



Photo by Gigi

# WHITE-TAILED DEER AND FOREST HEALTH IN NORTHERN VIRGINIA



Deer are beautiful, graceful,  
and . . .



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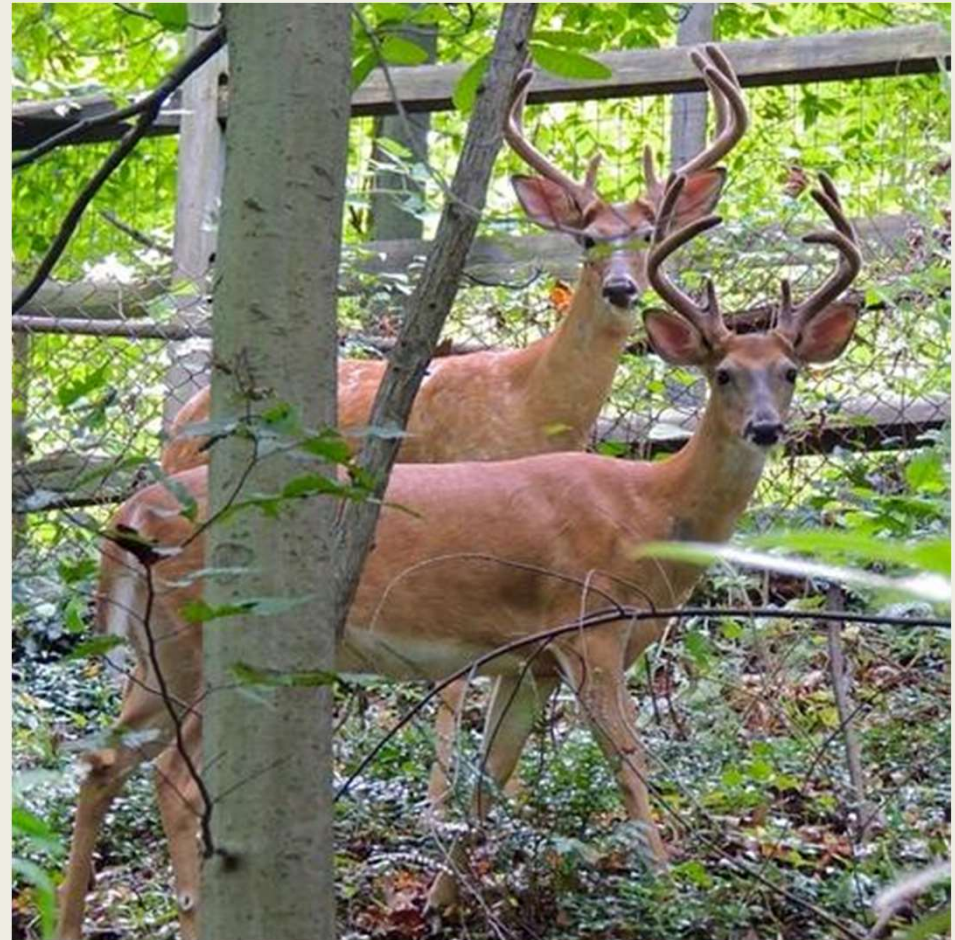
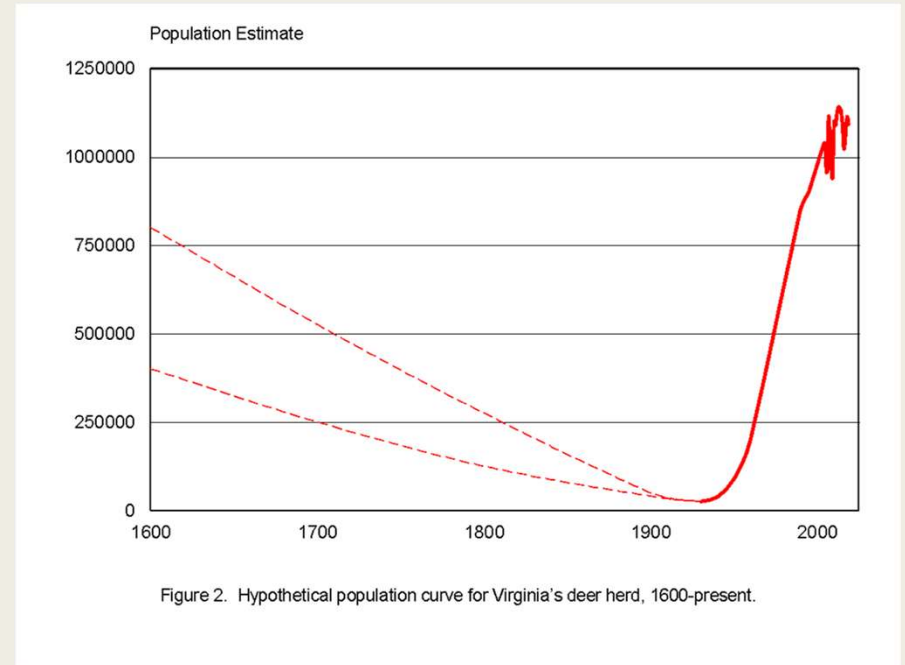


