



Fiscal Year 2019 Work Plan



This figure of a half-acre opening on Prescott Peninsula from 1996-2008 is taken from the comprehensive *Land Management Plan* completed by DWSP in January 2018.

June 2018

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



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Fiscal Year 2019 Work Plan
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**Department of Conservation and Recreation
Division of Water Supply Protection
Office of Watershed Management**

FY19 Annual Work Plan Highlights

Fiscal Year 2019 is the first year in the implementation schedule for the *DCR Watershed System Watershed Protection Plan FY19-FY23*. Land protection efforts will continue through purchase in fee and of Watershed Preservation Restrictions. Successful implementation of the gull harassment program enables DCR to meet source water quality standards. The Watershed Protection Act provides the ability to review and comment on projects in proximity of critical water resource areas. Comprehensive emergency response planning is kept up to date. Public access plans and regulations for each watershed are successfully enforced by Watershed Rangers.

Wachusett/Sudbury Region

- Continue acquisition of critical parcels through fee or Watershed Preservation Restriction.
- 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. “Pre-cut monitoring” is completed and the lot for the “treated” watershed is anticipated to go to bid this Fiscal Year.
- Maintain lands around the Wachusett Reservoir including mowing of dikes to assure maintenance is in compliance with federal and state dam standards. Implement recommendations to reduce bluff erosion along the reservoir.
- 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 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 Watershed Protection Act regulations.

- Continue to implement the Wachusett Internal Road Plan, including routine maintenance and upgrades to higher priority roads.
- Monitor and maintain major dams in the system, as well as smaller watershed dams.
- Monitor and analyze water quality, including twice monthly sampling of 18 tributaries for bacteria, turbidity, temperature, and specific conductance. Continue monthly or more frequent sampling for nutrients and total suspended solids at 10 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 snow pack) 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 in concert with MWRA to control 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.
- Work with Town of Sterling, MassDOT, and MWRA to construct Route 70 drainage improvements to treat remaining, lowest priority discharges to the reservoir.
- Continue work with watershed communities to implement NPDES Stormwater MS4 requirements.
- Improve and update GIS datalayers and other products to better characterize and analyze watershed attributes that impact water quality.
- Continue work with MWRA on preparedness for potential railroad spills.
- Complete construction of a new Clinton Labor Crew Headquarters.

Quabbin/Ware Region

- Work on the Ware River Public Access Plan Update.
- Continue acquisition of critical parcels through fee or Watershed Preservation Restriction. Complete the federally funded Q2W project.
- Implement 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 caused by the work. Continue a long-term water quality monitoring study to investigate impact of silviculture on tributary water quality that began in FY15.

- Develop a Terrestrial Invasive Species Management Plan.
- Finalize the Quabbin Park Cemetery Operations and Management Plan.
- Begin to develop a gravel Operations and Management Plan.
- Maintain lands around the Quabbin Reservoir, including mowing and monitoring of dam and dike.
- Continue efforts to manage wildlife in the watershed. Conduct the Quabbin Gull Harassment program. Continue managing white-tailed deer populations through the annual controlled hunt. Identify and remove aquatic animals found within the Pathogen Control Zone. Explore opportunities to utilize drone technology in wildlife management.
- 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.
- Continue to implement the Watershed Protection Act regulations.
- Monitor and maintain major dams in the system, as well as smaller watershed dams.
- Monitor and analyze water quality, 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 watershed ponds and streams for presence of aquatic invasive species.
- Implement and oversee construction of the new Quabbin Maintenance facility.
- Work closely with MWRA and others on Quabbin Administrative Complex capital improvement projects.

**Wachusett/Sudbury Region
FY2019 Work Plan**

Key to Abbreviations

Wachusett/Sudbury Staff: A=Administration; CE=Civil Engineers; EP=Environmental Planning; EQ=Environmental Quality; F=Forestry; GIS-W = Geographic Information Services Wachusett; IS=Interpretive Services; RD=Regional Director, Assistant Regional Director; WM=Watershed Maintenance; WR=Watershed Rangers

Other DWSP Staff: A=Administration and Finance; D= Director; NR= Natural Resources; GIS=Geographic Information Services; P= Environmental Planning

Task	Task Description	Lead	Additional Staff	Product	Due Date
A. Land Acquisition					
1.	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	GIS-W, GIS, P, A	Protected land	Ongoing
2.	Develop individual parcel presentation materials and meet with MWRA Board for approval.	NR	P, GIS-W, D	Protected land	As needed
3.	Convene LAP meetings to review parcels and prioritize land purchases.	NR		LAP Recommendations	As needed
4.	Work with the North Quabbin Regional Landscape Partnership to acquire land and WPRs with a Quabbin to Wachusett (Q2W) Forest Legacy Grant.	NR		Protected land	Ongoing
5.	Continue to solicit and work with landowners in donating conservation interests in land and assist in advising landowners on the tax incentives available when donating conservation interests.	NR		Ongoing communications	Ongoing
6.	Establish regularly scheduled land/legal meetings to address attorney assignments and project logistics.	NR	D	Meetings	Ongoing
B. Watershed Preservation Restrictions					
1.	Complete baseline inspections for all new WPRs prior to acquisition or within reasonable time after acquisition using established protocols and modern technologies. Make baseline inspection reports available to appropriate staff. Baselines will be completed in house or through appropriate contracts	NR		Report	As noted in task
2.	Monitor each WPR every two years; monitor high-priority ones annually.	NR	EQ	Monitoring reports	
3.	Post WPR boundaries, as time allows.	NR		Posted boundaries	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
4.	Track changes in land ownership and meet with successor landowners as necessary.	NR		List of landowners and meetings	Ongoing
5.	Write and distribute Watershed Currents, the WPR Landowner newsletter, twice a year.	NR	P	Newsletter	Twice annually
6.	Convene WPR Working Group as needed and confer with legal to respond to enforcement issues and requests to exercise reserved rights.	NR	EQ	Issue resolution and reserved rights decisions	As needed
7.	Maintain an accurate GIS layer and Excel database of WPRs and distribute to appropriate staff. Move field inspections into ArcGIS online with the assistance of GIS staff.	NR	GIS-W, GIS	Excel spreadsheet and GIS layer	Ongoing
8.	Reconnect with EOEEA-wide database efforts and upload all existing and new data regularly.	NR		Statewide database	Ongoing
9.	Continue to implement WPR records procedure with DCR records manager.	NR		Securely stored records	Ongoing
C. Land Management					
1.	Implement the system-wide comprehensive Land Management Plan (LMP).	RD	F, NR, EQ, P, GIS,	Annual Review	4 th Quarter
2.	Conduct periodic reviews and monitoring of land management activities to assure compliance and consistency with Land Management Plan.	NR	F, EQ	Review memo	As needed
3.	Prepare annual summaries of proposed forestry lots for next fiscal year.	F	RD	Lot Summaries	4 th Quarter
4.	Plan and conduct an internal review of proposed logging operations for the coming year, including assessments of silviculture, water quality, wildlife, and other potential impacts/benefits Review lots to ensure consistency with aspects of the CLMP, including wildlife, forestry objectives, and environmental quality.	NR	EQ, RD	Annual lot reviews, comments	As needed
5.	Hold public meeting(s) on proposed forestry lots. Accept public comment.	RD	F	Meeting minutes	Spring
6.	Prepare, sell and supervise forest management operations in the Wachusett and Sudbury watersheds consistent with the CLMP. Initiate sale of harvest in one of two long-term study subbasins.	F	RD	Annual statistics on harvest area, inspection reports	4 th Quarter
7.	Monitor water quality at active logging sites to measure effectiveness of DWSP's Conservation Management Practices (CMPs).	EQ	F	Water quality data in Forestry Database	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
8.	Conduct a regeneration and terrestrial invasive species survey on DWSP land in the Sudbury watershed	F		Summary report	4 th Quarter
9.	Implement restrictions and recommendations by NHESP for forest management operations in habitat of rare plants or animals.	F	NR	Cutting plans and forestry database	Ongoing
10.	Continue work with DCR Asian Longhorned Beetle Program and USDA to oversee beetle eradication in watershed areas.	F	EQ, RD	Meetings, cutting plans	Ongoing
11.	Conduct annual invasive species control on identified priority areas as needed.	NR	F, WM	Contract, contract work	Annual Report
12.	Oversee habitat restoration and field reclamation work at identified sites	NR	F	Contract	Ongoing
13.	Inspect all DCR fields with agricultural permits.	F	EQ, RD	Inspection reports	2 nd Quarter
14.	Collect data and maintain datasets, GIS datalayers and related maps of rare and listed plant and animal species or communities. Analyze data on forest structure, composition, and regeneration.	NR	F, GIS	Field notes, reports	Ongoing
15.	Continue boundary line maintenance.	F	CE, RD	Update GIS layers and encroachment database	Ongoing
16.	Seek to resolve known encroachments. Incorporate newly found encroachments into the process.	WR	F, RD	Update encroachment database	Ongoing
17.	Assess all new fee acquisitions to document the existing condition of forests, roads, and boundary markings. Integrate new properties into existing land management and public access programs.	F	CE, WM, WR	Update relevant databases and GIS layers	Ongoing
18.	Participate in process to transfer lands surrounding Framingham Reservoirs 1 and 2 to DCR Parks.	D	RD, P	Disposed property	Ongoing
19.	Maintain DWSP wildlife fields through regular mowing; keep accurate mowing records.	WM	NR, F	Maintained fields	Ongoing
20.	Continue reservoir bluff erosion monitoring; evaluate measures taken to reduce and/or mitigate erosion.	EQ	WM, F, CE, RD	Report with recommendations	4 th Quarter
21.	Identify DWSP areas that would benefit from habitat restoration, invasive species control, or periodic maintenance using mulching machine.	NR	WM	Acres of habitat restored	Ongoing
22.	If available, use UAS (unmanned aerial systems) to document forest conditions, map openings, identify invasive plant populations or other activities.	NR	F, WM	Updated forest data	Ongoing
23.	Maintain deer exclosures and sample vegetation periodically to assess impacts of herbivore browsing.	NR	F	Report	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
D. Wildlife Management					
1.	Conduct program of observation and active harassment of gulls, geese, and other waterfowl.	EQ	All available staff	Birds are moved out of control zone.	Ongoing
2.	Produce weekly report during active Bird Harassment Program season.	EQ		Weekly report	Ongoing during harassment season
3.	Observe and document the nocturnal roost of gulls on the reservoir weekly during the months of September- March.	NR		Data used to guide harassment program	Ongoing during harassment season
4.	Control Canada Geese populations by treating eggs during nesting to prevent hatching.	NR	WM	Annual report	Ongoing
5.	Monitor geese activity on the North and South Dikes. Implement control activities as needed, including coyote decoys, habitat management practices or harassment to limit goose presence.	NR	EQ, WM	Limited number of geese on dikes	As needed
6.	Monitor area landfills for feeding gulls. Work cooperatively with landfill operators to ensure DEP landfill regulations are being followed.	NR		Field reports	As needed
7.	Monitor waste water treatment plants in Massachusetts that have wires installed to prevent feeding to make sure they function and continue to exclude gulls. Identify other wastewater treatment plants in MA with gulls and work to install wires at those plants.	NR	WM	Controlled treatment plants	As needed
8.	Identify parking lots in MA where food is available and work to prevent feeding through educational signage, interaction and enforcement.	NR		Controlled parking lots	As needed
9.	Work with cities and municipalities in MA to enact regulations to make feeding gulls illegal. Work cooperatively with these communities to educate feeders and/or enforce feeding regulations.	NR		Reduction in feeding of gulls	Ongoing
10.	Continue to identify alternative food sources for gulls in MA and work to eliminate their presence.	NR		Food sources eliminated	As needed
11.	Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone and assist with removal of nuisance individuals in other areas when possible. Utilize habitat modifications to discourage the presence of aquatic mammals.	NR	EQ	Field reports, annual summary	4 th Quarter

