Managing Deer Damage

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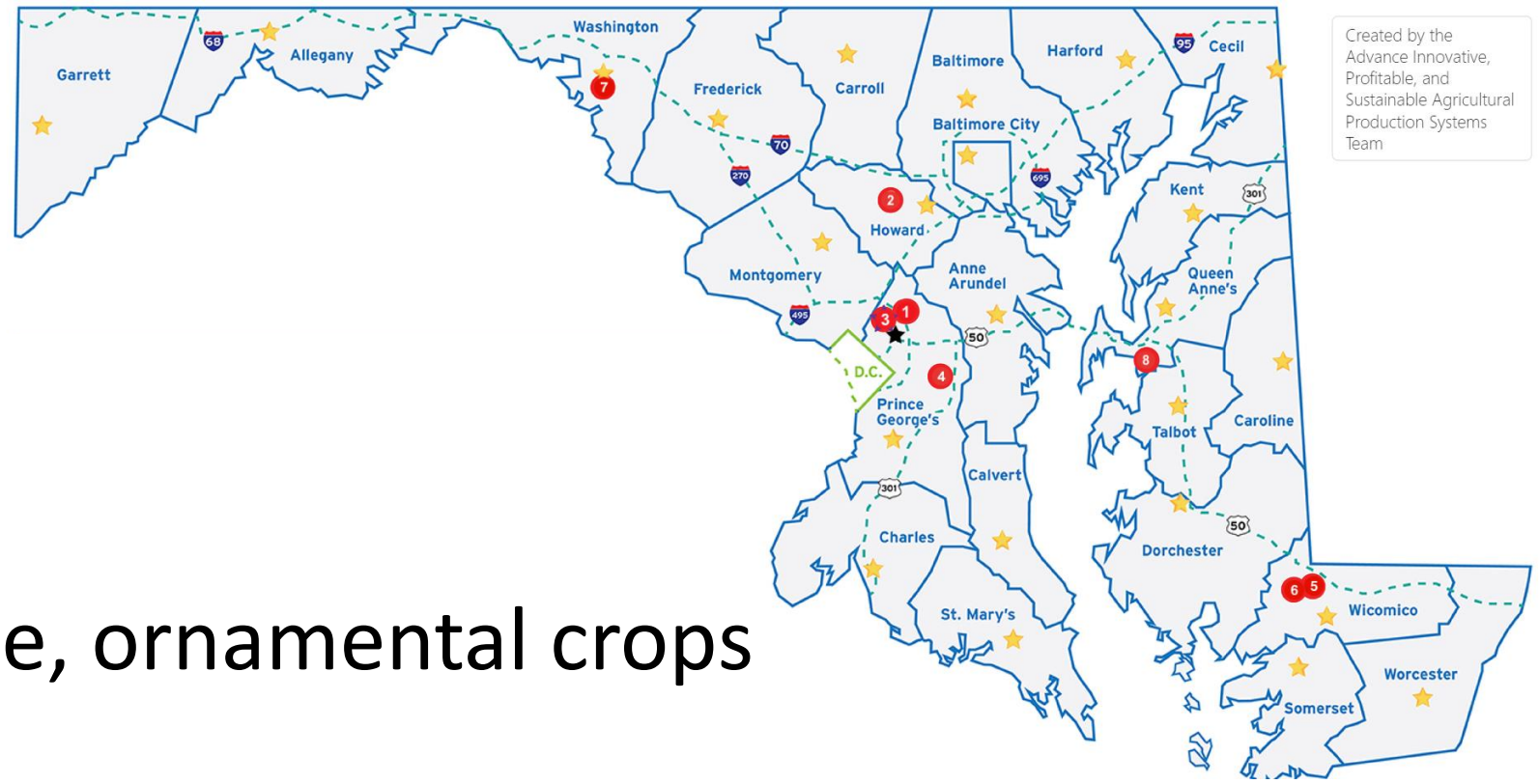
UNIVERSITY OF MARYLAND EXTENSION

Problem

REC locations

- 8 facilities
- 2 on USDA land
- Suburban to rural
- Grain, fruit, vegetable, ornamental crops
- Dairy, beef, equine, small ruminant, poultry



Consequences of deer damage

- Crop loss = research loss
- Huge monetary investment in small plots
- Wildlife damage compromises findings
- Reduced chance for future funding

