

White-tailed Deer & Quabbin Park

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History

- 1991 Quabbin Reservation White-tailed Deer Impact Management Plan:
 - Controlled hunting would be conducted over most of the Reservation
 - Also committed to electric fencing as a non-lethal alternative to deer management
 - Cited public interest in exploring this option
 - Location for fencing was decided based on:
 - Protection from vandalism
 - Existing road/trail access for maintenance
 - Would be visible by the public



History

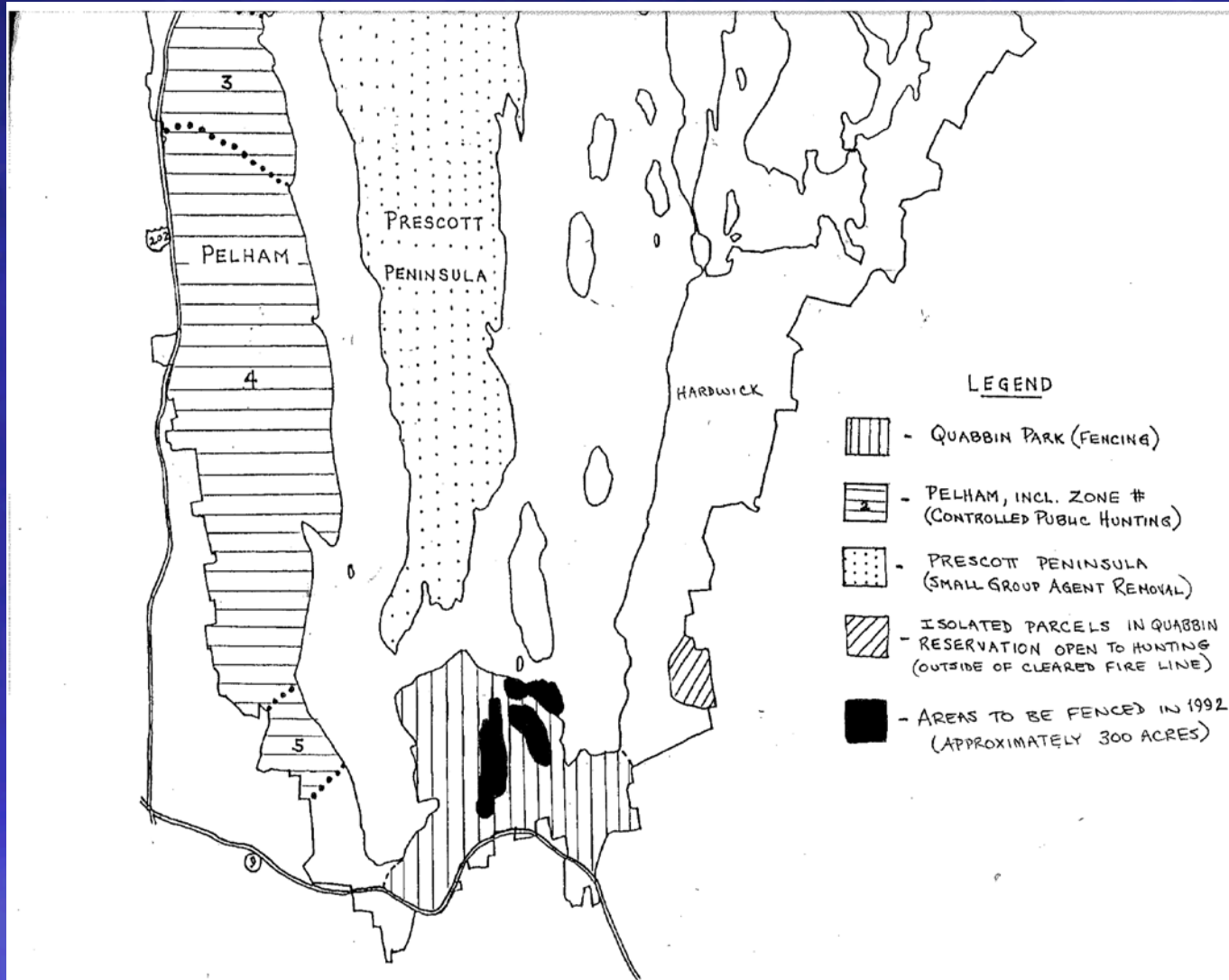
- 1991 Deer Plan also said:
 - There were 4 existing fences at Quabbin
 - Enclosed 2-25 acres
 - Oldest in operation for 5 years
 - Indicated the fences required variable, but extensive maintenance requirements



