



Blue Hills State Reservation

Deer Management Plan

Department of
Conservation & Recreation

Division of Fisheries & Wildlife

Public Meeting Presentation

September 29, 2015

dcr
Massachusetts





DCR Deputy Commissioner Matthew Sisk
Welcome & Thank you!

Thank you to our Partners!



Department of Fish & Game



Division of Fisheries & Wildlife

Massachusetts Environmental Police



Massachusetts State Police



Friends of the Blue Hills





DCR Deputy Commissioner Matthew Sisk *Welcome & Thank you!*

- Thank you for attending today's meeting and for your interest in the Blue Hills Reservation!
- The Blue Hills Reservation is one of the crown jewels in DCR's portfolio of statewide properties.
- The Reservation is one of the first properties to be acquired by the Commonwealth for public recreation.
- It is a special place and we want to make sure future generations can enjoy and appreciate its resources.





DCR Deputy Commissioner Matthew Sisk *Welcome & Thank you!*

- As stewards of the Blue Hills Reservation, DCR is concerned with the long-term health of the forest
- DCR's 2011 Resource Management Plan (RMP) for the Blue Hills notes deer overpopulation as a significant problem and recommends planning for deer management
- The 2014 Environmental Bond Bill (Ch. 286, §43, Acts of 2014)
 - Directs DCR to work with DFW to identify areas where deer overpopulation is negatively impacting forestation, water resources, plant growth
 - Directs DFW and DCR to develop and implement harvest management plans for identified areas



DCR Deputy Commissioner Matthew Sisk *Welcome & Thank you!*

- Based on our RMP and the Environmental Bond Bill DCR has worked with DFW and other state and local partners to develop a deer management plan, which we are happy to share with you tonight
- Also, DCR would like to thank our partners in the Legislature for their guidance and support in the development of this management plan.



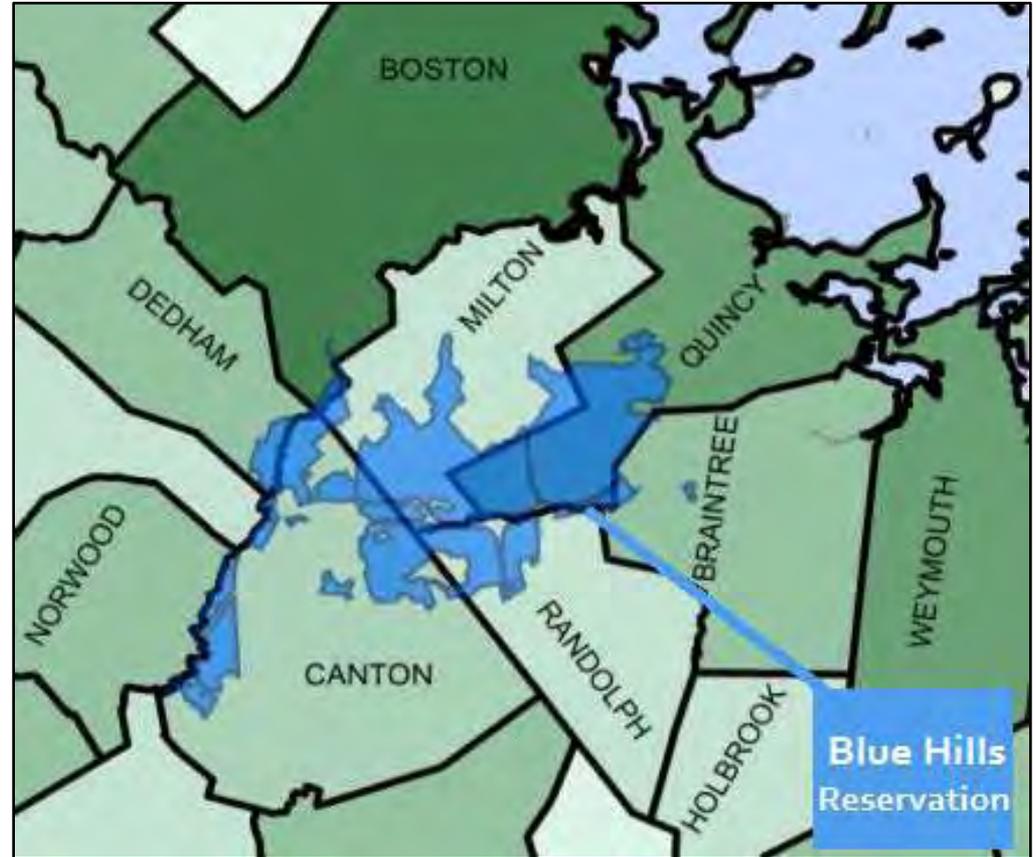
Presentation Overview

- Nature & Causes of Deer Overabundance Problem
- Key Developments and Planning Efforts
- Deer Population Survey Overview & Findings
- Deer Management Options
- Preferred/Recommended Management Option
- DCR Quabbin Controlled Hunt Experience
- Proposed Blue Hills Deer Management Plan and Program Components
- Questions & Comments



Blue Hills Reservation

- Over 7,000 acres
- Located in Milton, Canton, Quincy, Randolph, Dedham, Braintree, & Boston
- Acquired: 1893 by Metropolitan Park Commission
- Estimated 650K people and 250K households within 4-mile radius



Nature of the Problem

- White-tailed deer overabundance
- Leading to:
 - *Vegetation over-browse*
 - *Lack of forest regeneration*
 - *Tick Abundance*
 - *High rates of Lyme Disease, etc.*
 - *Property/landscaping damage*
 - *Vehicle collisions*



