



January 30, 2023

Dave Coppes
Chief Operating Officer
Massachusetts Water Resources Authority
Charlestown Navy Yard
100 First Avenue
Boston MA 02129

RE: Transmittal of Quarterly Progress Report
Second Quarter, FY2023 (October 1 – December 31, 2022)

Dear Mr. Coppes:

Pursuant to the provisions of Section 2.4 of the Memorandum of Understanding (MOU) between our agencies, executed and effective as of April 27, 2004, enclosed please find the Quarterly Progress Report for the second quarter of Fiscal Year 2023 covering the period from October 1 – December 31, 2022. This progress report highlights FY2023 Work Plan activities for the quarter. Copies of the Quabbin\Ware and Wachusett\Sudbury reports from Smartsheet are attached. In addition, the quarterly ranger interaction tables are included with this submittal.

Staff worked through the quarter to implement the tasks in the FY2023 Work Plan. This includes stream and reservoir sampling, watershed monitoring, and forest management activities in the watersheds, wildlife control activities on all watersheds including management of hunting across the watersheds with a controlled hunt on Prescott Peninsula, and ranger oversight of public access activities.

In addition to the attached work plan updates, some highlights from activities in the quarter are outlined below.

- A 67-acre parcel of land in Petersham and Barre was acquired this quarter. Twenty three land acquisition projects are currently underway at various stages of completion (12 in Quabbin, five in Ware River, and six in Wachusett). In addition, due diligence work continued for the acquisition of parcels across the three watersheds.
- Staff continued work on development of the next Watershed Protection Plan (FY24-28), sharing the first draft of the plan with MWRA staff. The plan will be completed by the end of FY2023 for implementation on July 1, 2023.
- Monitoring of wildlife in the watersheds continued. The active Gull Programs are underway at both Quabbin and Wachusett Reservoirs. Staff oversaw deer hunting across



all four watersheds including the first controlled hunt on Prescott Peninsula in five years. Final deer removal numbers will be available in the third quarter.

- Staff continued water quality monitoring in the reservoirs and tributaries. This included phytoplankton sampling in both reservoirs, nutrient sampling in the reservoirs and tributaries, in-person and Mayfly water quality measurements in tributaries, and collection of groundwater quality samples
- Foresters finalized FY23 forestry lot proposals which were approved by the Commissioner in this quarter.

Wachusett/Sudbury Region

- Rangers continued to monitor public access across the watershed. Rangers logged 3,412 visitor contacts through the quarter, with 111 violations recorded.
- Work on the Salt Reduction Program at Wachusett continued. FY23 grants were awarded to the towns of Sterling, Paxton, West Boylston and Holden, totaling \$36,015.
- The process continued for the update of the Wachusett Watershed Public Access Management Plan. An initial public listening session to gather comments was held virtually on October 25, 2022. Staff worked to develop a draft of the plan.
- Interpretive Services and Watershed Rangers offered a total of 16 programs, with an attendance of over 3,600 participants, including October 9 Dam Day at Wachusett Dam.
- Consultant report was received on aquatic invasive plants in the South Meadow Pond complex in Clinton. Plant density has increased dramatically, which will require more extensive work in 2023. A meeting with MWRA staff to discuss this issue will occur in the third quarter before decisions are made.

Quabbin/Ware Region

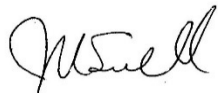
- Rangers continue to patrol actively in the Quabbin and Ware River watersheds. Staff reported 9,446 visitor contacts across both watersheds with 105 violations recorded.
- Foresters continue to oversee logging operations in the Quabbin and Ware River watersheds and boundary marking along property lines.
- Work continues on the window replacement project at the Quabbin Administration building. Documents haven been submitted to DCAMM for review prior to the contract being bid.
- The Quabbin Boat Launch Areas closed for the season in mid-October with a successful year of boat fishing free of major incidents or water quality problems. The Boat Seal program moved to the winter quarantine inspection process later in the quarter.

- Staff continued to work with MWRA on the new well for the Administration Building, with the completion expected in the 3rd quarter. MWRA's construction contract is nearing completion.

Watershed staff continue to work diligently on the hiring process to fill vacancies in our staffing. It has been challenging to raise the FTE count, with promotions and departures creating new vacancies. At the end of the year, the FTE count was at 142. Staff are working to fill the remaining positions to meet the goal of being fully staffed.

Please let me know if there are any questions.

Sincerely,



John M. Scannell
Director, Division of Water Supply Protection

Cc: Rebecca Tepper, Secretary, EOEEA
Doug Rice, Commissioner, DCR
Nick Gove, Deputy Commissioner, DCR
Fred Laskey, Executive Director, MWRA
Vandana Rao, EOEEA Water Policy
Lou Taverna, Water Supply Protection Trust
William J. Meehan, Water Supply Protection Trust
Fred Heyes, Water Supply Protection Trust
Joseph Favaloro, Director, MWRA Advisory Board
Valerie Moran, MWRA Waterworks Director
Stephen Estes-Smargiassi, MWRA Planning
John Gregoire, Reservoir Operations, MWRA
Kathy Baskin, DEP
Yvette DePeiza, DEP
Dan Clark, Regional Director, Quabbin/Ware
Kelley Freda, Regional Director, Wachusett/Sudbury
Ken MacKenzie, Natural Resources Director

