



Fiscal Year 2021 Work Plan



Boundary marker of a Watershed Preservation Restriction.

June 2020

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



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Fiscal Year 2021 Work Plan
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1. Annual Work Plans

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**Department of Conservation and Recreation
Division of Water Supply Protection
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FY21 Annual Work Plan Highlights

Fiscal Year 2021 is the third year in the implementation schedule for the *DCR Watershed System Watershed Protection Plan FY19-FY23*. Selective land protection efforts will continue through purchase in fee and of Watershed Preservation Restrictions, guided by the new Land Acquisition Model that has been expanded to all three watersheds. The use of GIS and electronic field data collection will continue to streamline numerous protection efforts including implementation of the new WPR monitoring protocols. Staff will continue implementation of the bird harassment programs at both reservoirs to enable DCR to meet source water quality standards. Led by our Watershed Rangers, public access management plans for each watershed and watershed protection regulations will continue to be important tools in our protection efforts. Implementation is expected to begin of the updated Ware River and Sudbury public access management plans, as well as initiating the update process for the Wachusett watershed.

Highlights by Region are included below:

Wachusett/Sudbury Region

- Continue implementation of the system-wide comprehensive Land Management Plan.
- Continue forestry operations. Active forest lots will be monitored by Foresters and Environmental Quality staff to ensure there are no short-term water quality issues related to forestry operations. Continue a long-term, paired watershed study to investigate impact of silviculture on tributary water.
- Maintain lands around the Wachusett Reservoir including vegetation management, mowing, and monitoring of dam and dike structures.
- Conduct the bird control program and continue efforts to manage wildlife in the watershed. Continue measures to reduce food sources and the overall gull population. Continue managing white-tailed deer populations through the controlled hunt and evaluate expansion\possible implementation of the Wachusett Controlled Hunt.
- Continue to maintain Ranger presence to monitor and control public access. Enforce DWSP regulations through targeted patrols and the use of citations. Issue written warnings and/or non-criminal citations for repeat offenders and serious violations.
- Continue to implement the Wachusett Internal Road Plan, including routine maintenance and upgrades to higher priority roads.

- Continue to manage, track, and assign work orders through AGOL Work Order Hub. This paperless system helps streamline work orders in a more time efficient system.
- Contract for removal of structures on purchased lands. Begin planning for riparian buffer restoration on the Kush property in Sterling.
- Monitor and maintain major dams in the system, as well as smaller watershed dams.
- Monitor and analyze water quality, including monthly sampling of tributaries for bacteria, turbidity, temperature, and specific conductance. Continue monthly or more frequent sampling for nutrients and total suspended solids at tributaries. Continue weekly or more frequent sampling of the reservoir for plankton, pH, temperature, and dissolved oxygen. Conduct extensive hydrologic monitoring (stream flow, groundwater, precipitation, and snowpack) by staff and in cooperation with U.S. Geological Service.
- Monitor watershed activities in order to ensure compliance with 313 CMR 11.09. Track activities in EQ database.
- Continue efforts to streamline data management, data storage, and data visualization tools to facilitate and enhance short term and long-term analysis of monitoring results.
- Continue efforts in concert with MWRA to maintain and document progress controlling aquatic invasive species, including the DASH (Diver Assisted Suction Harvest) removal of invasive plants in the Stillwater basin. Monitor watershed ponds and streams, as time allows, for presence of aquatic invasive species.
- Continue work on road salt issue including development of a grant program to encourage municipal improvements to salting efforts.
- Continue to expand education and outreach programs that showcases the mission and accomplishments of DWSP.
- Work with consultants, MassDOT, and MWRA to complete design of stormwater drainage improvements to treat the final remaining direct discharge to the reservoir in Sterling.
- Improve and update GIS data layers such as hydrologic connectivity and septic/sewer layers to better characterize and analyze watershed attributes that impact water quality.
- Continue work with MWRA on preparedness for potential railroad spills.
- Finalize and begin implementation of the update to the Sudbury Reservoir Watershed Public Access Management Plan.

Quabbin/Ware Region

- Complete and begin implementation of the updated 2020 Ware River Public Access Management Plan.
- Implement the system-wide comprehensive Land Management Plan including development and implementation of controlled burns to enhance forest management activities.
- Continue forestry operations. Active forest lots will be monitored by Foresters and Environmental Quality staff to ensure there are no short-term water quality issues caused by the work. Initiate harvest in the paired watershed study to investigate impact of silvicultural activities (e.g., timber harvesting) on tributary water quality.
- Complete Continuous Forest Inventory (CFI) monitoring in the Ware River watershed and begin monitoring in the Quabbin watershed.
- Continue work on identifying and planning for Division gravel needs.
- Maintain lands around the Quabbin Reservoir, including vegetation management, mowing, and monitoring of dam and dike structures; implement a reduced mowing schedule in other areas to enhance pollinator habitat.
- Continue efforts to manage wildlife in the watershed. Conduct the Quabbin Bird Harassment program. Continue managing white-tailed deer populations through the allowed hunts in access zones and through the annual controlled hunt. Identify and remove aquatic animals found within the Aquatic Pathogen Control Zone.
- Pursue implementation of the Quabbin Park Deer Management Plan.
- Begin implementation of drone work in conjunction with DOT aeronautics division to conduct gull monitoring at Quabbin Reservoir.
- Continue to maintain Watershed Ranger presence to monitor and control public access in both the Quabbin and Ware River watersheds. Enhance enforcement of rules and regulations through targeted patrols and the use of citations. Issue written warnings and/or non-criminal citations for repeat offenders and serious violations.
- Monitor and maintain major dams in the system, as well as smaller watershed dams.
- Monitor and analyze water quality throughout the reservoir and watershed, including biweekly sampling of tributaries for bacteria, turbidity, temperature, pH, dissolved oxygen, and specific conductance. Continue biweekly sampling for alkalinity, nutrients and for Environmental Quality Assessments and quarterly sampling for nutrients at core sites. Continue at least monthly sampling of the reservoir for plankton, pH, temperature,

dissolved oxygen, specific conductance, bacteria, turbidity, and alkalinity; reservoir sampling for nutrients is completed quarterly. Conduct hydrologic monitoring (monthly groundwater measurements) by staff, in cooperation with U.S. Geological Service.

- Continue monitoring of ponds and streams throughout both watersheds for presence of aquatic invasive species.
- Start construction of New Salem Crew Field Office.
- Continue in conjunction with MWRA the facility improvements in the Quabbin Park Cemetery (e.g., irrigation and building rehab projects).
- Work closely with MWRA on the Quabbin Administration Complex capital improvement design study.
- Continue work on development of a new drinking water source for the Quabbin Administration Complex.
- Continue use of new BLA process using boater ID cards, streamlined season pass sales, and iPad scanning and implement credit card sales at BLAs.

Wachusett/Sudbury FY 21 work plan



Wachusett/Sudbury workplan for July 1, 2020 through June 30, 2021.

Task No.	Primary	Lead Group	Assigned to	Additional Staff	Product	Due Date
A. Land Acquisition						
A1	Acquire land. Coordinate due diligence and other tasks/services from DCR and private contractors to complete survey, appraisal, title, engineering, and environmental assessments for proposed acquisitions. Negotiate WPR language, purchase prices and conditions of sale with sellers of property.	NR	Ken MacKenzie	GIS-W, GIS, P, A	Protected land	As needed
A2	Develop individual parcel presentation materials and meet with MWRA Board for approval.	NR	Ken MacKenzie	P, GIS, D	Protected land	End of Q4
A3	Communicate with and convene LAP meetings to review parcels and prioritize land purchases.	NR	Ken MacKenzie	RD, ARD, EQ, EP, F	LAP Recommendations	As needed
A4	Use the LAP Prioritization Model to identify priority parcels in the watersheds.	NR	Ken MacKenzie	GIS	Model, Spreadsheet	End of Q4
A5	Continue to solicit and work with landowners in donating conservation interests in land and assist in advising landowners on the tax incentives available when donating conservation interests.	NR	Ken MacKenzie	P	Ongoing communications	End of Q4
A6	Establish regularly scheduled land/legal meetings to address attorney assignments and project logistics.	NR	Ken MacKenzie	D	Meetings	End of Q4
B. Watershed Preservation Restriction Monitoring						
B1	Monitor WPRs on a regular basis, following monitoring procedures	NR	Dani Almeida	EQ, GIS	Monitoring reports, updated landownership	End of Q4
B2	Complete baseline documentation reports for new WPRs prior to acquisition or within a reasonable time after acquisition, following EOEEA specifications. Baselines will be done in-house or through appropriate contracts.	NR	Dani Almeida		WPR baseline reports	End of Q4
B3	Meet with Restriction Stewardship Working Group and confer with legal to respond to enforcement issues and requests to exercise reserved rights.	NR	Dani Almeida	NR, EQ, RD	Issue resolution and reserved rights decisions	End of Q4
B4	Track changes in landownership for WPRs.	NR	Dani Almeida	EQ, GIS	Updated Landownership spreadsheet	End of Q4
B5	Explore additional ways to reach out to landowners through the use of social media and web-based content.	NR	Dani Almeida	Joel Zimmerman, Jim Taylor	Outreach Content	As needed
B6	Implement WPR records procedure with DCR records manager	NR	Dani Almeida	Ken MacKenzie	Securely stored records	End of Q4
C. Land Management						
C1	Implement the system-wide comprehensive Land Management Plan (LMP).	RD	Jamie Carr	F, NR, EQ,P, GIS	implemented programs	End of Q4
C2	Prepare forest harvest proposals for next fiscal year including data on proposed harvest areas, characteristics of stands, soils, cultural resources, wetlands, wildlife, unique features, and priority habitats. Proposals shall also include information on lot layout, landings, stream crossings, wetland crossings, and stonewall crossings.	F	Greg Buzzell	RD	Lot Summaries	End of Q3
C3	Plan and conduct an internal review of proposed logging operations for the coming year, including assessments of silviculture, water quality, wildlife, and other potential impacts/benefits Review lots to ensure consistency with aspects of the CLMP, including wildlife, forestry objectives, and environmental quality.	NR	Brian Keevan	F	Reviews	End of Q4
C4	Present annual forest harvest proposals at a public meeting. Accept public comment and respond as needed.	F	Brian Keevan	F	Public Presentation	End of Q4
C5	Plan, lay out, mark products for removal, prepare maps and permits, establish photo monitoring points, file Forest Cutting Plans, seek bids, award permits, and properly advertise and post forest management operations consistent with the Forest Cutting Practices regulations, the LMP, and approved harvest proposals.	F	Greg Buzzell		Forestry Database, Permit to Harvest Forest Products, Cutting Plans, Photo Series feature layer	End of Q4
C6	Provide supervision and oversight of all forest harvesting operations on DWSP property. Assure compliance with applicable DCR and NHESP regulations and restrictions, approved BMPs, and all Permit conditions. Maintain adequate site visit records. Monitor post-harvest and collect photo point images consistent with internal policy.	F	Greg Buzzell	EQ, NR	Forestry Database, Harvest Evaluation Form, Photo Series feature layer	End of Q4
C7	Monitor water quality (turbidity) at active harvesting stream crossing sites to measure effectiveness of BMPs.	EQ	Dave Getman	NR, F		End of Q4
C8	Continue to implement long-term paired watershed monitoring to assess impact of DWSP forest management on tributary water quality.	EQ	Dan Crocker	NR, F		End of Q4
C9	Conduct periodical regeneration and invasive species surveys to monitor forest health and development resulting from silvicultural activities or other natural disturbances and processes.	F	Greg Buzzell	NR	Report	End of Q4
C10	Conduct periodic reviews and monitoring of land management activities and forest conditions to assure compliance and consistency with Land Management Plan.	NR	Brian Keevan	F, EQ		End of Q4
C11	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.	F	Greg Buzzell	GIS	GIS datalayers	Ongoing
C12	Assess all new fee land acquisitions, documenting existing conditions of forests, access roads, bridges and culverts, boundary markings, and restoration needs. Integrate these lands into existing GIS datasets and land management, public access, and other watershed management programs.	F	Greg Buzzell	CE, WM,WR	GIS datalayers, Boundaries marked	Ongoing
C13	Locate, mark, and maintain property boundaries periodically or as needed.	F	Greg Buzzell	CE, RD	Boundaries marked, GIS datalayers	End of Q3

