

Deer Population and Modeling

Gabe Jenkins

Deer and Elk Program Coordinator



Kentucky's Deer Population

- Herd Status
 - Statewide population model estimates a stable herd
 - Boone & Crockett
 - Top 5 state for Trophy Bucks
 - Economically Important to KY
 - \$553.5 million annually
 - 13,322 Jobs
 - Deer are a valued public resource
 - Renewable resource
 - Recreational opportunities
 - Consumptive and non-consumptive
 - Healthy ecosystem characteristic



Kentucky's Deer Herd- we've come a long way

From this



To this



Stakeholders

- Hunters
- Landowners
 - Farmers
 - Leasing
 - Hunting
 - Farming
- Non-consumptive users



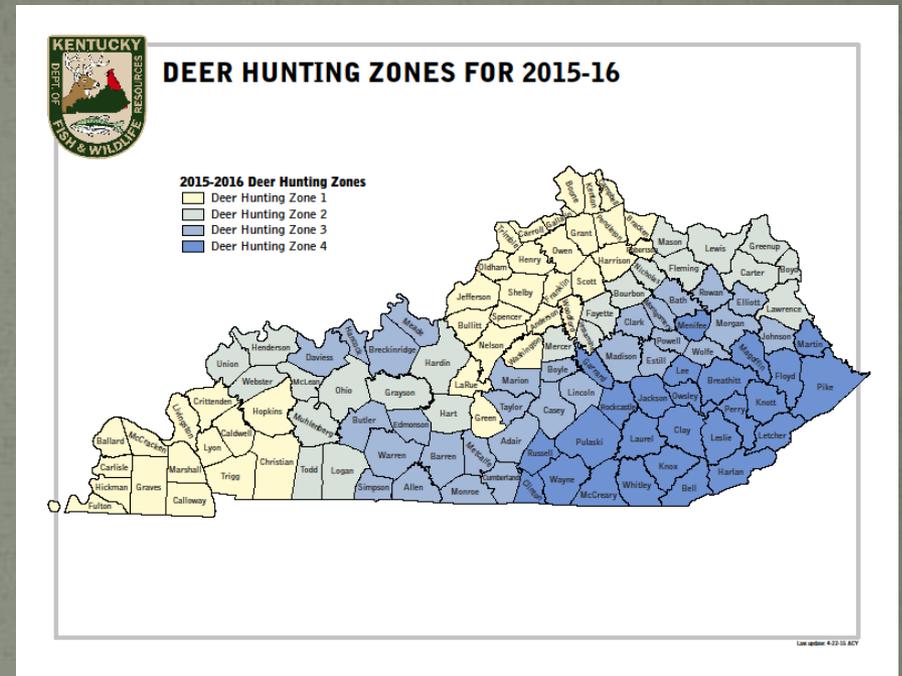
Determining the right deer zone?

- Variety of factors go into deer zone designations
 - Harvest number
 - Age and sex of harvest
 - Deer vehicle collisions
 - Nuisance complaints
 - Habitat change
 - Hunter Input
 - KDFWR Staff Input
 - Disease Outbreaks?



Deer Zones

- Deer populations are not spread across the landscape uniformly
- Deer hunting is managed at the county level
- KDFWR sets biologically acceptable parameters for harvest, landowners can choose to be more conservative

