

Harvest and Survival Rates of Gobblers in NY, OH, and PA



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Cooperators

- NWTF – provided funding, technical assistance
 - USGS – experimental design, maintained database, handled hunter harvest reports, data analysis
 - State agencies – capture and banding
 - NWTF – state and local chapters assisted with capture efforts
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Objectives

- Estimate
 - Spring harvest rate
 - Annual survival
 - Band reporting rate
 - Identify spatial, temporal, and demographic factors related to harvest and survival
- Estimate retention of butt-end bands

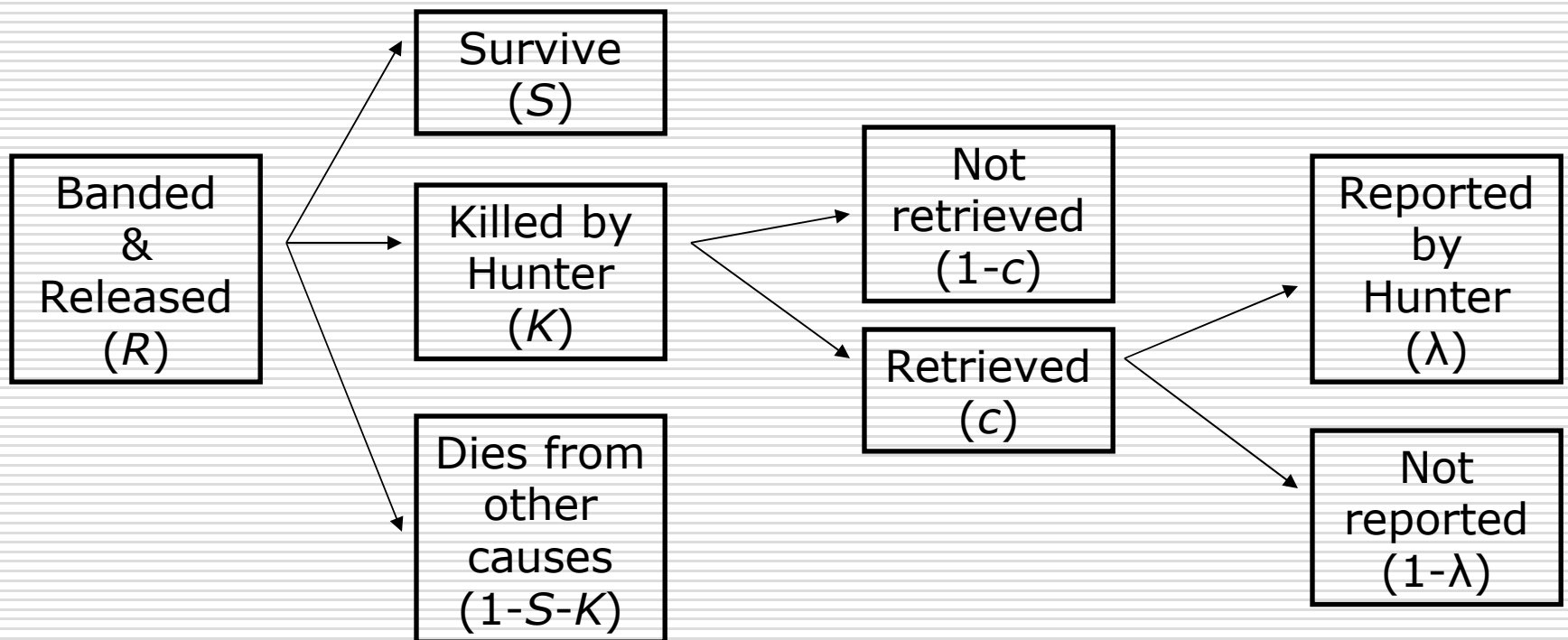


Study Design

- Band recovery design
 - Reward and regular bands to estimate harvest rate and reporting rate
- Rivet bands to ensure no band loss and assess butt-end band retention

