established monitoring plan.

Stream gauge data from five tributary locations continued to be downloaded, processed, and stored in established data archives according to standard operating procedures.

The Annual Water Quality report was completed.

## **K. Watershed Monitoring and Assessment**

Staff regularly conducted site assessments, attended local board meetings, and monitored online databases to identify potential threats to water quality. Staff investigated various potential violations in the watersheds and followed up as needed. West Branch Ware district EQA report was completed.

The Yearly Operating Plans for vegetation management work on both the National Grid and Providence & Worcester Railroad rights-of-way were reviewed, and comment letters were submitted.

## **L. Aquatic Invasive Species**

Staff provided AIS information to the public through visitor contacts, displays in the Visitor Center, watershed kiosks, the DCR website, and distribution of brochures during Boat Decontamination and Cold Weather Quarantine programs.

In CY 2023, 7,628 boats were sealed across the three BLAs: 2,002 at BLA 1, 2,835 at BLA 2, and 2,791 at BLA 3.

The 2023 macrophyte survey on the Quabbin Reservoir was completed, and a final report is forthcoming. Staff also inspected and maintained the fragment barriers at BLA 2 and BLA 3.

Control efforts of swollen bladderwort continued at both Pottapaug and O’Loughlin ponds. Private boats were prohibited on both ponds when the 2024 season began in April 2024. Surveying and hand harvesting took place over several days in June and July.

#### **M. Wastewater Management**

No water quality issues were identified from septic systems, and the oversight provided by Title 5 was generally sufficient.

#### **N. Stormwater Management**

Inspections of stormwater BMPs were conducted in the Ware River watershed. EQ staff monitored potential stormwater issues through field investigations and aerial imagery.

#### **O. Emergency Response**

Emergency Contact Information was updated by staff online in Smartsheet. BLA emergency SOP was also reviewed and updated.

FY24 Spill Response Training was conducted through TIGER training. Emergency response trailers were inventoried and regularly stocked.

All spill plans were prepared for timber harvesting operations.

#### **P. Support**

Staff participated in a wide variety of job-related trainings and workshops, interagency planning teams, and professional organizations.

FY24 PILOT total of \$8,492,448 was successfully administered. Payments were calculated, funds requested from MWRA, and payments distributed to the towns. This was an increase of 0.2% from FY23. The total “hold harmless” value (provision in the legislation that requires any payment never to be less than the previous year’s payment) for FY24 PILOT was \$1,899,127. Quabbin towns’ share is \$2,925,246, or 34% of total PILOT. Payments for Annexed Lands to the five towns surrounding Quabbin totaled \$662,153, or 23% of Quabbin total or 8% of total PILOT. Ware towns’ share is \$1,066,310 or 13% of total PILOT. FY25 PILOT is estimated to increase 0.1% to 1.2%, depending on towns’ tax rates, to a total of \$8.5 - \$8.6 million.

# **FY2024 Work Plan Final Summary**





# FY 24 Wachusett/Sudbury Final Report

Update on all tasks in the Wachusett/Sudbury Work Plan for July 1, 2023 - June 30, 2024.

Task No.	Description	Final Report Comments
<b>Land Acquisition</b>		
A1	Acquire land. Coordinate due diligence and other tasks/services from DCR and private contractors to complete survey, appraisal, title, engineering, and environmental assessments for proposed acquisitions. Negotiate WPR language, purchase prices and conditions of sale with sellers of property.	Two projects went to record this fiscal year: a 10-acre fee acquisition in Sterling (Harper), and a 9.54 acre fee acquisition in Boylston (Dale). Eight projects totaling over 410 acres are currently underway at various stages of due diligence.
A2	Develop individual parcel presentation materials and meet with MWRA Board for approval.	Three Wachusett projects were approved by the board this fiscal year: a 10-ac fee acquisition in Boylston (9/13/2023), a 47-acre fee acquisition in Sterling/Holden (1/17/2024) and a 24-acre WPR acquisition in Boylston (6/24/2024).
A3	Communicate with and convene LAP meetings to review parcels and prioritize land purchases.	Four LAP meetings were held with a total of three projects approved.
A4	Use the LAP Prioritization Model to identify priority parcels in the watersheds.	Ongoing. Outreach letters were sent to 15 landowners of priority parcels in the Wachusett watershed.
A5	Continue to solicit and work with landowners in donating conservation interests in land and assist in advising landowners on the tax incentives available when donating conservation interests.	Of the ongoing projects, work continues on two proposed donations: a 44-acre fee transfer in Rutland and a 0.01 acre fee donation in Sterling. There are three additional no cost projects underway.
A6	Establish regularly scheduled land/legal meetings to address attorney assignments and project logistics.	Ongoing.
<b>B. Watershed Preservation Restriction Monitoring</b>		
B1	Monitor WPRs on a regular basis, following monitoring procedures	18 WPR Monitoring Visits completed by Regional Monitors and WPR Coordinator this FY. WPR Coordinator reviewed all Regional Monitor reports. 1 high-priority WPR and 1 Forest Legacy visit completed this FY.
B2	Complete baseline documentation reports for new WPRs prior to acquisition or within a reasonable time after acquisition, following EOEEA specifications. Baselines will be done in-house or through appropriate contracts.	No baselines were completed this FY.
B3	Meet with Restriction Stewardship Working Group and confer with legal to respond to enforcement issues and requests to exercise reserved rights.	Restriction Working Group met 4 times this FY. WPR Coordinator worked with DCR-Parks stewardship staff on updating the Enforcement Procedure throughout the year.
B4	Track changes in landownership for WPRs.	WPR Coordinator and Regional Monitors continued to track changes in landownership for WPRs. There are 4 new WPR landowners. The WPR Coordinator sent welcome packets to all of them and plans to meet with all of them by the end of the summer.
B5	Distribute WPR landowner E-news & Notes from the Field Story Map twice a year to landowners.	WPR Coordinator and Jim Taylor created and sent out 2 issues of "A Watershed Moment" and "Notes from the Field" StoryMap.
B6	Implement WPR records procedure with DCR records manager	Ongoing. WPR Coordinator participated in meetings regarding the development of the new LIS database.

Task No.	Description	Final Report Comments
	<b>C. Land Management</b>	
C1	Implement the system-wide comprehensive Land Management Plan (LMP).	The Land Management Plan was implemented to the best of our ability this FY due to the Forests as Climate Solutions initiative. DWSP forestry staff received a visit from stone wall expert Robert Thorson, attended as well by DCR field archaeologists.
C2	Prepare forest harvest proposals for next fiscal year including data on proposed harvest areas, characteristics of stands, soils, cultural resources, wetlands, wildlife, unique features, and priority habitats. Proposals shall also include information on lot layout, landings, stream crossings, wetland crossings, and stonewall crossings.	The Administration's "Forests as Climate Solutions" initiative was announced on June 7, 2023. As part of that initiative, the Secretariat placed a pause on the sale of new forestry lots for 6 months, while a panel of outside experts reviewed the Forestry Program and provided revised guidelines that will take climate into consideration. This ended on June 10th, 2024 with the release of the Response to the Report of the Climate Forestry Committee.
C3	Plan and conduct an internal review of proposed logging operations for the coming year, including assessments of silviculture, water quality, wildlife, and other potential impacts/benefits Review lots to ensure consistency with aspects of the LMP, including wildlife, forestry objectives, and environmental quality.	FY2024 proposals which were internally reviewed in the spring of 2023 were paused prior to public review to allow the Forests As Climate Solutions initiative (FACS) to proceed. EEA issued a statement of commitments early in June 2024, releasing all paused projects subject to compliance with new climate guidelines and considerations. All FY24 proposals will be reviewed again and updated to meet new guidelines, and be presented to the public in September 2024 as FY25 projects.
C4	Present annual forest harvest proposals at a public meeting. Publish Online Public Review document/story map. Accept public comment and respond as needed.	This did not occur due to the "Forests as Climate Solutions" initiative and the pause placed on new forestry lots. The online format was converted from story maps to an AGOL Experience application during FY24. Public proposal documents will exist as pdfs going forward, linked within the core map function of the Experience. New mapping options are in development for public review in September 2024.
C5	Plan, lay out, mark products for removal, prepare maps and permits, establish photo monitoring points, file Forest Cutting Plans, seek bids, award permits, and properly advertise and post forest management operations consistent with the Forest Cutting Practices regulations, the LMP, and approved harvest proposals.	Work recommenced on one lot a total of 52 acres in Holden following an end of the pause placed on new forestry lots by the Forests as Climate Solutions initiative.
C6	Provide supervision and oversight of all forest harvesting operations on DWSP property. Assure compliance with applicable DCR and NHESP regulations and restrictions, approved BMPs, and all Permit conditions. Maintain adequate site visit records. Monitor post-harvest and collect photo point images consistent with internal policy.	Six lots on a combined 376 acres were supervised and 5 lots on a combined 282 acres were completed.
C7	Monitor BMP effectiveness at active or completed stream crossings utilizing customized assessment protocol.	Monitoring of BMPs as well as other forest resilience metrics will be coordinated at the EEA level among the various state agencies.
C8	Continue to implement long-term paired watershed monitoring to assess impact of DWSP forest management on tributary water quality by collecting dry and wet weather samples during different harvest periods.	Project was halted due to the Forests as Climate Solutions review and forest management pause. Forest management was allowed to resume at the end of this quarter; harvest deadline will be extended and this project will continue in FY25.
C9	Conduct periodical regeneration and invasive species surveys to monitor forest health and development resulting from silvicultural activities or other natural disturbances and processes.	A new program was commenced to visit all regeneration openings that are at least 10 years old. The forest cover type of each opening is determined and data is collected including a list of all tree species present; the presence, percent cover and species of terrestrial invasive plants and the presence and species of interfering native shrub species. This information is used to update the forest cover type data layer and will allow for some analysis of the circumstances where forest regeneration is or is not successful and the extent to which invasive species and interfering shrubs are negatively affecting regeneration and the development of the young forest component.

Task No.	Description	Final Report Comments
C10	Conduct periodic reviews and monitoring of land management activities and forest conditions to assure compliance and consistency with Land Management Plan.	The EEA response to FACS CFC report will require LMP language reviews and updates in upcoming months. Monitoring of forested conditions in active and passively managed areas will be coordinated with other EEA agencies going forward.
C11	Collect data and maintain GIS data layers related to forest structure, composition, regeneration, roads, boundary information, stone walls, wetlands, streams, and other data to guide the land management program. Maintain GIS data documenting the location, extent, and intensity of all silvicultural operations.	Commenced and continue the project to update and correct many of the regularly used GIS forestry data layers, taking advantage of the high resolution 2021 lidar flight and deliverables. Provided an overview of lidar data and cultural resources mapping project for staff.
C12	Assess all new fee land acquisitions, documenting existing conditions of forests, access roads, bridges and culverts, boundary markings, and restoration needs. Integrate these lands into existing GIS datasets and land management, public access, and other watershed management programs.	The Resources were mapped and the GIS datasets were updated for the three newly acquired fee-owned parcels. An initial walkthrough of the most newly acquired parcel was performed.
C13	Locate, mark, and maintain property boundaries periodically and as needed.	Boundary maintenance commenced and was ended for the FY24 season between the typical start and end dates of approximately November 1st and March 15th. A total of 23.0 miles were maintained this fiscal year.
C14	Develop scope of work and manage contracted property boundary survey work.	We compiled a list of 11 potential property line survey projects this year. We put the top 6 projects out to bid. We initially had funding to complete 4 projects, however we received extra funds to complete an additional 2 projects. In total 6 projects were completed to install monumentation as needed around our properties.
C15	Document and pursue resolution of all property boundary encroachments.	Rangers continued to work with management for encroachment resolutions.
C16	Identify, plan, and oversee non-forest or other unique habitat restoration, field reclamation, and maintenance work.	<p>WM staff conducted mulching work at Antinarella field to both push back field edges and help control invasives throughout the grassland area. All fields scheduled to be mowed were mowed according to the mowing plan.</p> <p>Pollinator fields at JAH were mowed, aerated, and partially tilled and overseeded between growing seasons this FY, with evidence of great success by end of Q4.</p> <p>No contracted restoration work at W/S this FY. Advanced proposals were sent to EEA for stewardship funding for several Wachusett projects next FY, including follow up maintenance treatments at ongoing sites.</p> <p>Coordination with NR wildlife biologists to ensure that breeding bird populations were protected during the spring mowing season took place as needed. The information provided was passed on to the Hay Field Permit holder who cooperated fully to help protect listed bird species that breed in hay fields.</p>
C17	Identify, prioritize, and implement terrestrial invasive plant (TIP) control projects in line with the expanded Terrestrial Invasive Plant Management Plan. Respond as needed to newly discovered and controllable TIP populations.	More progress this year on TIP than in years prior, with the hiring of a FT forester and two seasonals to conduct mapping and treatment activities across Division lands. FACS process essentially halted planning progress but ultimately resulted in a statement of support for the control of TIPs on state lands. TIP plan update to be finalized for public review in fall of 2024, and eventual coordination with sister EEA agencies on a statewide plan will occur in 2025.
C18	Collect data and maintain datasets, GIS data layers, and related maps and reports of rare and listed plants and communities.	No work by DWSP NR staff at Wachusett/Sudbury this FY. Hoped-for inclusion on field visits by NPT survey teams did not materialize.

Task No.	Description	Final Report Comments
C19	Continue to pursue permission to expand use of unmanned aerial system (UAS) to document forest conditions, map openings, identify invasive plant populations, assess internal road conditions, and other remote sensing activities.	Although UAS flights have been done to monitor gull roost activity, we have not received approval from EEA to expand the UAS flights to other projects for forestry.  American Robotics, contracted through MassDOT tested new drone technology utilizing JAH as their base. Frequent monitoring of the railroad occurred during this testing, and a mock search and rescue exercise using drone assistance was held.
C20	Continue to work with DCR Asian Longhorned Beetle Program and USDA to oversee beetle eradication in watershed areas.	Communicated with Forestry Health program regularly and reviewed monthly ALB internal reports. No ALB has been detected in the watershed for over a year. Spotted Lanternfly has been observed on several DCR properties in Southboro.
C21	Hazardous Tree Removal	Two contracts to remove a total of 93 hazard trees were put out and all hazard trees were removed. Numerous other hazard trees were removed from various locations through coordination with the DCR Forest Health Program.
C22	Maintain deer exclosures and sample vegetation periodically to assess impacts of herbivore browsing.	Maintenance was required on one exclosure due to a fallen tree.
C23	Conducts field inspections of mapped sensitive resource areas, review YOPs and VMPs, and provides comment for ROW Management projects.	NGRID and P&W 2024 YOPs were reviewed and comment letters submitted.
C24	Organize, inventory, and categorize permit, lease, and easement information and enter information into the database.	Permit, lease, and easement information was organized and categorized by town and from A to Z and the files were also numbered. All the information was entered in Access database.
C25	Participate in process to transfer lands surrounding Framingham Reservoirs 1 and 2 to DCR Parks.	After several years of delay initiated by Covid, the Nyanza Natural Resources Damages Trust spurred DCR to determine how the remaining \$490,000 targeted for the Stearns and Brackett Reservoirs would be spent. Several meetings with Deputy Commissioner and External Affairs culminated in a re- posting of the Request for Expressions of Interest in January 2024. The release was supported with videos and social media postings. DCR received several responses. Substantive ideas were presented by Framingham State University for their management of land and buildings at 322 Salem End Rd. Meetings were held with FSU administrators to further discuss these ideas. DCR staff subsequently worked on transferring land from Watershed to State Parks, obtaining remaining Nyanza NRD funds for DCR to distribute to FSU, and draft a ten-year lease for FSU management will pursuing permanent legislation. Efforts expected to be completed in FY25.
<b>D. Wildlife Management</b>		
D1	Continue the active harassment of gulls within the Pathogen Control Zone at Wachusett Reservoir, using human presence, boats, pyrotechnics, passive scare devices, and other techniques. Continue to identify and test new harassment techniques.	The Bird Harassment Program operated from October 2 through March 29 with shoreline personnel only 3 evenings a week. Daily bacteria samples from CWTP were bacteria-free 54% of the time during the program and none were above the regulatory threshold of 20 CFU/100mL. For the first time, a BHP wrap up meeting was held for all participants of the program. A detailed history of the Bird Harassment Program was written, distributed and placed on the DCR website. The DWSP Federal Depredation permit was acquired in Q3.
D2	Observe and document the nocturnal roost of gulls on the reservoir weekly during the months of September- March.	Twenty-nine (29) roost counts were conducted at Wachusett from September to April this year with an average roost of 773 gulls. The number of gulls on the roost ranged from a low of 0 gulls to a high of 2,443 gulls. UAS were used to document the gull roost on a schedule of about 1x per month to help staff calibrate their shoreline counting and provide additional information.

Task No.	Description	Final Report Comments
D3	Control Canada geese populations at Wachusett Reservoir by treating eggs during nesting season to prevent hatching.	<p>Canada goose populations were controlled in April through egg oiling at Wachusett and Sudbury Reservoirs in FY2024.</p> <p>56 eggs from 10 nests were treated in FY2024 at Wachusett Reservoir and 150 eggs from 32 nests were treated at Sudbury Reservoir.</p> <p>Coyote decoys were deployed at South Dike to deter goose presence. Goose counts were conducted around the Reservoir with 0-100 geese present.</p>
D4	Identify places in MA where human derived food is available for gulls and work to prevent feeding through educational signage, interaction and enforcement.	<p>Regional surveys to identify places where human-derived food is available for gulls were conducted in FY2024. An email was sent to a Massachusetts bird listserve to ask for assistance in identifying problem locations. No new areas in the vicinity of the Watersheds were identified.</p> <p>Gull numbers were low at the Fitchburg landfill in FY2024. Wastewater Treatment Plants continued to be monitored in FY2024 for gull activity. All previously installed wire systems were working properly and gull numbers were low.</p>
D5	Aquatic Mammal Control: Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Wachusett and assess beaver issues in the Watershed	<p>Four beaver were trapped and removed from Wachusett Reservoir in FY2024. None were in the pathogen zone. Fecal samples indicated that one beaver kit trapped from South Bay in December was positive for Cryptosporidium. Beaver dams were present in a few concerning areas around the watershed and were addressed as needed. Ten beaver were removed by a trapper in Sterling to address flooding concerns around Campground Road.</p> <p>Fecal samples sent to the lab last quarter indicated that a beaver kit trapped in South Bay in December was positive for Cryptosporidium.</p> <p>Edwards Pond, Tenney Pond and Malden Brook beaver dams were addressed as needed, and management will continue into FY2025.</p> <p>Various beaver flooding complaints were immediately addressed by towns after access permits were issued. The Baldarelli site was addressed as needed, and NR and Wachusett staff met with DOT at the site to discuss flow management options.</p>
D6	Respond to problems of burrowing animals on dams and dikes; take appropriate action.	No action needed in FY2024.
D7	Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants.	<p>Loon rafts repairs and raft deployment began on 5-6-2024 and all were deployed by 5-17-2024. One new raft was deployed at Wachusett Reservoir this year for a total of 8 rafts. As of late Spring 2024, six loon pairs nested or are still on nests.</p> <p>Three loons (2 adults, 1 chick) were netted and banded with blood and feather samples taken for contaminant testing this FY. Whole abandoned eggs and shell fragments were collected and will be submitted for contaminant testing.</p> <p>During the 2023 loon season, 14.64 pounds of lead was collected and 6.88 miles of fishing line. In coordination with the DCR parks wildlife biologist, the lead/line collection and recycling will be expanded and signage will be updated. An educational video, Loons Call on the Reservoir, was produced by interpretive staff. It has been viewed over 350 times.</p>

Task No.	Description	Final Report Comments
D8	Continue long-term wildlife resource monitoring program.	Data from Q1 was analyzed and compiled into a report. Data was collected on breeding birds, bats and red-backed salamanders.  A Bald eagle nest was active at Wood Island, but the nest failed in FY2024.
D9	Work with MA Division of Fisheries and Wildlife (DFW) to survey for and document breeding bald eagles on the reservoir.	Bald eagle nest was active at Wood Island, but the nest failed in FY2024.
D10	Administer the White-tailed Deer Management Program on DWSP lands in the Wachusett and Sudbury Watersheds;	Analysis of the harvest data is complete and the 2023 Deer Report has been completed (Attached). Hunting took place on all DWSP properties in the Wachusett and Sudbury Watershed. All DWSP properties in the Wachusett and Sudbury watershed are now under the 5-year Watershed Hunting permit. This application is open all year and no hunter orientations are needed.
D11	Coordinate with the Massachusetts Natural Heritage and Endangered Species Program concerning rare species occurrences and protection	Ongoing conversations with staff from DFW about rare species and priority natural communities. Kestrel boxes were monitored, and goshawk reports were followed-up on.
<b>E. Public Access Management</b>		
E1	Proactively patrol watershed lands to ensure compliance with DCR regulations and policies. Tally visitor contact and produce quarterly and annual summary reports. Conduct trend analysis on visitor statistics and rule violations.	Total Visitor Contacts: 14,032, Total Violations 1,088 and a total of 49 parking tickets. One new full-time Watershed Ranger was hired in Q4. Ranger group is now one ranger away from fully staffed and it is anticipated that this position will be filled in early FY25. The highest number of violations were (2a7) no wading or swimming at 90 total violations in Q4 followed by 86 (2a7) violations in Q3.
E2	Continue to cooperate with state, environmental, and local police for help with enforcement when required.	Ranger supervisors and staff continued to work with Massachusetts State police, Environmental police and all local Law Enforcement teams in the watershed. Rangers continued to communicate and make proper notifications to all law enforcement when necessary. Coordinated with the Environmental Police for Opening Day of Fishing and Coordinated Dam day assistance with MSP. There were 13 referrals to law enforcement this FY for either requesting assistance or passing along information related to a violation.
E3	Continue to use DCR social media accounts for advertisement of interpretive programs, including general or emergency information (such as closings).	Information was sent to be posted on DCR Twitter and Instagram accounts throughout the FY. Several education and outreach videos were produced and advertised through Instagram.
E4	Develop public outreach regarding allowed uses on DCR Wachusett lands.	Rangers surveyed and tallied Intake Protection Zone signage in preparation of replacement. Rangers met with management to discuss potential diversity additions to future signs and notices. Rangers continued to monitor, replace and add signage as necessary and promoted the new online public access map.
E5	Continue updates and improvements to access points with signs, gates and improved parking areas. Conduct regular inspections of gates and access barriers.	A small parking area was constructed at Foss Reservoir and a second gate was installed to prevent access to the dam. Discussions took place with Wachusett Greenways to improve parking areas at Thomas Street and Gates Road. It is anticipated that the Gates Road parking lot improvements and addition of handicapped spaces will be completed in FY25.
E6	Regularly evaluate and modify policies within the current Public Access Plan and publish annual appendices with policy modifications or to regulate new proposed uses on DWSP lands.	This was the first year the fishing season was extended until December 31st. Positive feedback was noted from social media pages and no problems or conflicts with hunting season occurred. Gate 13 was added to the list of allowable handicapped fishing areas and ranger feedback and assistance was provided during the development of a new online public access map.