Nature of the Problem

- Impacts to vegetation and species diversity



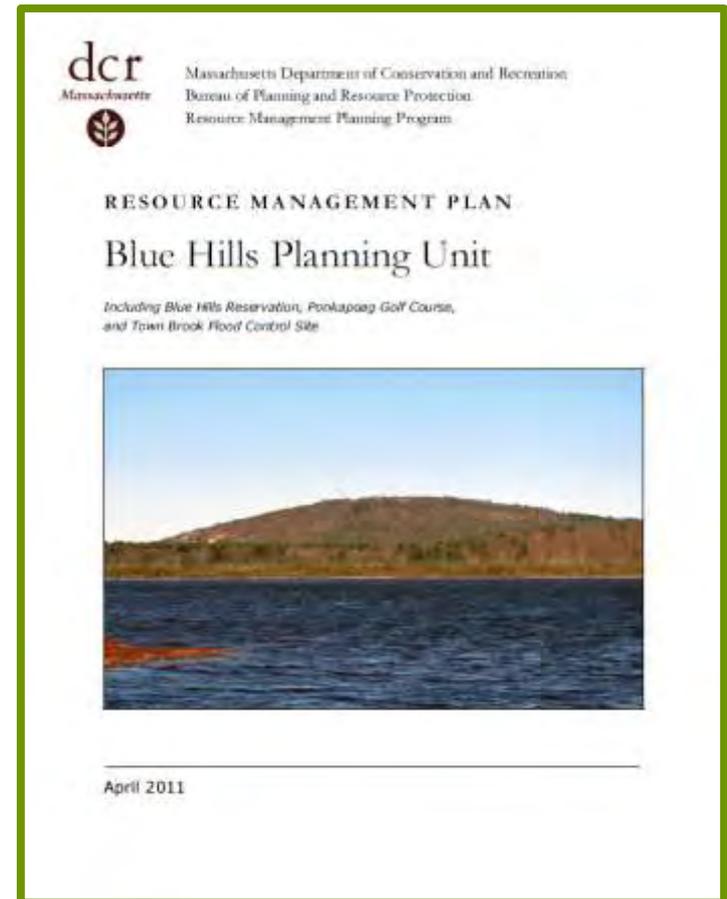
Causes of Deer Overabundance

- Excellent deer habitat
- Extirpation of major historic predators; such as mountain lions and wolves
- No hunting allowed in Blue Hills
 - *Created Sanctuary Habitat favorable to deer population increases*



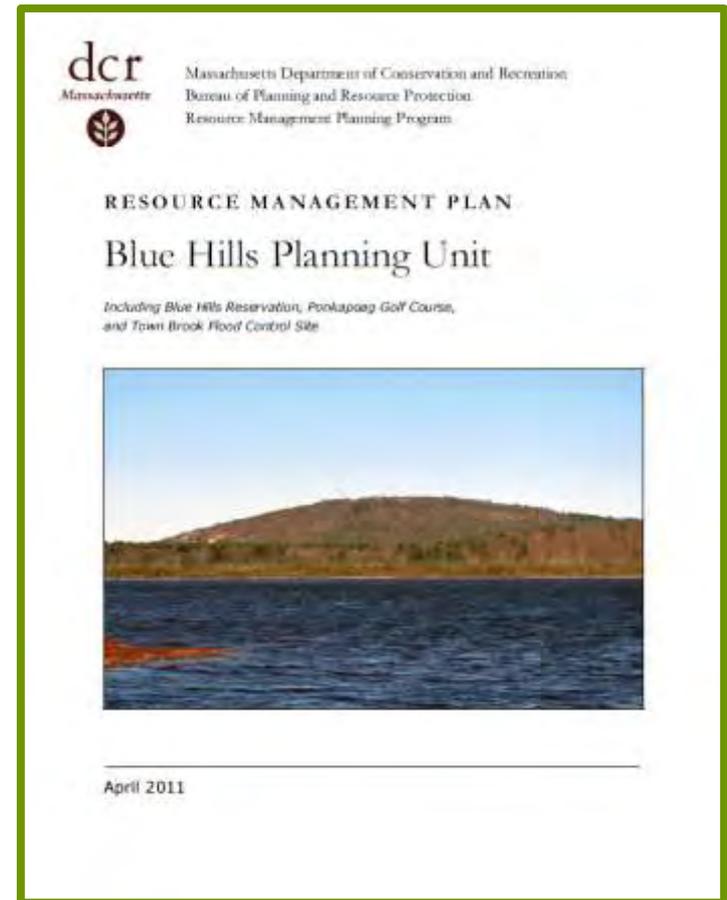
Key Developments & Planning Efforts

- **April 2011**: DCR develops and Stewardship Council approves Resource Management Plan (RMP)
 - RMP Notes: “over-browsing [by deer] has the potential to significantly decrease species diversity and suppress canopy cover for decades”
 - RMP Notes: “over-browsing by deer also affects some of the reservation’s rare plants”



Key Developments & Planning Efforts

- **April 2011**: DCR develops and Stewardship Council approves Resource Management Plan (RMP)
 - RMP Recommends: “Work with MassWildlife to conduct study of deer populations within the Blue Hills and to ascertain the extent of their impacts on the reservation’s natural resources”
 - RMP Recommends: “If warranted, discuss deer management options”



Key Developments & Planning Efforts

- **Fall 2011**: Nearby private property owners establish voluntary Neighborhood Deer Culling Program and ask DCR to consider deer hunting in the Blue Hills
- **May 2013**: DFW and DCR conduct deer density survey
- **June 2014**: DFW and DCR present deer density survey findings and problems associated with deer overabundance at Friends of Blue Hills public meeting



Key Developments & Planning Efforts

- **Summer 2014 – Winter 2015**: Release of deer population survey findings results in considerable public attention on the need to implement deer management solution
 - Several news articles and editorials point to the problem and mention DCR-DFW deer management planning efforts:
 - June 21, 2014 (Patriot Ledger): *State considers plan to thin deer herd in Milton's Blue Hills*
 - July 27, 2014 (Boston Globe): *State considering measure to cull Blue Hills Deer Population*
 - January 18, 2015 (Boston Globe): *Deer hunting in the Blue Hills?*
 - January 26, 2015 (Boston Globe): *Deer Prudence: allow small hunt in Blue Hills*

Key Developments & Planning Efforts

- **August 2014**: Environmental Bond Bill (Ch. 286, §43, Acts of 2014)
- **September 2014**: DFW presents deer population survey findings at DCR Stewardship Council public meeting
- **Fall 2014 – Winter 2015**: DCR and DFW begin to explore deer management options and develop a draft management plan
- **May 2015**: DCR and DFW meet with state and local law enforcement officials to discuss management options and intent to initiate a controlled hunt
- **June – August 2015**: DCR, DFW, MEP, MSP working group develops more detailed controlled hunt plan
- **September 2015**: DCR, DFW, MEP, MSP meet with local law enforcement officials, legislators, and city/town officials to review controlled hunt plan and solicit feedback

Deer Population Survey

Commonwealth of Massachusetts
Division of Fisheries and Wildlife

dcrc Department of Conservation and Recreation



Estimating White-tailed Deer Abundance at the Blue Hills Reservation using Distance Sampling

Technical Report - November 2013
David P. Stainbrook¹

¹Deer and Moose Project Leader
The Commonwealth of Massachusetts
Division of Fisheries and Wildlife
Westborough, MA 01581