Task No.	Primary	Lead Group	Assigned to	Additional Staff	Product	Due Date
C14	Develop scope of work and manage contracted property boundary survey work.	CE	Bryan LaRochelle	F	completed surveys	End of Q4
C15	Document and pursue resolution of all property boundary encroachments.	WR	Sean Flood	F, RD,ARD	Update Encroachment Database	Quarterly
C16	Identify, plan, and oversee non-forest or other unique habitat restoration, field reclamation, and maintenance work.	NR	Brian Keevan	F		End of Q4
C17	Maintain other non-forested, non-infrastructure lands as described in the LMP (e.g., viewsheds, gravel pits, etc.)					End of Q4
C18	Identify, prioritize, and implement terrestrial invasive plant (TIP) control projects in line with the Terrestrial Invasive Plant Management Strategy (TIPMS). Respond as needed to newly discovered and controllable TIP populations.	NR	Brian Keevan	F, WM, EQ, RD		End of Q4
C19	Collect data and maintain datasets, GIS datalayers, and related maps and reports of rare and listed plants and communities.	NR	Brian Keevan	F, GIS		End of Q4
C20	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.	NR	Ken MacKenzie	RD, F, WM		End of Q4
C21	Continue to work with DCR Asian Longhorned Beetle Program and USDA to oversee beetle eradication in watershed areas.	F	Greg Buzzell	EQ, RD	Meetings and regular communication	As needed
C22	Hazardous Tree Removal	F	Greg Buzzell	WM, RD	Records kept, trees removed	As needed
C23	Maintain deer exclosures and sample vegetation periodically to assess impacts of herbivore browsing.	NR	Brian Keevan	F	Monitoring and repair as needed	End of Q4
C24	Organize, inventory, and categorize permit, lease, and easement information and enter information into the database.	CE	Bill Moulton		organized files, database	End of Q4
C25	Participate in process to transfer lands surrounding Framingham Reservoirs 1 and 2 to DCR Parks.	D	John Scannell	RD, P		End of Q4
D. Wildlife Management						
D1	Continue the active harassment of gulls within the Pathogen Control Zone at Wachusett Reservoir, using human presence, boats, pyrotechnics, passive scare devices, and other techniques. Continue to identify and test new harassment techniques.	EQ	Tristan Lundgren	F, WM, CE	Birds are moved out of control zone	Ongoing
D2	Observe and document the nocturnal roost of gulls on the reservoir weekly during the months of September- March.	NR	Hillary Siener	EQ	Weekly counts: Data used to guide harassment program	04/01/21
D3	Control Canada geese populations at Wachusett Reservoir by treating eggs during nesting season to prevent hatching.	NR	Hillary Siener		Annual report	
D4	Identify places in MA where human derived food is available and work to prevent feeding through educational signage, interaction and enforcement.	NR	Hillary Siener	WM	Field reports; Reduction of available human-derived food sources	End of Q4
D5	Aquatic Mammal Control: Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Wachusett.	NR	Hillary Siener	EQ	Field reports, Annual summary	End of Q4
D6	Respond to problems of burrowing animals on dams and dikes; take appropriate action.	NR	Hillary Siener		Field report	End of Q4
D7	Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants.	NR	Hillary Siener		Annual report	End of Q4
D8	Continue long-term wildlife resource monitoring program.	NR	Hillary Siener	CE, WM		End of Q4
D9	Work with MA Department of Fisheries and Wildlife (DFW) to survey for and document breeding bald eagles on the reservoir.	NR	Hillary Siener		Field Notes	End of Q4
D10	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	NR	Ken MacKenzie	WR, RD, WM	Orientations, permits	End of Q4
D11	Coordinate with the Massachusetts Natural Heritage and Endangered Species Program concerning rare species occurrences and protection	NR	Hillary Siener	F	Field Notes; reports	End of Q4
E. Public Access Management						
E1	Proactively patrol watershed lands to ensure compliance with DCR regulations and policies. Tally visitor contact and produce quarterly and annual summary reports. Conduct trend analysis on visitor statistics and rule violations.	WR	Sean Flood		Report	Quarterly
E2	Continue to cooperate with state, environmental, and local police for help with enforcement when required.	WR	Sean Flood	ARD	Enforcement Resolution	Quarterly
E3	Continue to use DCR social media accounts for advertisement of interpretive programs, including general or emergency information (such as closings).	WR	Sean Flood	IS	Press documents	Quarterly
E4	Develop public outreach regarding allowed uses on DCR Wachusett lands.	WR	Sean Flood	IS	Plan, signage, outreach	Quarterly
E5	Continue updates and improvements to access points with signs, gates and improved parking areas. Conduct regular inspections of gates and access barriers.	WR	Sean Flood	WM, ARD	Signs, barriers	Quarterly
E6	Regularly evaluate and modify policies within the current Public Access Plan and publish annual appendices with policy modifications or to regulate new proposed uses on DWSP lands.	WR	Sean Flood	ARD	Compliance with DWSP regulations	Quarterly
E7	Continue to conduct "special operations" such as night operations, ATV, and snowmobile operations, as needed.	WR	Sean Flood		Compliance with DWSP regulations	Quarterly
E8	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.	WR	Sean Flood		Compliance with DWSP regulations. Update database.	Quarterly
E9	Evaluate and modify, if necessary, specific access plan policies as part of the Wachusett Reservoir Watershed 2021 Public Access Plan update	EQ	Kelley Freda	WR	Completed Plan	End of Q4
F. Watershed Security						

Task No.	Primary	Lead Group	Assigned to	Additional Staff	Product	Due Date
F1	Maintain an active presence in the watershed. Monitor watershed lands, roadways, and railways for unusual or suspicious activities; provide appropriate response.	WR	Sean Flood	ARD	Ranger logs	Quarterly
F2	Continue ongoing communication and coordination with local, state, and federal emergency responders; coordinate with MWRA on all security issues.	WR	Sean Flood	ARD	Ranger logs	Quarterly
F3	Continue program of enhancing security infrastructure around Wachusett Reservoir.	WR	Sean Flood	CE,WM	Implementation	Quarterly
F4	Inspect, maintain, and monitor gates, barways, and signage throughout the watersheds for security and access control.	WR	Sean Flood	CE, WM	Inspection, repairs, installation.	Quarterly
G. Infrastructure						
G1	Assess Wachusett and Sudbury dams, spillways, and dikes monthly. 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.	CE	Bryan LaRochelle	RD, ARD	Inspection logs and reports, summary reports	Monthly
G2	Assess DWSP smaller dams semi-annually; review maintenance plans and revise as necessary.	CE	Bryan LaRochelle	WM	Plans, summary reports	2nd quarter. 4th quarter
G3	Continue maintenance plans for the improvement of the Wachusett and Sudbury dams and dike structures. Monitor conditions and maintenance activities and revise plans, as necessary.	CE	Bryan LaRochelle	WM	Inspection reports, summary reports	End of Q4
G4	Conduct annual inspection/evaluation of Wachusett internal roads, drainage structures and shoreline access points; update GIS data layers as needed and develop list of maintenance and repairs needs.	CE	Bryan LaRochelle	EQ	Maps, datalayers	End of Q4
G5	Develop annual plan for internal road repair/reconstruction projects.	CE	Bryan LaRochelle	RD,F,WM,EQ,ARD	Annual Plan, work orders, summary report	04/01/21
G6	Monitor the stability of River Street in Clinton.	CE	Bryan LaRochelle		Report	End of Q4
G7	Conduct road and dam maintenance/repair projects using in-house staff and resources. Provide oversight to ensure protection of water resources.	CE	Bryan LaRochelle	CE,EQ,F	Projects	End of Q4
G8	Conduct regular inspection and maintenance of all DWSP BMPs.	CE	Bryan LaRochelle	EQ, WM	Maintained, properly operating SW BMPS	End of Q4
G9	Evaluate Sudbury watershed access, internal roads and develop work plan, as necessary.	CE	Bill Moulton	CE, EQ	Work plan, maps, work orders	End of Q4
G10	Provide supervision, coordination, oversight, and technical support or assistance for all engineering, construction, and renovation work in Section.	CE	Bill Moulton	ARD	Inspections, construction and maintenance records	End of Q4
G11	Maintain records regarding property plans & data; reservoir and facility construction and maintenance operations.	CE	Bryan LaRochelle	CE	Miscellaneous records	End of Q4
G12	Implement annual Major Projects	RD			Improvements	End of Q4
G13	Coordinate with WM to provide access to water quality monitoring stations and perform occasional maintenance activities at stream gages	EQ	Dave Getman	WM	Maintained access; functioning gauges	End of Q4
G14	Evaluate and coordinate the monitoring of facilities for compliance with state and federal regulations. Develop and update required documents, as necessary	CE	Paula Davison		Summary reports	End of Q4
G15	Maintenance of forest roads, dams, dike, fields, parking areas, drainage structures, snowplowing, boat launch areas, and other management activities.	WM	Vincent Pasquale	CE, ARD	Maintenance and management.	Quarterly
G16	Prioritize and schedule online workorders for division staff and add to daily work plan.	WM	Vincent Pasquale	ARD	Summary Reports	Quarterly
G17	Assist division staff with specific workorders as needed.	WM	Vincent Pasquale	ARD	Summary Reports	Quarterly
G18	Maintenance of grounds at MWRA facilities as needed. Clinton (Cosgrove), Oakdale (Shaft One)	WM	Vincent Pasquale	ARD	Ongoing maintenance	Quarterly
G19	Conduct building maintenance activities, including painting, carpentry, cleaning, minor repairs, and other routine maintenance	WM	Richard McCarthy	ARD	Ongoing maintenance	Quarterly
G20	Inspect all Wachusett facilities, buildings, related structures and building utility systems. Determine needed costs of materials for maintenance, repair and replacement of parts as needed.	ARD	Richard McCarthy	ARD	Ongoing maintenance	End of Q4
H. Watershed Protection Act						
H1	Continue implementation of the WsPA. Review and track all WsPA applications and activity in database. Issue decisions within timeframes as required by the regulations. Add all relevant information to the EQ electronic database.	EQ	Nancy McGrath	RD, GIS-W, P	WsPA Decisions, updated electronic files	End of Q4
H2	Convene the Watershed Protection Act Working Group regularly to discuss policy and address specific problems related to the WsPA	P	Joel Zimmerman	EQ, RD	Coordination, decisions, meeting minutes	End of Q4
H3	Review permits for watershed towns on a monthly basis with letters sent to property owners of affected parcels.	EQ	Nancy McGrath	RD	Letters to Property Owners of Affected Parcels	End of Q4
H4	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.	EQ	Nancy McGrath	RD	Letters to Property Owners of Affected Parcels	Monthly
H5	Review files from previous year on an ongoing basis, including contact with owners and site visits as needed.	EQ	Nancy McGrath		Follow-up letters issued as needed. All activities documented in database.	End of Q4
H6	Provide Town Halls with WsPA maps, brochures and applications on a regular basis.	EQ	Nancy McGrath		Inventory of needs and inventory of information that was distributed.	Visit each town twice yearly.
I. Education and Outreach						
I1	Review, implement, and amend the Wachusett Interpretive Services Plan.	IS	Kathryn Parent	WR,EQ	Amended plan with documentation of actions	Ongoing
I2	Coordinate Educational and Outreach programs	IS	Kathryn Parent	WR, EQ	Improved public outreach, school programs established, contacts made with public and visitors	Ongoing

Task No.	Primary	Lead Group	Assigned to	Additional Staff	Product	Due Date
I3	Maintain and enhance kiosks and bulletin boards throughout the watershed.	IS	Kathryn Parent	IS,WM	Updates on Kiosks at least quarterly	Quarterly
I4	Perform inventory of signage and make recommendations for improvements and additions of stewardship signs	WR	Sean Flood	D,RD,IS,EQ	Inventory of sign type and location	Ongoing
I5	Analyze and update current brochures. Determine need for new brochure topics and develop as needed.	EQ	Kelley Freda	WR, IS	Brochures	Ongoing
I6	Partner with other organizations on watershed programs	IS	Kathryn Parent	EQ, WR	Programs	Ongoing
I7	Provide educational materials, teacher training, and support for Mass Envirothon.	EQ	Kelley Freda	IS	School Programs	Ongoing
I8	Maintain and update website.	P	Joel Zimmerman		Website	Ongoing
I9	Organize existing photographs and develop an inventory of new photos for Sudbury Watershed	EQ	Kelley Freda		organized collection of photographs	1st quarter
I10	Investigate the possibility of creating a water quality/stormwater mural on the Rail Trail Route 190 overpass abutments	EQ	Kelley Freda	IS	Mural	4th Quarter
J. Water Quality and Hydrologic Monitoring						
J1	Continue routine sampling of tributaries for bacteria, turbidity, nutrients, and field parameters.	EQ	Dave Getman		WQ data entered into database	Ongoing
J2	Continue sampling of the reservoir for plankton, pH, temperature, dissolved oxygen, chlorophyll a, and nutrients. Conduct reservoir bacteria transect sampling in conjunction with gull harassment program.	EQ	Joy Trahan-Liptak	Dan Crocker	WQ data entered into database	Ongoing
J3	Produce annual water quality report and sampling plan.	EQ	Dan Crocker	Joy Trahan-Liptak	Annual WQ report by March 15	3rd Quarter
J4	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.	EQ	Larry Pistrang	Dan Crocker	Instantaneous hydrology information, USGS cooperation	Ongoing
J5	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.	EQ	Travis Drury		Rating curves, precipitation data, monthly HOB0 downloads entered into database	Ongoing
J6	Determine needs for stormwater sampling based on analysis of historical data. Sample storm events as determined necessary.	EQ	Dan Crocker	RD, D	WQ data entered into database to improve annual nutrient loading calculations	Ongoing
J7	Generate solute loading estimates for flow monitored tributaries using Flux, RCMODEL, or other statistical software. Expand to include smaller tributaries and Quabbin transfer when sufficient data has been collected.	EQ	Dan Crocker		Annual loading estimates	3rd Quarter
J8	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	Larry Pistrang		Input on DCR projects and issues; data summaries	Ongoing
J9	Identify and outline system-wide water quality issues. Bring to ResOPs and/or WQSAT for discussion and integrate into water quality modeling work with UMass.	EQ	Larry Pistrang			2nd Quarter
J10	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.	EQ	Larry Pistrang	Dan Crocker, Kelley Freda, Joel Zimmerman	Reduction in road salt use	Ongoing
J11	Activities concerning cyanobacteria/harmful algal blooms	EQ	Joy Trahan-Liptak		See subtasks below	
J12	Continue to develop database backed tools and applications (R,GIS,MS Access, SQL Server) to facilitate data management, review and analysis, writing reports and modeling efforts.	EQ	Dan Crocker		Improved analysis and reporting	Ongoing
J13	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.	EQ	Larry Pistrang		Comprehensive report	4th Quarter
J14	Increase understanding of reservoir dynamics by collecting profiles in South Basin, Andrews Harbor, etc. in late summer or early fall when the interflow is well established.	EQ	Joy Trahan-Liptak		Collection of additional data	Ongoing
J15	Conduct benthic macroinvertebrate sampling, continue identification and assessment of historic samples.	EQ	Max Nyquist		Inclusion in 30-year WQ Report	Ongoing
J16	Continue cooperative study of current population status, life history, and sustainable yield of lake trout.	EQ	Joy Trahan-Liptak		Collection of data, generation of spawning area map	Ongoing
J17	Develop a study to identify trends in the long-term phytoplankton and water quality data sets and identify variables influencing these dynamics.	EQ	Joy Trahan-Liptak		Collection of additional data, analysis	Ongoing
J18	Update and maintain water quality and hydrologic monitoring SOP document	EQ	Dan Crocker	Joy Trahan-Liptak	Updated SOP	Ongoing
J19	Conduct basic fish monitoring in the reservoir in collaboration with MA DFW. Assess goals and explore optimal sample methods with MA DFW.	EQ	Joy Trahan-Liptak		Collection of fish, compiling and analyzing results	Ongoing
J20	Ongoing field/lab equipment/supply management (including maintenance and calibration)	EQ	Dan Crocker	Joy Trahan-Liptak	Accurate measurements	Ongoing
K. Watershed Monitoring and Assessment						
K1	Continue to review local records and conduct watershed surveillance to identify potential issues in the watershed that could impact water quality. Work with local boards and land owners when problems are identified. Document all work in EQ database.	EQ	Larry Pistrang	all EQ staff	Document actions in EQ database; compliance with regulations	Ongoing
K2	Provide technical assistance to state and municipal boards and commissions.	EQ	Tristan Lundgren	all EQ staff	Technical assistance provided	Ongoing
K3	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	EQ	Larry Pistrang	Tristan Lundgren	Corrected files, accurate useful data	Ongoing
K4	Maintain, verify and improve Wetlands and Waterbodies GIS datalayer using plans, field observations and other available data as part of the Wachusett Watershed Hydrology Mapping Project.	EQ	Tristan Lundgren	GIS, GIS-W	Updated Wetlands and Waterbodies GIS datalayer	Ongoing