Wachusett/Sudbury FY 23 Second Quarter Report



| Description | Oct. 1 - Dec. 30 Accomplishments |
|---|---|
| A. Land Acquisition | |
| 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. | No projects went to record this quarter. Six projects are currently underway at various stages of due diligence: four fee projects in Sterling (5 acres, 10 acres, 28 acres, and 150+ acres), a 40-acre fee project in Princeton, and a 44-acre fee project in Rutland. |
| Develop individual parcel presentation materials and meet with MWRA Board for approval. | Two Wachusett projects were approved by the MWRA Board on December 14: a 10-acre fee acquisition in Sterling, and a 40-acre fee acquisition in Princeton. |
| Communicate with and convene LAP meetings to review parcels and prioritize land purchases. | A virtual LAP meeting was held on 10/24. Two Wachusett fee projects were approved. |
| Use the LAP Prioritization Model to identify priority parcels in the watersheds. | Work to identify priority parcels is ongoing. |
| 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 a proposed donation of a 44-acre fee transfer in Rutland. |
| Establish regularly scheduled land/legal meetings to address attorney assignments and project logistics. | Meetings with legal are ongoing. |
| B. Watershed Preservation Restriction Monitoring | |
| Monitor WPRs on a regular basis, following monitoring procedures | WPR Coordinator and Regional Monitors completed 8 WPR monitoring visits. WPR Coordinator assisted Regional Monitors with training, monitoring visits, and report writing. WPR Coordinator reviewed all monitoring reports completed by Regional Monitors. WPR Coordinator continued piloting Aerial Monitoring software, and completed 2 monitoring reports using the software. |
| 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 baseline reports completed this quarter. Baseline field work was completed for one WPR and a draft baseline report is in process (Thorell 2). |
| Meet with Restriction Stewardship Working Group and confer with legal to respond to enforcement issues and requests to exercise reserved rights. | Restriction Stewardship Working Group met once this quarter. |
| Track changes in landownership for WPRs. | WPR Coordinator and Regional Monitors continued to check landownership prior to scheduling monitoring visits. |
| Explore additional ways to reach out to landowners through the use of social media and web-based content. | WPR Coordinator and Jim Taylor began brainstorming ideas for spring issue of E-news and StoryMap. |
| Implement WPR records procedure with DCR records manager | Ongoing |
| C. Land Management | |
| Implement the system-wide comprehensive Land Management Plan (LMP). | Review and updates to LMP ongoing this quarter. |
| 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. | Completed regeneration and terrestrial invasive species sampling of all seven proposed lots. Started writing narratives. |
| 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 CLMP, including wildlife, forestry objectives, and environmental quality. | No work this quarter. FY23 proposals approved in December. |
| Present annual forest harvest proposals a public meeting. Publish Online Public Review document/story map. Accept public comment and respond as needed. | No activity this quarter. |
| 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. | Prepared two lots on a combined 135 acres and showed them at the November showing. |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|--|--|
| 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. | Supervised five lots on 223 acres of which two lots on 70 acres were completed. |
| Monitor water quality (turbidity) at active harvesting stream crossing sites to measure effectiveness of BMPs. | 1 Post-harvest monitoring site visit conducted. 1 turbidity sample collected (4.42 NTU), entered into Survey123 and imported to database. |
| Continue to implement long-term paired watershed monitoring to assess impact of DWSP forest management on tributary water quality. | Monthly dry weather samples collected Oct-Dec. Historical flow data work completed to correct discharge estimates using a rating correction based on weirs. More data correction for Holden storm events needed. |
| Conduct periodical regeneration and invasive species surveys to monitor forest health and development resulting from silvicultural activities or other natural disturbances and processes. | No activity this quarter. |
| Conduct periodic reviews and monitoring of land management activities and forest conditions to assure compliance and consistency with Land Management Plan. | Ongoing analysis of CFI data in preparation for 5-year LMP review. |
| Collect data and maintain GIS datalayers 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. | Ongoing as needed. |
| 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. | Ongoing as needed. |
| Locate, mark, and maintain property boundaries periodically and as needed. | With the completion last year of the first cycle of the maintenance of the property boundaries in the Wachusett watershed, the decision was made to begin the maintenance of the property boundaries in the Sudbury watershed. Some of these boundaries had first been blazed and tagged in about 2009 but there were no records kept showing specifically which had been done. There are approximately 23.7 miles of maintainable boundary line in the North Sudbury watershed. During this quarter, 13.1 miles were maintained, all of which had previously been marked in 2009. |
| Develop scope of work and manage contracted property boundary survey work. | Stewardship money became available. Survey scope was developed and RFQ sent out on Combuys. |
| Document and pursue resolution of all property boundary encroachments. | Rangers continue to monitor report and process all encroachments into DWSP database. Consult with management when resolutions are needed. |
| Identify, plan, and oversee non-forest or other unique habitat restoration, field reclamation, and maintenance work. | All fields scheduled to be mowed this quarter were mowed according to the FY2023 Mowing plan, including the JAH pollinator fields. |
| 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. | No activity this quarter. |
| Collect data and maintain datasets, GIS datalayers, and related maps and reports of rare and listed plants and communities. | No activity this quarter. |
| If available, use unmanned aerial system (UAS) to document forest conditions, map openings, identify invasive plant populations, assess internal road conditions, or conduct other 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. |
| Continue to work with DCR Asian Longhorned Beetle Program and USDA to oversee beetle eradication in watershed areas. | No activity this quarter. |
| Hazardous Tree Removal | Responded to numerous potentially hazardous tree inquiries from abutters in both Wachusett and Sudbury watersheds. Submitted work order requests or referred to DCR-BOF tree crew as needed. 15 hazardous trees were removed along River Road in Clinton during this quarter. Received a complaint via MassParks about 1 dead tree along the Causeway on Rte. 85 in Southboro. Unclear whether this is our responsibility or the Town. Several e-mails with Southboro DPW Director who believes this is our responsibility and it has been added to the list to be taken down. |
| Maintain deer exclosures and sample vegetation periodically to assess impacts of herbivore browsing. | Ongoing as needed. No repairs this quarter. |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|---|---|
| Conducts field inspections of mapped sensitive resource areas, review YOPs and VMPs, and provides comment for ROW Management projects. | National Grid 2023 YOP: Reviewed YOP - No activity proposed in Wachusett Watershed |
| Organize, inventory, and categorize permit, lease, and easement information and enter information into the database. | Continued organizing permits and lease agreements |
| Participate in process to transfer lands surrounding Framingham Reservoirs 1 and 2 to DCR Parks. | |
| D. Wildlife Management | |
| 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 active evening program continued through October with two shore staff and a boat crew operating 5 days per week excluding weekends and holidays. Harassment was successful in moving birds from the North Basin almost every evening. During the second week in November the evening program was altered to operate three days per week. Harassment, primarily from the boat, continued to be successful. |
| Observe and document the nocturnal roost of gulls on the reservoir weekly during the months of September- March. | Roost counts continued at Wachusett Reservoir. Numbers ranged from 0 (12/20) to 1,600 (12/28) with an average of ~615. Observations later in the quarter determined that the roost numbers were highest on evenings when the BHP was operating. |
| Control Canada geese populations at Wachusett Reservoir by treating eggs during nesting season to prevent hatching. | No activity this quarter. |
| Identify places in MA where human derived food is available for gulls and work to prevent feeding through educational signage, interaction and enforcement. | Surveys continued through the quarter. Numbers increased throughout the quarter at sites previously known to NR. |
| Aquatic Mammal Control: Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Wachusett. | Aquatic mammal surveys and trapping commenced this quarter. None were observed in the pathogen zone. |
| Respond to problems of burrowing animals on dams and dikes; take appropriate action. | Dikes and dams were surveyed once this quarter. No new activity was found. |
| Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants. | The annual loon report is in progress. Attendance to the NELSWG subgroup meetings continued. MaWildlife reported a dead loon found at Wachusett by a hiker. DCR wildlife staff located the loon and identified it using the leg band combination. The loon was not in a good condition to collect for necropsy so cause of death is unknown. |
| Continue long-term wildlife resource monitoring program. | Long-term monitoring results were analyzed this quarter and data were presented in a DCR Research Symposium. |
| Work with MA Department of Fisheries and Wildlife (DFW) to survey for and document breeding bald eagles on the reservoir. | No activity this quarter. |
| Plan for the White-tailed Deer Management Program on DWSP lands at Wachusett and Sudbury; Administer the applications, permits, and orientations for the Wachusett Reservoir Zone Deer Hunt | Hunting occurred at both the Wachusett and Sudbury Reservoirs beginning with archery season in October and ended on Dec. 31st, 2022. Analysis of the harvest data is ongoing and the Annual Deer Report will be completed in Quarter 4. |
| Coordinate with the Massachusetts Natural Heritage and Endangered Species Program concerning rare species occurrences and protection | No activity this quarter |
| E. Public Access Management | |
| 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. | Rangers continue to proactively patrol all watershed lands. The second quarter rangers are not writing citations or written warnings. Rangers are addressing violations by education and if necessary eviction. For the Second quarter of FY23, we had 3,412 Visitor contacts, 111 violations reported and 9 Parking tickets written. |
| Continue to cooperate with state, environmental, and local police for help with enforcement when required. | Ranger supervisors and staff continue to work with Massachusetts State police, Environmental police and all local Law Enforcement teams in the watershed. Rangers continue to communicate and make proper notifications to all law enforcement when necessary. |
| Continue to use DCR social media accounts for advertisement of interpretive programs, including general or emergency information (such as closings). | Ongoing. Announcements and upcoming events are sent to DCR press office for approval before submitting to local media. |
| Develop public outreach regarding allowed uses on DCR Wachusett lands. | Rangers continue to inspect conditions and placement of all the rules and regulation signage throughout the watershed. Rangers posted seasonal updates for regulatory hunting and the closing of fishing season where appropriate. |
| Continue updates and improvements to access points with signs, gates and improved parking areas. Conduct regular inspections of gates and access barriers. | Rangers while proactively patrolling will inspect gates, barriers and access points for improvements. Rangers continue to fill out work orders when necessary. Signage at the Foss Reservoir was updated to reflect changes in current access plan to open up previously No Trespass areas to the public. |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|--|--|
| 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. | Sudbury Access plan complete. |
| Continue to conduct "special operations" such as night operations, ATV, and snowmobile operations, as needed. | All ranger staff utilize the equipment provided to ranger staff for various patrols. Rangers use boats when able to and can patrol shoreline perimeter efficiently. Rangers use ATV/UTV to patrol for areas when necessary. |
| Enforce rules and regulations of 313 CMR 11.09 through the use of citations. Issue written warnings and/or non-criminal citations for repeat offenders and serious violations. | Rangers will no longer issue citations or written warnings and will be focusing on educating visitors. Rangers will continue to document all violations that occur and provide enforcement through education to gain compliance. If compliance is not attained then rangers may request law enforcement for removal. |
| Update the Wachusett Public Access Plan | Public listening session took place on October 25 via remote platform. Survey closed on November 30; results have been obtained and they are being compiled. Writing of draft plan began. |
| F. Watershed Security | |
| Maintain an active presence in the watershed. Monitor watershed lands, roadways, and railways for unusual or suspicious activities; provide appropriate response. | All ranger staff are out proactively patrolling and reporting any type of suspicious person, vehicle or activity to appropriate authorities. |
| Continue ongoing communication and coordination with local, state, and federal emergency responders; coordinate with MWRA on all security issues. | Rangers continue to communicate with MWRA staff and Security group on any issues that a response is needed. |
| Continue program of enhancing security infrastructure around Wachusett Reservoir. | Rangers continue to make suggestions for improvements to infrastructures around the reservoir. |
| Inspect, maintain, and monitor gates, barways, and signage throughout the watersheds for security and access control. | Rangers continue to fill out work requests when repairs are needed to any gate, sign or pipe gates to maintain access and control points. |
| G. Infrastructure | |
| 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. | Continue to Perform monthly inspections. |
| 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. | Continue to check beaver activities at Unionville dam and performed inspection on small dams. |
| 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. | On-going |
| Develop annual plan for internal road repair/reconstruction projects. | To be developed in 3rd quarter. |
| Conduct road, stormwater BMP's, and dam maintenance/repair projects using in-house staff and resources. Provide oversight to ensure protection of water resources. | On-going. Oversaw road work inside Gate 28. |
| Conduct regular inspections of all DWSP BMPs, monitor conditions and maintenance activities, prepare work requests and plans for maintenance and repair projects. | Conducted semi-annual inspection. |
| Evaluate Sudbury watershed access, internal roads and develop work plan, as necessary. | No work done |
| Layout and oversee construction of Sudbury Boat Ramp at East Main Street | Order of Conditions recorded. Expect work to commence in late spring. |
| Provide supervision, coordination, oversight, and technical support or assistance for all engineering, construction, and renovation work in Section. | Ongoing |
| Maintain records and plans regarding property lines, reservoir and facility construction, and maintenance operations. | On-going |
| Implement annual Major Projects | |
| Coordinate with WM to provide access to water quality monitoring stations and perform occasional maintenance activities at stream gages | Coordinated as needed. Station access maintained on a fixed schedule with WM. |
| Evaluate and coordinate the monitoring of facilities for compliance with state and federal regulations. Develop and update required documents, as necessary | Updated spill training presentations to prepare for annual spill training of staff in third quarter. |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|--|--|
| Maintenance of forest roads, dams, dike, fields, parking areas, drainage structures, snowplowing, boat launch areas, and other management activities. | Ongoing |
| Prioritize and schedule online workorders for division staff and add to daily work plan. | Watershed Maintenance completed 55 work requests in the second quarter. |
| Assist division staff with specific workorders as needed. | Ongoing |
| Maintenance of grounds at MWRA facilities as needed. Clinton (Cosgrove), Oakdale (Shaft One) | Ongoing. |
| Conduct building maintenance activities, including painting, carpentry, cleaning, minor repairs, and other routine maintenance | Building Maintenance completed (29) work requests in the second quarter. 2 JAH men's/women's restrooms at JAH converted to gender neutral restrooms. Started work to create a mother's room at JAH. |
| 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. | Rewired deer trailer for NR; Sealed floor in room 218; Replaced Clinton garage toilet; Installed plywood at new salt shed; Removed MWRA docks; Ordered 2 new circulators for boat cove; Repaired sign at Res. 1; Repaired parts on nest boxes; Constructed wall on stage at JAH; Repaired signs at Old Stone Church; Started and maintaining heating systems; Multiple minor maintenance repairs. |
| H. Watershed Protection Act | |
| Continue implementation of the WsPA. | Staff processed Requests for Advisory Rulings and Applicability Decisions. The WsPA database was updated to reflect all new applications and updated information such as changes to status of projects, new construction, and ongoing decisions. |
| Convene the Watershed Protection Act Working Group regularly to discuss policy and address specific problems related to the WsPA | WsPAWG met virtually on November 22, 2022 |
| Review permits for watershed towns on a monthly basis with letters sent to property owners of affected parcels. | Building permits were reviewed on a monthly basis to determine if any projects required WsPA review. |
| 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. | Staff reviewed property transfers to determine if they were located in WsPA jurisdiction. |
| Review files from previous year on an ongoing basis, including contact with owners and site visits as needed. Emphasis placed on monitoring active variances. | Letters and emails sent to property owners and applicants in December requesting updates of their construction projects. Also, emails were sent for septic repair projects requesting as-built plans and Certificates of Compliance from the Board of Health. |
| Provide Town Halls with WsPA maps, brochures and applications on a regular basis. | No towns were contacted this quarter. |
| I. Education and Outreach | |
| Review, implement, and amend the Wachusett Interpretive Services Plan. | Conducted interpretive programming and presentations. Developed lesson plans for school visits in the Sudbury Watershed. Collaborated with professors to create Local Waterways field trip. |
| Coordinate Educational and Outreach programs | Interpretive Services and Watershed Rangers offered a total of 16 programs with an attendance of over 3,600 participants including October 9 Dam Day. Collaborated with staff on creating educational videos. Completed Vernal Pool Video https://youtu.be/ClkpJqa5Z3Q Developed and incorporated new Dam Day activities. Added new October Sunset Walk, a scenic walk encouraging stewardship. |
| Maintain and enhance kiosks and bulletin boards throughout the watershed. | Kiosk posters were maintained. New Salt Reduction posters were distributed and posted to kiosks. Posters include QR code linking to the Salt Reduction video online. Watershed Education brochures were updated with coming events and distributed. |