Photo taken by Bill Byrns

John O'Leary

Assistant Director

Division of Fisheries & Wildlife

David Stainbrook

Deer & Moose Project Leader

Division of Fisheries & Wildlife

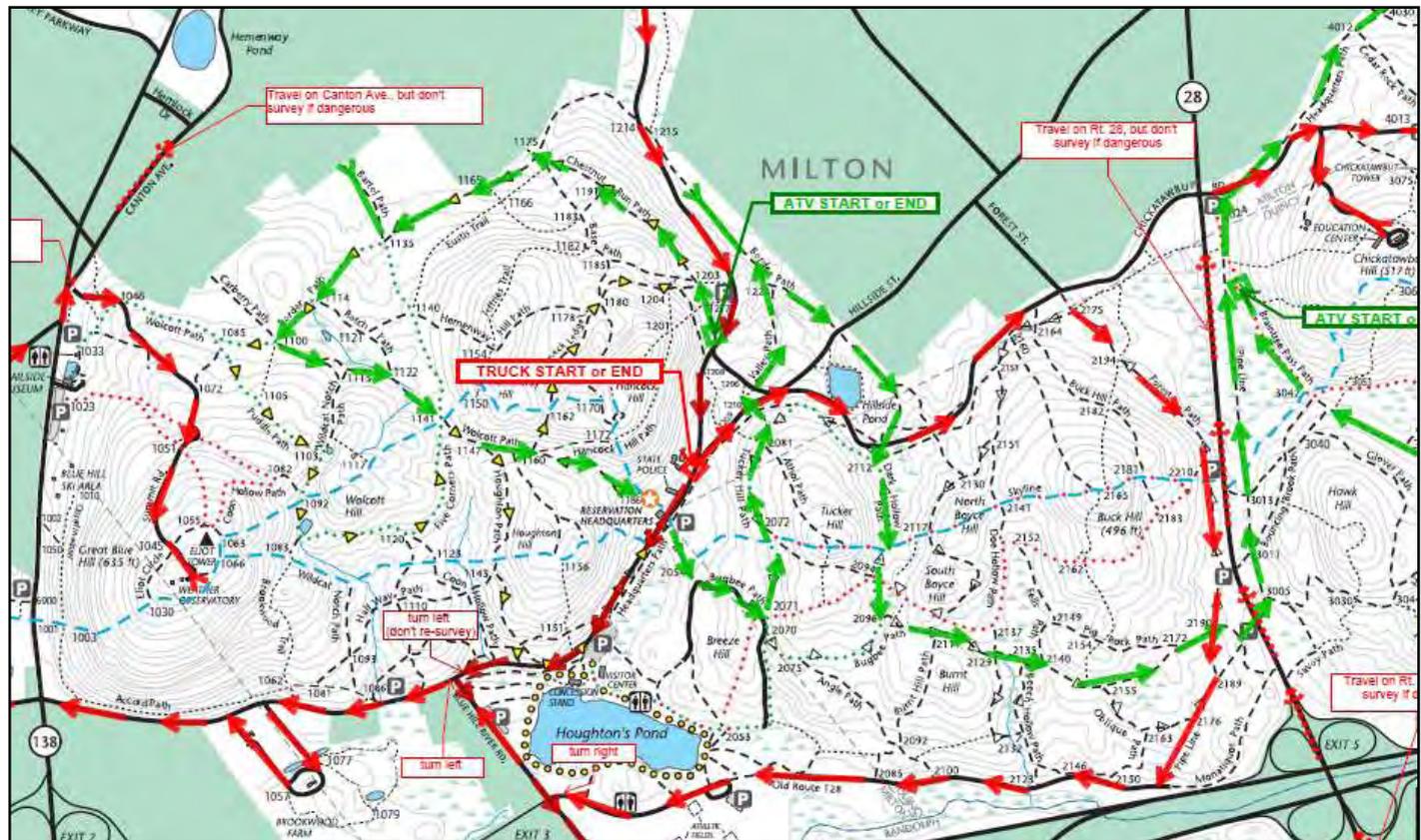
Deer Population Survey - Overview

- Goal: Estimate deer density per square mile
- Conducted in early May 2013
- Distance Sampling Method used to estimate density
- Two crews of DCR and DFW staff gathered data over the course of 3 nights for 4-6 hours per night.
- Note: First-ever survey by DFW to estimate deer density in an un-hunted area of eastern MA.