Task	Task Description	Lead	Additional Staff	Product	Due Date
12.	Analyze all aquatic mammals removed from Pathogen Control Zone for the presence of <i>Giardia</i> and <i>Cryptosporidium</i> by sending stool samples to a private lab for analysis.	NR		Summary report	4 th Quarter
13.	Use genetic markers to assist in identifying contamination sources in water samples.	NR	EQ	Sample identification	Ongoing
14.	Respond to beaver complaints from citizens affected by beaver on DWSP property; provide assistance as time allows.	NR	EQ	Assistance to homeowners	Ongoing
15.	Respond to beaver caused flooding issues on DWSP property; assess situation and take appropriate actions.	NR	EQ	Field reports	Ongoing
16.	Respond to problems of burrowing animals on dams and dikes; take appropriate action.	NR	CE, WM	Field report	Ongoing
17.	Continue long-term wildlife resource monitoring program to document wildlife response to forest management.	NR		Data base, Report	Ongoing
18.	Research and manage for common loons on DWSP water bodies; provide nesting platforms, capture and sample birds for contaminants.	NR		Annual Report	4 th Quarter
19.	Work with MA Department of Fisheries and Wildlife (DFW) to survey for and document breeding bald eagles on the reservoir.	NR		Field Report	4 th Quarter
20.	Monitor the status, and/or assess impacts, of selected wildlife species, including deer, beaver, migratory birds, water birds and vernal pool inhabitants. Coordinate with the Massachusetts Natural Heritage and Endangered Species Program concerning rare species occurrences and protection	NR	F	Field Notes; reports	Ongoing
21.	Conduct pellet surveys on DWSP lands in Wachusett/Sudbury to assess populations of deer and moose.	NR	F	Annual report	4 th Quarter
22.	Develop and implement a white-tailed deer management plan for DWSP lands at Wachusett that are currently not hunted.	NR	F, RD	Deer management plan; annual report	4 th Quarter
E. Public Access Management					
1.	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		Reports	Ongoing
2.	Continue to cooperate with state, environmental, and local police for help with enforcement when required.	WR	RD	Enforcement Resolution	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
3.	Continue to use DCR social media accounts for advertisement of interpretive programs, including general or emergency information (such as closings).	WR	IS	Press documents	Ongoing
4.	Develop public outreach regarding allowed uses on DCR Wachusett lands.	WR	RD	Plan, signage, outreach	2 nd quarter
5.	Continue updates and improvements to access points with signs, gates and improved parking areas. Conduct regular inspections of gates and access barriers.	WR	WM, RD	Signs, barriers	Ongoing
6.	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	RD	Compliance with DWSP regulations	Ongoing
7.	Continue to conduct “special operations” such as night operations, ATV, and snowmobile operations, as needed.	WR	RD	Compliance with DWSP regulations	Ongoing
8.	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		Compliance with DWSP regulations. Update database.	Ongoing
F. Watershed Security					
1.	Maintain an active presence in the watershed. Monitor watershed lands, roadways, and railways for unusual or suspicious activities; provide appropriate response.	WR	RD	Ranger logs	Ongoing
2.	Continue ongoing communication and coordination with local, state, and federal emergency responders; coordinate with MWRA on all security issues.	WR	RD	Ranger logs	Ongoing
3.	Continue program of enhancing security infrastructure around Wachusett Reservoir.	RD	CE, WR	Implementation	Ongoing
G. Infrastructure					
1.	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	RD	Inspection logs and reports, summary reports	Monthly
2.	Assess DWSP smaller dams semi-annually; review maintenance plans and revise as necessary.	CE	WM	Plans, summary reports	Monthly
3.	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	WM	Inspection reports, summary reports	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
4.	Conduct annual inspection/evaluation of Wachusett internal roads, access points, and shoreline; update GIS data layers as needed and develop list of maintenance and repairs needs.	CE	EQ	Maps	4 th Quarter
5.	Develop annual plan for larger internal road repair/reconstruction projects.	CE	RD, F, WM, EQ	Plan	3 rd Quarter
6.	Monitor the stability of River Road in Clinton.	CE		Report	4 th Quarter
7.	Conduct projects using in-house staff and resources. Provide oversight to ensure protection of water resources.	WM	CE, EQ, F	Projects	Ongoing
8.	Conduct regular maintenance of all DWSP BMPs.	ARD	WM, CE	Maintained, properly operating SW BMPS	Ongoing
9.	Evaluate conditions of Sudbury watershed internal roads and develop work plan, as necessary.	CE	EQ	Inspections, projects	4 th Quarter
10.	Provide supervision, coordination, oversight, and technical support or assistance for all engineering, construction, and renovation work in Section.	CE	RD	Inspections, construction and maintenance records	Ongoing
11.	Maintain records regarding property information; reservoir and facility construction and maintenance operations.	CE		Miscellaneous records	Ongoing
12.	Implement annual Major Projects including: <ul style="list-style-type: none"> • Clinton Crew Headquarters construction • Dike Maintenance • Roadway Maintenance 	RD	CE, WM, EQ	Improvements	4 th Quarter
13.	Provide access to water quality monitoring stations and perform occasional maintenance activities at stream gages	EQ	WM	Maintained access; functioning gauges	ongoing
H. Watershed Protection Act					
1.	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.	EP	RD, GIS-W, P	WsPA Decisions, updated electronic files	Ongoing. Decisions made within timeline set by WsPA.
2.	Convene the Watershed Protection Act Working Group regularly to discuss policy and address specific problems related to the WsPA	P	EP, R, D	Coordination, decisions, meeting minutes	As needed
3.	Review permits for watershed towns on a monthly basis with letters sent to property owners of affected parcels.	EP	RD	Letters to Property Owners of Affected Parcels	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
4.	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.	EP	RD	Letters to Property Owners of Affected Parcels	Monthly
5.	Review previous files on an ongoing basis, including contact with owners and site visits as needed. For all projects in a calendar year, if the owner has not contacted DCR about the start of their project, a review will be made and follow up letters will be sent as follows: Files with Decisions issued in January through June will get reviewed in July and files with responses issued in July through December files will get reviewed in January.	EP	RD	Follow-up Letters	Ongoing
6.	Provide Town Halls with WsPA maps, brochures and applications on a regular basis.	EP		Inventory of needs and inventory of information that was distributed.	Visit each town gets visited twice yearly.
7.	Review previous files in database on an ongoing basis including contact with owners and site visits as needed	EP	EQ	Document inspections/correspondence in database	ongoing
I. Education and Outreach					
1.	Review, implement, and amend the Wachusett Interpretive Services Plan. Coordinate all educational and outreach programs and document activities, successes, and any problems.	IS	WR, EQ	Amended plan with documentation of actions	Ongoing
2.	Inspect kiosks and brochure boxes quarterly, submit work orders, and update as necessary.	WR	IS, WM	Updates on Kiosks at least quarterly	Quarterly
3.	Perform inventory of signage and make recommendations for improvements and additions of stewardship signs	WR	D, RD	Inventory of sign type and location	1 st quarter
4.	Analyze and update current brochures. Determine need for new brochure topics and develop as needed.	EQ	WR, EQ	Brochures	Ongoing
5.	Partner with other organizations on watershed programs	IS	WR	Programs	Ongoing
6.	Conduct watershed, wildlife, forests, and history educational programs in the local school districts.	IS	WR	School Programs	Ongoing
7.	Provide educational materials, teacher training, and support for Mass Envirothon.	EQ	IS	School Programs	Ongoing
8.	Provide education through visitor contacts and formal presentations.	WR	IS, EQ	Programs, visitor contacts	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
9.	Publish bi-annual Downstream newsletter.	NR	P, IS, EQ, EP, WR, RD	Newsletter	2 nd Quarter and 4 th Quarter
10.	Maintain and update website.	P	IS, NR, EQ, WR, RD	Website	Ongoing
J. Water Quality and Hydrologic Monitoring					
1.	Continue routine sampling of tributaries for bacteria, turbidity, temperature, and specific conductance. Continue monthly sampling for nutrients and TSS at 10 tributaries.	EQ		WQ data entered into database	Ongoing
2.	Continue weekly or more frequent sampling of the reservoir for plankton, pH, temperature, and dissolved oxygen. Conduct reservoir transect sampling, as necessary, in conjunction with gull harassment program.	EQ		WQ data entered into Aquarius software	Ongoing
3.	Produce annual water quality summary and sampling plan.	EQ		Annual WQ report by March 15	3 rd Quarter
4.	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		Instantaneous hydrology information	Ongoing
5.	Augment hydrologic data in Wachusett watershed through establishment of additional stream gages, rain gages, and snow pack measurements. Enter all data in Aquarius and maintain accurate rating curves.	EQ	CE	Rating curves, data in Aquarius	Ongoing
6.	Maintain gages and gage sites on a regular basis, including removal of sediment and debris	EQ	WM	Accurate hydrologic data	Ongoing
7.	Determine needs for stormwater sampling based on analysis of historic data. Sample storm events as determined necessary.	EQ	RD, D	WQ data entered into ACCESS database annual nutrient loading calculations	Ongoing
8.	Update MapShed watershed runoff/loading model with new information and expand to include smaller tributaries and Quabbin transfer.	EQ		Annual loading estimate.	3 rd Quarter
9.	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		Input on DCR projects and issues; data summaries	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
10.	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		Issues	2 nd Quarter
11.	Continue to implement long term monitoring in paired sub-basins in order to assess impact of forestry on water quality. Increase monitoring frequency once harvesting is initiated (also see C.6)	EQ	F	annual report summarizing data and activities	Ongoing
12.	Continue to work with MWRA, Quabbin EQ, NEIWPC and other stakeholders to characterize cyanobacteria and cyanotoxins in the reservoir.	EQ		Info in annual WQ report	Ongoing
13.	Continue to develop database backed tools and applications (R, GIS, MS Access) to facilitate data management, review and analysis, writing reports and modeling efforts.	EQ		Improved analysis and reporting	Ongoing
14.	Continue data compilation/interpretation for 30-Year Water Quality Report (1988-2017). Include assessment of impacts of climate change on water quality and hydrology.	EQ		Comprehensive report	4 th Quarter
15.	Investigate interaction between plankton and interflow water quality with Roger Williams University.	EQ		Report summarizing findings	4 th Quarter
16.	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		Collection of additional data	Ongoing
17.	Complete identification and assessment of all macroinvertebrate samples and write summary report.	EQ		Inclusion in 30-year WQ Report	Ongoing
18.	Continue cooperative study of current population status, life history, and sustainable yield of lake trout. Use GIS to predict spawning areas in the reservoir.	EQ	GIS	Collection of data, generation of spawning area map	Ongoing
19.	Develop a study to identify trends in the long-term phytoplankton and water quality data sets and identify variables influencing these dynamics.	EQ		Collection of additional data, analysis	Ongoing
K. Watershed Monitoring and Assessment					
1.	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		Document actions in EQ database; compliance with regulations	Ongoing
2.	Review and analyze EQ database records. Compare with other data (water quality, GIS etc.) to evaluate watershed management programs. Develop reports as required	EQ	GIS-W,	Data, analysis, maps, reports	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
3.	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	RD, EP	Corrected files, accurate useful data	Ongoing
4.	Continue to update water and wetland resources using plans, field observations, and other available data. Add centerlines to streams and wetlands and correct any inaccurate wetland boundaries.	EQ		Updated hydrology datalayer	Ongoing
5.	Finalize Stillwater District EQA and use recommendations to develop tasks for FY20 Work Plan.	EQ		Final report, FY20 work plan tasks	2nd Quarter
6.	Update status of agriculture sites, hazardous material sites, hazardous materials spills, USTs, and ASTs.	EQ		Updated info in database and EQ files	Ongoing
7.	Develop and implement outreach strategies and programs for topics identified through EQAs.	EQ		Brochures, programs	Ongoing
L. Aquatic Invasive Species					
1.	Inspect reservoir, lakes, ponds and tributaries for presence of AIS.	EQ		Annual summary in water quality report	3 rd Quarter
2.	Conduct surveys, gather information, and make recommendations for management actions on an individual basis if/when new infestations are found.	EQ		Annual summary in water quality report	3 rd Quarter
3.	Conduct aquatic vegetation surveys prior to and after aquatic herbicide treatments planned for the Lily Ponds, South Meadow Pond complex, and Clamshell Pond.	EQ		Field report	4 th Quarter
4.	Continue to use appropriate methods to prevent the spread of pioneering stands of Phragmites along the reservoir shoreline.	EQ	WM, NR	Annual summary in water quality report	3 rd Quarter
5.	Assist MWRA with plant removal efforts in the reservoir.	EQ	RD	Annual summary in water quality report	3 rd Quarter
6.	Perform aquatic vegetation survey work prior to Thomas, Oakdale, and cove vegetation management. Provide report to MWRA and contractors to guide 2018-2019 plant removal efforts.	EQ		Field report	4 th Quarter
7.	Monitor, advise, and assist contractors with any necessary plant removal operations.	EQ	WM	Annual summary in water quality report	3 rd Quarter
8.	Enforce the decontamination procedures for all watercraft entering the reservoir by inspecting each vessel and collecting completed decontamination certification forms.	EQ		Annual summary in water quality report	3 rd Quarter
9.	Continue education efforts through formal presentations and visitor contacts.	EQ	WR	Annual summary in water quality report	3 rd Quarter

Task	Task Description	Lead	Additional Staff	Product	Due Date
10.	Distribute AIS brochure.	IS	EQ	Brochure; program	Ongoing
11.	Monitor beaver activity; if necessary make recommendations to NR for removal where contributing to spread of invasive plants.	EQ	NR	Field Reports	Ongoing
M. Wastewater Management					
1.	Provide plan review and interpretation, if requested, to Boards of Health.	EQ		Plan review, recommendations to boards, applicants	Ongoing
2.	Compile septic system information (installation date, repair date, location, etc) from watershed communities in wastewater database. Include repairs and linked electronic plans where available.	EQ		Septic system datalayer	Ongoing
3.	Obtain sewer connection information from Holden and West Boylston; add to Wastewater database and GIS datalayer	EQ		Updated database and GIS datalayer	Ongoing
4.	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	RD, D	Quarterly bills, correspondence with towns	Quarterly
5.	Research and provide sewer management information for legal issues regarding the Trunk and Relief sewer lines, as necessary.	CE	RD	Notes, information	Ongoing
6.	Evaluate and manage new trunk line connections. Monitor trunk line for encroachments; resolve any problems.	CE	RD	Permits, regular inspections	Quarterly
7.	Develop a report summarizing the results of the flow study and guidance information on managing sewer capacity in DCR lines.	CE	RD	Report	4 th Quarter
8.	Design a study to determine if areas that experienced conversion from septic to sewer have seen significant reduction in nutrient loading.	EQ		Report	4 th Quarter
N. Stormwater Management					
1.	Complete design to treat remaining two direct discharges to Wachusett Reservoir, located on Rte 110 in Sterling. Secure necessary permits and coordinate with MassDOT, Sterling DPW and MWRA to implement design	EQ CE	D		4 th Quarter
2.	Continue to work with landowners, towns and DCR staff for improved maintenance and performance of watershed BMPs.	EQ	CE, RD	Document actions in SM database	4 th Quarter
3.	Inspect DCR owned storm water BMPs regularly. Prepare list of required maintenance and forward to RD.	EQ	RD, WM	Maintained, properly operating SW BMPS	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
4.	Provide regular maintenance of BMPS on DCR lands.	WM	RD	Maintenance records	Ongoing
5.	Design and conduct water quality monitoring studies to evaluate effectiveness of and optimize performance of direct discharge project BMPs.	EQ		Report and improved BMP functionality	Ongoing
6.	Work with watershed towns to ensure compliance with MS4 requirements.	EQ		MS4 permit conditions met	4 th Quarter
7.	Maintain and enhance GIS data layer of storm water and drainage conveyance structures data layer. Add flow direction to storm sewer network.	EQ	GIS-W	Updated GIS datalayer.	Ongoing
8.	Conduct regular inspections of all construction sites greater than one acre.	EQ		ESC maintained and working as designed	Ongoing
9.	Continue work with local DPWs to identify locations of concern, evaluate options for BMP installation, and ways to cooperatively implement recommendations.	EQ		Installed BMPs	4 th Quarter
10.	Continue to work with watershed communities on review and update of local storm water regulations to comply with MS4 permit.	EP	EQ	Annual report summarizing status	2 nd Quarter
O. Emergency Response					
1.	Coordinate Emergency Spill Response training with MWRA and local responders.	CE	WR	Trainings	Ongoing
2.	Update contact list and information in Comprehensive Emergency Management Plan, EAPs, and other emergency response plans.	CE	WR	Plan	Ongoing
3.	Organize and maintain emergency response supplies and services.	CE, WR	WR	Inventory	Ongoing
4.	Review and modify the Training and Exercise Plan as necessary. Work with other agencies to provide trainings and exercises.	CE	WR	Trainings	4 th Quarter
5.	Provide ICS and Emergency Response training to appropriate staff.	CE	WR	Classes	4 th Quarter
6.	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, EQ	WR, WM	Contain and cleanup releases	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
P. Support					
1.	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	EQ, P, A, D	Completed plans, budgets and reports	Ongoing
2.	Administer the Payment in Lieu of Taxes (PILOT) program.	P	D, A	Payments to watershed communities	4 th Quarter
3.	Write metadata for all shape files on the shared W Drive	GIS W		Data	2 nd Quarter
4.	Write ArcGIS online web apps and viewer software to suit individual user needs	GIS W		Web Applications	Ongoing
5.	Publish features and map tiles as hosted web layers for ArcGIS Online users	GIS W		Published data	Ongoing
6.	Maintain and update all GIS databases on the shared W Drive;ensure all digital data is current and available to staff	GIS W		Databases	Ongoing
7.	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		Digital data	Ongoing
8.	Create parcel maps for Land Acquisition Coordinator meetings with landowners, LAP meeting and MWRA board	GIS W		Maps, analyses	Ongoing
9.	Support municipalities and other partners by providing GIS products and technical support	GIS W		Maps, digital data	Ongoing
10.	Operate administrative offices, including answering phones, greeting visitors, etc.	A	RD	Weekly payroll, HR forms processing	Ongoing
11.	Provide payroll assistance and personnel services for all Section employees.	A	RD	Account set-up, Invoice processing, regular finance reporting	Ongoing
12.	Provide contract administration, financial management, record-keeping, purchasing of goods and services, and other financial support services.	A	RD	Accounting and financial services	Ongoing
13.	Coordinate with EEA IT to provide local MIS support for the Section. Update IT Plan as required addressing technology needs for the coming year.	A	All Sections	Support and troubleshooting services; IT Plan	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
14.	Administer Logging Permit program, including mailings, bid openings, financial management, database management, permit and key issuance, etc.	A	F	Program administration; annual revenue report; database maintenance	Ongoing
15.	Plan and implement vehicle and equipment purchases and leases.	RD	A, WM	Vehicle purchases and leases	Annual
16.	Inspect, provide regular maintenance, and repair vehicles, boats and other motorized equipment.	WM	RD	Work completion	Ongoing
17.	Provide routine repairs and maintenance to all Wachusett facilities.	WM	RD	Work completion	Ongoing