Photo by David Howell

... becoming more plentiful ...



Photo by Donna Owen



Estimated Virginia deer population curve.  
Source: Department of Wildlife Resources.

- Hunting and suburban development have been factors in population fluctuations.

... and moving from the “edge” of forest to find food...



Photo by Sue Browning



Photo by Margie McKelvey

. . . and starting to dominate the landscape.

“We’ve . . . created almost the perfect storm, from a habitat perspective, for deer.”

Greg Zell, Arlington Magazine, June 2013

*When we don't manage the deer, the deer manage our forest and planted landscape.*



# Adult Deer Are Eating Machines

## Adult deer daily consumption



Photo by Sandy Minners



- Deer eat 5-7 lbs of vegetation per day or about one ton per year
- In winter they eat buds, bark and plant shoots.
- In warmer months they eat fruits, nuts, acorns, leaves, plant buds & flowers.

# Deer Browse Damages Our Gardens and Landscape Plantings



Photo by Greg Zell



Photo by Kirsten Conrad

# If You Want Vegetables You May Have to Build an Exclosure!





# Deer Browse Changes the Forest Structure



Forest with healthy understory.

Photos by Charles Smith



Over-browsed forest cannot regrow.

# Deer Browse Reduces Nutritional Variety



Strawberry bush (*Euonymus Americanus*)

Photos from <https://www.carolinanature.com/trees/euam.html> and Missouri Botanical.



Spicebush (*Lindera benzoin*)

# Deer Browse Degrades Bird Habitat



Photo: David Howell



Photo: David Howell



Rickey Shive, Cornell Lab of Ornithology

- Many native birds build nests in understory shrubs.
- Without understory, they are exposed to predators when nesting and foraging for food.

Bird	Nest Area	Nest Height (feet)
Wood thrush	Young tree or shrub	0 – 20
Brown thrasher	Brush-shrubs	2 – 5
Eastern towhee	Ground shrubs	0 – 5

# Deer Browse Degrades Insect Habitat

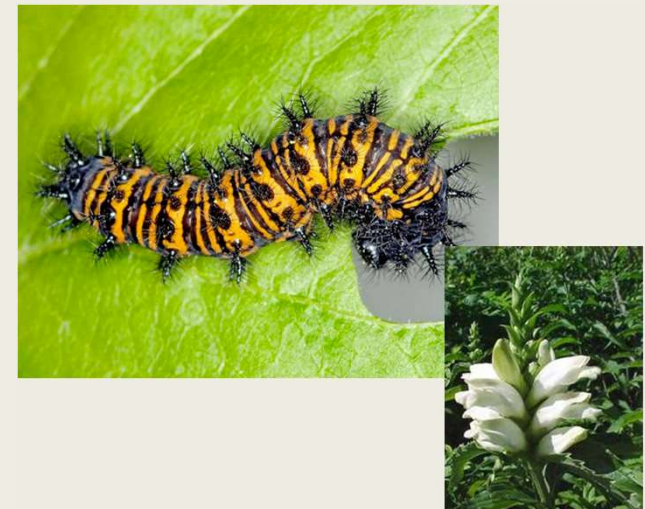
- The Spring Azure butterfly relies on dogwood (*Cornus spp.*), blueberry (*Vaccinium spp.*), and viburnum (*Viburnum spp.*)
- Baltimore Checkerspot caterpillars (larvae) feed almost exclusively on white turtlehead (*Chelone glabra*)
- Many pollinators and other insects rely on forest floor habitat for various instar stages