Gate 21 Fence



Fencing in the Park



Fencing in the Park

- 1991 Plan committed to:
 - Fencing 900 acres over 3 years
 - First fence in 1992
 - Installation and maintenance done by outside contractors
 - Estimated costs at \$90,000 for the 900 acres and \$5-10,000 annual maintenance
 - After the fences have been in place 6 years, an evaluation will be done



Fence installation

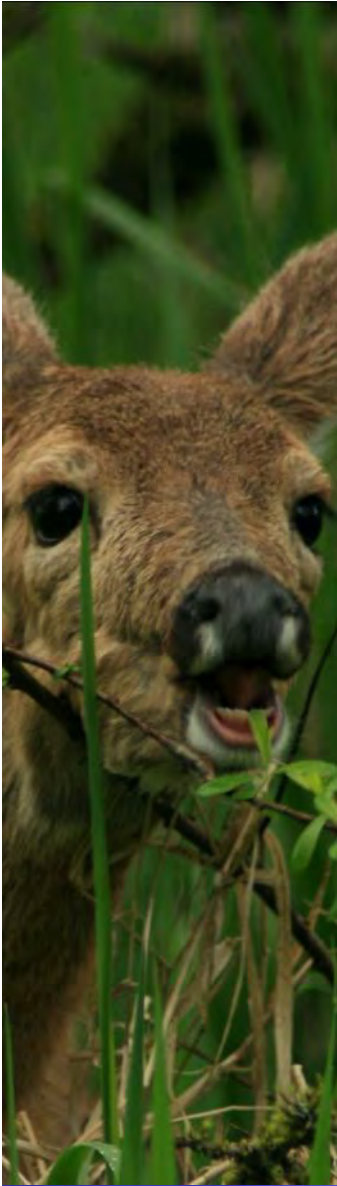


Installed Fence



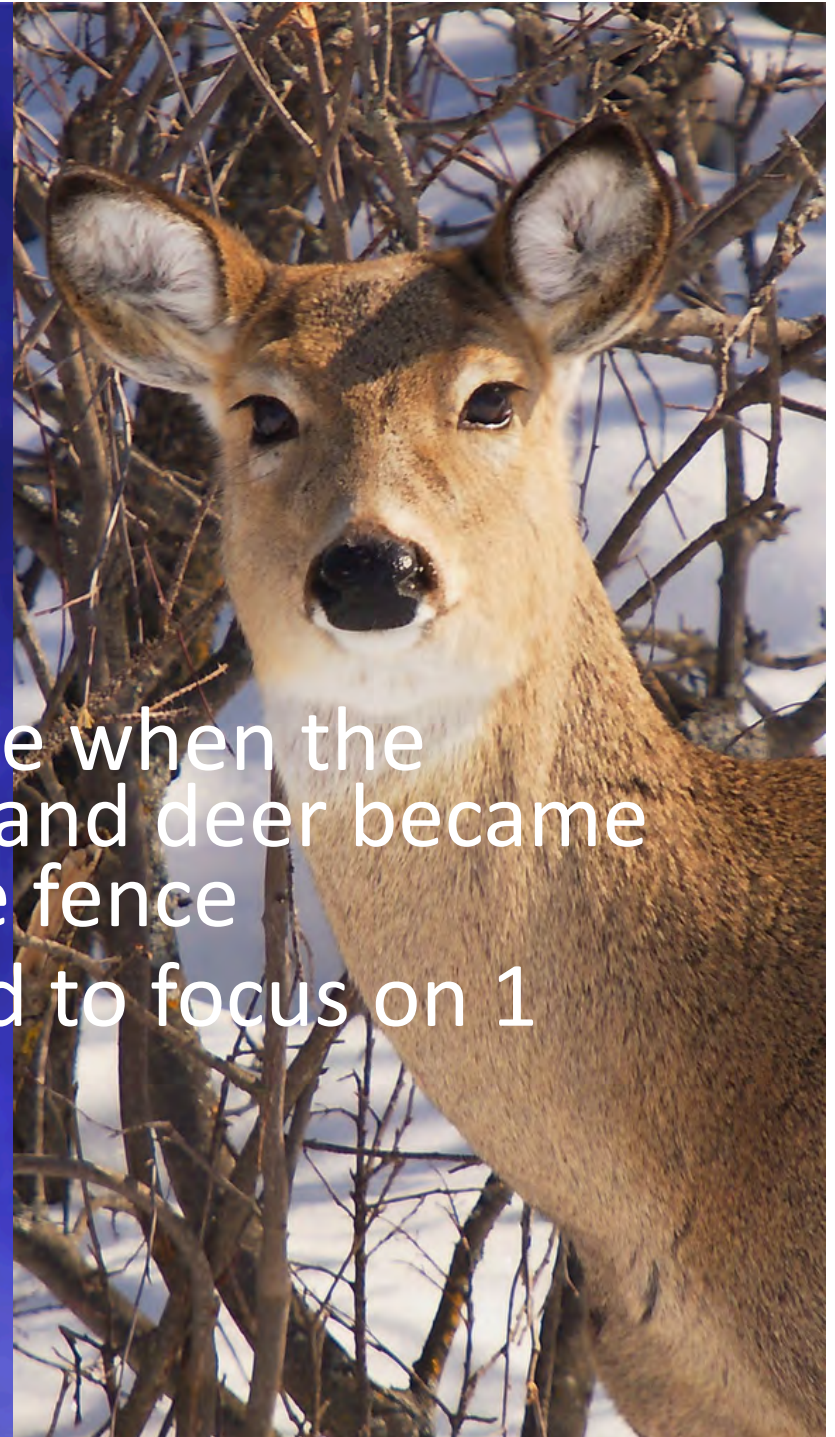
Fencing: Accomplished

- First fence erected in 1993
 - 100 acres
 - Work done by contractor for \$11,000
- In 1994, 3 more fences erected
 - 100 acres each
 - Additional costs of \$49,000
- Once erected, maintenance was responsibility of MDC crews



Fencing: Issues

- Faulty charges
- Storm damage
- Maintenance issues
- Result: long periods of time when the fences weren't electrified and deer became use to passing through the fence
- Fencing effort was reduced to focus on 1 enclosure



Fencing Issues

- In 1997, all efforts were directed at 1 100-acre enclosure near Hank's Meadow
- A 2-3 man crew could not maintain the fence during the winter
- In 1998, MDC gave up efforts at electric fencing



