



# Fiscal Year 2017 Work Plan



Photo by Ken MacKenzie

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



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**Fiscal Year 2017 Work Plan  
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# **1. Annual Work Plans**

- A. FY2017 Work Plan Highlights
- B. Wachusett/Sudbury Operational Section
- C. Quabbin/Ware Operational Section

**Department of Conservation and Recreation  
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**FY17 Annual Work Plan Highlights**

Fiscal Year 2017 is the fourth year in the implementation schedule for the *2013 DCR Watershed System Watershed Protection Plan*. Land protection efforts have continued 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.

**Wachusett/Sudbury Section**

- Continue acquisition of critical parcels through fee or Watershed Preservation Restriction.
- Finalize and begin 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 caused by the work. Continue a long-term water quality monitoring study to investigate impact of silviculture on water quality that began in FY14.
- Maintain lands around the Wachusett Reservoir including mowing of dikes to include expanded areas that are maintained per federal and state dam standards but are available for nesting birds as well. Monitor bluff erosion along Wachusett Reservoir and implement recommendation to improve stabilization.
- Continue efforts to manage wildlife in the watershed. Conduct the bird control program and pursue measures to reduce food sources and the overall gull population, such as broadening efforts to eliminate public feeding of gulls and working with wastewater treatment plants. Continue analysis of collected gull fecal samples for the presence of *Cryptosporidium* and other potential pathogens. Continue efforts to identify sources of water contamination using genetic microbial source tracking.
- Continue to maintain Ranger presence to monitor and control public access. Enhance enforcement of rules and regulations through targeted patrols and the use of citations. Continue work on illegal activities such as mountain biking in unauthorized areas. Issue written warnings and/or non-criminal citations for repeat offenders and serious violations.

- Continue to implement the Wachusett Internal Road Plan, including routine maintenance and continued 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 sampling of 19 tributaries for bacteria, turbidity, temperature, and specific conductance. Continue monthly 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, precipitation, and snow pack) by staff and in cooperation with U.S. Geological Service.
- Provide automated monthly water quality and quantity reports using EQ water quality and hydrology 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. Expand monitoring of watershed ponds and streams for presence of aquatic invasive species.
- Complete design for stormwater improvements to the Phase II Direct Discharge projects of Beaman Street Bridge and Route 140 South Bay. Provide consultant services and DCR oversight and assistance to MassDOT for construction of the Route 12 Causeway improvements. Beaman Street Bridge will go to bid in September and begin construction in Spring of 2017 if MassDOT puts on list for funding.
- Continue work with MWRA on preparedness for potential railroad spills, including implementing recommendations from Railroad Hazmat Release Drill.
- Complete several facility projects underway including, building demolition at Kristoff and Mazzolini sites, upgrades at maintenance garage and design of an additional bay at the maintenance garage, and design of a replacement crew headquarters in Clinton.

### **Quabbin/Ware Section**

- Continue acquisition of critical parcels through fee or Watershed Preservation Restriction. Continue on Q2W project.
- Finalize and begin 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 caused by the work. Continue a long-term water quality monitoring study to investigate impact of silviculture on water quality that began in FY15.

- 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. Outside the watershed pursue measures to reduce food sources and the overall gull population, such as broadening efforts to eliminate public feeding of gulls and working with wastewater treatment plants. Continue analysis of collected gull fecal samples for the presence of *Cryptosporidium* and other potential pathogens. Purchase new boat for Gull Operations and Water Quality sampling programs.
- Continue to maintain Watershed Ranger presence to monitor and control public access, especially in Ware River Watershed. Enhance enforcement of rules and regulations through targeted patrols and the use of citations.
- Issue written warnings and/or non-criminal citations for repeat offenders and serious violations.
- Monitor and maintain major dams in the system, as well as smaller watershed dams.
- Monitor and analyze water quality, 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 efforts in concert with MWRA to control aquatic invasive species including the Possible DASH (Diver Assisted Suction Harvest) removal of invasive plant Brittle weed in O'Laughlin Pond. Continue monitoring of watershed ponds and streams for presence of aquatic invasive species.
- Continue work with MWRA on Quabbin Power, Communication, and Security Improvements Projects (Belchertown, Ware, and Hardwick).
- Work closely with MWRA and others on Quabbin I Administrative Complex capital improvement projects.

**Wachusett/Sudbury Operational Section  
FY2017 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

**Boston/Division Staff:** A=Administration and Finance; D= Director; Director's Staff; NR= Natural Resources; GIS=Geographic Information Services; P= Environmental Planning

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
<b>A. Land Procurement</b>					
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	4 <sup>th</sup> Quarter
2.	Develop individual parcel presentation materials and meet with MWRA Board for approval.	NR	P, GIS-W	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		Meetings	Ongoing
<b>B. Watershed Preservation Restrictions</b>					
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	NR		Report	As noted in task
2.	Monitor each WPR every two years; monitor high-priority ones annually.	NR	EQ	monitoring reports Updated hydrology layer	Ongoing
3.	Post WPR boundaries, as time allows.	NR		Posted boundaries	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
4.	Track changes in land ownership and meet with successor landowners as necessary.	NR		List of landowners and meetings	Ongoing
5.	Write and distribute <i>Watershed Currents</i> , 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.	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
<b>C. Land Management</b>					
1.	Implement the system-wide Comprehensive Land Management Plan (CLMP).	F	RD, P, EQ, GIS, NR	Annual Review	4 <sup>th</sup> 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 summaries of proposed forestry lots.	F	RD	Lot Summaries	4 <sup>th</sup> Quarter
4.	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.	F	RD	Annual statistics on harvest area, inspection reports	4 <sup>th</sup> Quarter
7.	Monitor water quality at active logging sites to measure effectiveness of DWSP's Conservation Management Practices (CMPs).	EQ		Water quality data in Forestry Database	Ongoing
8.	Conduct a regeneration survey of all silvicultural openings on DWSP land in the Wachusett watershed	F		Summary Report	4 <sup>th</sup> 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

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
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.	Identify and implement terrestrial invasive management projects. Respond as needed to newly discovered and controllable populations of terrestrial invasive species.	F	NR, EQ, RD	Completed projects	Ongoing
12.	Conduct annual invasive species control on current Wildlife Habitat Incentive Program (WHIP) project and other identified areas as needed..	NR	WM	Contract, contract work	Annual Report
13.	Inspect all DCR fields with agricultural permits.	F	EQ, RD	Inspection Reports	2 <sup>nd</sup> Quarter
14.	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
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.	Pursue final disposition of lands surrounding Framingham Reservoirs 1 and 2.	D	RD, P	Disposed property	Ongoing
19.	Maintain DWSP wildlife fields through regular mowing; keep accurate mowing records.	WM	F	Maintained Fields	Ongoing
20.	Analyze reservoir bluff erosion monitoring results, develop recommendations to reduce and/or mitigate	EQ	WM, F, CE, RD	Report with recommendations	4 <sup>th</sup> Quarter
21.	Identify DWSP areas that would benefit from habitat restoration, invasive species control, or periodic maintenance using newly acquired 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
<b>D. Wildlife Management</b>					
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.	Implement a pilot full reservoir harassment program to test its effectiveness in preventing birds from roosting on the reservoir.	EQ	NR, all available staff	No birds are allowed to roost on the reservoir	2 <sup>nd</sup> Quarter
3.	Produce weekly report during active Bird Harassment Program season.	EQ		Weekly report	Ongoing during harassment season
4.	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
5.	Control Canada Geese populations by treating eggs during nesting to prevent hatching.	NR	WM	Annual report	Ongoing
6.	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
7.	Monitor area landfills for feeding gulls. Work cooperatively with landfill operators to ensure DEP landfill regulations are being followed.	NR		Field reports	As needed
8.	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
9.	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
10.	Investigate using social marketing techniques to influence people feeding gulls.	NR			
11.	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
12.	Continue to identify alternative food sources for gulls in MA and work to eliminate their presence.	NR		Food sources eliminated	As needed
13.	Work with MIT to identify bacteria carried by gulls in central MA.	NR		Publication	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
14.	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 <sup>th</sup> Quarter
15.	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 <sup>th</sup> Quarter
16.	Use genetic markers to assist in identifying contamination sources in water samples.	NR	EQ	Sample identification	Ongoing
17.	Respond to beaver complaints from citizens affected by beaver on DWSP property; provide assistance as time allows.	NR	EQ	Assistance to homeowners	Ongoing
18.	Respond to beaver caused flooding issues on DWSP property; assess situation and take appropriate actions.	NR	EQ	Field reports	Ongoing
19.	Respond to problems of burrowing animals on dams and dikes; take appropriate action.	NR	CE, WM	Field report	Ongoing
20.	Continue long-term wildlife resource monitoring program to document wildlife response to forest management.	NR		Data base, Report	Ongoing
21.	Research and manage for common loons on DWSP water bodies in Wachusett watershed; provide nesting platforms, capture and sample birds for contaminants.	NR		Annual Report	4 <sup>th</sup> Quarter
22.	Work with DFW to survey for and document breeding bald eagles on the reservoir.	NR		Field Report	4 <sup>th</sup> Quarter
23.	Work with DFW to collect and tag spawning Lake Trout in the reservoir.	EQ		Field Report	4 <sup>th</sup> Quarter
24.	Conduct pellet surveys on DWSP lands in Wachusett/Sudbury to assess populations of deer and moose.	NR	F	Annual report	4 <sup>th</sup> Quarter
<b>E. Public Access Management</b>					
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
3.	Continue to use Agency social media accounts for advertisement of interpretive programs, including general info or emergency info (such as closings).	WR	IS	Press documents	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
4.	Develop public outreach regarding allowed uses on DCR Wachusett lands	WR	RD	Plan, signage, outreach	2 <sup>nd</sup> 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.	Continue to implement Wachusett and Sudbury Public Access Plan policies, as necessary	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 CMR 350 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
9.	Provide dog waste brochures to all sportsmen’s clubs and at Trout Brook Recreation Area	EQ	WR	Brochures	Ongoing
<b>F. Watershed Security</b>					
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
<b>G. Infrastructure</b>					
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 and develop maintenance plans.	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
4.	Implement Wachusett Watershed-wide Road Management Plan.	CE	EQ, GIS-W	Road Projects	On-going
5.	Conduct annual inspection/evaluation of Wachusett internal roads, access points, and shoreline; update GIS data layers as needed.	CE		Maps	4 <sup>th</sup> Quarter

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
6.	Develop annual plan for internal road repair projects.	CE	RD, F, WM, EQ	Plan	<sup>rd</sup> Quarter
7.	Finalize design and implement drainage improvements on River Road in Clinton.	CE	RD, WM	Report, Plan, schedule	4 <sup>th</sup> Quarter
8.	Conduct projects using in-house staff and resources. Provide oversight to ensure protection of water resources.	WM	CE, EQ, F	Projects	Ongoing
9.	Evaluate need for new stormwater BMPs on DCR properties. If needed, design and install stormwater BMPs for new projects and retrofit into existing sites.	EQ		Stormwater treatment BMPs	Ongoing
10.	Oversee regular maintenance of all DWSP BMPs. Monitor construction of stormwater treatment basins at Causeway and develop O&M plan.	EQ	CE, WM	Effective stormwater treatment; maintenance log	Ongoing
11.	Implement Road Management Plan for Sudbury watershed internal roads.	CE	EQ	Inspections, projects	4 <sup>th</sup> Quarter
12.	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
13.	Maintain records regarding reservoir and facility construction and maintenance operations.	CE		Miscellaneous records	Ongoing
14.	Implement annual Major Projects including: <ul style="list-style-type: none"> <li>• Reservoir 2 Toe-drain repair</li> <li>• River Road drainage improvements</li> <li>• Wilson St Garage upgrades</li> <li>• Clinton Yard Paving.</li> </ul>	RD	CE, WM, EQ	Improvements	4 <sup>th</sup> Quarter
<b>H. Watershed Protection Act</b>					
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.	EP	RD, GIS-W, P	WsPA Decisions	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, EQ, RD	Coordination, decisions, meeting minutes	Quarterly
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

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
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.	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 one town per month - each town gets visited twice yearly.
<b>I. Interpretive Services</b>					
1.	Re-write Interpretive Plan to reflect current issues and resource needs for watershed education.	IS	WR	Plan rewritten	December 2016
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.	Analyze and update current brochures. Determine need for new brochure topics and develop as needed.	IS	WR, EQ	Brochures	Ongoing
4.	Partner with other organizations on watershed programs	IS	WR	Programs	Ongoing
5.	Continue watershed, wildlife, forests, and history educational programs in the local school districts.	IS	WR	School Programs	Ongoing
6.	Continue regular programming at Stillwater Farm.	IS	WR	Programs	Ongoing
7.	Continue to provide educational materials and support for Mass Envirothon.	EQ	IS	School Programs	Ongoing
8.	Continue education efforts through visitor contacts and formal presentations.	WR	IS, EQ	Programs, visitor contacts	Ongoing
9.	Publish bi-annual <i>Downstream</i> newsletter.	NR	P, IS, EQ, EP, WR, RD	Newsletter	2 <sup>nd</sup> Quarter and 4 <sup>th</sup> Quarter
10.	Maintain and update website.	P	IS, NR, EQ, WR, RD	Website	Ongoing
<b>J. Water Quality and Quantity Monitoring</b>					
1.	Continue weekly sampling of 19 tributaries for bacteria, turbidity, temperature, and specific conductance. Continue monthly sampling for nutrients and TSS at 10 tributaries.	EQ		WQ data entered into Aquarius software	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
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.	Consider need for groundwater sampling to provide additional information to assess water quality issues; and conduct as needed.	EQ		WQ data entered into Aquarius software	Ongoing
4.	Produce annual water quality summary and sampling plan.	EQ		Annual WQ report by March 15	3 <sup>rd</sup> Quarter
5.	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. Import gage data to Aquarius.	EQ		Instantaneous hydrology information	Ongoing
6.	Augment hydrologic data in Wachusett watershed through establishment of additional stream gages, rain gages, and snow pack measurements. Establish new gage at Quinapoxet Reservoir outlet; reconfigure control structure on Muddy Brook and recalculate flow. Enter all data in Aquarius and maintain accurate rating curves	EQ	CE	Rating curves, data in Aquarius	Ongoing
7.	Determine needs for stormwater sampling based on FY16 work. Sample storm events as determined necessary.	EQ		WQ data entered into Aquarius software; annual nutrient loading calculations	Ongoing
8.	Continue to work with UMass to use results of reservoir and watershed runoff water quality models to help to make watershed management decisions.	EQ		From UMass: Input on DCR projects and issues; UMass summary reports From DCR: data summaries	Ongoing
9.	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 <sup>nd</sup> Quarter
10.	Continue to implement long term monitoring in paired sub-basins in order to assess impact of forestry on water quality.	EQ	F	annual report summarizing data and activities	Ongoing
11.	Incorporate new Turner C3 in routine reservoir monitoring. Use to develop background water quality data for possible petroleum contamination.	EQ		data	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
12.	Develop water quality summary for periodic distribution (monthly ) to Director, MWRA, other interested parties	EQ		summary	
13.	Work with MWRA, Quabbin EQ, NEIWPC and other stakeholders to characterize cyanobacteria and cyanotoxins in the reservoir	EQ		Info in annual WQ report	Ongoing
<b>K. Watershed Monitoring and Surveillance</b>					
1.	Continue to review local records and conduct watershed surveillance to identify potential water quality problems. Work with local boards and land owners when problems are identified. Document all work in EQ data base.	EQ		Document actions in EQ database; compliance with regulations	Ongoing
2.	Review and analyze Data Base Records. Compare with other data (water quality, GIS etc.) to evaluate watershed management programs.	EQ	GIS-W,	Data, analysis, maps, reports	Ongoing
3.	Develop new EQ database reports to summarize and assess monitoring and surveillance activities	EQ	GIS - W		Ongoing
4.	Add files to database for commercial or industrial sites with information on hazardous materials or other threats, add files for all USTs	EQ			Ongoing
<b>L. Aquatic Invasive Species</b>					
1.	Inspect reservoir, lakes, ponds and tributaries for presence of AIS and make appropriate recommendations for management action.	EQ		Annual summary in water quality report	3 <sup>rd</sup> Quarter
2.	Develop and implement plan for dealing with Phragmites by boat cove	EQ	WM,	Plan	4 <sup>th</sup> quarter
3.	Assist MWRA with removal efforts in the Reservoir.	EQ	RD	Annual summary in water quality report	3 <sup>rd</sup> Quarter
4.	Monitor, advise, and assist contractor with any necessary removal operations.	EQ	WM	Annual summary in water quality report	3 <sup>rd</sup> Quarter
5.	Continue education efforts through formal presentations and visitor contacts.	EQ	WR	Annual summary in water quality report	3 <sup>rd</sup> Quarter
6.	Distribute AIS brochure and implement AIS Educations program .	IS	EQ	Brochure; program	Ongoing
7.	Monitor beaver activity; if necessary make recommendations to NR for removal where contributing to spread of invasive plants.	EQ	NR	Field Reports	Ongoing
8.	Revise the 2010 Aquatic Invasive Species Assessment and Management Plan.	EQ		Final Report	4 <sup>th</sup> Quarter
<b>M. Environmental Quality Assessments</b>					