Task No.	Primary	Lead Group	Assigned to	Additional Staff	Product	Due Date
K5	Finalize Quinapoxet District EQA and use recommendations to develop tasks for FY22 Work Plan.	EQ	Kelley Freda		Final report, FY21 work plan tasks	End of Q4
K6	Monitor hazardous materials spills and releases until considered complete for Wachusett and Sudbury watersheds	EQ	Kelley Freda		Up to date database files and include in EQA	Ongoing, End of Q4 for EQA
K7	Inspect all agricultural operations in Wachusett Quinapoxet District and compile an inventory of agricultural sites in Sudbury using iPad app	EQ	Kelley Freda		Up to date information in app	Ongoing
K8	Develop and implement outreach strategies and programs for topics identified through EQAs	EQ	Kelley Freda		Brochures, PSAs	Ongoing
K9	Monitor placement and additions of turf fields in both watersheds and remain up to date on all research and studies of PFA concentrations resulting from turf fields	EQ	Kelley Freda		Summary report	End of Q4
K10	Continue to communicate with MassDOT on roadway projects. Emphasize need for contractor to maintain safe conditions at all times. Investigate possibility of requiring contractor to have absorbent materials at work area for the duration of the project.	EQ	Kelley Freda		Up to date information in database	Ongoing
	L. Aquatic Invasive Species					
L1	Inspect reservoirs, lakes, ponds, and tributaries for presence of AIS.	EQ	Joy Trahan-Liptak		Annual summary in water quality report	3rd Quarter
L2	Conduct surveys, gather information, and make recommendations for management actions on an individual basis if/when new infestations are found in accordance with the updated Wachusett AIS management plan.	EQ	Joy Trahan-Liptak		Annual summary in water quality report	3rd Quarter
L3	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.	EQ	Joy Trahan-Liptak		Field report	4th Quarter
L4	Continue to use appropriate methods to prevent the spread of Phragmites along the reservoir shoreline.	EQ	Max Nyquist	WM, NR	Annual summary in water quality report	3rd Quarter
L5	Perform aquatic vegetation surveys prior to reservoir AIS management projects. Provide results to MWRA and contractors to guide 2020-2021 plant removal efforts.	EQ	Joy Trahan-Liptak		Field report	4th Quarter
L6	Monitor, advise, and assist contractors with plant removal operations as necessary, including boat decontamination inspections and data management through ArcGIS Online apps.	EQ	Joy Trahan-Liptak	WM	Annual summary in water quality report	3rd Quarter
L7	Enforce the decontamination procedures for all watercraft entering the reservoir by inspecting each vessel and collecting completed decontamination certification forms.	EQ	Joy Trahan-Liptak		Annual summary in water quality report	3rd Quarter
L8	Educate ranger and interpretative staff on AIS topics for incorporation into routine education program.	EQ	Joy Trahan-Liptak	WR	Annual summary in water quality report	3rd Quarter
L9	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	EQ	Joy Trahan-Liptak	NR	Field Reports	Ongoing
	M. Wastewater Management					
M1	Provide plan review and interpretation, if requested, to Boards of Health.	EQ	Vin Vignaly		Plan review, recommendations to boards, applicants	End of Q4
M2	Compile septic system information (installation date, repair date, location, etc) from watershed communities in wastewater database. Include linked electronic plans where available.	EQ	Vin Vignaly		Septic system datalayer	End of Q4
M3	Obtain sewer connection information from Holden and West Boylston; add to Wastewater database and GIS datalayer	EQ	Vin Vignaly		Updated database and GIS datalayer	End of Q4
M4	Continue to provide management support, with the MWRA, of the Rutland-Holden trunk sewer and Rutland Holden Relief trunk sewer. Coordinate inspections and maintenance projects for the sewer lines. Prepare and submit quarterly bills to the user communities in a timely manner.	CE	Paula Davison	RD,D	Quarterly bills, correspondence with towns	End of Q4
M5	Research and provide sewer management information for legal issues regarding the Trunk and Relief sewer lines, as necessary. Work with legal and MWRA to research the option of transferring ownership of sewer lines to MWRA or the communities (would require legislative action).	CE	Paula Davison	RD	Notes, information	End of Q4
M6	Evaluate and manage new trunk line connections. Monitor trunk line for encroachments; resolve any problems.	CE	Paula Davison	RD	Permits, regular inspections	End of Q4
M7	Address I/I issues within trunk and relief sewers per DEP requirements (this is dependent upon DEP acceptance of our I/I submittal).	CE	Paula Davison	RD	Report	End of Q4
	N. Stormwater Management					
N1	Treat direct discharges at Rt 110 Sterling	RD	Jamie Carr	CE	Plans	End of Q4
N2	Continue to work with towns and private landowners for regular maintenance of BMPs to ensure proper performance	EQ	Kelley Freda		BMPs remove pollutants as designed	End of Q4
N3	Work with watershed towns to ensure compliance with MS4 requirements.	EQ	Kelley Freda		MS4 permit conditions met	End of Q4
N4	Maintain, verify and improve Streams and Pipes GIS datalayer using plans, field observations and other available data as part of the Wachusett Watershed Hydrology Mapping Project.	EQ	Tristan Lundgren	GIS, GIS-W	Updated Streams and Pipes GIS datalayer.	Ongoing
N5	Maintain, verify and improve Drainage Structures GIS datalayer using plans, field observations and other available data. This is part of the Wachusett Watershed Hydrology Mapping Project.	EQ	Tristan Lundgren	GIS, GIS-W	Updated Drainage Structures GIS datalayer.	Ongoing
N6	Modify subbasin lines in ArcGIS based on stormwater mapping results	EQ	Tristan Lundgren		Updated subbasin datalayer	
N7	Conduct regular inspections of all construction sites greater than one acre.	EQ	Vin Vignaly		ESC maintained and working as designed	End of Q4
N8	Continue work with local DPWs to identify locations of concern, evaluate options for BMP installation, and ways to cooperatively implement recommendations.	EQ	Kelley Freda		Installed BMPs	End of Q4
	O. Emergency Response					
O1	Coordinate Emergency Spill Response training with MWRA and local responders.	CE	Bill Moulton	WR	Trainings	End of Q4

Task No.	Primary	Lead Group	Assigned to	Additional Staff	Product	Due Date
O2	Update contact list and information in Comprehensive Emergency Management Plan, EAPs, and other emergency response plans.	CE	Bill Moulton	WR	Plan	End of Q4
O3	Organize and maintain emergency response supplies and services.	CE	Bill Moulton	WR	Inventory	End of Q4
O4	Develop multi-year Training and Exercise Plan.	CE	Bill Moulton	WR	Plan	Q1
O5	Provide and coordinate ICS, emergency response and safety trainings to appropriate staff. Work with other agencies to provide trainings and exercises	CE	Bill Moulton	WR	Classes, Trainings	End of Q4
O6	Evaluate, monitor and oversee spill clean-ups that impact or threaten water resources of DWSP property. Work with appropriate local, state and federal agencies to ensure that containment, cleanup, and mitigation of the spill are proceeding in a manner that protects drinking water quality	CE	Bill Moulton	WR,WM	Contain and cleanup releases	End of Q4
	P. Support					
P1	Prepare and submit to MWRA and the Water Supply Protection Trust Annual Work Plans, budgets, progress reports, and program goals and objectives. Track Section progress in meeting program goals.	RD	Jamie Carr	Larry Pistrang	Completed plans, budgets and reports	End of Q4
P2	Administer the Payment in Lieu of Taxes (PILOT) program.	P	Joel Zimmerman		Payments to watershed communities	End of Q4
P3	Configure and maintain both internal and externally facing ArcGIS Online applications. Work with staff to generate field data collection tools using Survey123 and/or Collector 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.	GIS	Erica Tefft	GIS-W	Web Apps/Surveys/Web Maps	Ongoing
P4	Publish hosted feature layers, tile layers and tile packages on an as-needed basis to support projects. Ensure that all public-facing data has proper metadata added as per the EEA ArcGIS Online Best Practices.	GIS	Erica Tefft	GIS-W	Hosted Feature Layer/Hosted Tile Layer/Tile Package	As Needed
P5	Develop staff training plan for migrating from ArcMap to ArcGIS Pro. Provide staff with a variety of self-paced training options via the Esri Training Catalog.	GIS	Erica Tefft		Training Materials	Ongoing
P6	Train staff in GIS on an as-needed basis to provide them with knowledge needed to complete basic GIS-related tasks.	GIS-W	Craig Fitzgerald	GIS	Staff receive training	As Needed
P7	Assist staff with GIS project requests by providing maps, data analysis, data exports and data collection.	GIS-W	Craig Fitzgerald	GIS	Hardcopy Maps/Web maps/data analysis	As Needed
P8	Maintain and update the GIS database on the shared G Drive as needed; ensure all data is current and available to staff and has updated FGDC-compliant metadata. If new data is added to the G Drive, ensure that a layer file is created and data is added into the Data Viewer.	GIS-W	Craig Fitzgerald	GIS	File Geodatabase/Metadata/Layer Files	As Needed
P9	Use GPS equipment to capture and maintain data for all staff. Coordinate use of GPS equipment and download and process all GPS data.	GIS-W	Craig Fitzgerald		Digital data	As Needed
P10	Create parcel maps for Land Acquisition Coordinator meetings with landowners and MWRA board. Create Story Map for Land Acquisition Panel meetings, with one potential property per page. Should be provided to LAP meeting attendees prior to meeting.	GIS-W	Craig Fitzgerald	GIS	Hardcopy Maps/Story Map/Hosted Feature Layer	As Needed
P11	Complete GIS-related special projects	GIS-W	Craig Fitzgerald		Various	As Needed
P12	Operate administrative offices, including answering phones, greeting visitors, etc.	ARD	Christine Muir	Michelle Andrade	Weekly payroll, HR forms processing	End of Q4
P13	Provide payroll assistance and personnel services for all Section employees.	RD	Michelle Andrade		Account set-up, Invoice processing, regular finance reporting	End of Q4
P14	Provide contract administration, financial management, record-keeping, purchasing of goods and services, and other financial support services.	RD	Christy Raillo		Accounting and financial services	End of Q4
P15	Coordinate with EEA IT to provide local MIS support for the Section. Update IT Plan as required addressing technology needs for the coming year.	RD	Jamie Carr		Support and troubleshooting services; IT Plan	End of Q4
P16	Administer Logging Permit program, including mailings, bid openings, financial management, database management, permit and key issuance, etc.	ARD	Christine Muir		Program administration; annual revenue report, database maintenance	End of Q4
P17	Plan and implement vehicle and equipment purchases and leases.	ARD	Derek Liimatainen		Vehicle purchases and leases	End of Q4
P18	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.	ARD	Vincent Pasquale	ARD	Ongoing maintenance	End of Q4
P19	Complete watershed-wide vulnerability assessment to identify potential impacts of climate change on the water supply	RD, D	Jamie Carr	EQ,CE, WR, F, NR	Report with action items	End of Q4