Task No.	Description	Final Report Comments
E7	Continue to conduct "special operations" such as night operations, ATV, and snowmobile operations, as needed.	Rangers continued to conduct off shift patrols during night operations. Rangers continued to use foot, bike, boat, ATV and vehicle patrols to utilize best patrol practices.
E8	Enforce rules and regulations of 313 CMR 11.09 through education.	Rangers continued to proactively patrol the watersheds and educate and explain the rules and regulations to all visitors.
E9	Implement Public Access Plans for Wachusett and Sudbury Reservoir Watersheds	Plans continued to be implemented.
<b>F. Watershed Security</b>		
F1	Maintain an active presence in the watershed. Monitor watershed lands, roadways, and railways for unusual or suspicious activities; provide appropriate response.	All ranger staff continued to proactively patrol and report any type of suspicious person, vehicle or activity to the appropriate authorities. Trespassing on the railroad tracks at Thomas Basin was addressed many times throughout this FY and additional signage was placed.
F2	Continue ongoing communication and coordination with local, state, and federal emergency responders; coordinate with MWRA on all security issues.	Rangers continued to build communication and coordination with local, state and federal emergency responders. DCR rangers also continued to notify and update MWRA Security with any ongoing issues and pertinent information.
F3	Continue program of enhancing security infrastructure around Wachusett Reservoir.	Use of Live View Technology assisted rangers with monitoring our property from remote locations including: the Old Stone Church, Dam Promenade and 911 field. Rangers could benefit from having access to these security cameras around the watershed in the future.
F4	Inspect, maintain, and monitor gates, barways, and signage throughout the watersheds for security and access control.	The replacement of fencing at the Promenade was completed. Rangers continued to make suggestions for security improvements and fill out work requests when repairs are needed to any gate, sign or pipe gate to maintain access and control points.
<b>G. Infrastructure</b>		
G1	Assess Wachusett and Sudbury dams, spillways, and dikes monthly, monitor conditions and maintenance activities, and prepare work requests as necessary. Forward all significant issues to the Regional Director and the MWRA. Coordinate with MWRA on biannual dam safety inspections for compliance with 302 CMR 10.00.	Assessment was done of Wachusett and Sudbury dams, spillways, and dikes on a monthly basis. Monitoring of conditions and maintenance activities, taking piezometer readings and observation wells was completed on a monthly basis. Work requests were prepared for Framingham Res. #3 parking lot, Wachusett South Dike Turf management, Framingham Reservoir #1- and #2-hole filling, Wachusett spillway cuttings. A majority of the work requests have been completed with the remainder to be finished in FY25. Phase 1 dam inspection and follow-up were coordinated.
G2	Assess DWSP smaller dams semi-annually, monitor conditions and maintenance activities, and prepare work requests as necessary. Coordinate DCR's role in dam removal projects.	Due to the amount of precipitation this FY, more monitoring has been done this year. Semi-yearly inspections were completed on smaller dams and work orders were submitted; maintenance was performed on some of the small dams. Beaver activity occurring around dams resulted in more frequent monitoring.
G3	Work with DER to develop plans and permit the Malden Brook restoration project	The design was finalized and we prepared plans and supporting hydrology and hydraulic report in preparation for permitting. DER funded a consultant to prepare a peer review of our design and supporting computations and provide us with comments. We anticipate revising the plans and documents and begin preparing for permitting next fiscal year.
G4	Conduct annual inspection/evaluation of Wachusett internal roads, drainage structures and shoreline access points; update GIS data layers as needed and develop list of maintenance and repairs needs.	Inspections were conducted before and after major storm events. Work orders were generated for high priority repairs and culvert maintenance for internal roads in both watersheds. GIS data layer was updated as necessary.  CE will continue to evaluate and recommend repairs and improvements as necessary. Updates will be recorded.

Task No.	Description	Final Report Comments
G5	Develop annual plan for internal road repair/reconstruction projects. Provide oversight to ensure protection of water resources. Update trails GIS data layer.	The annual plan is under development and review and is a working document.
G7	Conduct regular inspections of all DWSP BMPs, monitor conditions and maintenance activities, prepare work requests and plans for maintenance and repair projects.	Performed BMP inspections bi-annually and before/after large storm events as needed. We performed BMP maintenance as needed. And we prepared for a rehabilitation project of the Gate 27 BMP to begin in early FY25.
G8	Evaluate Sudbury watershed access, internal roads and develop work plan, as necessary.	Work orders were generated as issues were found.  Plans were developed for road maintenance and culvert cleaning at Gate 12 in Southborough to be completed in FY25.
G9	Layout and oversee construction of Sudbury Boat Ramps at East Main Street and Acre Bridge Road	The Acre Bridge Road and East Main Street boat ramp projects were completed. DCR will prepare As-Built Plans and request the Certificate of Compliance from the Town prior to the Order of Conditions expiring.
G10	Provide supervision, coordination, oversight, and technical support or assistance for all engineering, construction, and renovation work in Section.	Demolition projects (Kush, Hulick) were funded by the DCR statewide demolition contract. The ADA walkway project at the Wachusett Promenade began and will be completed in early FY25. Almost all of North Dike fencing has been replaced. The roof at the Clinton Ranger Station was replaced. A study is being performed to evaluate the load of a new roof for Stillwater Farm barn, with the goal of structurally stabilizing the building and putting on a new metal roof.
G11	Maintain records and plans regarding property lines, reservoir and facility construction, and maintenance operations.	We located plans as needed, assisted Sean Fisher in inventorying our records for Archiving, and we reviewed records and plans relative to the Wilson Street yard and a potential abutting subdivision.
G12	Implement annual Major Projects	All buildings on the Kush site have been demolished. All regrading was complete. A draft scope was developed for evaluation of the Stillwater Farmhouse building envelope and comments were received by management and OCR. and the roof was replaced on the Ranger Station. Demolition of the riding ring and feeding sheds is complete at Hulick property and the area was reseeded .Plans were finalized and received an Orders of Conditions for the Old Stone Church stabilization project. The ADA walkway at the Promenade has been completed.
G13	Coordinate with WM to provide access to water quality monitoring stations and perform occasional maintenance activities at stream gages	Maintenance was conducted on a recurring schedule. Site access has been maintained and sediment was removed from behind the West Boylston Brook weir.
G14	Evaluate and coordinate the monitoring of facilities for compliance with state and federal regulations. Develop and update required documents, as necessary	The DCR Stormwater group has a contract to address monthly inspections and annual regulatory inspections of the ASTs for gasoline and diesel. This contract does not, however, include maintenance. DWSP Wachusett will continue to utilize the contract we have for maintenance. It is recommended that we focus on putting in a concrete apron with spill grooves at the Lancaster Street Maintenance Facility in West Boylston.  Inspections are being conducted on a monthly basis through a DCR Engineering contract for ASTs. Testing is also provided as needed through this mechanism.
G15	Maintenance of forest roads, dams, dike, fields, parking areas, drainage structures , snowplowing, boat launch areas, and other management activities.	Maintenance was conducted on a recurring schedule. Emergencies and safety issues were responded to as they arose.
G16	Prioritize and schedule online workorders for division staff and add to daily work plan.	Watershed Maintenance Staff completed (187) work requests in FY24.



Task No.	Description	Final Report Comments
G17	Assist division staff with specific workorders as needed.	Assistance was provided as needed throughout the FY.
G18	Maintenance of grounds at MWRA facilities as needed. Clinton (Cosgrove), Oakdale (Shaft One)	Maintenance was conducted as needed throughout the FY.
G19	Conduct building maintenance activities, including painting, carpentry, cleaning, minor repairs, and other routine maintenance	Building maintenance completed (87) work requests in FY24.
G20	Inspect all Wachusett facilities, buildings, related structures and building utility systems. Determine needed costs of materials for maintenance, repair and replacement of parts as needed.	(4) above ground oil tanks were removed from the Salem End Rd. property; a new FOB system was installed at JAH; worked with engineering re: oil release at JAH; gate painting project continues; minor maintenance activities was conducted throughout watershed properties; solar lights were installed at several locations throughout the watershed; lighting upgrade is in process at JAH, replacing fluorescent bulbs with LED; New Era began re-cabling JAH for improved network access; located possible leak in radiant floor heating in East Wing at JAH and working with engineering for resolution; heating boiler was replaced at Clinton garage and the propane tank was removed from the carpenter shop. Multiple signs and kiosks were repaired/repainted throughout watershed.
G21	Upgrade interior lighting to LED/motion fixtures at JAH, Upgrade roadway lights on North driveway at JAH, work with PSO plumbers to upgrade JAH to touchless fixtures.	Roof hatch at JAH was replaced due to a leak; solar lights were installed at various locations throughout the watershed; LED bulbs were installed at JAH with more to be done in the future as replacements needed; faulty motion switches at JAH were replaced.
<b>H. Watershed Protection Act</b>		
H1	Continue implementation of the WsPA. Review and process all WsPA applications. Enter data in the ArcGIS WsPA database. Prepare and issue decisions within timeframes as required by the regulations. Perform site visits for all active WsPA construction projects regularly to ensure compliance with decisions. Enter data in the ArcGIS WsPA database.	Along with reviewing applications, staff have noticed the bulk of their time is being devoted to engineers, property owners, developers, builders, and town officials who are reaching out for guidance on the WsPA Regulations as well as other overlapping Regulations (Drinking Water, Wastewater, etc.) and how they apply to their properties and specific projects. Many of these project never come to fruition. 24 applications were reviewed this FY under WsPA.
H2	Perform site visits and/or review submitted information for WsPA projects that have ongoing or perpetual monitoring conditions. Work with property owners to resolve issues. Enter inspection information in the WsPA ArcGIS database.	Staff reviewed ongoing conditions for projects within the past couple years but need to identify larger groups of projects (stormwater maintenance, septic pump outs, etc.) from past years.
H3	Respond to and/or identify any potential WsPA violations. Work with property owners to resolve issues. Enter data in the ArcGIS WsPA database (as identified in SOP).	Staff keep track of known WsPA violations through the WsPA database and make regular inspections to determine compliance. Staff copy town officials on the letters as appropriate to educate and gain assistance with compliance.
H4	Convene the Watershed Protection Act Working Group regularly to discuss policy and address specific problems related to the WsPA	Four WsPAWG meetings were held via Teams over the course of FY24 as well as one day of field work. There is regular communication amongst staff by phone and email to ensure consistent implementation of the Watershed Protection Act regulations.
H5	Review permits for watershed towns on a monthly basis with letters sent to property owners of affected parcels.	In general, applicants are very responsive when we request that they file WsPA applications. Some towns are proactive about having applicants file with DCR if there is jurisdiction or they will contact us directly to let us know.
H6	Review property transfers for seven towns on a monthly basis with letters sent to new property owners of affected parcels informing them of the WsPA and how they may obtain additional information.	We are looking into working with Assessor's office to get accurate lists of new home sales. We were contacted by property owners that received our letters in previous years so the letters seem to be working to inform them of the Watershed Protection Act and jurisdiction on their property.

Task No.	Description	Final Report Comments
H7	Review files from previous year on an ongoing basis, including contact with owners and site visits as needed. Emphasis placed on monitoring active variances.	Staff completed site visits on a regular basis for projects under construction and status checks for those that have either not started or were denied. We also have reached out to the engineers or property owners as necessary to resolve any issues.
H8	Develop a WsPA Pond/Lake brochure for pond and lakeside communities and associations.	The draft of the WsPA Pond/Lake brochure is in final review by DCR Staff.
H9	Contact Town Halls on a regular basis to ensure access to WsPA Affected Parcel Lists and provide paper WsPA maps as requested. Also provide any updated brochures and applications.	More watershed towns are showing a preference for using the WsPA Online Map Viewer rather than maps or affected parcel lists.
<b>I. Education and Outreach</b>		
I1	Review, implement, and amend the Wachusett Interpretive Services Plan.	79 programs were offered in FY24 with an attendance of 10,835 which includes 8,200 for the Spring and Fall Dam Days. Record-breaking attendance at the First Day Hike and both Dam Days lead to planned improvements such as a Dam Day walking tour from Gate 39 to alleviate the parking stress. Engaged the public through historical displays, hiking series, presentations, and educational programs. Organized "Watershed Wednesdays" monthly presentations at JAH featuring staff speakers. Developed hands-on labs, history presentations, cultural resource hikes, and outreach materials including a Freshwater Macroinvertebrate touch table with companion educational materials. Created nonpersonal media: completed 5 Recommended Hike StoryMaps for Gate 22, 25, 36,39, and Sterling Sensory Trail. 2025 photo calendar created showcasing monthly water quality messages and significant dates, to be considered for printing in FY 25. Finalized Loons Call on the Reservoirs video, posted to YouTube playlist <a href="https://tinyurl.com/26s9k4rd">tinyurl.com/26s9k4rd</a>
I2	Coordinate Educational and Outreach programs	Community engagement included events at John Augustus Hall, libraries, school visits, and participation in Earth Fest, Career Fairs, and Touch a Truck events. Stickers were designed for giveaways at events. A retractable banner promotes watershed protection for events. Evaluation survey forms were sent to schools to collect feedback. EEA intern for Watershed Education and Outreach has organized the applicable National Standards for each grade level. Special events were highlighted on DCR social media. Participated in DCR initiatives including First Day Hike, Girl Scout Weekend, Park Serve Day, School Vacation programming, Interpretive Services Project Learning Tree, and Pride Hikes.
I3	Maintain and enhance kiosks and bulletin boards throughout the watershed.	Seasonal flyers were updated and posted. Public Access Map QR code flyer was added to kiosks. No dogs and alternative locations rack card developed and printed. Updated priority sign text and graphic layout. Sensory Trail signs printed and installed. New kiosks and bulletin cases were installed to replace wood kiosks at Gate 22 and Gate 25. A retractable banner was designed for outreach events and school visits.
I4	Perform inventory of signage and make recommendations for improvements and additions of stewardship signs	Rangers continue to discuss with DCR management and interpretive staff the best practices for signage and improvements. An inventory of signs was conducted this FY24 in preparation of replacement to meet accessibility standards.
I5	Analyze and update current brochures. Determine need for new brochure topics and develop as needed.	Road salt outreach materials were updated. A bird harassment program brochure is being developed. Brochures were restocked at Watershed town halls.

Task No.	Description	Final Report Comments
I6	Partner with other organizations on watershed programs	Collaborations with 16 other organizations enhanced program outreach. Organized events, collaborated with environmental groups, and participated in local events to raise awareness. Continued email correspondence survey and evaluation forms with watershed school districts. Set up Fall visits. Participated in MEES board and conference meetings, served on the Board of Directors, and now in an advisory role.
I7	Provide educational materials, teacher training, and support for Mass Envirothon	Offered study aid for Envirothon teams, conducted water quality workshops, and led the Water Station at the annual Envirothon Competition held at Wachusett on May 25.
I8	Maintain and update website with relevant news and information	The Watershed Management website was updated regularly with new information, programs, and videos. Efforts made to meet new accessibility requirements as set forth by the Governor and EOTTS. Established a "Water Supply Protection Spotlight" promotional page, which will be updated quarterly with a new topic. This year focused on Salt Reduction, Engineering, and Public Access. Coordinated with DCR Administration and Finance to have documents and brochures translated into six foreign languages under an agency-wide contract.
I9	Utilize the DWSP website to provide information and resources for the public. Update website education pages with teaching resources, school programs, and field trip menu.	The website is updated regularly with each month's or season's activities.
I10	Research and obtain quotes for professional wayside interpretive signage	New kiosks and bulletin cases were installed to replace wood kiosks at Gate 22 and Gate 25.
I11	Research and plan for additional archival display cases to provide some historical perspective and educational value to the Historical Objects from DCR Archives. Develop public event showcasing items.	Display tables were purchased for the Library meeting room to showcase items. Public events to showcase items have been ongoing once a month in 2024 as Watershed Wednesdays
<b>J. Water Quality and Hydrologic Monitoring</b>		
J1	Perform routine tributary sampling twice per month (bacteria, turbidity, field parameters) (WATTRB)	Sampling was completed twice per month for every month of FY24
J2	Perform Nutrient, Chloride, Alkalinity and TSS sampling every month at 10 tributaries, including field parameters (and Shaft 1 when Quabbin transfer is active.) (WATMDC)	Sampling was completed monthly for every month of FY24. All available data for FY2024 has been reviewed and imported to the Water Quality Database. Paper field sheets and COCs have been scanned and filed.
J3	Conduct reservoir profile and plankton sampling at least weekly from April - September and bi-weekly from October - March when ice conditions permit. Conduct additional sampling as necessary and when nuisance taxa increase beyond established thresholds. Use remote sensors (MWRA Buoys) to inform sampling program.	A total of 106 phytoplankton samples were analyzed this fiscal year. 47 profiles were collected in conjunction with phytoplankton and nutrient sampling.
J4	Conduct quarterly reservoir nutrient sampling	All quarterly nutrient samples were successfully collected this fiscal year.
J5	Conduct reservoir bacteria transect sampling as needed in conjunction with gull harassment program.	Sampling was completed monthly for every month of FY24. Sampling frequency never increased due to low bacteria concentrations throughout the year (due to low numbers of water fowl).
J6	Produce and distribute a monthly water quality summary. Produce annual water quality report and document changes to sampling plan in the report.	A monthly water quality summary was produced and distributed for every month in FY24. Annual Water Quality Report was finalized and submitted for final review and publication on DCR Website. Changes to monitoring programs were listed in the Annual Water Quality Report.

Task No.	Description	Final Report Comments
J7	Maintain continuous stream flow gages in all four watersheds through USGS contract. Coordinate with USGS to ensure proper performance of all gages, and accurate and timely reporting of data.	Stations were maintained by USGS throughout the year. Clogged filters resulted in the loss of some precipitation data during the summer and early fall. All data approvals completed through calendar year 2023. New JFA signed and executed covering the same stations and parameters for FY25.
J8	Augment hydrologic data in Wachusett watershed through monitoring of stream flows, groundwater levels, and precipitation. Take snow pack measurements. Develop and maintain accurate rating curves.	Real-time flow monitoring at 10 primary tributaries continued for all of FY2024 - 3 are USGS gages and 7 are HOBO/Mayfly stations. Groundwater levels were continuously monitored by USGS at the Sterling and West Boylston wells. Monthly groundwater levels were measured at 7 wells and daily precipitation data from 2 USGS and 2 NOAA precipitation gages were downloaded and imported to the Water Quality Database.
J9	Monitor groundwater quality monthly - Field parameters	Field parameters were measured monthly in 7 wells for all months in FY24.
J10	Measure stream discharge 2 (or more) times per year per site and develop new rating curves/confirm existing yearly	Eleven discharge measurements were completed in FY2024. Trout and Muddy Brook ratings were updated in FY24. Additional discharge measurements at Malden Brook were not performed due to water being diverted by a beaver dam, which NR is addressing. HOBO and Mayfly stations were operational for most of FY24, some stage data were lost after stations stopped logging abruptly. Missing stage data was estimated. All real-time data were reviewed and imported to the Water Quality database.
J11	Take snowpack measurements and distribute data in standardized report.	7 snow surveys were completed in January and February. Reports were generated and distributed.
J12	Monitor groundwater quality and level monthly - Record Field parameters; Report water level to OWR for Sterling Well (possibly ending reporting in FY23 - well to be automated)	Water depth was measured monthly in 7 wells for all of FY2024.
J13	Generate solute loading estimates for flow monitored tributaries. Expand to include smaller tributaries and Quabbin transfer when sufficient data has been collected.	WRTDS/Loadflex scripts updated. Loading estimates on hold while working to resolve a software glitch or data issue. 2022-2023 Salt Load estimates calculated and days with missing conductivity data were estimated so loads estimates for full year are improved.
J14	Continue contract to work with UMass to use results of water quality models and other watershed/water quality analyses to help to make watershed management decisions. Project will include topics in Quabbin/Ware watersheds as appropriate.	Progress continued on salt reduction modeling efforts, Wachusett reservoir CE- QUAL model calibration, algae modelling, and Quabbin reservoir fecal coliform investigations. Multiple group meetings were held and additional communications occur in between meetings on specific topics. The FY25-26 UMass ISA was drafted and approved at DCR Docket in June to take effect on July 1. Professor Lily Jeznach of Roger Williams University continued her work on algae modelling in Wachusett Reservoir but will not be returning as a subcontractor under the FY25-26 ISA.

Task No.	Description	Final Report Comments
J15	Identify and outline system-wide water quality issues and challenges. Bring to ResOps and/or WQSAT for discussion and integrate into water quality modeling work with UMass.	<p>EQ staff analyzed UV254 trends in the Wachusett reservoir and tributaries, as well as Quabbin reservoir and tributaries and Ware River tributaries. This analysis was presented at the March meeting to provide context for reservoir operations discussions and the impacts of climate change on the water system. Follow up monitoring and discussion surrounding extreme climate events like the 9" of rain in Princeton in September 2023. Several EQ staff responded with field surveys of road damage, checking booms, and documenting conditions.</p> <p>Record turbidity values of up to 13.7 were recorded for the Stillwater River after the river increased 4 feet in elevation with flows increasing from 35 to 1450 cfs. Extended monitoring showed that flows and turbidity values in the Stillwater River decreased markedly within two days and thereafter.</p> <p>Analyzing MWRA reservoir buoy data after the storm documented the arrival time and dilution effect as the magnitude of the turbidity increased as it moved through the reservoir and approached the intake, resulting in turbidity values remaining below 1 NTU at Carroll Water Treatment Plant. EQ staff held a discussion of this particular event and climate change impacts, including ideas about changes to monitoring programs, ways to increase resilience, and future options. An overview of this event was presented at the annual DEP inspection, and at the winter ResOps meeting, and at the NEWWA 2024 spring conference.</p>

Task No.	Description	Final Report Comments
J16	Work with local DPWs, MassDOT, UMASS, MWRA, and others to reduce applications of road salt in the watershed and prevent additional increases in chloride concentrations in tributaries and the reservoir.	<p>Emails requesting 2023-24 winter salt totals were sent to towns. Among respondents, salt totals generally decreased, with some towns reporting remarkable decreases in total salt applied last winter compared to previous winters. Sterling reported a 52% decrease in total salt applied in the 2023- 2024 winter compared to their previous 4 year average, while Paxton, Sterling, and Holden reported decreases of 45%, 48% and 24% respectively. These results are extremely encouraging for salt reductions in the watershed and hint at progress achieved through the education, training, grant program, and proper salt spreader calibration.</p> <p>A winter snow and ice training class was hosted by DCR and conducted by Baystate Roads After conversations at the fall salt calibration training by Baystate Roads determined there was a need for training for newly hired staff, a Baystate Roads winter operations training was hosted at the Southborough public safety facility for 20 attendees.</p> <p>Staff spoke with MassDOT personnel about winter conditions and future plans for brine in the central MA region, with MassDOT planning to bring a new brine generating facility online for next winter. Salt PowerPoint presentation was presented at a MassDOT district 2 employee training for 65 MassDOT employees focusing on the importance of road salt reduction. Metal signs were designed and ordered to post at Wachusett watershed town DPW public salt piles. A DWSP promotional page was developed, with information about road salt reduction chosen as the initial topic to cover.</p> <p>The Municipal Salt Use Reduction Grant was successfully administered for FY24. RFPs were posted on MMARS. DWSP received three applications that were approved for distribution. Sterling: \$20,000 to help purchase and install closed loop spreader controllers in three large salt trucks. Princeton: \$19,786 to purchase road temperature sensors and flexible plow blades. Holden: \$10,000 to purchase a ground speed controller to be mounted in one of the plow/salt trucks as well as materials to build a covered lean-to at the new DPW Facility for the protected storage of a publicly available sand/salt mix. All funds, which are a 50-50 match, were spent by June 30, 2024. Details about the grant, including a promotional video, were posted on the Watershed website both on its own page as well as the Watershed Spotlight promotional page.</p>
J17	Continue reservoir-wide data collection to increase understanding of reservoir dynamics including stratification, interflow, and distribution of phytoplankton.	Profile and plankton data was collected outside of routine locations to better understand distribution of cyanophytes.
J18	Continue monitoring stormwater basins at Rt 12/140 and Rt 62 intersection for water quality, algae, invasive species, and mosquito larva.	Monthly monitoring continued. No mosquito larva or cyanobacteria were detected. Biologists accompanied NR staff for management of woody and invasive species including Phragmites in the basin at Gate 25 in fall 2023.
J19	Review, process, and import all aquatic biology data to the SQL Server Database, as appropriate. Maintain all Aquatic Biology data management workflows	All data were reviewed and imported to the water quality monitoring database or ArcGIS online.
J20	Continue to develop and maintain database backed tools and applications (R,GIS,MS Access, SQL Server) to facilitate data management, review and analysis, writing reports and modeling efforts.	Database and data applications (WAVE/WIT) have been maintained and are operational. A new miscellaneous/non-routine Survey123 was created. A new script was written to process and automatically flag any non-routine data collected with the survey. Draft database management document was completed, and expected to be finalized in FY2025.

