

# EXPANSION OF DEER MANAGEMENT AT QUABBIN;

*The Implementation of the Quabbin Reservation White-Tailed Deer Impact Management Program.*



KEN MACKENZIE

MA Department of Conservation and Recreation  
Division of Water Supply Protection  
Natural Resource Section







IT IS OUR MISSION ASSURE THE AVAILABILITY OF PURE WATER FOR FUTURE GENERATIONS.

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# PROTECTION FORESTS

MAINTAIN a forest that is both RESISTANT AND RESILIENT to climate change, forest pests, and potential disease.

Society of American Foresters describes a Protection Forest as:

*“An area, wholly or partly covered with trees, managed primarily to regulate stream flow, maintain water quality, minimize erosion, stabilize drifting sand, conserve ecosystems or provide other benefits via protection”  
(SAF 2008).*



# THE FOREST AS A FILTER

FORESTS form the optimal land cover for **high quality water**:

- Intercept and absorb the energy of falling precipitation via leaves, bark, and litter, preventing soil particles from dislodging and eroding into streams.
- Develop organic soil structure that increases water infiltration rates and prevents erosional overland flow.
- Capture soil nutrients as they take in water through their roots.
- Accumulate biomass rapidly for long portions of their lives.
- Provide shade that regulates decomposition processes and the temperature of streams.
- Provide seed to perpetuate their occupancy on the landscape.



# DEER AND FOREST REGENERATION

Over-abundant deer populations can influence and the affect the abundance of woody species (trees!).

Intensive deer browse causes problems regenerating particular species- impacting diversity.

When deer populations are protected for many years and sustained at high densities, forest structure may be completely altered.



# 1989: FOREST HEALTH AT QUABBIN

## 1989: REGENERATION STUDY

2000 stems, >4.5 ft of distributed, diverse tree species.

Off reservation: 1140 stems  
Quabbin: 130 stems.

88% of the plots surveyed had no qualifying regeneration.  
Increase of dense fern cover- compounding the problem.



# 1991: DEER MANAGEMENT PROGRAM AT QUABBIN

## GOAL:

Reduce the impacts of deer browsing to a level that allows and promotes the development of a healthy, resilient, diverse forest that can adequately protect water quality.

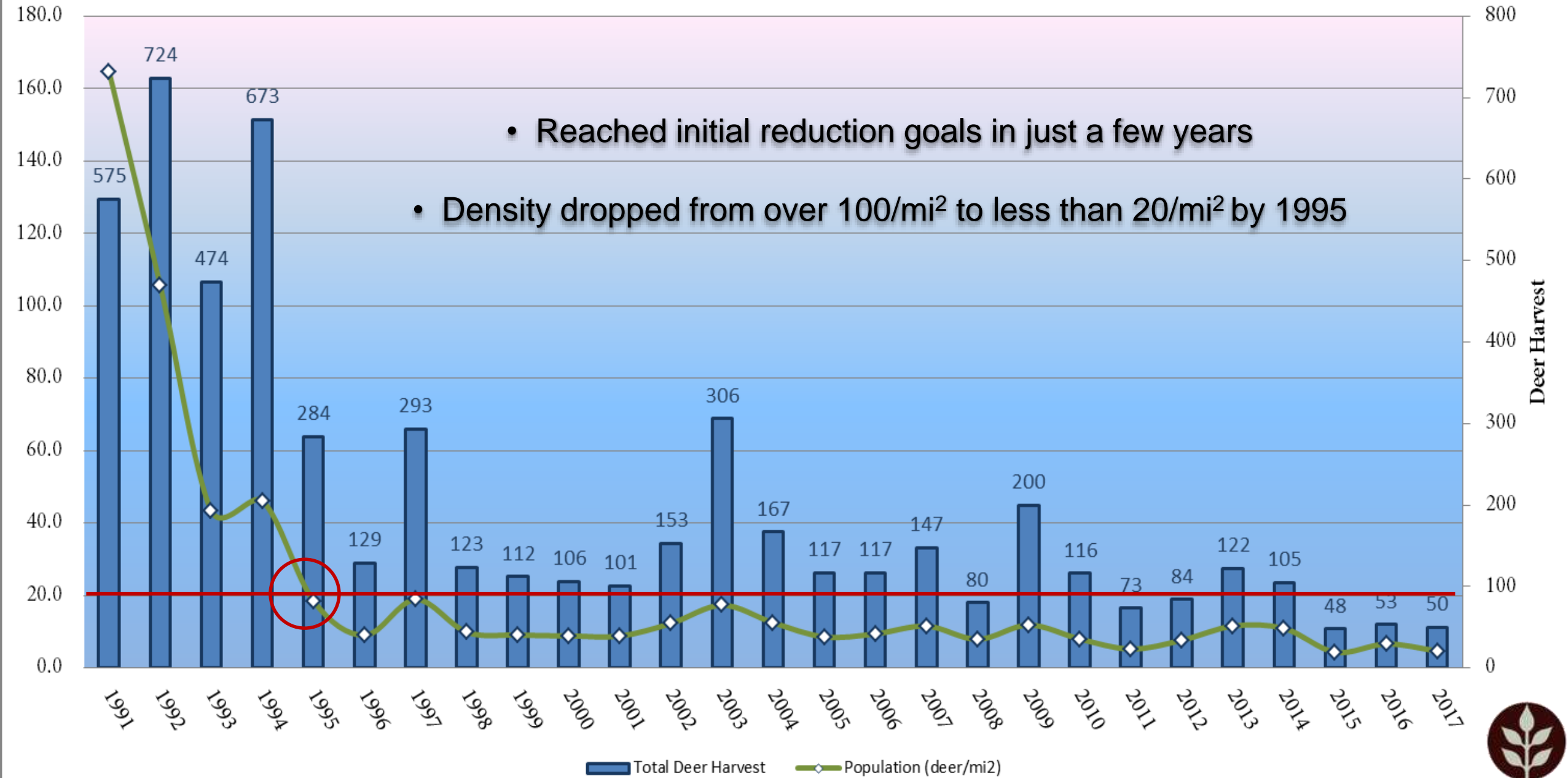
## MAJOR COMPONENTS:

- 1) Initial reduction of deer population densities.
- 2) Maintain those densities at a level that allows continued growth and regeneration of forest tree species.



# Overall Quabbin Deer Harvest and Density Estimation (Deer/mi2)

- Reached initial reduction goals in just a few years
- Density dropped from over 100/mi<sup>2</sup> to less than 20/mi<sup>2</sup> by 1995





# DEER MANAGEMENT PROGRAM AT QUABBIN

2019 marks the 29<sup>th</sup> year of hunting at Quabbin

Since the hunts began in 1991:

- 34,670 hunters
- Harvested 5,534 deer
- 2306 male : 2833 female

**Quabbin Adaptive  
Deer Management**





1989 to today: How has the forest recovered?

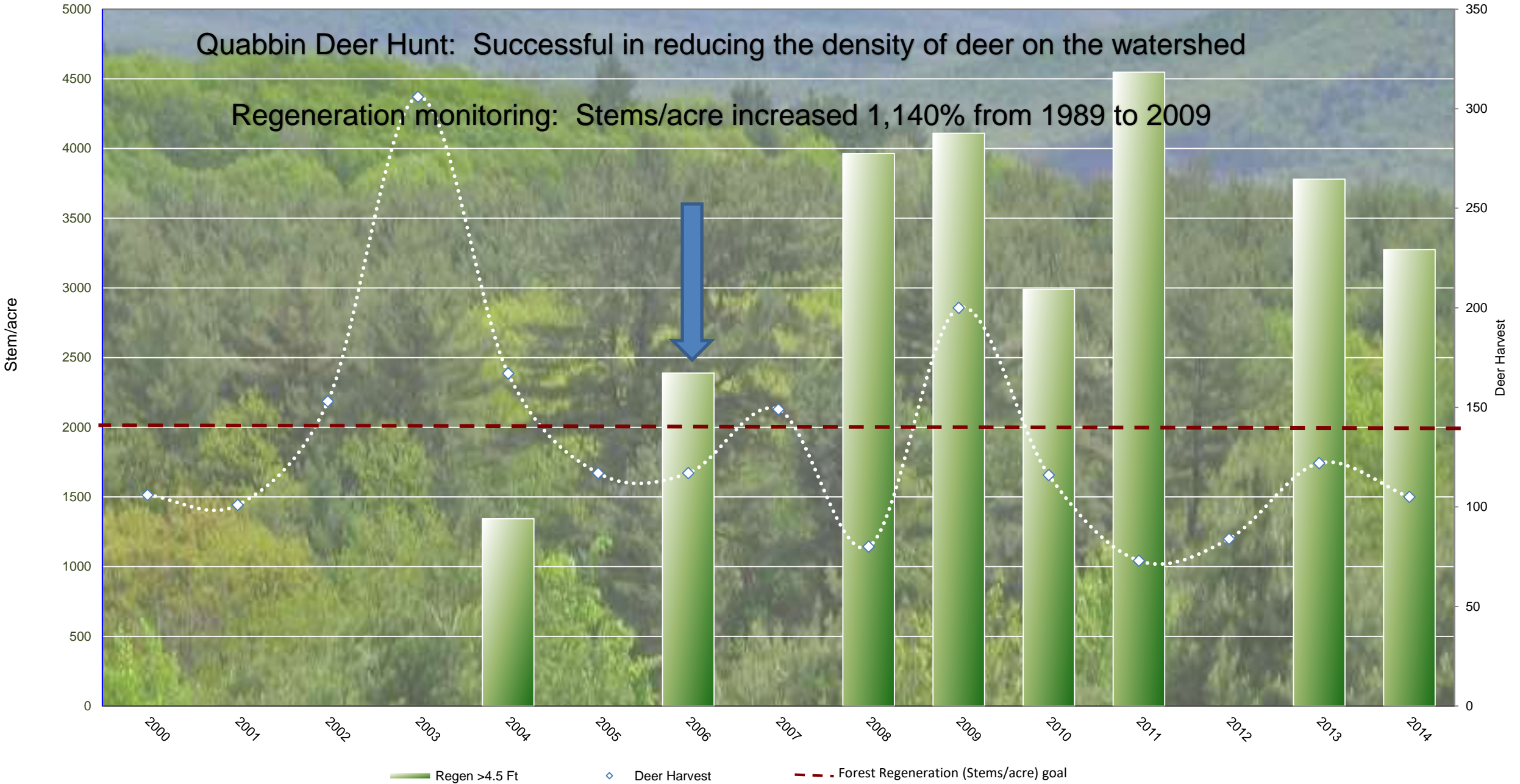
**Remarkable recovery**

- From 910 to 11,285 stems/acre (1140% increase)