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
1.	Finalize Worcester District EQA and use recommendations to develop tasks for FY18 Work Plan.	EQ		Final report, FY18 work plan tasks	2 <sup>nd</sup> Quarter
2.	Update status of agriculture sites, hazardous material sites, hazardous materials spills, USTs and ASTs.	EQ		Updated info in database and EQ files	Ongoing
3.	Update land use information using most recent orthophotographs.	EQ	GIS-W	Updated GIS layers	Ongoing
4.	Create new products (GIS maps, data base reports) to summarize findings; characterize sanitary district, track changes over time	EQ		Maps, reports	Ongoing
5.	Develop and implement outreach strategies and programs for topics identified through EQA.	EQ		Brochures, programs	Ongoing
6.	Confirm accuracy and make enhancements to Streams2008 and Wetlands2008 datalayers	EQ		Updated datalayers	2 <sup>nd</sup> Quarter
<b>N. Wastewater Management</b>					
1.	Provide plan review and interpretation, if requested, to Boards of Health.	EQ		Plan review, recommendations to boards, applicants	Ongoing
2.	Obtain sewer connection information from Holden and West Boylston; add to spreadsheet.	EQ		Updated spreadsheet and GIS datalayer	Ongoing
3.	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
4.	Research and provide sewer management information for legal issues regarding the Trunk and Relief sewer lines	CE	RD	Notes, information	Ongoing
5.	Evaluate and manage new trunk line connections. Monitor trunk line for encroachments; resolve any problems.	CE	RD	Permits, regular inspections	Quarterly
6.	Document septic system repairs with file in database and with linked electronic plan/locus map	EQ		Septic system datalayer	Ongoing
<b>O. Stormwater Management</b>					
1.	Coordinate with MassDOT for construction of Causeway Drainage Improvements starting end of FY 16	EQ	D, RD, CE	Stormwater Treatment BMPs	2 <sup>nd</sup> Quarter
2.	Coordinate with MassDOT for construction of drainage improvements to Beaman St. Bridge.	EQ	RD, D, CE	Design package ready for Bid	2 <sup>nd</sup> Quarter
3.	Coordinate with MassDOT for construction of improvements to Rt. 140 along South Bay.	EQ	RD, D	Design package ready for Bid	2 <sup>nd</sup> Quarter

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
4.	Continue to work with landowners, towns and DCR staff for better maintenance and performance of watershed BMPs.	EQ	CE, RD	Document actions in SM database	4 <sup>th</sup> Quarter
5.	Work with watershed towns to ensure compliance with MS4 requirements.	EQ		MS4 permit conditions met	4 <sup>th</sup> Quarter
6.	Maintain stormwater conveyance structures map, including connections, as needed.	EQ	GIS-W	GIS data layer	Ongoing
7.	Continue regular inspection of all construction sites greater than one acre.	EQ		ESC maintained and working as designed	Ongoing
8.	Continue to monitor stream erosion along Gates Brook	EQ		Bank erosion rates at 4 locations	Ongoing
9.	Using ArcMap evaluate locations for potential BMP construction on DCR property.	EQ	GIS-W	Watershed wide assessment with recommendations	4 <sup>th</sup> Quarter
10.	Review recommendations from Gates Brook study for BMPs on privately owned properties. Investigate options for construction for those that contribute most sediment to Gates Brook.	EQ		agreements with landowners, BMP engineering design	4 <sup>th</sup> Quarter
11.	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 <sup>th</sup> Quarter
12.	Investigate and apply to DEP for beneficial reuse permit to dispose of stormwater BMPs sediment without use of external contractors.	EQ		Permit, disposal site and operation guidelines	4 <sup>th</sup> Quarter
13.	Continue to work with watershed communities on review and update of local stormwater regulations	EQ	EP	Annual report summarizing status	4 <sup>th</sup> Quarter
<b>P. Emergency Response</b>					
1.	Coordinate Emergency Spill Response training with MWRA and local responders.	CE	WR	Trainings	Ongoing
2.	Work with ODS, MWRA and local towns to develop and implement exercise programs for Framingham Reservoirs 1 and 2 to satisfy EAP requirements.	CE	WR	Plan	4th Quarter
3.	Update contact list and information in Comprehensive Emergency Management Plan, EAPs, and other emergency response plans.	CE	WR	Plan	Ongoing
4.	Organize and maintain emergency response supplies and services.	CE	WR	Inventory	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
5.	Develop and implement Comprehensive Exercise and Evaluation Program incorporating Wachusett Reservoir Railroad Incident Exercise AAR/IP recommendations to enhance Emergency Response training.	CE	WR	Trainings	4th Quarter
6.	Provide ICS and Emergency Response training to appropriate staff.	CE	WR	Classes	4 <sup>th</sup> Quarter
7.	Evaluate, monitor and oversee spills 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
8.	Implement recommendations from Railroad Hazmat release tabletop exercise After Action Report/Improvement Plan including a field exercise in the fall	CE	RD, WR, EQ	Field exercise; training	2 <sup>nd</sup> Quarter
<b>Q. Support</b>					
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 <sup>th</sup> Quarter
3.	Continue to support all staff projects and reports by providing GIS maps and training.	GIS-W		Maps, analyses, training	Ongoing
4.	Continue to maintain and regularly update all GIS databases including hydrology, infrastructure, open space, parcels, regulated areas, stormwater structures. Ensure all digital data is current and available to staff.	GIS-W		Databases	Ongoing
5.	Continue to use GPS to capture and maintain BMP and MS4 data for EQ and parcel boundaries for Land Acquisition. Coordinate use of GPS equipment and download and process all GPS data.	GIS-W		Digital Data	Ongoing
6.	Continue to create parcel maps for Land Acquisition Coordinator meetings with landowners, LAP meetings, and MWRA Board.	GIS-W		Maps, analyses	Ongoing
7.	Continue to support municipalities and other partners by providing GIS products and technical support.	GIS-W		Maps, analyses, training	Ongoing
8.	Operate administrative offices, including answering phones, greeting visitors, etc.	A	RD	Weekly payroll, HR forms processing	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
9.	Provide payroll assistance and personnel services for all Section employees.	A	RD	Account set-up, Invoice processing, regular finance reporting	Ongoing
10.	Provide contract administration, financial management, record-keeping, purchasing of goods and services, and other financial support services.	A	RD	Accounting and financial services	Ongoing
11.	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
12.	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
13.	Plan and implement vehicle and equipment purchases and leases.	RD	A, WM	Vehicle purchases and leases	Annual
14.	Inspect, provide regular maintenance, and repair vehicles, boats and other motorized equipment.	WM	RD	Work completion	Ongoing
15.	Provide routine repairs and maintenance to all Wachusett facilities.	WM	RD	Work completion	Ongoing

Due Dates for FY17 Work Plan

1<sup>st</sup> Quarter: September 30, 2016

2<sup>nd</sup> Quarter: December 30, 2016

3<sup>rd</sup> Quarter: March 30, 2017

4<sup>th</sup> Quarter: June 30, 2017

## Quabbin/Ware Operational Section FY2017 Work Plan

**Key to Work Unit Abbreviations:** ARD = Asst. Regional Director; ATS = Administrative and Technical Support; CE = Civil Engineering; D = Division of Water Supply Protection Director; EP = Environmental Planning; EQ = Environmental Quality; F = Forestry; GIS = Boston GIS staff; IS = Interpretive Services; NR = Natural Resources; P = Planning (Boston); RD = Regional Director; WM = Watershed Maintenance; 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; DEP = Department of Environmental Protection; 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; GCP = General Construction Permit; GIS = Geographic Information Systems; GPS = Global Positioning System; IT = Information Technology; NPDES = National Pollution Discharge Elimination System; MOU = DCR/MWRA MOU (April 2004); MWRA = Mass. Water Resources Authority; OWM = Office of Watershed Management; PAMP = Public Access Management Plan; 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
<b>A. Land Procurement</b>					
1.	Buy/procure 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 purchase prices and conditions of sale with sellers of property.	NR	P, GIS	Protected land	4 <sup>th</sup> Quarter
2.	Complete assessments on all new acquisitions, including descriptions of fire/access roads, bridges, restoration needs, and forest conditions. Integrate these lands into existing land management, public access and other watershed management programs.	F	NR, EQ, WM, CE, EP	Completed assessments	Ongoing
3.	Participate in LAP meetings to prioritize land purchases and provide input into land acquisition decisions in Quabbin and Ware River watersheds.	ARD, RD	EQ, EP, F	Prioritized lists by Region; Input; Advice	Ongoing
4.	Continue working with the North Quabbin Regional Landscape Partnership in pursuing a Quabbin to Wachusett (Q2W) protected land corridor and other land protection opportunities.	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

Task	Task Description	Lead	Additional Staff	Product	Due Date
<b>B. Watershed Preservation Restrictions</b>					
1.	Monitor each WPR every two years; monitor high-priority ones annually.	NR	EQ	28 monitoring reports; Updated land ownership; hydrology layer	Ongoing
2.	Complete baseline inspections for all new WPRs prior to acquisition or within a reasonable time of acquisition using established protocols and modern technologies. Make baseline inspection reports available to appropriate staff.	NR		WPR baseline reports	Ongoing
3.	Work towards resolving issues found with landowners, along with the WPR Working Group.	NR	EQ, F, EP, P	Issue resolution	Ongoing
4.	Post WPR boundaries as time allows.	NR		Posted boundaries	Ongoing
5.	Track changes in landownership and meet with successor landowners as necessary.	NR		List of landowners and meetings	Ongoing
<b>C. Land Management</b>					
1.	Begin implementation of the system-wide Comprehensive Land Management Plan (CLMP) in Quabbin/Ware Region.	F	NR, RD, P, EQ, GIS, ARD	Current Plans	Ongoing
2.	Conduct periodic reviews and monitoring of land management activities to assure compliance and consistency with Land Management Plan. 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 of the planned land management activities.	NR	F, EQ	Internal review; Review memos	As needed; 4 <sup>th</sup> Quarter
3.	Design and begin to implement research and monitoring to verify the effectiveness of the existing statewide and DWSP forestry BMPs/CMPs in protecting the water supply.	NR	F, EQ, ARD	Reports summarizing effectiveness of BMP's.	4 <sup>th</sup> Quarter
4.	Collect data and maintain datasets, GIS datalayers and related maps on rare and special plant and animal species or communities. Compile and analyze data on forest structure, composition, and regeneration.	NR	F, ATS	Databases GIS Coverages	Ongoing
5.	Conduct terrestrial invasive plant species control on current Wildlife Habitat Incentive Program (WHIP) project on the Ware River Watershed and other identified areas as needed.	NR	WM	Contract	4 <sup>th</sup> Quarter

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
6.	Identify areas in Quabbin/Ware Region that would benefit from habitat restoration, invasive species control, or periodic maintenance using newly acquired mulching machine.	NR	WM	Acres of habitat restored	
7.	Prepare lot proposals including data on proposed harvest area, stand data, soils data, cultural resource data, wetlands data, wildlife data, unique features data, and priority habitat data. Proposals also include information on lot layout, landings, stream crossings, wetland crossings, and stonewall crossings. Sub-watershed analysis of past and proposed harvest is also included.	F	ARD	Lot proposals	2 <sup>nd</sup> Quarter
8.	Layout, mark, tally and show timber sales in accordance with the approved lot proposals. Fill in permit conditions for the sale.	F	ARD	Permits Timber sales	Ongoing
9.	Prepare and file cutting plans in compliance with MGL Chapter 132 (Forest Cutting Practices Act) for each lot.	F	ARD	Approved cutting plans	Ongoing
10.	Prepare and post informational flyers for each harvest detailing harvest area and management objectives.	F	ARD	Informational flyers onsite	Ongoing
11.	Present lot proposals at public meetings each spring and provide public tours of lot proposal areas and past harvests, as requested.	F	ARD	Public presentation and tours	Ongoing
12.	Provide supervision and oversight of all timber harvesting operations on DWSP property to assure compliance with all applicable regulations, approved Best Management Practices/Conservation Management Practices and other contract conditions.	F	NR, ARD, EQ	Supervision and oversight of all harvesting operations	Ongoing
13.	Collect regeneration data on past harvest to help monitor effects of silvicultural operations on species composition and age structure. Create photo point for each lot and take pictures annually to help document forest response to harvest.	F	NR	Regeneration database, maps, and photodocumentation	Ongoing
14.	Continue to implement a GIS based mapping system of silvicultural operations on the Quabbin and Ware Watersheds. Begin to use LIDAR	F	ATS	GIS datalayer of annual silvicultural operations	Ongoing
15.	Continue the program of expanded water quality monitoring for harvesting operations. Conduct periodic stream sampling at long-term forestry sites. Modify plan, as needed.	EQ	NR, ARD	Stream sampling; periodic evaluation	FY17
16.	Collect data and maintain GIS datalayers, and related maps on forest structure, composition and regeneration, forest roads, boundary information, stone walls, wetlands and other data to guide the land management program.	F	NR, ATS	Databases, maps	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
17.	Maintain and mark reservation boundaries, as needed. Document and pursue resolutions of boundary encroachments.	F	WM, NR, WR, CE, ARD, RD	Maintain 7 miles of boundaries; encroachment resolutions	Ongoing
18.	Post on DCR website all lot proposals, lot summaries, public presentations, cutting plans, and some pictures of the lot as they change over time.	F	P	Lot Proposal Web postings	Ongoing
19.	Implement the non-silvicultural land management portions of the Quabbin and Ware River Land Management Plans (e.g., field and viewshed maintenance; gravel pits management, etc.).	WM	F, NR, ARD	Plan implementation	FY17
20.	Supervise field mowing permits at Ware River to ensure permittees comply with permit conditions.	F		Field mowing in compliance with permit	Ongoing
21.	Administer and supervise maple sugaring permits on Quabbin Reservation.	F	ARD	Compliance with permits	3 <sup>rd</sup> Quarter
22.	Implement a Terrestrial Invasive Plant Management strategy, including monitoring, inventory and control components, especially in sensitive watershed areas.	NR	F, WM, EQ	Strategy Implementation; Meetings with contractors.	FY17
23.	Provide administrative support for the Timber Harvesting including mailings, bid openings, financial management, database management, permit and key issuance, etc.	F	ARD, RD, WR	Program administration; annual revenue report; database maintenance	Ongoing
24.	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
25.	Design and implement a Pilot Vegetation Impact Protocol on DWSP lands in Quabbin to determine the impacts of invasives, herbivores and other factors on forest regeneration and growth	NR	F	Data, report	Ongoing
<b>D. Wildlife Management</b>					
1.	Observe and document the nocturnal roost of gulls on Quabbin Reservoir weekly during the months of September- March. If available, use an UAS to photograph/film the gull roost for later identification and counting.	NR	WM	Data used to inform harassment program	Ongoing during harassment season
2.	Control Canada Geese populations on Quabbin reservation by treating eggs during nesting season to prevent hatching.	NR	WM	Annual report	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
3.	Monitor area landfills for feeding gulls. Work cooperatively with landfill operators to ensure DEP landfill regulations are being followed.	NR		Field reports	As needed
4.	Monitor wastewater treatment plants in western and central Massachusetts that have wires installed to prevent feeding to make sure they are functioning and continue to exclude gulls. Identify plants without wires that attract gulls and work to install overhead wires.	NR		Controlled treatment plants	As needed
5.	Identify parking lots in western and central Massachusetts where food is available. Work to prevent feeding through educational signage, interaction and enforcement.	NR		Controlled parking lots	As needed
6.	Continue to identify alternative food sources for gulls in western and central Massachusetts; work to eliminate their presence.	NR		Food sources eliminated	As needed
7.	Remove beaver and muskrat in the Aquatic Wildlife Pathogen Control Zone at Quabbin, and assist with removal of nuisance individuals in other areas when possible. Utilize habitat modifications to discourage the presence of aquatic mammals.	NR	EQ, WM	Field reports, annual summary	4 <sup>th</sup> Quarter
8.	Analyze all 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		Summary reports	4 <sup>th</sup> Quarter
9.	Respond to beaver complaints from citizens affected by beaver on DCR property; provide assistance as time allows.	NR	EQ, WM	Assistance to homeowners	Ongoing
10.	Respond to beaver-caused flooding issues on DWSP property; assess situations and take appropriate actions	NR	EQ, WM, ARD	Field reports	Ongoing
11.	Respond to problems of burrowing animals on dams and dikes; report problems and take appropriate action	NR	CE, WM	Field reports	Ongoing
12.	Continue long-term wildlife resource monitoring programs to document wildlife response to forest management.	NR		Database, Reports	Ongoing
13.	Research and manage for common loons on DWSP waterbodies; provide nesting platforms, capture and sample birds for contaminants.	NR		Annual Report	4 <sup>th</sup> Quarter
14.	Work with DFW to survey for and document breeding bald eagles on Quabbin Reservoir.	NR		Field Report	4 <sup>th</sup> Quarter