Photo by David Howell

Butterfly	Host Plants
Eastern Black Swallowtail	Golden Alexanders ( <i>Zizia aurea</i> )
Clouded Sulphur	Wild Blue Indigo ( <i>Baptisia australis</i> )
Pearly Crescentspot	New England Aster ( <i>Symphotrichum novae-angliae</i> )

Source: joyfulbutterfly.com



# Deer Browse Degrades Reptile and Amphibian Habitat



Box turtle, David Howell



Spotted Salamander, Peter Palanus

# Deer Browse Undermines Investments In Our Parks



Photo by Ron Battocchi



Photo by Bill Browning

# Deer Still May Not Have Enough Food

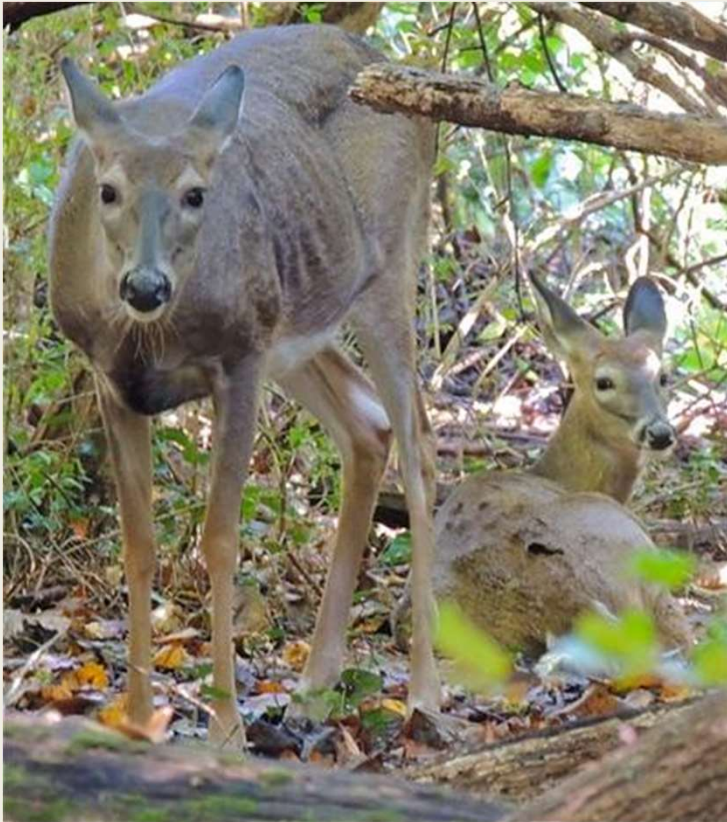


Photo by David  
Howell



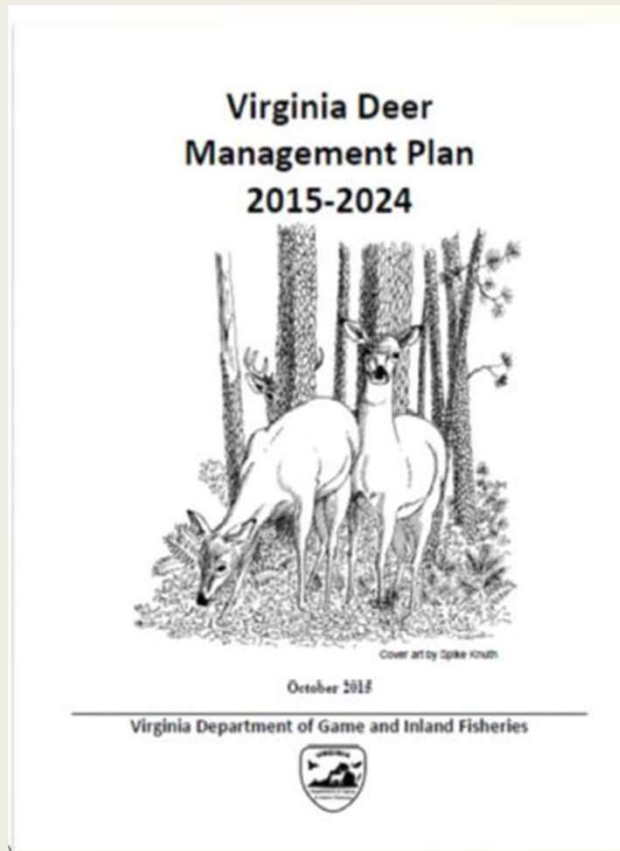
Photo by Steve  
Young

And Now We Turn to Jordan Green,  
Wildlife Biologist with Virginia's  
Department of Wildlife Resources  
(DWR)