FY 21 Quabbin/Ware River Work Plan



Task #	Task Description	Lead Group	Additional Staff	Product	Due Date
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.	NR	P, GIS	Protected land	As needed
2	Develop individual parcel presentation materials and meet with MWRA Board for approval.	NR	P, GIS, D	Protected land	End of Q4
3	Communicate with and convene LAP meetings to review parcels and prioritize land purchases.	NR	RD, ARD, EQ, EP, F	LAP Recommendations	As needed
4	Use the LAP Prioritization Model to identify priority parcels in the watersheds.	NR	GIS	Model, Spreadsheet	End of Q4
5	Continue to solicit and work with landowners on donations of land conservation interests, solicit donations, and provide information on potential tax incentives available for such donations.	NR	P	Ongoing communications	End of Q4
6	Establish regularly scheduled land/legal meetings to address attorney assignments and project logistics.	NR	D	Meetings	End of Q4
B. Watershed Preservation Restrictions					
1	Monitor WPRs on a regular basis, following monitoring procedures	NR	EQ, F	Monitoring Reports, Updated Landownership	Ongoing
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.	NR		WPR baseline reports	End of Q4
3	Meet with Restriction Stewardship Working Group and confer with legal to respond to enforcement issues and requests to exercise reserved rights.	NR	None	Issue resolution and reserved rights decisions	As needed
4	Track changes in landownership for WPRs.	NR	None	Updated Landownership spreadsheet	End of Q4
5	Explore additional ways to reach out to landowners through the use of social media and web-based content.	NR	P	Outreach Content	As needed
6	Implement WPR records procedure with DCR records manager.	NR		Securely stored records	End of Q4
C. Land Management					
1	Implement the system-wide comprehensive Land Management Plan.	RD	P, EQ, QGIS, NR, F, WM		Ongoing
2	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.	F	QGIS, NR	Lot proposals	End of Q3
3	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.	NR	RD, F, EQ		End of Q4
4	Present annual forest harvest proposals at a public meeting. Accept public comment and respond as needed.	RD	F, NR		End of Q4
5	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.	F	RD		End of Q4
6	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.	F	NR, EQ		Ongoing
7	Monitor water quality at active harvesting stream crossing sites to measure effectiveness of BMPs.	EQ	NR		As needed
8	Continue to implement long-term paired watershed monitoring to assess impact of DWSP forest management on tributary water quality.	EQ	ARD, NR		End of Q4
9	Conduct periodical regeneration and invasive species surveys to monitor forest health and development resulting from silvicultural activities or other natural disturbances and processes.	F	NR	Regeneration database, maps, and photodocumentation	As needed

Task #	Task Description	Lead Group	Additional Staff	Product	Due Date
10	Conduct periodic reviews and monitoring of land management activities to assure compliance and consistency with land management plans.	F	F, EQ		As needed
11	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.	NR	F, QGIS	Databases, GIS coverages	Ongoing
12	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.	F	NR, EQ, CE, EP		As needed
13	Locate, mark, and maintain property boundaries periodically or as needed.	F	NR, WR, CE, ARD, RD		As needed
14	Develop scope of work and manage contracted property boundary survey work.	F	CE		End of Q4
15	Document and pursue resolution of all property boundary encroachments.	RD	F, CE		End of Q4
16	Identify, plan, and oversee non-forest or other unique habitat restoration, field reclamation, prescribed fire implementation and maintenance work.	NR	F		Ongoing
17	Maintain the non-silvicultural lands described in the land management plan (e.g., viewsheds, gravel pits).	WM	F, NR, ARD		Ongoing
18	Identify, prioritize, and implement terrestrial invasive plant (TIP) control projects in line with the Terrestrial Invasive Plant Management Strategy (TIPMS). Respond as needed to newly discovered and controllable TIP populations.	NR	F, EQ, WM, RD	New Plan; Completed projects	End of Q4
19	Collect data and maintain datasets, GIS datalayers, and related maps and reports of rare and listed plants and communities.	NR	F, RD		As needed
20	If available, use a UAS (unmanned aerial system) to document forest conditions, map openings, identify invasive plant populations, internal road conditions, or other activities.	NR	RD, F, WM		As needed
21	Complete 2020 Continuous Forest Inventory	F	NR		End of Q4
22	Implement Quabbin Park Cemetery Management Plan	WM	CE		Ongoing
23	Implement Quabbin Park Operation and Maintenance Plan	WM	CE		Ongoing
24	Implement Quabbin Road Management Plan	WM	CE, F		Ongoing
26	Implement Ware River Road Management Plan	WM	CE, F		Ongoing
26	Winsor Dam Maintenance	WM	CE, NR		Ongoing
27	Begin watershed-wide vulnerability assessments	ARD	All Staff		End of Q4
	D. Wildlife Management				
1	Continue the active harassment of gulls within the Pathogen Control Zone at Quabbin Reservoir, using human presence, boats, pyrotechnics, passive scare devices, and other techniques. Continue to identify and test new harassment techniques.	EQ	RD, ARD, NR, other work units	Daily and annual reports; database entries; weekly reports to MWRA	Ongoing
2	Observe and document the nocturnal roost of gulls on Quabbin Reservoir.	NR	EQ		As needed
3	Control Canada geese populations in the Pathogen Zone on Quabbin Reservation by treating eggs during nesting season to prevent hatching.	NR	WM	Annual report	End of Q4
4	Identify places in MA where human derived food is available and work to prevent feeding through educational signage, interaction and enforcement.	NR	None		As needed
5	Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Quabbin. Address beaver concerns outside the control zone.	NR,	EQ, WM-B, WM-NS, WM-O	Field reports, annual summary	End of Q4
6	Respond to problems of burrowing animals on dams and dikes; report problems and take appropriate action.	NR	CE, WM-B		As needed
7	Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants.	NR	WM-C	Annual report	End of Q4
8	Continue long-term wildlife resource monitoring program.	NR	None		Ongoing
9	Work with DFW to survey and document breeding bald eagles around Quabbin Reservoir.	NR	WR		Ongoing
10	Administer the applications, permits, and orientations for the annual Quabbin Controlled Deer Hunt; analyze results of hunt.	NR	WM, IS WR	Completed orientations and scouts; annual report	End of Q4
11	Coordinate with the Massachusetts Natural Heritage and Endangered Species Program concerning rare species occurrences and protection.	NR	F		As needed

Task #	Task Description	Lead Group	Additional Staff	Product	Due Date
12	Develop and implement a deer management plan for Quabbin Park	NR	F	Deer Hunt Plan	End of Q4
	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).	WR	ARD	Reports	Quarterly
2	Continue to cooperate with state, environmental, federal, and local police for help with enforcement when required.	WR	ARD		Quarterly
3	Use Agency social media accounts for advertisement of interpretive programs, including general info or emergency info (e.g., closings).	WR	IS		Ongoing
4	Continue public access updates and improvements with signs and gates. Conduct regular inspections of locks, signage, gates, and access barriers. Develop, install, and maintain appropriate signage throughout the watersheds, including walkway signs and signs indicating access restrictions. Develop and distribute materials to inform visitors of access rules, policies, and general watershed protection information. Update and maintain kiosks and bulletin boards with appropriate visitor information.	WR	IS, WM-M, WM-O,		As needed
5	Continue to implement Quabbin Public Access Management Plan policies. 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.	WR	RD, ARD		Ongoing
6	Continue to conduct "special operations" such as night operations, ATV, and snowmobile operations, as needed	WR	WM		As needed
7	Operate the shoreline and boat fishing program in designated portions of Quabbin Reservoir in a manner that minimizes threats to water quality and accommodates visitors with accessibility needs. Implement the Quabbin Boat Seal program at BLAs and produce annual report.	WM	IS, AD		As needed
8	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.	WM	CE		As needed
9	Coordinate and/or support special programs and events, including Memorial Day services, public meetings, paraplegic hunts, and Tuesday Tea events.	IS	WR		As needed
10	Continue to implement universal accessibility projects throughout the Quabbin/Ware Region.	IS	WM, WR		As needed
11	Continue to control and monitor research and other public access through an internal review process and permit system. Maintain electronic databases for permit issuances, access notification, and any problems.	RD	IS, AS		Ongoing
12	Implement Ware River Public Access Management Plan Update 2019	ARD	WM, WR, RD		Ongoing
13	Implement social media trial program	IS	WR		Ongoing
	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.	WR	ARD	Daily patrols; daily logbooks and incident report	Quarterly
2	Inspect, maintain, and monitor gates, barways, and signage throughout the watersheds for security and access control. Install barriers (such as guardrails or fences) as needed to protect properties and control public access.	WR, WM	CE		As needed
3	Coordinate security monitoring and related activities at high vulnerability locations with MWRA.	RD	WR, ARD		Ongoing
4	Work with local state and federal responders to ensure current agency emergency contact information.	WR	ARD, RD		Ongoing
	G. Infrastructure				
1	Conduct monthly inspections and issue findings on Winsor Dam and spillway and Goodnough Dike. Implement basic maintenance activities as needed. Coordinate inspections with MWRA and consultants. Plan for or conduct dam repair work as called for in dam inspection reports.	CE	WM, WM-B, RD	Inspection Reports	Monthly
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 preparation or updating of Emergency Action Plans.	CE	RD	Inspection reports	2nd quarter. 4th quarter

Task #	Task Description	Lead Group	Additional Staff	Product	Due Date
3	Provide oversight and technical support or assistance for engineering, construction, and renovation work in the Quabbin/Ware Region.	CE, WM	RD		As needed
4	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.	CE	IS	Plans, records	End of Q4
5	Conduct building maintenance activities, including painting, carpentry, cleaning, minor repairs, and other routine maintenance.	WM	CE		Ongoing
6	Conduct periodic inspections of drinking water sources and septic systems at the various Regional office buildings. Assure compliance with applicable state and federal regulations.	CE	EQ, RD		Ongoing
7	Conduct periodic inspections, maintenance, or oversight of heating systems, fuel pump operations, and fuel deliveries.	CE, WM	WM-B		Ongoing
8	Develop specifications, bid packages and contracts for facility and infrastructure projects scheduled for FY20	CE	WM, RD, ARD, FN		As needed
9	Conduct maintenance and management activities in Quabbin Park, including roads, roadsides, parking areas, drainage structures, fields, vistas, snowplowing, and other management activities.	WM-B	AS, NR		As needed
10	Continue to conduct routine operational and maintenance activities in the Quabbin Park cemetery, coordinate with local funeral homes and other entities for burials, and provide administrative support services. Conduct Quabbin Park Cemetery business and record keeping.	WM-B	CE, AS		Ongoing
11	Conduct maintenance activities on DWSP roads, including grading, culvert and ditch maintenance, mowing sides of forest roads, and snowplowing. Continue to collect data on road conditions and culvert locations. Continue to use BMPs in road maintenance activities. Continue to seek out and explore alternative funding opportunities to complete stream crossing upgrades and improvements.	WM -O, WM-NS	EQ, CE		Ongoing
12	Continue to investigate improved Emergency Spill Response access.	EQ	CE, WM		Ongoing
13	Assess gravel pits and gravel resources on DWSP lands in the Quabbin/Ware Region. Develop overall management strategy with summaries of each known gravel pit. Annually review and monitor gravel extraction.	EQ, WM	F, RD, ARD,		As needed
14	Investigate sedimentation on and around Hangar ramp.	EQ	ARD		End of Q4
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.	EP	P, RD, EQ, AS		As needed
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.	EP	EQ		As needed
3	Convene WsPA Working Group meetings.	P	RD, EQ, EP		As needed
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.	P, EP	RD, EQ		As needed
5	Provide technical assistance support to local boards through contact, meetings, and/or through regulatory review process.	EP	EQ, CE, RD,		As needed
6	Modernize the current Access database into a web-based platform.	EP	EQ	New database	End of Q4
I. Education and Outreach					
1	Implement the Interpretive Services Plan for the Quabbin Watershed.	IS	WR		Ongoing
2	Staff and operate the Visitor Center at Quabbin to educate visitors about watershed management and related topics. Coordinate with visiting groups to provide orientation at the Visitor Center and in Quabbin Park. Maintain records on Visitor Center activities.	IS	WR		Ongoing