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
15.	Administer the application, permit, orientation and components of the Quabbin Reservation White-tailed Deer Impact Management Program.	NR	RD, WM, IS, ARD, WR	Completed orientations and scouting	2nd Quarter
16.	Oversee and operate the annual controlled hunt.	RD	WM, IS, ARD, WR	Completed hunt	2 <sup>nd</sup> Quarter
17.	Collect and analyze biological data and conduct an annual assessment of the Quabbin Reservation White-tailed Deer Impact Management Program.	NR	WM	Biological data collection; Annual assessment and report	Annual
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 the moose telemetry and enclosure studies on the Ware River and Quabbin watersheds.	NR		Project reports	Ongoing
20.	Conduct pellet surveys on DWSP lands in Quabbin/Ware river to assess populations of deer and moose.	NR	F	Annual report	4 <sup>th</sup> Quarter
<b>E. Public Access Management</b>					
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 analyses on data collected (e.g., rule violations, access permits, encounters, etc.)	WR	ARD	Reports	Ongoing
2.	Continue to cooperate with state, environmental, 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 (such as closings).	WR	IS	Press documents	Ongoing
4.	Continue updates and improvements to access points with signs, gates and improved parking areas. Conduct regular inspections of gates and access barriers.	WR	WM, ARD	Signs, barriers	Ongoing
5.	Continue to implement Quabbin and Ware Public Access Management Plan policies, as necessary	WR	ARD	Compliance with DWSP regulations	Ongoing
6.	Continue to conduct “special operations” such as night operations, ATV, and snowmobile operations, as needed.	WR	ARD	Compliance with DWSP regulations	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
7.	Enforce Rules and Regulations of CMR 350 11.09 through the use of citations. Issue written warnings and/or non-criminal citations for repeat offenders and serious violations.	WR	ARD	Compliance with DWSP regulations. Update database.	Ongoing
8.	Develop, install, and maintain appropriate signage throughout the watersheds, including trail signs and signs indicating access restrictions. Create watershed boundary signs for popular access points at Ware River watershed. Evaluate feasibility of adding new signage along major roadways entering watersheds.	IS	WM, RD, ARD	Signs produced and posted, as needed	Ongoing
9.	Operate the shoreline and boat fishing program in designated portions of Quabbin Reservoir in a manner that minimizes threats to water quality and that accommodates visitors with accessibility needs. Implement the Quabbin Boat Seal program (QBS) at the 3 BLAs.	WM	ATS, WR, IS, ARD	6 months of program operation	April – Oct.
10.	Continue to record, analyze and report on data about the BLA operation, including revenues and usage figures.	ATS	WM, EQ	Annual report and analysis of BLA usage, QBS and revenues.	Preliminary report due by Dec. 1; Full report by January 31
11.	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. Construct new kiosks at locations identified in the Quabbin Park Management Plan and at the new Mass Central Rail Trail bridge near Shaft 8.	IS	EQ, WM	Fact sheets, brochures; kiosk maintenance; new kiosks	As needed
12.	Analyze and mitigate water quality impacts of recreation or other public access activities through regular watershed inspections.	EQ	WM, WR, ARD	Field reports; assessments	Ongoing
13.	Operate a portable toilet program based on BLA, Deer hunt and seasonal needs.	WM	ATS, EQ?	Installation of portable toilets (ADA-compliant)	Ongoing, as needed
14.	Provide ongoing support and consultation to DCR's Division of State Parks and Recreation and the Office of Fishing and Boating Access regarding Comet Pond beach and boat ramp operation and management.	WM	WR, RD	Support and consultation	Ongoing, as needed
15.	Coordinate and/or support special programs and events, including Memorial Day services, public meetings, Special Olympics, paraplegic hunts, and Tuesday Tea events.	IS	WM, RD, WR, ARD	Public events	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
16.	Continue to implement Universal Accessibility projects throughout the Quabbin/Ware Region.	WM	IS, CE	Enhanced accessibility	Ongoing
17.	Collaborate, educate, and monitor issues around the Mass Central Rail Trail (Wachusett Greenways organization).	F	IS, RD		
18.	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.	ATS	WR, IS	Permits issued; databases maintained; policy changes, if needed	Ongoing
19.	Update Quabbin Public Access Management Plan by the end of 2016	EP	All Region Staff	Updated plan	Dec. 31
<b>F. Watershed Security</b>					
1.	Continue regular Ranger patrols to provide watershed security. Provide regular security checks at key access points and MWRA facilities. Use daily logbooks to record all encounters and violations. Produce periodic reports. Provide weekly incident summary email to MWRA.	WR	RD, ARD	Daily patrols; daily logbooks and incident report	Ongoing
2.	Enhance the enforcement of public access regulations through partnership with the EPA, DEP, State Police, Environmental Police and local police departments.	WR	RD, ARD	Enhanced enforcement; partnerships	Ongoing
3.	Inspect, maintain, and monitor gates, barways, and signage throughout the watersheds for security and access control. Install barriers (guardrails, fences) as needed to protect properties and control public access.	WR	CE, WM, RD	Inspection; repairs; installation	Quarterly
4.	Coordinate security monitoring and related activities at high vulnerability locations with MWRA.	RD	WR, ARD	Enhanced security	Ongoing
5.	Coordinate with MWRA and consultants on efforts to provide power, security and communication upgrades to the Shaft 12, Quabbin Tower, CVA Intake, Powerhouse and Boat Cove facilities. Provide assistance with site surveys and all land clearing, disturbance and environmental permitting efforts.	RD	R, ARD, WM, CE	Support and consultation	FY17
<b>G. Infrastructure</b>					
1.	Conduct monthly inspections and issue findings on Winsor Dam and spillway and Goodnough Dike. Implement basic maintenance activities as needed. Coordinate with MWRA and consultants on inspections.	CE	WM, RD	Monthly reports filed and sent to MWRA Western Operations.	1 <sup>st</sup> of Month

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
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 with consultants on inspections.	CE	RD	Inspection reports	June or October
3.	Plan for or conduct dam repair work as called for in dam inspection reports. Implement basic maintenance activities as needed.	CE	WM, RD	Dam repair and maintenance	FY17; Ongoing
4.	Evaluate the feasibility of removing unsafe or unnecessary small dams in the Ware River watershed including environmental assessment and ecological impact assessment.	CE	RD, NR, EQ	Assessment reports; dam removals	Ongoing
5.	Participate in quarterly Reservoir Operations meetings with MWRA.	RD, ARD	CE, EQ,	Staff participation	Ongoing
6.	Provide supervision, coordination, oversight and technical support or assistance for all engineering, construction and renovation work in the Quabbin/Ware Region.	CE	RD, WM	Ongoing supervision	Ongoing
7.	Maintain records regarding reservoir and facility construction, and maintenance and repair operations.	CE	IS	Misc. records	Ongoing
8.	Conduct building maintenance activities, including painting, carpentry, cleaning, and other routine maintenance.	WM	ARD, CE	Ongoing maintenance	Ongoing
9.	Conduct periodic inspections of drinking water sources and septic systems at the various Regional office buildings. Assure compliance with applicable state and federal regulations.	CE	EQ, RD	Meeting DEP requirements; Monthly and annual reports	Ongoing
10.	Conduct periodic inspections, maintenance, or oversight of heating systems, fuel pump operations, and fuel deliveries.	CE	WM	Inspections; oversight.	Ongoing
11.	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	F	Plans, records	Ongoing
12.	Develop specifications, bid packages and contracts for facility and infrastructure projects scheduled for FY16	CE	WM, ARD, RD	Specs, bid packages, contracts	Periodic
13.	Conduct maintenance and management activities in Quabbin Park, including roads, roadsides, parking areas, drainage structures, fields, vistas, and other management activities.	WM	ATS, NR	Maintenance and management of Quabbin Park	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
14.	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.	WM	CE, ATS; ARD	Cemetery maintenance; burials; record keeping	Ongoing
15.	Conduct Quabbin Park Cemetery business and record keeping.	ATS	WM, RD, CE	Correspondence, Accurate record keeping, etc.	
16.	Conduct maintenance activities on OWM roads, including grading, culvert and ditch maintenance, mowing sides of forest roads, and snowplowing. Continue to collect data on road conditions, culvert locations, etc. Continue to use BMPs in all road maintenance activities.	WM	EQ, CE, ARD	Road maintenance	Ongoing
17.	Complete individual Gravel Management Plans for gravel pits (as needed) on DCR lands in the Quabbin/Ware Region. Annually review and monitor gravel extraction by towns.	EQ	F, RD, ARD, WM	Individual management plans	Ongoing
<b>H. Watershed Protection Act</b>					
1.	Implement the Watershed Protection Act regulations. Review all WsPA applications, respond in a timely manner, hold official hearings, and track the status of applications and associated projects using a database and GIS data layers. Inspect sites with conditional approval throughout the duration of any activity to ensure compliance. Prosecute violations of the WsPA regulations, as needed. Work with DCR General Counsel on WsPA cases, as appropriate.	EP	P, RD, EQ	Application processing; decision issuance; field work	Ongoing
2.	Continue to review or evaluate public notices and local board agendas and minutes for additional jurisdictional activities.	EP		Local notice review	Ongoing
3.	Attend the quarterly Watershed Protection Act Working Group meetings.	EP	P, RD	Meeting attendance	Quarterly
4.	Maintain a database on WsPA cases and activity.	EP		Database maintenance	Ongoing
5.	Update existing, or develop new, WsPA related materials, as needed, such as forms, brochures, and guidance document.	P	EP, RD	Brochures, forms, other documents	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
6.	Educate and interact with local boards in the watersheds about watershed protection regulations. Ensure that local officials have an adequate supply of the current WsPA forms and wall maps, and understand the procedures for referring applicants to the DWSP. Educate realtors, prospective buyers, and local homeowners on WsPA affected lands and agricultural activities (e.g., horse property buyers).	EP	EQ	Education of local boards, homeowners, etc.	Ongoing
7.	In cooperation with other sections in Region provide technical assistance to Watershed Town that promotes public health and water quality.	EP	EQ, CE, RD, ARD	Drafting of bylaws and regulations; local development project review. Adopted community bylaws	Ongoing
<b>I. Interpretive Services</b>					
1.	Implement the Interpretive Services Plan for the Quabbin Watershed. Develop a similar plan for the Ware River watershed	IS	RD	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	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, DEP, EPA, ProjectWild, Project Learning Tree, Project WET, and other appropriate watershed resources. Continue to support watershed school system teachers through in-service workshops and day-long 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
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	Exhibits and displays	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
6.	Develop and maintain self-guided interpretive trails 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 trail maintenance.	IS	F	Trail improvement; signage; brochures	Ongoing
7.	Maintain and expand the Quabbin Resource Center with materials and educational information on the watershed system, water quality, history and development of the watershed and water supply system, water pollution, and water supply protection and management.	IS		Resource materials	Ongoing
8.	Offer educational programs to visiting groups. Arrange for staff members with particular expertise in a variety of environmental, water resource, wildlife and watershed protection issues to speak, when appropriate, to outside groups and organizations.	IS	Other Work Units	Speakers; educational programs	Ongoing
9.	Continue to gather data, produce and distribute publications and fact sheets on selected topics relative to watershed protection. Update displays at kiosks and bulletin and include maps that clearly show areas for bicycling, hunting, and fishing. Target educational efforts at non-permitted groups.	IS	NR, ATS, P	Data collection; fact sheets; Downstream newsletter; other publications	Ongoing
10.	Improve the educational signage regarding drinking water protection in the Quabbin Visitor Center and in Quabbin Park.	IS	WM	New signs	Ongoing
11.	Provide graphics support to Division staff to increase quality and effectiveness of publications, brochures, and public documents.	IS		Brochures, reports, presentations	Ongoing
12.	Contribute to update OWM website with information related to all aspects of watershed protection program.	P	All Work Units	Website updates	Periodic, as needed
13.	Continue to support and participate in the Envirothon, America's leading natural resource education program for high school students.	IS	RD, ATS, WR, ARD	Participation	Ongoing
<b>J. Water Quality and Quantity Monitoring</b>					
1.	Provide environmental oversight for all Regional activities to minimize adverse water quality impacts. Conduct pre-project reviews of all projects and activities within 100' wetland buffers.	EQ	RD, WR, ARD	Field reports; Annual inspection	Periodic
2.	Review DEP annual requirements for the CVA waiver.	EQ	RD, ARD	Reports to DEP as requested.	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
3.	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; Annual reports; Annual sample collection plans.	Ongoing
4.	Perform Shaft 8 Intake Zone Inspection prior to Diversions.	EQ	CE	Ongoing	As needed
5.	Monitor plankton in Quabbin Reservoir and selected tributaries.	EQ	RD	Data collection; periodic reports	Ongoing
6.	Continue program to monitor AIS in tributaries and other water bodies. Review and update the AIS monitoring and emergency AIS action plan.	EQ	RD	Reports, Update AIS plan	Ongoing 4 <sup>th</sup> Quarter
7.	Continue the active harassment of gulls and geese 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. Operate the gull harassment program to meet DEP/EPA filtration waiver requirements.	EQ	RD, ARD, All Work Units	Daily and annual reports; database entries; weekly reports to MWRA	Ongoing
8.	Collect, interpret, and manage data on weather, reservoir elevations, water transfers and releases, and runoff. Share data with DWSP staff and MWRA.	CE		Data collection and yield reports;	Ongoing
9.	Participate in Water Quality Sampling and Analysis Coordination Team (WQ-SAT) meetings. Review and evaluate the DWSP's routine water quality monitoring schedule and make appropriate modifications.	EQ	RD	Updated sample collection schedule	Ongoing
10.	Coordinate water sample analysis and data sharing with MWRA and the Quabbin Water Quality Lab.	EQ	MWRA Lab	Coordination	Ongoing
11.	Keep abreast of emerging contaminants and other potential water quality threats. Investigate further when necessary.	EQ	MWRA	Update information	Ongoing
12.	Conduct short-term water sampling of forest harvesting operations on DWSP lands.	EQ	NR	Inspections and sample collections; database updates.	Ongoing
13.	Continue monthly sediment and nutrient sampling, to monitor the effects of both natural and deliberate disturbances on water quantity and quality in first-order streams.	NR		Data collection	Ongoing