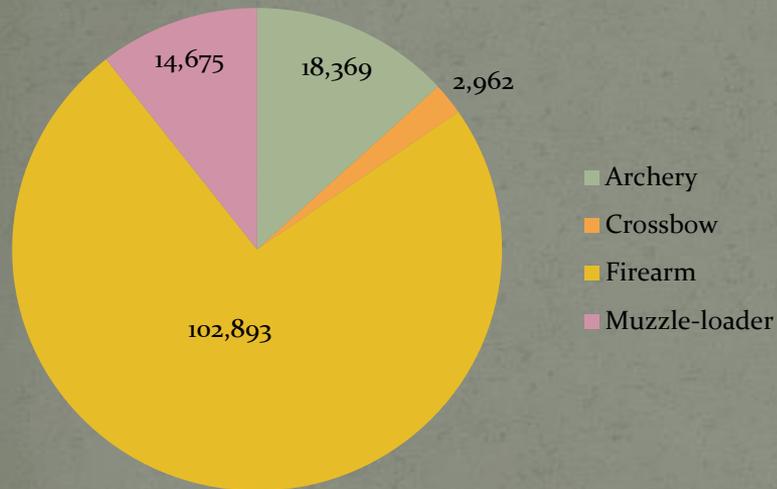


Deer Density Goals per Deer Zone

Zone	1	2	3	4
Deer mi ²	31+	20-30	10-19	0-9

Harvest by Weapon Type

Number of Deer Harvested by Weapon Type in 2014-15

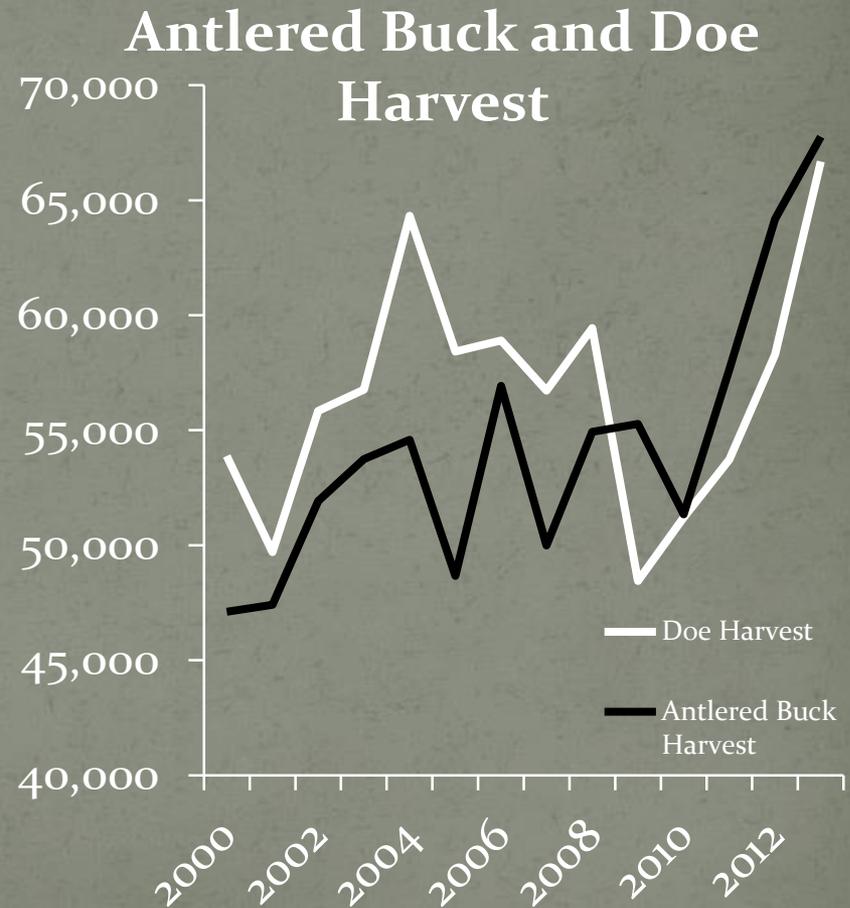


Weapon	Female	Male	Total
Archery	11,293	7,076	18,369
Crossbow	1,881	1,081	2,962
Firearm	41,355	61,538	102,893
Muzzle-loader	8,992	5,683	14,675
Total	63,521	75,378	138,899



Buck to Doe Harvest

- KY hunters do an excellent job harvesting does
 - Archery/crossbow hunters
- Age harvest data suggest hunters are passing on male fawns
 - ~6 % male fawns in harvest



