

WHITE-TAILED DEER MANAGEMENT AT THE SUDBURY RESERVOIR;

Incorporating wildlife management into forest resilience



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

PROTECTION FORESTS

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

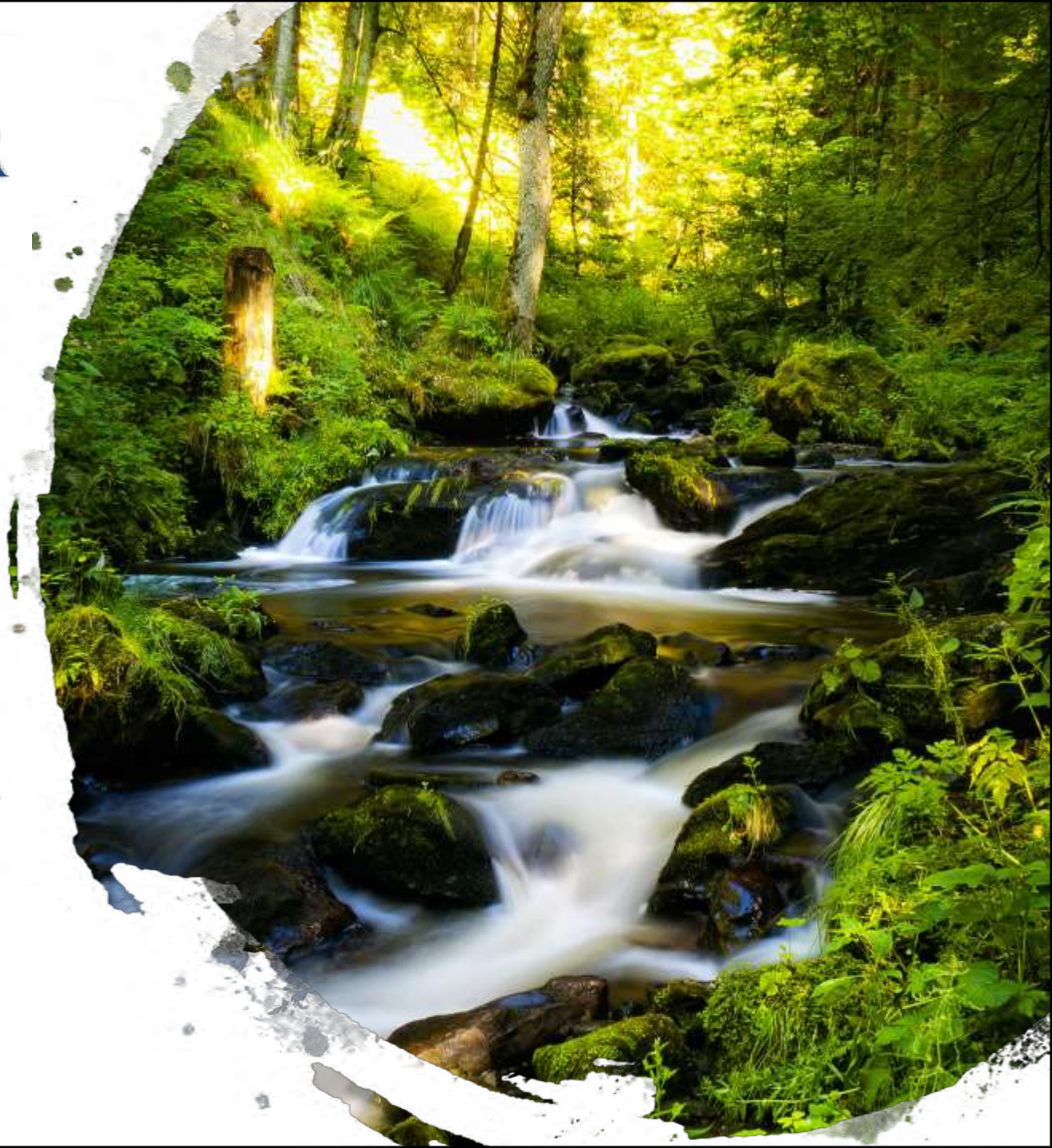
Society of American Foresters describes a Protection Forest as:

*“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.

FOREST HEALTH AT THE SUDBURY

2018: REGENERATION STUDY

136 plots were surveyed: 70% had no regeneration above 4.5 ft.

Why >4.5 ft?... trees can escape deer damage

63% of the plots surveyed had no qualifying regeneration.
Increase of dense fern cover- compounding the problem.