Deer Population Survey - Overview

- 14 survey routes (transects) – using paved roads and dirt trails



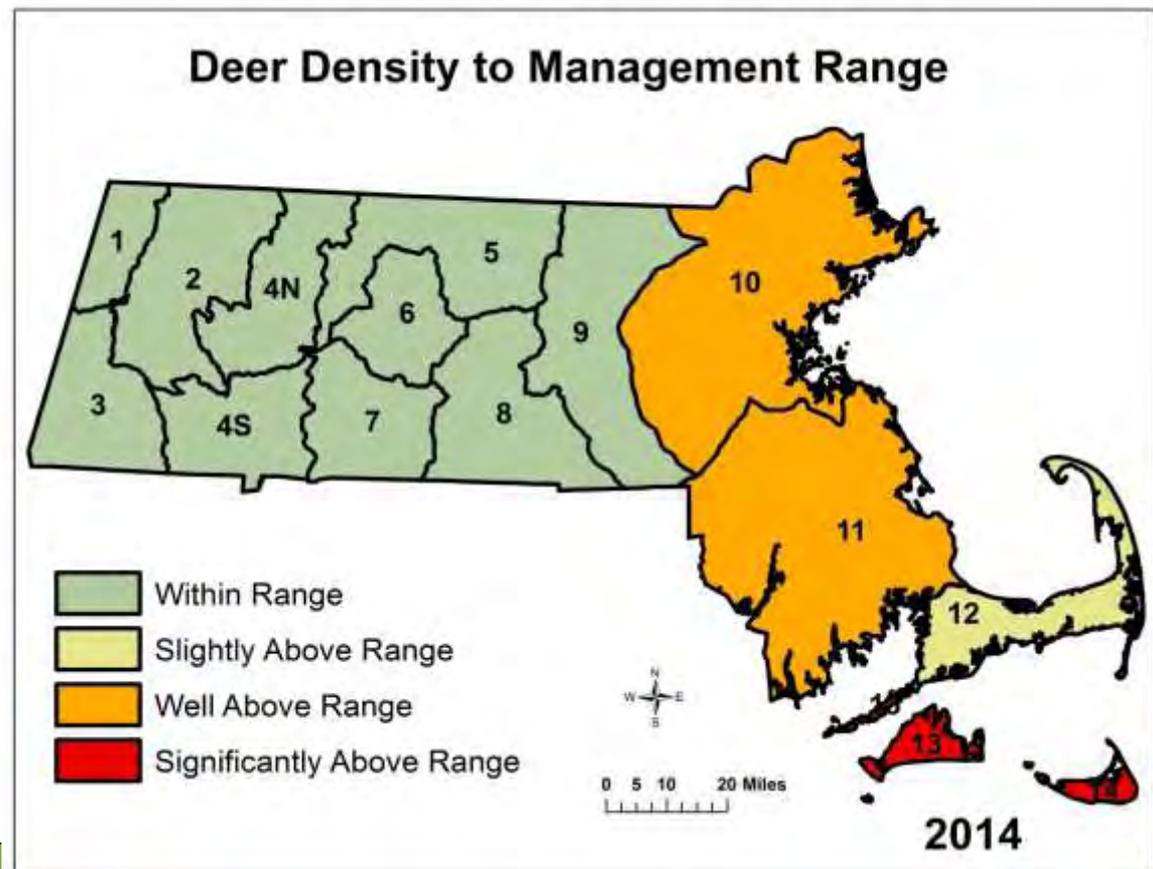
2013 Deer Population Survey – Findings

- Estimated more than 85 deer/mi² of forest
(conservative estimate, actual density is likely much higher)
- Approximately 600-800 deer across more than 7.5 mi² of deer habitat
- Density estimate exceeds DFW's statewide density goals ranging from 6-18 deer/mi²
- Also exceeds threshold density of 18-20 deer/mi² where negative impacts become evident in northeastern forests



Deer Management in Massachusetts

- DFW can only effectively manage deer on or near lands that are open to hunting.



Deer Management Options

Non-Lethal Methods

- No Action
 - *Deer population will continue to grow*
 - *Increased impacts to forest, public safety, public health and property/landscaping damage*
- Fencing & Repellents
 - *Does not really address deer abundance*
 - *Exclusion fencing is expensive*
 - *Repellents only work short-term (at best)*



Deer Management Options

Non-Lethal Methods

- Sterilization/Contraception
 - *Very expensive and requires intensive, long-term operation*
 - *Can reduce population growth, but not shown to significantly decrease deer density in reasonable timeframe*
- Trap and Transfer
 - *Complex and expensive operation*
 - *No realistic release sites in need of more deer*
 - *Translocation process is stressful and can lead to disease spread*



Deer Management Options

Lethal Methods

- **Hired Culling** (*permitted only at airports for public safety*)
 - *Expensive; especially at a large scale*
 - *Denies citizens access to a renewable public resource*
 - *Contradicts North American Model of Wildlife Conservation*
- **Trap and Euthanize**
 - *Complex and expensive operation*
 - *Denies citizens access to a renewable public resource*
 - *Contradicts North American Model of Wildlife Conservation*



Deer Management Options

Lethal Methods

- Regulated Hunting
 - *Effectively used statewide to manage deer at desired levels*
 - *Cost-effective*
 - *Provides citizens access to a public resource*
 - *Access to land open to hunting is necessary to ensure deer management efforts are successful*



Deer Management Options

Lethal Methods

- Regulated Hunting
- Deer Hunting Season in MA
 - Begins mid-October and ends December 31st
 - Archery Season: begins mid-October
 - Shotgun Season: begins Monday after Thanksgiving and lasts only 2 weeks
 - Primitive Firearms (“muzzleloaders”): begins around mid-December through December 31st



Preferred / Recommended Option

Regulated Hunting

- In the form of a **Controlled Hunt**
 - Additional restrictions applied beyond current state regulations, such as:
 - *Limitation on the number of hunters allowed to prevent overcrowding*
 - *Establishing an application/access permit process*
 - *Restrict type(s) of hunting implements allowed*
 - *Limit season length*
 - Important to balance the need for restrictions with the need to ensure adequate access for success



Preferred / Recommended Option

Regulated Hunting

- Controlled Hunt would not be unprecedented for DCR



Quabbin Reservoir Annual Controlled Hunt

The Quabbin Experience:

White Tailed Deer Population Reduction and the Ecological Response



Dan Clark

Natural Resources Section

Division of Water Supply Protection

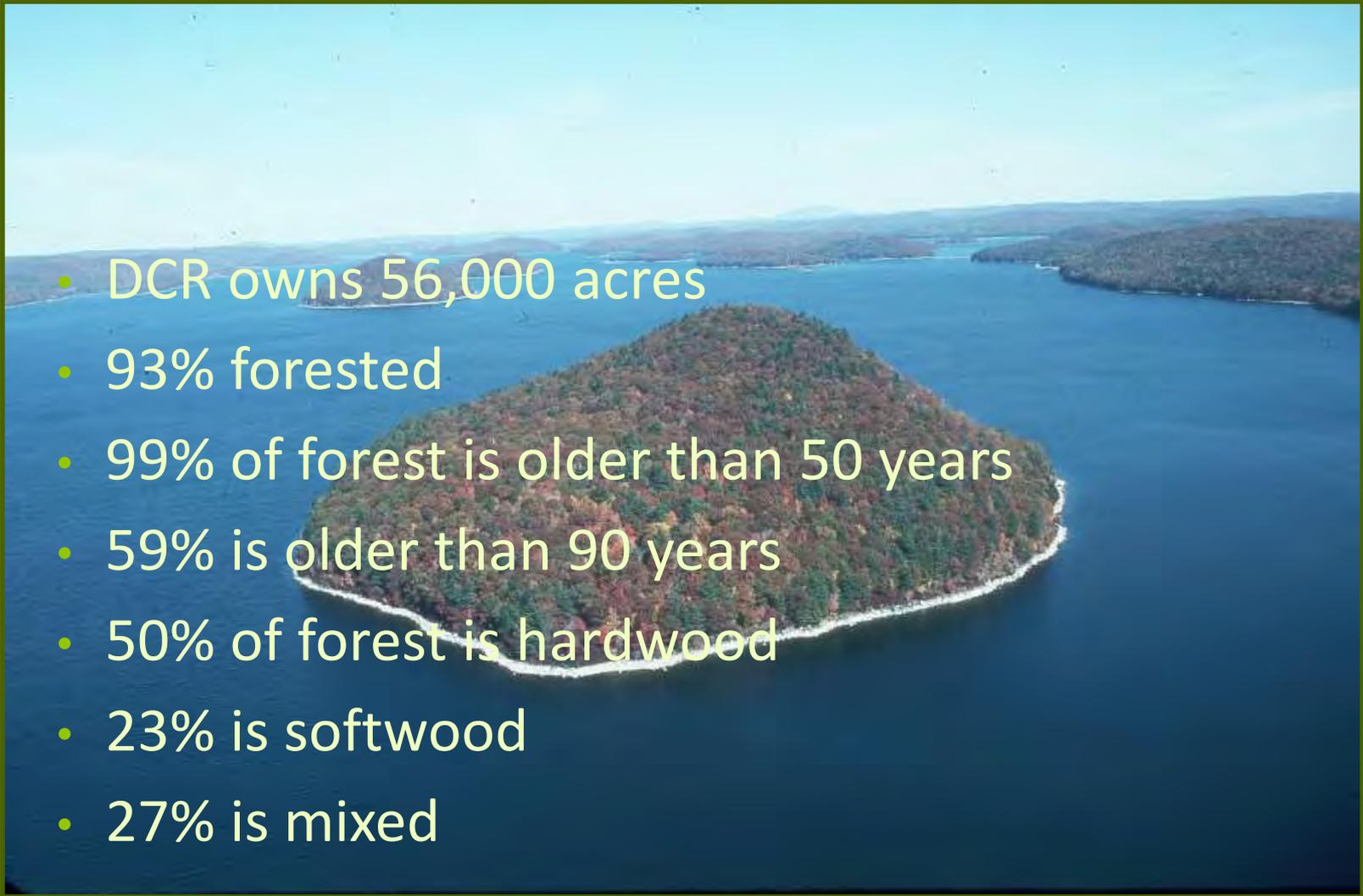
DCR

Quabbin Reservation

- Created in the 1930's
- Water flows from Quabbin into Wachusett reservoir then on to Boston
- Quabbin holds 412 billion gallons
- Treated, but unfiltered water



Quabbin Reservation

- 
- An aerial photograph of a large, forested island in the middle of a vast, blue lake. The island is covered in dense trees with some autumn-colored foliage. The lake extends to the horizon under a clear blue sky. The text is overlaid on the left side of the image.
- DCR owns 56,000 acres
 - 93% forested
 - 99% of forest is older than 50 years
 - 59% is older than 90 years
 - 50% of forest is hardwood
 - 23% is softwood
 - 27% is mixed

Deer at Quabbin

- Closed to hunting from 1930's until early 1990's
- Signs of over browsing first seen in 1946
- Deer densities estimated from 1983-1992
- Deer densities ranged from 45-60 deer/mi²