Task No.	Description	Final Report Comments
J21	Ongoing field/lab equipment/supply management and inventory tracking (including maintenance and calibration)	All field equipment was operational and was calibrated and maintained as needed/specified in QAPP. All calibration and maintenance work was documented in tracking spreadsheets and/or imported to the Water Quality Database. Lab and field supplies ordered as needed.
J22	Review and update Quality Assurance Project Plan (QAPP) and SOPs for Water Quality and Hydrologic Monitoring Programs	FY2024 was the first period operating under the new QAPP for Water Quality and Hydrologic Monitoring Programs. Staff focused on implementing new QA/QC protocols specified by the QAPP, including building automated QA/QC checks and reporting into existing workflows. Several SOP updates were made in Q1 and field/lab audits were conducted in Q2. Results of QA/QC sampling and data review are included in the Annual Water Quality Report Appendix.
J23	Continue to work with MWRA, Quabbin EQ, NEIWPCC and other stakeholders to characterize cyanobacteria and cyanotoxins in the reservoir.	Biologists continued to screen for cyanobacteria during routine plankton sampling. Routine UCMR and opportunistic cyanotoxin sampling were coordinated with MWRA including assessment during an October 2023 aggregation of Dolichospermum.
J24	Complete and implement a plan for Harmful Algal Bloom response.	The cyanobacteria response plan remains in draft pending review of the recently drafted MWRA cyanobacteria plan so that efforts can be coordinated effectively. Portions of the DCR plan were addressed this year and included consultation with interpretive services on educational and alert signage, and development of a reporting form and ID guide for rangers and other field staff.
J25	Monitor for HABs in the reservoir and priority watershed ponds using appropriate tools outlined in the HAB response plan. Work with DPH and DEP as needed.	Monitoring continued with routine weekly sampling and enhanced monitoring in response to potential HAB observations. Small, isolated aggregations of Dolichospermum were observed in July, August, and October.
J26	Investigate use of remote sensing tools for monitoring water quality in the reservoir and watershed impoundments, specifically for cyanobacteria and AIS.	The EPA's CyAN application is being tested to detect cyanobacteria blooms in the reservoir and watershed. Detections of elevated chlorophyll a reported by the CyAN app are investigated. Use of satellite imagery for ice detection was also investigated with assistance from GIS staff. Although not used in 2024 due to limited ice cover the application showed promise and may be used in the future or on historic data.
J27	Conduct benthic macroinvertebrate sampling every other year, continue identification and assessment of historic samples.	13 macroinvertebrate sites, identified as core sites, were sampled in late May and early June. New macroinvertebrate core sites map was created and Field Maps application utilized by new staff for navigation to sites. Identification continues as time allows. Cooperation with Worcester Water Department continues for access to South Wachusett Brook.
J28	Continue cooperative study of current population status, life history, and sustainable yield of lake trout.	The mark-recapture program was completed in 4 nights in November with 115 Lake Trout tagged, including 9 fish that were recaptures. The total number of individually tagged Lake Trout over the history of the program increased to 950. The data was added to the MassWildlife database, shared with DCR, and used to complete recapture statistics and update the length-weight curve for the Wachusett Lake Trout population.
J29	Conduct basic fish monitoring in the reservoir and watershed in collaboration with MA DFW. Assess goals and explore optimal sample methods with MA DFW.	No fish related studies were completed with MADFW other than the Lake Trout study. Wachusett Aquatic Biology staff did consult Quabbin Aquatic Biologists and MADFW Biologists in creating a Quabbin Reservoir Angler Creel card. Input was provided based on previous Wachusett Creel Surveys.
J30	Analyze results of the 2022 Creel Survey and produce a report comparing these results with previous surveys and presenting recommendations for further fisheries management/research.	A data compilation, quality control, and statistical analysis script was created in R for the Creel Survey. Script will serve future years in streamlining data compilation from Survey123 and previous Creel Surveys. Draft of 2022 Creel Survey updated with relevant plots, while final map and text updates continue.

Task No.	Description	Final Report Comments
J31	Develop a study to identify trends in the long-term phytoplankton and water quality data sets and identify variables influencing these dynamics.	The collaboration with UMass/RWU to incorporate phytoplankton and chlorophyll a into the CE-QUAL-W2 model was completed this year. This work highlighted the complicated nature of modeling algae dynamics, even with the availability of long-term data sets. Nevertheless, findings include: indications that greater cyanobacteria concentrations occur during periods of lesser wind and rain, climate change may result in seasonal shifts in phytoplankton communities but not necessarily an increase in densities for some groups, and predictions that increasing air temperatures will increase cyanophyte concentrations.
J32	Make recommendations for stormwater sampling based on historical data. Sample storm events as determined necessary.	This project remains on hold pending review of existing data and available staff time/priorities for field work and laboratory analyses. Storm sampling is expected to resume after the completion of the Long-term Forestry Monitoring Project.
J33	Investigate the use of eDNA for water quality applications including bacteria source tracking and invasive species.	Invasive species detection with eDNA remains under consideration as part of the new divisional AIS plan. Bacteria Source Tracking included in FY25-26 UMass ISA
J34	Assist with monitoring and research surrounding perspective and ongoing dam removal/riparian habitat restoration projects.	Biologists participated in remote and on-site meetings for planning the Edwards Pond dam removal and planning for mussel translocation in the Quinapoxet Dam work zone.
<b>K. Watershed Monitoring and Assessment</b>		
K1	Continue to review local records and conduct watershed surveillance to identify potential issues in the Wachusett and Sudbury watersheds that could impact water quality. Work with local boards and land owners when problems are identified. Document all work in EQ database.	As part of both watershed monitoring and surveillance and efforts to modernize and completely update the EQ database, updates were manually made to more than 600 current and historic EQ files to bring them up to date. More than 67 field site visits were conducted and the details added to the database. Descriptions of the sites monitored each quarter were provided in the quarterly updates.
K2	Provide technical assistance to state and municipal boards and commissions.	Staff participated in meetings of the Worcester County Conservation District and the State Commission for the Conservation of Soil Water and Related Resources. Reviewed Conservation Commission minutes and agendas and communicated with town boards as needed.
K3	Maintain records of all water quality related issues and EQ actions taken within an updated and modernized AGOL database.	GIS, with environmental quality staff input, created an AGOL database for water quality issues. Databases can be utilized to assist with Environmental Quality Assessment reports. All files updated regularly.
K4	Manage the Wachusett Watershed Hydrology Mapping Project to ensure progress towards completion within selected subwatersheds and subbasins.	Field work to collect/connect drainage structures and verify/connect natural hydrology was conducted throughout the year along with editing of the five hydro feature layers in ArcGIS Pro. Additional data collection utilizing construction plans and other resources. GIS mapping for the Waushacum subwatershed was completed. A series of maps were created to show all stormwater flow to BMPs treating direct discharges to the Reservoir from data collected and validated in the field. Participation in the EEOA internship was finalized. Two interns selected. Training conducted. Reservoir and Gates Brook subwatersheds targeted.
K5	Work on Waushacum Brook District EQA and use recommendations to develop tasks for FY25 Work Plan.	Recommendations identified in the Waushacum EQA will be used to develop tasks for upcoming Work Plans.
K6	Monitor hazardous materials spills and releases until considered complete for Wachusett and Sudbury watersheds. Compile and update hazardous materials sites, USTs and ASTs. Follow up with DEP as needed.	There was 1 new release in Wachusett Watershed and 5 new releases in Sudbury Watershed this FY. Information added to Environmental Quality Database. All other active sites are still being monitored.



Task No.	Description	Final Report Comments
K7	Inspect all agricultural operations in Gates Brook District and continue to compile an inventory of agricultural sites in Wachusett/Sudbury using iPad app	10 new Agricultural sites have been added to the Agricultural Database. All Agricultural Sites in Waushacum Subbasin have been monitored.
K8	Develop and implement outreach strategies and programs for topics identified through EQAs	Modifications to salt outreach program were made; revised palm cards for Sterling DPW Open House. Cornhole Boards were designed and completed for educational outreach for use at Breweries in the Wachusett watershed.
K9	Monitor placement and additions of turf fields in both watersheds and remain up to date on all research and studies of PFA concentrations resulting from turf fields	Research and studies of PFAS ongoing as new information is published. Request to DEP for information from their research and testing- not received yet. Conducted due diligence for turf field WsPA filing at Dawson recreational field to develop specific conditions related to turf fields.
K10	Continue to communicate with MassDOT on roadway projects. Emphasize need for contractor to maintain safe conditions at all times. Investigate possibility of requiring contractor to have absorbent materials at work area for the duration of the project.	Monitored a total of 2 CGP roadway projects, CGP-WACH-138: Route 122A drainage improvement in Holden and CGP-WACH-175: Shrewsbury and Doyle Rd. Improvements, also in Holden. Monitored several other local town projects along with other EQ staff, such as Route 140 in Sterling and Central St in Boylston.
<b>L. Aquatic Invasive Species</b>		
L1	Complete and implement a DWSP-wide AIS action plan to consolidate existing DWSP plans regarding aquatic invasive species monitoring and response. This plan will present a framework for monitoring and making decisions regarding current and new AIS threats across the watersheds.	Work on the AIS plan continues including regular meetings with Quabbin staff to advise on immediate AIS concerns. Expected by end of calendar year.
L2	Prioritize and conduct surveys of watershed/local waterways to inspect reservoirs, lakes, ponds, and tributaries for presence of aquatic invasive species.	Surveys of several water bodies actively managed by DWSP were conducted to guide management activities.
L3	Conduct surveys, gather information, and make recommendations for management actions on an individual basis if/when new introductions are found in accordance with the Wachusett AIS management plan.	No new infestations were discovered in FY24.
L4	Advise on budget for and administer AIS control contracts as appropriate and conduct aquatic vegetation surveys in conjunction with management of the Lily Ponds, South Meadow Pond complex, and Clamshell Pond.	Management and monitoring for AIS in the water bodies close to the Reservoir shoreline is ongoing. Surveys of Clamshell Pond indicate that Brizilian elodea has not returned since treatment in 2018 and water chestnut distribution remains very low with annual DCR hand-pulling efforts. The Lily Ponds have received fluridone treatment to successfully target brittle naiad the past three years. Intensive surveys and targeted treatments of AIS in South Meadow Pond continued in FY24 including fluridone treatment for Hydrilla and diquat treatments for Curly-leaf Pondweed.
L5	Continue to use appropriate methods to prevent the spread of Phragmites along the reservoir shoreline.	Phragmites monitored and cut once during growing season. Phragmites in Gate 25 stormwater basin spread to a greater extent. Initial spring and early summer surveys were completed.
L6	Perform aquatic vegetation surveys prior to reservoir AIS management projects. Provide results to MWRA and contractors to guide plant removal efforts.	The partnership between MWRA and DCR on AIS removal in Wachusett Reservoir continued in FY24. Biologists continued support of removal efforts by maintaining ArcGIS Online tools for data collection from contractors and sharing with project partners. Biologists also inspected watercraft prior to equipment launch and assisted in allocating diver effort.
L7	Monitor, advise, and assist contractors with plant removal operations as necessary, including boat decontamination inspections and data management through ArcGIS Online apps.	Continued use of ArcGIS Online tools for data collection from contractors and sharing with project partners. Biologists inspected watercraft prior to equipment launch and assisted in allocating diver effort.

Task No.	Description	Final Report Comments
L8	Enforce the decontamination procedures for all watercraft entering the reservoir by inspecting each vessel and collecting completed decontamination certification forms.	Biologists inspected watercraft prior to equipment launch for routine contractor activities, MDOT bridge inspections, and several emergency response training events which included boats and dive teams.
L9	Continue to educate ranger and interpretive staff on AIS and other water quality topics for incorporation into routine education program.	An educational presentation on AIS and cyanobacteria was presented to the rangers and interpretive staff. Staff were also provided a cyanobacteria observation reporting form and identification guide for cyanobacteria and AIS. information is also provided in response to current events; in October a fact sheet on cyanobacteria was provided ahead of Dam Day due to presence of cyanobacteria scums the week before the event.
L10	Monitor beaver activity; if necessary make recommendations to NR for removal where contributing to spread of invasive plants or causing water quality impacts due to flooding abutting property.	Observations of beaver activity were included in the reservoir shoreline survey and provided to NR.
L11	Update DWSP AIS web pages	The current Wachusett AIS report was updated to include current species occurrence data and posted online.
<b>M. Wastewater Management</b>		
M1	Provide plan review and interpretation, if requested, to Boards of Health.	No request for plan review from any BOHs this fiscal year.
M2	Compile septic system information (installation date, repair date, location, etc.) from watershed communities in wastewater database. Include linked electronic plans where available.	Entered multiple years (2019-2023) of septic repairs and Tittle V inspections data from Sterling BOH into wastewater database. Entered July 2023-June 2024 septic repairs and Title V inspection data from Holden and Boylston BOH into wastewater database. Requested septic data from Princeton and West Boylston BOH and still awaiting result. Obtained As built septic plans for WsPA 2000-2023 filings and uploaded those plans into the appropriate WsPA project files on SharePoint.
M3	Obtain sewer connection information from Holden and West Boylston; add to Wastewater database and GIS data layer	Able to obtain yearly sewer connection data from Holden. Entered those data into wastewater database. Still unable to get the same information from town of West Boylston despite multiple requests made. Will continue to communicate this request to WB DPW.
M4	Continue to provide management support, with the MWRA, of the Rutland-Holden trunk sewer and Rutland Holden Relief trunk sewer. Coordinate inspections and maintenance projects for the sewer lines. Prepare and submit quarterly bills to the user communities in a timely manner.	There has been no movement on developing an updated Sewer Use Agreement with Worcester or any of the DCR sewer communities. West Boylston continues to not submit payments. Holden and Rutland continue to make partial payments based on their own calculations on what they believe they owe.
M5	Research and provide sewer management information for legal issues regarding the Trunk and Relief sewer lines, as necessary. Work with legal and MWRA to research the option of transferring ownership of sewer lines to MWRA or the communities (would require legislative action).	Updates are made to payment status as they are received. There has been no movement or discussion on transfer of ownership.
M6	Evaluate and manage new trunk line connections. Monitor trunk line for encroachments; resolve any problems.	MWRA staff conducts monthly inspections of the sewer easement to monitor for new and existing encroachments. There are minimal requests for new connections to the trunk and relief sewer lines.
M7	Monitor I/I issues within trunk and relief sewers per DEP requirements	There have been no comments received from DEP; therefore, it is our opinion that no further action is required at this time.
<b>N. Stormwater Management</b>		
N1	Treat direct discharges at Rt 110 Sterling	Tighe & Bond has advanced the design from 75% to 100% plans and prepared environmental permitting documents. Project on track to go out to bid in the fall.

Task No.	Description	Final Report Comments
N2	Work with watershed towns to ensure compliance with MS4 requirements. Provide details of DWSP activities that indirectly support town MS4 requirements (education, sampling, inspections) and provide technical assistance or training of requested.	Provided the watershed communities with information and literature to meet the town MS4 requirements. Salt Smarter, Not Harder signs were placed at the DPW public sand/salt piles
N3	Create geometric network in ArcGIS to route stormwater flows through drainage network.	Field work to collect/connect drainage structures was conducted throughout the year along with editing of the five hydro feature layers in ArcGIS Pro.
N4	Modify subbasin lines in ArcGIS based on results of Wachusett Watershed Hydrology Mapping Project.	Additional data collection utilizing construction plans and other resources.
N5	Conduct regular inspections of all construction sites greater than one acre.	Entered 4 new CGP sites into CGP database this fiscal year (CGP-WACH 172 to 175). Collected a total of 716 inspection points stored into CGP database. Collaborated local ConCom (Holden) and contractors to maintain site compliance. Routinely updated CGP file logs and uploaded documents into SharePoint folders.
N6	Continue work with local DPWs to identify locations of concern, evaluate options for BMP installation, and ways to cooperatively implement recommendations.	Continue communication with Watershed town DPW Directors to address stormwater and drainage issues that can lead to water quality impacts. Coordinated with the Boylston DPW to address the drainage and erosion issues along West Temple St. Continued to work with Sterling DPW to address the drainage issues on Mortimer Rd
<b>O. Emergency Response</b>		
O1	Provide and coordinate ICS, emergency response and safety trainings to appropriate staff. Work with other agencies to provide trainings and exercises	The focus on training this year was for new staff to gain knowledge in how to respond to events on the reservoir or in case of a terrestrial spill.
O2	Update information in the Comprehensive Emergency Management Plan, Training & Exercise Plan, EAPs, and other emergency response plans.	Updates were made as needed, particularly to contact lists.
O3	Organize and maintain emergency response supplies and services.	Supplies were replenished as needed.
O5	Provide and coordinate ICS, emergency response and safety trainings to appropriate staff. Work with other agencies to provide trainings and exercises	Continue providing training to ensure staff is adequately prepared in case of an emergency.
O6	Evaluate, monitor and oversee spill clean-ups that impact or threaten water resources of DWSP property. Work with appropriate local, state and federal agencies to ensure that containment, cleanup, and mitigation of the spill are proceeding in a manner that protects drinking water quality	The work and support for the hazardous waste contractor to address an oil release from the boiler room at John Augustus Hall will continue for the foreseeable future. The plan is to provide support and shoring under the boilers, then remove the concrete floor, vacuum out the gravel and stone under the slab to remove the oil that is trapped currently, then bring in new fill and pour a new slab.
<b>P. Support</b>		
P1	Prepare and submit to MWRA and the Water Supply Protection Trust Annual Work Plans, budgets, progress reports, and program goals and objectives. Track Section progress in meeting program goals.	MWRA quarterly reports, annual work plan, and budget were submitted in a timely manner. Progress continuously tracked to meet program goals. Regular check in meetings with sections throughout the year.

Task No.	Description	Final Report Comments
P2	Administer the Payment in Lieu of Taxes (PILOT) program.	FY24 PILOT total of \$8,492,448 was successfully administered. Payments were calculated, funds requested from MWRA, and payments distributed to the towns. This was an increase of 0.2% from FY23. The total "hold harmless" value (provision in the legislation that requires any payment never to be less than the previous year's payment) for FY24 PILOT was \$1,899,127. Wachusett towns' share is \$3,564,910, or 42% of total PILOT. Sudbury towns' share is \$855,461, or 10% of total PILOT. FY25 PILOT is estimated to increase 0.1% to 1.2%, depending on towns' tax rates, to a total of \$8.5 - \$8.6 million.
P3	Configure and maintain both internal and externally facing ArcGIS Online applications. Work with staff to generate field data collection tools using Survey123 and/or Field Maps for ArcGIS. Maintain existing field data collection tools for staff; maintenance includes archiving of data (as needed) and ensuring that Surveys and Field Maps remain functional through upgrades to ArcGIS Online and mobile apps.	There were many important project initiatives in FY24, however the DCR- DWSP Public Access Map stands out as a particularly important achievement. This new public tool distills our complicated public access plans and makes it easier for the public to determine what they can do in the watersheds. This was a massive collaborative effort that wouldn't have been successful without the contributions from ranger staff and management. We continued to support, enhance and expand internal workflow capabilities using ArcGIS Online. This is a critical tool to the success of GIS at DWSP. A new library of Technical Workflow Documentation will be critical in case of failure in any major DWSP workflows going forward.
P4	Publish hosted feature layers, tile layers and tile packages on an as-needed basis to support projects. Ensure that all public-facing data has proper metadata added as per the DWSP Metadata SOP and EEA ArcGIS Online Best Practices.	The GIS program continues to make data available to the public and staff. Improvements to data are made available when possible, and we continue to enhance AGOL content best practices to ensure all DWSP content looks professional and trustworthy to staff and public alike.
P5	Provide staff with training in desktop, mobile and online GIS applications.	Staff continue to be presented with a variety of learning opportunities. There has been great feedback on the Esri instructor-led training opportunities and we hope to continue being able to offer that through EEA's advantage program with Esri.
P6	Train staff in GIS on an as-needed basis to provide them with knowledge needed to complete basic GIS-related tasks.	Conferences and webinars were attended throughout the year and staff training was provided in each quarter.
P7	Assist staff, municipalities and other partners by providing maps, data analysis, data exports and data collection.	Assisted EQ, NR, Education, and Regional Planner staff by proving paper maps, digital data and applications in Experience Builder, Dashboard, Survey123 and StoryMaps.
P8	Maintain and update GIS data hosted in ArcGIS Online for divisional staff use; ensure all data is current and available to staff via that 'DWSP - Data Store' group, and has updated FGDC-compliant metadata (per DWSP Metadata SOP). Ensure newly publish data are added as a new record to the DWSP Data Inventory spreadsheet, which is shared with users via MS Teams. If data is shared with the 'DWSP - Data Store' group, ensure that a layer file is created (for ArcGIS Pro) and added to the appropriate location in the DWSP-GIS Team.	GIS data hosted in ArcGIS Online for divisional staff use was updated throughout the year as needed.
P10	Create parcel maps for Land Acquisition Coordinator meetings with landowners and MWRA board. Create and maintain one Story Map per FY for Land Acquisition Panel meetings, with one section per potential property. Should be provided to LAP meeting attendees prior to meeting.	StoryMaps were created for 17 proposed parcels in FY24.
P11	Complete GIS-related special projects	Largest GIS-related Special Projects included a field survey written in Survey123 as well as a Dashboard with data update capabilities to assist the engineering staff with Sudbury reservoirs observation well readings, edits made to the Wachusett Hydro data layer, and migration of an application that allows NR staff to assign pool numbers to new vernal pools.

Task No.	Description	Final Report Comments
P12	Operate administrative offices including answering phones, greeting visitors, scheduling interviews, receiving orders for office supplies, updating emergency contacts and other documents as needed. Managing the BHP unit 2 & 3 weekly schedules.	The scope of the work varies according to the daily office activities. The administrative tasks are planned around seasonal activities such as hunting, fishing, the BHP, and timber sales..
P13	Provide payroll assistance and personnel services for all Section employees.	Payroll assistance, onboarding/offboarding and other personnel services were provided. Seasonal hiring was completed and many payroll issues were resolved.
P14	Provide contract administration, financial management, record-keeping, purchasing of goods and services, and other financial support services.	A grand total of 266 encumbrances were submitted and 875 invoices were paid in FY2025 for the Wachusett Section. A grand total of 38 encumbrances were submitted and 46 invoices were paid in FY2025 for the NR Section. Also a grand total of 10 payments were processed for Land Acquisitions.
P15	Coordinate with EEA IT to provide local MIS support for the Section. Update IT Plan as required addressing technology needs for the coming year.	Internet wiring is in the process of being updated throughout JAH, expected to be complete in FY25. Issues with Wi-Fi appear to have been resolved. Laptops have been replaced and issued as required; several laptops have started to fail. Troubleshooting as needed with IT for staff issues.
P16	iPads: maintain iPad inventory; ensure all devices are loaded into EEA-IT mobile device management system.	iPads were maintained and transferred as needed due to staffing changes. 2 iPads were upgraded to new models and an additional iPad has been placed in the front office for use by Wachusett staff as needed.
P17	Training to Administer Logging Permit program, including mailings, bid openings, financial management, database management, permit and key issuance, etc.	Continued to assist the Forester with administrative tasks. One of my main responsibilities is maintaining an up-to-date database, which is crucial for the efficient management of the forestry operation. It ensures access to the latest information for the purpose of decision-making and strategic planning.
P18	Plan and implement vehicle and equipment purchases and leases.	Unable to purchase passenger vehicles in FY24 due to OVM approval, timing of delivery. Spent passenger vehicle KK monies on heavy equipment, purchased: Portable Gravel Screener, 25-Ton Heavy Equipment Trailer, auger with planning bit accessories for the skid steer.
P19	Inspect, provide regular maintenance, and repair vehicles, boats and other motorized equipment, utilizing Fleet Wave system. Maintain up-to-date records of all vehicles and equipment in Fleet Wave system.	Mechanic staff completed (149) work requests in FY24.



# FY 24 Quabbin-Ware Final Report

Update on all tasks in the Quabbin-Ware River Work Plan for July 1, 2023 - June 30, 2024.

Task No.	Task Description	Final Year Summary
<b>A. Land Acquisition</b>		
1	Acquire land. Coordinate due diligence and other tasks/services from DCR and private contractors to complete survey, appraisal, title, engineering, and environmental assessments for proposed acquisitions. Negotiate WPR language, purchase prices, and conditions of sale with sellers of property.	Seven Quabbin projects protecting 464 acres (144 acres in fee; 320 acres in WPR) went to record this fiscal year. Two Ware River projects protecting 81 acres (74 acres in fee; 7 acres in WPR) went to record this fiscal year. Sixteen projects are currently underway at various stages of due diligence including nine projects totaling 290 acres in Quabbin and seven projects totaling 530 acres in Ware River.
2	Develop individual parcel presentation materials and meet with MWRA Board for approval.	Four Quabbin projects and one Ware River project were brought to the board this year.
3	Communicate with and convene LAP meetings to review parcels and prioritize land purchases.	Four LAP meetings were held with a total of seven projects approved, four in Quabbin and three in Ware River.
4	Use the LAP Prioritization Model to identify priority parcels in the watersheds.	Work to identify parcels is ongoing.
5	Continue to solicit and work with landowners in donating conservation interests in land and assist in advising landowners on the tax incentives available when donating conservation interests.	Of the nine projects that went to record this fiscal year two were donations (Hempel WPR and Chivian & Jacobson WPR) and one was a bargain sale (Greenmantle Tree Farm in Hubbardston). Of the ongoing projects, work continues on three proposed donations and seven proposed bargain sales. In total, two donations are in Quabbin and one in Ware River, and four bargain sales are in Quabbin and two are in Ware River.
6	Meet regularly with DCR Legal to address attorney assignments and project logistics.	Meetings with Legal are ongoing.
<b>B. Watershed Preservation Restrictions</b>		
1	Monitor WPRs on a regular basis, following monitoring procedures, to meet schedule of monitoring WPRs every 1-3 years.	58 WPR Monitoring Visits completed this FY.
2	Complete baseline documentation reports for new WPRs prior to acquisition or within a reasonable time after acquisition, following EOEEA specifications. Baselines will be done in-house or through appropriate contracts.	4 baseline reports completed this FY (2 in-house and 2 contracted).
3	Meet with Restriction Stewardship Working Group and confer with legal to respond to enforcement issues and requests to exercise reserved rights.	Restriction Working Group met 4 times this FY. WPR Coordinator worked with DCR-Parks stewardship staff on updating the Enforcement Procedure throughout the year.
4	Track changes in landownership for WPRs.	WPR Coordinator and Regional Monitors continued to track changes in landownership for WPRs. We had 3 WPR's change hands. WPR Coordinator has reached out to all the new owners.
5	Implement WPR records procedure with DCR records manager.	Ongoing. WPR Coordinator participated in meetings regarding the development of the new LIS database.
6	Distribute WPR landowner E-news & Notes from the Field Story Map twice a year to landowners.	WPR Coordinator and Jim Taylor created and sent out 2 issues of "A Watershed Moment" and "Notes from the Field" StoryMap.
<b>C. Land Management</b>		
1	Implement the current system-wide Land Management Plan.	All elements of the Land Management Plan were followed this FY.
2	Begin the 5-year review of the Land Management Plan	FACS process completed in June and resumption of forest management activities under new EEA guidelines commenced before end of Q4. Plan is to complete 5-year review by end of Q2 in FY25.