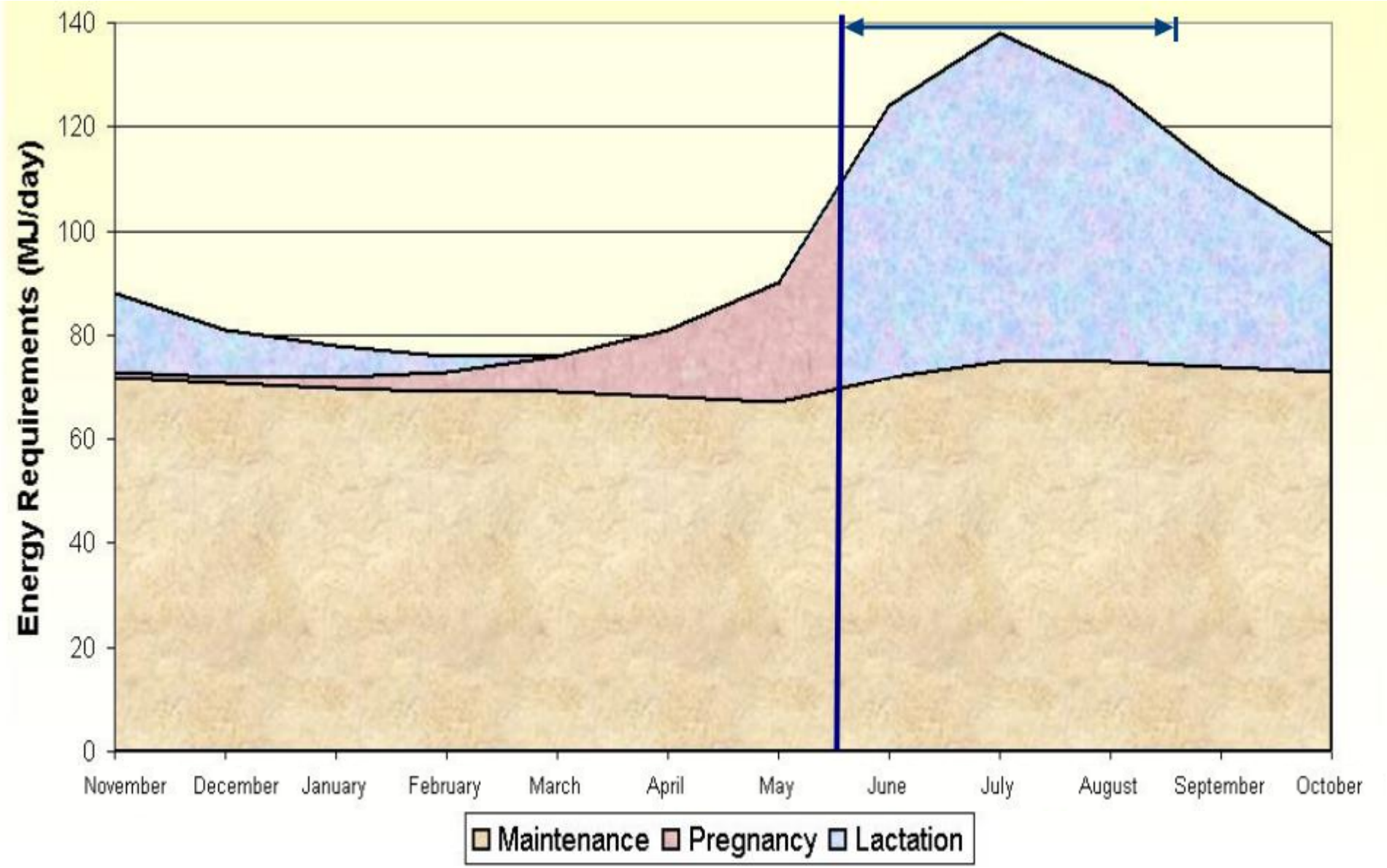
Deer biology & behavior

How Much Do Deer Eat?

- Deer eat ~6-8% of body weight daily (wet weight)
- 150 lb deer is 9-12 lbs green forage daily.