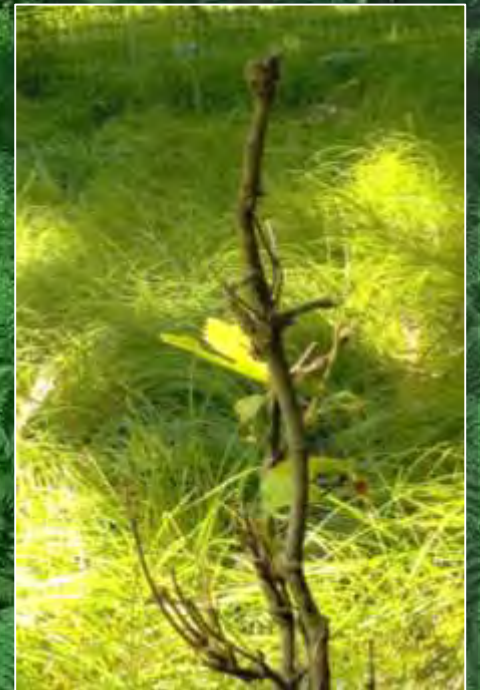
FOREST HEALTH AT THE SUDBURY

2018: REGENERATION STUDY

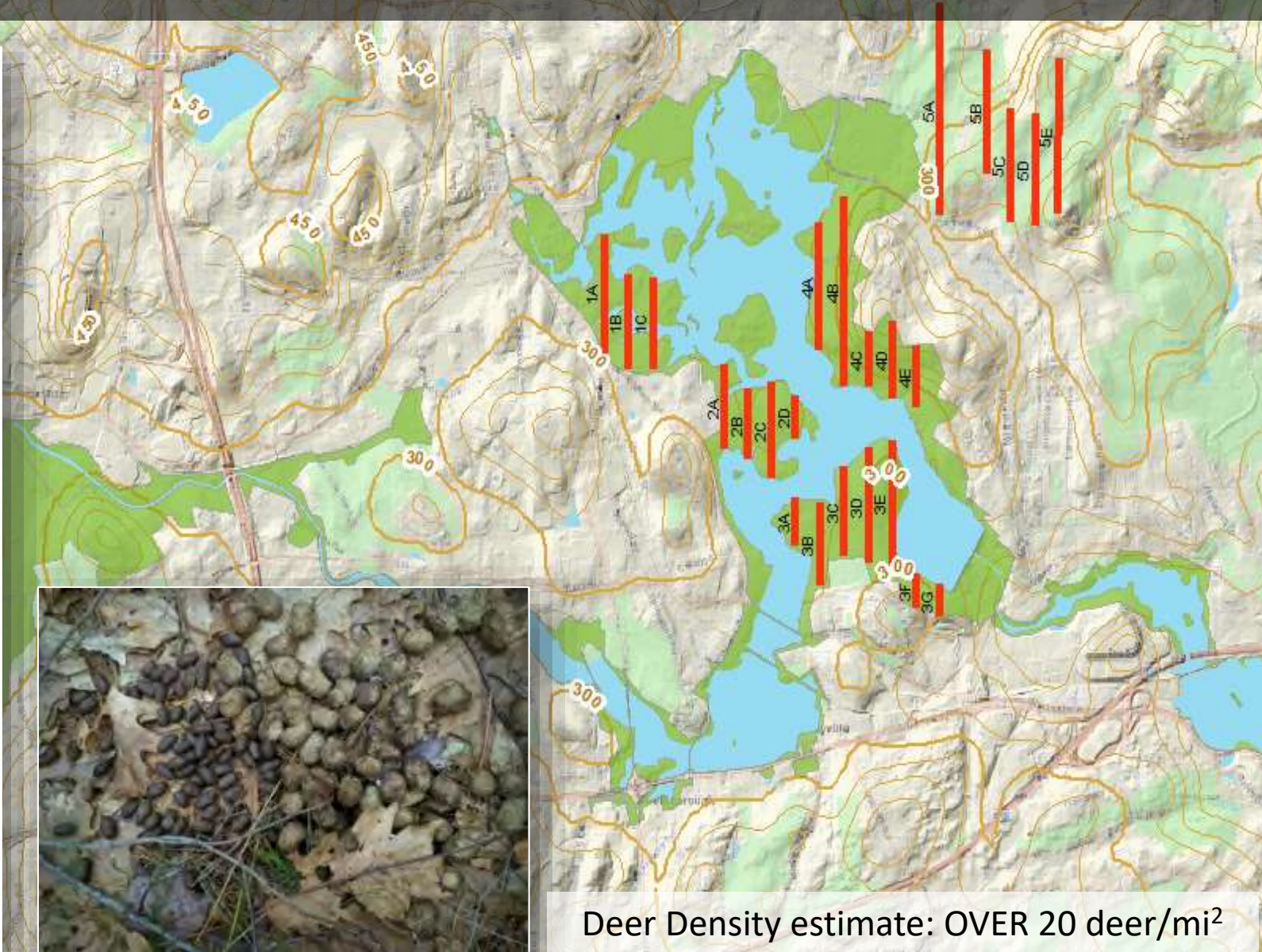