Task	Task Description	Lead	Additional Staff	Product	Due Date
<b>K. Watershed Monitoring and Surveillance</b>					
1.	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
2.	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	On going Update annual plan 3 <sup>rd</sup> Quarter
3.	Coordinate with other agencies to exchange information and review of projects in watershed. Check MEPA's <i>Environmental Monitor</i> each month and review, investigate and/or comment on projects when applicable.	EQ	P, All Work Units	Project reviews and written comments	Ongoing
4.	Monitor DEP databases regularly for new 21e information.	EQ		Hazardous waste database; EQA inspections and reports.	Periodic
5.	Review periodic reports on closed landfills in the watersheds. Coordinate with town and/or DEP to review monitoring reports.	EQ		Reports	Periodic
6.	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
7.	Work with loggers and Rights-of Way contractors to reduce the risk of introducing invasives into the watersheds.	EQ	F	Meetings with contractors, DCR permit language to prevent invasives	Ongoing
8.	Monitor utility maintenance, repair, or replacement projects on DCR lands for water quality problems.	EQ		Meetings with contractors; permits; SOPs	Ongoing
9.	Continue to identify, map, and monitor locations of agricultural operations that could impact water quality through the EQA process.	EQ	EP	Maps; reports	Ongoing
<b>L. Aquatic Invasive Species</b>					
1.	Conduct education about Aquatic Invasive Species	EQ	IS	Education	FY17
2.	Continue the Quabbin Boat Seal program to minimize the risk of AIS infestation of Quabbin Reservoir. Conduct Cold Weather Decontamination Program. Conduct Boat Inspection Program.	EQ	RD, IS, WR, ARD, WM	Boat Seal tracking, inspections, decontamination, public education.	FY17

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
3.	Update and maintain a boat seal database.	EQ	RD, ARD	database entries; annual report	4 <sup>th</sup> quarter
4.	Evaluate and implement options for minimizing risk of AIS infestation throughout the Quabbin and Ware River watersheds.	EQ	RD, IS, WR, ARD	Control programs; Public education	FY17
5.	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, ARD, RD, MWRA	Monitoring program; training	FY17
<b>M. Environmental Quality Assessments (EQAs)</b>					
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 in EQAs.	EQ	All Work Units	EQA reports	FY17
2.	Implement recommendations in completed EQAs and oversee, as necessary, short and long term remedial actions.	EQ	ARD, RD	Annual Status of Recommendations report	FY17
3.	Update and assess land use/land cover statistics for watershed, sanitary districts, and sub-districts when new GIS coverages are available.	ATS	EQ	Updated coverages and analyses	Ongoing
4.	Continue to incorporate wildlife observations (that could affect water quality) into EQA field work.	EQ	NR	Report information to NR	Ongoing
<b>N. Wastewater Management</b>					
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
2.	Monitor and enforce the provisions of Title 5 with Boards of Health and the DEP. Maintain a good working relationship with all local Boards of Health and provide technical assistance, when requested, on wastewater management issues. Monitor septic system research.	EQ	EP, CE	EQ file reports	Ongoing
<b>O. Stormwater Management</b>					
1.	Coordinate with DEP on compliance with NPDES CGP regulations in watershed communities. Review applicable stormwater permitting applications (e.g., SWPPP). Advise local boards on stormwater management issues related to construction activities.	EQ	EP, RD, D, ARD	Reviewed applications; Advice as needed; brief annual report.	Ongoing; Annual report by June 30.

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
2.	Design and implement stormwater BMPs around the reservoir to address erosion and sedimentation due to public access, stormwater runoff, and shoreline erosion. Construct stormwater BMPs on DWSP property in accordance with set priorities. Integrate stormwater management controls into DWSP road paving projects.	CE	WM, EQ, RD	File reports; BMP construction and maintenance	Ongoing
3.	Work with state and local highway to improve stormwater infrastructure in areas where reconstruction is proposed. Improve operation and maintenance practices near the Shaft 8 Intake, Quabbin Reservoir and its tributaries.	EQ	RD	Field reports	Ongoing
4.	Continue to collect data on and update maps on culverts and other stormwater conveyance structures in the Quabbin and Ware River watersheds.	CE	WM, ATS	Database and maps	Ongoing
<b>P. Emergency Response</b>					
1.	Continue to develop and/or update <i>Emergency Response Handbooks</i> for the Quabbin and Ware River watersheds, with up-to-date contact information, emergency procedures and roles/responsibilities.	ATS	RD, ARD, EQ	Emergency Response Handbook; Contact Lists	FY17
2.	Formalize SOPs for spill cleanups and define DCR staff roles in both assessment and cleanup. Work with MWRA to maintain emergency response trailers and/or other spill response supplies and equipment.	EQ		Updated SOPs; Equipment procurement.	FY17
3.	In conjunction with MWRA, provide spill response and/or incident command system (ICS) training to staff, local emergency officials, loggers, and others.	EQ	RD, ARD, WR, WM	Training of staff and local officials	Annual
4.	Conduct or assist with 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 the containment, cleanup and mitigation of the spill proceeds in a manner that protects water quality.	EQ	WR, ARD, RD, WM	Emergency response; incident reports	Ongoing
5.	Follow all responses to an accidental or dumping release of hazardous materials with a coordinated monitoring and/or evaluation effort in cooperation with DEP and local officials to ensure that appropriate cleanup and assessment protocols are followed.	EQ	WR, WM	File reports	As needed
6.	Develop and implement Spill Response Plans for all Timber Harvesting operations on DWSP lands.	F	EQ, ARD, RD	Spill Response Plans	Ongoing
7.	Coordinate with State Control, MWRA, MSP, during emergency response situations.	ARD, RD	All Work Units	Coordination	As needed

Task	Task Description	Lead	Additional Staff	Product	Due Date
<b>Q. Support</b>					
1.	Operate administrative offices, including answering phones, greeting visitors, etc.	ATS	IS	Main office operation	Daily activity
2.	Provide payroll and personnel benefits support for all Regional employees.	ATS		Payroll reports; Support	Ongoing
3.	Provide contract administration, financial management, record-keeping, purchasing of goods and services, and other financial support services.	ATS	ARD, WM	Accounting and financial services	Ongoing
4.	Coordinate with EOEEA IT to provide local MIS support for the Quabbin/Ware Region. Develop an IT Plan with input from Regional staff that addresses technology needs for the coming year.	ATS	All Work Units	Support and troubleshooting services; IT Plan	Ongoing; IT Plan submitted by end of 1 <sup>st</sup> quarter
5.	Provide overall planning, administrative and supervisory oversight for all Regional activities and programs, including office operations, policy and plan development and implementation, staff assignments, hiring, and other personnel issues.	RD	ARD	Ongoing management, support and oversight	Ongoing
6.	Provide orientation for new staff and integrate them into existing operations	ATS	RD, ARD	Training and orientation	Ongoing
7.	Participate in staff meetings, discussions and other activities related to the operation of the Region.	All supervisors		Participation	Ongoing
8.	Prepare and submit to Division Director, MWRA and the Water Supply Protection Trust Board Annual Work Plans, budgets, quarterly progress reports and program goals and objectives; track progress in meeting program goals.	RD,	ARD, ATS	Completed plans, budgets and reports	Ongoing
9.	Attend meetings and coordinate Regional activities, with the Division Director, Wachusett/Sudbury Region, MWRA, DEP, watershed advisory committees, watershed communities, EOEEA, research organizations, academic institutions, and other agencies and groups.	RD	ARD, All Work Units	Coordination; correspondence and communication	Ongoing
10.	Continue to evaluate current Regional operations from a sustainability and energy efficiency standpoint and implement appropriate measures to improve those operations. Evaluate and, if appropriate, implement the energy efficiency recommendations from the DCAMM audit of the Ware River field office.	CE	RD, ARD	New initiatives; reports	Ongoing
11.	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.	ATS	F, EQ, GIS	Maps; datalayer updates; other services	Ongoing

<b>Task</b>	<b>Task Description</b>	<b>Lead</b>	<b>Additional Staff</b>	<b>Product</b>	<b>Due Date</b>
12.	Update digital information, including all new OWM land purchases, Watershed Protection Act maps and parcels, and provide analyses for use in OWM reports and publications.	GIS	P, ATS	Updated maps for all Quabbin communities	Ongoing, as needed
13.	Plan and implement vehicle and equipment purchases.	ARD	WM, RD	Vehicle purchases; up-to-date records	Annual; Ongoing
14.	Maintain up-to-date records of all vehicles and equipment (in FAMIS and file system).	WM	ATS	Updated records	Ongoing
15.	Conduct truck, boat, and equipment inspections and maintenance as needed, utilizing the Facility Asset Management Information System (FAMIS).	WM	ATS, ARD	Vehicle and equipment maintenance and repair	Ongoing
16.	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
17.	Administer the Payment in Lieu of Taxes (PILOT) program	P		Payments to watershed communities	4 <sup>th</sup> Quarter
18.	Attend appropriate trainings, workshops and other professional development offerings, with priority on safety training; maintain licensure.	All Work Units		Training	Ongoing
19.	Maintain professional involvement through continued participation in professional organizations, task forces, working groups, conferences and other appropriate opportunities.	All Work Units		Participation and input; professional involvement	Ongoing
20.	Continue to network with other water supply agencies to share watershed management information.	EQ	All Work Units	Information sharing	Ongoing
21.	Develop a Long Range Capital Plan, in conjunction with MWRA.	RD	ATS, CE, ARD, MWRA	Long-range plan	FY17

## **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 2017

Section	FY16 FTE	New FY17 FTE	Primary Responsibilities
Management – Director, Natural Resources Section Director	1.9	0	<ul style="list-style-type: none"> <li>▪ Supervise all OWM Staff (through Senior staff and direct supervision).</li> <li>▪ Develop program goals and objectives.</li> <li>▪ Ensure program goals and objectives are met.</li> <li>▪ Oversee interagency coordination with MWRA.</li> <li>▪ Coordinate and support programs and policies with other DCR Divisions.</li> <li>▪ Coordinate and support programs and policies with EEA and other EEA agencies.</li> <li>▪ Coordinate and support programs and policies with watershed communities and stakeholders.</li> <li>▪ Consult with Watershed Advisory Committees.</li> </ul>
Budget and Administrative Support	4.9	0	<ul style="list-style-type: none"> <li>▪ Provide personnel and other human resources related support.</li> <li>▪ Provide budget and finance support.</li> <li>▪ Provide contract administration support.</li> <li>▪ Provide office management.</li> </ul>
Natural Resources	7.5  +1 Long Term Seasonal (WPR Program)	0	<ul style="list-style-type: none"> <li>▪ Develop, write, and help implement the Comprehensive Land Management Plan.</li> <li>▪ Coordinate Land Acquisition Program.</li> <li>▪ Monitor and enforce Division’s Watershed Preservation Restrictions (WPRs).</li> <li>▪ Provide wildlife management and mitigation.</li> <li>▪ Monitor roosting gulls and provide technical support, guidance, and recommendations to gull harassment program.</li> <li>▪ Develop and distribute <i>Downstream</i> newsletter, Fact Sheets, and provide educational and outreach programming.</li> <li>▪ Provide research and monitoring to support Natural Resource Management Planning.</li> <li>▪ Monitoring and manage land based invasive plants.</li> </ul>
Program Coordination & Technical Support – Environmental Planning	1	0	<ul style="list-style-type: none"> <li>▪ Coordinate implementation of Watershed Protection Act (WsPA).</li> <li>▪ Assist in the development and implementation of Watershed Protection Plans, Public Access Plans, Land Management Plans and other associated plans, policies, and publications.</li> <li>▪ Support interagency coordination with MWRA.</li> <li>▪ Coordinate PILOT program with MWRA, DOR and Watershed towns.</li> <li>▪ Coordinate and support programs and policies with other DCR divisions, EEA and other EEA agencies.</li> <li>▪ Coordinate DCR DWSP web site.</li> </ul>

<b>Section</b>	<b>FY16 FTE</b>	<b>New FY17 FTE</b>	<b>Primary Responsibilities</b>
Program Coordination & Technical Support – GIS	1	0	<ul style="list-style-type: none"> <li>▪ Coordinate GIS for Office of Watershed Mgt.</li> <li>▪ Capture, maintain, administrative Spatial Databases.</li> <li>▪ Integrate Office’s GIS program within EEA system.</li> <li>▪ Provide data analysis for Office of Watershed Mgt.</li> <li>▪ Distribute maps and digital information to Watershed Partners.</li> </ul>
<b>Total</b>	<b>16.3</b>	<b>0</b>	

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 Operational Section Responsibilities and Staffing  
FY 2017

Section	FY16 FTE	New FY17 FTE	Primary Responsibilities
Management -- Regional Director and Assistant Regional Director	2	0	<ul style="list-style-type: none"> <li>▪ Supervise Staff assigned to Wachusett/Sudbury Section</li> <li>▪ Develop/Implement Program Goals and Objectives including Watershed Protection Plans and Annual Work Plans</li> <li>▪ Ensure interagency coordination with MWRA (Reservoir Operations, Water Quality Testing, Consent Order Compliance and Reporting)</li> <li>▪ Coordinate/Support programs &amp; Policies with other DCR divisions</li> <li>▪ Coordinate/Support Programs &amp; Policies with EEA/EEA agencies</li> <li>▪ Coordinate/Support Programs &amp; Policies with watershed communities and stakeholders</li> <li>▪ Consult with Watershed Advisory Committees, Friends Groups</li> </ul>
Administrative Support	6		<ul style="list-style-type: none"> <li>▪ Maintain payroll, employment and other records</li> <li>▪ Provide budget, accounting and contract administration support</li> <li>▪ Assist Regional Director in special projects, as needed</li> <li>▪ Provide contract administration and database management for forestry program</li> <li>▪ Implement GIS program in watershed, providing data analysis, maps and digital information</li> </ul>
Environmental Quality	10  1 seasonal	0	<ul style="list-style-type: none"> <li>▪ Conduct multi-year program planning through development of 5 year Watershed Protection Plans</li> <li>▪ Develop annual work plans and annual progress assessments.</li> <li>▪ Develop and implement water quality monitoring programs in reservoirs &amp; tributaries</li> <li>▪ Interpret water quality data for use in decision making</li> <li>▪ Develop and implement Aquatic Invasive Species Control Plans</li> <li>▪ Conduct Environmental Quality Assessments of watershed sanitary districts to identify potential pollution sources and develop mitigation measures</li> <li>▪ Provide technical assistance to local boards</li> <li>▪ Work with local DPWs to control stormwater through MS4 compliance.</li> <li>▪ Implement Watershed Protection Act and Regulations</li> <li>▪ Supervise and implement Wachusett Bird Control Program</li> <li>▪ Provide assistance for Emergency Response Actions</li> <li>▪ Collect, monitor, and maintain records on weather/precipitation, reservoir elevations, river discharges and releases, water transfers and watershed yield. Conduct Snow Surveys</li> </ul>