Due Dates for FY19 Work Plan

1st Quarter: September 30, 2018

2nd Quarter: December 30, 2018

3rd Quarter: March 30, 2019

4th Quarter: June 30, 2019

Quabbin/Ware Region FY2019 Work Plan

Key to Work Unit Abbreviations: ARD = Assistant Regional Director; AS = Administrative Support; CE = Civil Engineering; D = Division of Water Supply Protection Director; EP = Environmental Planning; EQ = Environmental Quality; F = Forestry; FN = Finance and Procurement; GIS = Boston GIS staff; QGIS = Quabbin GIS staff; IS = Interpretive Services; NR = Natural Resources; P = Planning (Boston); RD = Regional Director; WM = Watershed Maintenance-Regional Coordinator; WM-C = Carpentry; WM-BEL = Belchertown; WM-NS = New Salem; WM-O = Oakham; WM-Mech = Mechanics; WM-BLA = Boat Launch Areas; WR = Watershed Rangers.

Plan Acronyms: AIS = Aquatic Invasive Species; AST = Above-ground Storage Tank; BLA = Boat Launch Area; BMP = Best Management Practices; BoH = Board of Health; CMP = Conservation Management Practices; CVA = Chicopee Valley Aqueduct; DCAM = Division of Capital Asset Management; DCR = Department of Conservation & Recreation; DFW = Division of Fisheries & Wildlife; DWSP = Division of Water Supply Protection; EOEEA = Executive Office of Energy and Environmental Affairs; EPA = Environmental Protection Agency; EQA = Environmental Quality Assessment; GIS = Geographic Information Systems; GPS = Global Positioning System; IT = Information Technology; LAP = Land Acquisition Panel; MassDEP = Massachusetts Department of Environmental Protection; MWRA = Massachusetts Water Resources Authority; NPDES = National Pollution Discharge Elimination System; OWM = Office of Watershed Management; SOP = Standard Operating Procedure; SWPPP = Stormwater Pollution Protection Plan; TIP = Terrestrial Invasive Plant; TIS = Terrestrial Invasive Species; UST = Underground Storage Tank; WPP = Watershed Protection Plan; WPR = Watershed Preservation Restriction; WsPA = Watershed Protection Act.

Task	Task Description	Lead	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	Ongoing
2.	Convene LAP meetings to review parcels and prioritize land purchases.	NR	RD, ARD, EQ, EP, F	Prioritized lists by region; input; advice	Ongoing
3.	Develop individual parcel presentation materials and meet with MWRA Board for approval.	NR	P, GIS	Protected land	As needed
4.	Work with the North Quabbin Regional Landscape Partnership to acquire land and WPRs with a Quabbin to Wachusett (Q2W) Forest Legacy Grant.	NR		Protected land	First Quarter
5.	Continue to work with landowners on donations of land conservation interests, solicit donations, and provide information on potential tax incentives available for such donations.	NR		Ongoing communications	Ongoing
6.	Establish regularly scheduled land/legal meetings to address attorney assignments and project logistics.	NR		Meetings	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
B. Watershed Preservation Restrictions					
1.	Monitor each WPR every two years; monitor high-priority ones annually.	NR	EQ, F	28 monitoring reports; updated land ownership and hydrology layers	Ongoing
2.	Ensure all new WPRs have completed baseline documentation reports prior to acquisition or within a reasonable time of acquisition following EOEEA specifications. Baselines will be completed in-house or through appropriate contracts.	NR		WPR baseline reports	Prior to WPR acquisition
3.	Write and distribute Watershed Currents, the WPR Landowner newsletter, twice a year.	NR	P	Newsletter	Twice annually
4.	Convene WPR Working Group and confer with legal to respond to enforcement issues and requests to exercise reserved rights.	NR	EQ	Issue resolution and reserved rights decisions	As needed
5.	Post WPR boundaries as time allows.	NR		Posted boundaries	Ongoing
6.	Track changes in land ownership and meet with successor landowners as necessary.	NR		List of landowners and meetings	Ongoing
7.	Maintain an accurate GIS layer and Excel database of WPRs and distribute to appropriate staff.	NR		Excel spreadsheet and GIS layer	Ongoing
8.	Participate in EOEEA-wide stewardship database planning efforts as necessary.	NR		Statewide database	As needed
9.	Continue to implement WPR records procedure with DCR records manager.	NR		Securely stored records	Ongoing
C. Land Management					
1.	Implement the system-wide comprehensive Land Management Plan.	RD	P, EQ, QGIS, NR, F	Current Plans	Ongoing
2.	Conduct periodic reviews and monitoring of land management activities to assure compliance and consistency with land management plans.	NR	F, EQ	Internal review; Review memos	As needed; 4 th Quarter
3.	Plan and conduct an internal review of proposed timber harvest operations for the coming year, including assessments of silviculture treatments proposed, water quality, wildlife, and other potential impacts/benefits.	NR	RD, F, EQ	Annual lot reviews, comments	

Task	Task Description	Lead	Additional Staff	Product	Due Date
4.	Collect data and maintain datasets, GIS datalayers, and related maps of rare and listed plant and animal species or communities. Analyze data on forest structure, composition, and regeneration.	NR	F, QGIS	Databases, GIS coverages	Ongoing
5.	Develop a Terrestrial Invasive Plant Plan. Identify and implement terrestrial invasive management projects. Respond as needed to newly discovered and controllable populations of terrestrial invasive species.	NR	F, EQ, WM, RD	New Plan; Completed projects	Ongoing
6.	Conduct contract habitat restoration and field reclamation work at identified sites.	NR	F	Contract	Ongoing
7.	Maintain DWSP existing fields through regular mowing; keep accurate mowing records.	WM	NR, F	Maintained fields	Ongoing
8.	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	Completed assessments	Ongoing
9.	Prepare lot 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	2 nd Quarter
10.	Prepare, sell, and supervise forest management operations in the Quabbin/Ware Region consistent with land management plans and approved lot proposals, including posting public information on lots and providing public tours of lots as requested.	F	RD	Permits and timber sales	Ongoing
11.	Provide supervision and oversight of all timber harvesting operations on DWSP property to assure compliance with applicable regulations, approved BMPs/CMPs, and other contract conditions.	F	NR, EQ	Supervision and oversight of all harvesting operations	Ongoing
12.	Collect regeneration and other forest health data to monitor effects of silvicultural operations on species composition and age structure as well as overall forest health. Create photo point for select lots and take pictures annually to document forest response to harvest.	F	NR	Regeneration database, maps, and photodocumentation	Ongoing
13.	Continue to implement a GIS-based mapping system of silvicultural operations on the Quabbin and Ware River watersheds. Continue to use LIDAR data. Collect data and maintain GIS datalayers related to forest structure, composition, regeneration, forest roads, boundary information, stone walls, wetlands, and other data to guide the land management program.	F	NR, QGIS	GIS datalayer of annual silvicultural operations, databases, maps	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
14.	Continue the program of water quality monitoring for harvesting operations. Conduct periodic stream sampling at long-term forestry sites. Modify plan as needed.	EQ	NR	Stream sampling; periodic evaluation	Ongoing
15.	Maintain and mark reservation boundaries as needed. Document and pursue resolutions of boundary encroachments.	F	NR, WR, CE, ARD, RD	Clearly marked boundaries; encroachment resolutions	Ongoing
16.	Maintain the non-silvicultural lands described in the land management plan (e.g., viewsheds, gravel pits).	WM	F, NR, ARD	Acres maintained in Quabbin and Ware watersheds, plan implementation	FY19
17.	Supervise field mowing permits in Ware River Watershed to ensure compliance with permit conditions.	F	RD	Field mowing in compliance with permit	Ongoing
18.	Administer and supervise maple sugaring permits on Quabbin Reservoir Watershed to ensure compliance with permit conditions.	F	RD	Compliance with permits	3 rd Quarter
19.	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	Updated forest data; updated culvert and road data	Ongoing
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, 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. If available, use a UAS to photograph/film the gull roost for identification and counting.	NR	EQ		
3.	Control Canada geese populations on Quabbin Reservation by treating eggs during nesting season to prevent hatching.	NR	WM	Annual report	Ongoing
4.	Monitor geese activity on the Winsor dam and dikes. Implement control activities as needed, including coyote decoys, habitat management practices, or harassment to limit goose presence.	NR	EQ, WM	Limited number of geese on dam/dikes	As needed

Task	Task Description	Lead	Additional Staff	Product	Due Date
5.	Monitor area landfills and wastewater treatment plants (WWTPs) for feeding gulls. Work with landfill operators to ensure compliance with MassDEP solid waste regulations. Work with WWTPs to ensure exclusion wires are installed and maintained over sedimentation tanks to discourage gull feeding.	NR		Field reports and controlled WWTPs	As needed
6.	Continue to identify and reduce alternative feeding locations, such as parking lots, for gulls in western and central Massachusetts. Work to prevent supplemental feeding of gulls through educational signage, interaction, and enforcement.	NR		Reduction of available human-derived food sources	As needed
7.	Work with cities and municipalities to enact regulations to make feeding gulls illegal. Work cooperatively with these communities to educate feeders and/or enforce feeding regulations.	NR		Reduction in feeding of gulls	Ongoing
8.	Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Quabbin, and assist with removal of nuisance animals in other areas when possible. Utilize habitat modifications to discourage the presence of aquatic mammals.	NR,	EQ, WM-B, WM-NS, WM-O	Field reports, annual summary	4 th Quarter As needed
9.	Analyze aquatic mammals removed from the Pathogen Control Zone at Quabbin Reservoir for the presence of <i>Giardia</i> and <i>Cryptosporidium</i> by sending fecal samples to a laboratory for analysis.	NR		Lab report	4 th Quarter
10.	Use genetic markers to assist in identifying contamination sources in water samples.	NR	EQ	Sample identification	Ongoing
11.	Respond to beaver complaints caused by beaver on DCR property and provide assistance, as time allows.	NR	EQ, WM	Assistance to state, towns, homeowners	Ongoing
12.	Respond to beaver-caused flooding issues on DWSP property; assess situations and take appropriate actions.	NR, WM	EQ	Field reports	Ongoing
13.	Respond to problems of burrowing animals on dams and dikes; report problems and take appropriate action.	NR	CE, WM-B	Field reports	Ongoing
14.	Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants.	NR	WM-C	Annual report	4 th Quarter
15.	Work with DFW to survey and document breeding bald eagles around Quabbin Reservoir.	NR		Field report	4 th Quarter
16.	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	2 nd Quarter