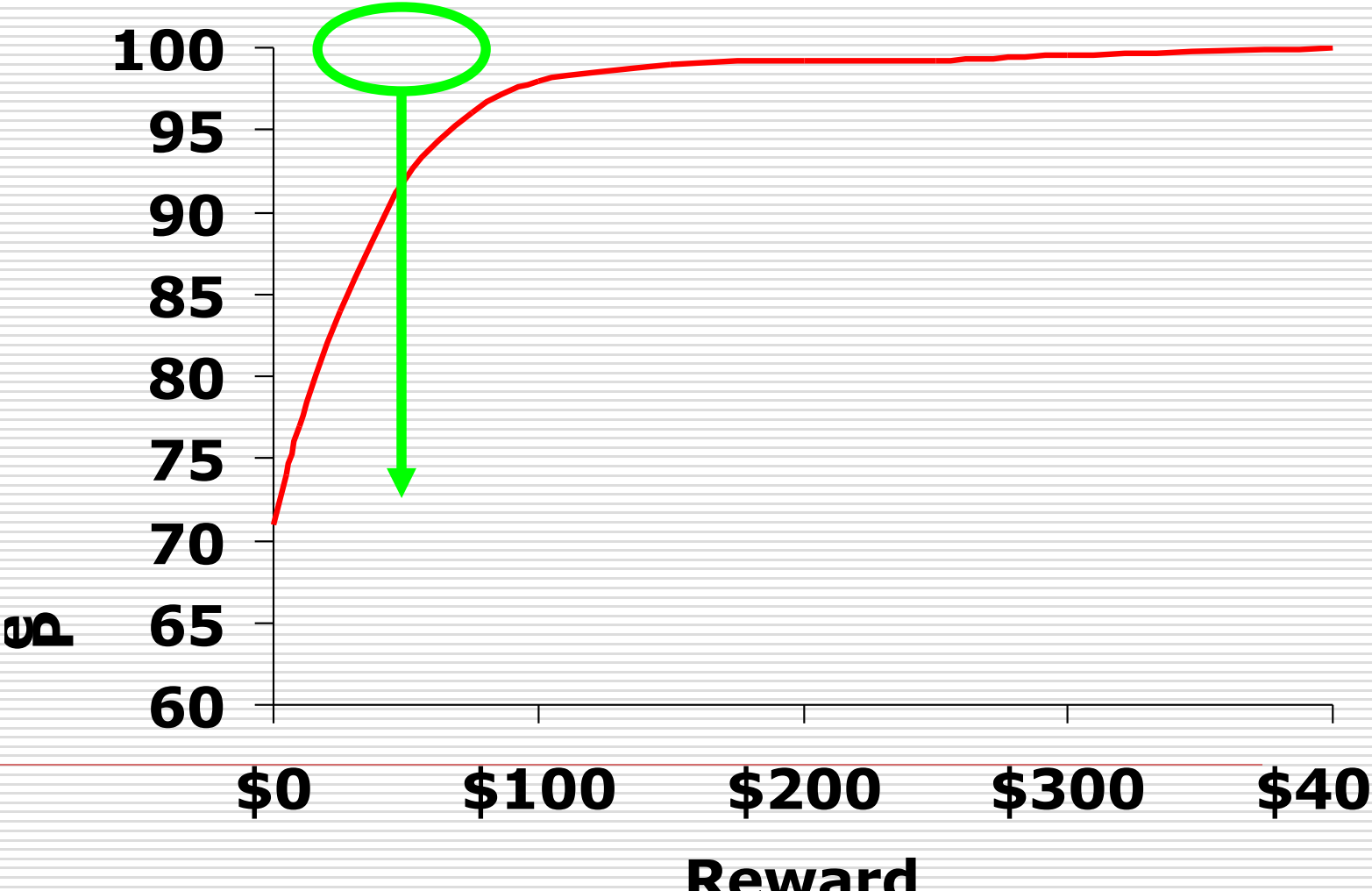


Why Reward Bands?



Recovery rate = $f = Kc\lambda$
If $\lambda=1$, $f=Kc = H$ = harvest rate

Hunter Reporting vs Reward \$\$



Study Design

- ❑ Birds trapped across 3 states
- ❑ 300 birds per state per year
- ❑ Birds banded over 4 years - 2006-2009



Model variables

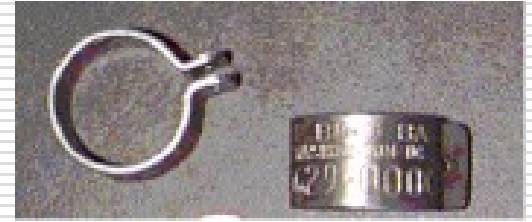
- Age (adult, juvenile)
 - Reward (\$100=100% reporting, \$0 <100%)
 - State (NY, OH, PA)
 - Year (2006-09)
 - Physiographic region (6 in NY, 4 in OH, 5 in PA)
 - Landscape variables (forest cover, forest patch size, interspersion index, public land)
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Study Design

- Estimating Band Loss Rates
 - 4 types of butt-end bands
 - Aluminum
 - Aluminum – anodized
 - Aluminum – enameled
 - Stainless steel