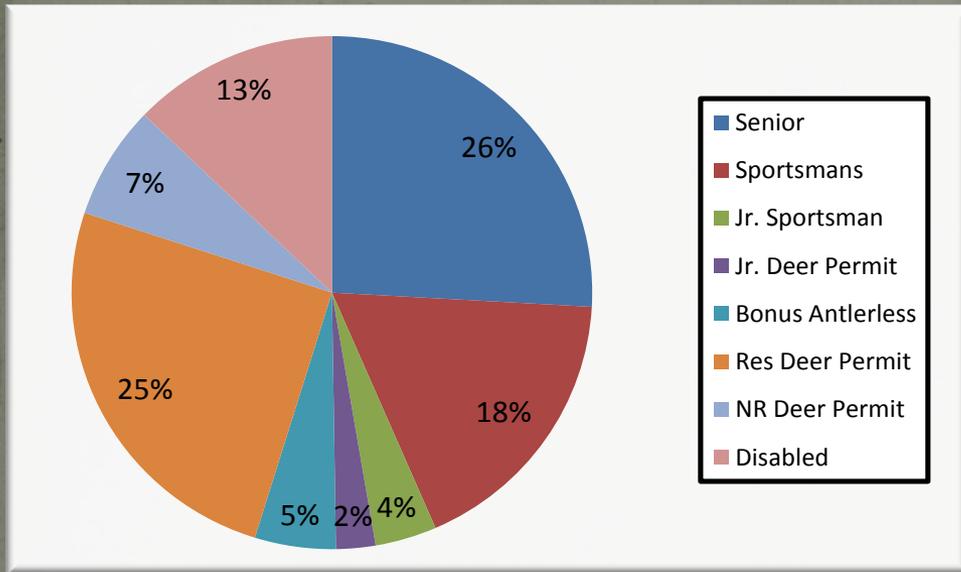
Deer Killed Per Hunter

Successful hunters	# deer killed	% of successful hunters
76,994	1	78%
18,570	2	19%
4,269	3	4%
2,486	4+	3%
Total successful hunters	102,319	
Average Hunter Harvests:	1.36	

- Average hunter harvest 1.36 deer. This rate has remained constant over the last decade
- Indicating more hunters in the woods, not the same number of hunters killing more deer!



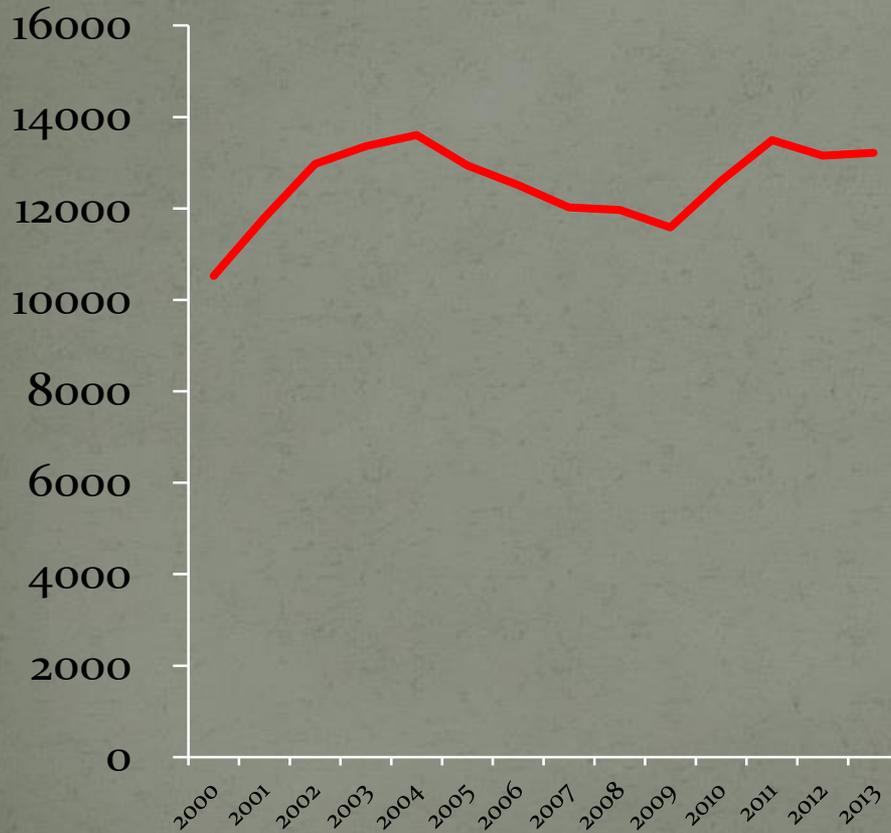
License Sales Trend



- Number of deer tags sold are slightly increasing
 - Which is good however...
- Seeing a increase in number of senior licenses sold
 - Indicating an older generation of hunters