| Perform inventory of signage and make recommendations for improvements and additions of stewardship signs | Rangers have recommended and replaced many signs throughout the watershed. We continue to update signs at the reservoirs to reflect the changes in the public access plan. |
| Analyze and update current brochures. Determine need for new brochure topics and develop as needed. | No updates to current brochures are required as information and web links remain valid. No new brochures needed at this time. |
| Partner with other organizations on watershed programs | Maintained relationships with local hiking groups and cross-promoted events with a shared mission of stewardship and water conservation. Attended MEES board meetings. |
| Provide educational materials, teacher training, and support for Mass Envirothon | Attended Steering Committee and Curriculum Committee Meetings. Assisted with site walkthrough and planning for the Envirothon competition in May. |
| Maintain and update website with relevant news and information | Website updated regularly. Wachusett programs listed in timely manner. Alert banners posted for short-term information. Meeting information for Wachusett related events, including Water Supply Protection Trust and annual deer hunt, published in required time frame. |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|---|---|
| Organize existing photographs and develop an inventory of new photos for Sudbury Watershed | No updates on this task. |
| J. Water Quality and Hydrologic Monitoring | |
| Perform routine tributary sampling twice per month (bacteria, turbidity, field parameters) (WATTRB) | Sampling completed as expected, twice per month. |
| Perform Nutrient, Chloride and TSS sampling every month at 10 tributaries, including field parameters (and Shaft 1 when Quabbin transfer is active.) (WATMDC) | Sampling completed as expected, once per month. |
| 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 16 phytoplankton samples were analyzed 10/1 - 12/31. 12 profiles were collected; 5 at Basin North, 3 at Cosgrove Intake, 2 at Basin South, and 2 at Thomas Basin. Sampling was conducted every other week and in conjunction with reservoir nutrient collection. No phytoplankton events were encountered during this quarter. |
| Conduct quarterly reservoir nutrient sampling | Maximum stratification and post-turnover reservoir nutrient samples were collected on October 11 and November 29, respectively. |
| Conduct reservoir bacteria transect sampling monthly or more frequently in conjunction with gull harassment program. | Transects collected twice per month (Oct-Dec) |
| Produce annual water quality report and document changes to sampling plan in the report. | No activity this quarter |
| 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. | All gages operational for entirety of Q2. Sterling Groundwater observation well converted to real-time automated measurement. |
| 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. | Mayfly stations operational at 5 out of 6 locations. Muddy Brk back online, Waushacum Brk only has HOB0 at end of Q2. Monthly groundwater monitoring continues. No snowpack measurements in Q2. Ratings updated for Long-term forestry sites. |
| Generate solute loading estimates for flow monitored tributaries. Expand to include smaller tributaries and Quabbin transfer when sufficient data has been collected. | WRTDS model troubleshooting continued briefly. More work on this needed, but priority is low. |
| 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. | EQ staff met with UMass in October to receive progress updates on research topics. Salt use information collected by DCR was shared with UMass, and separate discussions were held on that topic to explain the information collected to date. DCR provided review and shared comments on a draft manuscript on the assessment of contaminants in a drinking water supply watershed prior to being submitted. |
| 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. | Met with MWRA staff in water quality data meetings to discuss data sharing on focused water quality questions and current topics. Plan to re-evaluate algae early monitoring triggers next quarter. Planned spring WQSAT meeting with MWRA. |
| 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. | Corresponded with local DPWS about salt training, grant program possibility of RWIS systems in the watershed, and shared experiences with new equipment. Presented an update on salt related progress to MWRA at Res Ops. Met with UMass to discuss salt use totals, research focus, and analysis of spatial specific conductance data. |
| Continue reservoir-wide data collection to increase understanding of reservoir dynamics including stratification, interflow, and distribution of phytoplankton. | No activity this quarter. |
| Continue monitoring stormwater basins at Rt 12/140 intersection for water quality, algae, invasive species, and mosquito larva. | Monthly monitoring continued. |
| 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. | Continued support of WAVE/WIT applications. Minor bug fixes in TribTools data correction module Survey123 Apps updated to account for field blank/duplicate samples and processing/import scripts updated accordingly. |
| Complete data compilation/interpretation for 30+ Year Water Quality Report (1988-2018) and publish. Include assessment of impacts of climate change on water quality and hydrology. | No progress. This effort has been postponed until WsPA and EQ databases can be brought up to date and revamped. |
| Ongoing field/lab equipment/supply management (including maintenance and calibration) | 1 new cable assembly received. Calibration report finished and will be run every month to confirm device calibrations are acceptable. |
| Update and maintain water quality and hydrologic monitoring SOP documents | Updates underway to account for field duplicates/blanks added to WATTRB and WATMDC projects |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|--|--|
| Develop Quality Assurance Project Plan (QAPP) for Water Quality and Hydrologic Monitoring Programs | All QAPP comments addressed. Draft QAPP finalized and sent to MWRA quality control officer and lab/EQ staff for review/comment. No comments provided by MWRA. |
| Continue to work with MWRA, Quabbin EQ, NEIWPC and other stakeholders to characterize cyanobacteria and cyanotoxins in the reservoir. | Biologists continued to screen for cyanobacteria during routine plankton sampling. No elevated concentrations were detected this quarter. |
| Initiate development of a plan for HAB response in the watersheds. | No activity this quarter. |
| Conduct benthic macroinvertebrate sampling, continue identification and assessment of historic samples. | Processing of data for the Quinapoxet River stations was prioritized in consideration of expanded macroinvertebrate research surrounding the Quinapoxet Dam removal. |
| Continue cooperative study of current population status, life history, and sustainable yield of lake trout. | The Lake Trout mark-recapture program continued in collaboration with MassWildlife over three nights in November. 119 fish were caught, including 9 fish that were recaptures. 5 total fish were not tagged due to size or mortality. The total number of Lake Trout caught over the history of the program increased to 1,021, and 789 unique tags have been deployed. The data collected will be added to the DCR and MassWildlife databases and used for modeling population health and size, and for creating length-weight curves. |
| Conduct basic fish monitoring in the reservoir and watershed in collaboration with MA DFW. Assess goals and explore optimal sample methods with MA DFW. | DCR and MassWildlife have continued cooperating on ongoing projects including the Lake Trout mark-recapture program, restoration of Malden Brook, and the Creel Survey. |
| Conduct creel survey during the 2022 fishing season (April – November) and begin Creel Report. | Staff completed the creel survey with the conclusion of the reservoir fishing season on November 30. 2,031 anglers were surveyed by DCR and MassWildlife staff. Lake Trout was the species most often reported as caught, which aligns with results collected in 2011, 2012, and 2017. Analysis of survey results will continue through FY24. |
| Develop a study to identify trends in the long-term phytoplankton and water quality data sets and identify variables influencing these dynamics. | Investigation of phytoplankton-associated taste and odors as well as cyanotoxin results is underway in conjunction with MWRA-EnQual with the goal of revising current algal response protocols ahead of the 2023 growing season. |
| Determine needs for stormwater sampling based on analysis of historical data. Sample storm events as determined necessary. | No activity this quarter |
| Investigate the use of eDNA for water quality applications including bacteria source tracking and invasive species. | Invasive species detection with eDNA is under consideration as part of the new AIS plan. New vendor search for MST will begin next quarter. |
| K. Watershed Monitoring and Assessment | |
| 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. | RD has reviewed information and has spoken with Town officials and several neighborhood residents about a potential 40B development and water quality concerns not within WsPA jurisdiction. EQ staff investigated the following:(no water quality issues) Hazardous materials dumped near DWSP property, car accident on Thomas Street, fire at Lilac hedge farm, water main break on Raymond St. Holden. The following things still need to be watched: old fire trucks parked near West Boylston Brook and need to watch for animals at old Thompson Garden location. |
| Provide technical assistance to state and municipal boards and commissions. | Worked with engineer and reviewed revised plans for landscaping/winter snow operations for 200 Turnpike Road, Southboro. Division concerns about brine and salt storage addressed. Letter provided to Planning Board and Conservation Commission. |
| Review files in EQ database and resolve any inconsistencies with paper records. Maintain records of all water quality related issues and EQ actions taken in EQ database. Make improvements to structure and data as needed | A new AGOL database schema has been developed. Agriculture and CGP files will be removed from the EQ database and managed in stand alone applications. Beta test of the new database to go live in January 2023, with a proposed timeline of migration of historical data to the new platform in February 2023. Target completion date of March 2023. |
| Manage the Wachusett Watershed Hydrology Mapping Project. Project proceeds within selected subwatersheds and subbasins. | No activity this quarter |
| Complete Gates Brook District EQA and use recommendations to develop tasks for FY24 Work Plan. | No work has occurred on this task this quarter due to EAIII vacancy |
| 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. | RD has spoken with Quabbin RD re: collective working group for PFAS issues. 3 new releases in Sudbury Watershed. One new release in Wachusett Watershed. |
| Inspect all agricultural operations in Gates Brook District and continue to compile an inventory of agricultural sites in Wachusett/Sudbury using iPad app | 3 new agricultural sites have been added to the agricultural application. No agricultural sites have been monitored this quarter. |
| Develop and implement outreach strategies and programs for topics identified through EQAs | No work has occurred on this task this quarter due to EAIII vacancy |
| 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 | Monitored updated research conducted and available online. |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|--|--|
| 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. | No yet accomplished. Regularly review/check MassDOT ProjectInfo. |
| L. Aquatic Invasive Species | |
| Prioritize and conduct surveys of watershed/local waterways to inspect reservoirs, lakes, ponds, and tributaries for presence of aquatic invasive species. | Data gathered during the 2022 season was reviewed in preparation for the annual report. |
| Conduct surveys, gather information, and make recommendations for management actions on an individual basis if/when new infestations are found in accordance with the Wachusett AIS management plan. | DCR biologists and rangers continue to monitor for the Tilapia which were illegally released into the reservoir in July. The fish are not expected to survive the winter and have not been observed since turnover. Surveys for these fish or any new introductions will continue in the spring. |
| 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. | A contractor report on 2022 survey results and management recommendations for South Meadow Pond was received. The primary management action recommended is continuation of fluridone treatments to target Hydrilla using a strict treatment schedule that starts earlier in the season. Budget adjustments are advised and RFPs for this work will be forthcoming in Q3. |
| Continue to use appropriate methods to prevent the spread of Phragmites along the reservoir shoreline. | No additional work was required this quarter due to success of management in Q1. |
| Perform aquatic vegetation surveys prior to reservoir AIS management projects. Provide results to MWRA and contractors to guide plant removal efforts. | Results of 2022 observations were shared with MWRA to guide FY24 RFP development. |
| Monitor, advise, and assist contractors with plant removal operations as necessary, including boat decontamination inspections and data management through ArcGIS Online apps. | Plant removal efforts concluded into mid-December. 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 QC diver effort. Annual harvest data was compiled and summarized for MWRA preparation of FY24 RFP development. |
| Enforce the decontamination procedures for all watercraft entering the reservoir by inspecting each vessel and collecting completed decontamination certification forms. | All watercraft inspected prior to launch in the reservoir. |
| Continue to educate ranger and interpretive staff on AIS and other water quality topics for incorporation into routine education program. | No activity this quarter. |
| 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. | No new observations of beaver activity were made this quarter. |
| Update DWSP AIS web pages | Updates are forthcoming and will be ongoing in conjunction with development of the divisional AIS plan. |
| M. Wastewater Management | |
| Provide plan review and interpretation, if requested, to Boards of Health. | Ongoing. No requests from any BOHs this quarter. |
| Compile septic system information (installation date, repair date, location, etc) from watershed communities in wastewater database. Include linked electronic plans where available. | Ongoing. Regularly reviewed minutes and communication with BOHs /Town Clerks to obtain septic inspection info in order to update wastewater database. |
| Obtain sewer connection information from Holden and West Boylston; add to Wastewater database and GIS datalayer | Not yet accomplished. |
| 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. | Bills were issued; no entities have remitted payment. Legal issues continue to make the issue difficult to resolve. The new meter is still being evaluated and accuracy is still being determined. |
| 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). | The judge for the case ruled in favor of the jury's findings. The judge seemingly has ruled that the DCR-Worcester SUA is no longer in effect. DCR legal counsel has a differing opinion, however. Until further instruction is given, billing continues as it has per the 2000 SUA. |
| Evaluate and manage new trunk line connections. Monitor trunk line for encroachments; resolve any problems. | No new requests for sewer connections. No new encroachments have been found or reported. |
| Address I/I issues within trunk and relief sewers per DEP requirements (this is dependent upon DEP acceptance of our I/I submittal). | MWRA crews located and/or raised 6 manhole structures that had not been located during the surface inspection. Pending the final inspections, all info will be submitted to DEP for review and comment. |
| N. Stormwater Management | |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|--|--|
| Treat direct discharges at Rt 110 Sterling | DCR crews dug DOT required test pits for subsurface exploration |
| Continue to work with towns and private landowners for regular maintenance of BMPs to ensure proper performance, inspect BMPs on a 5 year rotating basis and recommend maintenance or repairs as needed. | No activity this quarter. |
| 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. | No work has occurred on this task this quarter due to EAIII vacancy |
| Create geometric network in ArcGIS to route stormwater flows through drainage network. | No activity in Q2. |
| Modify subbasin lines in ArcGIS based on results of Wachusett Watershed Hydrology Mapping Project. | No activity this quarter |
| Conduct regular inspections of all construction sites greater than one acre. | Ongoing. Regularly monitor CGP sites for site compliances and check NPDES site monthly for status of permits. |
| Conduct culvert assessments for culverts identified in Gates Brook District and add information into NAACC database | No culvert assessments were conducted this quarter. |
| O. Emergency Response | |
| Provide and coordinate ICS, emergency response and safety trainings to appropriate staff. Work with other agencies to provide trainings and exercises | Trainings including two dam safety, two small boat operator and two boom deployment were conducted with 58 attendees. Developed draft AAR-IP for Unionville Pond Dam Tabletop Exercise. |
| Continue work with local DPWs to identify locations of concern, evaluate options for BMP installation, and ways to cooperatively implement recommendations. | No work has occurred on this task this quarter due to EAIII vacancy. |
| Update information in the Comprehensive Emergency Management Plan, Training & Exercise Plan, EAPs, and other emergency response plans. | Developed draft AAR-IP for Unionville Pond Dam Tabletop Exercise. |
| Organize and maintain emergency response supplies and services. | Cleaned CB tubes and placed new CB covers in trailers |
| Provide and coordinate ICS, emergency response and safety trainings to appropriate staff. Work with other agencies to provide trainings and exercises | Unionville Pond Dam Tabletop Exercise was conducted with 31 attendees from DCR, SWREPC and Pare Corporation. |
| 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 | None occurred. |
| P. Support | |
| 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. | Draft FY24 work plan developed; FY24 major projects reviewed and modified as a result of AIS South Meadow Pond study results and additional funding needed in FY24. |
| Administer the Payment in Lieu of Taxes (PILOT) program. | Completed work with DOR to establish online gateway for PILOT data: https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR_PILLOT . Initial figures for FY23 generated. Letter requesting funds from MWRA will be ready for delivery in early January; most towns will have set their tax rate by that time. |
| 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 Maps remain functional through upgrades to ArcGIS Online and mobile apps. | <p>WsPA database work completed. Read only version of database and tools rolled out to other EQ staff and a training was held in mid-November. Training documents were also provided to staff for reference. Started working on building out new EQ database - completed the following items: New database schema designed, hosted feature layer published, data entry and data update forms created, data exploration dashboard, in-depth file review and field map/site visit form created. Basic "management hub" created for staff to easily access tools and workflow written to guide staff through the new processes. Beta testing begins in early Q3. Minor upgrades, maintenance and troubleshooting provided to staff on an as-needed basis for other projects.</p> <p>Attended Fall NEARC conference and presented work on WsPA database migration from Access to AGOL. Connected with consultant Whiteout Solutions which provides LiDAR data acquisition/analysis for forestry operations, and with UCONN CLEAR on their watershed assessment tool. Have since connected with both outside of conference and scheduled meetings and demonstrations.</p> |