Study Design

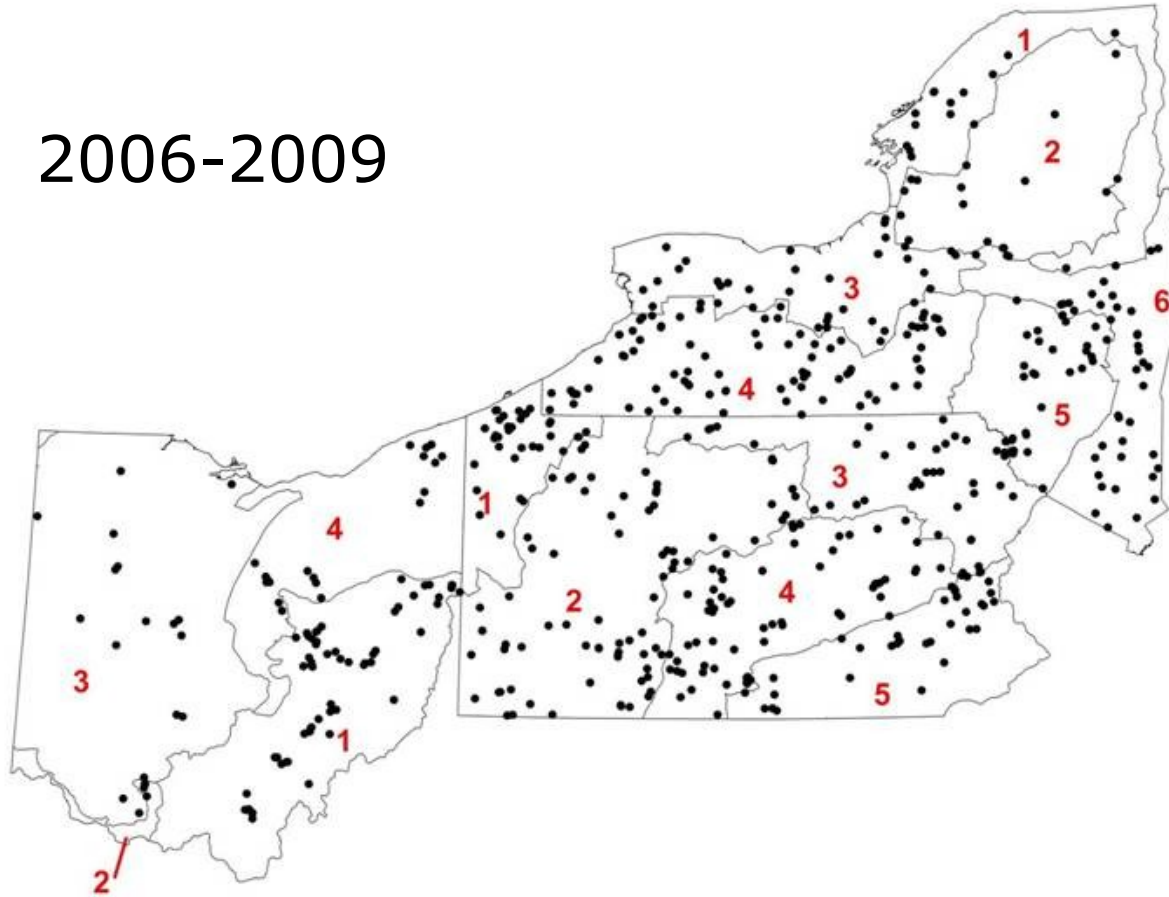


- Rivet bands assumed to have no loss