Population Estimate

Example County



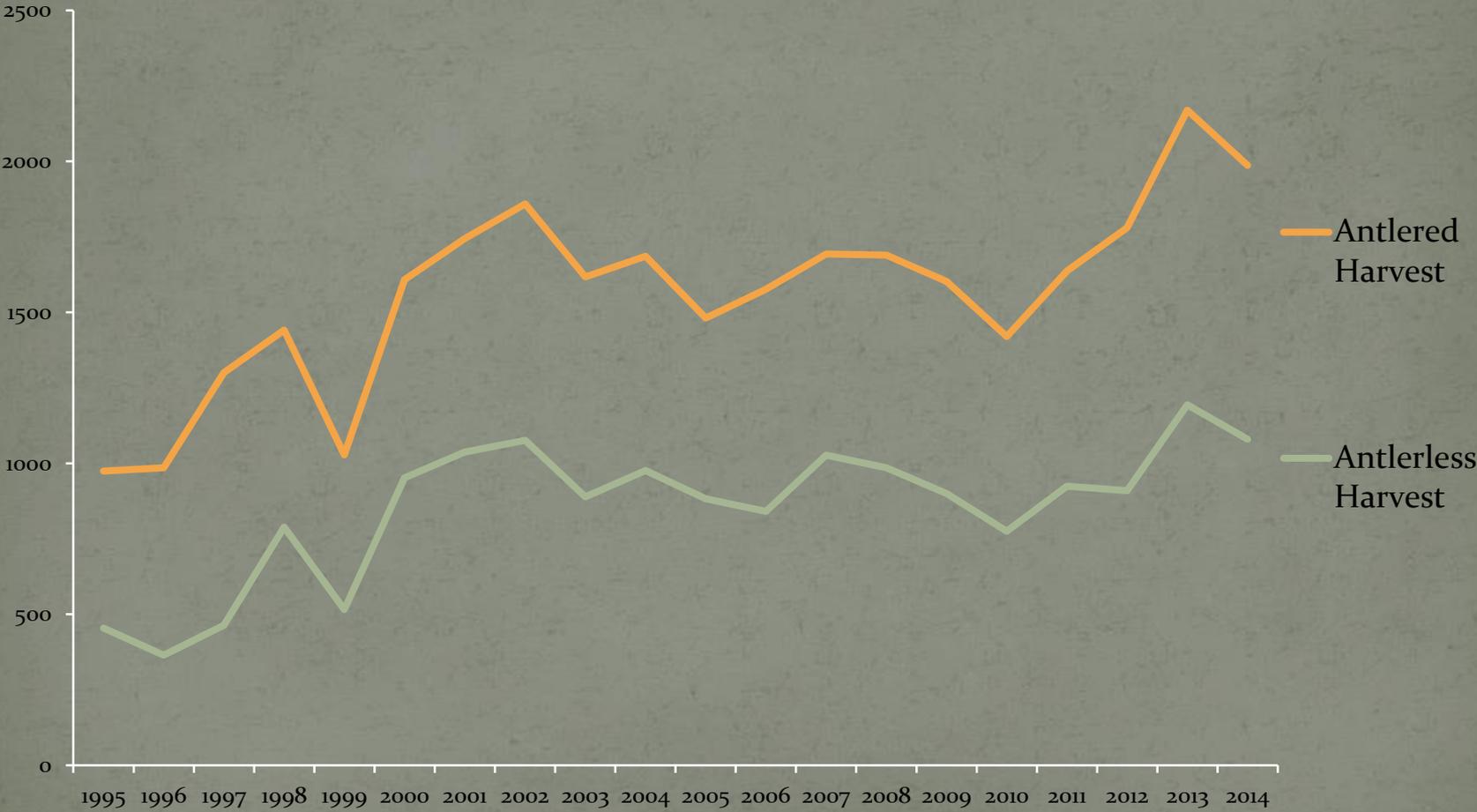
- Factors that go into model
- County Harvest
- Subsample of age and sex information
- Non-compliance
- Reproductive rate of females

Nelson County Deer Harvest



Zone reduced in 2010 and increased in 2015

Nelson Co Antlered and Antlerless Deer Harvest



Has the harvest proportion changed?

