FY-15 Forestry Project Proposals

Commonwealth of Massachusetts Department of Conservation and Recreation Division of Water Supply Protection

Elance - Martin



Guiding principle: most resilient watershed cover is a diverse forest

- ✓ Vigorous and diverse
- ✓ <u>Actively reproducing</u>
- Deliberately patterned
- ✓ Resistant and resilient







How does DWSP build resistance/resilience? Principles of sustainable watershed silviculture

- Increase diversity by cutting openings that will meet silvicultural objectives
- Cut less than 25% of any subwatershed in any given 10 year mgt period
- Retain filter strips along water and engineer a separation between water and roads
 - Work to control the impacts of deer, moose, and invasive plants on tree regeneration
 - Monitor, improve, and repeat



2-year post harvest multi-aged structure developed via small group selection on Prescott Peninsula



Refinements in DWSP Forestry

- Improvements in public information, via internet postings and signage
- *Revised openings in regeneration harvests*, via adjustments to size, shape, and distribution
- Green retention, retaining live individuals or aggregated groups for visual softening
- Enhanced monitoring of timber harvest effects, building on existing water quality monitoring to focus more intensively on quantifying the effects of existing cutting practices on water resources
- Photo points used to document management activities and changes in the forest over time.



2000- 2013 Estimated Quabbin Regeneration >4.5 ft





Summary of silviculture for proposals

Target low quality poor vigor stems Irregular shaped openings Maximum opening size of about 0.5 acre Leave the biggest and best formed trees in the openings







Ware Road proposal

- ✓ 169 acres
- Red oak and White
 Pine are principle
 species
- Previously harvested in 1968 and 1981
 - Release existing
 regeneration in small
 (up to ½ acre)
 irregularly shaped
 groups.
- ✓ Input?



FY2015 Proposed Forestry Project HA-15-1

of Water Supply Protection - Office of Watershed Management

Quabbin Reservoir Reservation Proposed Forestry Lot Review

8	Landing Site	*	Protected Bird Site	~	Stream	Locus Map: Quabbin Reservoir Reservatio
*	Wetland Crossing	۲	NHESP Certified Vernal Pools	1.5	Wetland	Guaddin Reservor Reservaco
	DCR Gate		Potential Vernal Pool	B	Surface Water	122
0	Barway	0	NHESP Priority Habitats of Rare Species	0	Watershed Boundary	1 1 1 2 2 2 1 1 2 2 3 2 4 1 2 2 3 2 4 1 2 4 1 2 4 1 2 1 2
~	Major State Route	1	Culural Site			1 Cali D
~	Town Paved & Gravel Road	N	Stone Wall			VA FRA
S	All-Weather Access Road		CFI Plot			1 8 MA 22A
100	Seasonal Access Road		Rare Plant			611205
~	Cart road		Vegetation Type			NUMBER
~	Proposed Skid Trail		Reservation Boundary			212 3 3
	Proposed Forestry Lot					51 201
_	0		2,000			4,000 Feet



Gate 5 proposal

- ✓ 104 acres
- ✓ Thinned in the 1960's
- Oak and pine are the principle species
- Release existing regeneration in small (up to ½ acre) irregularly shaped groups.
- Input ?



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8	Landing Site	*	Protected Bird Site		~	Stream	Locus Map: Quabbin Reservoir Reservation
*	Wetland Crossing	۲	NHESP Certified Ver	mal Pools	30	Wetland	Quadoin Reservoir Reservation
	DCR Gate		Potential Vernal Poo	t.	B	Surface Water	122
	Barway	0	NHESP Priority Habi	tats of Rare Species	0	Watershed Boundary	202 9122
~	Major State Route		Culural Site				Stan n
~	Town Paved & Gravel Road	N	Stone Wall				VA STRA
0	All-Weather Access Road	4	CFI Plot				CONCELERA
2	Seasonal Access Road		Rare Plant				61120157
-	Cart road		Vegetation Type				Nors P
~	Proposed Skid Trail		Reservation Bounda	ry			9 32
	Proposed Forestry Lot						
	1	400	1	2,000			5.000 Feel



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Gate 46 Proposal

✓ 111 acres

- ✓ Harvested in the 1990's
- Oak and pine are the principle species
- Release existing
 regeneration in small (up to ½ acre)
 irregularly shaped
 groups.
- ✓ Input ?



FY2015 Proposed Forestry Project HA-15-8

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Quabbin Reservoir Reservation Proposed Forestry Lot Review

8	Landing Site	*	Protected Bird Site		\sim	Stream	Locus Map: Quabbin Reservoir Reservation
*	Wetland Crossing	۲	NHESP Certified Ve	ernal Pools	So	Wetland	Quabbin Reservoir Reservation
	DCR Gate		Potential Vernal Pod	ol	B	Surface Water	122
	Barway	\bigcirc	NHESP Priority Hat	bitats of Rare Species	0	Watershed Boundary	202 0 1122
~	Major State Route		Culural Site				A COURSE
~	Town Paved & Gravel Road	00000000	Stone Wall				N Sterry
0	All-Weather Access Road	A	CFI Plot				00 1 32A
125	Seasonal Access Road	*	Rare Plant				
- Jagh	Cart road		Vegetation Type				NUCLE V
~	Proposed Skid Trail		Reservation Bounda	ary			20 9 32
	Proposed Forestry Lot						
	10	200		2,400			4,800 Feet



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Mellon Road lot

✓ 97 acres

- ✓ Harvested in the 1990's
- Oak and pine are the principle species
- Release existing regeneration in small (up to ½ acre) irregularly shaped groups.

Input ?



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Gate 10 proposal

- ✓ 96 acres
- Harvested several times from 1970 through 1999
- Oak and pine are the principle species
- Release existing
 regeneration in small (up to ½ acre)
 irregularly shaped groups.
 - ✓ Input ?