Task	Task Description	Lead	Additional Staff	Product	Due Date
17.	Oversee and operate the annual Quabbin Controlled Deer Scout and Hunt.	WM	RD, IS, ARD, WR	Prepare scout and hunt operations	2 nd Quarter
18.	Monitor the status, and/or assess impacts, of selected wildlife species, including deer, beaver, migratory birds, water birds and vernal pool inhabitants. Coordinate with the Massachusetts Natural Heritage and Endangered Species Program concerning rare species occurrences and protection.	NR	F	Field Notes; reports	Ongoing
19.	Continue long-term monitoring and assessment of moose populations and impacts. Work with UMass researchers on moose telemetry and exclosure studies in the Quabbin/Ware Region.	NR		Project reports	Ongoing
20.	Conduct pellet surveys on DWSP lands in the Quabbin/Ware Region to assess populations of deer and moose.	NR	F	Annual report	4 th Quarter
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	Ongoing
2.	Continue to cooperate with state, environmental, federal, and local police for help with enforcement when required.	WR	ARD	Enforcement resolution	Ongoing
3.	Use Agency social media accounts for advertisement of interpretive programs, including general info or emergency info (e.g., closings).	WR	IS	Press documents	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. Supervise SCA crew work at the Ware River watershed.	WR	IS, WM-M, WM-O,	Signs produced and posted, as needed; fact sheets, brochures; kiosk maintenance; new kiosks	Ongoing, as needed
5.	Continue to implement Quabbin and Ware 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		Tracking databases; compliance with DWSP regulations; MassDEP Compliance reports	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
6.	Continue to conduct “special operations” such as night operations, ATV, and snowmobile operations, as needed.	WR		Compliance with DWSP regulations	Ongoing
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-BLA	WM-C, AS, QGIS, WR, IS, EQ	BLAs opened/closed; six months of program operation; Annual Quabbin Fishing Report	April – Oct. Annual report by December 31
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-O	WR	Maintain ramp, parking lot, and dam; pick up trash; support and consultation	Seasonal efforts and ongoing, as needed
9.	Coordinate and/or support special programs and events, including Memorial Day services, public meetings, paraplegic hunts, and Tuesday Tea events.	IS	WM, RD, WR, NR	Public events	Ongoing
10.	Continue to implement universal accessibility projects throughout the Quabbin/Ware Region.	RD	IS, CE, ARD, WM	Enhanced accessibility	Ongoing
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	All Region Staff	Research requests evaluated; permits issued; databases maintained; policy changes as needed	Ongoing
12.	Begin update of Ware River Public Access Management Plan.	RD	All Region Staff, P	First draft of updated plan	June 2019
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		Daily patrols; daily logbooks and incident report	Ongoing
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	Inspection; repairs; installation	Ongoing
3.	Coordinate security monitoring and related activities at high vulnerability locations with MWRA.	RD	WR, ARD	Enhanced security	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
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	Dam repair and maintenance; monthly reports filed and sent to MWRA Western Operations	Ongoing; 1 st of Month
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. Coordinate inspections with consultants.	CE	RD	Inspection reports	June or October
3.	Provide oversight and technical support or assistance for engineering, construction, and renovation work in the Quabbin/Ware Region.	CE, WM	RD	Ongoing project oversight	Ongoing
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	Ongoing
5.	Conduct building maintenance activities, including painting, carpentry, cleaning, minor repairs, and other routine maintenance.	WM	CE	Ongoing maintenance	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. Complete registration and development of new public water supply well to service the Stockroom Maintenance Complex.	CE	EQ, RD	Meet MassDEP requirements; monthly and annual reports	Ongoing
7.	Conduct periodic inspections, maintenance, or oversight of heating systems, fuel pump operations, and fuel deliveries.	CE, WM	WM-B	Daily maintenance and operation during heating season; inspections	Ongoing
8.	Develop specifications, bid packages and contracts for facility and infrastructure projects scheduled for FY19.	CE	WM, RD, ARD, FN	Specs, bid packages, contracts	Periodic
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	Maintenance and management of Quabbin Park	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
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	Cemetery maintenance; burials; record keeping	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	Miles graded, Miles mowed, Miles plowed, Gravel used (yards),	Ongoing; related permits FY18-19, associated road work FY19
12.	Continue to investigate improved Emergency Spill Response access.	EQ	CE, WM	Realignment of Gate 16 road	FY19
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,	Gravel management strategy for DWSP lands.	FY19
14.	Continue to work with the MWRA by providing support, on-site coordination, and input on planned facility upgrades to Shaft 12, CVA Intake, and other reservoir structures.	RD	CE, WM, EQ	Coordination and support.	Ongoing Planning in FY19
15.	Investigate sedimentation on and around Hangar ramp.	EQ	RD	Plan for ramp maintenance	FY19
16.	Complete site and utility work associated with construction of new Maintenance Building on Blue Meadow Road. Complete necessary design, contracting, and permit requirements to provide treatment of stormwater, upgrade of fueling tanks, and delivery of expanded fiber optic service.	CE	RD, ARD, WM	Specs, bid packages, contracts	FY19
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	Application processing; decision issuance; field work; database management	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
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	Local notice review and interactions with contact persons in the watershed towns.	Ongoing
3.	Convene WsPA Working Group meetings.	P	RD, EQ, EP	Regular meetings	Quarterly
4.	Educate and interact with local boards and officials in the watersheds about watershed protection regulations. Ensure that local officials have an adequate supply of the current WsPA forms, brochures, guidance documents, and maps. Educate local officials, realtors, prospective buyers, land development consultants, and homeowners on WsPA-affected lands on the implications of the WsPA regulations and procedures for referring applicants to the DWSP.	P, EP	RD, EQ	Education of local boards, homeowners, consultants, etc.	Ongoing
5.	Provide technical assistance support to local boards through contact, meetings, and/or through regulatory review process.	EP	EQ, CE, RD,	Review of bylaws and regulations; meetings; local development project review.	Ongoing
I. Education and Outreach					
1.	Implement the Interpretive Services Plan for the Quabbin Watershed.	IS		Plan implementation or development	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		Visitor center operation; count of visitors	Ongoing
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		Curriculum; education materials and services	Ongoing
4.	Collaborate with other organizations and watershed communities to reach more diverse audiences. Identify specific groups and their educational needs.	IS	WR	Programs; public contacts	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
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	Exhibits and displays	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	Walkway improvement; signage; brochures	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.	Contribute information related to all aspects of watershed protection program to DWSP website.	P	All Work Units	Website updates	Periodic, as needed
9.	Continue to support and participate in the Envirothon, America's leading natural resource education program for high school students.	IS	AS, WR, EQ	Participation	Ongoing
10.	Publish bi-annual Downstream newsletter.	NR	P, IS, EQ, EP, WR, RD	Newsletter	2 nd Quarter and 4 th Quarter
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	Field reports; annual inspection	Periodic
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	Weekly reports; database updates; annual reports; annual sample collection plans.	Ongoing
3.	Perform Shaft 8 Intake Zone Inspections prior to MWRA diversions.	EQ	CE	Inspections	As needed
4.	Monitor plankton in Quabbin Reservoir and selected tributaries.	EQ		Data collection; periodic reports	Ongoing
5.	Collect, interpret, and manage data on reservoir elevations, water transfers and releases. Share data with DWSP staff and MWRA.	CE		Data collection and yield reports	Ongoing
6.	Conduct short-term water sampling of forest harvesting operations on DWSP lands.	EQ	NR	Inspections, sample collections	Ongoing
7.	Investigate re-establishing wind monitoring station.	EQ	WM	Wind database	FY18-19

Task	Task Description	Lead	Additional Staff	Product	Due Date
8.	Continue improvements to database app for compiling of water quality, quantity, and other relevant data for data and trend analyses.	EQ		Water quality database	FY18-19
9.	Implement streamflow monitoring at selected sites. Coordinate flow monitoring with annual water quality sampling plan.	EQ		Streamflow database	FY19-FY20
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	FY19
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	EQA reports: East Swift Upper, East Petersham, and East Swift Lower Subdistricts; West Branch Ware District	Ongoing
2.	Prioritize recommendations in completed EQAs as necessary and complete short- and long-term remedial actions.	RD, EQ	All Work Units	Quarterly reporting	Ongoing
3.	Update and assess land use/land cover statistics for watershed, sanitary districts, and sub-districts when new GIS coverages are available.	QGIS		Updated coverages and analyses	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	Regulation enforcement	Ongoing
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		Routine inspection summaries; database entries	Ongoing
6.	Coordinate with other agencies to exchange information and review projects in watershed.	EQ	P, All Work Units	Project reviews and written comments	Ongoing
7.	Monitor MassDEP databases regularly for new c.21E information.	EQ		Hazardous waste database; EQA inspections and reports.	Periodic
8.	Review periodic reports on closed landfills in the watersheds. Coordinate with town and/or MassDEP to review monitoring reports.	EQ		Reports	Periodic

Task	Task Description	Lead	Additional Staff	Product	Due Date
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	Letter to DFA; brief field reports	Periodic
10.	Work with loggers and utility rights-of-way contractors to reduce the risk of introducing invasive species into the watersheds.	EQ, F		Meetings with contractors; DCR permit language to prevent invasives	Ongoing
11.	Monitor utility maintenance, repair, or replacement projects on DCR lands for water quality problems.	EQ		Meetings with contractors; permits; SOPs	Ongoing
12.	Continue to identify, map, and monitor locations of agricultural operations that could impact water quality through the EQA process.	EQ	EP	Maps, reports	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; update AIS plan	Ongoing 4 th Quarter
2.	Conduct public education about AIS.	EQ	IS	Education	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	Boat Seal tracking, inspections, decontamination, public education.	Winter, Spring
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	Monitoring program; training	Ongoing
11.	Update Quabbin/Ware Region's AIS Management Plan.	EQ	RD, ARD	Updated Plan	3rd Quarter
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; new database	Ongoing
N. Stormwater Management					
1.	Advise local boards on stormwater management issues related to construction activities.	EQ	EP, RD, ARD	Advice as needed.	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
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					
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	Emergency Response Materials; Contact Lists	Ongoing
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.	FY19
3.	In conjunction with MWRA, coordinate spill response and/or incident command system (ICS) training to staff.	EQ, WR	RD, ARD, WM	Training of staff	Annual
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	Incident notification; emergency response; incident reports	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	Ongoing
6.	Develop comprehensive Emergency Response Program to include natural disasters, accidents, and intentional events.	TBD	all	EAPs IAPs	
P. Support					
1.	Operate administrative offices, including answering phones, greeting visitors, etc.	AS	IS	Main office operation	Daily activity
2.	Manage payroll through SSTA and HR/CMS.	AS		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	Accounting and financial services	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	Support and troubleshooting services; IT Plan	Ongoing; IT Plan submitted by end of 1 st quarter

Task	Task Description	Lead	Additional Staff	Product	Due Date
5.	Provide personnel services and assistance for all Quabbin/Ware Region employees.	AS	RD, ARD	Support	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	Ongoing
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	Maps; datalayer updates; other services	Ongoing
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	Updated maps for all Quabbin communities	Ongoing, as needed
9.	Plan and implement vehicle and equipment purchases.	ARD, WM-M	WM, RD	Vehicle purchases; up-to-date records	Annual; Ongoing
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	Maintenance and repair of vehicles and equipment, updated records	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	Record management	Ongoing
12.	Administer the Payment in Lieu of Taxes (PILOT) program	P		Payments to watershed communities	4 th Quarter
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	Scope of work and timeline	4th Quarter

2. Staffing

A. Section Responsibilities and Staffing Levels

- Office-wide
- Wachusett/Sudbury
- Quabbin/Ware

B. Organization Charts

- Office-wide
- Wachusett/Sudbury
- Quabbin/Ware

DCR Division of Water Supply Protection
Office of Watershed Management
Office-Wide Responsibilities and Staffing
FY 2019

Section	FY18 FTE	New FY19 FTE	Primary Responsibilities
Management – Director, Natural Resources Section Director	1.9	0	<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	0	<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	0	<ul style="list-style-type: none"> ▪ Develop, write, and help implement 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. ▪ Develop and distribute <i>Downstream</i> newsletter, Fact Sheets, and provide educational and outreach programming. ▪ Provide research and monitoring to support Natural Resource Management Planning. ▪ Monitoring and manage land based invasive plants.
Program Coordination & Technical Support – Environmental Planning	1	0	<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	FY18 FTE	New FY19 FTE	Primary Responsibilities
Program Coordination & Technical Support – GIS	1	0	<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	16.3	0	
TOTAL FY19 FTE		16.3	

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 and Administrative Support.

DCR Division of Water Supply Protection
Office of Watershed Management
Wachusett/Sudbury Region Responsibilities and Staffing
FY 2019

Section	FY18 FTE	New FY19 FTE	Primary Responsibilities
Management -- Regional Director and Assistant Regional Director	2	0	<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 ▪ Ensure interagency coordination with MWRA (Reservoir Operations, Water Quality Testing, Consent Order Compliance and Reporting) ▪ Coordinate/Support programs & Policies with other DCR divisions ▪ Coordinate/Support Programs & Policies with EEA/EEA agencies ▪ Coordinate/Support Programs & Policies with watershed communities and stakeholders ▪ Consult with Watershed Advisory Committees, Friends Groups
Administrative Support	6	0	<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 ▪ Implement GIS program in watershed, providing data analysis, maps and digital information
Environmental Quality	10 1 seasonal	0	<ul style="list-style-type: none"> ▪ Conduct multi-year program planning through development of 5 year Watershed Protection Plans ▪ Develop annual work plans and annual progress assessments. ▪ 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	FY18 FTE	New FY19 FTE	Primary Responsibilities
Environmental Planning	1	0	<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	0	<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	0	<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 repairs and renovation projects at facilities in the Wachusett and Sudbury Watersheds ▪ Coordinate emergency response planning, preparedness and operations in the Wachusett and Sudbury Watersheds
Watershed Rangers	9	0	<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	FY18 FTE	New FY19 FTE	Primary Responsibilities
Interpretive Services	1	0	<ul style="list-style-type: none"> ▪ Develop and conduct watershed system school based programs ▪ Conduct Programs at Stillwater Farm Interpretive Site ▪ Conduct Environmental Education teacher training ▪ Develop and Conduct environment-based public education programs
Watershed Maintenance	33 4 seasonals	0 - 4 short-term 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	68	0	
Total Seasonals	5	0	
Total FY19 FTEs		68	
Total FY19 Seasonals		1	

DCR Division of Water Supply Protection
Office of Watershed Management
Quabbin/Ware Region Responsibilities and Staffing
FY 2019

Section	FY18 FTE	New FY19 FTE	Primary Responsibilities
Management – Regional Director; Assistant Regional Director	2	0	<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 and supervision of staff ▪ 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	2	0	<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 related records ▪ Assist employees with benefit questions and applications ▪ Provide staffing and operational support for main office ▪ Maintain vehicle files and FAMIS entries
Fiscal	2	0	<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 ▪ Management of shipping and receiving department ▪ Maintain inventories and supply logs for supply areas ▪ Procurement according to all protocols for Region
GIS	1	0	<ul style="list-style-type: none"> ▪ Provide GIS and GPS support and services to Regional staff ▪ Provide IT support and other technical assistance to the Region ▪