Petersham: 60 deer/mi²

804 deer



Forest Conditions with Lots of Deer



Forest Conditions with Lots of Deer

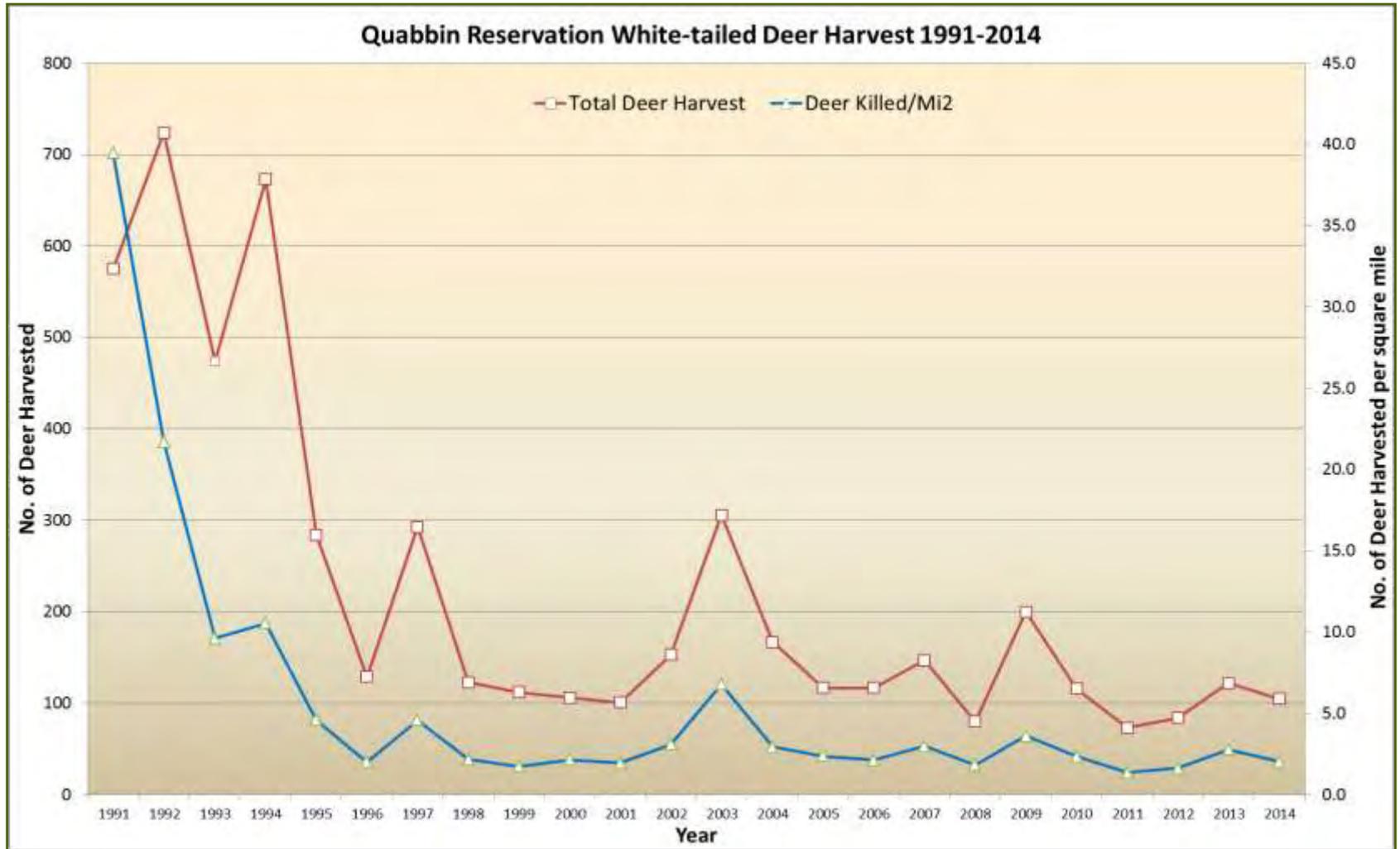


Forest Conditions with Lots of Deer

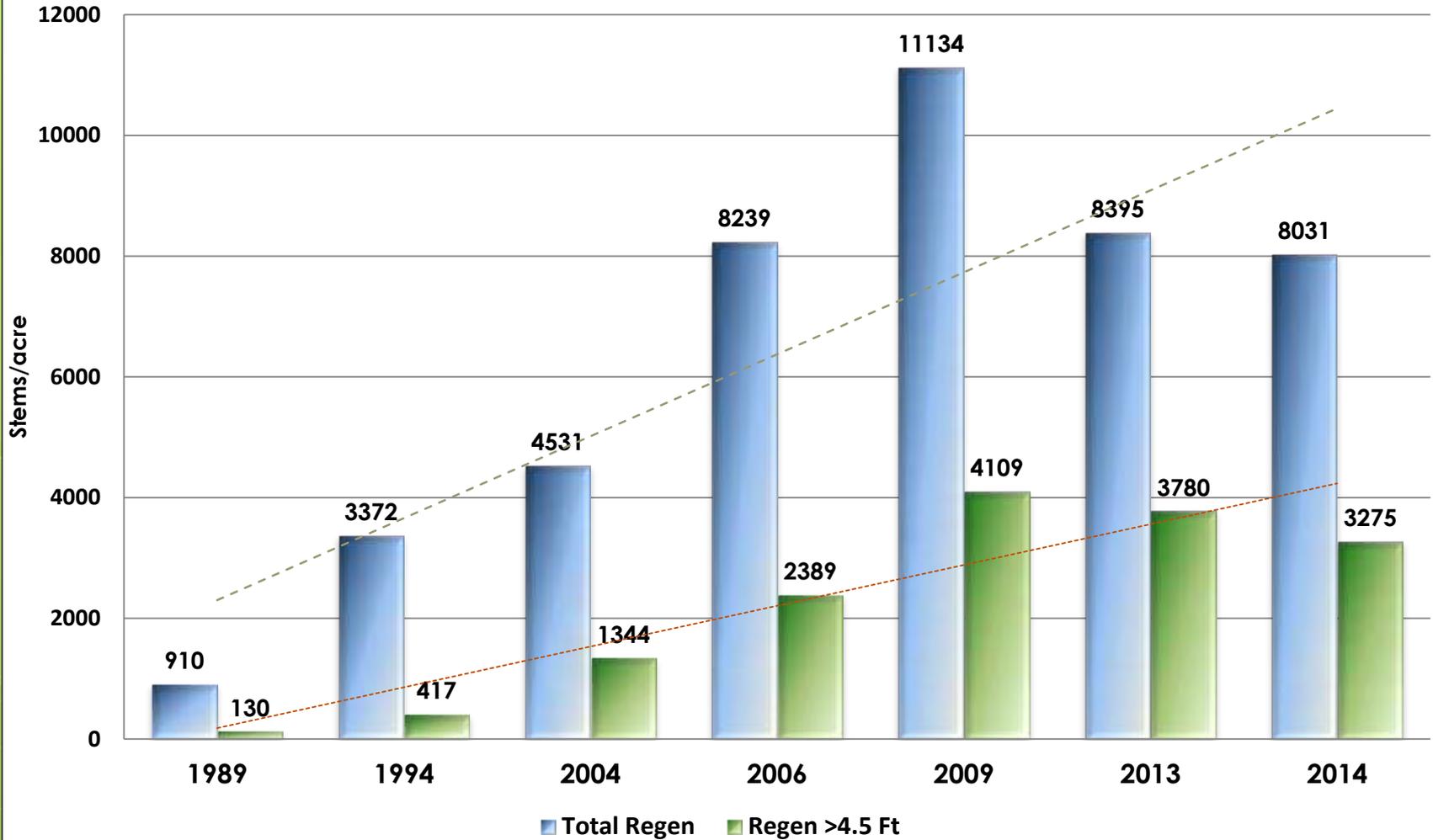


Forest Conditions with Lots of Deer





Mean Stem/Acre at Quabbin from 1989 - 2014



Current Forest Conditions



Current Forest Conditions



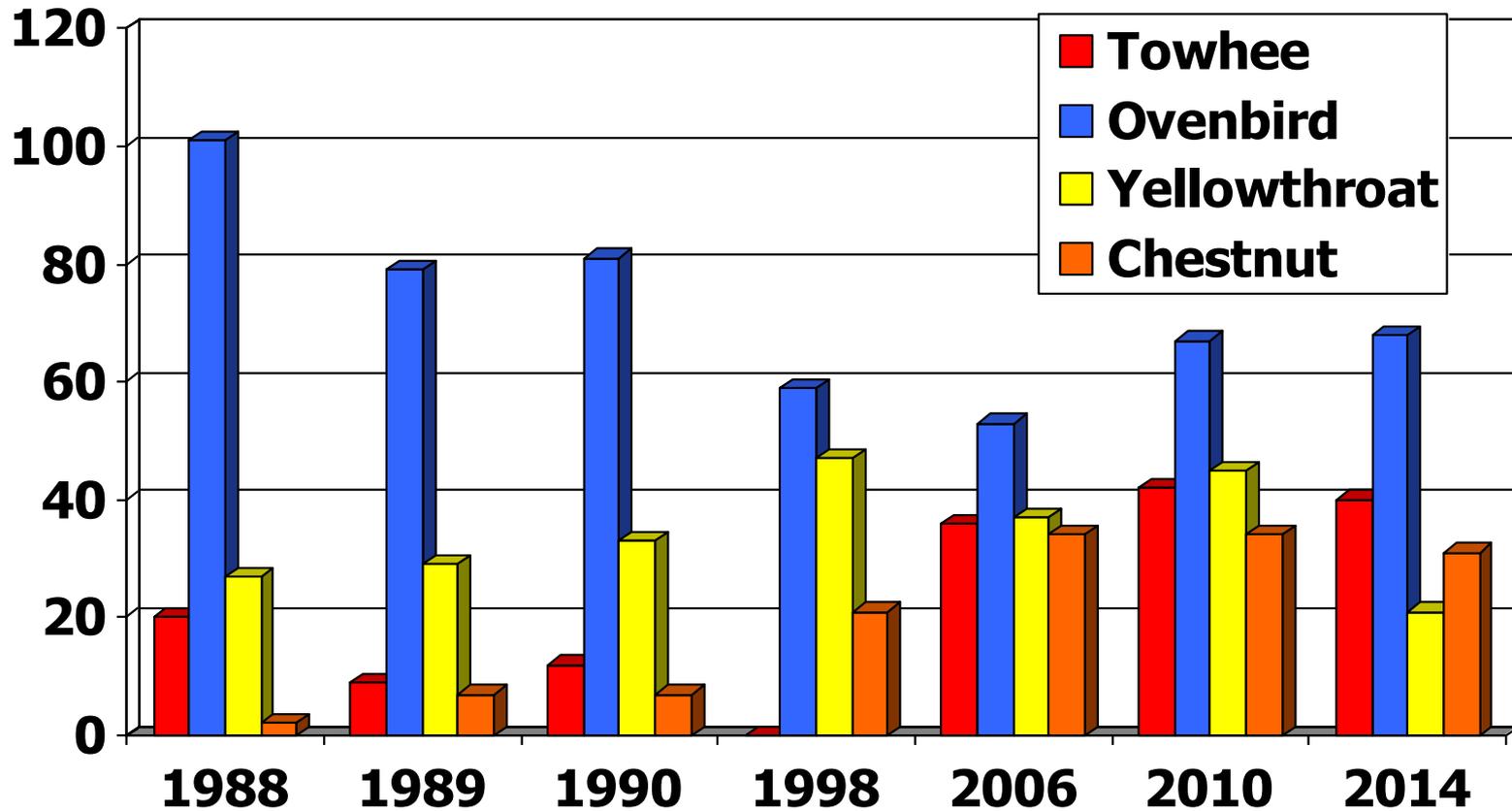
Current Forest Conditions



Current Forest Conditions



Roadside Breeding Bird Data



Return of Herbaceous Plants

- **Brambles:**
blackberry and raspberry
- **Sumac**
- **Flowers: lady slipper**
 - Trout lily
 - Trillium
 - Cardinal flower
- **Poison ivy**



Ecological Diversity

- Grape vines
- Milkweeds
- Joe pye weed
- Asters
- Marsh marigold
- Alder
- Ruffed grouse & rabbits



Conclusions

- Deer densities at Quabbin substantially reduced and maintained at much lower levels
- Excellent response from the forest
 - *Able to regenerate trees*
 - *Diversity is still lacking but moving in right direction*
- Increased ecosystem diversity
 - *Herbaceous plants*
 - *Wildflowers*
 - *Bird communities*
 - *Small mammals*
- Recovery is relatively slow and ongoing

Proposed Blue Hills Controlled Hunt

Blue Hills State Reservation *Deer Management Plan*



Draft Deer Management Plan

- Posted to DCR website on September 15th