Section	FY16 FTE	New FY17 FTE	Primary Responsibilities
Environmental Planning	1	0	<ul style="list-style-type: none"> <li>▪ Administer Watershed Protection Act(WSPA)and Regulations in the Wachusett Watershed</li> <li>▪ Work with local community Boards regarding implementation of WSPA</li> <li>▪ Provide notices to new landowners with parcels affected by WSPA</li> <li>▪ Work with communities on bylaw implementation to satisfy MS4 permits</li> </ul>
Forestry	2	0	<ul style="list-style-type: none"> <li>▪ Implement forest management plan, including planning, tree marking, timber sale preparation and supervision of logging operations</li> <li>▪ Oversee and implement hayfield management permits</li> <li>▪ Conduct various surveys and inventories as needed to provide data to help guide forest management operations</li> <li>▪ Participate in Asian Longhorned Beetle Program Coordination in watershed</li> <li>▪ Conduct or participate in other watershed management activities (e.g. boundary maintenance)</li> </ul>
Civil Engineering	4  1 seasonal	0	<ul style="list-style-type: none"> <li>▪ Provide management oversight of DCR-owned sewers, preparing municipal bills and resolving easement issues</li> <li>▪ 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</li> <li>▪ Develop Road Plan and annual work plan; oversee maintenance of DCR access roads</li> <li>▪ 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</li> <li>▪ Oversee repairs and renovation projects at facilities in the Wachusett and Sudbury Watersheds</li> <li>▪ Coordinate emergency response planning, preparedness and operations in the Wachusett and Sudbury Watersheds</li> </ul>
Watershed Rangers	9	0	<ul style="list-style-type: none"> <li>▪ Maintain a positive visual presence in watersheds</li> <li>▪ Observe activities on watershed lands &amp; waters</li> <li>▪ Ensure Rules Compliance through education/public interaction</li> <li>▪ Coordinate enforcement of watershed rules with State/Environmental Police</li> <li>▪ Conduct or participate in other watershed management activities (e.g. encroachment surveys and resolution)</li> <li>▪ Assist with Emergency Response Planning and Preparedness and general Watershed Security</li> <li>▪ Develop and Conduct environment-based public education programs</li> </ul>

<b>Section</b>	<b>FY16 FTE</b>	<b>New FY17 FTE</b>	<b>Primary Responsibilities</b>
Interpretive Services	1	0	<ul style="list-style-type: none"> <li>▪ Develop and conduct watershed system school based programs</li> <li>▪ Conduct Programs at Stillwater Farm Interpretive Site</li> <li>▪ Conduct Environmental Education teacher training</li> <li>▪ Develop and Conduct environment-based public education programs</li> </ul>
Watershed Maintenance	33  5 seasonals		<ul style="list-style-type: none"> <li>▪ Maintain water supply dams</li> <li>▪ Perform primary land and facility maintenance activities on all watershed lands and resources</li> <li>▪ Maintain physical security barriers around reservoir and watershed facilities</li> <li>▪ Control shoreline vegetation and maintain fire roads</li> <li>▪ Maintain and repair all division equipment (motor vehicles, trucks, boats and heavy Equipment)</li> <li>▪ Participate in Bird Control Program</li> </ul>
<b>Total FTEs</b>	<b>68</b>	<b>0</b>	
<b>Total Seasonals</b>	<b>7</b>		

DCR Division of Water Supply Protection  
Office of Watershed Management  
Quabbin/Ware Operational Section Responsibilities and Staffing  
FY 2017

Section	FY17 FTE	New FY17 FTE	Primary Responsibilities
Management – Regional Director; Assistant Regional Director	2	0	<ul style="list-style-type: none"> <li>▪ Supervise staff assigned to Quabbin/Ware River Region and oversee hirings, training, and other personnel-related issues</li> <li>▪ Develop and implement program goals and objectives, annual work plans and budgets</li> <li>▪ Oversee policy and plan development and implementation</li> <li>▪ Oversee day-to-day operations in the Region and supervision of staff</li> <li>▪ Ensure interagency coordination with MWRA (re: Reservoir Operations, Water Quality Testing, Consent Order Compliance and Reporting)</li> <li>▪ Coordinate/Support programs and policies with other DCR divisions, EEA and other EEA agencies</li> <li>▪ Coordinate/Support programs, policies and/or technical assistance with watershed communities and stakeholders</li> <li>▪ Consult with Watershed Advisory Committees</li> <li>▪ Oversee fleet management and procurement activities</li> <li>▪ Manage Union issues</li> </ul>
Administrative and Technical Support	5	0	<ul style="list-style-type: none"> <li>▪ Coordinate the preparation of quarterly reports and annual work plans and budgets</li> <li>▪ Administer research access permit and gate key issuances</li> <li>▪ Process revenues and provide accounting for boat fishing program.</li> <li>▪ Provide administrative services for cemetery, including deed preparation, funeral scheduling, and marker/monument settings.</li> <li>▪ Provide GIS and GPS support and services to Regional staff</li> <li>▪ Provide IT support and other technical assistance to the Region</li> <li>▪ Assist Regional Director with special projects, as needed</li> <li>▪ Maintain payroll, employment and related records</li> <li>▪ Assist employees with benefit questions and applications</li> <li>▪ Provide budget, accounting and contract administration and support</li> <li>▪ Provide staffing and operational support for main office</li> <li>▪ Maintain vehicle files and FAMIS entries</li> </ul>

Section	FY17 FTE	New FY17 FTE	Primary Responsibilities
Environmental Quality	9 + 1 STS	0	<ul style="list-style-type: none"> <li>▪ Conduct water quality monitoring in reservoir and tributaries</li> <li>▪ Maintain and analyze water quality data to monitor the health of the watershed and reservoirs, and prepare periodic reports</li> <li>▪ Conduct Environmental Quality Assessments (“Sanitary Surveys”)</li> <li>▪ Develop and implement aquatic invasive species control programs</li> <li>▪ Identify pollution sources and seek mitigation</li> <li>▪ Implement and oversee the Quabbin gull harassment program</li> <li>▪ Provide environmental oversight for all Section activities that could impact water quality</li> <li>▪ Assist with the design and implementation of water quality research conducted by the University of Massachusetts</li> <li>▪ Provide technical review of proposed projects, as necessary</li> <li>▪ Provide technical assistance to watershed communities and organizations regarding water quality issues</li> <li>▪ Assist with public education efforts aimed at enhancing water quality protection on watershed lands</li> <li>▪ Assist with WsPA administration, as necessary</li> <li>▪ Assist with development and implementation of Watershed Protection Plans, Public Access Plans, and Land Management Plans</li> <li>▪ Maintain Spill Response trailers</li> <li>▪ Assist with Emergency Response</li> <li>▪ Monitor streamflow, pathogens, algae, stormwater flows and macrophytes</li> <li>▪ Monitor environmental compliance in building (e.g., drinking water testing)</li> <li>▪ Assist with interagency coordination and information exchange with MWRA, DEP, MHD, other DCR divisions, EEA and other EEA agencies and NYC DEP</li> </ul>
Environmental Planning	1	0	<ul style="list-style-type: none"> <li>▪ Administer WsPA on Quabbin and Ware River watersheds.</li> <li>▪ Provide technical assistance to town boards and commissions in watershed communities</li> <li>▪ Research or develop technical tools and/or written materials on regulatory implementation, land use planning and other watershed protection topics</li> <li>▪ Coordinate with other agencies and local boards to enhance the development and enforcement of environmental protection regulations on watershed lands</li> </ul>

Section	FY17 FTE	New FY17 FTE	Primary Responsibilities
Forestry	7	0	<ul style="list-style-type: none"> <li>▪ Implement Forestry Program including planning, tree marking, timber sale preparation and supervision of logging operations</li> <li>▪ Conduct regeneration surveys and continuous forest inventories (CFI) to provide data to help guide forest management operations</li> <li>▪ Oversee field maintenance contracts, and the purchase and planting of tree seedlings and other nursery stock</li> <li>▪ Assist with development of the Comprehensive Land Management Plan</li> <li>▪ Coordinate with other state and federal agencies regarding forestry and other land management operations</li> <li>▪ Assist with public education programs related to watershed management</li> <li>▪ Conduct or participate in other watershed management activities (e.g., boundary maintenance, encroachment issues)</li> <li>▪ Provide administrative and revenue processing functions</li> </ul>
Civil Engineering	4 + 1 LTS	0	<ul style="list-style-type: none"> <li>▪ Collect, monitor and maintain records on weather/precipitation, reservoir elevations, river discharges and releases, water transfers and watershed yield</li> <li>▪ Conduct Snow Survey and calculate runoff potential in Quabbin Watershed</li> <li>▪ Conduct monthly inspections of Winsor Dam, Goodnough Dike and other dams in the Quabbin and Ware River watersheds; take necessary Piezometer readings when appropriate and maintain records</li> <li>▪ Conduct inspections and maintain records on all buildings and bridges in the Quabbin and Ware River watersheds</li> <li>▪ 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</li> <li>▪ Provide technical support and engineering assistance to other Quabbin units</li> <li>▪ Maintain all historical records consisting of the construction of dams, roads, bridges and buildings in the Quabbin and Ware River Watersheds</li> <li>▪ Assist in Cemetery operation and maintenance including drafting burial plot plans, locating burial lots, maintaining records and facility maintenance and repair</li> <li>▪ Maintain, operate or oversee administration complex boiler system, fuel deliveries and weekly fuel tank inspections</li> <li>▪ Oversee and maintain Photovoltaic Systems at Quabbin Fishing Areas</li> </ul>

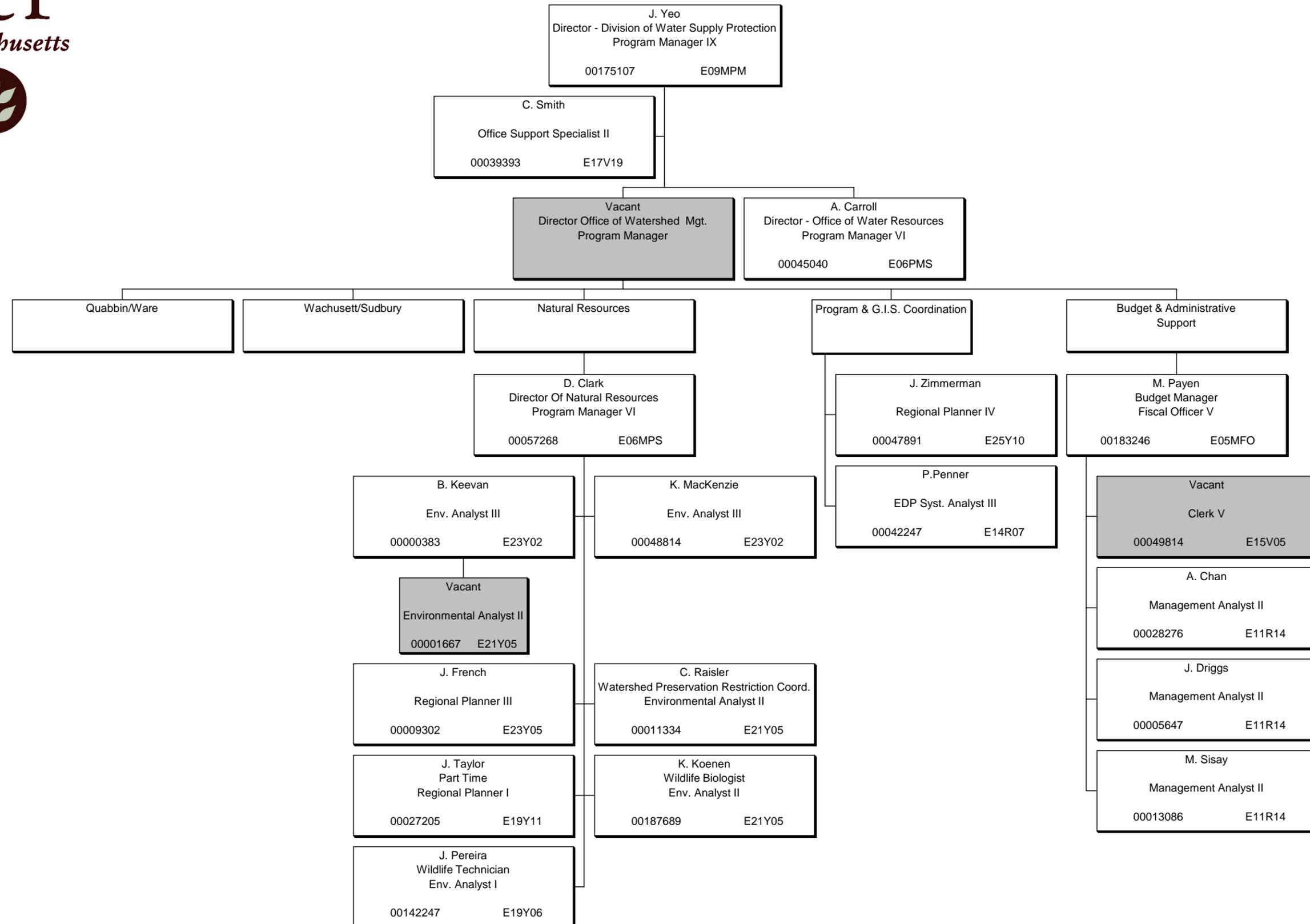
Section	FY17 FTE	New FY17 FTE	Primary Responsibilities
Watershed Rangers	7 + 3 LTS	0	<ul style="list-style-type: none"> <li>▪ Maintain a positive visual presence in watersheds</li> <li>▪ Monitor public activities on watershed lands and waters</li> <li>▪ Ensure Rules Compliance through education/public interaction/signage</li> <li>▪ Coordinate enforcement of watershed rules with State/Environmental Police</li> <li>▪ Assist with Emergency Response planning and preparedness</li> <li>▪ Provide Emergency Response and general watershed security</li> <li>▪ Maintain records of violations and public interactions</li> </ul>
Interpretive Services	3 + 1 LTS	0	<ul style="list-style-type: none"> <li>▪ Develop and conduct watershed based programs, displays and curricula for visitors and school groups</li> <li>▪ Maintain and operate the Quabbin Visitors Center</li> <li>▪ Participate in other EOEEA Environmental Education programs (e.g., Envirothon)</li> <li>▪ Serve as press liaison for Section activities and events, in conjunction with DCR and EOEEA public information offices</li> <li>▪ Organize special events (e.g., Memorial Day services)</li> <li>▪ Maintain vital records collection for the 4 disincorporated Quabbin towns, and issue official records upon request; Assist visitors with genealogical research.</li> <li>▪ Manage and issue access permit requests for groups, special events, former residents and short-term research projects</li> <li>▪ Administer Quabbin controlled deer hunt application process, including data entry, database management, and orientations</li> <li>▪ Maintain recorded telephone information on access, programs and watershed management activities</li> <li>▪ 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.</li> <li>▪ Develop informational materials on Quabbin fishing program, access issues and management activities</li> <li>▪ Provide graphics and other support to other Section programs for the development of brochures, publications and presentations</li> <li>▪ Maintain audio-visual collection for Quabbin Section, including photographs, slides and oral history tapes</li> </ul>

<b>Section</b>	<b>FY17 FTE</b>	<b>New FY17 FTE</b>	<b>Primary Responsibilities</b>
Watershed Maintenance	30  + 15 LTS + 2 STS	0	<ul style="list-style-type: none"> <li>▪ Perform primary maintenance activities on watershed lands, roads, facilities and other resources</li> <li>▪ Maintain physical security around reservoir and watershed facilities</li> <li>▪ Maintain roads, gates, barways, drainage structures, signs and other access controls</li> <li>▪ Maintain and repair all division equipment (motor vehicles, trucks, boats and heavy Equipment)</li> <li>▪ Provide staffing for the Gull Harassment and Controlled Deerhunt programs</li> <li>▪ Maintain Quabbin Park</li> <li>▪ Operate and maintain Quabbin Park Cemetery</li> <li>▪ Operate and maintain the three Boat Launch Areas at Quabbin Reservoir</li> </ul>
<b>Total FTEs</b>	<b>68</b>	<b>0</b>	
<b>Total Seasonals</b>	<b>23</b>		

