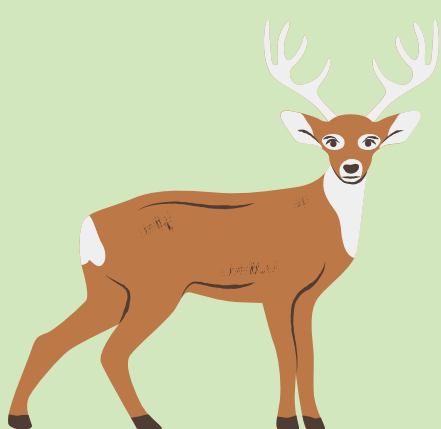


MANAGEMENT STRATEGY EFFECTS ON WHITE-TAILED DEER

HOW CAN MANAGEMENT CHANGE POPULATION AND MOVEMENT?

BY STELLA SCHUCHART



CONFLICT

Overabundance has led to decreases in vegetation through overgrazing, specifically in the Eastern USA. Deer have become resilient to urban expansion.

HUMAN-DEER CONFLICT

Habitat fragmentation has led to increases in conflict like vehicle collisions and disease spread. Effects deer community structure and species distribution.



MANAGEMENT

Which management plan would result in effective population control when ran through the NetLogo model?

State	Town	Context	Management Notes
MA	Pepperell	Rural	Pepperell does not have a deer management plan.
	Weston	Suburban	Weston has had a bow hunt program on town lands since 2012 and facilitates hunter access on private lands.
NY	Fenner	Rural	Fenner does not have a deer management plan.
	Manlius	Suburban	Manlius adopted a maintenance sharpshooting program in 2018.

SOLUTION

Percent land available to management and hunter effects on population were two major factors that contributed to deer population and movement.

Greater the land available, greater the impact on population.

Sharpshooting proved to have a greater effect on population due to higher accuracy.

Town	Management Plan	Percent land available to management (%)	Hunter effects on population (n=100)	Population before management implementation	Population after management implementation
Pepperell, MA	None	21	N/A	407	648
Weston, MA	Bow Hunt	11	Effect	581	424
Fenner, NY	None	64	N/A	1544	1749
Manlius, NY	Sharpshooter	33	Effect	1765	1583

LIMITATIONS

Models can have inherent biases because they are simplifications of reality and only meant to catch a glimpse of reality

REFERENCES

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