- Accepting written comments through October 2nd

Proposed Blue Hills Controlled Hunt

Key Decision-Making Considerations & Priorities

- Public Safety
- Resources
- Effectiveness in reducing deer herd
- Timing
 - *Duration of time in which hunting would be allowed*

*With public safety as a key priority, DCR will take a **Phased Implementation** approach*



Proposed Blue Hills Controlled Hunt

Program Components – Year 1

- **Participation & Access Permitting**
 - *Follow system similar to Quabbin hunt*
 - *Hunters will need to apply to participate*
 - *Hunters must have valid FID card and hunting license*
 - *Participants will be chosen from the applicant pool using random lottery system*



Proposed Blue Hills Controlled Hunt

Program Components – Year 1

- **Timing & Length**
 - *During annual shotgun season (two weeks starting the Monday after Thanksgiving)*
 - *4 total days of hunting – broken into two 2-day segments*
 - *Monday & Tuesday of each week*
- **Hunting Implements**
 - *Shotgun with slug only (no buckshot)*
 - *NOTE: Archery in designated areas proposed in future years*



Proposed Blue Hills Controlled Hunt

Program Components – Year 1

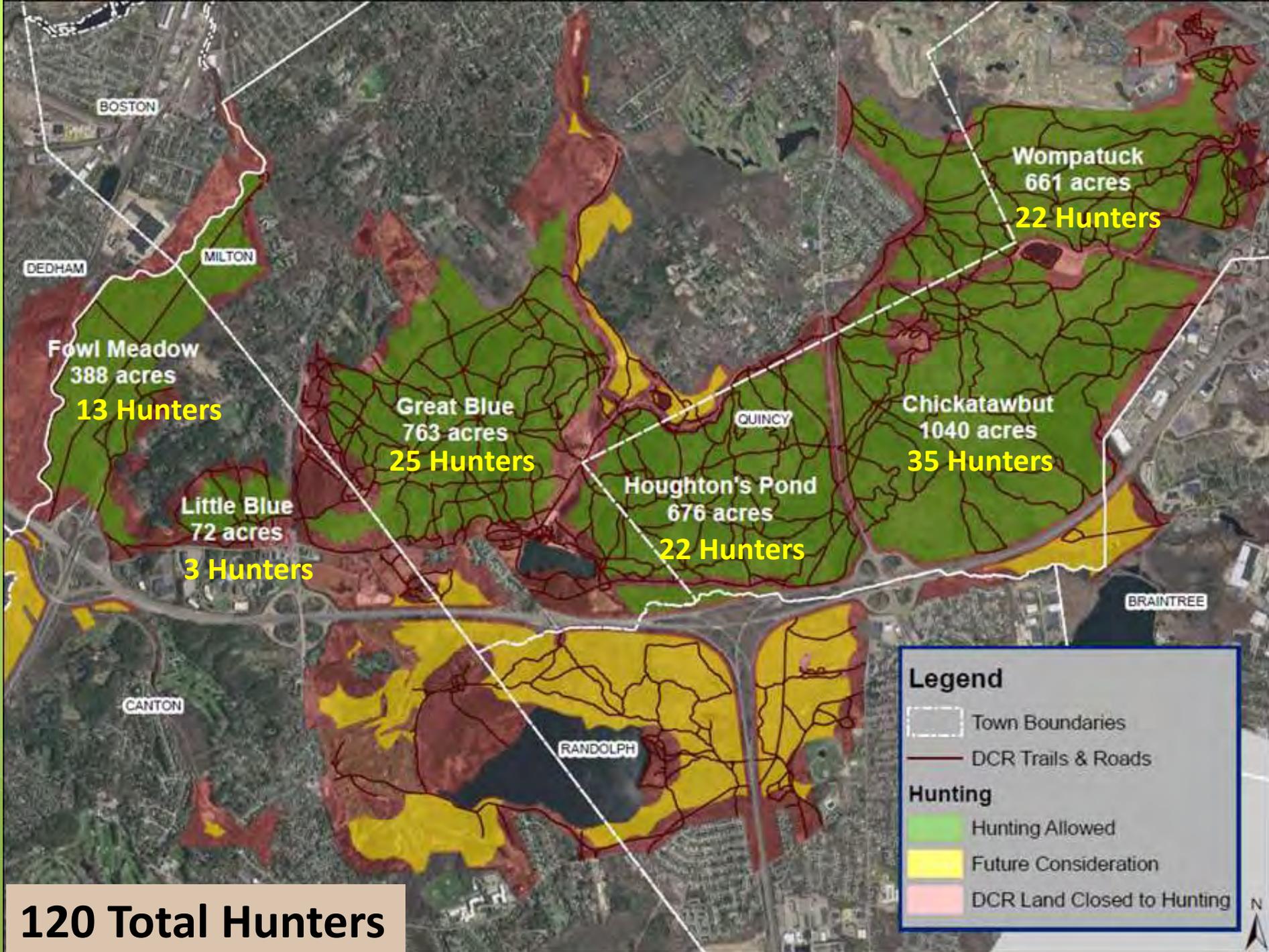
- **Participation**
 - *240 total permits*
 - *120 permits for Segment 1 Hunters*
 - *120 permits for Segment 2 Hunters*
 - *No more than 120 hunters in Reservation at any time*