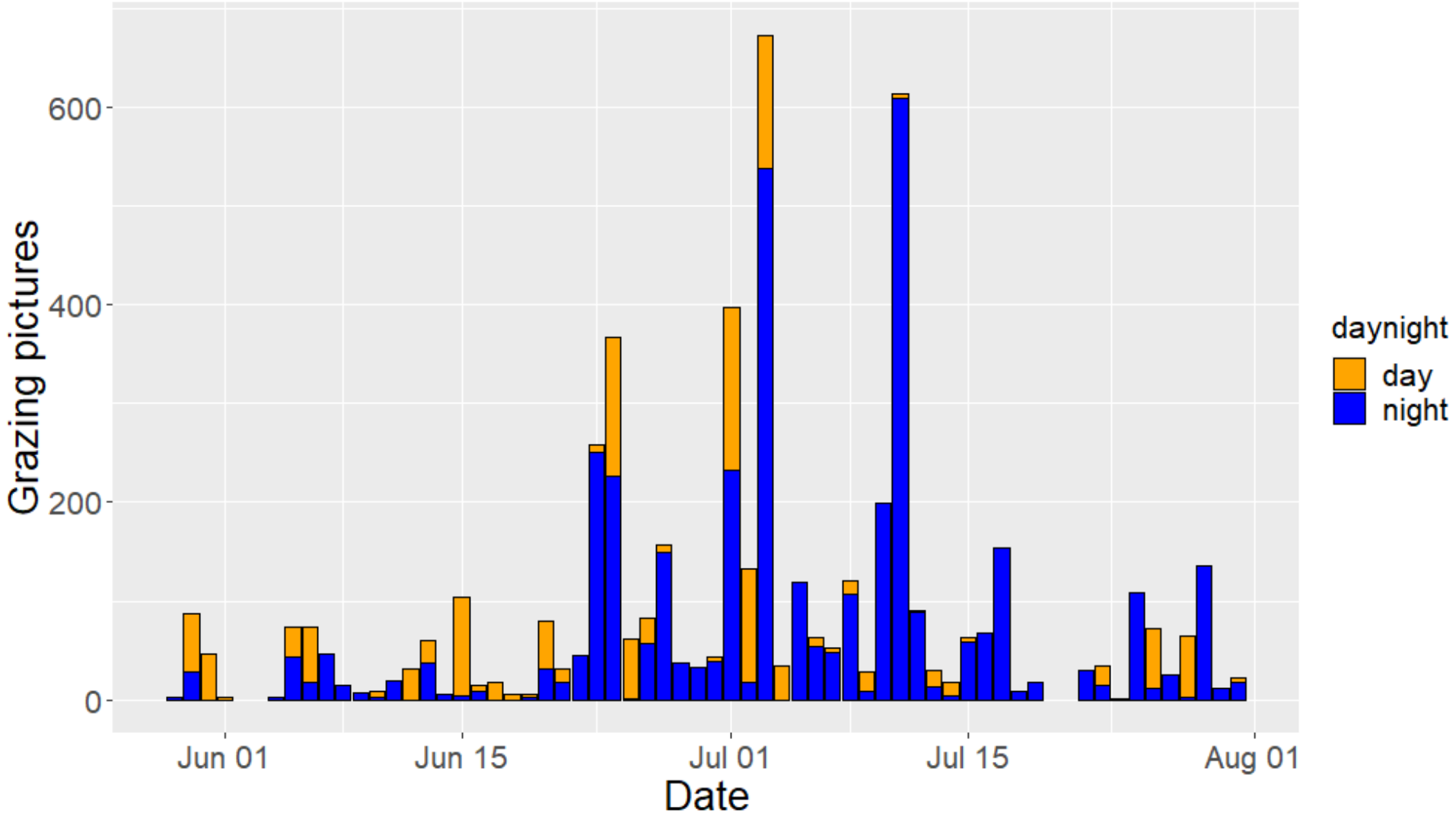
Dr. Steve Demarais, Mississippi State University.
National Deer Association.

Energy needs increase in late spring / summer



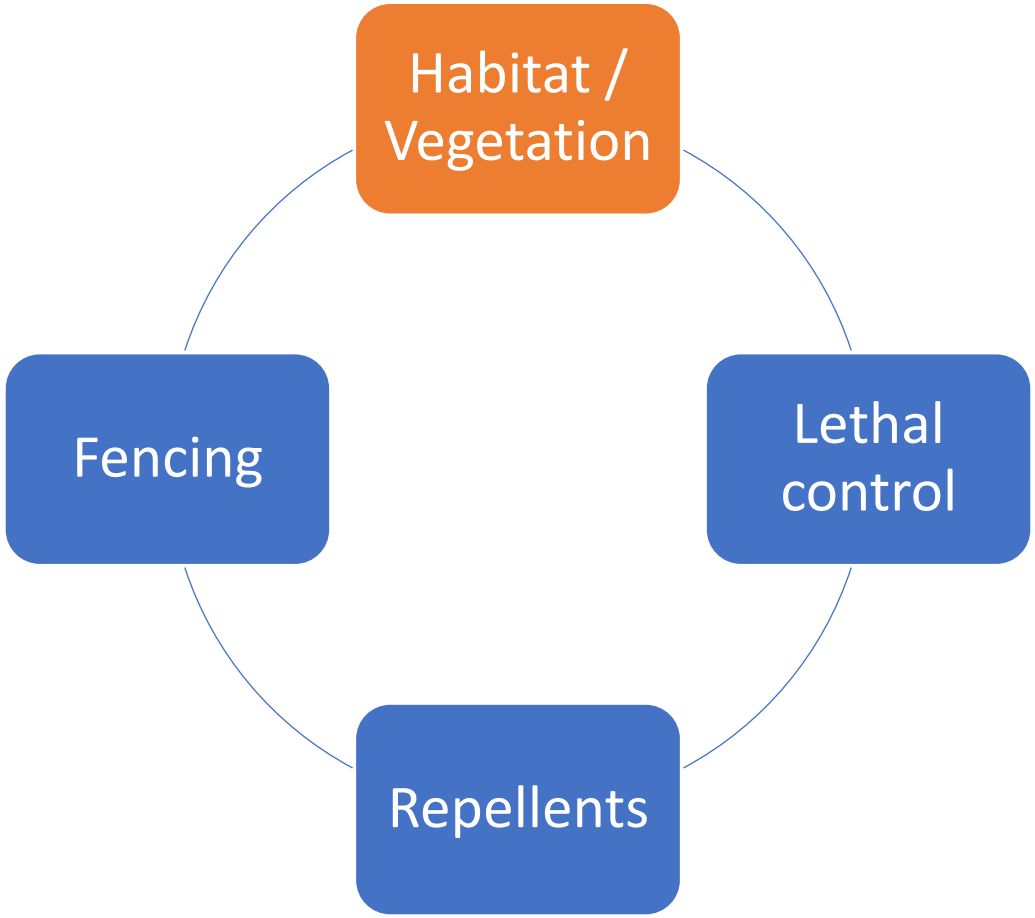
Deer activity in soybean field (2021)