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

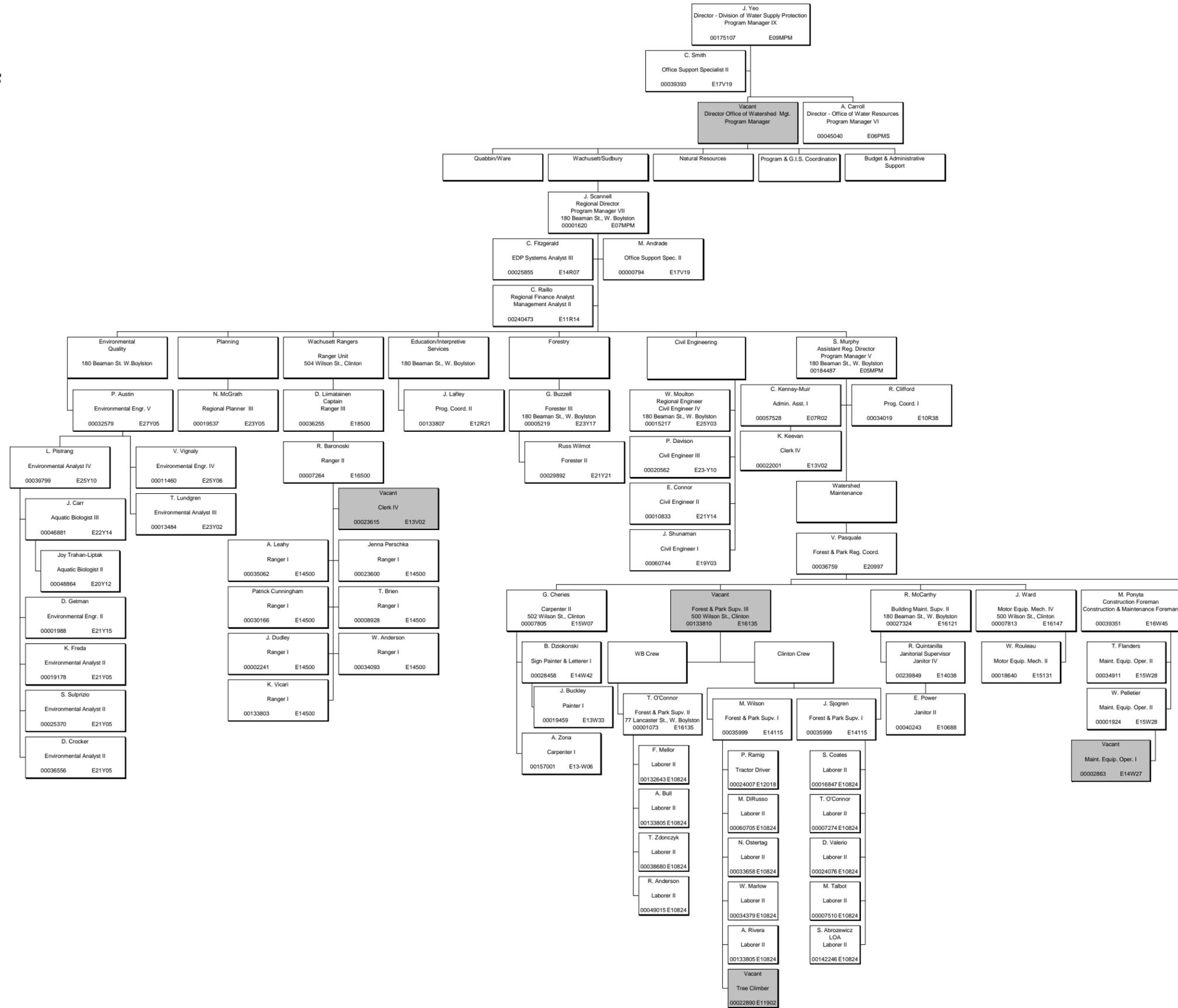


**Department of Conservation and Recreation  
Division of Water Supply Protection  
Natural Resources/Budget & Administration**

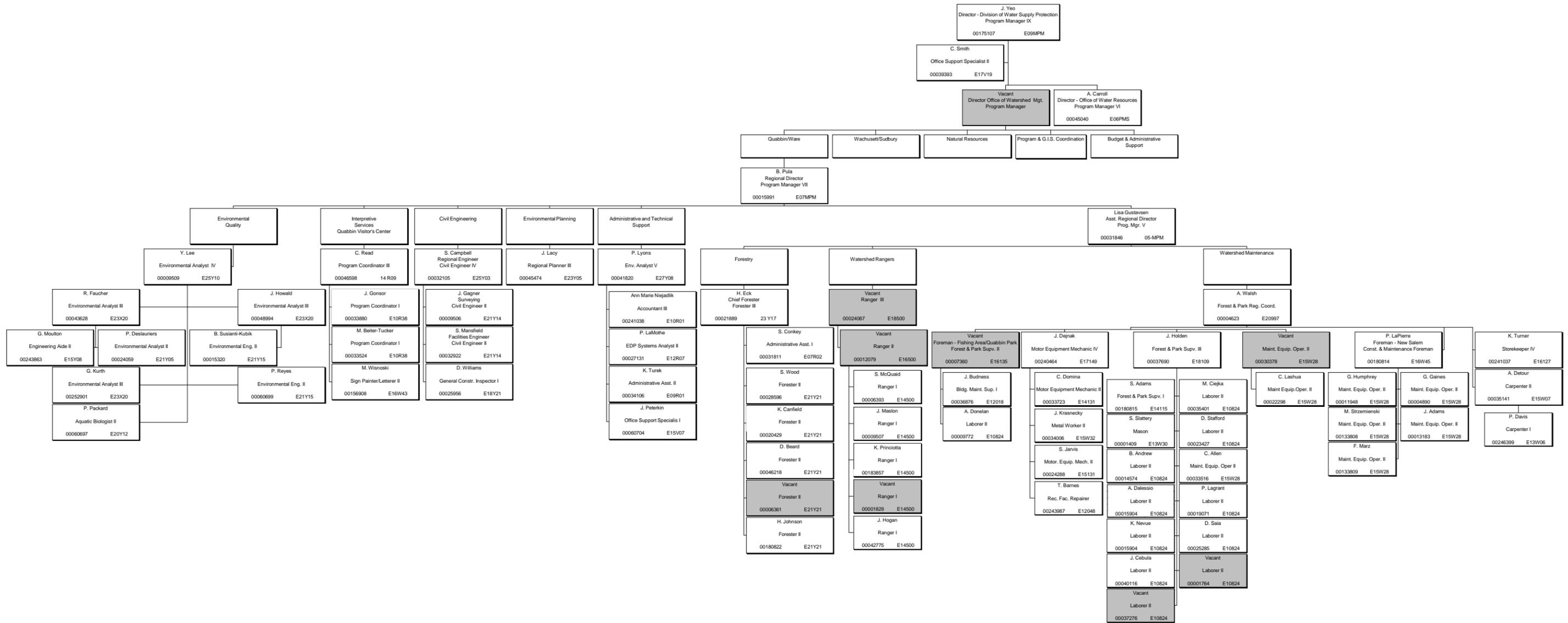




**Department of Conservation and Recreation  
Division of Water Supply Protection  
Wachusett/Sudbury Section**



Department of Conservation and Recreation  
 Division of Water Supply Protection  
 Quabbin Section



**3. Annual Budget Summary**

**WATER SUPPLY PROTECTION TRUST  
Expenditures and Revenues Report  
FY17 Work Plan Budget**

		FY17	
		Projected	% of Total
<b>A. Revenues</b>			
<b>OWM Revenues</b>			
	Hydro + Transmission	\$540,000	3.4%
	Forestry	\$185,000	1.2%
	Fishing & Recreation	\$240,000	1.5%
	Misc.	\$50,000	0.3%
	<b>OWM Revenues Subtotal</b>	<b>\$1,015,000</b>	<b>6.3%</b>
	<b>MWRA Payments to Trust *</b>	<b>\$15,009,268</b>	<b>93.7%</b>
	<b>Total Revenues</b>	<b>\$16,024,268</b>	<b>100.0%</b>
<b>B. Expenditures</b>			
AA	Personnel	\$9,890,000	61.7%
BB	Employee Expenses	\$11,150	0.1%
CC	Contracted Services	\$85,000	0.5%
DD	Pensions/Insurance	\$3,492,918	21.8%
EE	Admin Expenses	\$100,000	0.6%
FF	Facility Operational Supplies	\$148,200	0.9%
GG	Energy Costs	\$326,000	2.0%
HH	Consultant Contracts	\$216,000	1.3%
JJ	Operational Services	\$44,000	0.3%
KK	Equipment	\$498,000	3.1%
LL	Leases, Rentals	\$130,000	0.8%
NN	Construction Improvements	\$765,000	4.8%
PP	Grants to Public Entities	\$0	0.0%
TT	Specials Payments	\$125,000	0.8%
UU	IT Expenses	\$193,000	1.2%
	<b>Total Expenditures</b>	<b>\$16,024,268</b>	

\* not accounting for FY16 roll-over, which is credited

## **4. Annual Operating Budget**

DCR Division of Water Supply Protection  
Office of Watershed Management

Budget_Fiscal_Year	2017	FY17 Budget				
Appropriation	28300100	Approved May 2016				
Object Class	Object	Object Name	FY2015 Actual	FY2016 Amended Budget	FY2017 Final Draft	
AA	A01	Salaries:Inclusive	8,727,814	9,052,000	9,580,000	
	A06	Stand-By Pay				
	A07	Shift Differential Pay	20,913	20,000	21,000	
	A08	Overtime Pay	159,443	175,000	175,000	
	A10	Holiday Pay	21,160	10,000	24,000	
	A12	Sick-Leave Buy Back	23,628	15,000	30,000	
	A13	Vacation-In-Lieu	49,609	20,000	60,000	
	A14	Stipends	636			
	<b>AA Total</b>			<b>9,003,203</b>	<b>9,292,000</b>	<b>9,890,000</b>
	BB	B01	Out Of State Travel - Inclusive	3,335	1,750	2,500
B02		In-State Travel	1,837	7,500	3,000	
B03		Overtime Meals				
B05		Conference, Trng & Reg. Membership Dues, Licensing Fees	4,414	3,500	5,000	
B10		Exigent Job-Related Expenses	29	500	100	
B11		Employer Refund of Non-Tax Benefits	17	50	50	
B91		Employee Reimbursement Accounts Payable	381	1,000	500	
<b>BB Total</b>			<b>10,014</b>	<b>14,300</b>	<b>11,150</b>	
CC	C04	Contracted Seasonal Employees	85,911	82,000	85,000	
	C22	Engineering, Research & Scientific Services				
	C98	Reimb Travel/Other Expenses CC Special Contract/Employee				
<b>CC Total</b>			<b>85,911</b>	<b>82,000</b>	<b>85,000</b>	
DD	D09	Non Fringe Benefits Reimbursement (Payroll Tax)	144,517	156,940	166,583	
	D09	Fringe Benefits Reimbursement	2,385,778	2,597,560	3,216,335	
	D15	Worker's Comp Chargeback	89,133	100,000	100,000	
	D21	Health Ins Costs of Employ/Leave in Excess of 1 Yr Chgback	14,320	10,000	10,000	
<b>DD Total</b>			<b>2,633,748</b>	<b>2,864,500</b>	<b>3,492,918</b>	
EE	E01	Office & Administrative Supplies	6,565	10,000	7,500	
	E02	Printing Expenses & Supplies	13,491	11,000	12,000	
	E04	Central Reprographics Chargeback		500	500	
	E06	Postage	5,500	5,000	5,500	
	E12	Subscriptions, Memberships & Licensing Fees	1,149	4,000	1,600	
	E13	Advertising Expenses	880	500		
	E14	Exhibits/Displays	3,856	1,000	2,000	
	E15	Office Tap Water Treatment	834	700	900	
	E19	Fees, Fines, Licenses, Permits & Chargebacks	27,535	25,000	28,000	
	E20	Motor Vehicle Chargeback	28,483	24,000	29,000	
	E22	Temp Use Space/Confer-Incidental Includes Reservation Fees	974	1,000	1,000	
	E32	Tort Claims Liab Mgnt Reduc Fd				
	E53	S&J: Non-reportable to claimant, sole payee	10,000	10,000	10,000	
	E75	Advances - Administrative Expenses		-		
	EE2	Conference, Training and Registration Fees	1,814	2,000	2,000	
<b>EE Total</b>			<b>101,080</b>	<b>94,700</b>	<b>100,000</b>	
FF	F01	Food, Beverages, & Preservation		500		
	F03	Laundry and Cleaning Supplies	49			
	F05	Laboratory Supplies	2,299	1,500	1,500	
	F06	Medical & Surgical Supplies	1,154	1,000	1,000	
	F08	Toiletries and Personal Supplies				
	F09	Clothing & Footwear	21,511	22,500	20,000	
	F11	Laundry & Cleaning Supplies	8,686	8,000	9,000	
	F13	Live Animals & Related Supplies	299	2,000	1,000	
	F16	Library and Teaching Supplies and Materials	120	500	200	
	F18	Recreation, Religious & Social Supplies & Materials	8,647	15,000	13,000	
	F19	Manufacturing Supply & Materials & Raw Materials	1,208			
	F21	Navigational & Nautical Supplies	12,457	20,000	15,000	
	F22	Municipal Taxes				
	F24	Motor Vehicle Maintenance & Repair Parts	88,161	90,000	85,000	
	F27	Law Enforcement & Security Supplies	1,885	3,000	2,500	
<b>FF Total</b>			<b>146,476</b>	<b>164,000</b>	<b>148,200</b>	
GG	G03	Electricity	23,081	18,000	24,000	
	G05	Fuel For Vehicles	183,367	203,000	180,000	
	G06	Fuel For Buildings	124,891	144,000	115,000	
	G08	Sewage Disposal & Water	6,204	6,000	6,500	
	G11	Natural Gas	486	1,000	500	
<b>GG Total</b>			<b>338,030</b>	<b>372,000</b>	<b>326,000</b>	
HH	H05	Arbitrators/Mediators/Dispute Resolution Services				
	H09	Attorneys/Legal Services	5,500	5,500	6,000	
	H23	Program Coordinators		-		
	HH1	Financial Services	41,352	50,000	45,000	
	HH2	Engineering, Research & Scientific Services				
		UMass - Water Quality and Spill Response Modeling		142,329	120,000	120,000
		Moose Impact Study (UMass)			15,000	14,000
		Biodiversity Research Inst (loon capture and banding)		24,186	10,000	15,000
		Boise State Univ (gull study - data analysis)			-	
		CLS America Inc (gull study - data collection)			-	
Analytical Services		3,925	5,000	5,000		
New Forestry Research			7,500			
South Meadow Pond Hydrilla Control Project		9,150	20,000	8,000		
HH4	Health and Safety Services		5,000	3,000		
<b>HH Total</b>			<b>226,442</b>	<b>238,000</b>	<b>216,000</b>	