Task No.	Task Description	Final Year Summary
3	Prepare forest harvest proposals for next fiscal year including data on proposed harvest areas, characteristics of stands, soils, cultural resources, wetlands, wildlife, unique features, and priority habitats. Proposals shall also include information on lot layout, landings, stream crossings, wetland crossings, and stonewall crossings..	The FY24 proposals were evaluated to determine whether they meshed with the recently released EEA response to the CFC recommendations. Those proposals that did mesh were updated with new language regarding climate considerations and will be presented publicly as the FY25 proposals in FY25 Q1.
4	Plan and conduct an internal review of proposed logging operations for the coming year, including assessments of silviculture, water quality, wildlife, and other potential impacts/benefits Review lots to ensure consistency with aspects of the LMP, including wildlife, forestry objectives, and environmental quality.	No activity this FY, as EEA response to the CFC report was not released until late in Q4. Activities in FY24 included developing the multi-agency approach to including climate change adaptation considerations in upcoming proposals, and updating and publishing pdfs for all paused projects with FACS disclaimers inserted. FY24 proposals will be evaluated under approved EEA approach and presented to the public in Q1 FY25 as FY25 proposals.
5	Present annual forest harvest proposals at public meetings. Publish Online Public Review document/story map. Accept public comment and respond as needed.	Public presentation of forestry proposals has been on hold due to the EEA moratorium on forest management during the FACS process. The pause was lifted at the very end of this quarter. FY25 proposals (previously known as FY24) will be presented publicly in quarter 1 of FY25.
6	Plan, lay out, mark products for removal, prepare maps and permits, establish photo monitoring points, file Forest Cutting Plans, seek bids, award permits, and properly advertise and post forest management operations consistent with the Forest Cutting Practices regulations, the LMP, and approved harvest proposals.	The moratorium on forest management was ended in June. Three harvest lots at Quabbin and one in WRW were advertised and shown in June. Bids will be opened on 7/11/24. Forest cutting plans have been approved for all four lots.
7	Provide supervision and oversight of all forest harvesting operations on DWSP property from sale until final service forester sign-off and bond return. Assure compliance with applicable DCR and NHESP regulations and restrictions, approved BMPs, and all Permit conditions. Maintain adequate site visit records. Monitor post-harvest and collect photo point images consistent with internal policy.	Three forestry lots that were sold prior to the pause were successfully completed in FY24. Lots 1062 and S17NQ in the Quabbin watershed, and lot 4410 in the Ware River Watershed. These projects successfully achieved DWSP's goal of creating a more diverse forest to increase resistance and resilience to disturbance and climate change. Two other lots that were sold prior to the pause, lot 3173 in the Quabbin watershed and lot 4409 in the Ware River watershed, are currently being operated. The last lot that was sold prior to the pause, lot 3172 in the Quabbin watershed, has yet to be started. Photo points on past harvests that were due to be re- taken were re-taken.
8	Monitor BMP effectiveness at active or completed stream crossings utilizing customized assessment protocol.	BMP monitoring paused this FY. Post-FACS there are discussions about harmonizing post-harvest monitoring across EEA land management agencies for things like regeneration and BMP utilization and effectiveness.
9	Complete long-term paired watershed monitoring to assess impact of DWSP forest management on tributary water quality and submit final report.	Ongoing monitoring at paired watershed sites met monthly sampling targets all year and quarterly event sampling in Q1, Q2, and Q4. Event sampling was attempted in Q3, but the weather forecast did not hold up sufficiently to meet SOP sampling requirements. New staff were trained on sampling processes, with additional storm event sampling planned for FY25. A final report will be developed in CY 25.
10	Conduct periodical regeneration and invasive species surveys to monitor forest health and development resulting from silvicultural activities or other natural disturbances and processes.	Regeneration surveys were completed on all DWSP harvests at Quabbin/WRW that were completed in 2008. Results were compiled and summarized by forester MacLean.
11	Conduct periodic reviews and monitoring of land management activities to assure compliance and consistency with land management plans.	Ongoing CFI data analysis in preparation for 5-year LMP review, in collaboration with forestry staff and Harvard Forest researchers. Initiated alignment of CFI volume/carbon calculations with new FIA NSVB methods (building new Access VBA functions) FACS process may result in additional monitoring needs; discussions ongoing.

Task No.	Task Description	Final Year Summary
12	Collect data and maintain GIS data layers related to forest structure, composition, regeneration, roads, boundary information, stone walls, wetlands, streams, and other data to guide the land management program. Maintain GIS data documenting the location, extent, and intensity of all silvicultural operations.	Multiple GIS layers, including DCR gates, access roads, skid roads, landings, property boundaries, stone walls, streams, wetlands, regeneration, and cultural features, were updated using ArcGIS Pro, AGOL, and field maps.
13	Integrate new land acquisitions into land management, public access, and other watershed management programs, including forest conditions, etc.	All new acquisitions were assessed and property boundaries were marked where possible.
14	Locate, mark, and maintain property boundaries periodically or as needed.	Approximately 20.6 miles of boundary were located and marked by foresters this year. Several encroachments were documented. Foresters worked with DWSP staff to resolve encroachments. Foresters also worked with DWSP engineers to develop survey contracts and mark the boundaries that were located by the surveyors.
15	Develop scope of work and manage contracted property boundary survey work.	The Stewardship funding provided the DCRW Quabbin & Ware Regions with \$35,000 to contract surveying services for property boundary work. A total of 5 projects were bid, and 4 were funded. The one unfunded project was executed in-house by DCRW CE staff. Three (3) of the funded projects were awarded to Dillis & Roy and one (1) was awarded to JC Engineering. All contracted and scoped work was completed by the surveyors and verified by CE staff. The final cost for the work was \$34,825. An in-depth summary is attached to this row.
16	Document and pursue resolution of all property boundary encroachments using the Encroachment Tracking Hub.	WR: Encroachments in the WBW were focused on for FY24. One EBW encroachment was visited at the request of the property owner, for inspection of work completed. The Encroachment Hub is actively used to document: initial findings, follow-up site visits and inspections, communications with the property owners, dates, and photographs. Quabbin utilized Encroachment Hub to document activities related to pursuit of encroachment resolution at seven total locations.
17	Identify, plan, and oversee non-forest or other unique habitat restoration, field reclamation, prescribed fire implementation and maintenance work.	Burned 41.8 acres on watershed lands with prescribed fire in collaboration with DCR Fire Control. Worked with watershed maintenance on implementing fire breaks. Worked with the Franklin Co. hand crew to host their annual training on the Prescott Peninsula. Plan for restoration of island natural communities. Identified approximately 1000 acres in Quabbin Park that would benefit from prescribed fire, and some areas with timber harvests in addition. Presented to various advisory groups on this plan. Finalized the Gays Hill heathland burn plan. Continued to work on the Pine Plains barrens and Rutland fields burn plan and habitat management plan. Started to work with EQ on potential gravel extraction site and natural community restoration location.
18	Maintain the non-silvicultural lands described in the land management plan	Four days of prescribed burning were accomplished. Two units at Barre heath (8 acres total), two fields on the Prescott Peninsula (8.8 acres) and the majority of the Gays Hill heathland (25 acres). The total number of acreage on watershed burned in prescribed fire was 41.8 acres. The Gays Hill heathland burn plan was finalized. The Pine Plains Barrens and Rutland Fields burn plan is in progress.
19	Identify, prioritize, and implement terrestrial invasive plant (TIP) control projects in line with the expanded Terrestrial Invasive Plant Plan. Respond as needed to newly discovered and controllable TIP populations.	All chemical control activities on hold this pending drafting and approval of updated TIP plan (expected in fall of 2025). Seasonals (winter and summer) worked with Christian and the regional forestry staff, mostly on FSI work but identifying and/or cutting invasives as encountered.
20	Collect data and maintain datasets, GIS data layers, and related maps and reports of rare and listed plants and communities.	Lat/ long collected for the New England blazing star population in the Ware River Watershed. No other new spatial data collected.
21	Continue to pursue permission to expand use of unmanned aerial system (UAS) to document forest conditions, map openings, identify invasive plant populations, assess internal road conditions, and other remote sensing activities.	Negotiations with WSP to conduct forest inventory work stalled and ultimately failed. We proposed the project again in FY25 using EEA Stewardship money.  DWSP drafted a Drone Policy. The internal drone program is still sitting with Legal and we are awaiting review and official word to move forward.



Task No.	Task Description	Final Year Summary
22	Analyze CFI and other available data on forest structure, composition, and regeneration. Report findings for public presentation at meetings and in updated land management plans	FY24 analysis focused primarily on completing harvesting/disturbance checks for all CFI plot history, developing regeneration data for presentation to WSCAC, and development of new volume/carbon procedures in line with FIA methods. Expectation for CFI methods to be harmonized across EEA agencies in upcoming FY, details TBD.
23	Implement Quabbin Park Operation and Maintenance Plan	Mowing plan followed in the Park, Admin, and Blue meadow road. Auxiliary spillway maintained once a month. Bittersweet on the dam/dike rip rap treated throughout the growing season with a mixture of salt, vinegar, and soap. Overseeding on the dam conducted with a mixture of slope seed mix and perennial rye.
24	Implement Quabbin and Ware River Road Management Plan	Routine road maintenance throughout the FY. Several culverts replaced and repairs made after heavy rains. Gate 8 road maintained throughout the season. Road-side mowing conducted. Gate 11 and 12 roads significantly improved. BLA 3 road reclaimed and repaved.
<b>D. Wildlife Management</b>		
1	Continue the active harassment of birds within the Bird Harassment Zone at Quabbin Reservoir, using human presence, boats, pyrotechnics, passive scare devices, and other techniques. Continue to identify and test new harassment techniques.	Boats, pyrotechnics, harassment equipment, safety gear and staff were prepared for harassment when warranted. Active Harassment was limited this year due to low bacteria counts and relatively low gull counts with 5 on the water harassment days and 4 shore harassment days in FY 2024.
2	Observe and document the nocturnal gull roost on Quabbin Reservoir.	Gull roost observations began on October 3rd and ended April 16th utilizing drones to photograph and document the nocturnal roost on the Quabbin Reservoir. Roost counts are conducted weekly. There were 28 successful weekly drone flights to count gulls roosting on the Quabbin Reservoir this fiscal year. Number of roosting gulls ranged from 30 (Nov. 9) to 1082 (Feb. 15). Weekly roost counts have ended for this fiscal year.
3	Control Canada geese populations on Quabbin Reservoir (focus in the Bird Harassment Zone) by treating eggs during nesting season to prevent hatching.	The Canada goose control zone was surveyed for active nests; there were 2 nests located and the eggs were treated to prevent hatching. One nest had 7 eggs and the 2nd nest had 5 eggs.
4	Identify places in MA where human derived food is available and work to prevent feeding gulls through educational signage, interaction and enforcement.	Monthly regional gull surveys took place from the fall of 2023 through the winter, coming to an end in March of 2024. Surveys will commence again in the fall of 2024.
5	Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Quabbin and assess beaver issues in the Watershed.	Six beaver were removed from the Pathogen Control Zone. Two beaver were removed from a non-Pathogen Zone site. Three fecal samples were submitted for testing and all results were negative for Giardia and Cryptosporidium.
6	Respond to problems of burrowing animals on dams and dikes; report problems and take appropriate action.	All activity reported to wildlife staff was checked and all determined to be unrelated to wildlife or holes that may have been started by wildlife but not used.
7	Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants.	Raft deployment and loon monitoring took place. The annual DCR-DWSP Common Loon report is attached. The annual NELSWG conference was attended and monthly NELSWG subgroup meetings are attended as time allows. The DCR-DWSP Common Loon video recording was completed. During the 2023 loon season, 14.64 pounds of lead was collected and 6.88 miles of fishing line. In coordination with the DCR parks wildlife biologist, the lead/line collection and recycling will be expanded.
8	Continue long-term wildlife resource monitoring program.	Long-term wildlife resource monitoring for bats, birds, snakes and mammals continue to be conducted at the habitat restoration areas on the Quabbin and Ware River Watersheds.
9	Work with DFW to survey and document breeding bald eagles around Quabbin Reservoir.	Seven active eagle nests were identified on the Quabbin in 2023 and surveys began for the 2024 season.
10	Administer the applications, permits, and orientations for the Quabbin and Ware River Deer Management Program. Analyze results of hunt.	Analysis of the 2023 hunt is complete and Deer density estimates have been calculated. The Deer Report is finalized and posted on the DCR website and plans for 2024 have been approved.

Task No.	Task Description	Final Year Summary
11	Coordinate with the Massachusetts Natural Heritage and Endangered Species Program concerning rare species occurrences and protection.	We continued our collaboration with NHESP to document rare species for their occurrences and protection through snake board surveys, acoustic bat recordings, breeding bird surveys, Whip-poor-will surveys, owl surveys, small mammal sampling as well as loon, eagle and peregrine falcon nest monitoring.
12	Receive Commissioner approval and implement the deer management plan for Quabbin Park	After late approval to move forward with the hunt, The first annual Quabbin Park Hunt was held on Dec 4th and 5th 2023. Official results are published in the 2023 Deer Hunt Report. It was a largely successful hunt. 37 total deer were taken over the 2 days; 32 of which were female deer. 72 hunters took part in the hunt.
<b>E. Public Access Management</b>		
1	Proactively patrol watershed lands to ensure compliance with DCR regulations and policies. Tally visitor contacts and produce quarterly and annual summary reports. Conduct trend analyses on data collected (e.g., rule violations, access permits, encounters).	FY24 Watershed Rangers documented a total of 25,610 visitor contacts and 1,268 violations. Quabbin FY24 totals 14,997 visitor contacts and 188 violations. Ware River FY24 totals 10,613 visitor contacts and 1,080 violations. Rangers continue to proactively patrol watershed lands to ensure compliance with DCR regulations and policies.
2	Continue to cooperate with state (MSP and MSP Marine Unit), environmental, federal, and local police for help with enforcement when required.	On-going. Coordinated joint ATV patrols on internal roads and reservoir patrols.
3	Use Agency social media accounts for advertisement of interpretive programs, including general info or emergency info (e.g., closings).	The Quabbin/Ware IS unit continues to work with Boston staff to provide timely updates to the DCR website regarding disruptions to regular recreation access. We also collaborated with the Wachusett IS staff to create a spotlight page <a href="https://www.mass.gov/locations/quabbin-reservoir">https://www.mass.gov/locations/quabbin-reservoir</a> . We have had some small success working with the agency social media team. As well Wachusett and Quabbin IS staff have written a proposal to create a Facebook page for the whole division to support the goals of the work plan.
4	Continue to implement Quabbin Public Access Management Plans. Enforce rules and regulations of 313 CMR 11.09 through education. Complete semi-annual Compliance and Enforcement Reporting to MassDEP.	During the 4th quarter, Watershed Rangers documented 436 CMR violations, while Quabbin Rangers noted 79 violations and Ware River Rangers noted 357 violations. In FY24, Watershed Rangers documented a total of 1,268 CMR violations, while Quabbin totaled 188 violations and Ware River totaled 1,080 violations.
5	Regular meetings of the Signage Committee.	Sign Committee discussed upcoming signage projects and projects completed. (See meeting agenda and pics attached). Quabbin Off-Reservation gates have been posted with updated Access rules signs (98% complete). Ware River Access gates rules signs have been received from MassCor and Approximately (25%) of gates have been posted with updated signage at our most publicly facing gates. Ware River "Road Closed to excessive Vandalism" Quabbin Park - Parking lots and associated Accessible Parking have had lines and symbols resprayed with updated Handicap Access Symbols and signage. New accessible templates and logos were updated/created for both Quabbin and Wachusett watersheds. Watershed events such as Fire Fighter Training/Spillway Tree removal / Boat Launch Area 3 Road paving/Envirothon, etc... were posted with appropriate Signage/barriers to limit public access to sensitive areas. Several trails in Quabbin Park were updated with new signage displaying mileage/distances to Park sites. Quabbin Rangers were provided with new "closing time" (8:00PM) signs for all posted locations throughout the park and Cemetery gates. "Be Bear Aware" signage was created and posted at all Quabbin Park Trailheads. Quabbin Cemetery - Memorial day events, created movable temporary signs for Accessible parking and restroom locations. Production of Quabbin - On- Water directional navigation signs started in fourth quarter, install to begin in 2024-25 First quarter. Quabbin - New Salem Field Office had its damaged Site identification signs replaced in the fourth quarter. Fall Deer hunts were posted with Check station/signage for Hunters to navigate interior roads. All Quabbin On-reservation exterior boundaries were posted with hunt warning signs for the duration of the Hunting Season. BLA's received (18) newly lettered rental boats and distributed to areas of need. Quabbin received (3) electric vehicles which all received Quabbin specific lettering and New DCR EV logos.
6	Conduct night operations, as needed (e.g., night access permits, ATV use monitoring, illegal camping)	Night operations were completed as needed throughout the summer.

Task No.	Task Description	Final Year Summary
7	Operate the boat fishing program in designated portions of Quabbin Reservoir in a manner that minimizes threats to water quality and accommodates visitors with accessibility needs.	A new F&P II was hired to manage the Quabbin fishing program. Annual Quabbin Fishing Report was finalized in December 2023 and presented to QWAC. Pottapaug and O'Loughlin pond closed to private boats for the season in order to control swollen bladderwort.
8	Oversee data management for Quabbin Boat Seal Program	Boater database is currently up to date. The database has been updated regularly throughout the season with periodic imports and QAQC performed to ensure accurate data and identify potential issue
9	Provide ongoing support and consultation to DCR's Division of Parks regarding Comet Pond beach. Maintain boat ramp launch at Long Pond and boat ramp launch and parking lot at Comet Pond.	Completed construction of a new parking lot at the entrance of the Comet pond beach area and also moved the gate up that road to accommodate the public parking.
10	Coordinate and/or support special programs and events, including Memorial Day services, public meetings, paraplegic hunts, and Tuesday Tea events.	Quabbin IS staff will continue to look for opportunities to support the FOQ and other associated groups through special events.
11	Develop an internal Universal Access plan.	IS staff continues to support signage updates for accessibility. In regard to developing a plan, IS staff are waiting for clarification if this is a plan for physical accessibility or a plan to work with the DCR Universal Access.
12	Continue to control and monitor research and other public access through an internal review process and permit system. Maintain electronic databases for permit issuances, access notification, and any problems.	Eleven Research permits were granted this FY for work in the Quabbin/Ware River watershed. Permits expire annually. Researchers were required to submit an annual report before being eligible to renew a research permit. An annual report was compiled and distributed.
13	Manage public access permits for large groups, short-term vehicles, etc.	The online group permit system that was developed in 2021 continues to work well. For FY24, the majority of our group permits were approved for schools visiting the area. We have one local group that includes Quabbin Park as part of a regional bus tour and those groups primarily come in the fall. The number of people asking for wedding permits has dropped significantly since the 2018 when the group maximum was changed to 75.
14	Implement Ware River Public Access Management Plan	Guardrails and access gate were installed at canoe launch of Route 122 on Ware River. Trail naming and marking network system was developed and installation began. New gates have been installed at Prison Camp Rd., Brigham Rd at the bridge, Ruben Walker Rd. at intersection of Prison camp, and Gilbert Rd. at last intersection of the rail trail and Gilbert Rd.
15	Implement social media trial program	Looking ahead to FY2025, IS staff at Quabbin and Wachusett will continue to work to implement a social media plan within the DCR-DWSP.
<b>F. Watershed Security</b>		
1	Continue regular ranger patrols to provide watershed security. Perform regular security checks at key access points and MWRA facilities. Record all encounters and violations using iPad applications. Produce periodic reports.	Watershed Rangers documented a total of 9,905 visitor contacts and 436 violation for 4th quarter. Quabbin Rangers documented 5,965 visitor contacts and 79 violations. Ware River Rangers documented 3,940 visitor contacts and 357 violations. FY24 Watershed Rangers documented a total of 25,610 visitor contacts and 1,268 violations. Quabbin FY24 totals 14,997 visitor contacts and 188 violations. Ware River FY24 totals 10,613 visitor contacts and 1,080 violations.
2	maintain gates, barways, bollards and signage throughout the watersheds. Install barriers (such as guardrails or fences) as needed to protect properties and control public access.	Barriers at the Prison Camp cell area were vandalized and repaired by WM staff shortly after installation but were vandalized again and have disappeared.
3	Participate in periodic emergency action plan table top exercises with MWRA and emergency responders.	No Activity this FY.