Task #	Task Description	Lead Group	Additional Staff	Product	Due Date
3	Continue established programs of public education, including school programs and field trips on DWSP properties. Expand outreach efforts in Quabbin Park. Expand the Quabbin Reservoir watershed curriculum using materials developed by MWRA, MassDEP, EPA, ProjectWild, Project Learning Tree, Project WET, and other appropriate watershed resources. Continue to support watershed school system teachers through in-service workshops and offerings for school groups.	IS	WR		Ongoing
4	Collaborate with other organizations and watershed communities to reach more diverse audiences. Identify specific groups and their educational needs.	IS	WR		Ongoing
5	Develop watershed exhibits and portable displays for use in talks and presentations, both in the Quabbin Visitor Center and in watershed communities.	IS	WM-C, WM-B		Ongoing
6	Maintain self-guided Quabbin Park interpretive walkways focusing on natural resource management and water quality protection; include interpretive signs with information related to watershed protection programs, forest succession, history of the reservoir, wildlife. Utilize outside sources of assistance (e.g., Student Conservation Association) for walkway maintenance.	IS	F		Ongoing
7	Improve the educational signage regarding drinking water protection in the Quabbin Visitor Center and in Quabbin Park.	IS	WM-C	New signs	Ongoing
8	Continue to support and participate in the Envirothon, America's leading natural resource education program for high school students.	IS	AS, WR, EQ		Ongoing
9	Publish bi-annual Downstream newsletter.	NR	P, IS, EQ, EP, WR, RD	Newsletter	Bi-annual
J. Water Quality and Hydrologic Monitoring					
1	Provide environmental oversight for Regional activities to minimize adverse water quality impacts. Conduct pre-project reviews of all DWSP projects and activities within 100' wetland buffers.	EQ	RD, WR, ARD		Ongoing
2	Continue routine and non-routine water quality sampling and analysis (including algae and nutrients) in order to track water quality parameters and trends in the reservoir and tributaries. Continue analyses for nutrients and calcium on selected tributaries. Review water quality data and prepare annual report summarizing changes over time. Modify sampling plan as needed.	EQ	MWRA Lab		Ongoing
3	Perform Shaft 8 Intake Zone Inspections prior to MWRA diversions.	EQ	CE	Inspections, reports; notification	3rd Quarter
4	Monitor plankton in Quabbin Reservoir.	EQ	None		Ongoing
5	Collect, interpret, and manage data on reservoir elevations, water transfers and releases. Share data with DWSP staff and MWRA.	CE	None	Data collection and yield reports	Ongoing
6	Conduct short-term water sampling of forest harvesting operations on DWSP lands.	EQ	NR		Ongoing
7	Investigate re-establishing wind monitoring station to help determine wind impacts to changes in water quality parameters	EQ	WM		As needed
8	Continue improvements to database app for compiling of water quality, quantity, and other relevant data for data and trend analyses.	EQ	GIS		Ongoing
9	Implement streamflow monitoring at selected sites. Coordinate flow monitoring with annual water quality sampling plan.	EQ	MWRA		Ongoing
10	Continue to implement long-term monitoring of paired sub-basins in order to assess impact of forestry on water quality. Increase monitoring frequency once harvesting is initiated.	EQ	F, NR	Annual report summarizing data and activities	End of Q4
11	Work with MWRA to install continuous water quality monitoring buoy at Quabbin Reservoir	EQ	MWRA		As needed
K. Watershed Monitoring and Assessment					
1	Complete Environmental Quality Assessments in the Quabbin Reservoir and Ware River watersheds according to a prescribed schedule. Include AIS surveys of lakes, ponds, and tributaries. Present EQAs to RD.	EQ	All Work Units	Inspection reports, EQA outlines for Quabbin Reservoir and West Branch	End of Q4
2	Prioritize recommendations in completed EQAs as necessary and complete short- and long-term remedial actions.	RD, EQ	All Work Units		Ongoing
4	Use site inspections, environmental quality assessments, local board meetings, and information from Watershed Rangers to identify and mitigate possible violations of state and federal regulations. Monitor progress and pursue enforcement if needed.	EQ	RD, ARD, All Work Units		Ongoing

Task #	Task Description	Lead Group	Additional Staff	Product	Due Date
5	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.	EQ	WR, NR		Ongoing
6	Coordinate with other agencies to exchange information and review projects in watershed.	EQ	P, All Work Units		As needed
7	Monitor MassDEP databases regularly for new c.21E information.	EQ	None		As needed
8	Review periodic reports on closed landfills in the watersheds. Coordinate with town and/or MassDEP to review monitoring reports.	EQ	None		As needed
9	Review and comment on Yearly Operational Plans related to herbicide use. Monitor and inspect no-spray and limited spray zones along rights-of-way.	EQ	P		As needed
10	Work with loggers and utility rights-of-way contractors to reduce the risk of introducing invasive species into the watersheds.	EQ, F	EQ		As needed
11	Monitor utility maintenance, repair, or replacement projects on DCR lands for water quality problems.	EQ	CE		Ongoing
12	Continue to identify, map, and monitor locations of agricultural operations that could impact water quality through the EQA process.	EQ	EP		Ongoing
L. Aquatic Invasive Species					
1	Continue program to monitor AIS in tributaries and other water bodies. Review and update the AIS monitoring and AIS emergency action plan.	EQ	RD	Reports;	3rd Quarter
2	Conduct public education about AIS.	EQ	IS		Ongoing
3	Continue the Quabbin Boat Seal program to minimize the risk of AIS infestation of Quabbin Reservoir. Conduct Cold Weather Decontamination Program and Boat Inspection Program. Maintain database; investigate and pilot test electronic data collection.	EQ	RD, IS, WR, ARD, WM-BLA		Ongoing
4	Implement a program of detection, monitoring and control of invasive aquatic species and other macrophytes in the Quabbin and Ware River watersheds, including education and training of Boat Launch Area attendants and other appropriate staff. Work in conjunction with the DCR Lakes and Ponds, MWRA and MWRA contractors. Evaluate and make changes in program as needed.	EQ	WM-BLA, ARD, RD, MWRA		As needed
5	Implement Quabbin/Ware Region's AIS Management Plan.	EQ	RD, ARD		Ongoing
M. Wastewater Management					
1	Identify potential problem sites or areas through review of local records, water quality data, and other pertinent information.	EQ	EP	EQ file reports	As needed
N. Stormwater Management					
1	Advise local boards on stormwater management issues related to construction activities.	EQ	EP, RD, ARD		As needed
2	Continue to collect data on and update maps of culverts and other stormwater conveyance structures in the Quabbin and Ware River watersheds. Maintain culvert database.	CE, WM	QGIS	Updated database records and photos	Ongoing
O. Emergency Response (Preparedness)					
1	Develop and/or update Emergency Response materials for the Quabbin and Ware River watersheds, with up-to-date contact information, emergency procedures, and roles/responsibilities.	EQ, WR	RD, ARD		End of Q4
2	Update SOPs for spill response and define DCR staff roles in both assessment and response. Work with MWRA to maintain emergency response trailers and/or other spill response supplies and equipment.	EQ, WR	RD, ARD	Updated SOPs; equipment procurement, including storage unit to replace Gate 16 shack.	End of Q4
3	In conjunction with MWRA, coordinate spill response and/or incident command system (ICS) training to staff.	EQ, WR	RD, ARD, WM		As needed
4	Coordinate cleanup operations for any spills that impact or threaten water resources or DWSP property. 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.	RD, EQ, WR	ARD, WM		As needed
5	Develop and implement spill response plans for all timber harvesting operations on DWSP lands.	F	EQ, ARD, RD	Spill Response Plans, updated spill response notification cards	As needed
6	Develop comprehensive Emergency Preparedness Program to include natural disasters, accidents, and intentional events.	RD	All Staff	EAPs	End of Q4
P. Support					

Task #	Task Description	Lead Group	Additional Staff	Product	Due Date
1	Operate administrative offices, including answering phones, greeting visitors, etc.	AS	IS		Ongoing
2	Manage payroll through SSTA and HR/CMS.	AS	None	Payroll reports; Support	Ongoing
3	Provide contract administration, financial management, record-keeping, purchasing of goods and services, and other financial support services.	FN	RD, ARD		Ongoing
4	Coordinate with EOEEA IT to provide local MIS support for the Quabbin/Ware Region. Develop an annual IT Plan with input from Regional staff that addresses technology needs for the coming year.	QGIS	All Work Units		Ongoing
5	Provide personnel services and assistance for all Quabbin/Ware Region employees.	AS	RD, ARD		Ongoing
6	Prepare annual work plans, budgets, quarterly progress reports, and program goals; track progress and submit reports to Division Director, MWRA, and the Water Supply Protection Trust Board.	RD	ARD, FN	Completed plans, budgets and reports	End of Q4
7	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. Begin implementation of ArcGIS Online and GIS mobile device applications for selected staff.	QGIS	F, EQ		As needed
8	Update digital information, including all new DWSP land purchases, WsPA maps and parcels, and provide analyses for use in DWSP reports and publications.	GIS	P, AS, QGIS		Ongoing
9	Plan and implement vehicle and equipment purchases.	ARD	WM, RD		Quarter 1
10	Conduct truck, boat, and equipment inspections and maintenance as needed, utilizing the Facility Asset Management Information System (FAMIS). Maintain up-to-date records of all vehicles and equipment (in FAMIS and file system).	WM-M	AS, ARD		Ongoing
11	Maintain vital records collection for former Quabbin valley towns, issue official records and conduct genealogical and historical research upon request. Manage audio-visual collection of the Region including photographs, slides, oral history tapes and media coverage of Regional activities and Quabbin-related topics.	IS	RD		As needed
12	Administer the Payment in Lieu of Taxes (PILOT) program	P	RD		As needed
13	Assemble a working group to develop a scope that defines a vulnerability assessment for the watershed system and develop timeline for completion.	D	RD, EQ, CE, P		End of Q4
14	Maintain ArcGIS Online environment for all staff to successfully complete projects.	GIS	None		Ongoing
15	Configure and maintain both internal and externally facing ArcGIS Online applications. Work with staff to generate field data collection tools using Survey123 and/or Collector 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. Add GIS-Q as additional staff.	GIS	None		Ongoing
16	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. Add GIS-Q as additional staff.	GIS	None		Ongoing
17	Provide staff with training in desktop and mobile GIS applications.	GIS	None		Ongoing
18	Train staff in field data collection applications as needed for specific projects. Assist with setting up Collector and Survey123 to work with Bad Elf Pro+ GPS units, or with the Arrow 100 GNSS receiver. Add GIS-Q as additional staff.	GIS	None		Ongoing
19	Keep current in new and emerging GIS technologies by attending webinars, taking self-paced trainings and attending conferences (where possible).	GIS	None		Ongoing
20	Train staff in GIS on an as-needed basis to provide them with knowledge needed to complete basic GIS-related tasks.	GIS	None		Ongoing

2. Region Responsibilities and Staffing Levels

- A. Office-wide
- B. Wachusett/Sudbury
- C. Quabbin/Ware

DCR Division of Water Supply Protection
Office of Watershed Management
Office-Wide Responsibilities and Staffing
FY 2021

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Management – Director, Natural Resources Section Director	1.9	1.9	<ul style="list-style-type: none"> ▪ Supervise all OWM Staff (through Senior staff and direct supervision). ▪ Develop program goals and objectives. ▪ Ensure program goals and objectives are met. ▪ Oversee interagency coordination with MWRA. ▪ Coordinate and support programs and policies with other DCR Divisions. ▪ Coordinate and support programs and policies with EEA and other EEA agencies. ▪ Coordinate and support programs and policies with watershed communities and stakeholders. ▪ Consult with Watershed Advisory Committees.
Budget and Administrative Support	4.9	4.9	<ul style="list-style-type: none"> ▪ Provide personnel and other human resources related support. ▪ Provide budget and finance support. ▪ Provide contract administration support. ▪ Provide office management.
Natural Resources	7.5 1 LT seasonal	7.5	<ul style="list-style-type: none"> ▪ Oversee implementation of the Comprehensive Land Management Plan. ▪ Coordinate Land Acquisition Program. ▪ Monitor and enforce Division’s Watershed Preservation Restrictions (WPRs). ▪ Provide wildlife management and mitigation. ▪ Monitor roosting gulls and provide technical support, guidance, and recommendations to gull harassment program. ▪ Provide research and monitoring to support Natural Resource Management Planning. ▪ Monitoring and manage land based invasive plants.
Program Coordination & Technical Support – Environmental Planning	1	1	<ul style="list-style-type: none"> ▪ Coordinate implementation of Watershed Protection Act (WsPA). ▪ Assist in the development and implementation of Watershed Protection Plans, Public Access Plans, Land Management Plans and other associated plans, policies, and publications. ▪ Support interagency coordination with MWRA. ▪ Coordinate PILOT program with MWRA, DOR and Watershed towns. ▪ Coordinate and support programs and policies with other DCR divisions, EEA and other EEA agencies. ▪ Coordinate DCR DWSP web site.

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Program Coordination & Technical Support – GIS	3	3	<ul style="list-style-type: none"> ▪ Coordinate GIS for Office of Watershed Mgt. ▪ Capture, maintain, administrative Spatial Databases. ▪ Integrate Office’s GIS program within EEA system. ▪ Provide data analysis for Office of Watershed Mgt. ▪ Distribute maps and digital information to Watershed Partners.
Total FTE	18.3	18.3	
Total LT Seasonals	1	0	

Note: Partial FTEs due to one half-time position in Natural Resources, and time sharing with DWSP Office of Water Resources in Management and Budget Support.