| Description | Oct. 1 - Dec. 30 Accomplishments |
|---|---|
| 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 EEA ArcGIS Online Best Practices. | Minor revision made to layer of WsPA Affected Parcels after WsPAWG meeting; removed some parcels which are no longer affected and clipped WsPA buffers to new watershed boundaries. |
| Provide staff with training in desktop, mobile and online GIS applications. | Training materials developed for WsPA database management workflow and preliminary materials developed for new EQ database management workflow. In very early planning stages of a second round of ArcGIS Pro training for staff - we hope this to be available by June 2023. |
| Train staff in GIS on an as-needed basis to provide knowledge needed to complete basic GIS-related tasks. | Began developing Editing in ArcGIS Pro training documents. |
| Assist staff with GIS-related projects by providing maps, data analysis, data exports and data collection. | Provided staff with updated Wachusett Watershed Map reference maps. |
| 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. Ensure newly publish data are added as a new record to the DWSP Data Inventory spreadsheet, which is shared with users via MS Teams. Ensure that a layer file is created for ArcGIS Pro and added to the appropriate location in the DWSP-GIS Team. | Maintenance to Data Inventory & Online data available to staff completed as necessary. AGOL governance completed to ensure public-facing content properly attributed. |
| Create parcel maps for Land Acquisition Coordinator meetings with landowners and MWRA board. Create and maintain one Story Map per Land Acquisition Panel meeting, with one section per potential property. | Completed LAP story maps for the Carey, Mercurio, Beals, Chivian and Sherwood properties. |
| Complete GIS-related special projects | Continued boundary updates and corrections for DWSP fee-owned properties. Provided Sterling Land Trust with a map for their land acquisition efforts |
| 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. | Office administrative duties; customer service, copying, filing, daily mail distribution, responding to inquiries via phone, emails or in-person. Scheduled meetings and interviews for JAH. Continue to schedule the BHP for units 2 and 3 in collaboration with the BHP coordinator. Scheduled of unit 9 as needed in the absence of the coordinator. Processed office supply/apparel orders in collaboration with the Accountant. Trained on how to navigate the Fleet Wave Vehicle Management System. Granted access to modify information on the employee portal/survey 123. Tracked and filed reports for mileage and vehicle repairs. Participated in the interview and hiring process for positions available in units 2 and 3. |
| Provide payroll assistance and personnel services for all Section employees. | Continued providing payroll assistance and personnel services for all section employees. |
| Provide contract administration, financial management, record-keeping, purchasing of goods and services, and other financial support services. | A total of 49 encumbrances were submitted and a total of 210 invoices were paid for Wachusett. Notable purchases in the 2nd quarter include River Rd. Hazard Tree Removal, Push to Exit Buttons & Receiver for Access System at JAH, Annual Fire Extinguisher Inspections/Service, Furniture for "Quiet Room" at JAH and Winter Jackets for Wachusett, NR & Boston Staff. A total of 3 encumbrances were submitted and a total of 5 invoices were paid for NR. |
| Coordinate with EEA IT to provide local MIS support for the Section. Update IT Plan as required addressing technology needs for the coming year. | Continued communication with IT/EOTTS for the addition of 3 Mayfly stations to Verizon data plan. Verizon unable to locate information needed to add to our account, waiting on manufacturer of equipment to provide to IT/Verizon. Assisted staff as needed with IT for small technology issues, use of office space without Wi-Fi or network access. |
| Training to Administer Logging Permit program, including mailings, bid openings, financial management, database management, permit and key issuance, etc. | Completed training and started working with the RD, DRD and Forester to update files and assist with bid recording. Reviewed the database for lots nearing completion, unpaid balances, bonds expiration dates and notified Forester. Prepared and mailed correspondence to loggers after the DR's review and signature. Updated electronic and physical files. |
| Plan and implement vehicle and equipment purchases and leases. | Received mini-excavator with vegetation management equipment. Still have not received new Ford F-150 (ordered in August 2021). RFQ sent to vendors to purchase a single-drum roller, hope to receive by 30JUN23. RFQ sent to vendor to purchase a stainless-steel sander. No response from vendors. |
| 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. | Garage staff completed 53 work requests in the second quarter. |
| Complete watershed-wide vulnerability assessment to identify potential impacts of climate change on the water supply | No work has been completed on this task; waiting for state-wide guidance to complete. We should have a better idea of what we need to take into consideration once Protection Plan Update is completed with a new section regarding climate change. |
| Develop the new 5 year Watershed Protection Plan | Work proceeded throughout start of quarter. Working group met on 11/2/2022 to discuss status for completing components of first draft. These components were integrated into a full first draft that will be reviewed and lead to the development of a second draft in 3rd Quarter. |