Banding Locations

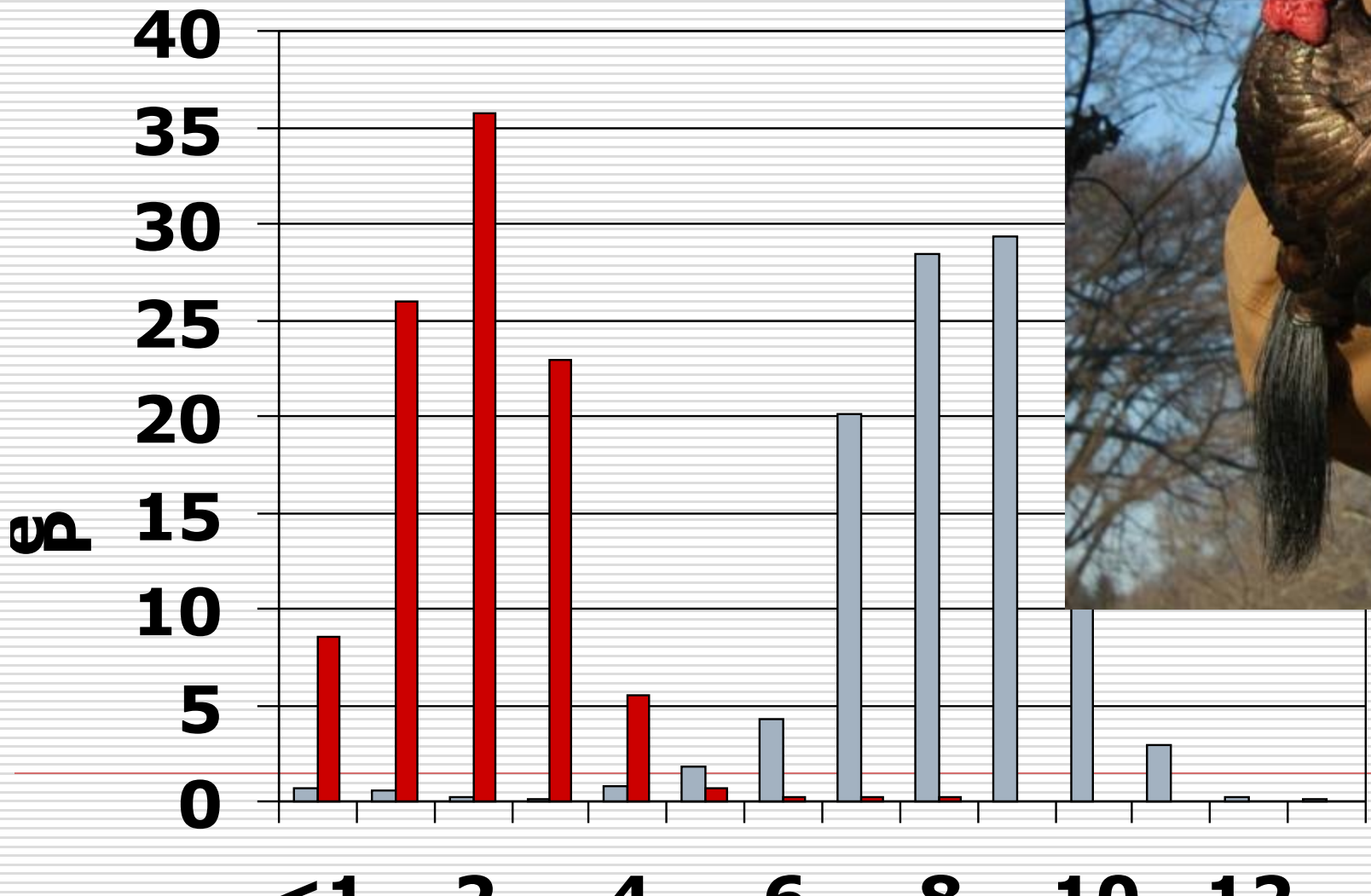
2006-2009