DCR Division of Water Supply Protection
Office of Watershed Management
Wachusett/Sudbury Region Responsibilities and Staffing
FY 2021

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Management -- Regional Director and Assistant Regional Director	2	2	<ul style="list-style-type: none"> ▪ Supervise Staff assigned to Wachusett/Sudbury Section ▪ Develop/Implement Program Goals and Objectives including Watershed Protection Plans and Annual Work Plans ▪ Oversee day to day operations in the Region ▪ Oversee policy and plan development and implementation ▪ Ensure interagency coordination with MWRA (Reservoir Operations, Water Quality Testing, Consent Order Compliance and Reporting) ▪ Coordinate/Support programs & Policies with other DCR divisions and EEA/EEA agencies ▪ Coordinate/Support Programs & Policies with watershed communities and stakeholders ▪ Consult with Watershed Advisory Committees, Friends Groups ▪ Oversee fleet management and procurement
Administrative Support	3	3	<ul style="list-style-type: none"> ▪ Maintain payroll, employment and other records ▪ Provide budget, accounting and contract administration support ▪ Assist Regional Director in special projects, as needed ▪ Provide contract administration and database management for forestry program ▪ Provide staffing and operational support for main office
Fiscal	1	1	<ul style="list-style-type: none"> ▪ Coordinate and analyze information in the areas of procurement, contracts, budgets, accounting and finance to inform management decisions ▪ Procurement planning, coordination and preparation ▪ Purchase processing and monitoring ▪ Assist with budget development and monitoring
Environmental Quality	10 1 LT seasonal	10 1 LT seasonal	<ul style="list-style-type: none"> ▪ Develop and implement water quality and hydrologic monitoring programs in reservoirs & tributaries ▪ Develop and maintain water quality database ▪ Interpret water quality data for use in decision making ▪ Develop and implement Aquatic Invasive Species Control Plans ▪ Conduct Environmental Quality Assessments of watershed sanitary districts to identify potential pollution sources and develop mitigation measures ▪ Provide technical assistance to local boards ▪ Work with local DPWs to control stormwater through MS4 compliance. ▪ Supervise and implement Wachusett Bird Control Program ▪ Provide assistance for Emergency Response Actions ▪ Collect, monitor, and maintain records on weather/precipitation, reservoir elevations, river discharges and releases, water transfers and watershed yield. Conduct Snow Surveys

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Environmental Planning	1	1	<ul style="list-style-type: none"> ▪ Administer Watershed Protection Act (WSPA) and Regulations in the Wachusett Watershed ▪ Work with local community Boards regarding implementation of WSPA ▪ Provide notices to new landowners with parcels affected by WSPA ▪ Work with communities on bylaw implementation to satisfy MS4 permits
Forestry	2	2	<ul style="list-style-type: none"> ▪ Implement forest management plan, including planning, tree marking, timber sale preparation and supervision of logging operations ▪ Oversee and implement hayfield management permits ▪ Conduct various surveys and inventories as needed to provide data to help guide forest management operations ▪ Participate in Asian Longhorned Beetle Program Coordination in watershed ▪ Conduct or participate in other watershed management activities (e.g. boundary maintenance)
Civil Engineering	4	4	<ul style="list-style-type: none"> ▪ Provide management oversight of DCR-owned sewers, preparing municipal bills and resolving easement issues ▪ Coordinate and maintain records of all surveying required to determine property lines and boundaries, investigate encroachments and maintain records of all agency owned lands including new acquisitions ▪ Develop Road Plan and annual work plan; oversee maintenance of DCR access roads ▪ Conduct monthly inspections of Wachusett Dam, Sudbury Dam and other dams in the Wachusett and Sudbury watersheds; plan and oversee maintenance of dams and dikes ▪ Oversee major repair and renovation contracts at facilities in the Wachusett and Sudbury Watersheds ▪ Coordinate emergency response planning, preparedness and operations in the Wachusett and Sudbury Watersheds
Watershed Rangers	9	9	<ul style="list-style-type: none"> ▪ Maintain a positive visual presence in watersheds ▪ Observe activities on watershed lands & waters ▪ Ensure Rules Compliance through education/public interaction and use of citations ▪ Coordinate enforcement of watershed rules with State/Environmental Police ▪ Conduct or participate in other watershed management activities (e.g. encroachment surveys and resolution) ▪ Assist with Emergency Response Planning and Preparedness and general Watershed Security ▪ Develop and Conduct environment-based public education programs

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Interpretive Services	1	1	<ul style="list-style-type: none"> ▪ Develop and conduct watershed system school-based programs ▪ Conduct Programs at Stillwater Farm Interpretive Site ▪ Develop and Conduct environment-based public education programs
Watershed Maintenance	26 4 LT seasonals 4 ST seasonals	26 5 LT seasonals 2 ST seasonals	<ul style="list-style-type: none"> ▪ Maintain water supply dams ▪ Perform primary land and facility maintenance activities on all watershed lands and resources ▪ Maintain physical security barriers around reservoir and watershed facilities ▪ Control shoreline vegetation and maintain fire roads ▪ Maintain and repair all division equipment (motor vehicles, trucks, boats and heavy Equipment) ▪ Participate in Bird Control Program
Total FTEs	59	59	
Total LT Seasonals	5	6	
Total ST Seasonals	4	2	

LT Seasonal = Long-term Seasonal

ST Seasonal = Short-term Seasonal

DCR Division of Water Supply Protection
Office of Watershed Management
Quabbin/Ware Region Responsibilities and Staffing
FY 2021

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Management – Regional Director; Assistant Regional Director	2	2	<ul style="list-style-type: none"> ▪ Supervise staff assigned to Quabbin/Ware River Region and oversee hiring, training, and other personnel-related issues ▪ Develop and implement program goals and objectives, annual work plans and budgets ▪ Oversee policy and plan development and implementation ▪ Oversee day-to-day operations in the Region ▪ Ensure interagency coordination with MWRA (re: Reservoir Operations, Water Quality Testing, Consent Order Compliance and Reporting) ▪ Coordinate/Support programs and policies with other DCR divisions, EEA and other EEA agencies ▪ Coordinate/Support programs, policies and/or technical assistance with watershed communities and stakeholders ▪ Consult with Watershed Advisory Committees ▪ Oversee fleet management and procurement activities
Administrative Support	3	3	<ul style="list-style-type: none"> ▪ Administer research access permit and gate key issuances ▪ Process revenues and provide accounting for boat fishing program. ▪ Provide administrative services for cemetery, including deed preparation, funeral scheduling, and marker/monument settings. ▪ Assist Regional Director with special projects, as needed ▪ Maintain payroll, employment and personnel records ▪ Provide staffing and operational support for main office ▪ Provide administrative and contract support for forestry program
Fiscal	2	2	<ul style="list-style-type: none"> ▪ Coordinate and analyze information in the areas of procurement, contracts, budgets, accounting and finance to inform management decisions ▪ Procurement planning, coordination and preparation ▪ Purchase processing and monitoring ▪ Assist with budget development and monitoring

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Environmental Quality	9	9	<ul style="list-style-type: none"> ▪ Conduct water quality monitoring in reservoir and tributaries ▪ Maintain and analyze water quality data to monitor the health of the watershed and reservoirs, and prepare periodic reports ▪ Conduct Environmental Quality Assessments (“Sanitary Surveys”) ▪ Develop and implement aquatic invasive species control programs ▪ Identify pollution sources and seek mitigation ▪ Implement and oversee the Quabbin gull harassment program ▪ Provide environmental oversight for all Region's activities that could impact water quality ▪ Assist with the design and implementation of water quality research conducted by the University of Massachusetts ▪ Provide technical review of proposed projects, as necessary ▪ Provide technical assistance to watershed communities and organizations regarding water quality issues ▪ Assist with public education efforts aimed at enhancing water quality protection on watershed lands ▪ Maintain Spill Response trailers and assist with Emergency Response ▪ Monitor streamflow, pathogens, algae, stormwater flows and macrophytes ▪ Monitor environmental compliance in building (e.g., drinking water testing)
Environmental Planning	1	1	<ul style="list-style-type: none"> ▪ Administer WsPA on Quabbin and Ware River watersheds. ▪ Provide technical assistance to town boards and commissions in watershed communities ▪ Coordinate with other agencies and local boards to enhance the development and enforcement of environmental protection regulations on watershed lands
Forestry	6	6	<ul style="list-style-type: none"> ▪ Implement Forestry Program including planning, tree marking, timber sale preparation and supervision of timber harvesting operations ▪ Conduct regeneration surveys and continuous forest inventories (CFI) to provide data to help guide forest management operations ▪ Oversee field maintenance contracts ▪ Implement the Comprehensive Land Management Plan ▪ Coordinate with other state and federal agencies regarding forestry and other land management operations ▪ Conduct or participate in other watershed management activities (e.g., boundary maintenance, encroachment issues)

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Civil Engineering	5	5	<ul style="list-style-type: none"> ▪ Collect, monitor and maintain records on weather/precipitation, reservoir elevations, river discharges and releases, water transfers and watershed yield ▪ Conduct Snow Survey and calculate runoff potential in Quabbin Reservoir Watershed ▪ Conduct monthly inspections of Winsor Dam, Goodnough Dike and other dams in the Quabbin Reservoir and Ware River watersheds; take necessary Piezometer readings when appropriate and maintain records ▪ Conduct inspections and maintain records on all buildings and bridges in the Quabbin Reservoir and Ware River watersheds ▪ Coordinate and maintain records of all surveying required to determine property lines and boundaries; investigate encroachments and maintain records of all agency owned lands including new acquisitions; provide assistance to private surveyors requesting historic surveying data on agency lands ▪ Maintain all historical records consisting of the construction of dams, roads, bridges and buildings in the Quabbin Reservoir and Ware River Watersheds ▪ Oversee major repair and renovation contracts on facilities in the Quabbin and Ware River watersheds ▪ Oversee and maintain Photovoltaic Systems at Quabbin Boat Launch Areas
Watershed Rangers	9 2 LT seasonal	9 2 LT seasonal	<ul style="list-style-type: none"> ▪ Maintain a positive visual presence in watersheds ▪ Monitor public activities on watershed lands and waters in accordance with Public Access Management Plans. ▪ Ensure Rules Compliance through education/public interaction/signage ▪ Coordinate enforcement of watershed rules with State/Environmental Police ▪ Assist with Emergency Response planning and preparedness ▪ Provide First Response and general watershed surveillance/security activities ▪ Maintain records of violations and public interactions

Section	FY20 FTE	FY21 FTE	Primary Responsibilities
Interpretive Services	4	4	<ul style="list-style-type: none"> ▪ Develop and conduct watershed based programs, displays and curricula for visitors and school groups ▪ Maintain and operate the Quabbin Visitors Center ▪ Participate in other EOEEA Environmental Education programs (e.g., Envirothon) ▪ Serve as press liaison for Region activities and events, in conjunction with DCR and EOEEA public information offices protocol ▪ Organize special events (e.g., Memorial Day services) ▪ Maintain vital records collection for the 4 dis-incorporated Quabbin towns, and issue official records upon request; Assist visitors with genealogical research. ▪ Manage and issue access permit requests ▪ Administer Quabbin controlled deer hunt application process, ▪ Serve as liaison with other organizations, including Friends of Quabbin, Swift River Valley Historical Society, Valley Environmental Education Collaborative, Massachusetts Drinking Water Education Partnership, and Envirothon steering committee. ▪ Develop informational materials on Quabbin fishing program, access issues and management activities ▪ Maintain audio-visual collection for Quabbin/Ware Region, including photographs, slides and oral history tapes
Watershed Maintenance	32 12 LT seasonals 3 ST seasonals	32 14 LT seasonals 2 ST seasonals	<ul style="list-style-type: none"> ▪ Perform primary maintenance activities on watershed lands, roads, facilities and other resources ▪ Maintain physical security barriers around reservoir and watershed facilities ▪ Maintain roads, gates, barways, drainage structures, signs and other access controls ▪ Maintain and repair all division equipment (motor vehicles, trucks, boats and heavy Equipment) ▪ Provide staffing for the Gull Harassment and Controlled Deer hunt programs ▪ Maintain Quabbin Park ▪ Operate and maintain Quabbin Park Cemetery ▪ Operate and maintain the three Boat Launch Areas at Quabbin Reservoir
Total FTEs	73	73	
Total LT Seasonals	14	14	
Total ST Seasonals	3	2	

LT Seasonal = Long-term Seasonal
ST Seasonal = Short-term Seasonal

3. Annual Budget Summary: Expenditures and Revenues

**WATER SUPPLY PROTECTION TRUST
Expenditures and Revenues Report
FY21 Work Plan Budget**

		FY21 Projected % of Total	
A. Revenues			
OWM Revenues			
	Hydro + Transmission	\$450,000	2.3%
	Forestry	\$500,000	2.5%
	Fishing & Recreation	\$210,000	1.1%
	Misc.	\$50,000	0.3%
	OWM Revenues Subtotal	\$1,210,000	6.1%
	MWRA Payments to Trust *	\$18,662,936	93.9%
	Total Revenues	\$19,872,936	100.0%
B. Expenditures (not inc. Phase 1 Capital Projects)			
AA	Personnel	\$11,304,257	56.9%
BB	Employee Expenses	\$20,000	0.1%
CC	Contracted Services	\$50,000	0.3%
DD	Pensions/Insurance	\$4,355,678	21.9%
EE	Admin Expenses	\$130,000	0.7%
FF	Facility Operational Supplies	\$225,000	1.1%
GG	Energy Costs	\$325,000	1.6%
HH	Consultant Contracts	\$350,000	1.8%
JJ	Operational Services	\$35,000	0.2%
KK	Equipment	\$1,010,000	5.1%
LL	Leases, Rentals	\$250,000	1.3%
NN	Construction Improvements	\$1,373,000	6.9%
PP	Grants to Public Entities	\$100,000	0.5%
TT	Specials Payments	\$130,000	0.7%
UU	IT Expenses	\$215,000	1.1%
	Total Expenditures	\$19,872,936	