- 5 days accounts for 45% of grazing activity
- 64% occurred after legal shooting hours



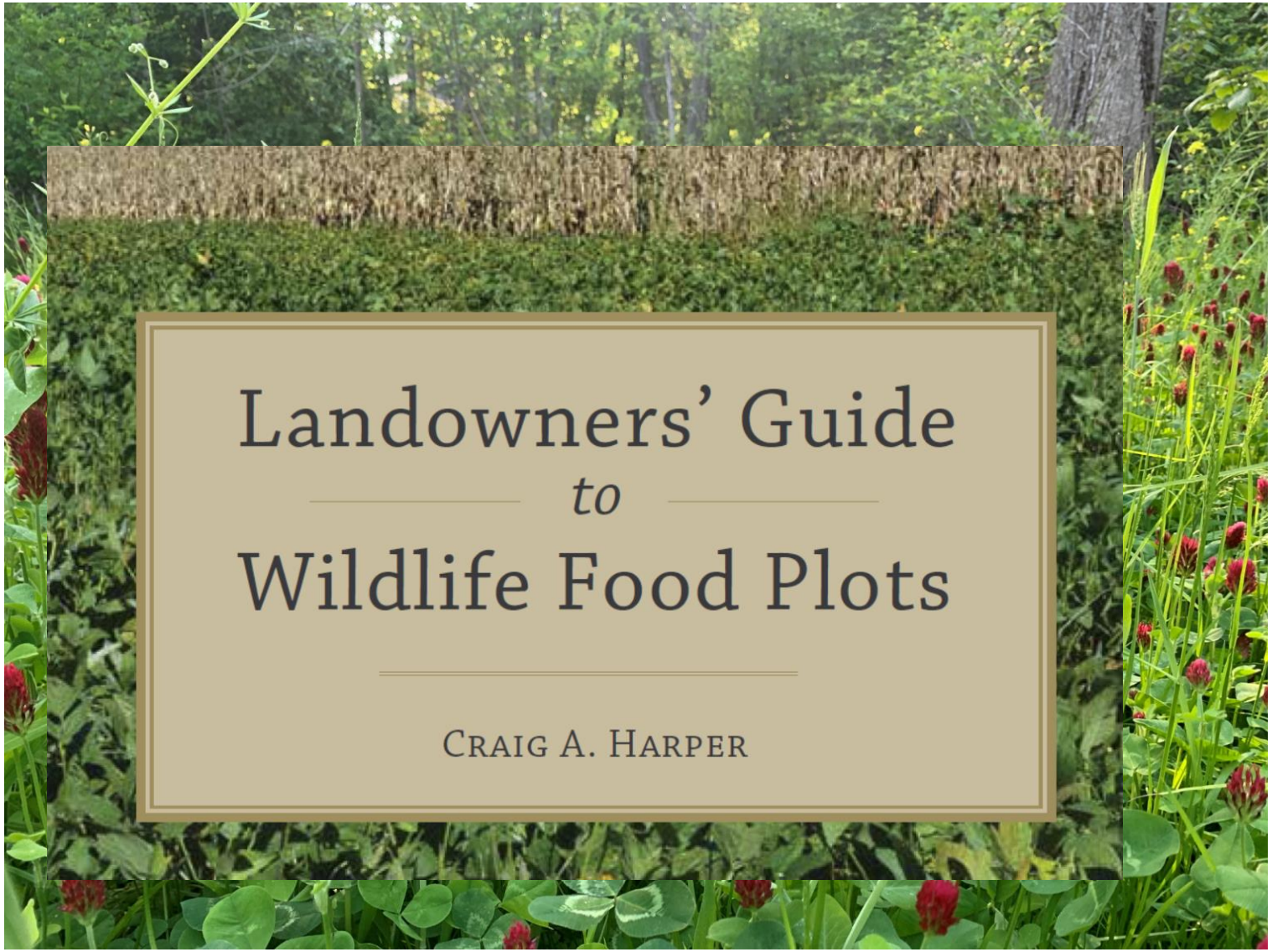
Management

Integrated Pest Management



Attract or divert deer

- Cool season perennials
- Cool season annuals
- Warm season



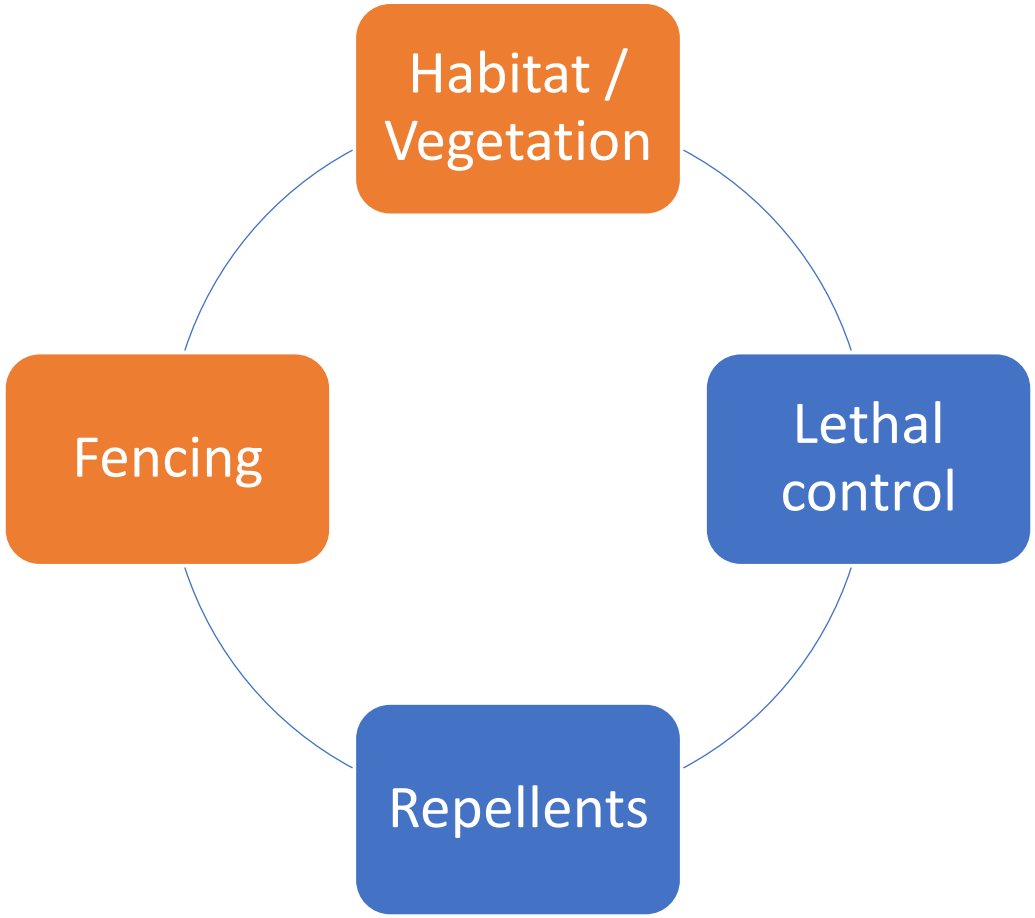
Ongoing research on forage soybeans and other food plot plantings

Farmer Evaluation of efficacy

how well did you feel each variety worked in terms of attracting deer and/or reducing damage to co...

how well did you feel each variety worked in terms of attracting deer and/o... ↑	Average	Minimum	Maximum
GT1 Brier Ridge, Group 4.7	8.33	7.00	10.00
Biologic Game Changer, Group 5.2 (Brown bag)	7.00	7.00	7.00
Biologic Game Changer, Group 6.2 (White bag)	6.00	5.00	7.00
Eagle Seed Big Fellow, Group 7	8.00	6.00	10.00