Section	FY18 FTE	New FY19 FTE	Primary Responsibilities
Environmental Quality	9	0	<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 ▪ Assist with WsPA analysis, as necessary ▪ Assist with development and implementation of Watershed Protection Plans, Public Access Plans, and Land Management Plans ▪ Maintain Spill Response trailers ▪ Assist with Emergency Response ▪ Monitor streamflow, pathogens, algae, stormwater flows and macrophytes ▪ Monitor environmental compliance in building (e.g., drinking water testing) ▪ Assist with interagency coordination and information exchange with MWRA, DEP, MHD, other DCR divisions, EEA and other EEA agencies and NYC DEP
Environmental Planning	1	0	<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 ▪ Research or develop technical tools and/or written materials on regulatory implementation, land use planning and other watershed protection topics ▪ Coordinate with other agencies and local boards to enhance the development and enforcement of environmental protection regulations on watershed lands

Section	FY18 FTE	New FY19 FTE	Primary Responsibilities
Forestry	7	0	<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 ▪ Assist with public education programs related to watershed management ▪ Conduct or participate in other watershed management activities (e.g., boundary maintenance, encroachment issues) ▪ Provide administrative and revenue processing functions
Civil Engineering	5 + 1 LTS	0	<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 ▪ Provide technical support and engineering assistance to other Quabbin/Ware staff ▪ Maintain all historical records consisting of the construction of dams, roads, bridges and buildings in the Quabbin Reservoir and Ware River Watersheds ▪ Assist in Cemetery operation and maintenance including drafting burial plot plans, locating burial lots, maintaining records and facility maintenance and repair ▪ Oversee and maintain Photovoltaic Systems at Quabbin Boat Launch Areas

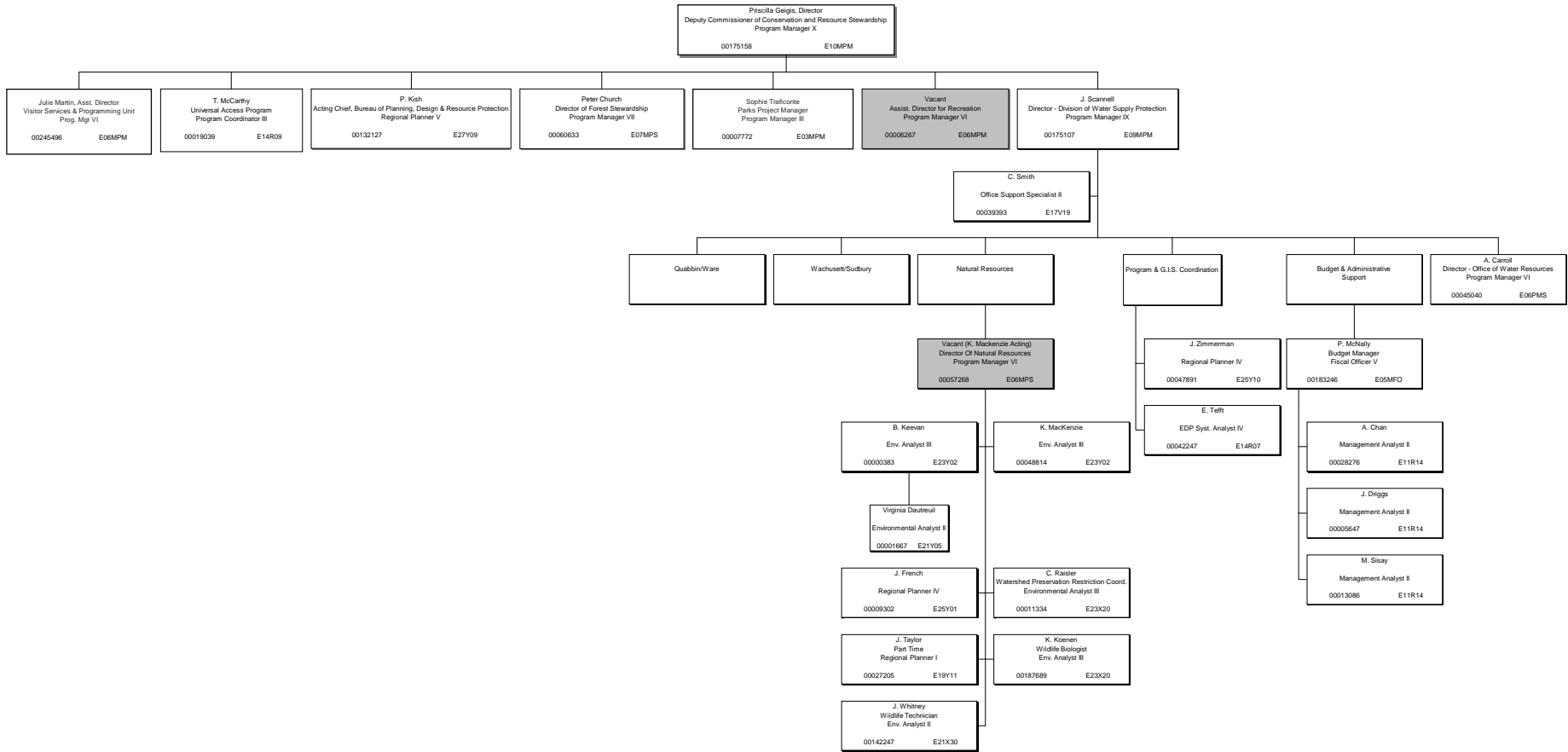
Section	FY18 FTE	New FY19 FTE	Primary Responsibilities
Watershed Rangers	9	0	<ul style="list-style-type: none"> ▪ Maintain a positive visual presence in watersheds ▪ Monitor public activities on watershed lands and waters in accordance with Public Access Management Plans. ▪ Ensure Rules Compliance through 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
Interpretive Services	4	0	<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 disincorporated Quabbin towns, and issue official records upon request; Assist visitors with genealogical research. ▪ Manage and issue access permit requests for groups, special events, and former residents ▪ Administer Quabbin controlled deer hunt application process, including data entry, database management, and orientations ▪ Maintain recorded telephone information on access, programs and watershed management activities ▪ 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 ▪ Provide graphics and other support to other Section programs for the development of brochures, publications and presentations ▪ Maintain audio-visual collection for Quabbin/Ware Region, including photographs, slides and oral history tapes

Section	FY18 FTE	New FY19 FTE	Primary Responsibilities
Watershed Maintenance	30 + 15 LTS	0	<ul style="list-style-type: none"> ▪ Perform primary maintenance activities on watershed lands, roads, facilities and other resources ▪ Maintain physical security 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 ▪ Maintain, operate or oversee administration complex boiler system, fuel deliveries and weekly fuel tank inspections ▪
Total FTEs	68		
Total Seasonals	16		
Total FY19 FTEs		68	
Total FY19 Seasonals		16	

LTS = Long-term Seasonal
STS = Short-term Seasonal

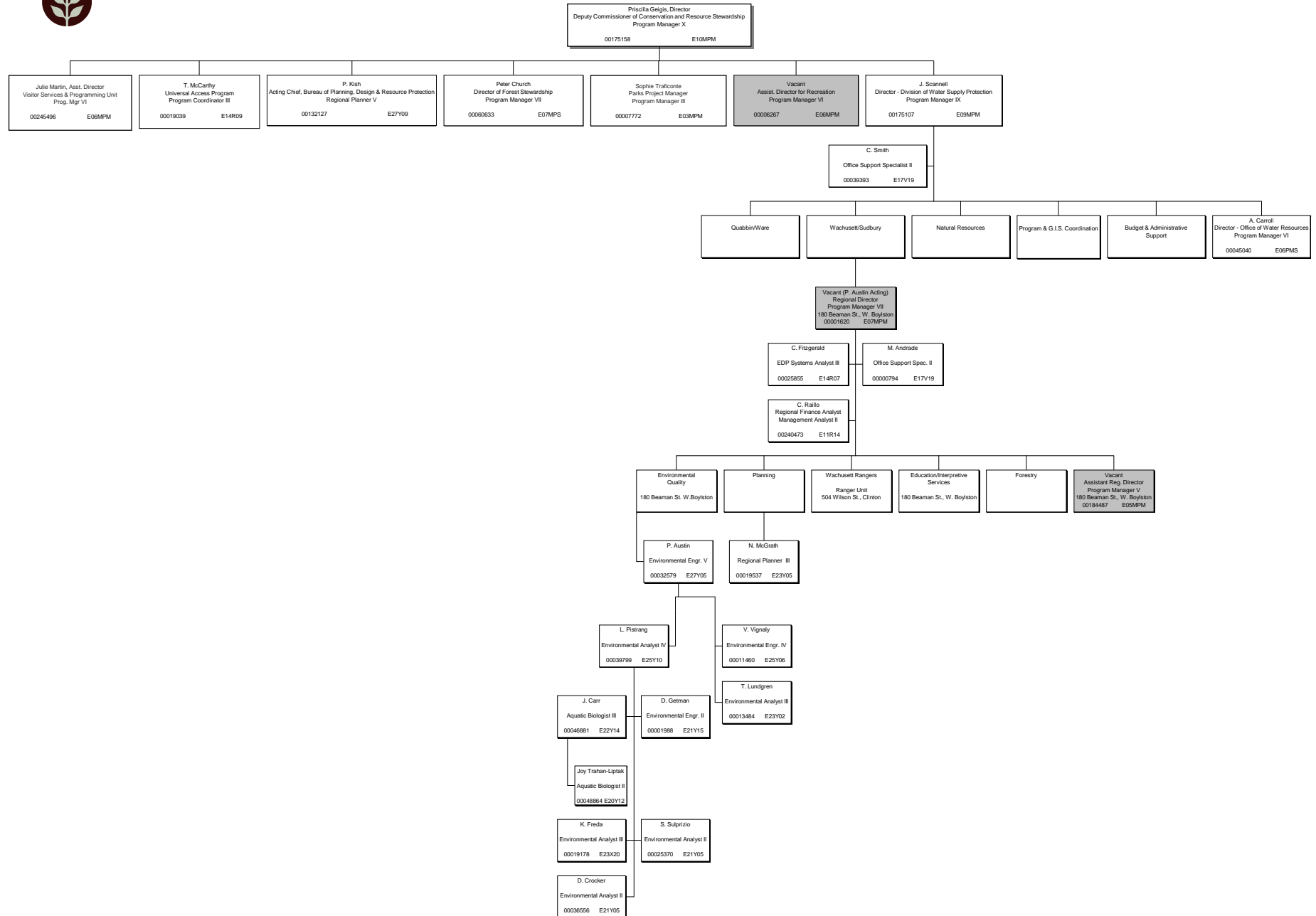


Department of Conservation and Recreation
Conservation and Resource Stewardship
Water Supply Protection - Administration & Natural Resources



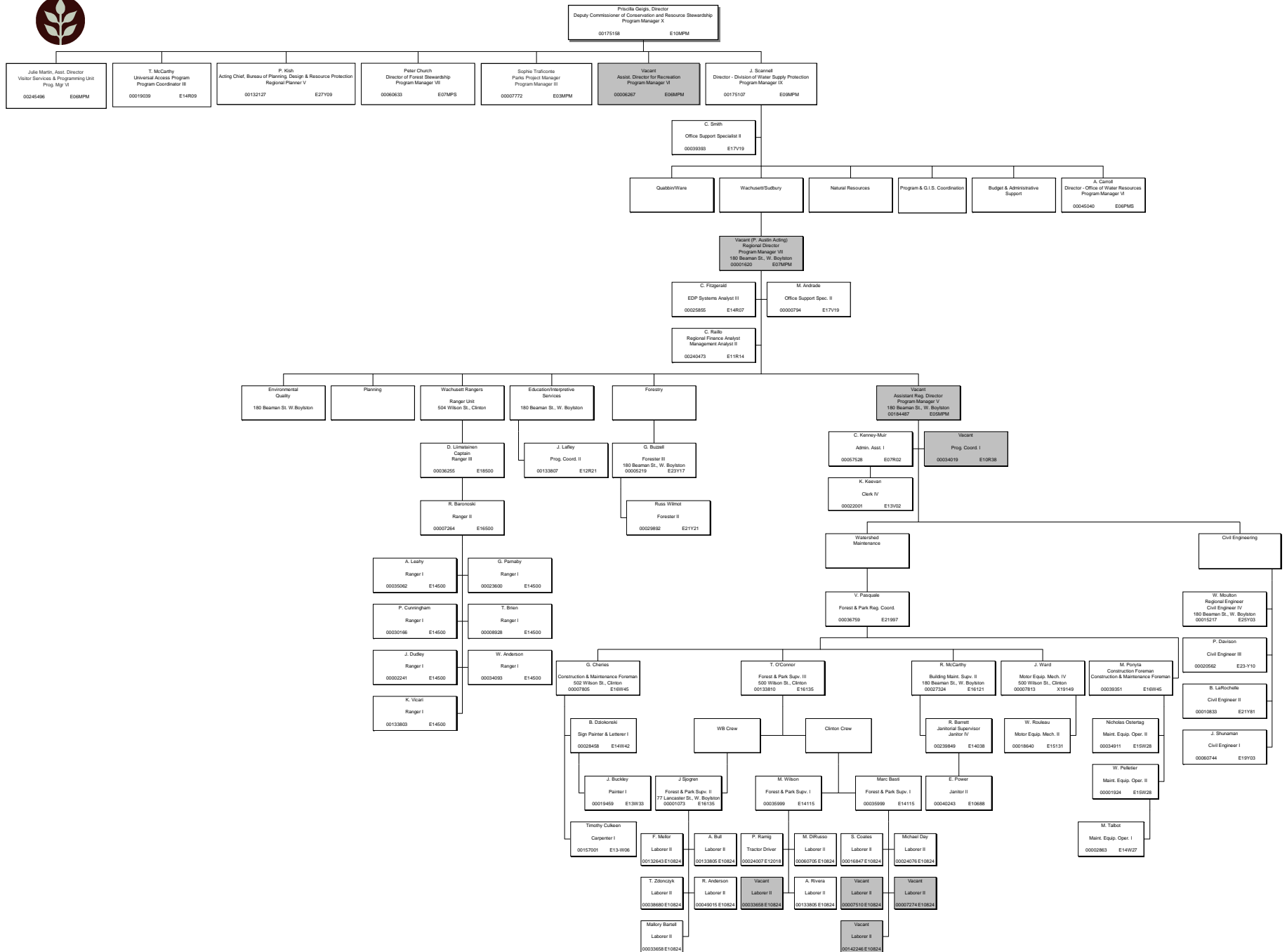


Department of Conservation and Recreation
 Conservation and Resource Stewardship
 Water Supply Protection - Wachusett/Sudbury Region (1)