* not accounting for FY20 roll-over, which is credited

4. Annual Operating Budget

**DCR Division of Water Supply Protection
Office of Watershed Management
FY21 Budget Details**

Budget_Fiscal_Year	2021		FY2021 Budget							
Appropriation	28300100		5/1/2020							
Object_Class	Object	Object Name	FY19 Actuals	FY2019 Final Budget	FY2020 Final	FY2021 Draft	Prop FY21 vs FY20 Budget	% Difference		
AA	A01	Salaries-Inclusive	9,362,439	10,133,000	10,466,239	10,853,257	367,018	3.5%		
	A06	Stand-By Pay								
	A07	Shift Differential Pay	21,914	23,000	23,000	25,000	2,000	8.7%		
	A08	Overtime Pay	235,182	260,000	265,000	275,000	10,000	3.8%		
	A10	Holiday Pay	35,293	30,000	35,000	40,000	5,000	14.3%		
	A11	Employment Related Settlements and Judgements	500							
	A12	Sick-Leave Buy Back	25,218	35,000	35,000	35,000	-	0.0%		
	A13	Vacation-In-Lieu	48,462	50,000	50,000	55,000	5,000	10.0%		
	A14	Stipends, Bonus Pay and Awards	539		20,000	1,000	(19,000)	-95.0%		
	AA1	Out of Title Pay	18,087	20,000	10,000	20,000	10,000	100.0%		
AA Total			9,747,634	10,551,000	10,924,239	11,304,257	380,018	3.5%		
BB	B01	Out Of State Travel - Inclusive	10,402	3,000						
	B02	In-State Travel	2,185	2,500						
	B03	Overtime Meals								
	B05	Conference, Trng & Req. Membership Dues, Licensing Fees	3,769	5,000						
	B10	Exigent Job-Related Expenses		100						
	B11	Employer Refund of Non-Tax Benefits	8	50						
	B91	Employee Reimbursement Accounts Payable	2	500						
BB Total			16,366	11,150	20,000	20,000	-	0.0%		
CC	C04	Contracted Seasonal Employees	43,506	60,000	50,000		(10,000)	-20.0%		
	C22	Engineering, Research & Scientific Services								
	C98	Reimb Travel/Other Expenses CC Special Contract/Employee								
CC Total			43,506	60,000	50,000	50,000	-	0.0%		
DD	D09	Non Fringe Benefits Reimbursement (Payroll Tax)		186,741	267,772	210,054	(57,718)			
	D09	Fringe Benefits Reimbursement	3,449,898	3,668,228	3,739,589	4,035,625	296,036			
	D15	Worker's Comp Chargeback	100,000	100,000	100,000	100,000	-			
	D21	Health Ins Costs of Employ/Leave in Excess of 1 Yr Chqback		10,000	10,000	10,000	-			
DD Total			3,549,898	3,964,969	4,117,361	4,355,678	238,317	5.8%		
EE	E01	Office & Administrative Supplies	7,898	8,600						
	E02	Printing Expenses & Supplies	7,515	12,000						
	E04	Central Reprographics Chargeback		1,000						
	E06	Postage	5,669	7,000						
	E12	Subscriptions, Memberships & Licensing Fees	277	1,500						
	E13	Advertising Expenses	3,049							
	E14	Exhibits/Displays	1,546	2,000						
	E15	Office Tap Water Treatment	1,285	1,000						
	E19	Fees, Fines, Licenses, Permits & Chargebacks	27,929	32,200						
	E20	Motor Vehicle Chargeback	31,190	34,000						
	E22	Temp Use Space/Confer-Incidental Includes Reservation Fees								
	E30	Credit Card Purchases	372							
	E32	Tort Claims Liab Mgmt Reduc Fd								
	E53	S&J: Non-reportable to claimant, sole payee	10,000	10,000			(10,000)			
	E75	Advances - Administrative Expenses								
	EE2	Conference, Training and Registration Fees	1,315	2,000			(2,000)			
EE Total			97,845	111,300	130,000	130,000	-	0.0%		
FF	F01	Food, Beverages, & Preservation								
	F03	Laundry and Cleaning Supplies	96							
	F05	Laboratory Supplies	3,946	2,056						
	F06	Medical & Surgical Supplies	5,264	2,179						
	F08	Toiletries and Personal Supplies								
	F09	Clothing & Footwear	27,747	26,440						
	F10	Facility Furnishings	429							
	F11	Laundry & Cleaning Supplies	13,518	9,038						
	F13	Live Animals & Related Supplies	2,907	1,000						
	F16	Library and Teaching Supplies and Materials	1,771	200						
	F18	Recreation, Religious & Social Supplies & Materials	16,222	14,394						
	F19	Manufacturing Supply & Materials & Raw Materials	3,901							
	F21	Navigational & Nautical Supplies	17,636	12,800						
	F22	Municipal Taxes								
	F24	Motor Vehicle Maintenance & Repair Parts	83,442	139,893						
	F27	Law Enforcement & Security Supplies	1,807	3,000						
FF Total			178,686	211,000	228,000	225,000	(3,000)	-1.3%		
GG	G03	Electricity	29,282	30,000						
	G05	Fuel For Vehicles	152,273	140,000						
	G06	Fuel For Buildings	124,585	115,000						
	G08	Sewage Disposal & Water	3,550	6,000						
	G11	Natural Gas	514	500						
GG Total			310,204	291,500	295,000	325,000	30,000	10.2%		
HH	H05	Arbitrators/Mediators/Dispute Resolution Services								
	H09	Attorneys/Legal Services	5,500	6,000	6,000	6,000	-			
	H23	Program Coordinators								
	HH1	Financial Services	37,924	45,000	35,000	40,000	5,000			
	HH2	Engineering, Research & Scientific Services	150,231	175,000						
		UMass - Water Quality and Spill Response Modeling			135,000	145,000	10,000			
		Source Molecular			14,000	14,000	-			
		Biodiversity Research Inst (loon capture and banding)			15,000	15,000	-			
		Analytical Services			5,000	5,000	-			
		DOT Drone ISA			75,000	75,000	-			
	HH3	Media Design, Editorial, and Communication Services				25,000	25,000			
		Aquatic Invasives Control Project			45,000	(45,000)				
	HH4	Health and Safety Services (including Quabbin Asbestos)	14,058	5,000	25,000	25,000	-			
HH Total			207,713	231,000	355,000	350,000	(5,000)	-1.4%		
JJ	J25	Laboratory and Pharmaceutical Services								
	J27	Laundry Services	13,761	19,000						
	J33	Photographic & Micrographic Services								
	J44	Surveyors		4,000						
	J50	Instructors/Lecturers/Trainers		4,000						
	JJ1	Legal Support Services	8,965	22,000						
	JJ2	Auxiliary Services	1,890	1,000						
JJ Total			24,616	50,000	45,000	35,000	(10,000)	-22.2%		
KK	K02	Educational Equipment		3,000						
	K03	Programmatic Facility Equipment	115,172	60,000						
	K04	Motorized Vehicle Equipment	85,755	438,000						
	K05	Office Equipment	68	5,000						
	K07	Office Furnishings	21,123	3,000						
	K10	Law Enforcement & Security Supplies	18,950	4,000						
	K11	Heavy Equipment	185,086	30,000						
	K12	Television Broadcasting Equipment	2,832							
KK Total			428,986	543,000	540,000	1,010,000	470,000	87.0%		

DCR Division of Water Supply Protection
Office of Watershed Management
FY21 Budget Details

Budget_Fiscal_Year	2021	FY2021 Budget						
Appropriation	28300100	5/1/2020						
Object_Class	Object	Object Name	FY19 Actuals	FY2019 Final Budget	FY2020 Final	FY2021 Draft	Prop FY21 vs FY20 Budget	% Difference
LL	L11	Heavy Equipment Lease-Purchase	29,292	30,000				
	L23	Facility Equipment Rental or Lease	61,165	66,000				
	L24	Motorized Vehicle Equipment Rental or Lease	139					
	L25	Office Equipment Rental or Lease	2,343	2,500				
	L26	Printing/Photocopy & Micrographics Equip Rent/Lease	18,412	15,000				
	L31	Heavy Equipment Rental or Lease		2,000				
	L42	Educational Equipment Maintenance & Repair		2,000				
	L43	Facility Equipment Maintenance & Repair						
	L44	Motorized Vehicle Equipment Maintenance & Repair	40,568	15,000				
	L45	Office Equipment Maintenance and Repair	455	1,000				
	L46	Print, Photocopying & Micrograph Equipment Maint/Repair	4,900	3,000				
	L50	Law Enforcement/Security Equipment Maintenance/Repair						
	L51	Heavy Equipment Maintenance/Repair	24,956	22,000				
	L63	Programmatic Equipment Maintenance and Repair	2,902	8,000				
LL Total			185,132	166,500	133,000	250,000	117,000	88.0%
NN	N15	Building/Vertical Structure Construction	122,962					
	N16	Majr Construction, Majr Renovation, Bldg Alteration, Land Impr	94,582	130,000				
	N17	Major Building Maintenance and Land Improvements	20,768	80,000				
	N18	Initial Furnishings & Equipment Purchases						
	N19	Land Acquisition and Eminent Domain	4,306					
	N21	Highway Horizontal/Lateral Construction	32,728					
	N22	Highway Horizontal/Lateral Maintenance and Improvements	81,069	70,000				
	N23	Highway Horizontal/Lateral Maintenance Materials	25,460	30,000				
	N41	State Park & Recreation Facilities Construction	1,150	74,000				
	N50	Non-Major Facility Infrastructure Maintenance & Repair	58,798	65,000				
	N52	Facility Infrastructure Maint & Repair Tools & Supplies	136,469	110,000				
	N60	Lawn and Grounds Equipment Maint & Repair	15,768	6,000				
	N61	Lawn and Grounds Equipment	196,134	79,001				
	N63	Rental or Lease of Facility	1,797					
	N64	Garden Expenses, Tools and Supplies	53,438	25,000				
	N71	Exterminators/Integrated Pest Management	2,183	4,000				
	N72	Hazardous Waste Removal Services	71,509	68,000				
	N73	Non-Hazardous Waste Removal Services	34,818	25,000				
	N74	Snow Removal&Groundskeeping Svcs (inc. haz. tree removal)	17,393					
	N98	Reimbursement for Travel/Other Expense Infrastructure Projects						
	NN1	Engineering, Research and Scientific Services	91,819	10,000				
NN Total			1,063,151	776,001	675,000	1,373,000	698,000	103.4%
PP	P01	Grants to Public Entities				100,000		
PP Total						100,000		
TT	T04	Payments & Refunds (USGS gages)	129,260	130,000	130,000	130,000	-	0.0%
TT Total			129,260	130,000	130,000	130,000		0.0%
UU	U01	Telecommunications Services Data		8,000				
	U02	Telecommunications Services - Voice	58,003	68,000				
	U03	Software and Information Technology (IT) Licenses	372	10,000				
	U04	Information Technology Chargeback	158,519	8,000				
	U05	Information Tech (IT) Professionals		4,000				
	U06	Information Technology Cabling						
	U07	Information Tech (IT) Equipment Purchase	22,675	123,000				
	U09	Information Technology (IT) Equip Rental Or Lease						
	U10	Information Tech (IT) Equipment Maintenance & Repair	21,940	3,000				
UU Total			261,509	224,000	211,000	215,000	4,000	1.9%
Total Baseline Cost			16,244,506	17,321,420	17,853,600	19,872,936	2,019,336	11.3%
Capital Projects Total				1,100,000	1,555,000			
Grand Total Expenses				18,421,420	19,408,600	19,872,936	464,336	2.4%
Revenues								
	6995	Hydro & Transmission	473,374		300,000	450,000		
	4500	Forestry	525,680		500,000	500,000		
	3148	Fishing & Recreation	210,811		225,000	210,000		
	6900	Misc.	67,352		50,000	50,000		
Revenue Total			1,277,217		1,075,000	1,210,000		
Net Reimbursement					18,333,600	18,662,936		
PILOT (actually paid to DCR less the reimbursements paid by Fay School and Town of Southborough)					8,500,000	8,500,000		
DEBT								
Total DCR Budget					26,833,600	27,162,936		

5. Annual Major Projects



Department of Conservation and Recreation
Division of Water Supply Protection Office of Watershed Management
FY2021 Major Projects

Quabbin/Ware Region			
Project	Operating	Notes	Obj. Code
Gate 40 Culvert Replacement Design and install	\$110,000	Design and start of culvert replacement	N17
Security Upgrades	\$100,000	Upgrades to doors/security system	N50
Cemetery Tree Removal	\$50,000	Hazardous trees in cemetery threatening graves	N74
Gravel/Road Supplies	\$30,000	Purchase materials for in-house work	N23
Asbestos Abatement	\$25,000	Continue abatement work in facilities	HH4
Dam/Dike Maintenance	\$5,000	Liming, seeding regularly	N74
Rental Boat/Motor Purchase	\$20,000	Program of rental boat/motor replacement	K04
Cemetary Facility upgrades	\$100,000	Work on buildings	N50
Quabbin Administration water system design	\$100,000	Design for Admin building water system replacement	NN1
Brigham Pond Dam studies	\$50,000	Continue alternative studies/design for failing dam	NN1
Admin Building Envelope Study	\$55,000	Study of roof and gutter issues	NN1
Mechanical Repairs, HQ and other locations	\$50,000	various	N50
Regular NN Spending	\$140,000		Multiple NN
Subtotal HH	\$25,000		
Subtotal KK	\$20,000		
Subtotal NN	\$790,000		
Wachusett/Sudbury Region			
Project	Operating	Notes	Obj. Code
Route 110 Direct discharge design	\$50,000	Design for Rt 110 direct discharge project	NN1
Demo of abandoned buildings	\$100,000	Demo of Hulick, Kush, arrestor building and other buildings	N16
Hazardous Tree Removal	\$10,000	Various sites	N74
Dam sidewalk ADA Compliance	\$75,000	Sidwalk work to make dam access to Promenade accessible	N16
Salt Shed/Brine System construction	\$75,000	system for pavement brine pre-treatment	N50
Required Dam Studies (Phase 1s and 2s)	\$8,000	Reg-required reports/dam training	NN1
Dike Maintenance	\$20,000	Liming, seeding regularly	N74
BMP Maintenance	\$30,000	Contract for stormwater BMP cleaning	N22
Watershed Gravel Road Reconstruction Supplies	\$20,000	Purchase materials for in-house road work	N23
Aquatic Invasive Control Projects	\$60,000	Aquatic invasive control at Lily Pond, Coachlace, South Mea	N73
Regular NN Spending	\$125,000		Multiple NN
Subtotal NN	\$573,000		
Natural Resources			
Regular NN Spending	\$10,000		Multiple NN
Major Equipment Purchases (KK)*			
Wachusett	\$175,000	Purchase of heavy equipment such as backhoes, bulldozers	K11
Quabbin	\$175,000	Purchase of heavy equipment such as backhoes, bulldozers	K11
*Does not include passenger vehicle replacements			
HH Total	\$20,000		
KK Budget Totals	\$370,000		
NN Budget Totals	\$1,373,000		
TOTAL	\$1,763,000		