Integrated Pest Management



Plastic mesh – works for deer, not for rabbits

Cornell University
Cooperative Extension

Forest Connect

Supporting Sustainable Management of Private Woodlands

An Extension Publication of the Department of Natural Resources, New York State College of Agriculture and Life Science, a Statutory College of the State University at Cornell University, Ithaca, New York

Low-Cost Fence Designs

– to Limit Deer Impacts in Woodlands and Sugarbushes

Peter Smallidge, NYS Extension Forester, Cornell University; Brett Chedzoy, Cornell Cooperative Extension Educator of Schuyler County; and Emily Staychock, Cornell Cooperative Extension Educator of Yates County

The white-tailed deer (Odocoileus virginianus) can significantly influence the diversity, longevity and sustainability of rural woodlands, forests and maple syrup sugarbushes. As selective browsers (Figure 1), deer will eat some plants more readily than they eat other plants. Many of the tree species deer prefer to consume are valued by owners as sources of timber, maple syrup, or as food-producing trees for wildlife, such as oak and maple. Deer also eat many native wildflower and understory plants.

Figure 1. Browse impact of deer on stump sprouts.

The effects of deer browsing on woodlands and sugarbushes can have long-lasting effects (called "legacy" effects) that persist for decades after deer impacts are reduced. In areas with a history of deer overabundance, the failure to establish and grow new, young trees is having a detrimental effect on woodlands and the potential to keep these areas healthy and diverse.

Under high deer impact, deer eat the plants that are used to assess if there is a problem. As deer impact increases, the evidence for deer impact decreases (Figure 2). To an untrained eye, a heavily browsed woods may appear, open, park-like and picturesque rather than degraded and impoverished. In woodlands, the evidence for the over-abundance of deer include one or more of these features:

- Park-like appearance in the woods (Figure 3)
- An understory dominated by invasive shrubs

Figure 2. Small exclosures are simple and relatively inexpensive tools to assess the impacts that deer have on forest vegetation. By excluding deer, vegetation may be able to respond and illustrate the intensity of deer browsing. (Photo courtesy of Paul Curtis)

Permanent Deer Fence

- High cost
- Maintenance costs - esp. tree limbs

Permanent electric deer fence

Gate options

Gate options

Single strand electric fence

Two tiered Electric fencing

- Deer have poor depth perception

https://lgpress.clemson.edu/publication/managing-deer-damage-using-a-two-tiered-fence-system/

Ecological & aesthetic costs of fencing

- Electric fences can impact turtles (Ferronato et al. 2014)
- Bird collisions – especially grouse (Baines and Andrew 2003).
- Can amplify deer damage elsewhere