Quabbin/Ware FY 23 Second Quarter Report



Update on selected tasks in Quabbin/Ware workplan for October 1 to December 31, 2022.

| Task # | Task Description | Quarterly Progress |
|---|--|--|
| A. Land Acquisition | | |
| 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. | A a 67-acre fee project in Petersham and Barre (Keller) went to record this quarter. Seventeen projects are currently underway at various stages of due diligence including: a 40-acre WPR and 8.9-acre WPR in Petersham; a 45-acre fee project in Petersham; an 168-acre WPR in Barre; a 30-acre fee project in Hardwick; a 29.1-acre fee project, 103-acre WPR, 30-acre WPR, and 18-acre WPR in Wendell; a 70-acre fee project and 6.8-acre WPR in Rutland; an 128-acre fee transfer in Petersham; 70-acre, 7.5-acre and 50-acre fee projects in Hubbardston; a 47-acre WPR in Hubbardston, 35 acre WPR in Wendell and New Salem; and a 1.5 acre fee transfer in New Salem. Twelve projects are in Quabbin; five projects are in Ware River. |
| 2 | Develop individual parcel presentation materials and meet with MWRA Board for approval. | One Quabbin project was approved by the MWRA Board on November 16: a 101-acre WPR acquisition in Wendell (Quabbin). Three Quabbin projects were approved by the MWRA Board on December 14: a 1.5-acre fee acquisition in New Salem, a 30-acre WPR in Wendell and New Salem, and a 35.5-acre WPR in Wendell. |
| 3 | Communicate with and convene LAP meetings to review parcels and prioritize land purchases. | A virtual LAP meeting was held on 10/24. One Quabbin fee project, one Quabbin WPR project, and one Ware River WPR project were approved. |
| 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 ongoing projects, work continues on three proposed donations (40-acre WPR in Petersham, 30-acre fee transfer in Hardwick, 6.8-acre WPR in Rutland) and four proposed bargain sales (168-acre WPR in Barre, 70-acre fee transfer in Rutland, and 70-acre, 7.5-acre and 50-acre fee transfers in Hubbardston). Work has begun on an additional 8.9-acre WPR donation in Petersham. In total, three donations are in Quabbin and one in Ware River, and one bargain sale is in Quabbin and four are in Ware River. |
| B. Watershed Preservation Restrictions | | |
| 1 | Monitor WPRs on a regular basis, following monitoring procedures, to meet schedule of monitoring WPRs every 1-3 years. | WPR Coordinator and Regional Monitors completed 14 WPR monitoring visits, including 1 Forest Legacy visit. WPR Coordinator assisted Regional Monitors with training, monitoring visits, and report writing and continued training two new monitors. WPR Coordinator reviewed all monitoring reports completed by Regional Monitors. WPR Coordinator continued piloting Aerial Monitoring software, and completed 3 monitoring report using the software. |
| 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. | No baselines completed his quarter. Baseline field work and draft report started for 1 WPR that has yet to close (Petrie). |
| C. Land Management | | |
| 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.. | Field work has begun on Quabbin/Ware River FY24 Forestry Lot Proposals. |
| 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. | Three lots were laid out and marked. Cutting plans have been prepared. The lots will go out to bid in March. |
| 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. | Four forestry lots were supervised and successfully completed. An additional three forestry lots are currently active and being supervised. |
| 9 | Continue to implement long-term paired watershed monitoring to assess impact of DWSP forest management on tributary water quality. | EQ met sampling goals for quarterly event-based sampling and monthly routine samples. A draft summary of results from the calibration period is being finalized. Analytical tools continue to be developed to streamline final reporting. |

| Task # | Task Description | Quarterly Progress |
|-------------------------------|--|--|
| 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 for seven lots. Past regeneration data was consolidated, analyzed, and presented to forestry and NR staff to facilitate discussions about success of management in terms of regenerating diverse species. |
| 13 | Complete assessments on all new land acquisitions, including descriptions of fire/access roads, bridges, restoration needs, and forest conditions. Integrate these lands into land management, public access, and other watershed management programs. | Gathered survey and other info for new acquisition "Keller" property. |
| 14 | Locate, mark, and maintain property boundaries periodically or as needed. | Assisted CE with development of survey contract bids. Several boundary issues were identified and relayed to CE. |
| 17 | Identify, plan, and oversee non-forest or other unique habitat restoration, field reclamation, prescribed fire implementation and maintenance work. | Successfully burned 3 fields on the Prescott Peninsula (15 acres). Worked with Watershed Maintenance on prepping firebreaks at Barre heath. Worked on Gays Hill Burn Plan; started Pine Plains Barren and Rutland fields burn plan. Took photopoints before and after of areas burned. |
| 18 | Maintain the non-silvicultural lands described in the land management plan (e.g., viewsheds, gravel pits). | Activity in Hardwick pit (hauling to stockpile before restrictions/weather stop operations). Viewsheds next qtr. Actively working in the barre heath gravel pit after restrictions have been lifted. Removing top soil and hauling off material. Also spent time improving the pit road. |
| 20 | Collect data and maintain datasets, GIS datalayers, and related maps and reports of rare and listed plants and communities. | Ginny worked with NHESP on monitoring and collection of purple milkweed seed pod for propagation. |
| 21 | If available, use a UAS (unmanned aerial system) to document forest conditions, map openings, identify invasive plant populations, internal road conditions, or other activities. | UAS flights are underway to monitor the gull roost. We have not received approval from EEA to expand the UAS flights to other projects for forestry. |
| 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 | Data QA/QC ongoing. Updated harvesting disturbances on CFI plots. Entered and assembled consistent records for regeneration and sapling data collected over the years. Continued updating documentation of efforts for report appendices. |
| 23 | Update and Implement Quabbin Park Operation and Maintenance Plan | Planning stage of the Quabbin Park Operation and Maintenance plan. A new mower with collection unit has been delivered and awaiting a hover mower for hillside maintenance. We will train the staff and utilize this equipment. |
| 24 | Implement Quabbin and Ware River Road Management Plan | Working on WR RMP. Approximately 15 miles of road on Prescott was graded and/or built up in preparation for the controlled hunt. Unfortunately, the 1st day of the hunt saw warm and wet weather which caused quite a bit of damage and will need to be regraded when weather permits. Removal of downed trees and limbs is always ongoing. Roadside mowing is ongoing currently in Petersham. Approximately 40 acres of fields were mowed this quarter. Field mowing was completed for the year. Governors woods culvert was reinstalled and road repaired. |
| D. Wildlife Management | | |
| 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. | The BHP was scheduled twice a week starting on October 3rd. Of the 26 days active harassment took place just once on December 27th. |
| 2 | Observe and document the nocturnal gull roost on Quabbin Reservoir. | Gull roost observations began on October 5th utilizing drones to photograph and document the nocturnal roost on the Quabbin Reservoir. Roost counts conducted weekly. There were 13 successful weekly drone flights to count gulls roosting on the Quabbin Reservoir this quarter. Number of roosting gulls ranged from 24 (Oct. 25) to 814 (Dec.27). Weekly roost counts with DOT will continue next quarter. |
| 4 | Identify places in MA where human derived food is available and work to prevent feeding through educational signage, interaction and enforcement. | Regional gull surveys continued into this quarter. No new feeding areas were identified this quarter however, two new loafing locations were identified. |
| 5 | Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Quabbin. Address beaver concerns outside the control zone. | Pathogen control zone stream surveys continued into this quarter. There were 3 beavers removed from the Aquatic Wildlife Pathogen Control Zone at Quabbin this quarter. Two beavers were removed outside of the control zone. |
| 7 | Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants. | The annual loon report is in progress. Attendance to the NELSWG subgroup meetings continued. |
| 8 | Continue long-term wildlife resource monitoring program. | All long-term monitoring projects for 2022 were completed and all data is currently being reviewed. The annual Prescott beaver survey took place on November 13th and any remaining surveys were completed by staff the following week. The Prescott shoreline was surveyed on November 10th. The annual report is in progress. |
| 10 | Administer the applications, permits, and orientations for the annual Quabbin Controlled Deer Hunt; analyze results of hunt. | The Quabbin Deer Hunt was run in Pelham, New Salem, and Hardwick from Monday, Nov 30th through Saturday, Dec 10th, 2022. Additionally, a controlled hunt was conducted on the Prescott Peninsula on December 7th and 8th 2022. Data will be collected and analyzed next quarter. Permits were awarded to 618 hunters for the Pelham, Hardwick, and New Salem Hunt Zones. The Prescott Peninsula hunt awarded 390 hunters to hunt the controlled hunt. Active photography, camera traps, and visual surveys were done to document activity including age, sex, and condition of moose on the Prescott Peninsula (research update attached). The Quabbin moose survey took place during the Prescott hunt and the data is in review. |