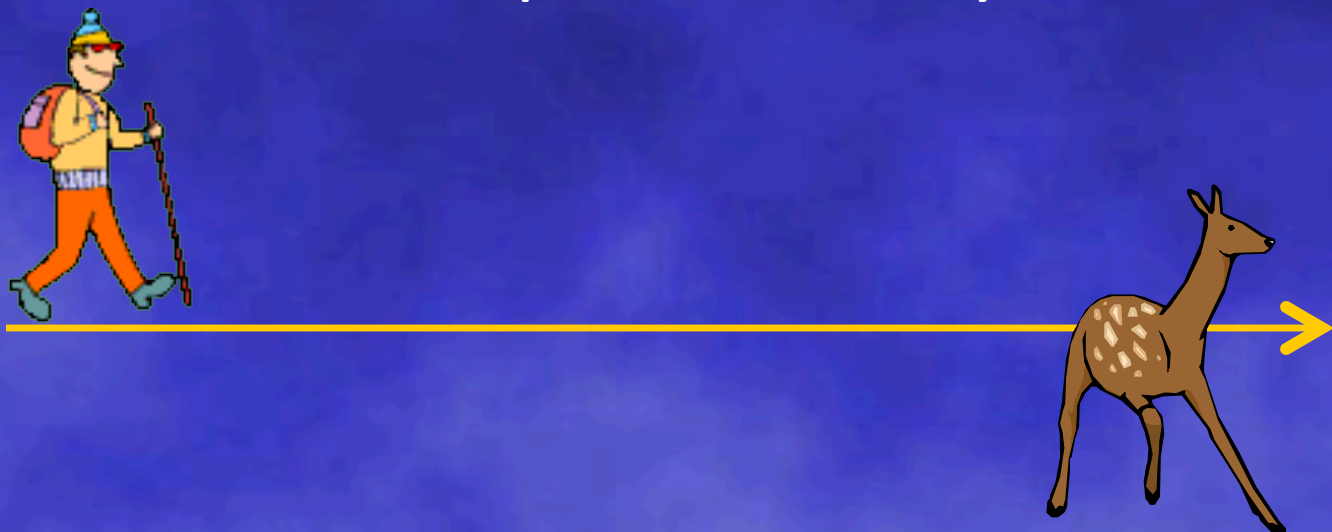
Assessing Deer Density

- Deer densities had never been studied in the Park
- Studies in other areas of the Reservation before hunting estimated 40-60 deer/mi²
- Pilot study done in 2000 to assess whether deer densities could be estimated using ground-based observer methods
- Full study conducted during winters of 2001 and 2002



Distance Sampling

- Observer walks a straight line transect looking for deer
- For each encounter, the observer records the distance and angle of the deer from the transect
- Mathematical function to estimate area around the transect and extrapolate density