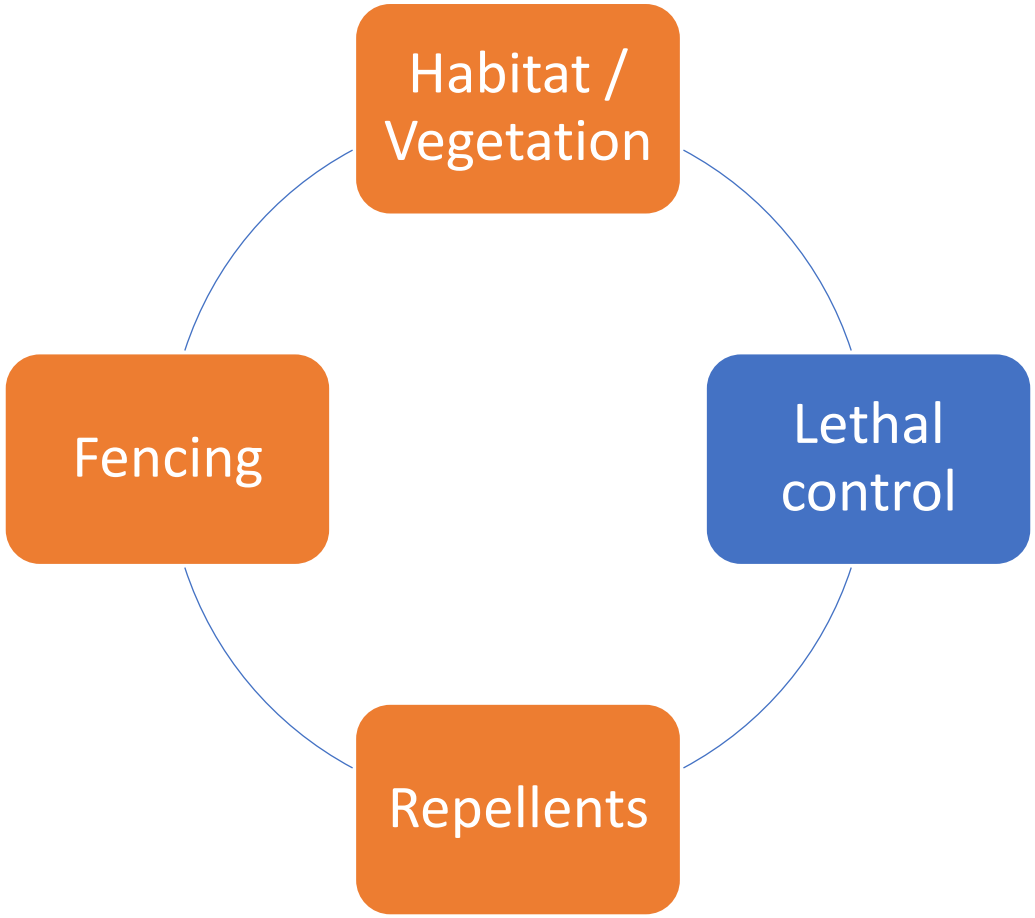
JOURNAL ARTICLE EDITOR'S CHOICE

Fence Ecology: Frameworks for Understanding the Ecological Effects of Fences

Alex McInturff ✉, Wenjing Xu, Christine E Wilkinson, Nandintsetseg Dejid, Justin S Brashares

BioScience, Volume 70, Issue 11, November 2020, Pages 971–985,
https://doi.org/10.1093/biosci/biaa103
Published: 30 September 2020

Integrated Pest Management



Repellents

MARYLAND COOPERATIVE EXTENSION
UNIVERSITY OF MARYLAND
COLLEGE PARK•EASTERN SHORE

Fact Sheet

Fact Sheet 810

Using Commercial Deer Repellents to Manage Deer Browsing in the Landscape

Damage to ornamental plants by white-tailed deer (*Odocoileus virginianus*) has increased dramatically over recent years. Deer damage to home landscapes and gardens is the number one complaint in suburban areas. An integrated approach to deer damage management can often be the most optimal way to deal with the problem. Using any one or a combination of strategies including population management, fencing, vegetation management, and commercial repellents