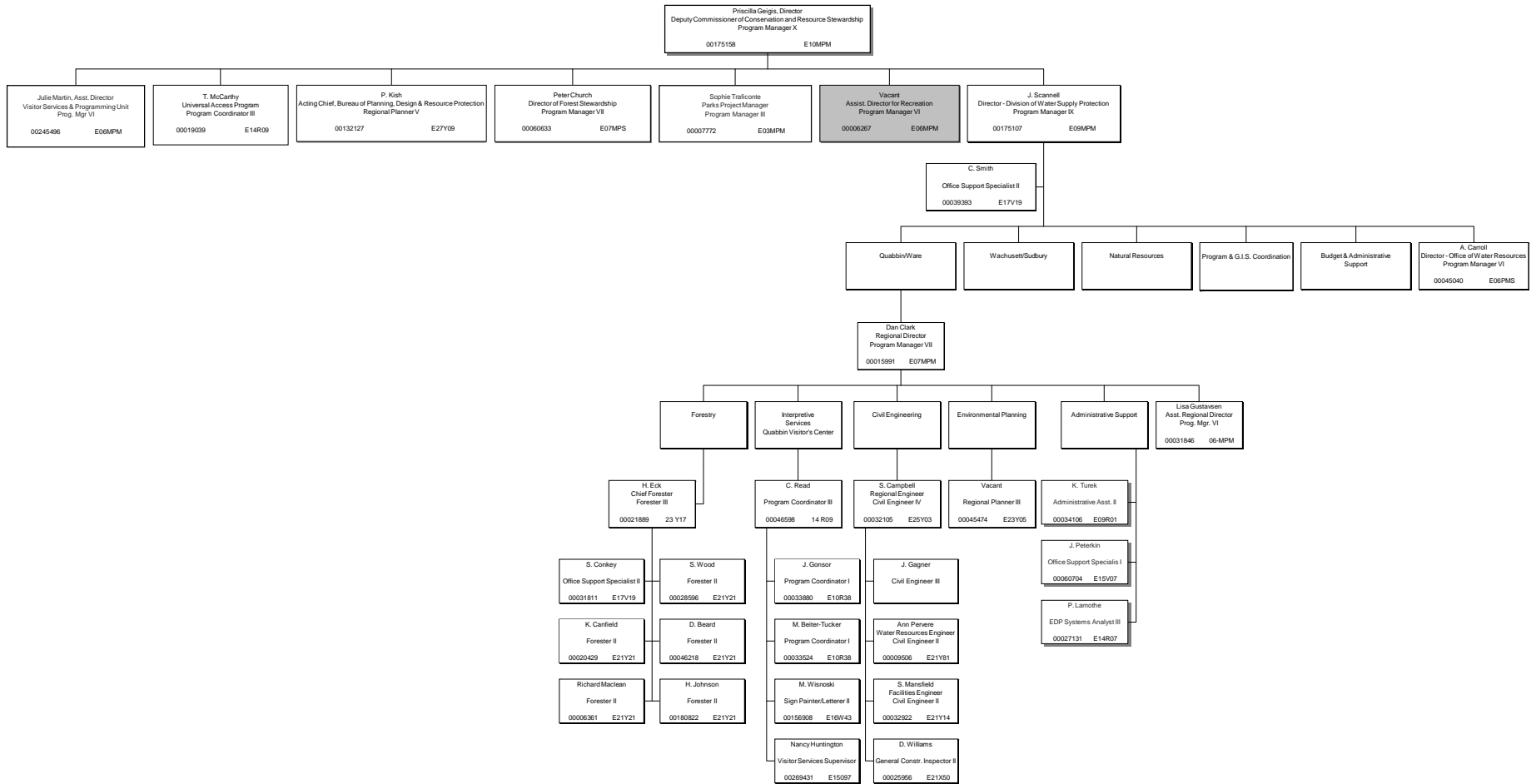


Department of Conservation and Recreation
Conservation and Resource Stewardship
Water Supply Protection - Wachusett/Sudbury Region (2)



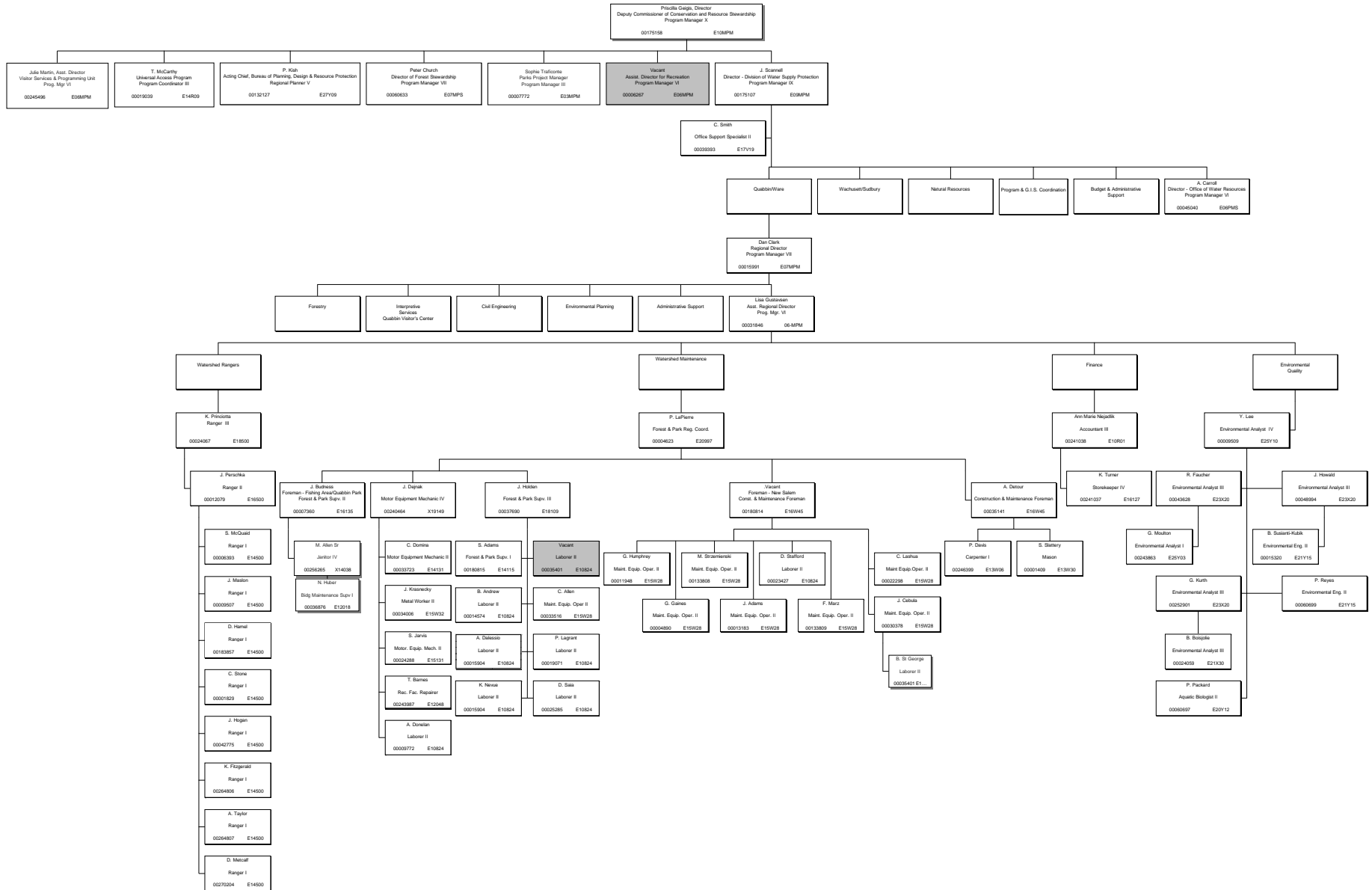


Department of Conservation and Recreation
 Conservation and Resource Stewardship
 Water Supply Protection - Quabbin/Ware Region (2)





Department of Conservation and Recreation
 Conservation and Resource Stewardship
 Water Supply Protection - Quabbin/Ware Region (2)



3. Annual Budget Summary

**WATER SUPPLY PROTECTION TRUST
Expenditures and Revenues Report
FY19 Work Plan Budget**

		FY19	
		Projected	% of Total
A. Revenues			
OWM Revenues			
	Hydro + Transmission	\$400,000	2.3%
	Forestry	\$354,993	2.0%
	Fishing & Recreation	\$230,000	1.3%
	Misc.	\$30,000	0.2%
	OWM Revenues Subtotal	\$1,014,993	5.9%
	MWRA Payments to Trust *	\$16,306,427	94.1%
	Total Revenues	\$17,321,420	100.0%
B. Expenditures (not inc. Phase 1 Capital Projects)			
AA	Personnel	\$10,734,300	62.0%
BB	Employee Expenses	\$11,150	0.1%
CC	Contracted Services	\$60,000	0.3%
DD	Pensions/Insurance	\$3,964,970	22.9%
EE	Admin Expenses	\$110,000	0.6%
FF	Facility Operational Supplies	\$198,000	1.1%
GG	Energy Costs	\$291,500	1.7%
HH	Consultant Contracts	\$231,000	1.3%
JJ	Operational Services	\$50,000	0.3%
KK	Equipment	\$525,000	3.0%
LL	Leases, Rentals	\$129,500	0.7%
NN	Construction Improvements	\$675,000	3.9%
PP	Grants to Public Entities	\$0	0.0%
TT	Specials Payments	\$130,000	0.8%
UU	IT Expenses	\$211,000	1.2%
	Total Expenditures	\$17,321,420	

* not accounting for FY18 roll-over, which is credited

4. Annual Operating Budget

DCR Division of Water Supply Protection
Office of Watershed Management
FY19 Budget Details

Budget_Fiscal_Year		FY19 Budget						
Appropriation		5/31/2018						
Object_Class	Object	Object_Name	FY17 Actuals	FY2017 Final Budget	FY2018 Final	FY2019 Draft	Prop FY19 vs FY18 Budget	% Change
AA	A01	Salaries:Inclusive	9,112,040	9,580,000	9,838,408	10,316,300	477,892	4.9%
	A06	Stand-By Pay					-	
	A07	Shift Differential Pay	23,416	21,000	23,000	23,000	-	0.0%
	A08	Overtime Pay	262,322	175,000	230,000	260,000	30,000	13.0%
	A10	Holiday Pay	36,784	24,000	24,000	30,000	6,000	25.0%
	A11	Employment Related Settlements and Judgements					-	
	A12	Sick-Leave Buy Back	51,059	30,000	30,000	35,000	5,000	16.7%
	A13	Vacation-In-Lieu	29,297	60,000	60,000	50,000	(10,000)	-16.7%
	A14	Stipends, Bonus Pay and Awards	30,070				-	
	AA1	Out of Title Pay	22,506		20,000	20,000	-	0.0%
AA Total			9,567,494	9,890,000	10,225,408	10,734,300	508,892	5.0%
BB	B01	Out Of State Travel - Inclusive	3,372	2,500	2,500	3,000	500	20.0%
	B02	In-State Travel	2,104	3,000	3,000	2,500	(500)	-16.7%
	B03	Overtime Meals					-	
	B05	Conference, Trng & Reg, Membership Dues, Licensing Fees	6,340	5,000	5,000	5,000	-	0.0%
	B10	Exigent Job-Related Expenses	64	100	100	100	-	0.0%
	B11	Employer Refund of Non-Tax Benefits	6	50	50	50	-	0.0%
	B91	Employee Reimbursement Accounts Payable	209	500	500	500	-	0.0%
BB Total			12,094	11,150	11,150	11,150	-	0.0%
CC	C04	Contracted Seasonal Employees	50,913	85,000	77,000	60,000	(17,000)	-22.1%
	C22	Engineering, Research & Scientific Services					-	
	C98	Reimb Travel/Other Expenses CC Special Contract/Employee					-	
CC Total			50,913	85,000	77,000	60,000	(17,000)	-22.1%
DD	D09	Non Fringe Benefits Reimbursement (Payroll Tax)	167,205	166,583	174,111	186,741	12,631	7.3%
	D09	Fringe Benefits Reimbursement	3,060,378	3,216,335	3,439,637	3,668,228	228,591	6.6%
	D15	Worker's Comp Chargeback	100,000	100,000	100,000	100,000	-	0.0%
	D21	Health Ins Costs of Employ/Leave in Excess of 1 Yr Chgback	16,021	10,000	10,000	10,000	-	0.0%
DD Total			3,343,604	3,492,918	3,723,748	3,964,970	241,222	6.5%
EE	E01	Office & Administrative Supplies	8,175	7,500	7,500	8,500	1,000	13.3%
	E02	Printing Expenses & Supplies	7,469	12,000	12,000	12,000	-	0.0%
	E04	Central Reprographics Chargeback	-	500	500	1,000	500	100.0%
	E06	Postage	8,250	5,500	5,500	7,000	1,500	27.3%
	E12	Subscriptions, Memberships & Licensing Fees	918	1,600	1,600	1,500	(100)	-6.3%
	E13	Advertising Expenses	1,926				-	
	E14	Exhibits/Displays	993	2,000	2,000	2,000	-	0.0%
	E15	Office Tap Water Treatment	1,150	900	900	1,000	100	11.1%
	E19	Fees, Fines, Licenses, Permits & Chargebacks	26,279	28,000	28,000	31,000	3,000	10.7%
	E20	Motor Vehicle Chargeback	27,666	29,000	29,000	34,000	5,000	17.2%
	E22	Temp Use Space/Confer-Incidental Includes Reservation Fees	-	1,000	1,000		(1,000)	-100.0%
	E32	Tort Claims Liab Mgmt Reduc Fd					-	
	E53	S&J: Non-reportable to claimant, sole payee	10,000	10,000	10,000	10,000	-	0.0%
	E75	Advances - Administrative Expenses					-	
	EE2	Conference, Training and Registration Fees	-	2,000	2,000	2,000	-	0.0%
EE Total			92,826	100,000	100,000	110,000	10,000	10.0%

DCR Division of Water Supply Protection
Office of Watershed Management
FY19 Budget Details