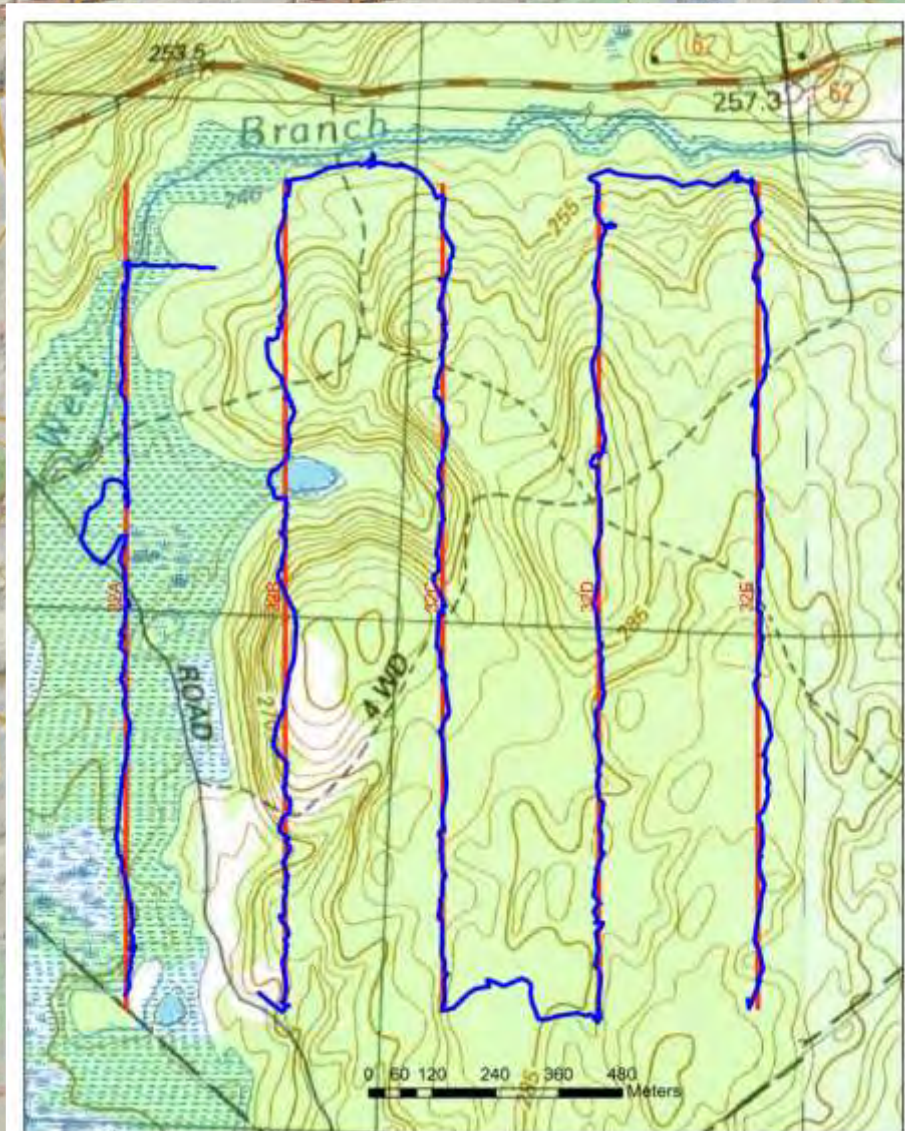
Benchmark of *2000 stems per acre* at or above 4.5ft
Sudbury: 448 stems/acre