Task No.	Task Description	Final Year Summary
4	Continue ongoing communication and coordination with local, state, and federal emergency responders; coordinate with MWRA on all security issues.	Continued and centralized notification of DVE incidents on DWSP property to local police and MSP, when necessary this quarter. Watershed Ranger Captain facilitated several Spill Response Trainings with Moran Environmental Recovery. Watershed Rangers and other staff participated in Night Emergency Response Operations, Basic Boom Deployment Operations, and River/Small Waterbody Spill Response Operations. LVT was stationed in the Quabbin/Ware Region this quarter and then moved to the Wachusett Region. The LVT was assessed by Ranger Section and Management staff. Lease was terminated at the end of the Fiscal Year.
	<b>G. Infrastructure</b>	
1	Conduct monthly inspections and issue findings on Winsor Dam and spillway and Goodnough Dike. Coordinate inspections with MWRA and consultants. Plan for or conduct dam repair work as called for in dam inspection reports.	<p>DCR Watershed Maintenance did an excellent job all year maintaining the slopes and downstream areas of both Winsor Dam and Goodnough Dike. Highlights of their work included regular mowing during the spring, summer, and fall seasons. The general lack of snow cover during the winter season promoted increased erosion along the downstream slopes, as various isolated bare areas formed. The downstream slopes of both dam structures were aerated and seeded in late April / early May, which should promote new grass proliferation to help stabilize these areas.</p> <p>Vine proliferation was noted along the rock riprap upstream slope protection. DCR Watershed Maintenance combated this during quarter 1 by applying a vinegar, salt, and soap spray mix along the parapet wall. This led to a 5 to 10 foot swath of browning vines in the late summer 2023 that failed to grow back in spring 2024 - which visually provides evidence that the treatment was a success.</p> <p>DCR WM assisted with running a flush test on a pipe run located on the eastern end of Goodnough Dike in November 2023. Clean water was emptied into a catch basin along the road of the crest, and observations were made in the downstream manhole structures to evaluate efficiency. Various drainage swales and catch basins were cleared of debris throughout the year by DCR WM.</p> <p>DCR wildlife biologist (JW) and DCR civil engineer (DF) collaborated throughout the year to document animal activity in the vicinity of these dams. Action included breaching beaver dams at the transition point from Beaver Brook to Peppers Mill Pond, just south of Goodnough Dike. Potential animal burrows were backfilled in May 2024, though it was uncertain which critter was responsible for the few cases of minor tunneling. A goal for the next fiscal year is to follow-up at the backfill sites to measure the effectiveness of the treatment, and to determine whether further action is needed. Grub control may be a solution that will need to be looked at if critter activity increases.</p> <p>The Winsor Dam Intake Building maintenance project (Contract OP-449) was finished in early October 2023. The work included the cleaning and repointing of the building's exterior masonry, and the abatement of asbestos-containing materials from window caulking - which was then replaced with an approved sealant (also used around the doors).</p> <p>MWRA, DCR, and contractor GZA all collaborated at Goodnough Dike on drainage and piezometer studies (as part of MWRA Contract #W345). Two separate visits to Goodnough Dike were made in November 2023 to document drainage and piezometer conditions. DCR assisted with locating and removing manhole and cleanout covers to gain access. GZA's summary reports had yet to be published before the end of FY24, but are anticipated for delivery in early FY25. These studies will lay the groundwork for a future design and maintenance project to improve drainage and piezometer monitoring.</p>

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2	Conduct periodic inspections and issue findings on DCR's bridges and small dams in the Quabbin/Ware Region. Assure compliance with all dam safety requirements for small dams on DWSP lands, including the review of new or updated Emergency Action Plans.	<p>DCR Civil Engineering completed quarterly inspections and Follow-Up reporting to DCR ODS. Notable observations included high flows during the 2023 summer months that were a result of high precipitation totals. The low level outlet pipe is deteriorating as a portion of the drainage flow is passing through holes in the pipe, and finding new paths through soil before draining into the discharge ponding area. High flows exacerbated this drainage issue, and the observed seepage dwindled away as levels receded during the late fall and winter seasons. Dye testing is a possible action to take if the problem presents itself again. In March 2024: 1"-3" sinkholes were observed behind the low level outlet headwall, but did not appear to worsen over the next few months - continue to monitor. Possible missing stones noted from the left training wall of the dam structure below the walkway beams.</p> <p>DCR Watershed Maintenance performed the annual mow / cutting of the steep western slope inundated with an invasive vine species in September 2023. Staff returned in October 2023 to hydroseed Brigham Pond Dam's eastern downstream slope to help provide bulk and stabilization to combat erosion. The downstream end of the deteriorating low level outlet pipe was shored up to help provide better flow to the drainage area, though some water is still finding crack and holes along the way.</p> <p>Wax Factory Pond dam observed was observed throughout the year to monitor the partially breached beaver dam. This breach remained open and unobstructed for the entirety of the year, and staff will continue to monitor for beaver rebuilding attempts in FY25.</p> <p>Comet Pond Dam was also observed in December 2024, where high flows were also noted. Erosion was observed below the bridge crossing along its abutments with the increased discharge. Staff will continue to monitor in FY25.</p> <p>Demond Pond Dam internal DCR correspondence discussing the mechanics of the structure - as a local association was inquiring about a draw down for weed control.</p> <p>Brigham Road "portable" Bridge structure (Crossing ID B-09-B1) showed signs of overtopping following heavy summer rains combined with Barre Falls Dam impoundment activity. Staff will continue to monitor in FY25.</p>
3	Implement lawn and grounds maintenance activities at the Dam, Dike, and spillway as needed	Dam and dike slope mowing started on 4/29/24. Overseeding on dam and dike started on 5/1/24. TIS - bittersweet control on the riprap started in late June with salt, vinegar, soap mix - very successful. Weekly inspection of road stormwater drains cleared with new stand on blower July 3rd. Mowing height raised in late June due to heat wave.
4	Provide oversight and technical support for engineering, construction, and renovation work in the Quabbin/Ware Region.	A new 60'x40' storage facility was constructed at the Quabbin North Site at the New Salem Field office. Constructed started in early late April, with in-house staff removing trees and stumps in the area of the proposed building. In early May, Renaissance Excavation conducted the site preparation. The DCR plumber installed a subsurface floor drain collection system with 2 floor grates draining to a sump. Continuing in May, Renaissance returned to install stone under foundation. Eve Construction, the concrete sub, installed the forms and rebar for the slab-style foundation. The foundation has a haunch around the perimeter. The foundation was poured on 5/13/24. Forms were then stripped off the foundation and Renaissance returned to backfill and rough grade around the building. AMC crew arrived in June for the assembly of the steel structure. AMC completed the metal building on 6/18/2024. An electrical contract was awarded to Brown Electric on 6/13/24. The electrical contract spans two fiscal years: FY24 procurement of materials and FY25 installation. Additional work at this building/site is planned for FY25.

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5	Maintain records regarding reservoir and facility construction, as well as maintenance and repair operations. Provide surveying and drafting services, maintain records, and respond to in- house and other requests for information related to land ownership, property lines, buildings, and construction projects.	Another productive year for stewardship grant money yielded contracted surveys on four (4) properties in the Quabbin Watershed. Several surveys completed on Road Infrastructure-related projects. Survey efforts provided at the New Salem Field Office, related to the construction of the new storage building. Early in the FY, Sean F. completed an inventory of records in the CE office and the 2nd floor Vault. Some efforts were made to digitize paper records, but most records remain in hard copy only.
6	Conduct building maintenance activities, including painting, carpentry, cleaning, minor repairs, and other routine maintenance.	EV plugs added to stockroom and west garage as interim measure to charge new EV vehicles purchased this FY; organization of old and new stock completed. Brick work complete in front of admin and chimney repair at BMCC. Updated new floor rugs around campus. Continuing to watch for safety concerns and addressing as needed. Currently have updated stair treads with safety line treads. We are up to date with basic pm building tasks and are now able to add more in-depth projects like floor care and window cleaning. Continuing to address water leaks as we locate. All filters are on pm schedules now and are properly changed out. Ongoing work with electricians and plumbers, takes a while to get help but once around we accomplish a lot with pso (DCR work order system to request help from DCR plumbers and electricians) tasks.
7	Conduct periodic inspections of septic systems at the various Regional office buildings. Assure compliance with applicable state and federal regulations.	Overall operating systems at BMCC, Admin, Cemetery and field offices were in good working order. Some issues with BLA 3 system.
8	Conduct periodic inspections, maintenance, or oversight of heating systems, fuel pump operations, and fuel deliveries.	Fixed numerous steam leak issues with the admin boiler. We are still dated with our heating system; we also need to address the cooling issue once new windows are installed. Due to lack of air circulation we have to move around fans and dehumidifiers to keep floors safe and dry. BMCC boiler back online. Stock room power vent seemed to help with eliminating odor while system was running All systems are functional at the end of the season. We were at budget with oil deliveries this year, did not exceed.
9	Develop specifications, bid packages and contracts for facility and infrastructure projects identified in the Major Projects List for FY24.	Area III Access Road Paved Area III PV System upgraded Kick Off for the Admin Window Project started FEMA Grant submitted to Replace Generators (Award pending) Renewal of DCR 838 contract
10	Conduct maintenance and management activities in Quabbin Park, including roads, interpretive trails, roadsides, parking areas, drainage structures, fields, vistas, snowplowing, and other management activities.	5/20/24 cold patch used to repair potholes in the park: east entrance, middle entrance, tower. Pot holes also repaired on blue meadow. weekly inspection of interior roads for fallen trees and clogged drains. fields are currently growing out and are part of the pollinator areas.
11	Continue to conduct routine maintenance and burial activities in the Quabbin Park cemetery.	mowing and string trimming underway in the cemetery. Burials started on 4/5/24 and included four cremations and two full burials. Two-grave lot purchase completed on 4/20/24; Foot marker installed on 5/9/24; Memorial day monument installed on 5/21/24; Annuals planted and beds mulched before the Sunday memorial day festivities.
12	Conduct Quabbin Park Cemetery business and record keeping.	Completed MDWSC Gravestone Inventory spreadsheet and developed new Grave marker feature layer with 5,223 markers of which 3,754 markers are MDWSC inventoried. Over 200 cemetery records scanned.
13	Continue to conduct road maintenance activities on DWSP lands.	Davis road was rebuilt from gate 11 all the way to gate 8 rd. Intersection. Gate 8 road was prepped for the season and held up very well. Most of the roads up the north end have been worked this past year. Staff are concentrating on the west side from gate 12 south to gate 8 and will be moving to the east side to work the roads in the Hardwick section before the hunting season. In Ware River the staff have been able (with the access plan implemented) to upgrade the road network throughout the season.



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14	Continue to collect data on road conditions and culvert locations.	<p>A revitalization of the quarterly Roads Working Group on 3/4/2024 has been very helpful with planning and coordination of projects and maintenance efforts. The group met again in 5/21 to continue the discussion regarding ongoing and upcoming projects.</p> <p>DCRW staff completed 214 culvert inspections in FY24. Since the 2019 reboot, 495 of 1115 culvert assets were updated and this dataset is now 44% updated from the original 2007 inventory.</p> <p>DCRW staff completed 11 bridge inspections in FY24. Since the 2019 reboot, 26 of 27 bridge assets were updated and this dataset is now 96% updated from the original 2007 inventory.</p> <p>A number of maintenance projects took place and unfortunately not all were captured using the ArcGIS Online maintenance log system. Hopefully additional contributions in FY25 will help keep records of this maintenance work.</p>
15	Assess gravel pits and gravel resources on DWSP lands in the Quabbin/Ware Region. Annually review and monitor gravel extraction and site closure and Best Management Practices (BMPs).	Performed site visits to all existing DWSP-owned Quabbin/WR S&G pits and reviewed GMPs. Also visited DWSP-owned pits utilized by Petersham and New Salem and contacted both towns' Highway Superintendents to establish new contact and to renew expectations for extraction requests. Utilized remote sensing, literature review, and ground truthing to identify two new potential S&G resource deposits in Quabbin watershed. Worked with Forestry and NR to gather information on both sites, and worked with GIS staff to develop new GIS mapping and data collection capabilities for S&G resources.
<b>H. Watershed Protection Act</b>		
1	Implement the Watershed Protection Act regulations in 14 Quabbin Reservoir and Ware River Watershed towns. Review and process all WsPA applications, and track the status of applications and associated projects using an Access database. Inspect sites throughout the duration of any activity to ensure compliance. Investigate and resolve violations of WsPA regulations.	Received 30 cases in the Ware River and Quabbin Watersheds. Conducted multiple site inspections in both watersheds. Fielded numerous calls from town boards, consultants, and homeowners.
2	Continue to review or evaluate public notices, local board agendas and minutes, and information provided by local sources for additional jurisdictional activities or enforcement actions.	Reviewed agendas and minutes for all the towns in both watersheds. Contacted towns regarding projects and violations with WsPA Jurisdiction
3	Convene WsPA Working Group meetings.	Four WsPAWG meetings were held via Teams over the course of FY24 as well as one day of field work. There is regular communication amongst staff by phone and email to ensure consistent implementation of the Watershed Protection Act regulations.
4	Educate and interact with local boards and officials in the watersheds about watershed protection regulations. Educate local officials, realtors, prospective buyers, land development consultants, and homeowners on WsPA regulations and procedures.	Fielded calls from town officials, developers, engineering firms, and homeowners and assisted them with the Watershed Protection Act.
5	Provide technical assistance support to local boards through contact, meetings, and/or through regulatory review process.	No activity this fiscal year.
<b>I. Education and Outreach</b>		
1	Implement Interpretive Services Plan for the Ware River Watershed	The current goal is to have a rough draft of an Interpretive plan by August. This will allow us to begin more extensive programming for the Ware River Watershed area by the winter of 2025-26.
2	Develop Interpretive Services Plan for the Quabbin Watershed	The issues and concerns of managing the Quabbin Reservoir and watershed lands have changed since the original interpretive plan was developed. A new interpretive plan will reflect those changes

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3	Staff and operate the Visitor Center at Quabbin to educate visitors about watershed management and related topics.	The Quabbin Visitor Center continues to host steady visitation throughout the year. Staff are working to develop a regular schedule of programs that educate the public about the history, natural history and watershed management. These outdoor programs reach a greater number of visitors to the watershed properties.
4	Continue established programs of public education, including school programs and field trips on DWSP properties.	Quabbin/Ware IS staff continued to reach out to area schools, particularly in the Ware River Watershed area to share our school program offerings. As well, we are continuing to explore ways to share our remote programs with schools in the water user areas. Quabbin/Ware IS staff revamped our school programs to align more closely with state curricula standards. We are working to develop relationships with area schools that will be long lasting.
5	Collaborate with other organizations and watershed communities to reach more diverse audiences. Identify specific groups and their educational needs.	Quabbin/Ware IS staff have worked the Barre and Rutland Historical Societies. Staff has also been working with the Ware River Watershed trails committee members, Ware River Nature Club as well as continuing our relationships with Swift River Valley Historical Society and Friends of Quabbin. We will continue to identify other groups in the area to with which to connect.
6	Monitor self-guided Quabbin Park interpretive trails for current conditions and to identify any maintenance issues.	Due to staffing issues, SCA may not be sending us a trail crew this year for the park. Pioneer Valley Hiking Club held a successful trail work day on June 1st; Justin participated along with about 15 volunteers from the club. The club may host another trail work day in the park this fall as well. Justin continues to monitor trail conditions and sends Paul Lapierre information on downed trees on trails that need chainsaw work; his crew has been very helpful with this.
7	Maintain vital records collection for former Quabbin valley towns, issue official records and conduct genealogical and historical research upon request.	We continue to provide genealogical and historical information for visitors when requested.
8	Manage audio-visual collection of the Region including photographs, slides, and media coverage of Regional activities and Quabbin- related topics.	Copying and organizing photos into the new photo library will be an ongoing project. The end result will create a photo library that staff can access with historic, scenic and other photos when needed. Staff is also encouraged to save their photos in this library as well using the naming system that was developed to help find photos more easily,
9	Organize, catalog, and digitize oral history tapes using an outside contractor.	FOQ continues to make progress transferring the oral histories to UMASS archives in collaboration with DCR archivist Sean Fisher. The oral history will be digitized and available through the archives.
10	Continue to support and participate in the Envirothon, America's leading natural resource education program for high school students.	A successful Envirothon was held at Wachusett Reservoir this past May. Justin will be stepping down as chair of the steering committee, but will remain in his secretary role on the committee, among other Envirothon committee duties. 2025 Envirothon will be held at Borderland State Park in North Easton.
<b>J. Water Quality and Hydrologic Monitoring</b>		
1	Conduct routine and non-routine water quality sampling and analysis. Evaluate need for sampling before/during Quabbin transfers.	Water quality monitoring in the reservoir and watershed tributaries was completed according to established plans, with follow-up investigations conducted to investigate select, non-routine water quality concerns. New staff were trained on routine monitoring, and the CY 2024 sampling plan was implemented with coordination between DWSP and MWRA. Analyses of water quality data included annual statistics for CY23 reporting and routine review of incoming results to look for outliers or changes in seasonal patterns.
2	Perform Shaft 8 Intake Zone Sanitary Survey prior to transfers.	One transfer and corresponding Sanitary Survey completed in FY24 (12/18 diversion). Survey report and photos were sent to management and MWRA. Minor debris were noted at the Ware River/Rt.122 boom but was not a concern for MWRA.
3	Monitor plankton in Quabbin Reservoir. Evaluate need for sampling before/during Quabbin Transfers.	Taxa of concern exceeded established threshold once during the first quarter and twice during the fourth quarter. Monitoring frequency was increased accordingly after each occasion to track aggregations.



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4	Collect, interpret, and manage data on reservoir elevations, water transfers and releases. Share data with DWSP staff and MWRA.	<p>The Quabbin Reservoir began FY24 at elevation 526.87 and 388,125 MG in storage (94.2% capacity) on July 1, 2023. The reservoir ended the fiscal year on June 30, 2024 at elevation 527.83 and 395,408 MG in storage (95.9% capacity). The minimum elevation of FY24 was 526.20 with a storage of 383,100 (92.9% capacity) on December 10, 2023. The maximum elevation was 530.50 on March 9, April 4, April 13, and April 15, 2024. This translated to 416,483 MG in storage (101.0% capacity).</p> <p>Quabbin Reservoir began consistently spilling January 9, 2024 at 10:55PM when the reservoir elevation rose above the elevation of the Lower part of the Winsor Dam Spillway (528.00'). On Saturday March 9, 2024 at 6:35PM, water began flowing over the Upper part of the Spillway, exceeding reservoir capacity (530.00'). The reservoir stopped spilling on June 27, 2024 at 6:05AM when the reservoir fell and maintained an elevation below 528.00. Approximately 30,163 MG spilled in FY24 for 171 straight days, with all spillage occurring in 2024.</p> <p>The Quabbin transfer to Wachusett was online for 219 days in FY24, moving approximately 53,195 MG. The Ware River Diversion was active for 3 days this fiscal year: December 19-21, 2023. During that time, an estimated 473 MG was diverted.</p>
5	Continue improvements to database app for compiling of water quality, quantity, and other relevant data for data and trend analyses.	EQ is collaborating with Wachusett staff to improve database applications and tools, including revising databases for better data documentation and sharing. Regional meetings and training for new staff are helping to enhance data management processes and develop the Quabbin/Ware EQ database schema. Ongoing efforts include refining scripts, conducting QA/QC on monitoring data, and reviewing historical data.
6	Implement streamflow monitoring at selected sites. Coordinate flow monitoring with annual water quality sampling plan.	Limited progress on streamflow monitoring in Q1 due to staffing vacancies, but new EA2 staff was hired and trained in Q2. Data management and collection workflows were improved in Q3. Q4 field season included 11 streamflow measurements across 5 DWSP gages to support rating curve development and discharge monitoring records in the Quabbin Watershed.
7	Assist MWRA with the continuous water quality monitoring buoy at Quabbin Reservoir	DWSP boat support and coordination were offered in Q1 and Q2, and the buoy was taken off Quabbin Reservoir on 12/14/2023. Buoy data was analyzed and presented as part of the CY23 Annual Water Quality Report. DWSP and MWRA then worked together to deploy the buoy in Q4, with AB staff monitoring data for sampling and planning purposes.
8	Implement ISA with UMass for Research	EQ collected additional samples for MWRA and DWSP ISAs, with staff continuing to assist with data sharing and interpretation. Close collaboration between EQ and UMass students ensured sampling needs were met for TC investigations, with a progress meeting held in Q1 and Q2. ISA was revised for FY25/26, with ongoing coordination between EQ and UMass PI's on the Quabbin project.
9	Coordinate with MWRA on Res Ops work groups as needed.	EQ staff from Quabbin/Ware DWSP are actively involved in Res Ops and Data work group meetings, including quarterly presentations, data sharing, and sampling logistics. DWSP has fulfilled data requests from MWRA and collaborated on data needs, fostering ongoing information sharing to inform management decisions.
10	Download and evaluate wind data from MWRA MET station (buoy and/or intake building).	MWRA MET data was used in FY 2024 to inform BHP daily operation decisions.
<b>K. Watershed Monitoring and Assessment</b>		
1	Complete Environmental Quality Assessments in the Quabbin Reservoir and Ware River watersheds according to a prescribed schedule. Present EQAs to RD and DRD.	Ongoing data collection on potential water quality threats is being conducted, with new issues being recorded in the recently developed EQ database with guidance from Wachusett EQ. In the Ware Watershed, site visits related to WsPA were conducted, and the West Branch Ware EQA report was drafted and completed for submission to DEP by 7/1, with recommendations discussed with management. In the Quabbin Watershed, past EQA reports were reviewed, and field data collection in the Quabbin Reservation District were completed in preparation for FY25 EQA reporting.
2	Prioritize recommendations in completed EQAs as necessary and complete short- and long-term remedial actions.	The Ware Watershed EQA for FY24 provided new recommendations based on past reviews, focusing on "big picture" items for WR EQ. In the Quabbin Watershed, previous recommendations centered on file review and boundary marking, with ongoing efforts to assess climate impacts and land use history in the Boat Cove sub- basin for the FY25 EQA.
3	Conduct routine inspections of the Winsor basin/CVA intake area. Inspect MWRA CVA screen washing when necessary. Report debris and aquatic organisms trapped on screens.	50 weekly CVA surveys were completed in FY 2024. CVA surveys continue to be conducted weekly on Thursdays and recorded in Survey123 including weekly checks of the CVA intake screens. Appropriate parties have been contacted when warranted

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4	Review and comment on Yearly Operational Plans related to herbicide use. Monitor and inspect no-spray and limited spray zones along rights-of-way.	Historical files were reviewed and relevant yearly operating plans were reviewed this FY as new staff oriented to this duty. On-site inspections were completed in the Ware River Watershed in coordination with applicable groups. Review/comments on yearly operational plans (YOP) were submitted. New placards placed on rail sites.
5	Work with timber harvesters to reduce the risk of introducing invasive species into the watersheds.	Completed equipment inspections for all harvester equipment moved to DWSP property.
6	Monitor large ROW projects on DCR lands for water quality problems.	A review and revision of ROW permit guidelines was completed with RD and EAIII staff. A YOP inspection of the Providence & Worcester RR (Gardner Branch) was conducted in partnership with Wachusett EQ. Gate access for ROW contractors has been discussed. Short-term access permits are ongoing process. Permit requests are reviewed, followed up on, and approved as necessary.
<b>L. Aquatic Invasive Species</b>		
1	Implement the Divisional AIS management plan and update as necessary.	An extension has been granted to complete this plan by end of FY25
2	Continue program to monitor AIS in the Reservoir.	From the scheduled AIS surveys for CY24, six macrophyte surveys have been completed and eleven are pending (to be completed by end of September 2024). To this date, no new invasive macrophytes have been observed.
3	Implement the AIS emergency action plan and update as necessary.	No activity on the AIS emergency action plan this FY.
4	Continue the Quabbin Boat Seal program to minimize the risk of AIS infestation of Quabbin Reservoir.	The Quabbin Boater Database is current, with regular updates and quality checks to ensure accuracy. 15 boat decontamination events were held at HOW this fiscal year, and a total of 62 boats were tagged through CWQ over 5 event dates.
5	Work in conjunction with MWRA contractors to survey areas of the Reservoir for AIS. Evaluate and make changes in program as needed.	The CY23 annual macrophyte survey of the reservoir was completed by GEI, and DRG completed VLM removal efforts at the Shaft 8 intake. GEI reported presence of U. inflata at both O'Loughlin and in areas around BLA3, prompting DWSP and MWRA to reissue their CY24 request for proposals to include those areas in the scope of work. TRC was awarded the bid for U. inflata management. Data collection utilized a S123 form, and a dashboard for data visualization was created. TRC completed a growth survey, point-intercept survey, and 21 days of harvesting which resulted in over 1,500 gallons of material removed from our waterbodies (mainly from Pottapaug Pond). TRC and DRG were selected for the CY24 annual macrophyte survey.
<b>M. Wastewater Management</b>		
1	Identify potential problem sites or areas through review of local records, water quality data, and other pertinent information.	No problem sites identified this fiscal year.
<b>N. Stormwater Management</b>		
1	Advise local boards on stormwater management issues related to construction activities within WsPA jurisdiction.	No activity this fiscal year.
2	Monitor stormwater management in the watersheds, particularly at large construction sites.	Monitoring is ongoing based on development sites, storm intensity, and road management factors. Investigations continue to be documented.
<b>O. Emergency Response (Preparedness)</b>		
1	Develop and/or update Emergency Response materials for the Quabbin and Ware River watersheds, with up-to-date contact information, emergency procedures, and roles/responsibilities.	EEA Emergency Preparedness Site Survey was completed and submitted in Q3. 2024 DCR-MSP-MWRA Reservoir Communication Protocol was updated and distributed this quarter to MSP Marine Unit; MSP C-7; MWRA; DWSP Managers, Rangers, WM-BLA staff.
2	Implement SOPs for spill response and dumping and define DCR staff roles in both assessment and response.	Spill reporting tool fully functional. Spill/Release/Dumping database completed.