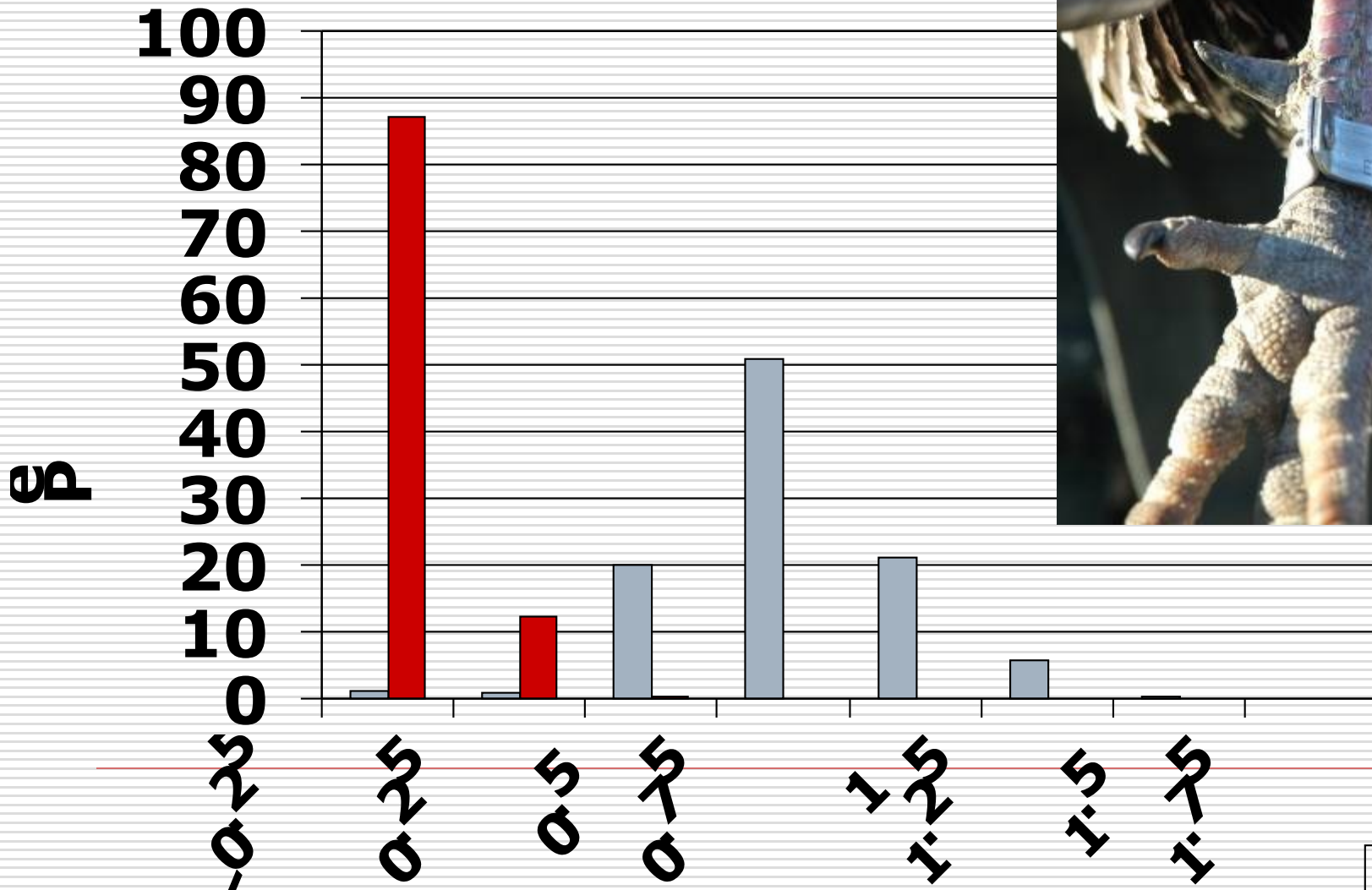
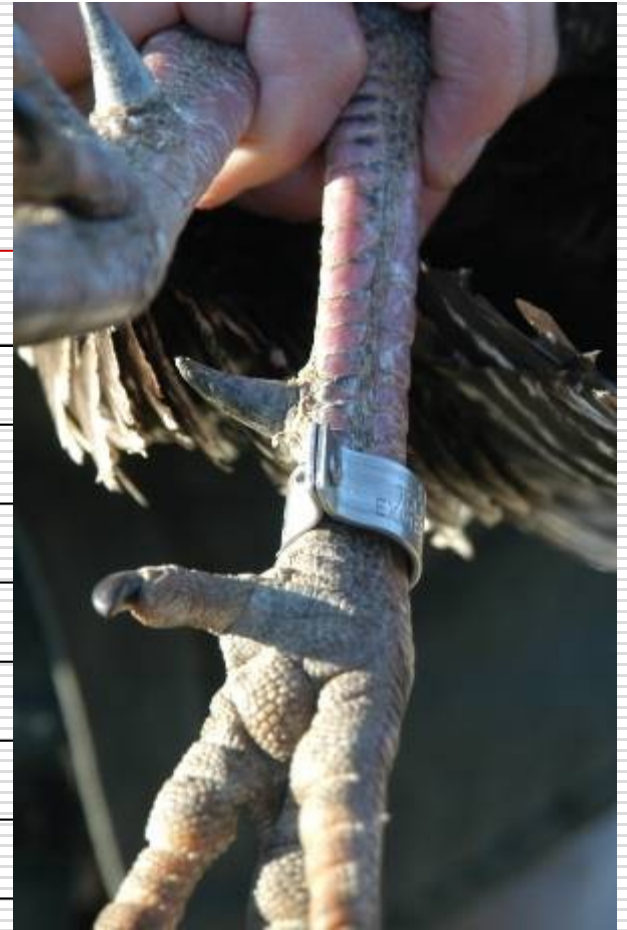
Four Years of Banding 2006-09