DCR Division of Water Supply Protection  
Office of Watershed Management

Budget_Fiscal_Year	2017	<b>FY17 Budget</b>			
Appropriation	28300100	Approved May 2016			
Object Class	Object	Object Name	FY2015 Actual	FY2016 Amended Budget	FY2017 Final Draft
JJ	J21	Hazardous Waste Removal Services			
	J27	Laundry Services	7,842	6,000	8,000
	J33	Photographic & Micrographic Services		500	500
	J44	Surveyors	5,723	24,000	10,000
	J50	Instructors/Lecturers/Trainers	500	500	500
	JJ1	Legal Support Services	26,173	20,000	25,000
	JJ2	Auxiliary Services			
<b>JJ Total</b>			<b>40,337</b>	<b>51,000</b>	<b>44,000</b>
KK	K02	Educational Equipment	2,136		3,000
	K03	Facility Equipment	34,168	55,000	45,000
	K04	Motorized Vehicle Equipment	362,076	190,000	415,000
	K05	Office Equipment	285	4,000	5,000
	K07	Office Furnishings	9,978	4,000	3,000
	K10	Law Enforcement & Security Supplies	3,860	2,000	4,000
	K11	Heavy Equipment	81,321	210,000	23,000
<b>KK Total</b>			<b>493,824</b>	<b>465,000</b>	<b>498,000</b>
LL	L11	Heavy Equipment Lease-Purchase			33,000
	L23	Facility Equipment Rental or Lease	33,018	22,000	
	L24	Motorized Vehicle Equipment Rental or Lease	71		
	L25	Office Equipment Rental or Lease	2,556	3,000	2,500
	L26	Printing/Photocopy & Micrographics Equip Rent/Lease	10,341	6,000	15,000
	L31	Heavy Equipment Rental or Lease	12,276	40,000	2,000
	L42	Educational Equipment Maintenance & Repair			2,000
	L43	Facility Equipment Maintenance & Repair			
	L44	Motorized Vehicle Equipment Maintenance & Repair	23,901	30,000	31,000
	L45	Office Equipment Maintenance and Repair	238	1,000	1,000
	L46	Print, Photocopying & Micrograph Equipment Maint/Repair	3,287	1,000	3,000
	L50	Law Enforcement/Security Equipment Maintenance/Repair	168		500
	L51	Heavy Equipment Maintenance/Repair	16,541	26,000	25,000
	L63	Programmatic Equipment Maintenance and Repair	35,763	4,000	15,000
<b>LL Total</b>			<b>138,159</b>	<b>133,000</b>	<b>130,000</b>
NN	N15	Building/Vertical Structure Construction		20,000	
	N16	Maj Construction, Maj Renovation, Bldg Alteration, Land Impr	243,047	195,000	110,000
	N17	Major Building Maintenance and Land Improvements	50,083		95,000
	N18	Initial Furnishings & Equipment Purchases			
	N19	Land Acquisition and Eminent Domain	8,446		
	N22	Highway Horizontal/Lateral Maintenance and Improvements	185,485	200,000	115,000
	N23	Highway Horizontal/Lateral Maintenance Materials	33,041	140,000	50,000
	N41	State Park & Recreation Facilities Construction	95,485		15,000
	N50	Non-Major Facility Infrastructure Maintenance & Repair	88,984	50,000	50,000
	N52	Facility Infrastructure Maint & Repair Tools & Supplies	108,298	90,000	110,000
	N60	Lawn and Grounds Equipment Maint & Repair	7,915	2,000	5,000
	N61	Lawn and Grounds Equipment	15,485	75,000	70,000
	N64	Garden Expenses, Tools and Supplies	12,275	19,000	25,000
	N71	Exterminators/Integrated Pest Management	2,463	4,000	4,000
	N72	Hazardous Waste Removal Services	10,369	35,000	15,000
	N73	Non-Hazardous Waste Removal Services	15,070	32,000	21,000
	N74	Snow Removal&Groundskeeping Svcs (inc. haz. tree removal)		17,500	5,000
	N98	Reimbursement for Travel/Other Expense Infrastructure Projects	96		
	NN1	Engineering, Research and Scientific Services	100,216	205,000	75,000
<b>NN Total</b>			<b>976,759</b>	<b>1,084,500</b>	<b>765,000</b>
PP	P01	Grants to Public Entities		-	
<b>PP Total</b>				-	
TT	T04	Payments & Refunds (USGS gages)	120,960	124,500	125,000
<b>TT Total</b>			<b>120,960</b>	<b>124,500</b>	<b>125,000</b>
UU	U01	Telecommunications Services Data	-	5,000	2,000
	U02	Telecommunications Services - Voice	47,212	45,000	50,000
	U03	Software and Information Technology (IT) Licenses	31,749	10,000	15,000
	U04	Information Technology Chargeback	1,355	1,500	2,000
	U05	Information Tech (IT) Professionals	392	3,400	6,000
	U07	Information Tech (IT) Equipment Purchase	89,468	115,000	90,000
	U09	Information Technology (IT) Equip Rental Or Lease	20,256	31,000	24,000
	U10	Information Tech (IT) Equipment Maintenance & Repair	1,430	2,000	4,000
<b>UU Total</b>			<b>191,028</b>	<b>212,900</b>	<b>193,000</b>
<b>Grand Total</b>			<b>14,505,971</b>	<b>15,192,400</b>	<b>16,024,268</b>

## **5. Major Projects**

- A. FY17 Spending Proposals
- B. Wachusett/Sudbury Region Capital Project List
- C. Quabbin/Ware Region Capital Project List
- D. FY17-FY21 Watershed Capital Equipment Plan

**FY17 NN Spending Proposal Dividing Projects Between Operating Funds and Capital Budget (Phase 1 only)**

**Wachusett**

<b>Project</b>	<b>Operating</b>	<b>Capital</b>	<b>Notes</b>	<b>Obj. Code</b>
Structure demolition (including lead/asbestos removal contracts)	\$ 110,000		multiple contracts and locations	N16
Hazardous Tree Removal	\$ 5,000		various sites	N74
Direct Discharge Elimination Design/CM	\$ 25,000		DOT construction	NN1
Required Dam Studies (Phase 1s and 2s)	\$ 50,000		reg-required reports	NN1
Required Reservoir 2 Toe Drain repairs		\$ 210,000	stone trench with perforated collector pipe	N41 (Cap)
Watershed Gravel Road Reconstruction Supplies	\$ 20,000		purchase materials for in-house work	N23
Clinton Yard Security Fencing & Paving	\$ 30,000		Fencing improvements overdue.	N22
Clinton Maintenance Garage Building Envelope Repairs	\$ 95,000		windows, masonry. Trying for grant.	N17
Design of New Clinton Crew Headquarters		\$ 60,000	Design for crew building replacement	NN1 (Cap)
Design of Maintenance Garage Addition		\$ 40,000	Design for tall bay addition	NN1 (Cap)
Regular NN Spending	\$ 125,000			Multiple
<b>Subtotal ( capital fully funded for FY 17 in phase 1)</b>	<b>\$ 460,000</b>	<b>\$ 310,000</b>		

**Quabbin**

<b>Project</b>	<b>Operating</b>	<b>Capital</b>	<b>Notes</b>	<b>Obj. Code</b>
Modular Maintenance Garage/Washbay Design		\$ 50,000	FY17 work is limited to site work. FY18 Install planned.	N16 (Cap)
Horseshoe Dam Bridge at FA 3 - Consultant Design		\$ 50,000	Ensure continued access to BLA 3 and watershed lands	NN1 (Cap)
Roadway & Drainage Improvements Contracts		\$ 250,000	Access roads, dams/dikes, admin areas	N22 (Cap)
Boat Cove Lighting, Bubbler Install and Security Project	\$ 60,000		Increase Gull Ops / Dark Safety, Security	N22
Stockroom Septic System Replacement	\$ 25,000		Design done.	N22
Quabbin Tower Venting System	\$ 50,000		Venting needed to protect multi-agency Comms Eqpt.	N50
Immediate QAB Band-aids, Repairs to other buildings	\$ 20,000			Multiple
Regular NN Spending	\$ 140,000		Includes required maintenance/testing contracts	Multiple
<b>Subtotal (capital fully funded for FY17 in phase 1)</b>	<b>\$ 295,000</b>	<b>\$ 350,000</b>		

**NR Section**

Regular NN Spending	\$ 10,000			Multiple
<b>TOTAL</b>	<b>\$ 765,000</b>	<b>\$ 660,000</b>		

# WACHUSETT/SUDBURY REGION CAPITAL PROJECT LIST (PHASE 1)

## Clinton Crew Headquarters Replacement

### **Project Purpose**

Replacement of Clinton crew and Gull Ops headquarters to better work environment, functionality, and efficiency

### **Project History and Background**

The Clinton Crew headquarters is nearing the end of its maximum serviceable life. The facility was originally two temporary offices from the 1960s. Beginning in 1987, it served as Environmental Quality offices (while the crew headquarters was located in a trailer) and later became the crew headquarters. The building serves as offices for two work groups (15 people) and as a lunch room for 21 people who work in the Clinton Labor Yard. The building also houses the Gull Control program supplies and equipment. The buildings are wood frame structures on wooden piers. In the mid-1990s the buildings were connected to create one facility. The building has only one bathroom facility and it is not ADA accessible. The facility set-up is not optimum for the type of current use. It lacks appropriate offices and at times has freezing problems with water and sewer facilities that run under the buildings.

The proposal is to construct a new headquarters on a slab behind the existing facility to gain easy access to sewer facilities. The facility would have offices, locker room, bathroom facilities, Gull Control program equipment room and storage facilities.

Design is scheduled for FY17 with bidding documents prepared for FY18-FY19 construction.

### **Scope**

Task Item	Description of Work
Consulting and Project Design	Development of design plans for new Clinton crew headquarters.
Construction of Crew Headquarters	Construction of new facility with appropriate storage and accessible bathrooms.

### **Expenditure Forecast**

Total Cost	Projected Annual Payments to FY21	FY17	FY18	FY19	FY20	FY21
\$500,000		\$60,000	\$340,000	\$100,000		

# WACHUSETT/SUDBURY REGION CAPITAL PROJECT LIST (PHASE 1)

## Wachusett Maintenance Garage Addition

**Project Purpose**

To expand the Wachusett Maintenance garage by adding a bay that is larger to accommodate servicing of heavy equipment and oversized vehicle and boats. Work would include upgrades to the garage windows, ventilation and heating systems.

**Project History and Background**

The Wachusett/Sudbury Region has one vehicle and equipment maintenance garage located in Clinton off Wilson Street to service over 80 vehicles plus large equipment and power tools. Low height in the service bays restricts Watershed mechanic’s ability to service and maintain the significant fleet of heavy equipment and oversized vehicles. Right now work on the air boats, other boats and large dump trucks and equipment has to occur outside. This hinders the ability of mechanics to perform work, especially in inclement weather. This project simply adds a tall bay on to the end of the existing garage, with appropriate door system, ventilation and environmental systems.

Consultant design will be completed in FY17 with bidding documents prepared for FY18 construction.

**Scope**

Task Item	Description of Work
Design	Development of design plans for addition of one oversized bay to the garage
Construction	Construct oversized garage bay to accommodate larger vehicles

**Expenditure Forecast**

Total Cost	Projected Annual Payments to FY21	FY17	FY18	FY19	FY20	FY21
\$200,000		\$40,000	\$160,000			

# WACHUSETT/SUDBURY REGION CAPITAL PROJECT LIST (PHASE 1)

## Framingham Reservoir #2 (Brackett) Toe Drain Repair

**Project Purpose**

Replacement of collapsed toe drain system on Framingham Reservoir #2 embankment

**Project History and Background**

Framingham Reservoir #2 (aka Brackett Reservoir) was built in the late 1870s by the City of Boston and has been part of the MWB/MDC/MWRA/DCR water system since then. A toe drain was installed during the construction of the dam in the late 1800's to move the phreatic surface water away from the right downstream embankment. Over the history of the dam several large trees grew in and around the location of the drain with root systems infiltrated the pipe causing portions to crack and get filled with sand and roots.

DCR in 2014 hired Pare Corp for Phase 2 Dam inspections purposes to TV inspect and clean if necessary the toe drain. During the TV portion of the inspection a few significant blockages were discovered and Pare brought a Vac Crew sub contractor in to clean out the debris and then TV the line again it was clear. After cleaning, further TV inspections found that entire portions of the pipe were disintegrated.

DCR and Pare put together a temporary fix to the closest portion of pipe near the outlet to continue a continuity in flow, but it was determined the entire length of pipe was not in good enough shape to manage the embanks flow as designed. A replacement plan is nearly finished in design and permitting. The plan is replace with a stone trench wrapped in a geotextile fabric with a perforated collector pipe.

With design and permitting nearly complete, construction will be completed in FY17. Cost estimates are preliminary, but 75% design estimates are due in mid May 2016.

**Scope**

Task Item	Description of Work
Construction	Installation of trench drain system replacement

**Expenditure Forecast**

Total Cost	Projected Annual Payments to FY21	FY17	FY18	FY19	FY20	FY21
\$210,000		\$210,000				

# QUABBIN/WARE REGION CAPITAL PROJECT LIST (PHASE 1)

## Quabbin Watershed System Road and Drainage Improvements

### **Project Purpose**

To maintain, improve and repair an aging infrastructure of watershed roads leading to important facilities and regions of reservoir shoreline and forests. Improvements include upgrades to existing utilities, betterments to existing landscapes, and construction related to the repair or replacement of infrastructure.

### **Project History and Background**

The Quabbin Watershed has a network of paved roads leading to critical MWRA/DCR infrastructure, dam areas, and important reservoir shoreline areas such as the boat launches. Over the past 10 years DCR Watershed has used Trust funds to completely repave/improve the 8 miles of road network in Quabbin Park with significant drainage improvements and elimination of direct discharges. Original roads remaining in poor shape are access roads to Shaft 12, Boat Launch Areas 2 and 3, dam and dike areas, as well as Administration and Stockroom Building areas.

Contract work will include drainage improvements and road reconstruction.

DCR will maintain the existing 350 miles of gravel roads and smaller culvert systems using annual funds from the Trust's operating budget.

### **Scope**

Task Item	Description of Work
Roadway Improvements	Continue program of roadway and drainage restoration/improvements and resurfacing by targeting improvements to DCR facility parking facilities, dams, and access roads to Boat Launch Areas and MWRA facilities.

### **Expenditure Forecast**

Total Cost	Projected Annual Payments to FY21	FY17	FY18	FY19	FY20	FY21
\$1,250,000		\$250,000	\$250,000	\$250,000	\$250,000	\$250,000

# QUABBIN/WARE REGION CAPITAL PROJECT LIST (PHASE 1)

## Boat Launch Area #3 Access Bridge Repairs

### Project Purpose

To address quickly eroding conditions of Boat Launch Area #3 Access Bridge

### Project History and Background

The purpose of this project is to upgrade and protect the bridge deck and wingwall structure from further damage caused by penetrating water and structural deterioration. The reinforced concrete bridge structure needs significant improvements because of its age (built in 1938) and existing level of deterioration (concrete spalling, cracking and section loss). The bridge approach also poses a safety concern for both vehicle and pedestrian traffic that frequently travel the bridge. Existing rails that are cracked and failing, a narrowed approach and damaged curbing present impact concerns. The following needs will be addressed by this project:

- An in-depth structural assessment and evaluation of existing bridge conditions and deficiencies (live load rating, recommended repair alternatives)
- Development of specifications for repairs to deck and spalled sections of concrete.
- Improvements to safety rails and roadway approach to safeguard the structure against potential damage by collision or other impacts.

The bridge provides important access to Boat Launch Area III and points beyond inside the DCR Reservation. As a precautionary measure, the DCR has imposed a 10 ton load limit on traffic utilizing the bridge.