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3	In conjunction with MWRA, coordinate spill response and/or incident command system (ICS) training to staff.	Watershed Ranger Captain facilitated several Spill Response Trainings with Moran Environmental Recovery. Watershed Rangers and other staff participated in Night Emergency Response Operations, Basic Boom Deployment Operations, and River/Small Waterbody Spill Response Operations. Proposed Reservoir Emergency Spill Response Training for FY25-FY27 includes Boat Handling and Safety, Basic Boom Deployment Operations, 8-hour HAZWOPPER, Terrestrial Spill Response, River/Small Water Body Spill Response Operations, Night Emergency Response Operations, Winter Emergency Response Operations, Fishing area-specific Spill/boom/boat Operations, Shaft 8 River Spill Response Operations, Night Boom Deployment Operations.
4	Coordinate cleanup operations for any spills and dumping that impact or threaten water resources. Work with the appropriate local, state and federal agencies to ensure that spill containment, cleanup, and mitigation is conducted in a manner that protects water quality.	No significant spills this FY.
5	Develop and implement spill response plans for all timber harvesting operations on DWSP lands.	All spill plans for sold forestry lots are up to date.
6	Conduct annual review of existing spill response access sites.	On-going
<b>P. Support</b>		
1	Operate administrative office	Ongoing
2	Manage payroll through SSTA and HR/CMS.	Ongoing
3	Provide contract administration and related procurement	Initiated a new Gravel Crushing contract and extended the Maritime contract through June 30, 2024. Working in conjunction with other sections the major procurements of FY24 included the purchase of a prefabricated building, installation of the foundation and electrical services for New Salem, tree removal services, surveying services, and the purchase of various heavy, lawn & grounds, and watershed monitoring equipment.
4	Keep records and assist in purchasing of goods and services.	End of Fiscal Year 24 - Storekeeper IV processed requisitions in a total of \$174,468.29 through the Commbuys System. During this period, we had two vendor cancellations totaling \$299.36 due to the vendor unable to provide the items after purchasing. Some items from the Ranger clothing orders will be moved to FY25, vendor cannot provide before end of fiscal. All other orders are complete that were through the Storekeeper IV.
5	Process revenue for BLAs, Cemetery, and Forestry	Access to the DCR Revenue system is still not active. Monthly revenue summaries are sent to Boston staff to inform of revenue activity; weekly reporting no longer required. FY2024 received Revenue totals are as follows: BLAs \$1,140; Interment \$4,366; Forestry Lot Payments \$64,946; Forestry Bonds \$21,198
6	Coordinate with EOEEA IT to provide local MIS support for the Quabbin/Ware Region.	Ongoing. Cell phones issued throughout the FY as appropriate.
7	Provide personnel services and assistance for all Quabbin/Ware Region employees.	Ongoing
8	Submit regular reports to Division Director, MWRA, and the Water Supply Protection Trust Board.	All reports submitted on time
9	Plan and implement vehicle and equipment purchases in coordination with WA.	3 electric vehicles were purchased this Fiscal year - 2, Chevy Bolt SUVs, and 1 Ford Lightning Truck within our PV budget. 1 large backhoe was purchased within budget.
10	Conduct truck, boat, and equipment inspections and maintenance as needed, utilizing Fleetwave.	Completed FY24 inspections on site for vehicles and equipment as needed. Completed all repairs needed to maintain fleet in operating condition

Task No.	Task Description	Final Year Summary
11	Administer the Payment in Lieu of Taxes (PILOT) program	FY24 PILOT total of \$8,492,448 was successfully administered. Payments were calculated, funds requested from MWRA, and payments distributed to the towns. This was an increase of 0.2% from FY23. The total "hold harmless" value (provision in the legislation that requires any payment never to be less than the previous year's payment) for FY24 PILOT was \$1,899,127. Quabbin towns' share is \$2,925,246, or 34% of total PILOT. Payments for Annexed Lands to the five towns surrounding Quabbin totaled \$662,153, or 23% of Quabbin total or 8% of total PILOT. Ware towns' share is \$1,066,310 or 13% of total PILOT. FY25 PILOT is estimated to increase 0.1% to 1.2%, depending on towns' tax rates, to a total of \$8.5 - \$8.6 million.
12	Configure and maintain both internal and externally facing ArcGIS Online applications. Work with staff to generate field data collection tools using Survey123 and/or Field Maps for ArcGIS. Maintain existing field data collection tools for staff; maintenance includes archiving of data (as needed) and ensuring that Surveys and Field Maps remain functional through upgrades to ArcGIS Online and mobile apps.	There were many important project initiatives in FY24, however the DCR-DWSP Public Access Map stands out as a particularly important achievement. This new public tool distills our complicated public access plans and makes it easier for the public to determine what they can do in the watersheds. This was a massive collaborative effort that wouldn't have been successful without the contributions from ranger staff and management. We continued to support, enhance and expand internal workflow capabilities using ArcGIS Online. This is a critical tool to the success of GIS at DWSP. A new library of Technical Workflow Documentation will be critical in case of failure in any major DWSP workflows going forward.
13	Publish hosted feature layers, tile layers and tile packages on an as-needed basis to support projects. Ensure that all public-facing data has proper metadata added as per the DWSP Metadata SOP and EEA ArcGIS Online Best Practices.	The GIS program continues to make data available to the public and staff. Improvements to data are made available when possible, and we continue to enhance AGOL content best practices to ensure all DWSP content looks professional and trustworthy to staff and public alike.
14	Provide staff with training in desktop, mobile and online GIS applications.	Staff continue to be presented with a variety of learning opportunities. There has been great feedback on the Esri instructor-led training opportunities and we hope to continue being able to offer that through EEA's advantage program with Esri.
15	Train staff in field data collection applications as needed for specific projects. Assist with setting up Field Maps and Survey123 to work with Bad Elf Pro+ GPS units, or with the Arrow 100 GNSS receiver.	Training continues to be provided to staff to support internal workflows. New mediums are being explored as more effective methods for training.
16	Keep current in new and emerging GIS technologies by attending webinars, taking self-paced trainings and attending conferences (where possible). Alert GIS users to free training or webinars and encourage continued learning.	GIS staff continue to attend conferences and training to ensure they are staying up-to-date on technology changes and developments to best serve DWSP staff.
17	Provide GIS and GPS services and associated mapping for all Regional plans, reports and projects, as needed. Keep GIS data layers updated as new information becomes available.	GIS continues to support staff reporting needs and provide assistance where possible
18	Maintain and update GIS data hosted in ArcGIS Online for divisional staff use; ensure all data is current and available to staff via that 'DWSP - Data Store' group, and has updated FGDC- compliant metadata (per DWSP Metadata SOP). Ensure newly publish data are added as a new record to the DWSP Data Inventory spreadsheet, which is shared with users via MS Teams. If data is shared with the 'DWSP - Data Store' group, ensure that a layer file is created (for ArcGIS Pro) and added to the appropriate location in the DWSP-GIS Team.	GIS data hosted in ArcGIS Online for divisional staff use was updated throughout the year as needed.

Task No.	Task Description	Final Year Summary
19	Maintain OneNote Notebook "GIS Project Inventory". Update as-needed when new projects are completed or as existing projects change. The goal is that this is a "living inventory" that allows DWSP staff to see what others are doing and to serve as inspiration for collaborations across watersheds and/or sections.	No activity this FY
20	Update digital information, including all new DWSP land purchases, WsPA maps and parcels, and provide analyses for use in DWSP reports and publications.	Updates made as needed. All FY24 acquisitions will be added in July 2024.
21	Encourage staff to participate in professional development opportunities, including professional memberships, meetings, trainings, webinars, and field trips.	Ongoing
22	Budget development, maintenance, monitoring, and forecasting (e.g., Operating, Capital when available, Major Projects, other)	Working in conjunction with the various workgroups a detailed line-item operating budget was developed for FY24. It was monitored by the Accountant on an ongoing basis and reported monthly to the RD, DRD, and various work groups. The RD, DRD, and Accountant also met quarterly to review operating budget progress and adjust budget for changing needs. The Major Project Working Group met monthly to monitor project status and spending. Major Project Status, including budget vs. encumbered and spent balances were reported monthly to the working group.

# Summary of Wachusett Watershed Ranger Interactions

FY2024

Visitor Contacts: 14,032

Violations: 1,088

Parking Tickets: 49

313 CMR 11.09	CONDENSED CMRs	# of Violations
<i>Wachusett</i>		
2a1	Entrance/Exit only through gates or designated areas.	8
2a2	Allowed on Watershed land 1 hour before sunrise to 1 hour after sunset	112
2a3	No powered boats except in designated areas.	0
2a4	No acts which may pollute the water system. No litter thrown or left. Must use sanitary facility.	0
2a5	All acts injuring the property are prohibited. No person shall injure, deface, destroy remove or carry off any property, including historic artifacts and natural materials. No removal of gravel, topsoil, stones, boulders or other material. No building or constructing any object or structure on property. Collection of berries and mushrooms is allowed for personal use only.	26
2a6	No cooking or fires.	26
2a7	No wading or swimming in reservoir except wading while using boots to launch boats in designated areas.	174
2a8	No wading or swimming in Tributary or Surface Waters, except in designated areas.	14
2a9	No organized sport activities.	0
2a10	Division and employees of are not responsible for damage to or loss of property sustained by fishermen, or for any loss of life which may be incurred in connection with public use of the reservoirs and watershed system	0
2a11	No profanity or other disorderly conduct offensive to general public. No possession or drinking alcoholic beverages	11
2a12	No Motorized Vehicles. No recreational vehicles, except snowmobiles in designated areas. Motor vehicle parking in designated areas only. Operators of motor vehicles shall obey all regulatory signage unless otherwise directed. No willfully obstructing the free passage of vehicles or persons within the system.	27
2a13	No animals, except for horses and dogs at Ware River designated areas.	212
2a14	Bicycles, skis and other non-motorized transportation permitted in designated areas only.	51
2a15	No landing aircraft or causing to descend except in an emergency.	1
2a16	No parades, games, fairs, bazaars, carnivals, fishing derbies, gifts or solicitation for raising funds without written approval.	0
2a17	No lotteries, raffles, gambling or games of chance. No possession of machinery for the former.	1
2a18	No groups of more than 25 people without written permit.	0
2a19	No engaging in business, sale or display of goods or wares without written permit.	0
2a20	No commercial signs or advertising.	0

<b>313 CMR 11.09</b>	<b>CONDENSED CMRs</b>	<b># of Violations</b>
2a21	No persons (unless authorized by law, license, or permit) shall have possession of or discharge any weapon, firearm, fireworks or other explosive on or within the watershed system except at times and areas designated. All forms of target shooting are prohibited.	0
2a22	No hunting, shooting, or trapping animals except at designated times and areas.	0
2a23	All persons within the watershed system shall obey the lawful directions of regulatory signs, police officers, DCR Rangers, or persons in charge, or of Federal or Commonwealth wardens or enforcement officers.	195
2a24	Any part of the watershed lands may be closed for the public access at any time by the commissioner.	113
2a25	The possession of all types of metal detectors or similar devices is prohibited on all of the Watershed System property.	1
2d1	Persons in compliance with Commonwealth Fish and Game Laws and Regulations will be allowed to fish from shore of Wachusett Reservoir in areas designated by the commission or its designee.	68
2d2	Boating is prohibited in Wachusett Reservoir.	6
2d3	Fishing from the shoreline of the Reservoir shall be allowed only during a season designated by the Commission or its designee.	30
2d4	Any violation of 313 CMR 11.09 will be deemed sufficient cause for revocation of fishing privileges for not less than one year	1
<b><i>Sudbury</i></b>		
2e1	Persons in compliance with Commonwealth Fish and Game Laws and Regulations will be allowed to fish from shore of Sudbury Reservoir in areas designated by the commission or its designee.	11
2e2	Boating is prohibited on Sudbury Reservoir.	0
<b>TOTAL VIOLATIONS</b>		<b>1,088</b>

**Law Enforcement Responses/Referrals/Interactions: 13**

<b>Date</b>	<b>C.M.R. Violation</b>	<b>Law Enforcement Agency</b>
01-30-24	Vehicle Accident onto DWSP	Sterling PD/MSP
02-22-24	Illegal horse riding	MSP/Environmental Police
02-26-24	Illegal dumping	MSP
03-10-24	Illegal Gill netting found at Canada Mills	Notified Environmental Police
03-18-24	Missing person Q5	Clinton PD notify rangers
03-31-24	Fishing Out of Season	West Boylston PD called in to rangers
04-06-24	Refused to show fishing license	Environmental Police
04-13-24	Suspicious Person	MSP Holden
04-18-24	Trespassing on Railroad	MSP Holden
04-22-24	Wildlife assistance	Request from West Boylston Animal Control
06-03-24	Trespassing on Railroad	MSP Holden
06-04-24	Vandalism/Gate knocked down	MSP Holden
06-26-24	Illegal Dumping	MEP

# Summary of Quabbin Watershed Ranger Interactions

FY2024

Visitor Contacts: 14,997

Total Violations: 188

Parking Tickets: 0

313 CMR 11.09	CONDENSED CMRs	Verbal Warnings
1a	No Taking/Diverting Water.	0
1b1	No construction, filling, dredging, altering land w/out provisions to prevent erosion.	0
1b2	No construction, establishing, maintaining agricultural facilities or animal manure without adequate provision to prevent manure/other pollutants from entering Waters of Watershed System.	1
1b3	No engaging in any other activity that could degrade water quality.	0
1c	No person's property condition should result in discharge of any Pollutants into waters of Watershed system.	0
1d	Records of board of health or health agent concerning Watershed open to inspection by DCR/DEP.	0
1e	Person's causing incident/situation threatening pollutants to watershed shall notify DCR/DEP.	0
2a1	Entrance/Exit only through gates or designated areas.	3
2a2	Allowed on Watershed land 1 hour before sunrise to 1 hour after sunset (with permitted night fishing exception).	17
2a3	No powered boats except in designated areas.	0
2a4	No acts which may pollute the water system. No litter thrown or left. Must use sanitary facilities.	1
2a5	All acts injuring the property are prohibited. No person shall injure, deface, destroy remove or carry off any property, including historic artifacts and natural materials. No removal of gravel, topsoil, stones, boulders, or other material. No building or constructing any object or structure on property.	0
2a6	No cooking or fires.	7
2a7	No wading or swimming in reservoir except wading while using boots to launch boats in designated BLAs.	3
2a8	No wading or swimming in Tributary or Surface Waters, except in designated areas.	2
2a9	No organized sport activities except by written permission.	0
2a10	DCR/DWSP and employees are not responsible for damage to property, injury, or loss of life sustained by fishermen while using the reservoirs within the watershed system	1
2a11	Breach of peace, profanity or other disorderly conduct offensive to general public. No possession or drinking alcoholic beverages	4
2a12	No Motorized Vehicles. No recreational vehicles, except snowmobiles in designated areas. Motor vehicle parking in designated areas only. Operators of motor vehicles shall obey all regulatory signage unless otherwise directed. No willfully obstructing the free passage of vehicles or persons within the system.	16
2a13	No animals, except for horses and dogs at Ware River designated areas.	60



313 CMR 11.09	CONDENSED CMRs	Verbal Warnings
2a14	Bicycles, skis and other non motorized transportation permitted in designated areas only.	10
2a15	No person shall bring land or cause to descend any aircraft within the Watershed except in an emergency.	2
2a16	No parades, games, fairs, bazaars, carnivals, fishing derbies, gifts or solicitation for raising funds without written approval.	0
2a17	No lotteries, raffles, gambling or games of chance. No possession of machinery, instruments or equipment for the former.	5
2a18	No groups of more than 25 people without written permit.	0
2a19	No engaging in business, sale or display of goods or wares without written permit.	0
2a20	No commercial signs or advertising.	0
2a21	No persons (unless authorized by law, license, or permit) shall have possession of or discharge any weapon, firearm, fireworks or other explosive on or within the watershed system except at times and areas designated. No target shooting.	1
2a22	No hunting, shooting, or trapping animals except at designated times and areas.	0
2a23	All persons within the watershed system shall obey the lawful directions of regulatory signs, police officers, DCR Rangers, or persons in charge or of Federal or Commonwealth wardens or enforcement officers.	32
2a24	Any part of the watershed lands may be closed for the public access at any time to protect the lands and waters.	14
2a25	The possession of all types of metal detectors or similar devices is prohibited on all of the Watershed property.	1
<b><i>Special Regulations for Quabbin</i></b>		
2b1	Persons in compliance with Commonwealth Fish and Game Laws and Regulations will be allowed to fish from shore in areas designated by the Commission or its designee. A valid state fishing or sporting license is required by any person renting or launching a boat at any commission facility subject to 313 CMR 11.09. Reasonable fees for the use of boats, for rental of outboard motors for fishing purposes, or use of Commission facilities including parking and boat ramps, may be charged by the Commission.	4
2b2	Persons permitted to fish from boats shall at all times be responsible for the sanitary conditions of the boat. Persons under 16 years of age must be accompanied by a person possessing a valid fishing license in order to boat on Quabbin Reservoir.	0
2b3	Only boats of a minimum length of 12 feet, and of a type considered safe by the Commission representative in charge, shall be used. No inboard motors, collapsible boats, sailboats, pontoon boats, square stern canoes, or similar craft will be permitted in the water except in areas designated for boating by the Commission or its designee. Outboard motors shall have a rating of not more than ½ the BIA or OBC rated horsepower for the boat and shall not exceed 20 horsepower, except that outboard motors for Commission boats less than 14 feet six inches shall not exceed 10 horsepower. Boats less than 14 feet shall be limited to 3 occupants, and boats of that length and in excess thereof may be licensed to carry 4 occupants. No boats shall carry more than 4 occupants. Canoes and Jon boats of a minimum of 12 feet, and a type considered safe by the Commission representative in charge, shall be used only in areas designated for boating by the Commission on	2

313 CMR 11.09	CONDENSED CMRs	Verbal Warnings
	Pottapaug Pond above the regulating dam and at Gate 31 above the regulating dam. Canoes less than 16 feet and Jon boats less than 14 feet six inches in length will be limited to 2 occupants, and canoes and Jon boats in excess thereof may be licensed to carry 3 occupants. All boats must be in compliance with current Commonwealth Boating Laws. All boats must be clean and contain no refuse of any kind. Commission personnel shall have the right to inspect all private boats launched at Commonwealth facilities and may deny access in order to protect water quality or safety of occupants. Chock blocks must be used on vehicles when removing boats from the reservoir.	
2b4	No person shall operate a motor boat at a speed other than responsible and proper or in such a manner as to annoy or endanger the occupants of other boats.	0
2b5	All privately owned boats, motors and other equipment must be removed from the property of the Commission each day.	0
2b6	Boats shall not leave the mooring areas before dawn and must at the time posted at each mooring area. The beaching of boats at any point except at the designated mooring and landing areas is strictly prohibited except in cases of extreme emergency.	0
2b7	Any violation of 350 CMR 11.09 can result in loss of fishing privileges for not less than one year	0
<b><i>Special Regulations for Ware River</i></b>		
2c1	WRW Fishing Designated Areas	2
2c2	WRW PWR Boats/PWR Canoes Prohibited	0
2c3	WRW Boat Motor Restrictions	0
2c4	WRW Revocation of Fishing License	0
<b>TOTAL VIOLATIONS</b>		<b>188</b>

**Quabbin Law Enforcement Referrals: 7**

Date	C.M.R. Violation	Law Enforcement Agency
12-28-23	Dumping dead deer parts/carcass	MEP
02-18-24	Camping/Hit Ranger with Vehicle	MSP Belchertown and MSP Athol
02-25-24	Protestors	MSP Belchertown
03-24-24	Camping/Fishing Out of Season	MSP Belchertown
05-16-24	Motorcycle/Camping inside gate 35	MSP Belchertown
06-15-24	MV drove off Hell Huddle Road (BLA3)	MSP Belchertown
06-26-24	Rental boat fishing at boat cove	MSP Marine Unit

# Summary of Ware River Watershed Ranger Interactions

FY2024

Visitor Contacts: 10613

Total Violations: 1080

Parking Tickets: 17

313 CMR 11.09	CONDENSED CMRs	Verbal Warnings
1a	No Taking/Diverting Water.	0
1b1	No construction, filling, dredging, altering land w/out provisions to prevent erosion.	4
1b2	No construction, establishing, maintaining agricultural facilities or animal manure without adequate provision to prevent manure/other pollutants from entering Waters of Watershed System.	0
1b3	No engaging in any other activity that could degrade water quality.	20
1c	No person's property condition should result in discharge of any Pollutants into waters of Watershed system.	0
1d	Records of board of health or health agent concerning Watershed open to inspection by DCR/DEP.	0
1e	Person's causing incident/situation threatening pollutants to watershed shall notify DCR/DEP.	1
2a1	Entrance/Exit only through gates or designated areas.	14
2a2	Allowed on Watershed land 1 hour before sunrise to 1 hour after sunset (with permitted night fishing exception).	14
2a3	No powered boats except in designated areas.	0
2a4	No acts which may pollute the water system. No litter thrown or left. Must use sanitary facilities.	118
2a5	All acts injuring the property are prohibited. No person shall injure, deface, destroy remove or carry off any property, including historic artifacts and natural materials. No removal of gravel, topsoil, stones, boulders, or other material. No building or constructing any object or structure on property.	75
2a6	No cooking or fires.	60
2a7	No wading or swimming in reservoir except wading while using boots to launch boats in designated BLAs.	0
2a8	No wading or swimming in Tributary or Surface Waters, except in designated areas.	156
2a9	No organized sport activities except by written permission.	2
2a10	DCR/DWSP and employees are not responsible for damage to property, injury, or loss of life sustained by fishermen while using the reservoirs within the watershed system	0
2a11	Breach of peace, profanity or other disorderly conduct offensive to general public. No possession or drinking alcoholic beverages	73
2a12	No Motorized Vehicles. No recreational vehicles, except snowmobiles in designated areas. Motor vehicle parking in designated areas only. Operators of motor vehicles shall obey all regulatory signage unless otherwise directed. No willfully obstructing the free passage of vehicles or persons within the system.	205
2a13	No animals, except for horses and dogs at Ware River designated areas.	179

313 CMR 11.09	CONDENSED CMRs	Verbal Warnings
2a14	Bicycles, skis and other non motorized transportation permitted in designated areas only.	0
2a15	No person shall bring land or cause to descend any aircraft within the Watershed except in an emergency.	1
2a16	No parades, games, fairs, bazaars, carnivals, fishing derbies, gifts or solicitation for raising funds without written approval.	0
2a17	No lotteries, raffles, gambling or games of chance. No possession of machinery, instruments or equipment for the former.	0
2a18	No groups of more than 25 people without written permit.	2
2a19	No engaging in business, sale or display of goods or wares without written permit.	0
2a20	No commercial signs or advertising.	3
2a21	No persons (unless authorized by law, license, or permit) shall have possession of or discharge any weapon, firearm, fireworks or other explosive on or within the watershed system except at times and areas designated. No target shooting.	13
2a22	No hunting, shooting, or trapping animals except at designated times and areas.	3
2a23	All persons within the watershed system shall obey the lawful directions of regulatory signs, police officers, DCR Rangers, or persons in charge or of Federal or Commonwealth wardens or enforcement officers.	56
2a24	Any part of the watershed lands may be closed for the public access at any time to protect the lands and waters.	3
2a25	The possession of all types of metal detectors or similar devices is prohibited on all of the Watershed property.	6
<b><i>Special Regulations for Quabbin</i></b>		
2b1	Persons in compliance with Commonwealth Fish and Game Laws and Regulations will be allowed to fish from shore in areas designated by the Commission or its designee. A valid state fishing or sporting license is required by any person renting or launching a boat at any commission facility subject to 313 CMR 11.09. Reasonable fees for the use of boats, for rental of outboard motors for fishing purposes, or use of Commission facilities including parking and boat ramps, may be charged by the Commission.	52
2b2	Persons permitted to fish from boats shall at all times be responsible for the sanitary conditions of the boat. Persons under 16 years of age must be accompanied by a person possessing a valid fishing license in order to boat on Quabbin Reservoir.	0
2b3	Only boats of a minimum length of 12 feet, and of a type considered safe by the Commission representative in charge, shall be used. No inboard motors, collapsible boats, sailboats, pontoon boats, square stern canoes, or similar craft will be permitted in the water except in areas designated for boating by the Commission or its designee. Outboard motors shall have a rating of not more than ½ the BIA or OBC rated horsepower for the boat and shall not exceed 20 horsepower, except that outboard motors for Commission boats less than 14 feet six inches shall not exceed 10 horsepower. Boats less than 14 feet shall be limited to 3 occupants, and boats of that length and in excess thereof may be licensed to carry 4 occupants. No boats shall carry more than 4 occupants. Canoes and Jon boats of a minimum of 12 feet, and a type considered safe by the Commission representative in charge, shall be used only in areas designated for boating by the Commission on	0