6. Annual Land Acquisition Capital Spending Plan

**Department of Conservation and Recreation
Division of Water Supply Protection**

FY21 Proposed Watershed Land Acquisitions

DWSP staff will continue to pursue the purchase of lands that have importance to protecting the water supply. The most direct and proven method of protecting the water source's long-term quality is to own and manage watershed lands surrounding the water supply source. A major tenet of watershed management is protection through ownership of interests in watershed lands because:

- A forested landscape provides the best quality water.
- The purchase of undeveloped lands protects water sources from development, which can alter vegetation and drainage, and add impervious surfaces that can move pollutants quickly towards streams.
- The purchase of vegetated buffers provides natural "treatment" or protection to lessen water quality impacts of future development.
- The purchase of stream buffers provides protections against changing flow patterns due to climate change.
- The purchase of problem properties can halt the problem of activity or use and allows for proper clean-up or re-vegetation of the site.

Landowners continually solicit DCR interest in purchasing their land for watershed protection. DCR also approaches selected landowners holding acreages which are determined applicable to watershed acquisition criteria. Priority is given to those projects which:

- Rate favorably on the Watershed Land Acquisition Model Map for each of the three active watersheds.
- Are determined important for an administrative and/or strategic purpose (Agency access, boundary consolidation, prevention of assemblage threat).

In addition, consideration is given to landowners who are willing to consider the placement of a Watershed Protection Restriction on their land in place of a fee transfer.

The "Land List" remains fluid as proposed projects are brought before the Land Acquisition Panel (LAP) for approval to proceed with due diligence. All proposed acquisitions are subsequently approved by the MWRA Board of Directors.

The projected budget for watershed land acquisition in FY21 is estimated to be \$1 million.

7. Annual Payments in Lieu of Taxes

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

FY21 Payments in Lieu of Taxes Estimate

Payments in Lieu of Taxes (PILOT), required under MGL c.59 s.5G, are based upon the valuation set by the Department of Revenue (DOR) and the local commercial tax rate. The process used by DOR for valuing State Owned Land (SOL – which includes DCR Watershed Management) under MGL c. 58 was established by the Mass Municipal Modernization Act – Chapter 218, Section 108 of the Acts of 2016.

Under this process, DOR determined a base year SOL valuation for each community as of January 1, 2017. After a hearing and appeal process, base year SOL valuations were finalized. These base year valuations will be adjusted every two years by a percentage equal to the change in a city or town’s equalized cash value (EQV), as determined by DOR. Valuations are also updated annually to include the value of any acquisitions and/or dispositions in a community. Calculations for acquired lands will be made using the cost per acre average for each town, adjusted by the EQV.

MGL c.59 s.5G still requires that the Watershed PILOT amount can never be less than the previous year.

The FY20 PILOT was \$8,353,687. This figure is a 1.2 % increase from the FY19 PILOT paid of \$8,255,642. FY20 PILOT took into account the EQV adjustments for each community, as well as the addition of 256 acres of land. This increase was less than the 3% estimated in the FY20 Work Plan.

FY21 PILOT will be based on DOR’s State Owned Land adjusted by EQV in FY20. An additional 255.5 acres of land will now be included in the valuation. Utilizing a generic estimated increase of 5% to all towns’ tax rates from FY20 to FY21, **it is estimated that PILOT will increase by approximately 1.5% to approximately \$8.47 million.**



Department of Conservation and Recreation
 Division of Water Supply Protection
 Office of Watershed Management
 FY21 Payments in Lieu of Taxes
 March 2020 Estimate

Community	2020 DOR Property Valuation	FY20 Tax Rate	FY20 PILOT	Assessed Acres	Valuation per Acre	Acquisitions (acres)	Added Valuation for Acquisitions	Total 2021 Property Valuation	FY21 Tax Rate (estimate)	FY21 Minimum PILOT Due (estimate)	FY21 PILOT (estimate)	Hold Harmless (estimate)	Increase (estimate)	% Increase (estimate)
Barre	\$6,586,200	\$17.87	\$186,168.60	5,420.9	\$1,215	0	\$0	\$6,586,200	\$18.76	\$123,580.16	\$186,168.60	\$62,588		
Belchertown	\$12,615,800	\$18.17	\$257,074.40	3,190.2	\$3,955	0	\$0	\$12,615,800	\$19.08	\$240,690.54	\$257,074.40	\$16,384		
Belchertown - Annexed Lands	\$1,680,500	\$18.17	\$50,625.10	670.0	\$2,508	0	\$0	\$1,680,500	\$19.08	\$32,061.42	\$50,625.10	\$18,564		
Berlin	\$2,034,200	\$27.84	\$56,632.13	46.6	\$43,690	0	\$0	\$2,034,200	\$29.23	\$59,459.66	\$59,459.66	\$0	\$2,828	5.0%
Boylston	\$32,468,400	\$16.54	\$595,938.71	2,758.2	\$11,772	0	\$0	\$32,468,400	\$17.37	\$563,878.70	\$595,938.71	\$32,060		
Clinton	\$6,598,800	\$26.85	\$205,948.72	469.2	\$14,063	0	\$0	\$6,598,800	\$28.19	\$186,036.67	\$205,948.72	\$19,912		
Framingham	\$6,367,600	\$32.30	\$261,930.91	235.4	\$27,055	0	\$0	\$6,367,600	\$33.92	\$215,957.15	\$261,930.91	\$45,974		
Hardwick	\$7,662,300	\$15.98	\$122,443.55	4,686.9	\$1,635	0	\$0	\$7,662,300	\$16.78	\$128,565.73	\$128,565.73	\$0	\$6,122	5.0%
Hardwick - Annexed Lands	\$38,900	\$15.98	\$941.41	150.0	\$259	0	\$0	\$38,900	\$16.78	\$652.70	\$941.41	\$289		
Holden	\$36,147,200	\$17.00	\$919,615.57	3,814.9	\$9,475	95.49	\$904,791	\$37,052,000	\$17.85	\$661,378.20	\$919,615.57	\$258,237		
Hubbardston	\$24,037,200	\$14.82	\$356,231.30	8,567.7	\$2,781	27.25	\$75,775	\$24,113,000	\$15.56	\$375,222.39	\$375,222.39	\$0	\$18,991	5.3%
Leominster	\$179,000	\$17.98	\$8,688.49	42.5	\$4,205	0	\$0	\$179,000	\$18.88	\$3,379.34	\$8,688.49	\$5,309		
Ludlow	\$228,100	\$20.62	\$10,524.06	50.8	\$4,490	0	\$0	\$228,100	\$21.65	\$4,938.59	\$10,524.06	\$5,585		
Marlborough	\$2,179,000	\$25.22	\$112,802.46	570.4	\$3,820	0	\$0	\$2,179,000	\$26.48	\$57,702.10	\$112,802.46	\$55,100		
New Salem	\$17,936,900	\$18.04	\$520,470.61	22,413.1	\$799	0	\$0	\$17,936,900	\$18.94	\$339,760.76	\$520,470.61	\$180,710		
New Salem - Annexed Lands	\$6,161,400	\$18.04	\$201,603.91	11,580.0	\$532	0	\$0	\$6,161,400	\$18.94	\$116,709.24	\$201,603.91	\$84,895		
Northborough	\$5,410,700	\$17.25	\$103,466.89	360.9	\$14,994	0	\$0	\$5,410,700	\$18.11	\$98,001.30	\$103,466.89	\$5,466		
Oakham	\$9,781,900	\$13.55	\$147,067.60	2,537.1	\$3,856	0	\$0	\$9,781,900	\$14.23	\$139,171.98	\$147,067.60	\$7,896		
Orange	\$520,400	\$20.33	\$10,796.09	82.8	\$6,285	0	\$0	\$520,400	\$21.35	\$11,108.72	\$11,108.72	\$0	\$313	2.9%
Pelham	\$11,717,500	\$21.89	\$338,086.39	5,974.0	\$1,961	0	\$0	\$11,717,500	\$22.98	\$269,320.88	\$338,086.39	\$68,766		
Pelham - Annexed Lands	\$842,800	\$21.89	\$38,096.61	1,080.0	\$780	0	\$0	\$842,800	\$22.98	\$19,371.34	\$38,096.61	\$18,725		
Petersham	\$10,684,400	\$17.37	\$296,721.61	12,225.1	\$874	0	\$0	\$10,684,400	\$18.24	\$194,867.43	\$296,721.61	\$101,854		
Petersham - Annexed Lands	\$5,332,600	\$17.37	\$203,305.78	10,000.0	\$533	0	\$0	\$5,332,600	\$18.24	\$97,258.63	\$203,305.78	\$106,047		
Phillipston	\$146,100	\$16.94	\$11,912.74	162.8	\$898	0	\$0	\$146,100	\$17.79	\$2,598.68	\$11,912.74	\$9,314		
Princeton	\$16,990,900	\$15.85	\$269,305.77	2,915.7	\$5,607	57.42	\$321,953	\$17,312,900	\$16.64	\$288,129.94	\$288,129.94	\$0	\$18,824	7.0%
Rutland	\$23,314,000	\$17.61	\$525,860.45	6,489.0	\$3,593	0	\$0	\$23,314,000	\$18.49	\$431,087.52	\$525,860.45	\$94,773		
Shutesbury	\$7,185,600	\$24.04	\$299,391.54	4,861.6	\$1,478	0	\$0	\$7,185,600	\$25.24	\$181,378.92	\$299,391.54	\$118,013		
Southborough	\$18,108,700	\$16.66	\$301,690.94	1,310.6	\$13,817	0	\$0	\$18,108,700	\$17.49	\$316,775.49	\$316,775.49	\$0	\$15,085	5.0%
Sterling	\$48,193,300	\$16.81	\$810,129.37	5,144.5	\$9,368	66.9	\$626,711	\$48,820,000	\$17.65	\$861,697.41	\$861,697.41	\$0	\$51,568	6.4%
Templeton	\$55,200	\$16.83	\$1,082.18	92.1	\$600	0	\$0	\$55,200	\$17.67	\$975.47	\$1,082.18	\$107		
Ware	\$7,064,400	\$20.63	\$193,261.40	4,845.0	\$1,458	0	\$0	\$7,064,400	\$21.66	\$153,025.50	\$193,261.40	\$40,236		
Ware - Annexed Lands	\$4,757,600	\$20.63	\$167,580.62	3,865.0	\$1,231	0	\$0	\$4,757,600	\$21.66	\$103,056.75	\$167,580.62	\$64,524		
Wendell	\$1,332,800	\$23.86	\$31,800.61	654.7	\$2,036	0	\$0	\$1,332,800	\$25.05	\$33,390.64	\$33,390.64	\$0	\$1,590	5.0%
West Boylston	\$22,416,500	\$18.58	\$683,581.59	2,920.5	\$7,649	8.48	\$64,861	\$22,481,400	\$19.51	\$438,589.63	\$683,581.59	\$244,992		
Westborough	\$2,997,200	\$18.32	\$54,908.70	190.8	\$15,710	0	\$0	\$2,997,200	\$19.24	\$57,654.14	\$57,654.14	\$0	\$2,745	5.0%
TOTAL	\$359,774,100		\$8,355,686.80			255.5	\$1,994,091	\$361,768,300		\$6,807,433.72	\$8,473,752.47	\$1,666,320	\$118,066	1.4%

NOTES:

1. Watershed PILOT, per MGL c. 59 s.5G, is determined by multiplying the DOR valuation by the local commercial tax rate.
2. The process used by MA Department of Revenue (DOR) for valuing State Owned Land (SOL – which includes DCR Watershed Management) under MGL c. 58 changed in FY 19. Under the new process, DOR determined a base year SOL valuation for each community as of January 1, 2017. After a hearing and appeal process, base year SOL valuations were finalized. Going forward under the new process, the base year valuations will be adjusted every two years by a percentage equal to the change in a city or town's equalized cash value (EQV). Valuations are also updated annually to include the value of any acquisitions and/or dispositions in a community.
3. "Hold Harmless" is a provision in the legislation that requires any payment never to be less than the previous year's payment. Therefore, if either valuations or tax rates drop, the municipality is guaranteed a consistent payment.
4. March 2020 Estimate is derived using valuations and acquisitions provided by DOR and utilizing a 5% increase in local tax rates.