# Virginia Deer Management Plan



- Directs all deer management programs
- Developed to represent interests of all citizens
- History, Status, Programs, Goals, Objectives, Strategies
- Strategic, not operational
- Manage by County
- Provides strategic vision for forward progress of deer program

# VDWR Role in Urban Deer Management

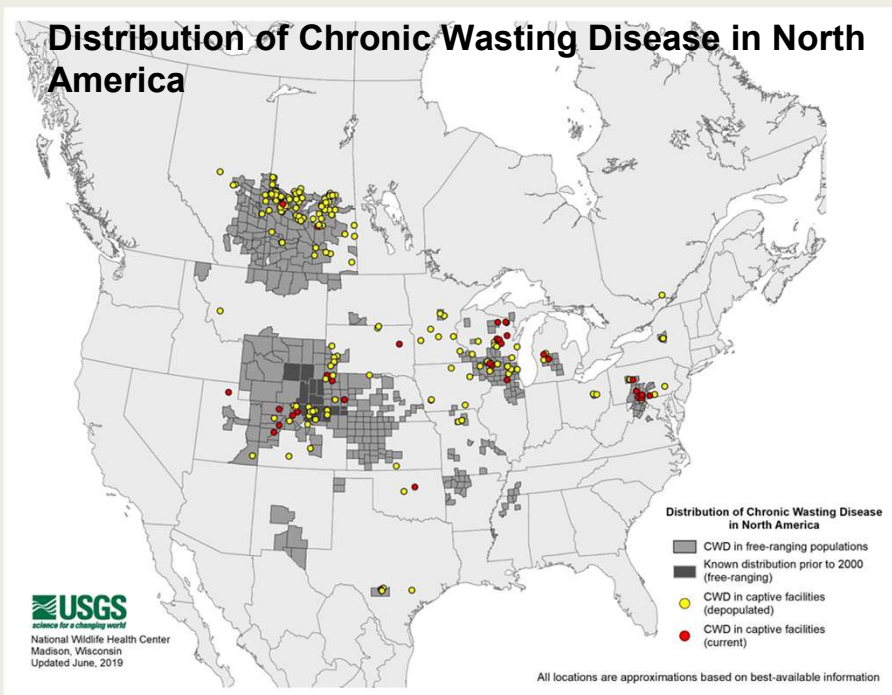
- . Offer management programs directed by the Virginia Deer Management Plan (<https://dwr.virginia.gov/wildlife/deer/management-plan/>)
- . Regulate hunting
- . Issue out-of-season kill permits to citizens/officials per Code of Virginia
- . Permit special deer control programs by local government officials
- . Inform/educate about lethal and nonlethal options
- . Does not conduct urban deer removal operations
- . Does not conduct deer population surveys for communities or localities
- . Tries to enable local deer management, rather than impede it