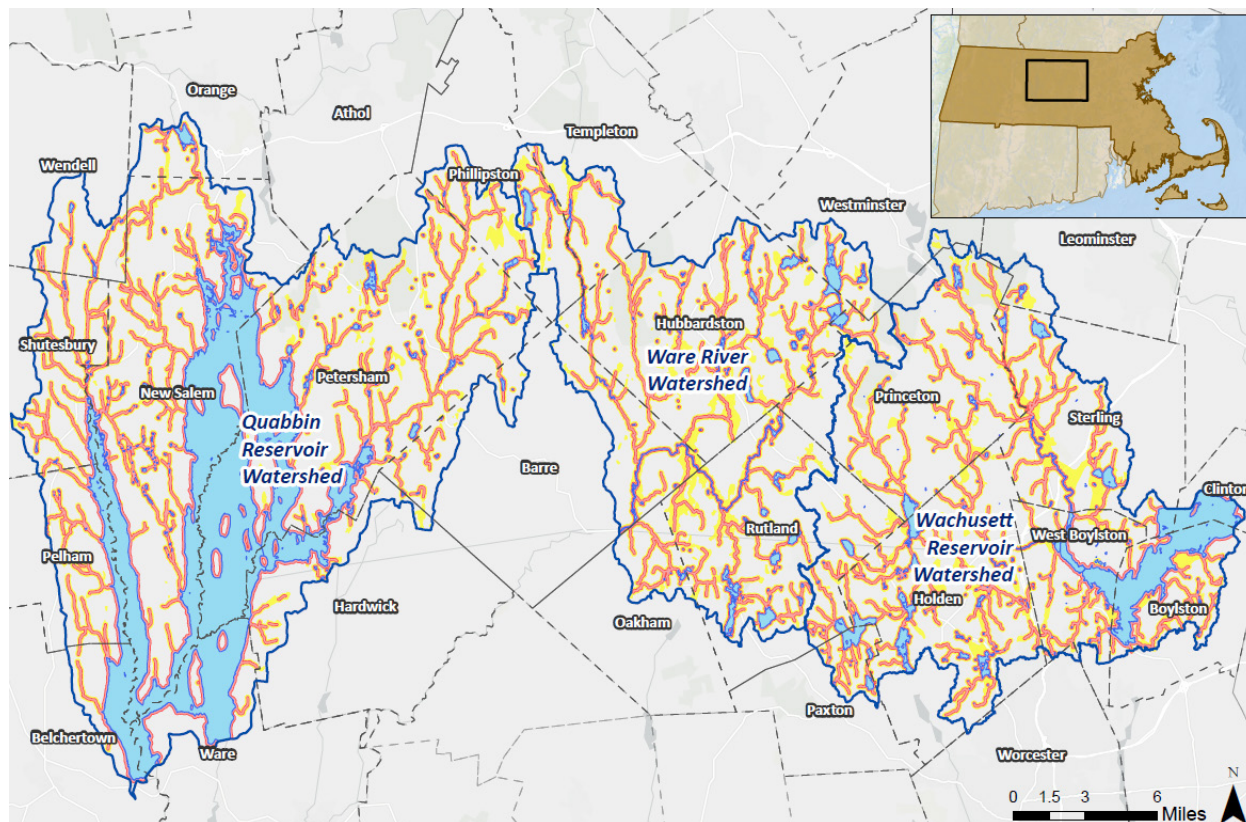
313 CMR 11.09	CONDENSED CMRs	Verbal Warnings
	Pottapaug Pond above the regulating dam and at Gate 31 above the regulating dam. Canoes less than 16 feet and Jon boats less than 14 feet six inches in length will be limited to 2 occupants, and canoes and Jon boats in excess thereof may be licensed to carry 3 occupants. All boats must be in compliance with current Commonwealth Boating Laws. All boats must be clean and contain no refuse of any kind. Commission personnel shall have the right to inspect all private boats launched at Commonwealth facilities and may deny access in order to protect water quality or safety of occupants. Chock blocks must be used on vehicles when removing boats from the reservoir.	
2b4	No person shall operate a motor boat at a speed other than responsible and proper or in such a manner as to annoy or endanger the occupants of other boats.	0
2b5	All privately owned boats, motors and other equipment must be removed from the property of the Commission each day.	0
2b6	Boats shall not leave the mooring areas before dawn and must at the time posted at each mooring area. The beaching of boats at any point except at the designated mooring and landing areas is strictly prohibited except in cases of extreme emergency.	0
2b7	Any violation of 350 CMR 11.09 can result in loss of fishing privileges for not less than one year	0
<b><i>Special Regulations for Ware River</i></b>		
2c1	WRW Fishing Designated Areas	5
2c2	WRW PWR Boats/PWR Canoes Prohibited	0
2c3	WRW Boat Motor Restrictions	15
2c4	WRW Revocation of Fishing License	0
<b>TOTAL VIOLATIONS</b>		<b>1,080</b>

**Ware River Law Enforcement Referrals: 10**

<b>Date</b>	<b>C.M.R. Violation</b>	<b>Law Enforcement Agency</b>
12-26-23	Dumping dead deer parts/carcass	MEP
12-01-23	License plate found	Rutland PD
01-01-24	Gate H-1 found open. Inside the ranger found a large pool of blood. Local PD called. PD reported a suicide the night before.	Hubbardston PD
01-16-24	Road Closures	Rutland/Barre PD
02-29-24	Tree Down on phone lines Hale Road.	Rutland PD
03-28-24	Ranger found spent fireworks in close proximity to a recent forest fire.	Rutland PD
03-29-24	Telephone pole and wires down near Comet Pond.	Hubbardston PD
03-31-24	Ranger noticed an abutters house door open and no car in the driveway. Ranger knows owners live in Boston, called local PD as courtesy to check property.	Barre PD
05-11-24	Assault and property damage (car windshield smashed)	Rutland PD
06-08-24	Off-Highway Vehicle Trailer used to transport a utility task vehicle/side by side on Granger Road	Barre PD

## Watershed Protection Act Report Fiscal Year 2024

The Watershed Protection Act (313 CMR 11.04) regulates land use within critical areas of the Quabbin Reservoir, Ware River and Wachusett Reservoir watersheds. See the [Watershed Protection Act website](#) for more information.



Areas regulated by the Watershed Protection Act shown in red (Primary Protection Zone – 313 CMR 11.04(3)(a)) and yellow (Secondary Protection Zone – 313 CMR 11.04(3)(b)).

**WsPA Decisions Issued:** This table contain any application for which a decision has been issued during FY23 within the Wachusett Reservoir, Quabbin Reservoir, and Ware River watersheds. Details for each watershed are on following pages.

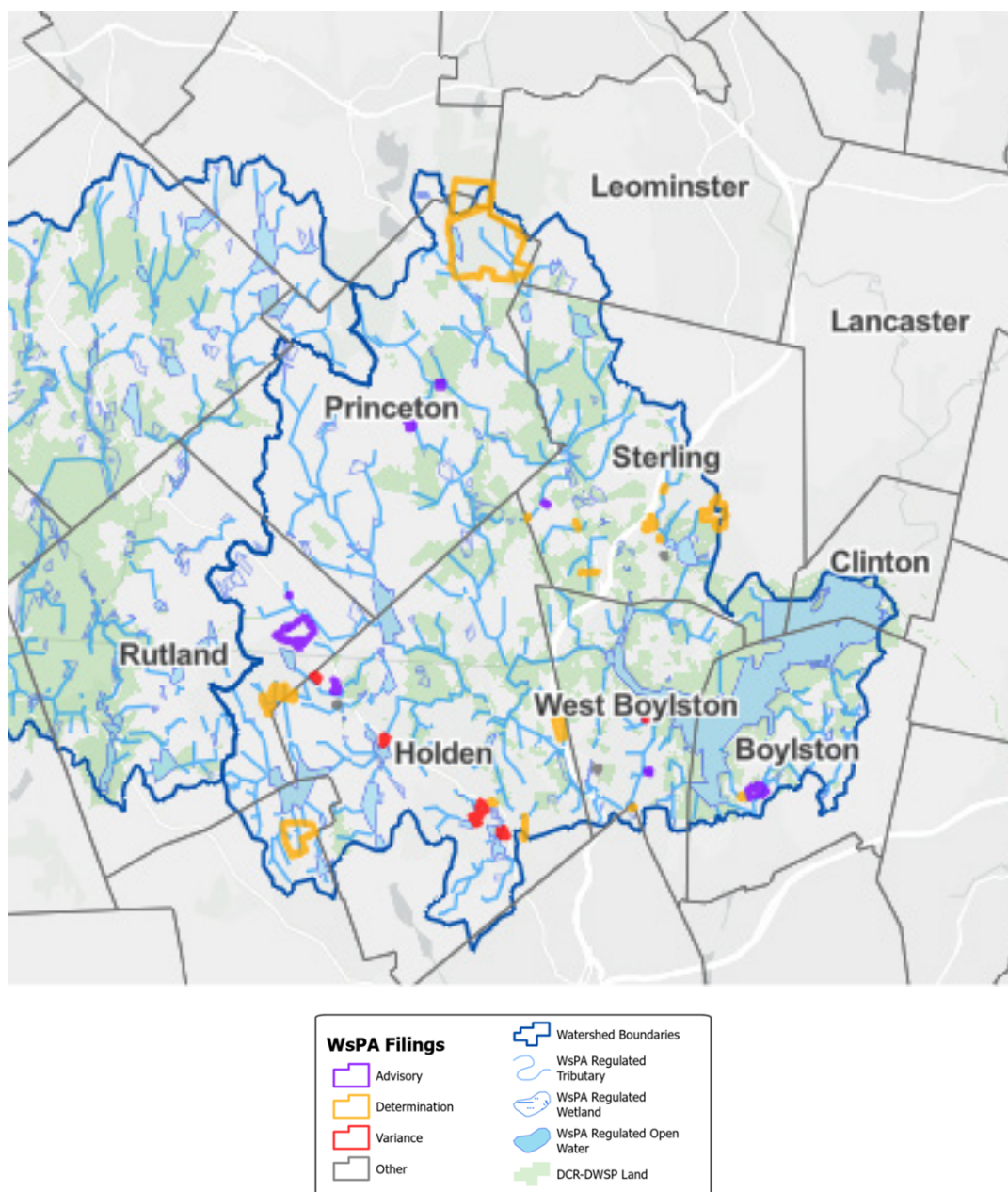
Application Type	# Decisions
Advisory Opinions	36
Determinations	27
Variances Decisions	6
<b>Total</b>	<b>69</b>

## Watershed: Wachusett

### WsPA Decisions Issued:

This table and accompanying map contain any applications for which a decision has been issued during the specified time period at the top of this report.

Application Type	# Decisions
Advisory Opinions	10
Determinations	18
Variances Decisions	5
<b>Total</b>	<b>33</b>



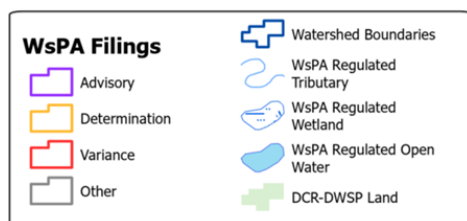
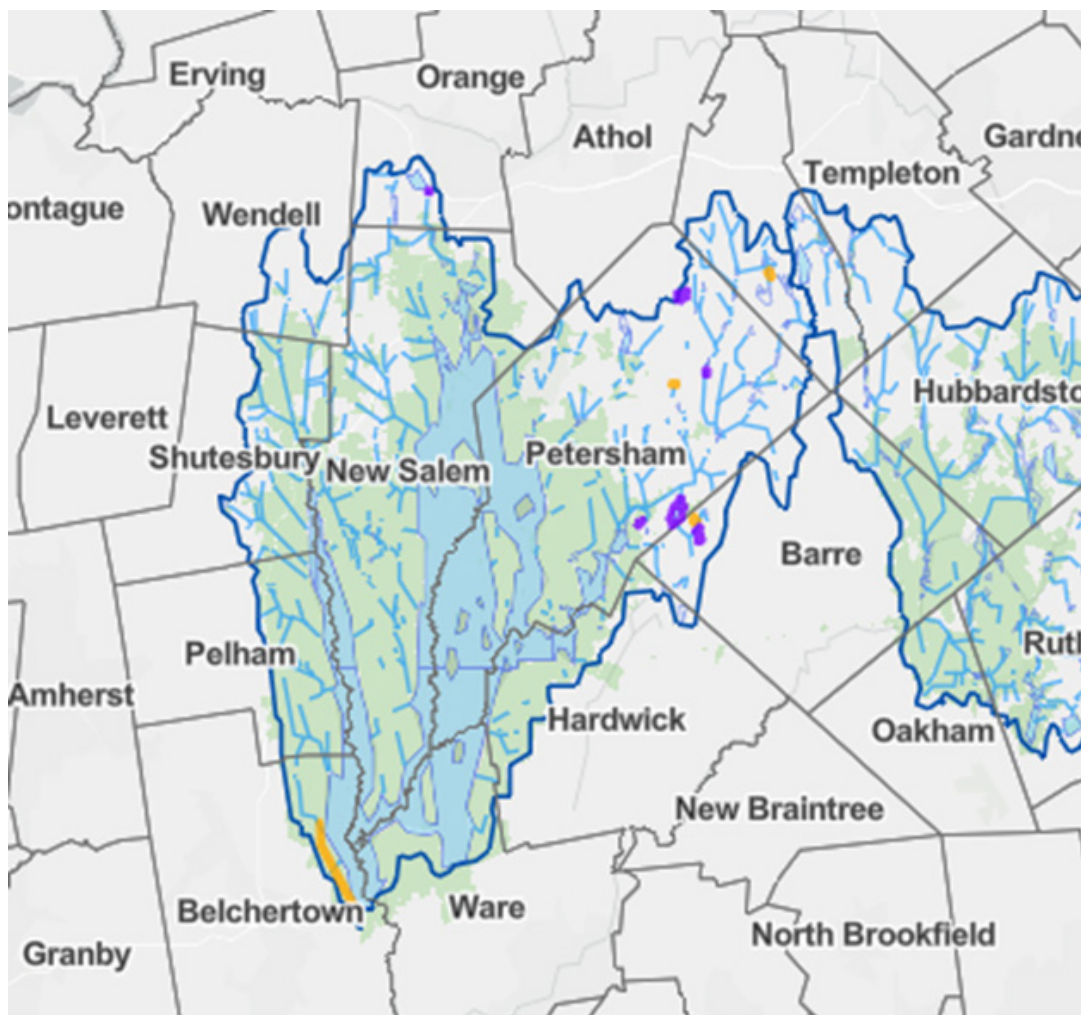


## Watershed: Quabbin

### WsPA Decisions Issued:

This table and accompanying map contain any applications for which a decision has been issued during the specified time period at the top of this report.

Application Type	# Decisions
Advisory Opinions	7
Determinations	6
Variances Decisions	0
<b>Total</b>	<b>13</b>

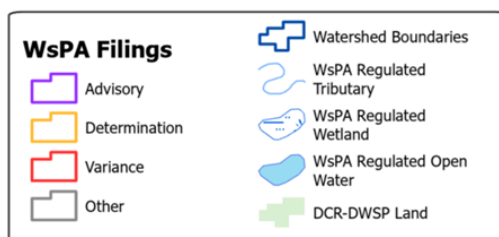
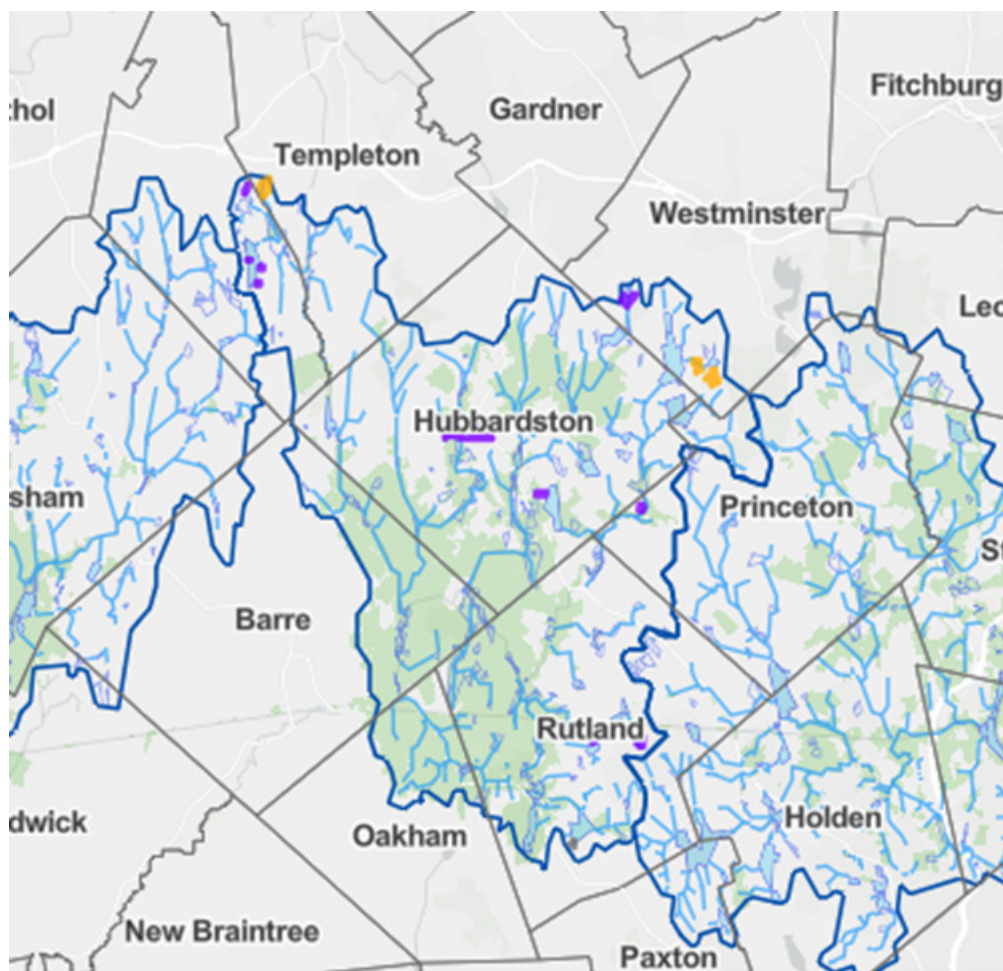


## Watershed: Ware River

### WsPA Decisions Issued:

This table and accompanying map contain any applications for which a decision has been issued during the specified time period at the top of this report.

Application Type	# Decisions
Advisory Opinions	19
Determinations	3
Variances Decisions	1
<b>Total</b>	<b>23</b>



# **FY2024 Final Expenditures**

**DCR Division of Water Supply Protection**  
**Office of Watershed Management**  
**FY24 Expenditures**

Object Class	Object	Object Name	FY24 Total Expenditures	FY2024 Budget	Expended vs Budget Variance	% Expended
AA	A01	Salaries: Inclusive	\$11,246,250.23			
	A06	Stand-By-Pay	\$0.00			
	A07	Shift Differential Pay	\$27,589.46			
	A08	Overtime Pay	\$220,667.50			
	A10	Holiday Pay	\$56,070.34			
	A11	Salaries-Supplemental	\$0.00			
	A12	Sick-Leave Buy Back	\$40,142.51			
	A13	Vacation-In-Lieu	\$108,930.09			
	A14	Stipends, Bonus Pay and Awards	\$7,954.95			
	AA1	Salaries: Supplemental	\$21,410.91			
AA Total			\$11,729,015.99	\$12,793,973.00	(\$1,064,957.01)	92%
BB	B01	Other Out Of State Travel	\$7,921.28			
	B02	In-State Travel	\$2,046.58			
	B03	Overtime Meals	\$0.00			
	B05	Conference, Training, Registration and Membership Dues	\$6,829.63			
	B10	Exigent Job Related Expenses	\$72.36			
	B11	Employer Refund of Non-Tax Benefits	\$0.00			
	B91	Employee Reimbursement Accounts Payable	\$0.00			
BB Total			\$16,869.85	\$20,000.00	(\$3,130.15)	84%
CC	C01	Contracted Seasonal Facility	\$0.00			
	C04	Contracted Seasonal Employees	\$15,984.00			
CC Total			\$15,984.00	\$30,000.00	(\$14,016.00)	53%
DD	D09	Non-Fringe Benefit Cost Recoupment (payroll tax )	\$5,127,367.65			
	D09	Fringe Benefits Costs Recoupment	\$0.00			
	D15	Workers' Compensation Chargebacks	\$224,063.45			
	D17	Medical Expenses	\$0.00			
	D21	Health Ins Costs of Employ/Leave in Excess of 1 Yr Chgback	\$0.00			
DD Total			\$5,351,431.10	\$5,912,214.00	(\$560,782.90)	91%
EE	E01	Office & Administrative Supplies	\$7,047.67			
	E02	Printing Expenses & Supplies	\$7,229.40			
	E04	Central Reprographics Chargeback	\$0.00			
	E06	Postage	\$1,500.00			
	E12	Subscriptions, Memberships & Licensing Fees	\$334.00			
	E13	Advertising Expenses	\$514.86			
	E14	Exhibits/Displays	\$4,127.87			
	E15	Water Treatment - Office Water	\$2,211.67			
	E19	Fees, Fines, Licenses, Permits & Chargebacks	\$46,066.37			
	E20	Motor Vehicle Chargeback	\$70,170.25			
	E22	Temp Use Space/Confer-Incidental Includes Reservation Fees	\$0.00			
	E30	Credit card Purchases	\$25.70			
	E53	S&J: Non-reportable to claimant, sole payee	\$10,000.00			
	EE2	Conference, Training and Registration Fees	\$5,021.00			
	E04	Central Reprographic Chargeback	\$290.00			
EE Total			\$154,538.79	\$160,000.00	(\$5,461.21)	97%
FF	F01	Food, Beverages & Preservation	\$1,159.99			
	F03	Kitchen and Dining Supplies	\$152.29			
	F05	Laboratory Supplies	\$6,218.39			
	F06	Medical & Surgical Supplies	\$1,509.10			
	F09	Clothing & Footwear	\$86,652.64			
	F10	Facility Furnshings	\$596.78			
	F11	Laundry & Cleaning Supplies	\$9,789.17			
	F13	Live Animals & Related Supplies	\$623.39			
	F16	Library and Teaching Supplies and Materials	\$2,343.60			
	F18	Recreation, Religious & Social Supplies & Materials	\$14,579.44			
	F19	Manufacturing Supply & Materials & Raw Materials	\$5,258.77			
	F21	Navigational & Nautical Supplies	\$12,150.10			
	F24	Motor Vehicle Maintenance and Repair Parts	\$94,454.64			
	F27	Law Enforcement & Security Supplies	\$10,113.39			
FF Total			\$245,601.69	\$250,000.00	(\$4,398.31)	98%
GG	G03	Electricity	\$71,888.26			
	G05	Fuel For Vehicles	\$182,289.44			
	G06	Fuel For Buildings	\$150,408.27			
	G08	Sewage Disposal & Water	\$3,474.37			
	G11	Natural Gas	\$766.17			
	GG1	Natural Gas Supply	\$0.00			
GG Total			\$408,826.51	\$410,000.00	(\$1,173.49)	100%
HH	H09	Attorneys/Legal Services	\$8,229.98			
	HH1	Financial Services	\$51,817.00			
	HH2	Engineering, Research and Scientific Services	\$177,421.43			
	HH3	Media Design, Editorial, Communication Service	\$12,555.00			
	HH4	Health and Safety Services	\$0.00			
HH Total			\$250,023.41	\$267,000.00	(\$16,976.59)	94%
JJ	J10	Auxiliary Financial Services	\$5,148.99			
	J25	Laboratory and Pharmaceutical Services	\$18,559.86			
	J27	Laundry Services	\$11,530.96			
	J28	Law Enforcement	\$249.00			
	J44	Surveyors	\$5,880.00			
	J50	Instructors/Lecturers/training	\$0.00			
	JJ1	Legal Support Services	\$24,020.65			
	JJ2	Auxiliary Services	\$0.00			
JJ Total			\$65,389.46	\$130,000.00	(\$64,610.54)	50%