Budget_Fiscal_Year		FY19 Budget							
Appropriation		5/31/2018							
Object_Class	Object	Object_Name	FY17 Actuals	FY2017 Final Budget	FY2018 Final	FY2019 Draft	Prop FY19 vs FY18 Budget	% Change	
FF	F01	Food, Beverages, & Preservation	91				-		
	F03	Laundry and Cleaning Supplies	-				-		
	F05	Laboratory Supplies	3,725	1,500	1,500	2,000	500	33.3%	
	F06	Medical & Surgical Supplies	3,979	1,000	1,000	2,000	1,000	100.0%	
	F08	Toiletries and Personal Supplies					-		
	F09	Clothing & Footwear	29,972	20,000	20,000	25,000	5,000	25.0%	
	F11	Laundry & Cleaning Supplies	8,598	9,000	9,000	9,000	-	0.0%	
	F13	Live Animals & Related Supplies	649	1,000	1,000	1,000	-	0.0%	
	F16	Library and Teaching Supplies and Materials	67	200	200	200	-	0.0%	
	F18	Recreation, Religious & Social Supplies & Materials	14,882	13,000	13,000	13,000	-	0.0%	
	F19	Manufacturing Supply & Materials & Raw Materials	2,511				-		
	F21	Navigational & Nautical Supplies	9,625	15,000	15,000	12,800	(2,200)	-14.7%	
	F22	Municipal Taxes					-		
	F24	Motor Vehicle Maintenance & Repair Parts	90,432	85,000	85,000	130,000	45,000	52.9%	
	F27	Law Enforcement & Security Supplies	3,160	2,500	2,500	3,000	500	20.0%	
FF Total			167,691	148,200	148,200	198,000	49,800	33.6%	
GG	G03	Electricity	54,015	24,000	24,000	30,000	6,000	25.0%	
	G05	Fuel For Vehicles	95,824	180,000	185,000	140,000	(45,000)	-24.3%	
	G06	Fuel For Buildings	93,204	115,000	120,000	115,000	(5,000)		
	G08	Sewage Disposal & Water	5,215	6,500	6,500	6,000	(500)	-7.7%	
	G11	Natural Gas	545	500	500	500	-	0.0%	
GG Total			248,803	326,000	336,000	291,500	(44,500)	-13.2%	
HH	H05	Arbitrators/Mediators/Dispute Resolution Services					-		
	H09	Attorneys/Legal Services	5,500	6,000	6,000	6,000	-	0.0%	
	H23	Program Coordinators					-		
	HH1	Financial Services	45,080	45,000	45,000	45,000	-	0.0%	
	HH2	Engineering, Research & Scientific Services		91,070				-	
		UMass - Water Quality and Spill Response Modeling			120,000	135,000	135,000	-	0.0%
		Source Molecular			14,000	14,000	14,000	-	0.0%
		Biodiversity Research Inst (loon capture and banding)			15,000	15,000	15,000	-	0.0%
		Boise State Univ (gull study - data analysis)						-	
		CLS America Inc (gull study - data collection)						-	
		Analytical Services			5,000	5,000	5,000	-	0.0%
New Forestry Research						-			
South Meadow Pond Hydrilla Control Project			8,000	8,000	6,000	(2,000)	-25.0%		
HH4	Health and Safety Services	10,088	3,000	3,000	5,000	2,000	66.7%		
HH Total			151,738	216,000	231,000	231,000	-	0.0%	
JJ	J21	Hazardous Waste Removal Services					-		
	J25	Laboratory and Pharmaceutical Services	1,120			1,000			
	J27	Laundry Services	9,061	8,000	8,000	19,000	11,000	137.5%	
	J33	Photographic & Micrographic Services		500	500		(500)	-100.0%	
	J44	Surveyors	687	10,000	10,000	4,000	(6,000)	-60.0%	
	J50	Instructors/Lecturers/Trainers	10,834	500	500	4,000	3,500	700.0%	
	JJ1	Legal Support Services	17,798	25,000	25,000	22,000	(3,000)	-12.0%	
	JJ2	Auxiliary Services					-		
JJ Total			39,500	44,000	44,000	50,000	5,000	11.4%	

DCR Division of Water Supply Protection
Office of Watershed Management
FY19 Budget Details

Budget_Fiscal_Year		FY19 Budget						
Appropriation		5/31/2018						
Object_Class	Object	Object_Name	FY17 Actuals	FY2017 Final Budget	FY2018 Final	FY2019 Draft	Prop FY19 vs FY18 Budget	% Change
KK	K02	Educational Equipment	4,885	3,000	3,000	3,000	-	0.0%
	K03	Facility Equipment	21,667	45,000	65,000	60,000	(5,000)	-7.7%
	K04	Motorized Vehicle Equipment	377,728	415,000	415,000	420,000	5,000	1.2%
	K05	Office Equipment	1,932	5,000	5,000	5,000	-	0.0%
	K07	Office Furnishings	304	3,000	3,000	3,000	-	0.0%
	K10	Law Enforcement & Security Supplies		4,000	4,000	4,000	-	0.0%
	K11	Heavy Equipment	77,440	23,000	23,000	30,000	7,000	30.4%
KK Total			483,955	498,000	518,000	525,000	7,000	1.4%
LL	L11	Heavy Equipment Lease-Purchase	29,292	33,000	33,000	30,000	(3,000)	-9.1%
	L23	Facility Equipment Rental or Lease	28,947			29,000	29,000	
	L24	Motorized Vehicle Equipment Rental or Lease	206				-	
	L25	Office Equipment Rental or Lease	2,437	2,500	2,500	2,500	-	0.0%
	L26	Printing/Photocopy & Micrographics Equip Rent/Lease	13,484	15,000	14,000	15,000	1,000	7.1%
	L31	Heavy Equipment Rental or Lease	2,037	2,000	2,000	2,000	-	0.0%
	L42	Educational Equipment Maintenance & Repair	-	2,000	2,000	2,000	-	0.0%
	L43	Facility Equipment Maintenance & Repair					-	
	L44	Motorized Vehicle Equipment Maintenance & Repair	9,608	31,000	28,000	15,000	(13,000)	-46.4%
	L45	Office Equipment Maintenance and Repair	651	1,000	1,000	1,000	-	0.0%
	L46	Print, Photocopying & Micrograph Equipment Maint/Repair	4,711	3,000	3,000	3,000	-	0.0%
	L50	Law Enforcement/Security Equipment Maintenance/Repair		500	500		(500)	-100.0%
	L51	Heavy Equipment Maintenance/Repair	19,229	25,000	25,000	22,000	(3,000)	-12.0%
L63	Programmatic Equipment Maintenance and Repair	5,532	15,000	15,000	8,000	(7,000)	-46.7%	
LL Total			116,134	130,000	126,000	129,500	3,500	2.8%
NN	N15	Building/Vertical Structure Construction	-				-	
	N16	Maj Construction, Maj Renovation, Bldg Alteration, Land Impr	94,102	110,000	100,000	100,000	-	0.0%
	N17	Major Building Maintenance and Land Improvements	28,735	95,000	95,000	80,000	(15,000)	-15.8%
	N18	Initial Furnishings & Equipment Purchases	-				-	
	N19	Land Acquisition and Eminent Domain	996				-	
	N22	Highway Horizontal/Lateral Maintenance and Improvements	35,354	115,000	130,000	70,000	(60,000)	-46.2%
	N23	Highway Horizontal/Lateral Maintenance Materials	11,027	50,000	50,000	30,000	(20,000)	-40.0%
	N41	State Park & Recreation Facilities Construction	166,634	15,000	15,000	74,000	59,000	393.3%
	N50	Non-Major Facility Infrastructure Maintenance & Repair	86,154	50,000	55,000	55,000	-	0.0%
	N52	Facility Infrastructure Maint & Repair Tools & Supplies	130,734	110,000	110,000	110,000	-	0.0%
	N60	Lawn and Grounds Equipment Maint & Repair	825	5,000	5,000	5,000	-	0.0%
	N61	Lawn and Grounds Equipment	70,012	70,000	75,000	75,000	-	0.0%
	N64	Garden Expenses, Tools and Supplies	24,721	25,000	25,000	25,000	-	0.0%
	N71	Exterminators/Integrated Pest Management	3,801	4,000	4,000	4,000	-	0.0%
	N72	Hazardous Waste Removal Services	3,872	15,000	15,000	12,000	(3,000)	-20.0%
	N73	Non-Hazardous Waste Removal Services	25,579	21,000	21,000	25,000	4,000	19.0%
	N74	Snow Removal&Groundskeeping Svcs (inc. haz. tree removal)	20,029	5,000	5,000		(5,000)	-100.0%
N98	Reimbursement for Travel/Other Expense Infrastructure Projects					-		
NN1	Engineering, Research and Scientific Services	101,005	75,000	90,000	10,000	(80,000)	-88.9%	
NN Total			803,579	765,000	795,000	675,000	(120,000)	-15.1%

DCR Division of Water Supply Protection
Office of Watershed Management
FY19 Budget Details

Budget_Fiscal_Year		FY19 Budget						
Appropriation		5/31/2018						
Object_Class	Object	Object_Name	FY17 Actuals	FY2017 Final Budget	FY2018 Final	FY2019 Draft	Prop FY19 vs FY18 Budget	% Change
PP	P01	Grants to Public Entities					-	
PP Total			-	-	-		-	
TT	T04	Payments & Refunds (USGS gages)	124,460	125,000	125,000	130,000	5,000	4.0%
TT Total			124,460	125,000	125,000	130,000	5,000	4.0%
UU	U01	Telecommunications Services Data		2,000	10,500	8,000	(2,500)	-23.8%
	U02	Telecommunications Services - Voice	47,443	50,000	55,000	68,000	13,000	23.6%
	U03	Software and Information Technology (IT) Licenses	3,234	15,000	15,000	10,000	(5,000)	-33.3%
	U04	Information Technology Chargeback	8,357	2,000	2,000	8,000	6,000	300.0%
	U05	Information Tech (IT) Professionals		6,000	6,000	4,000	(2,000)	-33.3%
	U07	Information Tech (IT) Equipment Purchase	122,485	90,000	110,000	110,000	-	0.0%
	U09	Information Technology (IT) Equip Rental Or Lease		24,000	-		-	
	U10	Information Tech (IT) Equipment Maintenance & Repair		4,000	4,000	3,000	(1,000)	-25.0%
UU Total			181,519	193,000	202,500	211,000	8,500	4.2%
Total Baseline Cost			15,384,311	16,024,268	16,663,006	17,321,420	657,414	3.9%

DCR Division of Water Supply Protection
Office of Watershed Management
FY19 Budget Details

Budget_Fiscal_Year		2019		FY19 Budget					
Appropriation		28300100		5/31/2018					
Object_Class	Object	Object_Name	FY17 Actuals	FY2017 Final Budget	FY2018 Final	FY2019 Draft	Prop FY19 vs FY18 Budget	% Change	
"Capital Projects" Funded by Water Supply Protection Trust									
Wachusett/Sudbury Region Projects									
KK	K04	Large Equipment (items over \$100k)	122,811	125,000	150,000		(150,000)	-100.0%	
KK Total			122,811	125,000	150,000	-	(150,000)	-120.0%	
NN	N41	Reservoir 2 Toe Drain repairs	346,029	210,000			-		
	N41	Clinton Crew Headquarters construction	75,000	60,000	750,000	1,100,000	350,000	46.7%	
	N41	Clinton Maintenance Garage addition		40,000			-		
NN Total			421,029	310,000	750,000	1,100,000	350,000	112.9%	
Wachusett/Sudbury Total			543,840	435,000	900,000	1,100,000	200,000	46.0%	
Quabbin/Ware Region Projects									
KK	K04	Large Equipment (items over \$100k) (Dump Truck in FY19)	121,973	125,000	150,000		(150,000)	-100.0%	
KK Total			121,973	125,000	150,000	-	(150,000)	-120.0%	
NN Total	N41	Modular Maintenance Garage/Washbay	9,227	50,000			-		
	N52	Modular Maintenance Garage/Washbay	23,046				-		
	N22	Road and drainage reconstruction	196,550	250,000			-		
	N74	Dam Area/Spillway Channel Hazard Tree, Vegetation Removal					-		
	NN1	Horseshoe Dam Bridge Repair at FA-3	70,469	50,000			-		
	N15	Reconstruction of New Salem Crew Headquarters				500,000	500,000		
NN Total			299,292	350,000	-	500,000	500,000	142.9%	
Quabbin/Ware Total			421,265	475,000	150,000	500,000	350,000	73.7%	
Capital Projects Total			965,105	910,000	1,050,000	1,600,000	550,000	60.4%	
Grand Total Expenses			16,349,416	16,934,268	17,713,006	18,921,420	1,207,414	7.1%	
Revenues									
	6995	Hydro & Transmission	314,737	540,000	500,000	400,000	(100,000)	-18.5%	
	4500	Forestry	282,372	185,000	200,000	354,993	154,993	83.8%	
	3148	Fishing & Recreation	224,141	240,000	240,000	230,000	(10,000)	-4.2%	
	6900	Misc.	15,514	50,000	50,000	30,000	(20,000)	-40.0%	
		Additional DCAM Payment					-		
Revenue Total			836,764	1,015,000	990,000	1,014,993	24,993	2.5%	
Net Reimbursement			15,512,651	15,919,268	16,723,006	17,906,427	1,182,421	7.4%	
PILOT (actually paid to DCR less the reimbursements paid by Fay School and Town of Southborough)			8,169,711	8,169,711	8,220,120	8,319,000	98,880	1.2%	
DEBT				-	-				
Prepay Debt for FY17-22									
Total DCR Budget			23,682,362	24,088,978	24,943,126	26,225,427	1,281,301	5.3%	

5. Major Projects

**Department of Conservation and Recreation
Division of Water Supply Protection Office of Watershed Management
FY19 Major Projects**

FY19 NN Spending Proposal Dividing Projects Between Operating Funds, Trust "Capital", and MWRA Capital Budgets