	2006	2007	2008	2009	Total
NY	297	383	353	300	1,333
OH	167	274	224	0	665
PA	246	334	332	358	1,270
Total	710	991	909	658	3,268

Beard Length



Spur Length



Adult

Band Loss

- ❑ 887 turkeys recovered 31-570 days after banding
 - ❑ Stainless (SS) bands were retained better than aluminum (Al)
 - ❑ Adults more likely to lose bands
 - ❑ Overall band loss of both Al and SS unacceptable
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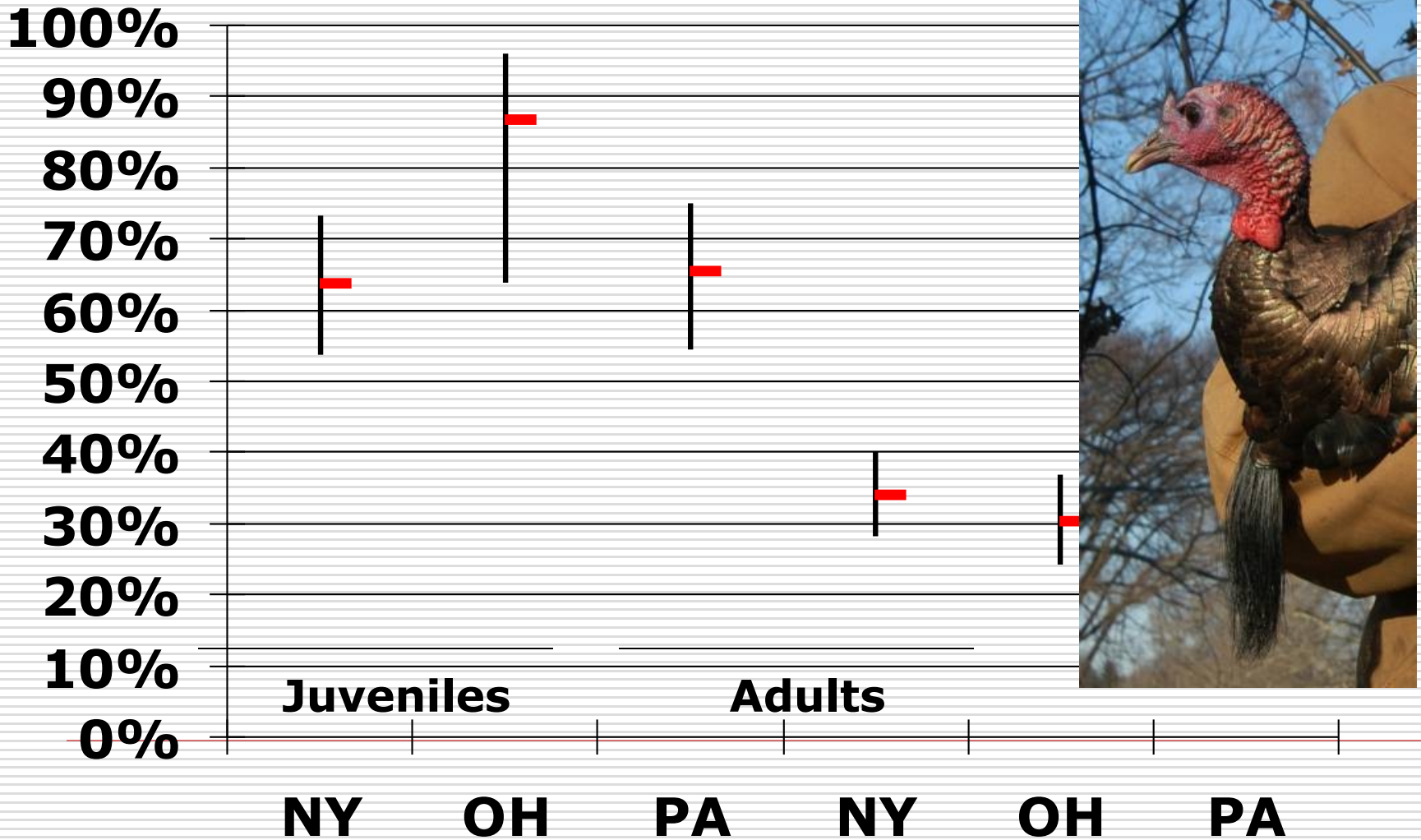
Butt-end Band Retention Rates