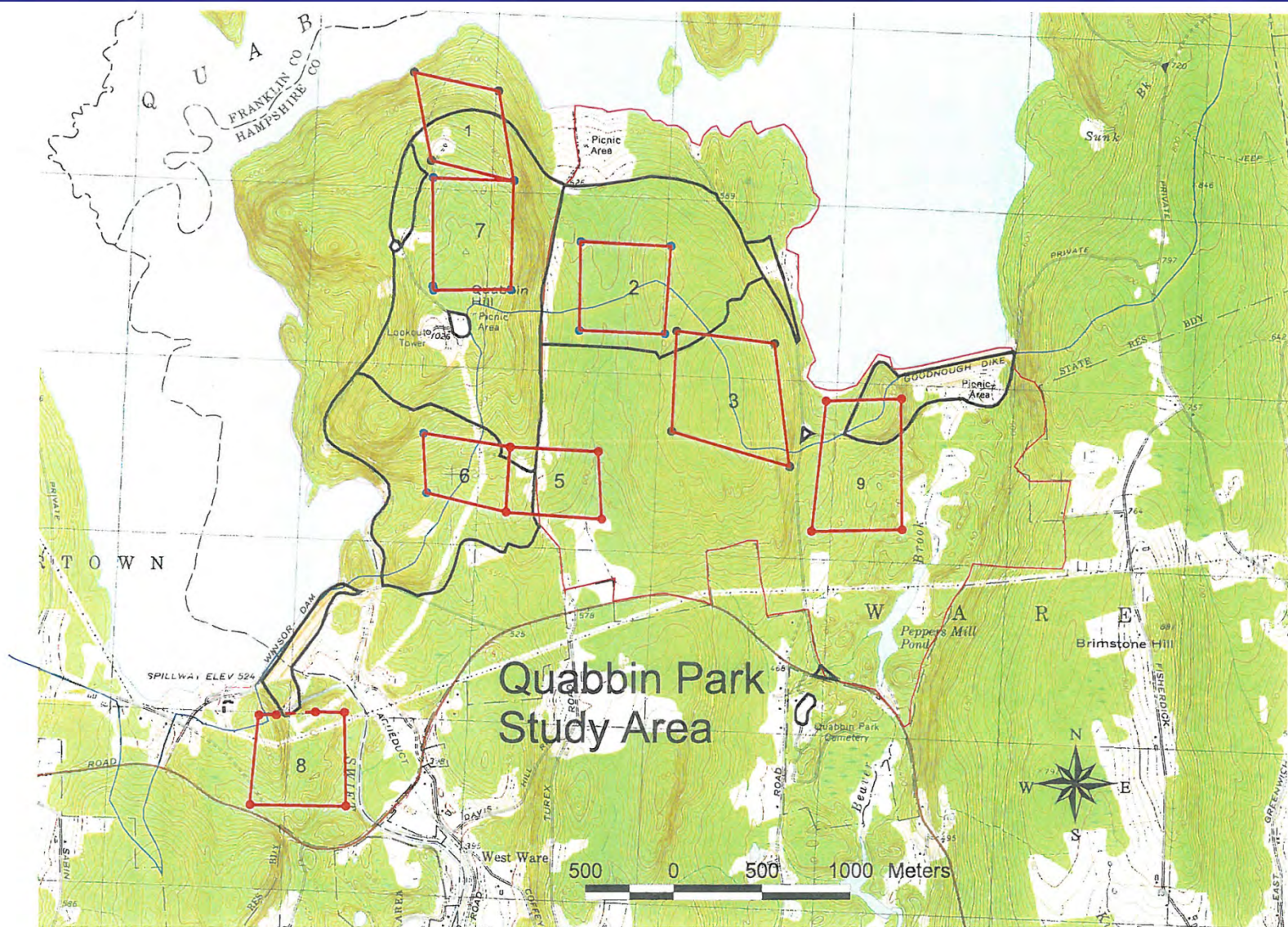


Distance Sampling: assumptions

- Deer directly on the line are always detected
- Deer are detected at their initial location
- Distances are measured accurately

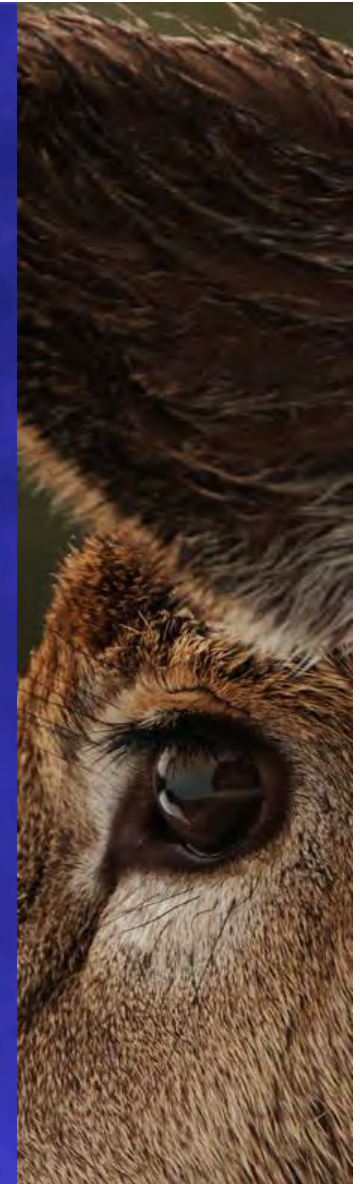


Transect locations



Results

	2001-2002	2002-2003
No. Surveys	40	38
No. Km walked	77	75
No. Observations	75	68
No. Deer seen	248	264
Survey dates	Nov.-March	Nov.-March



Results

- Calculated densities were 90-100 deer/mi²
- Extrapolated to the area of the Park:
 - About 240 deer within the Park
- Estimates done in 2007 were approximately the same



Conclusions/Considerations

- Deer populations within the Park were estimated at very high densities over several years
 - Recent estimates have not been done
- Diverse tree regeneration is difficult to achieve in the Park
- Over half the park is off watershed
- Some of the on-watershed lands are right next to the CVA intake

Conclusions, cont.

- Large, un hunted areas adjacent to hunted areas can serve as refuges for deer during the hunting season
- Un hunted areas with high deer densities can also serve as population sources
- Quabbin Park is our most visited area and some visitors enjoy seeing lots of deer
- Deer feeding has been a serious problem in the past



Management Options

- Nothing
- Alternative fencing designs
 - Designed to physically exclude deer
 - Around areas where regeneration is needed
- Managed Hunt
 - Similar to Reservation: 2 days of shotgun
 - Alternative hunting strategy: archery
- No decision has been made

QUESTIONS?