LEVEL OF BROWSE:

- 94% of plots had over 50% of stems browsed
- Almost 60% had severe browse



SUDBURY DEER DENSITY ESTIMATE 2016 & 2018



FOREST HEALTH AT THE SUDBURY

Lack of Regeneration + High Deer Density= **Invasive Plants**



Oak seedling

Asiatic Bittersweet

SUDBURY RESERVOIR- ISSUES OVERVIEW

- The Sudbury has not been included in the Division's hunting plans and **no deer management has occurred here since** before the 1900s.
- Deer density estimates are significantly higher than the recommended **20 deer/mi²**
- Forest management has been conducted in the past, but **forest regeneration is unreliable** and often limited due to invasive species. Missing the Protection Forest.
- Although it is an emergency water supply, the Sudbury is an important part of the MWRA system. (Weston 2010)

A photograph of a deer with large antlers standing in a field of tall grass and ferns, next to a tree trunk. The deer is looking towards the camera. The background is a dense forest with green foliage.

RECOMMENDED ACTION

1. Open the Sudbury Reservoir to deer hunting.
2. Hunting would be by a free, online 5-year access permit only.
3. Hunting would be open beginning in 2019

DEER MANAGEMENT PROGRAM AT THE SUDBURY

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.

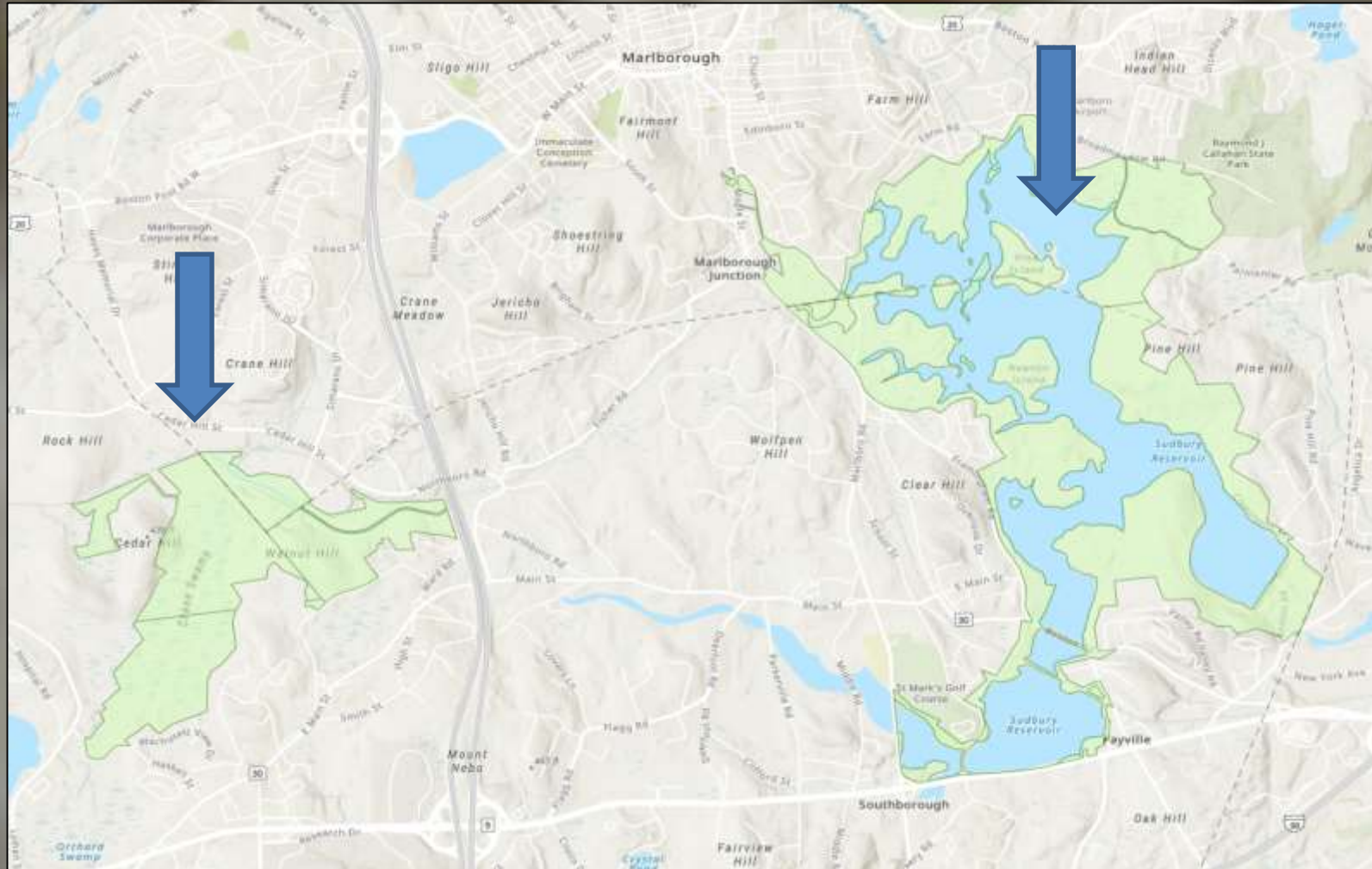
MAJOR COMPONENTS:

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



Two Areas open to hunting will be:

1. Lands immediately surrounding the Sudbury Reservoir (1400-acres)
2. Crane Swamp/Walnut Hill area (650-acres).



SUDBURY RESERVOIR DEER HUNT 2019

2-week comment period following this meeting

- DCR Homepage
- Open the designated Sudbury lands to deer hunting in 2019.
- Hunting would be by permit only.
 - Available online starting Friday, October 4th.
- Open for hunting beginning on Monday, October 21st (Zone 9 date).
- Online Map available October 4th
 - Walk in from gates or other access points labelled on the map.
- No “bonus” antlerless permits
Use Zone 9 & 10 Tags

QUESTIONS?