Age	Type	n	3 mo	9 mo	19 mo
Ad	AI	375	79%	45%	6%
Ad	SS	122	92%	71%	16%
Juv	AI	300	87%	58%	10%
Juv	SS	90	96%	81%	25%

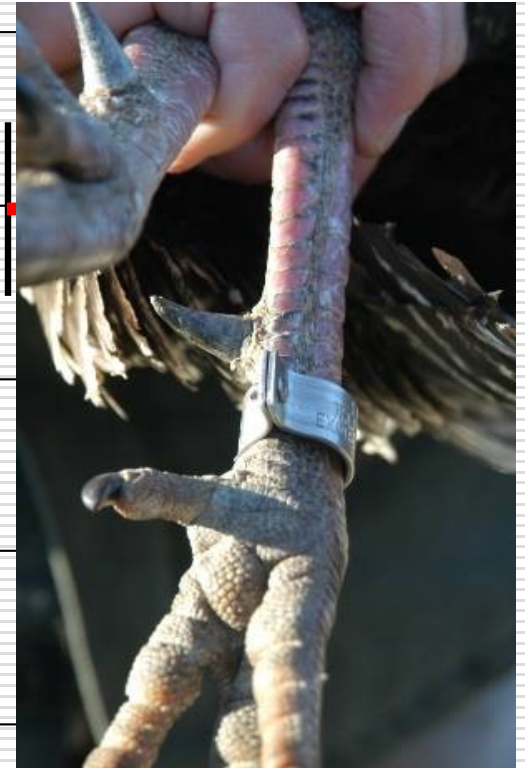
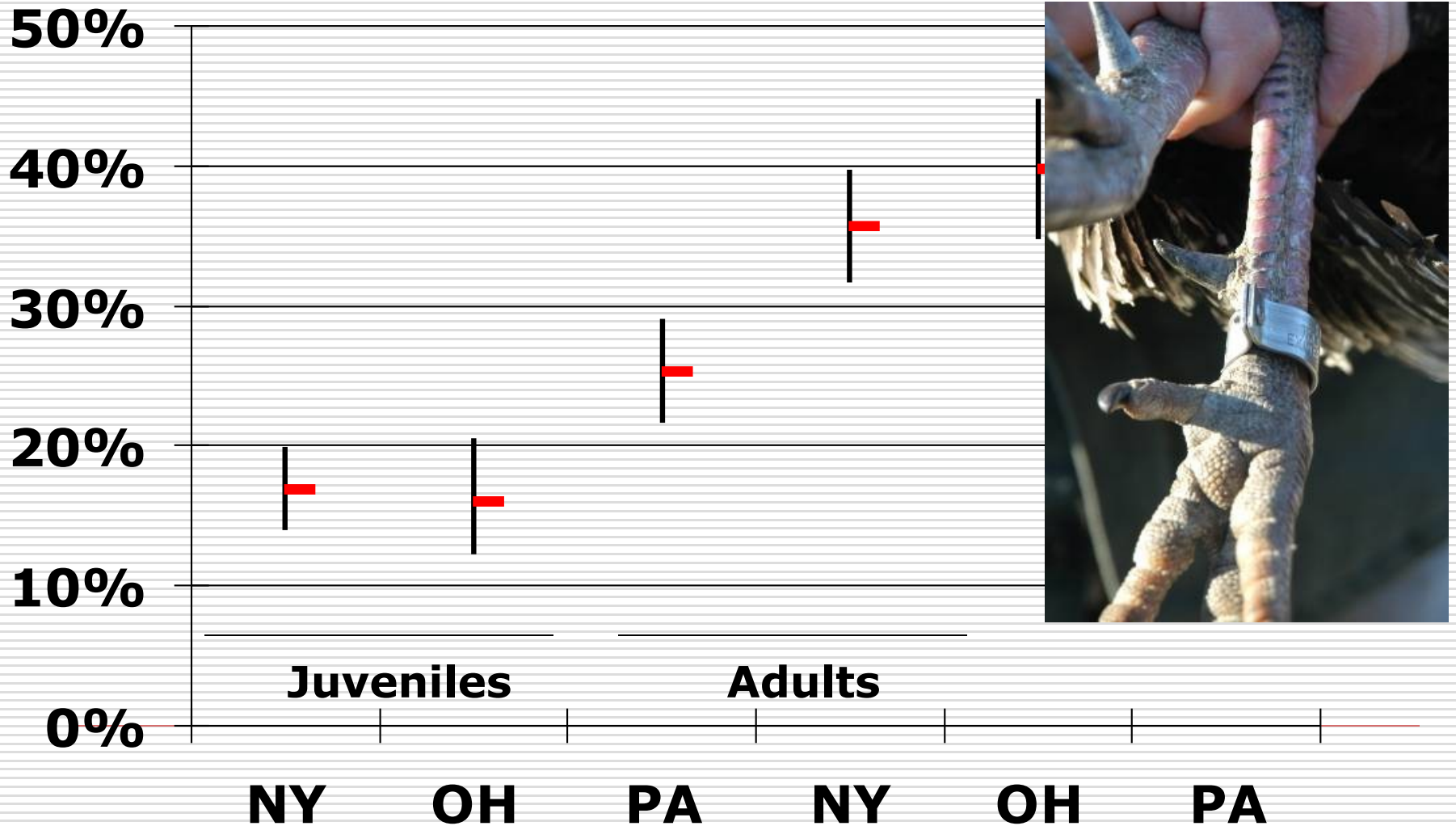
Harvest and Survival Rates