## Local Government Role in Urban Deer Management

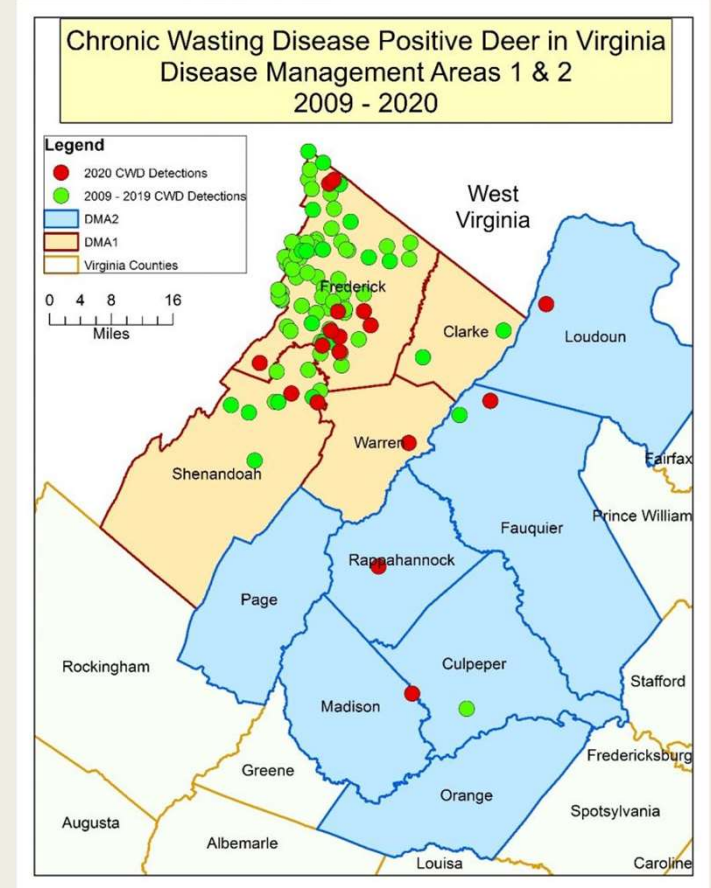
- *Determine a threshold for management action*
- *Conduct assessments to monitor resident opinions or impacts, not the deer population*
- *Develop management programs in collaboration with VDWR*
- *Choose appropriate management options, consistent with law/authority*

# Overpopulation Hurts the Deer Themselves

- High deer density exacerbates spread of diseases such as chronic wasting disease (CWD), a transmissible neurological disease.



Source: USGS

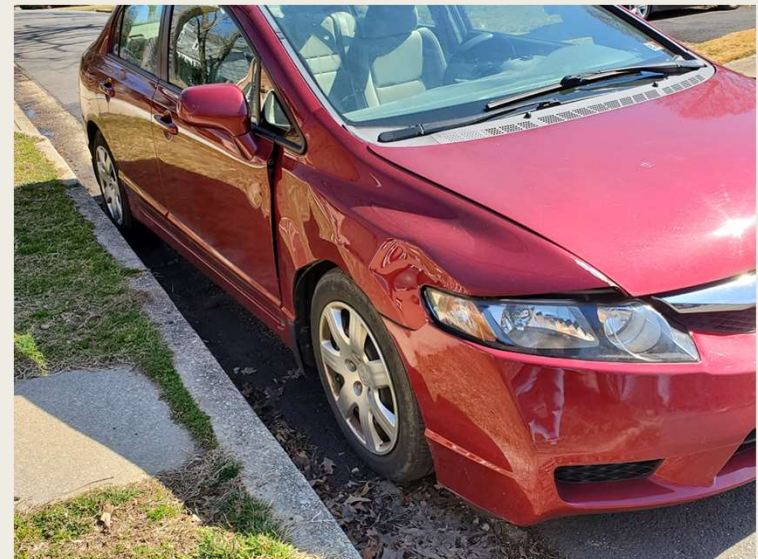
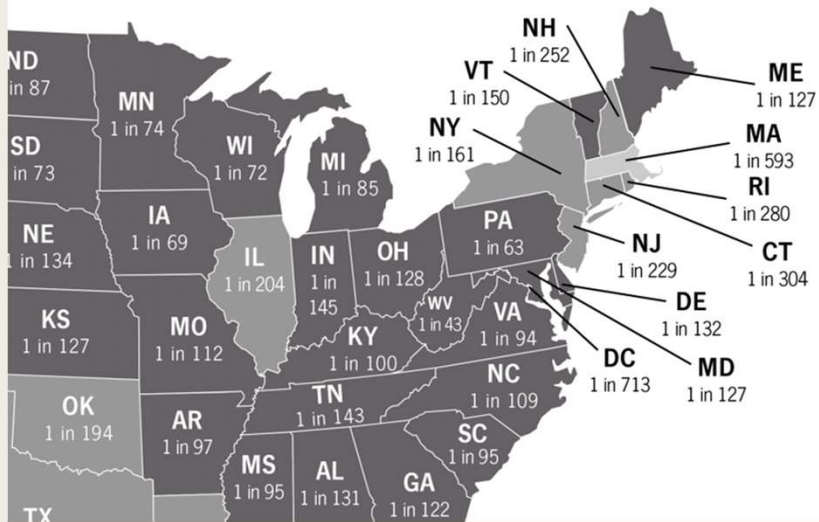