Proposed Blue Hills Controlled Hunt Program Components – Year 1

- **Hunter Distribution & Management Zones**
 - *To avoid over-crowding in one area of the Reservation, management zones will be established*
 - *Hunter distribution to be based on 1 hunter/30 acres*
 - *Permittees will be assigned to a management zone*
 - *Permittees must stay within their management zone while hunting*





BOSTON

DEDHAM

MILTON

Fowl Meadow
388 acres

13 Hunters

Little Blue
72 acres

3 Hunters

Great Blue
763 acres

25 Hunters

Houghton's Pond
676 acres

22 Hunters

Wompatuck
661 acres

22 Hunters

Chickatawbut
1040 acres

35 Hunters

QUINCY

BRAINTREE

CANTON

RANDOLPH



Proposed Blue Hills Controlled Hunt

Program Components

- **Hunter Orientation**
 - *Similar to Quabbin hunt*
 - *All permittees will be required to attend in order to participate in the hunt*
- **Antlerless Permits**
 - *Participants will be required to purchase at least 2 antlerless permits*



Proposed Blue Hills Controlled Hunt

Program Components

- **Check-in / Check-out Procedures**
 - *Central Location – Houghton’s Pond Parking Lot*
 - *Check-in between 5:00 – 7:00 AM*
 - *Check-out by 4:00 PM*
 - *Check-out will be required. Hunters will have to turn in permit stubs when checking out.*



Proposed Blue Hills Controlled Hunt

Overarching Program Components

- **Deer Cleaning & Check Station**
 - *Hunters required to move harvested deer 100 feet away from a trail for gutting/cleaning deer*
 - *Hunters responsible for transporting harvested deer to their vehicle*
 - *Central Deer Check Station at Houghton's Pond lot*
 - *All harvested deer must be checked*



Proposed Blue Hills Controlled Hunt

Program Components

- **Roadway Restrictions & Vehicular Access**
 - *Closure of Chickatawbut Road and Wompatuck Road. DCR will re-open Chickatawbut Road each day by 5:00 PM*
 - *After checking in, permittees will be allowed access to Chickatawbut Road and Wompatuck Road for parking*
 - *No Parking along I-93*
 - *Potential need for traffic calming on I-93 and Rt. 28*
 - *Vehicular access prohibited on trails*
 - *DCR will post VM Boards in advance and during road closures*



Proposed Blue Hills Controlled Hunt

Program Components

- **Available Parking Areas**
 - *Houghton's Pond parking lot*
 - *Site 5/Ballfields parking lots*
 - *Pull-off parking areas along Route 28*
 - *Park & Ride lot on Route 138*
 - *Paul's Bridge parking area (Fowl Meadow)*
 - *End of Royal Street (abutting Fowl Meadow)*
 - *North parking lot at Trailside Museum*
 - *Hancock Hill off of Unquity Road*
 - *Hillside Street lot across from MSP barracks*
 - *Corner or Chickatawbut Road and Route 28*



Proposed Blue Hills Controlled Hunt

Program Components

- **Violations**

- *Violation of program rules to result in immediate removal from the property and suspension of access to the program in future years*
- *Any person found hunting without a valid permit will be immediately removed and prohibited from applying to participate in the hunt in future years*

- **Public Access Restrictions**

- *DCR will restrict public access on days when and in areas where hunting is taking place*



Proposed Blue Hills Controlled Hunt

Program Components

- **Public Information, Outreach, & Signage**
 - *DCR will work with state and local partners and Friends of Blue Hills to inform neighbors/public of hunt logistics*
 - *Press releases, websites, social media*
 - *VM Boards at park entrances and key intersections*
 - *Public information session*
 - *Signage at trailheads*
 - *Notices will include contact information to report issues / ask questions*



Proposed Blue Hills Controlled Hunt *Program Components*

- **Unified Safety & Operations Command Structure**

dcr
Massachusetts



Proposed Blue Hills Controlled Hunt

Proposed Phased Implementation Plan

- **Incremental Year-to-Year Enhancements might affect one or more program components, such as:**
 - *Number of hunting days*
 - *Allowable hunting areas*
 - *Allowable hunting implements*
 - *Hunter participation and distribution*
- **Decisions Regarding Year-to-Year Enhancements to be Based on:**
 - *Prior year experience*
 - *Resources*
 - *Prior year assessments*



Additional Information

For more information:

<http://www.mass.gov/eea/agencies/dcr/public-outreach/public-meetings/>

If you have comments:

Submit Online: <http://www.mass.gov/eea/agencies/dcr/public-outreach/submit-public-comments/>

Write: Department of Conservation and Recreation
Office of Public Outreach
251 Causeway Street, Suite 600
Boston, MA 02114

Deadline: Friday, October 2, 2015

Note: Public comments submitted to DCR may be posted on the DCR website in their entirety.

If you have other questions or concerns, or wish to subscribe to a DCR general information or project-specific listserv: contact DCR's Office of Community Relations at 617-626-4973 or Mass.Parks@state.ma.us.



Blue Hills State Reservation

Deer Management Plan

Department of
Conservation & Recreation

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Questions & Comments