| Task # | Task Description | Quarterly Progress |
|------------------------------------|---|--|
| 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 and eagle nest monitoring. |
| E. Public Access Management | | |
| 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). | Watershed Rangers proactively patrol watershed lands to ensure compliance with DCR regulations and policies 7 days a week. Watershed Rangers tallied a total of 9,446 visitor contacts and 105 violations for second quarter. Quabbin Rangers tallied a total of 7,135 visitor contacts and 53 violations. Ware river tallied a total of 2,311 visitor contacts and 52 violations. |
| 3 | Use Agency social media accounts for advertisement of interpretive programs, including general info or emergency info (e.g., closings). | IS staff have begun our annual review the Quabbin section of the agency website to assure there is accurate information available to the public. We continue to provide the agency social media account managers with information to further educate the public about watershed management and water supply. |
| 4 | Continue to implement Quabbin and Ware River Public Access Management Plans. Enforce rules and regulations of 313 CMR 11.09 through the use of citations. Issue written warnings and/or non-criminal citations for repeat offenders and serious violations. Complete semi-annual Compliance and Enforcement Reporting to MassDEP. | Two new kiosks have been installed at the Visitor Center parking lot and at the Tower parking lot. These two locations are heavily visited and provide a good opportunity to educate the public about the reservoir history and management. |
| 5 | Regular meetings of the Signage Committee. | Quarterly meeting was conducted in November to review projects completed, underway and planned. Budget constraints to procure materials and supplies for Divisionwide projects were also discussed and investigated resulting in updated budget worksheet and updated Major Project Schedule to include future signage projects. |
| 8 | Oversee data management for Quabbin Boat Seal Program | 2022 fishing season data went through routine year-end QA/QC and summarization to inform annual reporting. Coordination on workflows continues between EQ and GIS staff. Coordination between Admin, GIS, Ranger, and EQ staff continues into 2023 to develop accurate boat operator data and streamline data sources related to the QBS program. |
| 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. | Rangers swapped out the signage at the Long Pond kiosk, focusing attention on restricted winter-time activities (fires and motorized vehicles on the ice). Signage placed at all of the ponds indicating to use caution as "Ice Thickness Not Tested." December saw few freeze-over dates for ice fishing, but some activity took place. MEOs placed the jersey barrier at Comet Pond to prevent motor vehicles from driving onto the ice. |
| 13 | Manage public access permits for large groups, short-term vehicles, etc. | The online permitting system has streamlined our efforts. We will continue providing information to groups in the Ware River Watershed area regarding permit requirements. |
| 14 | Finalize Ware River Public Access Management Plan Update | Plan still in the public review stage. |
| F. Watershed Security | | |
| 1 | Continue regular ranger patrols to provide watershed security. Perform regular security checks at key access points and MWRA facilities. Use daily logbooks to record all encounters and violations. Produce periodic reports. | Watershed Rangers continue regular ranger patrols to provide watershed security. Perform daily security checks at key access points and MWRA facilities. Use daily e-logs to record all encounters and violations. Produce periodic reports. |
| 4 | Work with local state and federal responders to ensure current agency emergency contact information. | FY23 Spill Response Trainings are scheduled and some completed - majority are scheduled for Spring 2023. All trailers are inventoried monthly and replacement supplies are requested from MRA (all materials requested have been received). DRD and Ranger Cpt. are scheduling a meeting with State Control before April to update maps and contact lists following several incidents were wrong DCR (arks and DWSP) staff have been contacted by State Control. |
| G. Infrastructure | | |
| 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. | CE staff accompanied GZA Consultants and MWRA staff on Phase I Compliance inspections of the Quabbin Reservoir Dams on October 31st. "Turf Repair shut down for Winter. WM crews deployed hydroseeder late Fall as follows: >15 loads on Winsor Dam top tier >2 loads on Dike >1 load at Brigham Pond Dam" |
| 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. | Phase I Dam Inspection report for Asnacomet Pond Dam completed by CE staff and submitted to ODS on December 2nd. CE staff attended a presentation made to the Friends of Quabbin by Michael Weitzer, Master Dry Stone Mason. The presentation was on inspection findings and recommendations for the preservation of the Keystone Bridge in New Salem. Additional follow-up and work to continue. |

| Task # | Task Description | Quarterly Progress |
|--------|--|---|
| 4 | Provide oversight and technical support for engineering, construction, and renovation work in the Quabbin/Ware Region. | <p>Work on the Quabbin Window Replacement Project is ongoing. Work completed this past QTR included:</p> <ul style="list-style-type: none"> >An RFP was solicited in late November to DCR House Doctor Architects for construction support services. Recommended contract award to HKT Architects and authorization of ARPA 1 funds in the amount of \$83,352 to support this effort. > Project delegation request letter signed by Commissioner and sent to DCAMM in November. > DCAMM Certification Study Report sent to DCAMM on Dec 6th for preliminary review. Work by RGB and their subconsultants on the maintenance garage is ongoing. Work completed this past QTR included: >Updated site plan submittal reviewed by DCR and comments provided. >GZA submitted a revised technical memo on Water Treatment Plant design and conceptual layout. DCR offered outreach to MA DEP, review and comments on proposed Lowry treatment system design. > MA DEP issued conditional approval for new well source (1024011-03G) to service the new Maintenance Bldg and existing Stockroom. BRPWS 15 Application had been submitted by Whitewater Inc on August 29th. > DCR submitted a Work Order to NGRID to develop plan to bring 3 Phase power up to the new Maintenance Bldg. >RGB prepares a tech memo on building code review and provides updated construction schedule forecasting construction contract award by December 2023. Work by MA West Inc on the Admin well is ongoing. Milestones achieved this QTR: >Lapinski Electric installed meter socket and new power cable from overhead pole to well control cabinet. >Lapinski Electric received parts for well control cabinet and installed components at Well 02G. >Electrical work inspected and approved by State Electrical Inspector. >MA West installed concrete pad and fencing for new control panel for Well 02G. >NGRID completed tree clearing and install of new overhead pole and 25 KV transformers." |
| 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. | An RFQ was posted in late December for 4 unique contracted surveys through the FWE-SURVEY-19 contract. Surveys are in both Quabbin and Ware River watersheds. PreBid Meeting is 1/11/23 and bids are due 1/20/23. Any awarded projects will be completed by June 30, 2023. Funding is provided by Stewardship. |
| 6 | Conduct building maintenance activities, including painting, carpentry, cleaning, minor repairs, and other routine maintenance. | Painting ongoing 6 new barways, all picnic tables in park, two new kiosks; concrete done at area 2; Two ladders installed on docks to help elderly and people with disabilities from boat to docks at areas 2+3. Ongoing maintenance renovations of BLA facilities; strip and new roof at area 2; Beaver projects including deceivers and culverts; metal procured for more deceivers, Winter boat repairs started ,4 Sani can buoys built, Annual Oar restoration started during winter. Visitor Center two additional displays built and installed; Defibrillator lock boxes installed in fishing areas, 2 office wall renovations in Admin; Ramp boards at launch complete. |
| 7 | Conduct periodic inspections of drinking water sources and septic systems at the various Regional office buildings. Assure compliance with applicable state and federal regulations. | DCR 884 Contract for water operator services awarded to Whitewater Inc in December. Water supply compliance work ongoing. |
| 9 | Develop specifications, bid packages and contracts for facility and infrastructure projects identified in the Major Projects List for FY23. | <p>New Sprinkler Service Contract in Place. FEMA Grant Application for upgrading Emergency Generators at Quabbin Tower and Admin Bldg submitted to MEMA for review. ERI Inc completed De-Leading and epoxy painting of Spillway Stop Log Structure. Backflow Testing Ongoing. Contract for New VC Fountain In Progress. WAC Contracting awarded job to perform exploratory masonry demo and repair work on the Quabbin Tower. Masons from Bricktech Inc were subcontracted to complete the work in November and returned in December to install temporary shoring at two locations where floor beams were structurally compromised. Structural engineers from Stephens Consultants observed and guided the exploratory demo work at the Tower and investigated structural and safety conditions of the building. Stephens made a presentation of structural findings to DCR representatives on December 19th. Final Report submittal draft submitted on December 30th.</p> |
| 13 | Continue to conduct road maintenance activities on DWSP lands. | Ongoing work. Cutting roads and roadsides as weather allows. Will focus on Petersham section and viewsapes in the coming qtrs. 4 miles of roads have been worked and graded in Ware River. Ditching on going. Approximately 7 miles of roads have been brush cut and on going. |
| 14 | Continue to collect data on road conditions and culvert locations. | <p>R. Bates - contractor for the Gate 40 Culvert Upgrade - completed the punch list of items for the project. Final Inspections were completed and DCR Staff Completed an in-house "As-Built" Survey of the site on 11/7/2022. DCR Staff met with the Petersham Conservation Commission on 10/20/2022 and the town issued the Certificate of Compliance on 11/1/22. Additionally, MassDEP permit for the Water Quality Certification was closed out on 10/12/2022. The project was approved for final payment at docket on 12/6/2022. Final step is to record the Certificate of Compliance with the Registry of Deeds.</p> <p>Continued planning and design for the Camel Brook Bridge Upgrade. Various meetings to discuss approach, design and logistics with management, CE Staff and Watershed Maintenance.</p> |