Wachusett					
Project	Operating	Trust "Capital"	MWRA Capital	Notes	Obj. Code
Hazardous Tree Removal	\$5,000			Various sites	N74
Direct Discharge Elimination Design/Construction Management	\$15,000			DOT construction	NN1
Required Dam Studies (Phase 1s and 2s)	\$15,000			Reg-required reports\dam training	NN1
Dike Maintenance	\$20,000			Liming, seeding regularly	N74
BMP Maintenance	\$30,000			Contract for stormwater BMP cleaning	N74
Watershed Gravel Road Reconstruction Supplies	\$20,000			Purchase materials for in-house work	N23
Dock Replacement				Repair eroding concrete docks in DCR/MWRA boat cove	N16
Construction of New Clinton Crew Headquarters		\$1,100,000		Construction of crew building replacement	N15
Construction of Maintenance Garage Addition and Building Repairs				Construction of tall bay addition	N15
Regular NN Spending	\$125,000				Multiple
Subtotal	\$230,000	\$1,100,000			
Quabbin					
Project	Operating	Trust "Capital"	MWRA Capital	Notes	Obj. Code
Road Paving and Drainage Improvements			\$0	paving, culvert work	N21
BLA 3 bridge repair			\$0	required bridge repair, based on recent design work	N21
Forestry Building Renovations	\$40,000			Plumbing, heating upgrades; bathroom renovations	N50
New Salem Crew Headquarters building		\$500,000		Construction of crew building replacement	N15
Cemetery Tree Removal	\$30,000			Hazardous trees in cemetery threatening graves	N74
Gravel\Road Supplies	\$30,000			Purchase materials for in-house work	N23
Asbestos Abatement	\$40,000			Continue abatement work in facilities	N72
Dike Maintenance	\$30,000			Liming, seeding regularly	N74
Security Upgrades\1st floor renovations	\$30,000			Secure doors for facility; new reception office for security	N16
Quabbin Tower Upgrades	\$40,000			Ventilation system	N16
Dock additions\upgrades	\$30,000			Added dock in boat cover; BLA dock improvements	N16
Rental Boat Purchase	\$20,000			Program of rental boat replacement	K04
Mechanical Repairs, HQ and other locations	\$25,000				N50
Quabbin Maintenance Building Construction (beyond FY18 funds)			\$1,600,000	Finish construction of maintenance building	N15
Regular NN Spending	\$140,000				Multiple NN
Subtotal NN	\$435,000	\$500,000	\$1,600,000		
Subtotal KK	\$20,000				
Natural Resources					
Regular NN Spending	\$10,000				
Major Equipment Purchases (KK)*					
Wachusett	\$0	\$0	\$0		KK
Quabbin	\$0	\$0	\$0	Truck	KK
*Does not include passenger vehicle replacements typically funded through Operating Budget					
KK Budget Totals	\$20,000	\$0	\$0		
NN Budget Totals	\$675,000	\$1,600,000	\$1,600,000		
TOTAL	\$695,000	\$1,600,000	\$1,600,000		

6. Annual Land Acquisition Capital Spending Plan

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

FY19 Proposed Watershed Land Acquisitions

A major tenet of watershed management is protection through ownership of interests in watershed lands. Owning and managing watershed lands surrounding a water supply source is recognized as the most direct and proven method of protecting the water source's long-term quality because:

- A forested watershed provides the best quality water.
- The purchase of undeveloped lands protects water sources from development, which can alter vegetation and drainage, and add impervious areas that 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 problem properties effectively halts the problem of activity or use, and ensures 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 Wachusett Watershed Land Acquisition Model Map.
- Are situated within the primary (West Branch Swift) and secondary (Hop Brook, Fever Brook) Quabbin Priority Zones.
- Are determined important for an administrative and/or strategic purpose (agency access, boundary consolidation, prevention of assemblage threat).

Additional priority is given to landowners with holdings meeting the above criteria and who are willing to consider the placement of a Watershed Protection Restriction on their land in place of a fee transfer. Accordingly, 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 FY19 is estimated to be \$1 million.

7. Projected Revenue

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

Actual and Projected Revenue FY16-19

Category	FY16 Actual	FY17 Actual	FY18 Projected	FY19 Projected
Hydroelectric Power / Transmission Lines	\$394,964	\$314,737	\$500,000	\$400,000
Fishing and Recreation	\$234,394	\$224,141	\$240,000	\$230,000
Forestry	\$197,327	\$282,372	\$200,000	\$354,993
Miscellaneous (Interment fees, rents)	\$76,727	\$15,514	\$50,000	\$30,000
TOTAL	\$903,412	\$836,764	\$990,000	\$1,014,993

Projected FY19 revenue is based on hydroelectric history/fluctuations in MWRA contract, new watershed forestry projects, and fishing program history. Actual reservoir transfers and hydroelectric contract price fluctuations will determine real hydro revenue. Fishing program revenue depends greatly on weather conditions during peak weeks and weekends. Forestry revenue will depend on market conditions and when contractors decide to start projects.

8. Annual Payments in Lieu of Taxes

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

FY19 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 every four years by the Department of Revenue (DOR) and the local commercial tax rate. The law dictates that the payment can never be less than the previous year. The law also requires that during the four years in-between the DOR's revaluations a "redetermination" formula must be used to derive the land valuation the year after the local revaluation. The land value is then calculated by the tax rate the year of the local revaluation and the PILOT the year before the local revaluation.

The FY18 PILOT was \$8,249,177. This figure is a 0.7 % increase from the FY17 PILOT paid of \$8,190,986. Several towns' tax rates did not grow as much as in recent years, so this increase was lower than the estimated 3% potential increase stated in the FY18 Work Plan.

FY2019 PILOT will continue to be based on DOR's State Owned Land revaluation that took place in Calendar Year 2017. The revaluation took into account lands purchased in fee over the past four years. Utilizing a generic estimated increase of 5% to all towns' tax rates from FY18 to FY19 and stable valuations, **it is estimated that PILOT will increase by approximately 1% from FY17 to approximately \$8,339,000.**

Department of Conservation and Recreation Office of Watershed Management
FY18 Payments in Lieu of Taxes
 Final January 2018

Community	Local Revaluation Year	2013 DOR Property Valuation	FY16 PILOT	FY17 Property Valuation	FY17 Tax Rate	FY17 PILOT	2017 DOR Property Valuation	FY18 Tax Rate	FY18 Minimum PILOT	FY18 PILOT	Hold Harmless	Increase	%
Barre	2019	\$9,506,900	\$177,209	\$9,955,540	\$18.70	\$186,169	\$6,196,400	\$18.80	\$116,492	\$186,168.60	\$69,676		
Belchertown	2018	\$11,598,400	\$253,826	\$14,124,967	\$18.20	\$257,074	\$11,835,800	\$18.19	\$215,293	\$257,074.40	\$41,781		
Belchertown - Annexed Lands	2018	\$1,491,400	\$49,985	\$2,781,599	\$18.20	\$50,625	\$1,576,600	\$18.19	\$28,678	\$50,625.10	\$21,947		
Berlin	2017	\$1,804,700	\$46,426	\$1,941,695	\$24.21	\$47,008	\$1,900,900	\$23.36	\$44,405	\$47,008.43	\$2,603		
Boylston	2017	\$29,168,700	\$595,939	\$34,229,679	\$16.12	\$595,939	\$29,059,700	\$16.73	\$486,169	\$595,938.71	\$109,770		
Clinton	2019	\$6,489,300	\$204,088	\$6,445,969	\$31.95	\$205,949	\$5,701,400	\$30.73	\$175,204	\$205,948.72	\$30,745		
Framingham	2018	\$4,993,300	\$261,931	\$6,717,900	\$36.52	\$261,931	\$5,502,600	\$35.39	\$194,737	\$261,930.91	\$67,194		
Hardwick	2019	\$7,281,200	\$115,771	\$7,341,223	\$16.00	\$117,460	\$7,274,600	\$16.74	\$121,777	\$121,776.80	\$0	\$4,317	3.7%
Hardwick - Annexed Lands	2019	\$36,900	\$928	\$58,838	\$16.00	\$941	\$36,900	\$16.74	\$618	\$941.41	\$324		
Holden	2017	\$30,321,600	\$919,616	\$50,751,411	\$17.59	\$919,616	\$32,372,600	\$17.61	\$570,081	\$919,615.57	\$349,534		
Hubbardston	2019	\$18,954,300	\$318,970	\$20,060,988	\$15.23	\$318,970	\$21,254,800	\$15.13	\$321,585	\$321,585.12	\$0	\$2,615	0.8%
Leominster	2018	\$142,400	\$8,622	\$440,369	\$19.73	\$8,688	\$162,800	\$19.33	\$3,147	\$8,688.49	\$5,542		
Ludlow	2018	\$197,900	\$10,297	\$567,947	\$18.53	\$10,524	\$221,800	\$19.01	\$4,216	\$10,524.06	\$6,308		
Marlborough	2019	\$1,367,000	\$109,727	\$4,271,202	\$26.41	\$112,802	\$1,984,300	\$25.73	\$51,056	\$112,802.46	\$61,746		
New Salem	2019	\$22,639,000	\$520,471	\$19,793,123	\$21.90	\$520,471	\$16,884,600	\$18.13	\$306,118	\$520,470.61	\$214,353		
New Salem - Annexed Lands	2019	\$8,769,200	\$201,604	\$7,666,852	\$21.90	\$201,604	\$5,812,600	\$18.13	\$105,382	\$201,603.91	\$96,221		
Northborough	2019	\$5,855,800	\$102,158	\$5,949,792	\$17.39	\$103,467	\$4,934,100	\$17.39	\$85,804	\$103,466.89	\$17,663		
Oakham	2017	\$8,930,200	\$130,223	\$9,368,581	\$14.25	\$133,502	\$9,675,500	\$15.20	\$147,068	\$147,067.60	\$0	\$13,565	10.2%
Orange	2017	\$125,500	\$4,375	\$201,635	\$21.23	\$4,375	\$479,400	\$21.94	\$10,518	\$10,518.04	\$0	\$6,143	140.4%
Pelham	2018	\$11,306,000	\$338,086	\$15,939,952	\$21.00	\$338,086	\$11,306,000	\$20.87	\$235,956	\$338,086.39	\$102,130		
Pelham - Annexed Lands	2018	\$813,200	\$38,097	\$1,796,163	\$21.00	\$38,097	\$813,200	\$20.87	\$16,971	\$38,096.61	\$21,125		
Petersham	2019	\$10,036,800	\$296,722	\$18,070,744	\$16.19	\$296,722	\$10,525,200	\$16.37	\$172,298	\$296,721.61	\$124,424		
Petersham - Annexed Lands	2019	\$5,291,700	\$203,306	\$12,381,594	\$16.19	\$203,306	\$5,255,300	\$16.37	\$86,029	\$203,305.78	\$117,277		
Phillipston	2019	\$171,600	\$11,913	\$705,313	\$16.68	\$11,913	\$140,500	\$16.48	\$2,315	\$11,912.74	\$9,597		
Princeton	2019	\$13,562,700	\$255,315	\$14,343,517	\$17.78	\$255,315	\$14,859,200	\$17.28	\$256,767	\$256,766.98	\$0	\$1,452	0.6%
Rutland	2017	\$30,734,100	\$525,860	\$26,821,624	\$18.32	\$525,860	\$20,933,800	\$18.13	\$379,530	\$525,860.45	\$146,331		
Shutesbury	2018	\$6,056,800	\$290,447	\$13,154,285	\$22.76	\$299,392	\$7,398,700	\$23.06	\$170,614	\$299,391.54	\$128,778		
Southborough	2019	\$14,119,400	\$284,149	\$17,961,373	\$16.38	\$294,207	\$17,383,800	\$16.14	\$280,575	\$294,207.30	\$13,633		
Sterling	2019	\$40,938,300	\$750,399	\$38,615,560	\$18.03	\$750,399	\$44,254,600	\$17.54	\$776,226	\$776,225.68	\$0	\$25,827	3.4%
Templeton	2019	\$48,900	\$1,082	\$65,706	\$16.12	\$1,082	\$50,800	\$16.72	\$849	\$1,082.18	\$233		
Ware	2018	\$9,795,000	\$192,472	\$9,304,834	\$20.77	\$193,261	\$6,669,600	\$20.71	\$138,127	\$193,261.40	\$55,134		
Ware - Annexed Lands	2018	\$6,388,500	\$163,062	\$8,068,398	\$20.77	\$167,581	\$4,491,700	\$20.71	\$93,023	\$167,580.62	\$74,558		
Wendell	2019	\$1,255,300	\$24,328	\$1,242,345	\$19.31	\$24,328	\$1,322,200	\$20.96	\$27,713	\$27,713.31	\$0	\$3,386	13.9%
West Boylston	2017	\$18,595,600	\$670,855	\$36,360,723	\$18.80	\$683,582	\$20,540,500	\$18.72	\$384,518	\$683,581.59	\$299,063		
Westborough	2019	\$2,626,000	\$50,656	\$2,850,621	\$17.80	\$50,741	\$2,796,700	\$18.46	\$51,627	\$51,627.08	\$0	\$886	1.7%
TOTAL		\$341,413,600	\$8,128,913	\$420,352,064		\$8,190,986	\$331,609,200		\$6,061,488	\$8,249,177.08	\$2,187,689	\$58,191	0.7%

NOTES:

- MA Department of Revenue (DOR), per MGL c. 58, revalues all State Owned Land (SOL) every four years. DOR determines a valuation based upon what each agency owns that is legally reimbursable by either the legislature through municipal aid or by DCR/MWRA through the watershed PILOT program. Watershed PILOT utilizes the DOR revaluation figure in the subsequent fiscal year from the year they are determined. DOR completed their latest revaluation in 2017; these figures take effect in the FY18 PILOT.
- Watershed PILOT, per MGL c. 59 s.5G, is determined by multiplying the DOR valuation by the local commercial tax rate. There are two important provisions that subsequently impact these calculations and payments: Hold Harmless and Redetermination.
- "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.
- The "Redetermination Formula" is a provision in the legislation that requires the municipal valuation to be calculated based on a formula the year after a local revaluation in the years between DOR's quadrennial SOL revaluation. Therefore, in the years between the SOL revaluations, if a town has a local revaluation, then a specified formula must be used to derive the valuation for PILOT calculations the following year. This "redetermination formula" takes the PILOT amount from the year before the local revaluation and divides it by the local tax rate from the year of the local revaluation multiplied by 1,000. For example, if a local revaluation occurred in 2016, then for FY17, the valuation was: (2015 PILOT/2016 Tax Rate)*1000.