FY2015 Proposed Forestry Project PE-15-6

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Quabbin Reservoir Reservation Proposed Forestry Lot Review

8	Landing Site	*	Protected Bird Site		~	Stream	Locus Map: Quabbin Reservoir Reservation
+	Wetland Crossing	۲	NHESP Certified Verna	al Pools	28	Wetland	1000
0	DCR Gate		Potential Vernal Pool		B	Surface Water	1222
0	Barway	0	NHESP Priority Habita	ts of Rare Species	0	Watershed Boundary	202 01122
~	Major State Route	×	Culural Site				A CALLY
~	Town Paved & Gravel Road	N	Stone Wall				N Straty
~	All-Weather Access Road	4	CFI Plot				0464 324
and the st	Seasonal Access Road		Rare Plant				PILL FT
e.	Cart road		Vegetation Type				NUCES P
~	Proposed Skid Trail		Reservation Boundary				212 9 22
	Proposed Forestry Lot						41 22
0		400		2,805			1.600 Feet
-		-			-		



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Gate 3A proposal

✓ 121 acres

- Harvested in the 1980's and again in the 1990's
- Oak and pine are the principle species
- Release existing regeneration in small (up to ½ acre) irregularly shaped groups.
- ✓ Input ?



Quabbin Reservoir Reservation Proposed Forestry Lot Review Landing Site Protected Bird Site Stream Locus Map: Quabbin Reservoir Reservation Wetland Crossing NHESP Certified Vernal Pools Wetland DCR Gate Surface Water Potential Vernal Pool NHESP Priority Habitats of Rare Species Watershed Boundary Major State Route Stone Wal un Paved & Gravel Road All-Weather Access Road CEI Plot Seasonal Access Road Rare Plan Cart road Vegetation Type Reservation Boundary · Proposed Skid Trail Proposed Forestry Lot

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FY2015 Proposed Forestry Project PE-15-1



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Mary Tamplin Road lot proposal

- ✓ 46 acres
- ✓ Harvested in 1989
- Oak is the principle species
- Release existing regeneration in small (up to 1/3 acre) irregularly shaped groups.
- Avoid old home site in this area.
- Input ?



FY2015 Proposed Forestry Project PT-15-6

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Quabbin Reservoir Reservation Proposed Forestry Lot Review

 Wetland Crossing NHESP Certified Vernal Pools DCR Gate Potential Vernal Pool Surface Water Barway NHESP Priority Habitats of Rare Species Watershed Boundary Major State Route Culural Site Town Paved & Gravel Road Stone Wall All-Weather Access Road Rare Plant Utrepting Part 	-
Barway NHESP Priority Habitats of Rare Species Watershed Boundary Major State Route Image: Culural Site Town Paved & Gravel Road Stone Wall All-Weather Access Road CFI Plot Seasonal Access Road Rare Plant	02 CON
Major State Route Cultural Site Town Paved & Gravel Road Stone Wall All-Weather Access Road A CFI Plot Rare Plant	1
Town Paved & Gravel Road Stone Wall All-Weather Access Road CFI Plot Seasonal Access Road Rare Plant	122
All-Weather Access Road Seasonal Access Road Rare Plant	N
Seasonal Access Road 🔹 Rare Plant	3 4
	32A
N Colored No. 100	7,
Cart road Vegetation Type	P
Proposed Skid Trail Reservation Boundary	32
Proposed Forestry Lot	
2 1,000 2,000	4.000 Freet



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Date: 6/24/201

Camel Hump Road proposal

- ✓ 50 acres
- ✓ Harvested in 1985
- ✓ Oak is the principle species
- Release existing regeneration in small (up to 1/3 acre) irregularly shaped groups.
- Vernal pool on road
- Input ?







Soapstone Proposal

- ✓ 63 acres
- ✓ Cellar holes near landing
- Oak is the principle species
- Release existing regeneration in small (up to 1/3 acre) irregularly shaped groups.
- The hiking trail will be crossed at one location.
- Input ?

PT-15-12 Quabbin Reservoir Reservation Proposed Forestry Lot Review Landing Site Locus Map: Protected Bird Site Stream Quabbin Reservoir Reservatio Wetland Crossing Wetland NHESP Certified Vernal Pools DCR Gate Surface Water Potential Vernal Pool NHESP Priority Habitats of Rare Species Watershed Boundary ior State Route Culural Site Stone Wal II-Weather Access Roa CEL Plot Seasonal Access Road Rare Plan Vegetation Type Reservation Boundary Proposed Skid Trail Proposed Forestry Lo

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FY2015 Proposed Forestry Project





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Regeneration Openings

- Less than 25% of each lot will be cut for regeneration openings.
- Some additional area will be thinned.
- Total area in
 regeneration openings for these 9 proposals
 will be less than 214
 acres, much less than 1% of our forest.





New Power Lines

Two infrastructure projects to install power lines will involve tree removal. Projects will aide in operations and enhance security at both sites.

- Boat Cove power line in Ware: 1,500 feet long and about 100 feet wide.
- Gate 44 to Shaft
 12: 13,000 feet
 along existing
 roadway in Hardwick
 will include about 40
 feet of tree removal.









- The protection forest surrounding Boston's water supply has been actively managed by this agency for >50 years.
- Uring that time, 1,000+ timber sales have been conducted, improving forest vigor, diversity, quality, and value while supplying natural resources to support the rural Massachusetts economy, and protecting or enhancing uncommon species/habitats and cultural resources.



The water supply has remained, throughout that same time, amongst the cleanest in the world, with no measured degradation related to active forest management, verified by consistent routine monitoring that currently includes 1,500 water samples per month.