### Justification

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION PAGE 1 OF 7

2-DIST		B.I.N.		STRUCTURES INSPECTION FIELD REPORT				BR. DEPT. NO.	
02		4CN		ROUTINE INSPECTION				H-08-023	
CITY/TOWN HARDWICK		8-STRUCTURE NO. H08023-4CN-MDC-NBI		11-KILO POST 000.016	41-STATUS R:POSTED	90-ROUTINE INSP. DATE MAY 5, 2015			
07-FACILITY CARRIED HWY ACCESS GT 43		MEMORIAL NAME/LOCAL NAME 074 GATE 43/QUABBIN BAFFLE DAM		27-YR BUILT 1940	106-YR REBUILT 0000	YR REHAB'D (NON 106) 0000			
06-FEATURES INTERSECTED WATER QUAB RS S BAF DAM		26-FUNCTIONAL CLASS Rural Local		DIST. BRIDGE INSPECTION ENGINEER W. A. Drosehn					
43-STRUCTURE TYPE 103 : Concrete Girder & Floorbeam		22-OWNER Other State Agencies		21-MAINTAINER Other State Agencies		TEAM LEADER R. Jones			
107-DECK TYPE 1 : Concrete Cast-in-Place		WEATHER Lt Rain	TEMP. (air) 18°C	TEAM MEMBERS S. J. AUSEVICH					
ITEM 58		ITEM 59		ITEM 60					
DECK		SUPERSTRUCTURE		SUBSTRUCTURE					
1. Wearing surface		1. Stringers		1. Abutments					
2. Deck Condition		2. Floorbeams		a. Pilewalls					
3. Stay in place forms		3. Floor System Bracing		b. Bridge Seats					
4. Curbs		4. Beams		c. Backwalls					
5. Median		5. Trusses - General		d. Breastwalls					
6. Sidewalks		a. Upper Chords		e. Wingwalls					
7. Parapets		b. Lower Chords		f. Slope Paving/Rip-Rap					
8. Railing		c. Web Members		g. Pointing					
9. Anti Missile Fence		d. Lateral Bracing		h. Footings					
10. Drainage System		e. Sway Bracings		i. Piles					
11. Lighting Standards		f. Portals		j. Scour					
12. Utilities		g. End Posts		k. Settlement					
13. Deck Joints		6. Pin & Hangers		l. Settlement					
		7. Conn Plt's, Gussets & Angles		m. Settlement					
				2. Piers or Bents					
				a. Pedestals					
				b. Caps					
				c. Columns					

5-Rating  
Fair Cond.  
(Minor section loss, spalling and scour)

MA DOT Bridge Inspection Report: May 5, 2015

## QUABBIN/WARE REGION CAPITAL PROJECT LIST (PHASE 1)

### *Scope*

<b>Task Item</b>	<b>Description of Work</b>
Develop Request for Proposal Document and Bid	RFP development to be completed in-house by DCR staff.
Consultant Inspection and Evaluation of Bridge Structure	Delivery of inspection findings and recommendations.
Consultant Development of Repair Options and Alternatives	Delivery of final report and improvement specifications.
Development of Construction Specifications and Bidding	Pending results of consultant investigation.
Final Construction	Pending future funding.

### *Expenditure Forecast*

<b>Total Cost</b>	<b>Projected Annual Payments to FY21</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>	<b>FY21</b>
\$250,000		\$50,000	\$200,000			

# QUABBIN/WARE REGION CAPITAL PROJECT LIST (PHASE 1)

## Modular Maintenance Garage and Wash Bay

### **Project Purpose**

To construction a modular garage for all Quabbin/Ware Region mechanical maintenance activities at the Stockroom Area.

### **Project History and Background**

The Quabbin/Ware Section has a fleet of over 80 vehicles, 20 pieces of heavy equipment, over 100 outboard motors and hundreds of small engine driven equipment such a lawn mowers, chainsaw and pumps . The Quabbin/Ware Region currently employs five mechanics to maximize the percent of equipment repair and maintenance work done in-house, and done correctly. The current maintenance garage is almost 80 years old, in close proximity to the reservoir, in need of significant structural repair, and will not accommodate larger equipment (that often need maintenance). It also does not have a vehicle wash bay with appropriate wash collection systems required by state and federal laws. To maintain the region’s large inventory of equipment a new maintenance facility is a necessity, cited in a new location. The level Stockroom area off Blue Meadow Road is a perfect location for multiple reasons. State agencies include MassDOT, DCR Parks, UMass and MassWildlife have recently built modular garage buildings that are fully functional, long-lasting structures with proper heating, ventilation, safety, and environmental systems.

Quabbin Engineering is working closely with other state agencies on design and contracting options. An in-house team including Operations and Mechanics staff are meeting to determine exact building layout and options. Site work will commence in FY17, with much of the building installed in FY18 and some remaining issues completed in FY19.

### **Scope**

Task Item	Description of Work
Study & Design	In-House engineering staff complete design and contract scope using a Modular Construction Contract similar to other state contracts
Permitting	Local and state permits
Preliminary Site Work	DCR completes site prep work for utilities (new well, electric) and support infrastructure (wash bay tight tank, oil/water separator).
Building Installation	Contractor completes construction

### **Expenditure Forecast**

Total Cost	Projected Annual Payments to FY21	FY17	FY18	FY19	FY20	FY21
\$1,400,000		\$50,000	\$1,150,000	\$200,000		

**FY17-FY21 Watershed Capital Equipment Plan**

Region	Description	-----Estimated Costs By Year-----				
		FY17	FY18	FY19	FY20	FY21
Quabbin	New Sea Ark Type Boat for Gull Operations, water quality testing, Ranger Patrols	\$125,000				
Wachusett	25' Whaler replacement for Gull Operations, water quality testing	\$125,000				
Quabbin	Mini-excavator with attachments (brush, bucket, thumb) and trailer for ROW and invasives management		\$150,000			
Wachusett	Replace 2005 Mack 6-Wheel dump truck used for construction and hauling.		\$150,000			
Quabbin	Replace 1995 Mack Truck for Quabbin Watershed Maintenance Team with trailer and slide sander			\$280,000		
Wachusett	Replace the 1994 John Deere bulldozer used for construction projects.			\$150,000		
Quabbin	Replace 20+ year old (MWRA hand me-down) backhoe with attachments				\$150,000	
Wachusett	Replace Freightliner 6-wheel dump truck used for construction, hauling and more.				\$150,000	
Quabbin	Replace 20+ year old large Tractor with enclosed cab for dams/watershed maintenance					\$150,000
Wachusett	Replace Caterpillar backhoe used for winter operations, road work.					\$135,000
<b>TOTAL</b>		<b>\$250,000</b>	<b>\$300,000</b>	<b>\$430,000</b>	<b>\$300,000</b>	<b>\$285,000</b>

## **6. Annual Land Acquisition Capital Spending Plan**

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

**FY17 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 FY17 is estimated to be \$2.0 million.**

## **7. Projected Revenue**

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

**Actual and Projected Revenue FY12-16**

<b>Category</b>	<b>FY12 Actual</b>	<b>FY13 Actual</b>	<b>FY14 Actual</b>	<b>FY15 Actual</b>	<b>FY16 Projected</b>	<b>FY17 Projected</b>
Hydroelectric Power / Transmission Lines	\$569,378	\$645,650	\$696,989	\$548,476	\$590,000	\$540,000
Fishing and Recreation	\$255,241	\$223,594	\$205,216	\$234,411	\$240,000	\$240,000
Forestry	\$42,549	\$32,321	\$48,961	\$102,585	\$125,000	\$185,000
Miscellaneous (Interment fees, rents)	\$21,404	\$12,539	\$64,506	\$66,205	\$50,000	\$50,000
<b>TOTAL</b>	<b>\$888,572</b>	<b>\$914,104</b>	<b>\$1,015,672</b>	<b>\$951,677</b>	<b>\$1,005,000</b>	<b>\$1,015,000</b>

**Projected FY17 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**

**FY17 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 FY16 PILOT was \$8,128,726. This figure is a 2.0 % increase from the FY15 PILOT paid of \$7,999,612. Several towns' tax rates did not grow as much as in recent years, so this increase was slightly lower than the estimated 4% potential increase stated in the FY16 Work Plan.

Estimates for FY17 PILOT take into consideration the 15 towns that will have gone through a local revaluation in FY16, thus requiring the redetermination formula  $((2015 \text{ PILOT} / 2016 \text{ Tax Rate}) * 1000)$  in FY17. Four towns will have their valuations decrease, however the "hold harmless" clause will maintain their current payment. All other communities will see their valuation increase, gaining back any loss they suffered from the DOR 2013 revaluation, adding back \$25 million total valuation. The amount of increase in payments 21 towns will receive depends on their tax rate in FY17; whatever percentage it may be higher than FY16 will be how much their PILOT increases (in other words, if their tax rate goes up 3%, PILOT will go up 3%; if it goes down then the hold harmless provision maintain their payment). Utilizing a generic estimated increase of 5% to all towns' tax rates from FY16 to FY17, **estimated FY17 PILOT will increase approximately 3% to \$8.34 million.**

**Department of Conservation and Recreation Office of Watershed Management  
FY16 Payments in Lieu of Taxes**

Final

Community	Local Revaluation Year	2013 DOR Property Valuation	FY14 Tax Rate	FY15 Tax Rate	FY14 PILOT	FY15 PILOT	FY16 Property Valuation	FY16 Tax Rate	FY16 Min. PILOT Due	FY16 PILOT	Increase	% Increase	Hold Harmless
Barre	2016	9,506,900	\$16.06	\$18.64	\$167,003	\$177,209	\$9,506,900	\$17.80	\$169,223	\$177,209			\$7,986
Belchertown	2015	11,598,400	\$17.72	\$17.89	\$252,696	\$252,696	\$14,124,967	\$17.97	\$253,826	\$253,826	\$1,130	0.4%	
Belchertown - Annexed Lands	2015	1,491,400	\$17.72	\$17.89	\$49,763	\$49,763	\$2,781,599	\$17.97	\$49,985	\$49,985	\$223	0.4%	
Berlin	2017	1,804,700	\$23.91	\$23.91	\$46,426	\$46,426	\$1,941,695	\$23.47	\$45,572	\$46,425.93			\$854
Boylston	2017	29,168,700	\$17.39	\$17.41	\$595,254	\$595,939	\$34,229,679	\$16.37	\$560,340	\$595,938.71			\$35,599
Clinton	2016	6,489,300	\$30.19	\$31.24	\$195,912	\$202,726	\$6,489,300	\$31.45	\$204,088	\$204,088.49	\$1,363	0.7%	
Framingham	2015	4,993,300	\$40.92	\$38.99	\$261,931	\$261,931	\$6,717,900	\$37.98	\$255,146	\$261,930.91			\$6,785
Hardwick	2016	7,281,200	\$15.82	\$15.90	\$115,744	\$115,771	\$7,281,200	\$15.77	\$114,825	\$115,771.08			\$947
Hardwick - Annexed Lands	2016	36,900	\$15.82	\$15.90	\$928	\$928	\$36,900	\$15.77	\$582	\$927.88			\$346
Holden	2017	30,321,600	\$17.75	\$18.12	\$900,838	\$919,616	\$50,751,411	\$17.25	\$875,462	\$919,615.57			\$44,154
Hubbardston	2016	18,954,300	\$14.52	\$14.92	\$318,970	\$318,970	\$18,954,300	\$15.90	\$301,373	\$318,969.72			\$17,596
Leominster	2015	142,400	\$18.89	\$19.44	\$8,561	\$8,561	\$440,369	\$19.58	\$8,622	\$8,622.43	\$62	0.7%	
Ludlow	2015	197,900	\$17.22	\$17.29	\$9,820	\$9,820	\$567,947	\$18.13	\$10,297	\$10,296.88	\$477	4.9%	
Marlborough	2016	1,367,000	\$28.22	\$27.43	\$109,727	\$109,727	\$1,367,000	\$25.69	\$35,118	\$109,727.19			\$74,609
New Salem	2016	22,639,000	\$19.66	\$20.10	\$445,083	\$455,044	\$22,639,000	\$22.99	\$520,471	\$520,470.61	\$65,427	14.4%	
New Salem - Annexed Lands	2016	8,769,200	\$19.66	\$20.10	\$172,402	\$176,261	\$8,769,200	\$22.99	\$201,604	\$201,603.91	\$25,343	14.4%	
Northborough	2016	5,855,800	\$16.59	\$16.73	\$102,158	\$102,158	\$5,855,800	\$17.17	\$100,544	\$102,157.94			\$1,614
Oakham	2017	8,930,200	\$12.96	\$13.68	\$121,417	\$128,162	\$9,368,581	\$13.90	\$130,223	\$130,223.28	\$2,061	1.6%	
Orange	2017	125,500	\$18.80	\$20.77	\$3,791	\$4,188	\$201,635	\$21.70	\$4,375	\$4,375.47	\$188	4.5%	
Pelham	2015	11,306,000	\$20.40	\$20.79	\$331,392	\$331,392	\$15,939,952	\$21.21	\$338,086	\$338,086.39	\$6,695	2.0%	
Pelham - Annexed Lands	2015	813,200	\$20.40	\$20.79	\$37,342	\$37,342	\$1,796,163	\$21.21	\$38,097	\$38,096.61	\$754	2.0%	
Petersham	2016	10,036,800	\$15.93	\$16.99	\$296,722	\$296,722	\$10,036,800	\$16.42	\$164,804	\$296,721.61			\$131,917
Petersham - Annexed Lands	2016	5,291,700	\$15.93	\$16.99	\$203,306	\$203,306	\$5,291,700	\$16.42	\$86,890	\$203,305.78			\$116,416
Phillipston	2016	171,600	\$16.29	\$15.70	\$11,913	\$11,913	\$171,600	\$16.89	\$2,898	\$11,912.74			\$9,014
Princeton	2016	13,562,700	\$17.24	\$17.30	\$255,315	\$255,315	\$13,562,700	\$17.80	\$241,416	\$255,314.61			\$13,899
Rutland	2017	30,734,100	\$17.11	\$17.65	\$525,860	\$525,860	\$26,821,624	\$17.37	\$465,892	\$525,860.45			\$59,969
Shutesbury	2015	6,056,800	\$20.60	\$21.53	\$283,212	\$283,212	\$13,154,285	\$22.08	\$290,447	\$290,446.62	\$7,235	2.6%	
Southborough	2016	14,119,400	\$16.18	\$16.02	\$284,149	\$284,149	\$14,119,400	\$15.82	\$223,369	\$284,148.93			\$60,780
Sterling	2016	40,938,300	\$16.93	\$17.29	\$693,085	\$707,823	\$40,938,300	\$18.33	\$750,399	\$750,399.04	\$42,576	6.0%	
Templeton	2016	48,900	\$14.12	\$16.64	\$1,082	\$1,082	\$48,900	\$16.47	\$805	\$1,082.18			\$277
Ware	2015	9,795,000	\$18.31	\$19.65	\$182,840	\$192,472	\$9,304,834	\$20.21	\$188,051	\$192,471.75			\$4,421
Ware - Annexed Lands	2015	6,388,500	\$18.31	\$19.65	\$158,544	\$158,544	\$8,068,398	\$20.21	\$163,062	\$163,062.32	\$4,518	2.8%	
Wendell	2016	1,255,300	\$19.18	\$18.96	\$24,077	\$24,077	\$1,255,300	\$19.38	\$24,328	\$24,327.71	\$251	1.0%	
West Boylston	2017	18,595,600	\$17.66	\$18.34	\$642,130	\$666,856	\$36,360,723	\$18.45	\$670,855	\$670,855.33	\$4,000	0.6%	
Westborough	2016	2,626,000	\$19.29	\$18.59	\$50,656	\$50,656	\$2,626,000	\$17.77	\$46,664	\$50,655.54			\$3,992
<b>TOTAL</b>		<b>\$341,413,600</b>			<b>\$7,860,046</b>	<b>\$7,966,612</b>	<b>\$401,522,062</b>			<b>\$8,128,913.19</b>	<b>\$162,301</b>	<b>2.0%</b>	<b>\$583,188</b>

NOTES:

1. 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. DOR must complete these revaluations by June with a subsequent short period for appeals; any issue not resolved in this appeal period then goes to the Appellate Tax Board. Watershed PILOT utilizes the DOR revaluation figure in the subsequent fiscal year from the year they are determined. In other words, the 2013 SOL Revaluation was utilized starting in FY2014. The next SOL Revaluation is set for January 1, 2017, which will be effective in FY18.
2. 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.
3. "Hold Harmless" is a provision in the legislation that requires any payment never to be less than the previous year's payment. Therefore, if either valuations or tax rates drop, the municipality is guaranteed a consistent payment.
4. 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. Local revaluations occur every three years and do not necessarily align with the 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. 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. If a local revaluation occurred in 2015, then for FY16, the valuation is: (2014 PILOT/2015 Tax Rate)\*1000.