# 2000- 2014 Estimated Quabbin Regeneration >4.5 ft





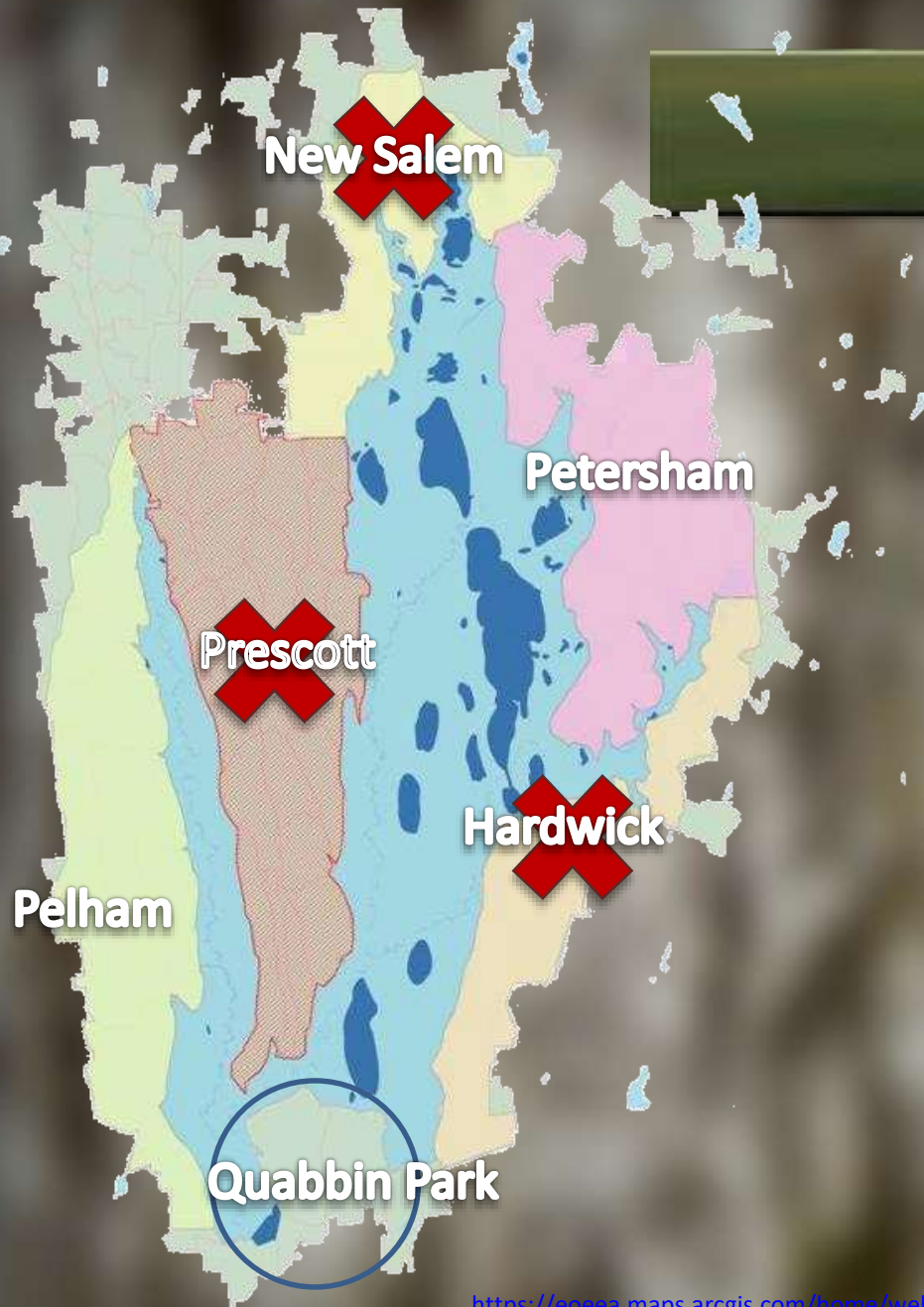
# PLANS FOR THE 2019 SEASON

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## STATUS AND ACTIONS FOR 2019



### NEW APPROACH TO DEER MANAGEMENT AT QUABBIN

- Low Deer Density
- Good forest regeneration over a long time
- Hunter interest

#### Type of Hunt

- Controlled/managed vs. regular hunting season

#### 2019:

- **Hunt** Petersham and Quabbin Park
  - Second week of shotgun (Dec 12<sup>th</sup> -13<sup>th</sup>)
  - Open Pelham for 2-week shotgun season (walk-in)
- **Rest** Prescott, New Salem, Hardwick and Pelham



# PETERSHAM CONTROLLED HUNT 2019



## Petersham Zone:

- Hunt would occur over 2 weekdays during the shotgun season (Dec 12<sup>th</sup> and 13<sup>th</sup>)
- Approximately 250 hunters would be chosen by lottery.
- 150 hunters would get an antlerless permit.

2016 Deer density: 16-27 deer mi<sup>2</sup>

Rested in 2017

Only 16 deer taken in 2018 (4 does)



# QUABBIN PARK- ISSUES OVERVIEW

- Quabbin Park was not included in the original controlled hunt plan, and **no deer management has occurred here since** the 1930s.
- Electric fencing (1993) was tried in Quabbin Park as an alternative to controlled hunting; it was **unsuccessful and was abandoned** (1998).
- Deer density estimates indicate deer densities of **40-90 deer/mi<sup>2</sup>**
- Forest management is conducted in Quabbin Park, but **forest regeneration is unreliable** and often limited to white pine.
- The Chicopee Valley Aqueduct is located within Quabbin Park and is surrounded by forests with **very little understory**.



# QUABBIN PARK- 2019

- Open Quabbin Park to controlled hunting in 2019.
- Hunting would be by permit only.
- Approximately 100 hunters would be chosen by lottery.
- Every hunter would get a Quabbin Park antlerless permit and have the option to buy a second.
- Hunt would occur over 2 weekdays during the shotgun season.
  - 2<sup>nd</sup> week of Shotgun Season



# PELHAM- 2019

Open Pelham for the 2-week shotgun season  
Dec 2<sup>nd</sup>- Dec 14<sup>th</sup>.

Walk in from gates

Quabbin Access Permit  
Online and Free; no cap on permits

No “bonus” antlerless permits  
Use Zone 6 Tags





# QUESTIONS?



dcr  
Massachusetts  
Massachusetts



# QUABBIN PARK DEER DENSITY ESTIMATES