Source: Virginia DWR

# Deer Vehicle Collisions: Factor of Cultural Carrying Capacity

## of Hitting a Deer in My State

July 1, 2016 to June 30, 2017



## Options for Bringing Balance to our Forests By Managing the Deer Population

- Natural predators
- Medical options
  - Contraceptives
  - Sterilization
- Hunting options
  - Private
  - Government-managed

# Humans Have Eliminated Effective Deer Predators in VA



Eastern Cougar



Gray  
Wolf

Photos: [Pixabay License](#)

# Contraception and Sterilization Methods are Costly and Unproven

- Immunocontraceptives
  - *PZP*
  - *GonaCon*
- Neither effective in open herds
- Expensive—about \$1,000+ per deer per year
- Deer are susceptible to capture myopathy



Pixabay  
License



# Government-managed Methods for Hunting Deer

## In Larger Parks

- Professional sharpshooting
- Controlled shotgun hunts with trained volunteers

## In Restricted/Urban areas

- Controlled archery hunts with trained volunteers
  - very low non-lethal wounding rates when done properly
  - can be done safely in tight spaces



# Fairfax County Program

- Deer management began in 1998
  - Proven safety record
  - Includes archery, managed shotgun hunts, and police sharpshooting
  - Venison donated
  - Operating in 100 parks covering more than 80% of county parkland
- Significant county oversight
  - Implemented by police
  - Collaborate with park authorities
- Hunters must prove themselves
  - Pass qualifications and frequently to pass requalification requirements
  - Complete educational courses



## Montgomery County MD Program

- County program to manage began in 1996
  - Culled more than 1,100 deer in 2019/20
  - Cover more than 50 percent of county parkland
  - Donate more than 20,000 pounds of venison per year
  - Archery and sharpshooting used in more restrictive areas
- Supplemented by private organizations able to hunt on lots as small as 1/5 acre
- Zero public safety incidents



# National Park Service Approach

- Rock Creek Park
  - Before 1960, there were no deer sightings in park
  - By the 1990s, there were so many that they stopped counting
  - Public process resulted in management plan in 2012
    - Recently have removed 30-90 deer per year
    - Using trained firearms experts from USDA
    - Tree seedling density has more than doubled
- Active in other nearby parks, such as C&O Canal, Manassas Battlefield, Catoctin Mountain

# Deer Management Programs in our Region

- Fairfax County (since 1998)
- Montgomery County, MD (since 1996)
- National Park Service (since 2012)
- Prince George's County, MD (since 2016)
- Prince William County (since 2017)
- Arlington and Alexandria have not started programs

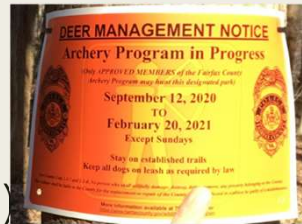
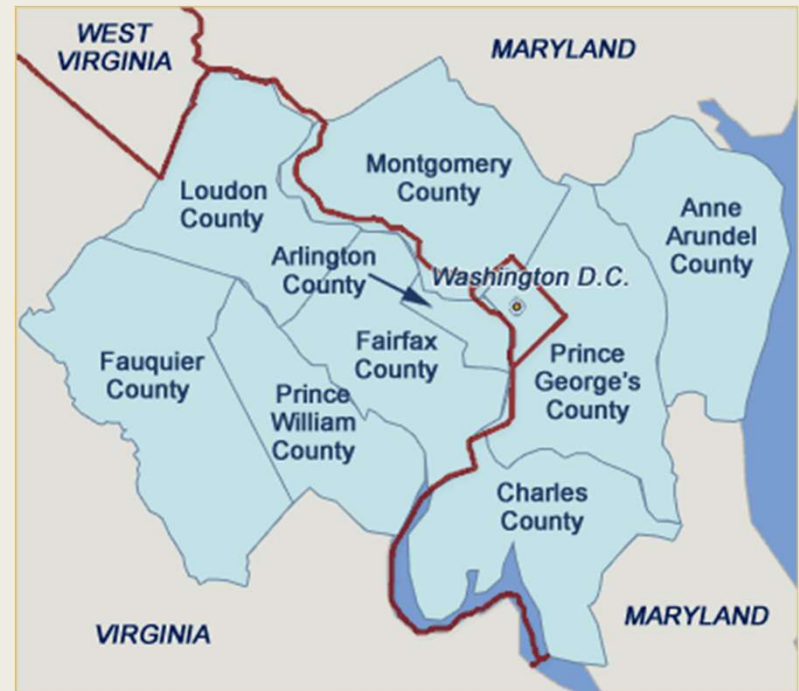