- Survival and harvest rates differed between age classes and among states
 - Little evidence for variation over time
 - Some evidence for spatial variation
 - No landscape factors correlated with harvest or survival rates
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Annual Survival



Spring Harvest Rates



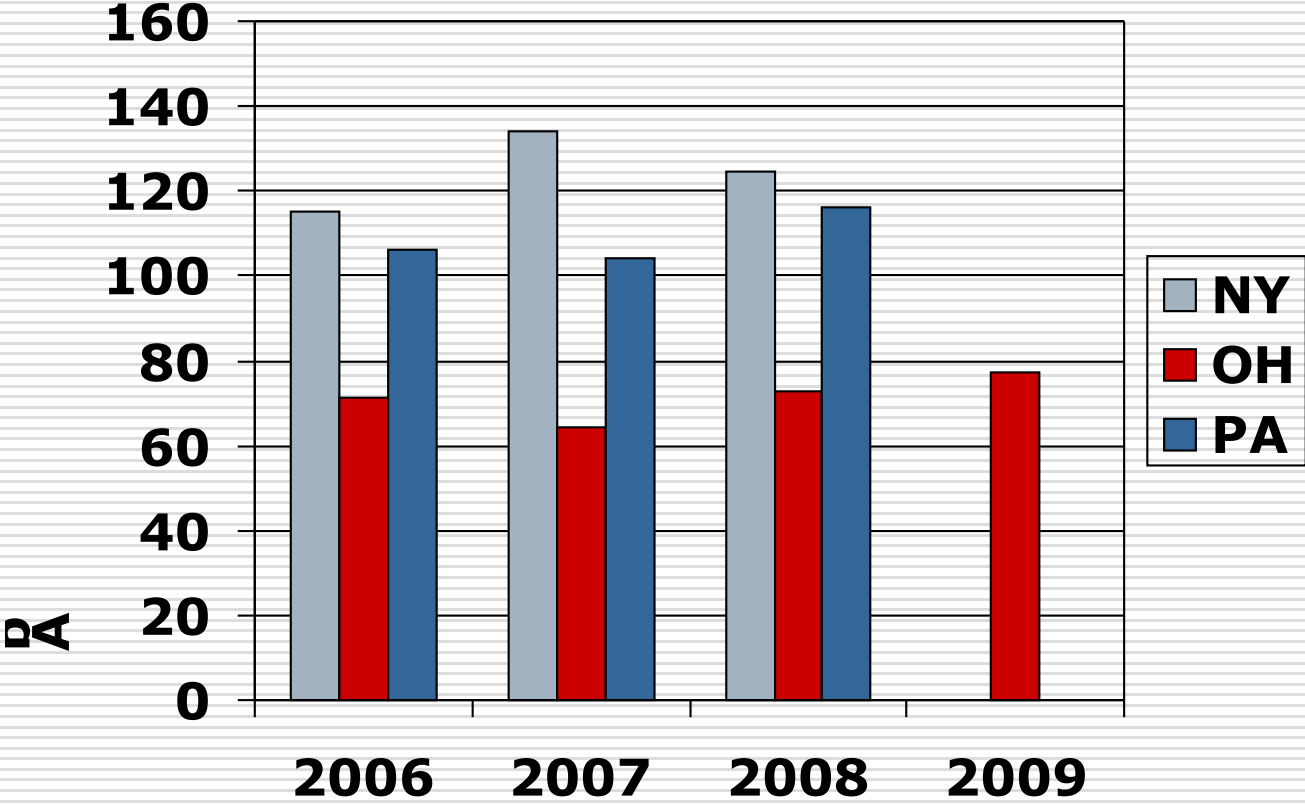
Band Reporting Rates

- 82% - did not vary by:
 - Age of bird
 - Location
 - Year

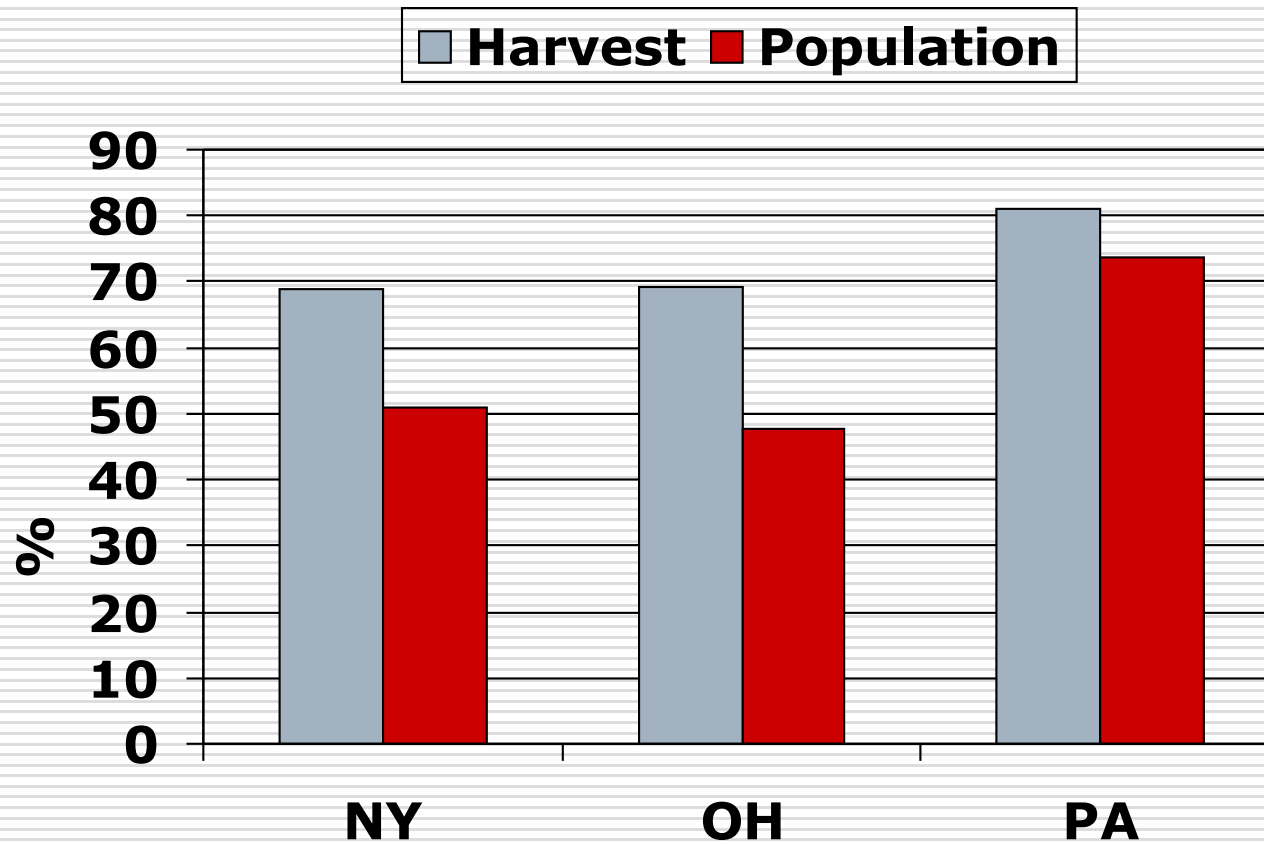
- 71% Ring-necked pheasants in PA
- 38% Mallard drakes (by mail)
- 73% Geese (by phone)



Population Size



Age Structure 2008



In Summary

- ❑ Band reporting rates are high (>80%)
- ❑ Survival of juveniles is twice that of adults
- ❑ Harvest rates of adults > juveniles
- ❑ “Nonhunting” mortality of adults >> juveniles