- Statewide

- 2009

- Female harvest
 - 88% Resident
 - 12 % NR
- Male harvest
 - 88% Resident
 - 12 % NR

- Nelson Co

- 2009

- Female harvest
 - 90% Resident
 - 10 % NR
- Male harvest
 - 90% Resident
 - 10 % NR

Resident vs Non-Resident Harvest

- Statewide Harvest

- 2014

- Female harvest
 - 88% Resident
 - 11 % NR

- Male harvest
 - 87% Resident
 - 13 % NR

- Nelson Co

- 2014

- Female harvest
 - 90% Resident
 - 10 % NR

- Male harvest
 - 89% Resident
 - 11 % NR

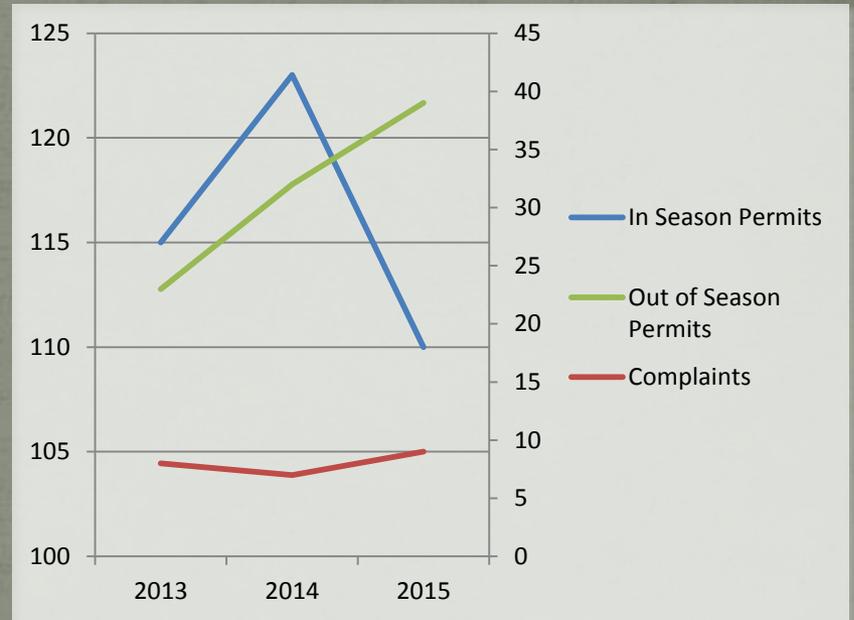
Nelson Co Review

- Population estimates had been high in 2000's
- Significant EHD/BTV outbreaks in 2007 and 2010
- Reduced from a zone 1 to a zone 2 in 2010
 - Reduction due to EHD outbreak and population decline
- Harvest has rebounded and has exceeded mid 2000's levels
- County population estimate has rebounded to mid 2000's levels

Anecdotal Information

- Deer-vehicle collision numbers have been steadily increasing since the zone reduction in 2010
- Reports from staff indicating hunters are seeing plenty of deer

- Damage Complaints



How does a change become implemented?

- Deer program reviews data after hunting season
- Deer program conducts regional meetings with Wildlife and LE staff to get input
- Summarize any and all public input
- Deer advisory counsel reviews all potential deer changes
- Counsel creates an approved list of changes submitted to the Wildlife Director
- Wildlife Director meetings with KDFWR executive staff to present changes
- Approved changes are submitted to the KDFWR Commission in November to the wildlife committee
 - Wildlife committee passes or tables items to the full commission meeting
- Full Commission in meeting in December discusses all items for final passage
 - Vote for approval
- Passed items are submitted for regulation incorporation and a final comment period

Aldo Leopold



- Father of wildlife management
- “The real problem is not how we shall handle the deer. The real problem is one of human management. Wildlife management is comparatively easy; human management is difficult.” March 1943

Questions?



Gabe Jenkins
800-858-1549
Gabriel.Jenkins@ky.gov