| Task # | Task Description | Quarterly Progress |
|---|---|---|
| 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). | Continued to monitor active pits and extractions. New location in Ware River opened. Continued to evaluate new locations. |
| H. Watershed Protection Act | | |
| 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 7 cases in the Ware River Watershed and processed 6. Received and processed 2 in the Quabbin Watershed. Investigated and resolved several violations in both watersheds. Conducted multiple site inspections in the Ware and Quabbin 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 within WsPA jurisdiction. |
| 3 | Convene WsPA Working Group meetings. | WsPAWG met virtually on November 22, 2022 |
| 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. |
| I. Education and Outreach | | |
| 2 | Staff and operate the Visitor Center at Quabbin to educate visitors about watershed management and related topics. | In the 2nd quarter of FY23, the Visitor Center had 950 visitors on weekends. We also offered 5 public programs throughout the fall for a total of 83 visitors. Quabbin IS staff also coordinated with NR and Forestry staff to offer a site visit to a forestry lot to discuss watershed forestry. This event was very well attended with over 50 people. As we head into the 3rd quarter, we will be offering 8 remote programs which are listed here : https://www.mass.gov/doc/quabbin-visitor-center-events/download We will also be offering outdoor programs. |
| 3 | Continue established programs of public education, including school programs and field trips on DWSP properties. | In FY23 Quabbin IS staff offered 22 programs to schools. 8 of them were virtual programs. Altogether 1,320 students participated in one of our education programs. Two new kiosks have been installed in Quabbin Park and IS staff is in the process of developing several self guided hikes for park trails. |
| 4 | Collaborate with other organizations and watershed communities to reach more diverse audiences. Identify specific groups and their educational needs. | IS Staff have identified two groups in FY23 to focus on connecting with in order to provide a better understanding of watershed management and an accurate history of the creation of the water supply. The first group is water users in the greater metropolitan Boston area often have little to no knowledge of where their drinking water comes from and the history of the system. The second group is residents of the region surrounding the Quabbin Reservoir and Ware River watershed. In the 2nd quarter, IS staff presented two programs through the Osher Life Long Learning Institute, a UMASS Boston program. This audience was made up of individuals from water user towns in the Greater Boston area. Staff also presented three programs through the Hadley Senior Center in outreach to communities around the reservoir. |
| 5 | Maintain self-guided Quabbin Park interpretive trails focusing on natural resource management and water quality protection. | Quabbin IS staff created 5 'signature hikes' that highlight individual trails in Quabbin Park for visitors: Bald Mountain Hill Trail, East Gate Trail-Goodnough Dike Loop, Old Stone Trail, Tower Trail-Webster Road Loop, Visitor Center Loop Trail. After "road testing" by volunteers these will be available for download on the DCR website. |
| 9 | Continue to support and participate in the Envirothon, America's leading natural resource education program for high school students. | The Envirothon committee is in the process of planning and preparing for the 2023 event. |
| J. Water Quality and Hydrologic Monitoring | | |
| 1 | Conduct routine and non-routine water quality sampling and analysis. Evaluate need for sampling before/during Quabbin transfers. | Routine and non-routine sampling and analysis continues. Have not evaluated needs for sampling before/during transfers. |
| 2 | Perform Shaft 8 Intake Zone Inspections prior to MWRA diversions. | Created new survey123 to update inspection process and report production. Reviewed past reports and prepared for first transfer. Piloted new survey with Gary and located required inspection sites. Completed one inspection prior to transfer on 12/19/2022. |
| 3 | Monitor plankton in Quabbin Reservoir. Evaluate need for sampling before/during Quabbin Transfers. | EQ staff in collaboration with Wachusett AB staff continued monitoring plankton in the reservoir while training the new AB staff. Sampling frequency continued to be biweekly in October and based on November phytoplankton densities sampling frequency was reduced to once a month for the remainder of the year (November and December). Last sampling day of 2022 was December 21st. Phytoplankton densities in the second quarter decreased in all sites and all depths except for the epilimnion at 206, where an increase in phytoplankton densities was observed between early October (10/06/22) to mid-November reaching a total of 525 ASU on November 15th. Said phytoplankton community was a mixed community mainly composed of Asterionella, cyanophytes, and chlorophytes. No taxa of concern exceeded the EMT thresholds in the second quarter. |

| Task # | Task Description | Quarterly Progress |
|---|--|---|
| 4 | Collect, interpret, and manage data on reservoir elevations, water transfers and releases. Share data with DWSP staff and MWRA. | <p>Ongoing daily activity. The reservoir elevation continued to trend downwards for the first month of the second quarter. This is likely a result of both active transfer to Wachusett and the critical drought experienced over the summer months. Significant precipitation totals in mid-November through the rest of the calendar year would help Quabbin's elevation rebound.</p> <p>Quabbin Reservoir elevation at the start of the quarter (October 1, 2022) was 523.92 ft, and the quantity of water in storage was 366,000 MG (88.8%). The lowest it would drop this quarter was 522.61 ft (November 27, 2022), and the quantity of water in storage was 356,175 MG (86.4%). The Reservoir elevation at the end of the quarter (December 31, 2022) was 523.41 ft, and the quantity of water in storage was 362,175 MG (87.9%).</p> <p>Quabbin transfer to Wachusett was active for 72 days this quarter, moving approximately 13,000 MG. The Ross valve was active for 42 consecutive days 10/12/2022 - 11/22/2022.</p> |
| 6 | Continue improvements to database app for compiling of water quality, quantity, and other relevant data for data and trend analyses. | Routine data management continues. Effort this quarter include standard organization of historical streamflow records and development of ArcGIS tools for data visualization. New staff are being trained on standard data management practices and collaborating on development of workflows for integrating historical data as well as new project development. |
| 7 | Implement streamflow monitoring at selected sites. Coordinate flow monitoring with annual water quality sampling plan. | Year-end data download and QA/QC was completed at DCR stream gauge sites. Data is being processed and organized. Barometric pressure corrections are being finalized for 2022 data. USGS collaboration on flow-estimate efforts is being established, with pilot efforts beginning winter 2023. |
| 8 | Assist MWRA with the continuous water quality monitoring buoy at Quabbin Reservoir | Provided boat support needed to replace sondes and conduct maintenance, including troubleshooting of battery power. Buoy was taken off the water on 12/6/22 for winter maintenance and storage. Mooring lines were secured and marked with winter buoys. Staff and State Police were notified of buoy removal and no-wake zone near the mooring lines. |
| K. Watershed Monitoring and Assessment | | |
| 1 | Complete Environmental Quality Assessments in the Quabbin Reservoir and Ware River watersheds according to a prescribed schedule. Present EQAs to RD and DRD. | Inspections and draft report work for EQAs have begun. Planning has begun for 2023 AIS surveys. |
| 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. | Inspections are being conducted. Two pieces of the lost ROV found in the screens this quarter. |
| 4 | Coordinate with other agencies to exchange information and review projects in watershed. | MEPA Environmental Monitor was reviewed regularly for projects in watersheds. |
| 5 | Review and comment on Yearly Operational Plans related to herbicide use. Monitor and inspect no-spray and limited spray zones along rights-of-way. | Reviewed and wrote YOP comment letter for work in Quabbin Reservoir watershed. |
| 7 | Monitor ROW maintenance, repair, or replacement projects on DCR lands for water quality problems. | Continued to issue NG access permits. Coordinated logistics for 2 sets of contractors to work on Bassett Island right-of-way. |
| L. Aquatic Invasive Species | | |
| 2 | Continue program to monitor AIS in the Reservoir. | Ongoing planning for AIS monitoring next field season (starting on Spring 2023) |
| 4 | Continue the Quabbin Boat Seal program to minimize the risk of AIS infestation of Quabbin Reservoir. | Data entry and QAQC completed for 2022 Warm Weather Decontamination. Inspections, data entry, and QAQC completed for 2022 Cold Weather Quarantine. Boat Seal program data were summarized in the BLA Report. Starting preparations for 2023 program. Final data entry and QAQC is complete for 2022 boat seal data. Database is up to date with 2022 boat seal data. The final numbers were reported in the 2022 BLA fishing report. In 2022, approximately 8,108 boats were sealed across the 3 BLAs: 2,041 at BLA1, 2,766 at BLA2, and 3,301 at BLA3. The database is currently being cleaned up and prepared for the 2023 fishing season. 160 WWD inspections were completed over 17 dates in 2022. Schedule drafting and coordination for 2023 WWD season is currently underway. |
| M. Wastewater Management | | |
| 1 | Identify potential problem sites or areas through review of local records, water quality data, and other pertinent information. | New staff has been familiarizing with watersheds and data sources and conducted field inspections. |
| N. Stormwater Management | | |
| 2 | Monitor stormwater management in the watersheds. | New staff has attended relevant trainings and begun field monitoring. |
| O. Emergency Response (Preparedness) | | |
| 3 | In conjunction with MWRA, coordinate spill response and/or incident command system (ICS) training to staff. | FY23 training to start in April with BLA attendants and pertinent staff. |