Photo: Todd Minners



**0** bystanders injured by an archer in Virginia in over 60 years 

**42** Virginia cities, towns, and counties, like Fairfax County & Richmond, with deer management archery programs

**1 MILLION**  servings of venison donated to community organizations through Hunters for the Hungry

(Back to Steve to wrap up; then joint Q&As)

# Individual Actions You Can Take

- Learn about the importance of healthy forests and habitat
- Keep your distance from deer; don't feed deer or encourage them to approach
- Educate friends and neighbors about impact of deer in our area
- If you have a group of friends or an organization that you think might be interested in this presentation, please let us know
- Talk to (or write a letter to) your local representative about the importance of maintaining a healthy balance of wildlife

# Key Takeaways

- Doing nothing
  - means favoring deer over other species of mammals, birds, and reptiles
  - allows deer to continue to jeopardize our forests and landscapes
  - allows deer to undermine county investments, and staff and volunteer efforts to care for our parks
- Human intervention is needed to restore balance

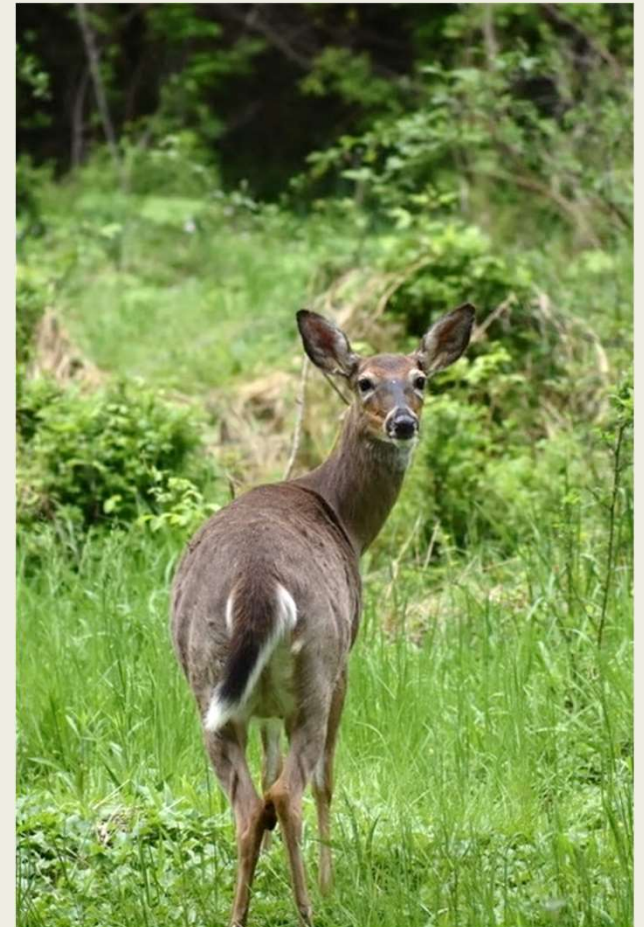


Photo by Gigi Charters



## Next Steps Arlington and Alexandria Should Take

- Engage with neighboring jurisdictions to learn details of costs, organization, oversight, and public education strategies
- Develop and initiate a public engagement strategy to inform and educate the public about the issue
- Review current county ordinances that might restrict actions to cull deer population
- Collect and publish comprehensive data on deer-vehicle collisions
- Develop a pilot program in a limited area to gain experience with culling procedures

“...just as a deer herd lives in mortal fear of its wolves, so does a mountain live in mortal fear of its deer...for while a buck pulled down by wolves can be replaced in two or three years, a range pulled down by too many deer may fail of replacement in as many decades.”

Aldo Leopold, Thinking Like a  
Mountain

# Thanks for Listening

- If you have any later questions or comments, please contact us after the presentation or go to “[armn.org](http://armn.org)” and click on “Contact us.”
- Find additional resources at “[armn.org/deer-management/](http://armn.org/deer-management/).”
- Steve Young, [Frazmo@gmail.com](mailto:Frazmo@gmail.com)



# Questions?