or scare tactics is the best approach to minimize negative impacts from deer. Commercial deer repellents have become increasingly popular with residential homeowners as a means of keeping deer damage at tolerable levels. For more information on deer man-

erally more effective when the following conditions exist:

1) Low to moderate deer pressure
2) Light to moderate feeding damage
3) Small acreage
4) Repellents are not being used on adjacent properties
5) Alternative food sources are available

If any of the above conditions are not typical of your situation, then you should compare the cost of using repellents to fencing systems or other available deer management practices.

How Repellents Work

Taste-based (also known as contact) repellents are applied directly to plants and repel deer due to their foul taste. Taste-

- Testing repellents in study funded by Delaware Soybean Board
- Deer density should be managed
- Rain requires reapplication

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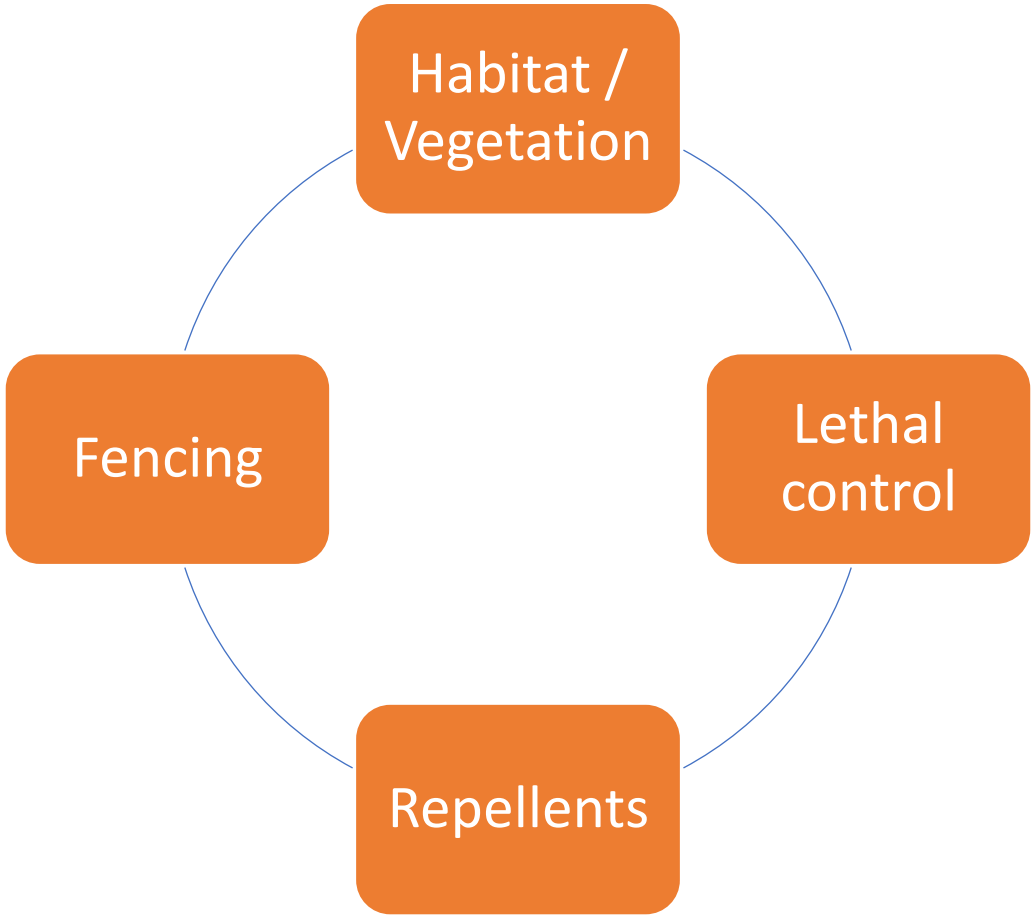