| Task # | Task Description | Quarterly Progress |
|--------|--|--|
| 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. | Coordinated haz waste contractor to pick up abandoned hazmat material on DWSP land in WR. Continued to monitor spill databases monthly. Two new RTNs in the watersheds this quarter- both related to PFAS- RTN 1-21340 Shutesbury Fire dept and RTN 2-22156 Phillipston municipal well. File reviews conducted on both RTNs. |
| 5 | Develop and implement spill response plans for all timber harvesting operations on DWSP lands. | Four spill plans were created for forestry lots. |
| | P. Support | |
| 3 | Provide contract administration and related procurement | Renewed DCR 832 Portable and Composting Toilet Rental and Service Contract. Working in conjunction with other section completed the following major procurements, hazard tree maintenance and removal, fencing/barrier installation Hardwick, and purchase of zero-turn mower. |
| 4 | Keep records and assist in purchasing of goods and services. | Requisitions through COMMBUYS by the Storekeeper IV, from 10/3/22 to 1/3/23, has been \$44,483.85 for section purchases for a total of \$83,022.20 in FY23. |
| 9 | Plan and implement vehicle and equipment purchases in coordination with WA. | Quotes were requested for a mini excavator primarily for use in the Quabbin Cemetery. FY24 vehicle request for quotes in progress Regular coordination occurs with DCR Fleet regarding Fleet repairs and OSD's GPS telematic projects. GPS telematics has become very costly. |
| 10 | Conduct truck, boat, and equipment inspections and maintenance as needed, utilizing Fleetwave. | Completed monthly inspections as needed. Maintenance and repairs are performed daily to keep fleet operating. All 92 outboard motors from BLA areas have been brought back to the garage and are in the process of end of season repairs. Quotes, orders and parts are completed as needed. A new 90HP Mercury outboard was purchased as a replacement motor for one of our rescue boats. There were 7 boats shrink wrapped for winter storage. Received the new SANY loader, loader has been registered and inspected.. |
| 11 | Administer the Payment in Lieu of Taxes (PILOT) program | Completed work with DOR to establish online gateway for PILOT data: https://dls.gateway.dor.state.ma.us/reports/rdPage.aspx?rdReport=BLA.DCR_PILLOT . Initial figures for FY23 generated. Letter requesting funds from MWRA will be ready for delivery in early January; most towns will have set their tax rate by that time. |
| 13 | 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 Maps remain functional through upgrades to ArcGIS Online and mobile apps. | WsPA database work completed. Read only version of database and tools rolled out to other EQ staff and a training was held in mid-November. Training documents were also provided to staff for reference. Started working on building out new EQ database - completed the following items: New database schema designed, hosted feature layer published, data entry and data update forms created, data exploration dashboard, in-depth file review and field map/site visit form created. Basic "management hub" created for staff to easily access tools and workflow written to guide staff through the new processes. Beta testing begins in early Q3. Minor upgrades, maintenance and troubleshooting provided to staff on an as-needed basis for other projects. |
| 15 | Provide staff with training in desktop, mobile and online GIS applications. | Training materials developed for WsPA database management workflow and preliminary materials developed for new EQ database management workflow. In very early planning stages of a second round of ArcGIS Pro training for staff - we hope this to be available by June 2023. |
| 17 | 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. | Attended Fall NEARC conference and presented work on WsPA database migration from Access to AGOL. Connected with consultant Whiteout Solutions which provides LiDAR data acquisition/analysis for forestry operations, and with UCONN CLEAR on their watershed assessment tool. Have since connected with both outside of conference and scheduled meetings and demonstrations. |
| 18 | Provide GIS and GPS services and associated mapping for all Regional plans, reports and projects, as needed. Keep GIS datalayers updated as new information becomes available. | Worked with Ware Rangers on developing new layer, map and Dashboard for highlighting violations and issues in WRW. Goal will be that management can use this to highlight the public access issues within the watershed to support WRW public access plan. Will be finalized in first week of January. |
| 21 | Budget development, maintenance, monitoring, and forecasting (e.g., Operating, Capital when available, Major Projects, other) | Monitored the budget through monthly reporting of Budget vs. Encumbered and Spent, Encumbrance Balance, and Project Status Reporting. Met monthly with the Major Projects Working Group to monitor project status and spending. Met with RD and DRD to review first half of FY 2023 spending and adjusted line-item budget for changes in the environment. |
| 22 | Begin developing the new 5-year Watershed Protection Plan. | Work proceeded throughout start of quarter. Working group met on 11/2/2022 to discuss status for completing components of first draft. These components were integrated into a full first draft that will be reviewed and lead to the development of a second draft in 3rd Quarter. |

Summary of Wachusett Watershed Ranger Interactions

2nd Quarter FY2023

Visitor Contacts: 3,412

Violations: 111

Parking Tickets: 9

| 313 CMR 11.09 | CONDENSED CMRs | # of Violations |
|---------------------|--|--------------------|
| <i>Wachusett</i> | | |
| 2a1 | Entrance/Exit only through gates or designated areas. | 0 |
| 2a2 | Allowed on Watershed land 1 hour before sunrise to 1 hour after sunset | 3 |
| 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. | 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. Collection of berries and mushrooms is allowed for personal use only. | 0 |
| 2a6 | No cooking or fires. | 0 |
| 2a7 | No wading or swimming in reservoir except wading while using boots to launch boats in designated areas. | 0 |
| 2a8 | No wading or swimming in Tributary or Surface Waters, except in designated areas. | 0 |
| 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 | 2 |
| 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. | 3 |
| 2a13 | No animals, except for horses and dogs at Ware River designated areas. | 48 |
| 2a14 | Bicycles, skis and other non-motorized transportation permitted in designated areas only. | 11 |
| 2a15 | No landing aircraft or causing to descend except in an emergency. | 0 |
| 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. | 0 |
| 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 |

| 313 CMR 11.09 | CONDENSED CMRs | # of Violations |
|-------------------------|--|----------------------------|
| 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. | 8 |
| 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. | 13 |
| 2a24 | Any part of the watershed lands may be closed for the public access at any time by the commissioner. | 10 |
| 2a25 | The possession of all types of metal detectors or similar devices is prohibited on all of the Watershed System property. | 0 |
| 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. | 3 |
| 2d2 | Boating is prohibited in Wachusett Reservoir. | 0 |
| 2d3 | Fishing from the shoreline of the Reservoir shall be allowed only during a season designated by the Commission or its designee. | 4 |
| 2d4 | Any violation of 313 CMR 11.09 will be deemed sufficient cause for revocation of fishing privileges for not less than one year | 0 |
| <i>Sudbury</i> | | |
| 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. | 5 |
| 2e2 | Boating is prohibited on Sudbury Reservoir. | 0 |
| TOTAL VIOLATIONS | | 111 |

Summary of Quabbin Watershed Ranger Interactions

2nd Quarter FY23

Visitor Contacts: 7,135

Total Violations: 53

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. | 0 |
| 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. | 0 |
| 2a2 | Allowed on Watershed land 1 hour before sunrise to 1 hour after sunset (with permitted night fishing exception). | 0 |
| 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. | 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. | 1 |
| 2a6 | No cooking or fires. | 3 |
| 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. | 0 |
| 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 | 0 |
| 2a11 | Breach of peace, profanity or other disorderly conduct offensive to general public. No possession or drinking alcoholic beverages | 0 |
| 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. | 0 |
| 2a13 | No animals, except for horses and dogs at Ware River designated areas. | 19 |
| 2a14 | Bicycles, skis and other non motorized transportation permitted in designated areas only. | 0 |

| 313 CMR 11.09 | CONDENSED CMRs | Verbal Warnings |
|---|---|----------------------------|
| 2a15 | No person shall bring land or cause to descend any aircraft within the Watershed except in an emergency. | 0 |
| 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. | 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. | 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. | 6 |
| 2a24 | Any part of the watershed lands may be closed for the public access at any time to protect the lands and waters. | 22 |
| 2a25 | The possession of all types of metal detectors or similar devices is prohibited on all of the Watershed property. | 0 |
| <i>Special Regulations for Quabbin</i> | | |
| 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. | 2 |
| 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 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 | 0 |

| 313 CMR 11.09 | CONDENSED CMRs | Verbal Warnings |
|--|--|----------------------------|
| | 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 personal 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 |
| <i>Special Regulations for Ware River</i> | | |
| 2c1 | WRW Fishing Designated Areas | 0 |
| 2c2 | WRW PWR Boats/PWR Canoes Prohibited | 0 |
| 2c3 | WRW Boat Motor Restrictions | 0 |
| 2c4 | WRW Revocation of Fishing License | 0 |
| TOTAL VIOLATIONS | | 53 |

Summary of Ware River Watershed Ranger Interactions

2nd Quarter FY23

Visitor Contacts: 2,311

Total Violations: 52

Parking Tickets: 2

| 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. | 0 |
| 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. | 0 |
| 2a2 | Allowed on Watershed land 1 hour before sunrise to 1 hour after sunset (with permitted night fishing exception). | 0 |
| 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. | 16 |
| 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. | 16 |
| 2a6 | No cooking or fires. | 6 |
| 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. | 0 |
| 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 | 0 |
| 2a11 | Breach of peace, profanity or other disorderly conduct offensive to general public. No possession or drinking alcoholic beverages | 0 |
| 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. | 11 |
| 2a13 | No animals, except for horses and dogs at Ware River designated areas. | 1 |

| 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. | 0 |
| 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. | 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. | 0 |
| 2a24 | Any part of the watershed lands may be closed for the public access at any time to protect the lands and waters. | 0 |
| 2a25 | The possession of all types of metal detectors or similar devices is prohibited on all of the Watershed property. | 1 |
| <i>Special Regulations for Quabbin</i> | | |
| 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. | 0 |
| 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 personal 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 |
| <i>Special Regulations for Ware River</i> | | |
| 2c1 | WRW Fishing Designated Areas | 0 |
| 2c2 | WRW PWR Boats/PWR Canoes Prohibited | 0 |
| 2c3 | WRW Boat Motor Restrictions | 0 |
| 2c4 | WRW Revocation of Fishing License | 0 |
| TOTAL VIOLATIONS | | 52 |