**DCR Division of Water Supply Protection**  
**Office of Watershed Management**  
**FY24 Expenditures**

Object Class	Object	Object Name	FY24 Total Expenditures	FY2024 Budget	Expended vs Budget Variance	% Expended
KK	K02	Educational Equipment	\$0.00			
	K03	Programmatic Facility Equipment	\$133,189.22			
	K04	Motorized Vehicle Equipment	\$170,357.71			
	K05	Office Equipment	\$0.00			
	K06	Printing, Photocopying, and Micrographics Equipment	\$0.00			
	K07	Office Furnishings	\$4,754.77			
	K09	Medical Equipment	\$5,276.50			
	K10	Law Enforcement & Security Equipment	\$76,914.54			
	K11	Heavy Equipment	\$420,313.86			
	K12	Television Broadcasting Equipment	\$0.00			
	KK Total		\$810,806.60	\$770,000.00	\$40,806.60	105%
LL	L11	Heavy Equipment Lease-Purchase	\$0.00			
	L23	Programmatic Facility Equipment Rental or Lease	\$91,408.69			
	L24	Motorized Vehicle Equip. Rental or Lease	\$2,055.13			
	L25	Office Equipment Rental or Lease	\$2,754.23			
	L26	Printing/Photocopy & Micrographics Equip Rent/Lease	\$14,469.74			
	L31	Heavy Equipment Rental or Lease	\$1,965.20			
	L42	Educational Equipment Maintenance & Repair	\$0.00			
	L44	Motorized Vehicle Equipment Maintenance & Repair	\$71,889.45			
	L45	Office Equipment Maintenance & Repair	\$455.00			
	L46	Print, Photocopying & Micrograph Equipment Maint/Repair	\$4,155.51			
	L50	Law Enforcemt/Security Equipment Maintenance/Repair	\$0.00			
	L51	Heavy Equipment Maintenance/Repair	\$23,775.15			
	L63	Programmatic Equipment Maintenance & Repair	\$8,003.24			
	LL Total		\$220,931.34	\$180,000.00	\$40,931.34	123%
NN	N15	Building/Vertical Structure Construction	\$0.00			
	N16	Major Const/Renovation Bldg & Land Improvements	\$75,525.34			
	N17	Major Building Maintenance and Land Improvements	\$0.00			
	N19	Land Acquisition and Eminent Domain	\$0.00			
	N21	Highway Horizontal/Lateral Constssruction	\$56,264.85			
	N22	Highway Horizontal/Lateral Maintenance & Improvements	\$475,729.66			
	N23	Highway Maintenance Materials	\$38,425.22			
	N41	State Park & Recreation Facilities Construction	\$186,636.18			
	N50	Non-Major Facility Infrastructure Maintenance and Repair	\$175,054.04			
	N52	Facility Infrastructure Maintenance & Repair Tools & Supplies	\$122,016.59			
	N60	Lawn & Grounds Equipment Maint & Repair	\$7,121.11			
	N61	Lawn and Grounds Equipment	\$117,832.36			
	N63	Rental or Lease of Facility	\$3,320.00			
	N64	Garden Expenses, Tools and Supplies	\$25,002.03			
	N70	Cleaners/Janitors	\$0.00			
	N71	Exterminators/Integrated Pest Management	\$4,156.25			
	N72	Hazardous Waste Removal Services	\$65,572.43			
	N73	Non-Hazardous Waste Removal Services	\$24,629.86			
	N74	Snow Removal and Groundskeeping Services	\$22,536.00			
	N98	Reimbursement for Travel/Other Expense Infrs Projects	\$0.00			
	NN1	Engineering, Research and Scientific Services	\$235,388.72			
	NN Total		\$1,635,210.64	\$1,585,000.00	\$50,210.64	103%
PP	P01	Grants to Public Entities	\$47,096.00			
PP Total			\$47,096.00	\$100,000.00	(\$52,904.00)	47%
TT	T04	Payments and Refunds	\$141,560.00			
TT Total			\$141,560.00	\$150,000.00	(\$8,440.00)	94%
UU	U01	Telecommunications Services Data	\$6,183.58			
	U02	Telecommunications Services - Voice	\$111,424.62			
	U03	Software & Information Technology Licenses (IT)	\$20.00			
	U04	Information Technology (IT) Chargeback	\$56,476.20			
	U05	Information Technology (IT) Professionals	\$0.00			
	U06	Information Technology (IT) Cabling	\$1,556.72			
	U07	Information Technology (IT) Equipment	\$21,247.22			
	U09	Information Technology (IT) Equip Rental Or Lease	\$0.00			
	U10	Information Tech (IT) Equipment Maintenance & Repair	\$10,411.09			
	U11	Information Technology (IT) Contract Services	\$3,611.36			
	U12	Information Tech (IT) cloud services	\$22,308.00			
	UU Total		\$233,238.79	\$210,000.00	\$23,238.79	111%
<b>Grand Total</b>			<b>\$21,326,524.17</b>	<b>\$22,968,187.00</b>	<b>(\$1,641,662.83)</b>	<b>93%</b>

# **FY2024 Final Revenue**

**DCR Division of Water Supply Protection  
Office of Watershed Management  
FY2024 Revenue Summary**

Revenue Budget	Description	July	August	September	October	November	December	Total Collected Revenue Period 1-6
2024/0300/WMP1/DCR/0500	INTERMENT FEES	\$0.00	\$0.00					\$0.00
2024/0300/WMP1/DCR/3148	FISH & BOATING/DEER HUNT	\$33,388.00	\$37,958.00	\$18,112.00	\$10,296.00	\$150.00	\$192.00	\$100,096.00
2024/0300/WMP1/DCR/4000	RENTS		\$70.46				\$40.76	\$111.22
2024/0300/WMP1/DCR/4500	FORESTRY SALES	\$0.00	\$0.00				\$86,749.00	\$86,749.00
2024/0300/WMP1/DCR/6900	MISCELLANEOUS							\$0.00
2024/0300/WMP1/DCR/6901	REIMBURSEMENTS							\$0.00
2024/0300/WMP1/DCR/6995	HYDROPOWER/TR LINES	\$80,663.99	\$44,543.52	\$58,255.79	\$74,552.54	\$50,089.68	\$73,060.91	\$381,166.43
<b>TOTALS</b>		<b>\$114,051.99</b>	<b>\$82,571.98</b>	<b>\$76,367.79</b>	<b>\$84,848.54</b>	<b>\$50,239.68</b>	<b>\$160,042.67</b>	<b>\$568,122.65</b>

Revenue Budget	Description	January	February	March	April	May	June	Total Collected Revenue
2024/0300/WMP1/DCR/0500	INTERMENT FEES	\$1,031.00	\$924.00	\$35.00	\$75.00	\$776.00	\$475.00	\$3,316.00
2024/0300/WMP1/DCR/3148	FISH & BOATING/DEER HUNT	\$225.00	\$5,315.00	\$7,480.00	\$15,161.00	\$41,298.00	\$30,845.00	\$200,420.00
2024/0300/WMP1/DCR/4000	RENTS						\$225.30	\$336.52
2024/0300/WMP1/DCR/4500	FORESTRY SALES					\$150.00	\$1,625.00	\$88,524.00
2024/0300/WMP1/DCR/6900	MISCELLANEOUS	\$300.00		\$200.00			\$2,500.00	\$3,000.00
2024/0300/WMP1/DCR/6901	REIMBURSEMENTS							\$0.00
2024/0300/WMP1/DCR/6995	HYDROPOWER/TR LINES	\$38,062.05	\$446.51	\$445.68	\$446.22		\$446.22	\$421,013.11
<b>TOTALS</b>		<b>\$39,618.05</b>	<b>\$6,685.51</b>	<b>\$8,160.68</b>	<b>\$15,682.22</b>	<b>\$42,224.00</b>	<b>\$36,116.52</b>	<b>\$716,609.63</b>

# **FY2024 Final Land Acquisition**



**DCR Division of Water Supply Protection  
FY2024 Office of Watershed Management Land Acquisitions**

DCR acquired control of 565.3 additional acres of watershed land in FY24. DCR utilized \$949,000 of MWRA funds on land acquisition in FY24 to purchase the control of 364.7 acres of land. There were two gifts made to DWSP of just under 16 acres. Approximately 42% of these lands, 238.3 acres, were fee transactions, while the remaining 326.9 acres were Watershed Preservation Restrictions (WPR).

***Quabbin Reservoir and Ware River Watersheds***

Owner	Town	File #	Acres	Fee/ WPR	Date Recorded	MWRA/Gift/ Other*	Price
Greenmantle Tree Farm, Inc	Petersham	W-001243	123.4	Fee	7/19/2023	MWRA	\$470,000
Greenmantle Tree Farm, Inc	Hubbardston	W-001244	74.6	Fee	7/19/2023	MWRA	\$130,000
Mass Audubon	Wendell	W-001238	101.6	WPR	7/21/2023	MWRA	\$153,000
Chivian & Jacobson	Petersham	W-001256	8.9	WPR	12/22/2023	Gift	\$0
Hempel	Rutand	W-001241	6.8	WPR	2/12/2024	Gift	\$0
Whetstone Wood Trust Fund (f/Gentl)	Wendell	W-001247	35.6	WPR	5/30/2024	MWRA	\$135,000
Gentl	New Salem	W-001249	1.5	Fee	5/30/2024	MWRA	\$6,000
Salloom	Wendell	W-001257	19.3	Fee	6/14/2024	Other	\$33,000
Insight Mediation Society, Inc.	Barre	W-001254	174.1	WPR	6/17/2024	Other	\$485,000
<b>Sub-Total</b>			<b>545.8</b>				<b>\$1,412,000</b>

***Wachusett Reservoir Watershed***

Owner	Town	File #	Acres	Fee/ WPR	Date Recorded	MWRA/Gift/ Other*	Price
Harper Family Revocable Trust	Sterling	W-001248	10	Fee	9/20/2023	MWRA	\$55,000
Mary M. Dale Living Trust	Boylston	W-001259	9.5	Fee	6/12/2024	Other	\$70,000
<b>Sub-Total</b>			<b>19.5</b>				<b>\$125,000</b>

\* Other represents DCR Capital and Grant funds

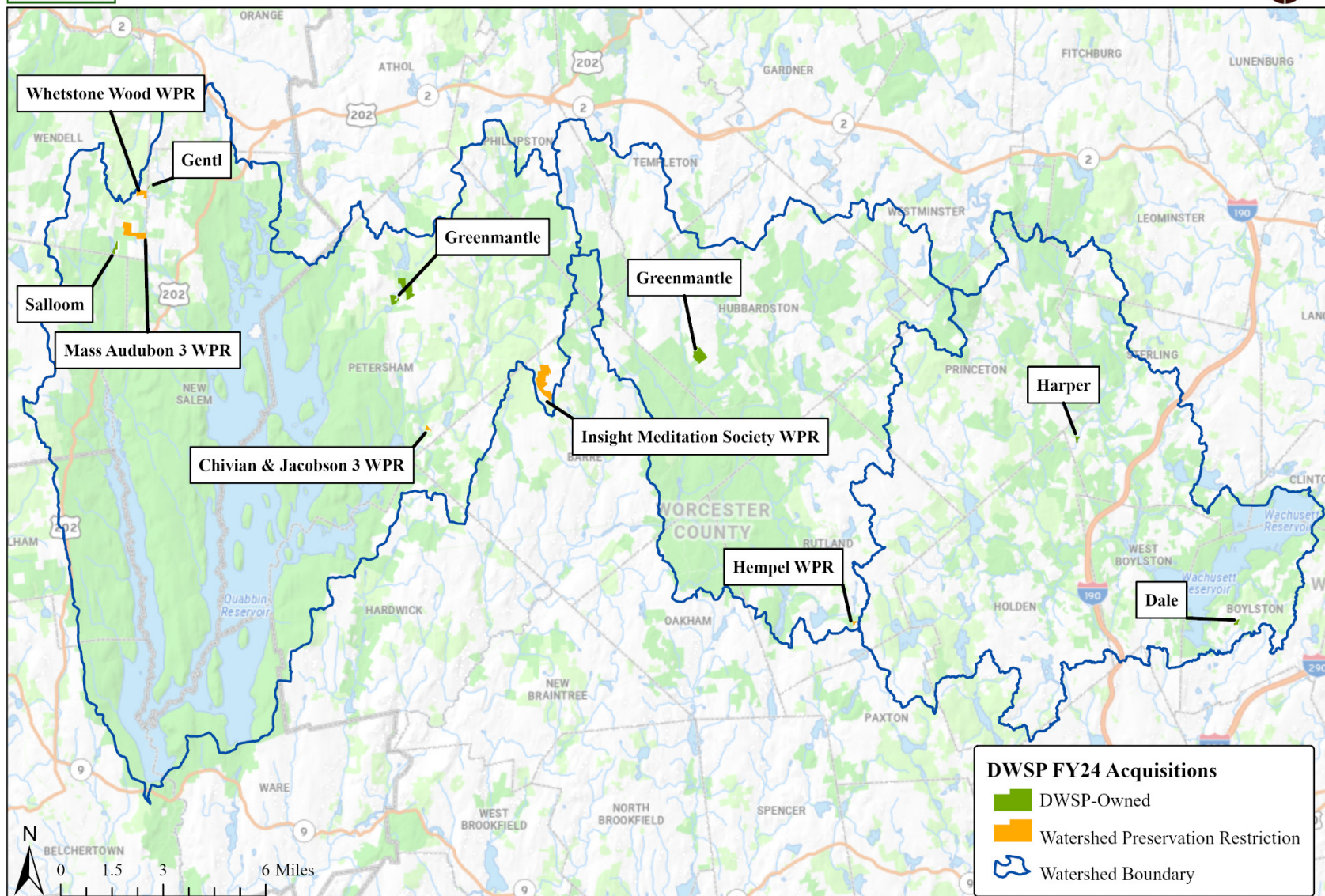
***TOTAL FY24 LAND ACQUISITIONS***

Category	Acres	Amount
<b>Total</b>	<b>565.3</b>	<b>\$1,537,000</b>
<b>Sub-Total MWRA</b>	346.7	\$949,000
<b>Sub-Total Gifts</b>	15.7	\$0
<b>Sub-Total Other</b>	202.9	\$588,000
<b>Sub-Total Fee Acquisitions</b>	238.3	\$764,000
<b>Sub-Total WPR Acquisitions</b>	327.0	\$773,000



# DCR Division of Water Supply Protection

*Fiscal Year 2024 Land Acquisitions and Watershed Preservation Restrictions*



DCR/DWSP/OWM GIS 2024

**FY2024 Final**

**Payments in Lieu of Taxes**

**DCR Division of Water Supply Protection  
Office of Watershed Management**

**FY2024 Payments in Lieu of Taxes (PILOT)**

**The total PILOT paid under MGL c. 59, s. 5G for Fiscal Year 2024 was \$8,492,447.70.**

This figure represents a 0.2% increase over the FY23 PILOT. This amount is less than the 1.6% to 3.5% estimated increase to \$8.6 – \$8.8 million presented in the FY2024 Work Plan. The main reason for the lower actual total is that every town in the watershed system had their tax rates decrease in FY24, except for two towns that had over 5% increases.

FY24 PILOT utilized the valuations set by the Department of Revenue (DOR) in 2017 that are subsequently adjusted every other year, starting in FY20, using DOR's Equalized Valuation method (EQV). EQV percentages are calculated by DOR for every community to determine the full and fair cash value in the municipality. This revaluation process was established by the Municipal Modernization Act, St. 2016, c. 218. FY2024 PILOT utilized the valuations set by the Department of Revenue (DOR) that were adjusted by EQV.

Three acquisitions were added to the PILOT payment process: Pellachia (Leominster - 24 acres; Sterling - 11 acres); Cusanello (Princeton - 163 acres); and Keller (Barre - 3 acres; Petersham 64 acres). These three parcels accounted for \$7,280 increase in PILOT, or 0.1% of total PILOT.

Five towns had increases to their PILOT. The hold harmless clause maintained payment levels in FY24 for the remaining communities, totaling \$1,899,127.

DWSP coordinated with DOR's Division of Local Services to make PILOT information available to municipalities and the public through [DOR's municipal gateway](#).



Department of Conservation and Recreation  
Division of Water Supply Protection  
Office of Watershed Management  
FY24 Payments in Lieu of Taxes  
February 2024 FINAL

Community	FY23 PILOT	Total 2023 Property Valuation	FY24 EQV	Total FY24 Property Valuation	Assessed Acres	Valuation per Acre	2022-2023 Acquisitions (acres)	Added Valuation for Acquisitions	Total 2024 Property Valuation	FY24 Tax Rate	FY24 Minimum PILOT Due	FY24 PILOT	Hold Harmless	Increase	% Increase
Barre	\$186,168.60	\$7,285,700	1.1511	\$8,386,569	5,420.9	\$1,547	3	\$4,641	\$8,391,200	\$13.98	\$117,308.98	\$186,168.60	\$68,860	\$0	0.0%
Belchertown	\$257,074.40	\$13,853,400	1.1070	\$15,335,714	3,190.2	\$4,807	0	\$0	\$15,335,700	\$15.32	\$234,942.92	\$257,074.40	\$22,131	\$0	0.0%
Belchertown - Annexed Lands	\$50,625.10	\$1,845,400	1.1070	\$2,042,858	670.0	\$3,049	0	\$0	\$2,042,900	\$15.32	\$31,297.23	\$50,625.10	\$19,328	\$0	0.0%
Berlin	\$61,155.00	\$2,250,000	1.0915	\$2,455,875	46.6	\$52,746	0	\$0	\$2,455,900	\$25.45	\$62,502.66	\$62,502.66	\$0	\$1,348	2.2%
Boylston	\$599,930.50	\$37,874,400	1.1442	\$43,335,888	2,758.2	\$15,712	0	\$0	\$43,335,900	\$13.81	\$598,468.78	\$599,930.50	\$1,462	\$0	0.0%
Clinton	\$205,948.72	\$7,874,300	1.1214	\$8,830,240	469.2	\$18,819	0	\$0	\$8,830,200	\$21.81	\$192,586.66	\$205,948.72	\$13,362	\$0	0.0%
Framingham	\$261,930.91	\$5,974,800	1.1386	\$6,802,907	235.4	\$28,904	0	\$0	\$6,802,900	\$25.41	\$172,861.69	\$261,930.91	\$89,069	\$0	0.0%
Hardwick	\$123,021.36	\$8,368,800	1.0711	\$8,963,822	4,686.9	\$1,913	0	\$0	\$8,963,800	\$12.62	\$113,123.16	\$123,021.36	\$9,898	\$0	0.0%
Hardwick - Annexed Lands	\$941.41	\$42,500	1.0711	\$45,522	150.0	\$303	0	\$0	\$45,500	\$12.62	\$574.21	\$941.41	\$367	\$0	0.0%
Holden	\$919,615.57	\$41,613,100	1.1080	\$46,107,315	3,910.4	\$11,791	0	\$0	\$46,107,300	\$14.15	\$652,418.30	\$919,615.57	\$267,197	\$0	0.0%
Hubbardston	\$380,387.00	\$27,170,500	1.1153	\$30,303,259	8,671.4	\$3,495	0	\$0	\$30,303,300	\$11.79	\$357,275.91	\$380,387.00	\$23,111	\$0	0.0%
Leominster	\$8,688.49	\$208,300	1.1688	\$243,461	42.5	\$5,723	23.76	\$135,981	\$379,400	\$14.51	\$5,505.09	\$8,688.49	\$3,183	\$0	0.0%
Ludlow	\$10,524.06	\$239,600	1.0657	\$255,342	50.8	\$5,026	0	\$0	\$255,300	\$18.09	\$4,618.38	\$10,524.06	\$5,906	\$0	0.0%
Marlborough	\$112,802.46	\$2,544,000	1.0917	\$2,777,285	570.4	\$4,869	0	\$0	\$2,777,300	\$17.66	\$49,047.12	\$112,802.46	\$63,755	\$0	0.0%
New Salem	\$520,470.61	\$19,493,800	1.0906	\$21,259,938	22,462.7	\$946	0	\$0	\$21,259,900	\$14.37	\$305,504.76	\$520,470.61	\$214,966	\$0	0.0%
New Salem - Annexed Lands	\$201,603.91	\$6,696,200	1.0906	\$7,302,876	11,580.0	\$631	0	\$0	\$7,302,900	\$14.37	\$104,942.67	\$201,603.91	\$96,661	\$0	0.0%
Northborough	\$103,466.89	\$5,982,100	1.1026	\$6,595,863	360.9	\$18,278	0	\$0	\$6,595,900	\$14.28	\$94,189.45	\$103,466.89	\$9,277	\$0	0.0%
Oakham	\$147,067.60	\$11,362,700	1.1267	\$12,802,354	2,537.1	\$5,046	0	\$0	\$12,802,400	\$11.08	\$141,850.59	\$147,067.60	\$5,217	\$0	0.0%
Orange	\$11,567.60	\$605,000	1.1341	\$686,131	82.8	\$8,287	0	\$0	\$686,100	\$17.44	\$11,965.58	\$11,567.60	\$0	\$398	3.4%
Pelham	\$338,086.39	\$12,009,300	1.0685	\$12,831,937	5,974.0	\$2,148	0	\$0	\$12,831,900	\$17.52	\$224,814.89	\$338,086.39	\$113,272	\$0	0.0%
Pelham - Annexed Lands	\$38,096.61	\$863,800	1.0685	\$922,970	1,080.0	\$855	0	\$0	\$923,000	\$17.52	\$16,170.96	\$38,096.61	\$21,926	\$0	0.0%
Petersham	\$296,721.61	\$11,373,500	1.1331	\$12,887,313	12,230.2	\$1,054	64	\$67,439	\$12,954,800	\$14.30	\$185,253.64	\$296,721.61	\$111,468	\$0	0.0%
Petersham - Annexed Lands	\$203,305.78	\$5,676,600	1.1331	\$6,432,155	10,000.0	\$643	0	\$0	\$6,432,200	\$14.30	\$91,980.46	\$203,305.78	\$111,325	\$0	0.0%
Phillipston	\$11,912.74	\$164,200	1.1803	\$193,805	162.8	\$1,191	0	\$0	\$193,800	\$11.98	\$2,321.72	\$11,912.74	\$9,591	\$0	0.0%
Princeton	\$316,538.43	\$20,187,400	1.0823	\$21,848,823	3,133.8	\$6,972	162.91	\$1,135,811	\$22,984,600	\$14.03	\$322,473.94	\$322,473.94	\$0	\$5,936	1.9%
Rutland	\$525,860.45	\$26,659,600	1.2036	\$32,087,495	6,489.0	\$4,945	0	\$0	\$32,087,500	\$14.83	\$475,857.63	\$525,860.45	\$50,003	\$0	0.0%
Shutesbury	\$299,391.54	\$8,145,800	1.0579	\$8,617,442	5,097.2	\$1,691	0	\$0	\$8,617,400	\$17.81	\$153,475.89	\$299,391.54	\$145,916	\$0	0.0%
Southborough	\$317,481.16	\$19,501,300	1.0909	\$21,273,968	1,310.6	\$16,232	0	\$0	\$21,274,000	\$13.91	\$295,921.34	\$317,481.16	\$21,560	\$0	0.0%
Sterling	\$830,606.50	\$54,466,000	1.1455	\$62,390,803	5,211.4	\$11,964	10.95	\$131,006	\$62,521,800	\$13.31	\$832,165.16	\$832,165.16	\$0	\$1,559	0.2%
Templeton	\$1,082.18	\$63,000	1.2210	\$76,923	92.1	\$836	0	\$0	\$76,900	\$12.60	\$968.94	\$1,082.18	\$113	\$0	0.0%
Ware	\$193,261.40	\$7,572,300	1.1365	\$8,605,919	4,845.0	\$1,776	0	\$0	\$8,605,900	\$16.33	\$140,534.35	\$193,261.40	\$52,727	\$0	0.0%
Ware - Annexed Lands	\$167,580.62	\$5,099,700	1.1365	\$5,795,809	3,865.0	\$1,500	0	\$0	\$5,795,800	\$16.33	\$94,645.41	\$167,580.62	\$72,935	\$0	0.0%
Wendell	\$33,047.28	\$1,422,000	1.1725	\$1,667,295	654.7	\$2,547	0	\$0	\$1,667,300	\$22.15	\$36,930.70	\$33,047.28	\$0	\$3,883	11.8%
West Boylston	\$683,581.59	\$24,920,076	1.1141	\$27,763,456	2,940.2	\$9,443	0	\$0	\$27,763,500	\$14.78	\$410,344.53	\$683,581.59	\$273,237	\$0	0.0%
Westborough	\$59,780.02	\$3,233,100	1.1022	\$3,563,523	190.8	\$18,679	0	\$0	\$3,563,500	\$16.41	\$58,477.04	\$59,780.02	\$1,303	\$0	0.0%
TOTAL	\$8,479,324.48	\$402,633,800					264.62	\$1,474,877			\$6,593,321	\$8,492,447.70	\$1,899,127	\$13,123	0.2%

NOTES:

1. Watershed PILOT, per MGL c. 59 s.5G, is determined by multiplying the DOR valuation by the local commercial tax rate.

Property valuations available at [https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR\\_WaterShedLand](https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR_WaterShedLand) and [https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR\\_WatershedAnnexLand](https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR_WatershedAnnexLand).

Tax rates available at [https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=PropertyTaxInformation.taxratesbyclass.taxratesbyclass\\_main](https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=PropertyTaxInformation.taxratesbyclass.taxratesbyclass_main).

Full PILOT calculations available at [https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR\\_PILOT](https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR_PILOT)

2. The process used by MA Department of Revenue (DOR) for valuing State Owned Land (SOL – which includes DCR Watershed Management ) under MGL c. 58 changed in FY 19. Under this process, DOR determined a base year SOL valuation for each community as of January 1, 2017. After a hearing and appeal process, base year SOL valuations were finalized. Going forward, the base year valuations are adjusted every two years by a percentage equal to the change in a city or town's equalized cash value (EQV). Valuations are also updated annually to include the value of any acquisitions and/or dispositions in a community. Total Property Valuations are rounded to the nearest 100.

3. "Hold Harmless" is a provision in the legislation that requires any payment never to be less than the previous year's payment. Therefore, if either valuations or tax rates drop, the municipality is guaranteed a consistent payment.

4. Acquisitions added: Pellachia (Leominster - 24 acres; Sterling - 11 acres); Cusanello (Princeton - 163 acres); Keller (Barre - 3 acres; Petersham 64 acres).