Lethal control options

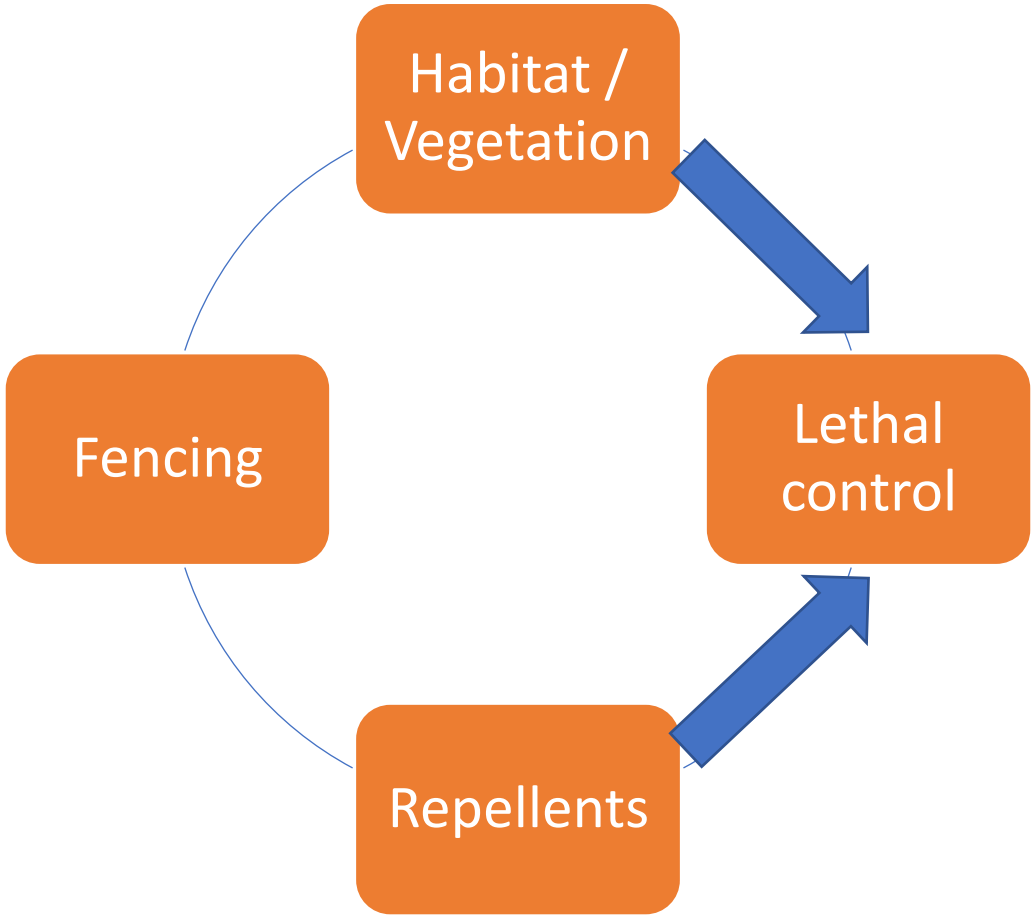
- Use recreational hunting – hunting leases – liberal harvest limits
- Deer damage permits – antlerless harvest year-round
- Deer cooperator permits – harvest at night but high administrative cost

National Deer Association

Keys to lethal control

- Females drive population growth and are focus of effort
- Techniques for increasing harvest
  - High density hunting on few days
  - Multiples
  - Elevated stands
  - Scent control
  - Earn a buck, prizes for does harvested
- Model lease agreements online

Integrated Pest Management



Questions

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Test our Landowner Survey

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