# Experiences in northern bobwhite propagation and translocation in Ohio, 1978-2012

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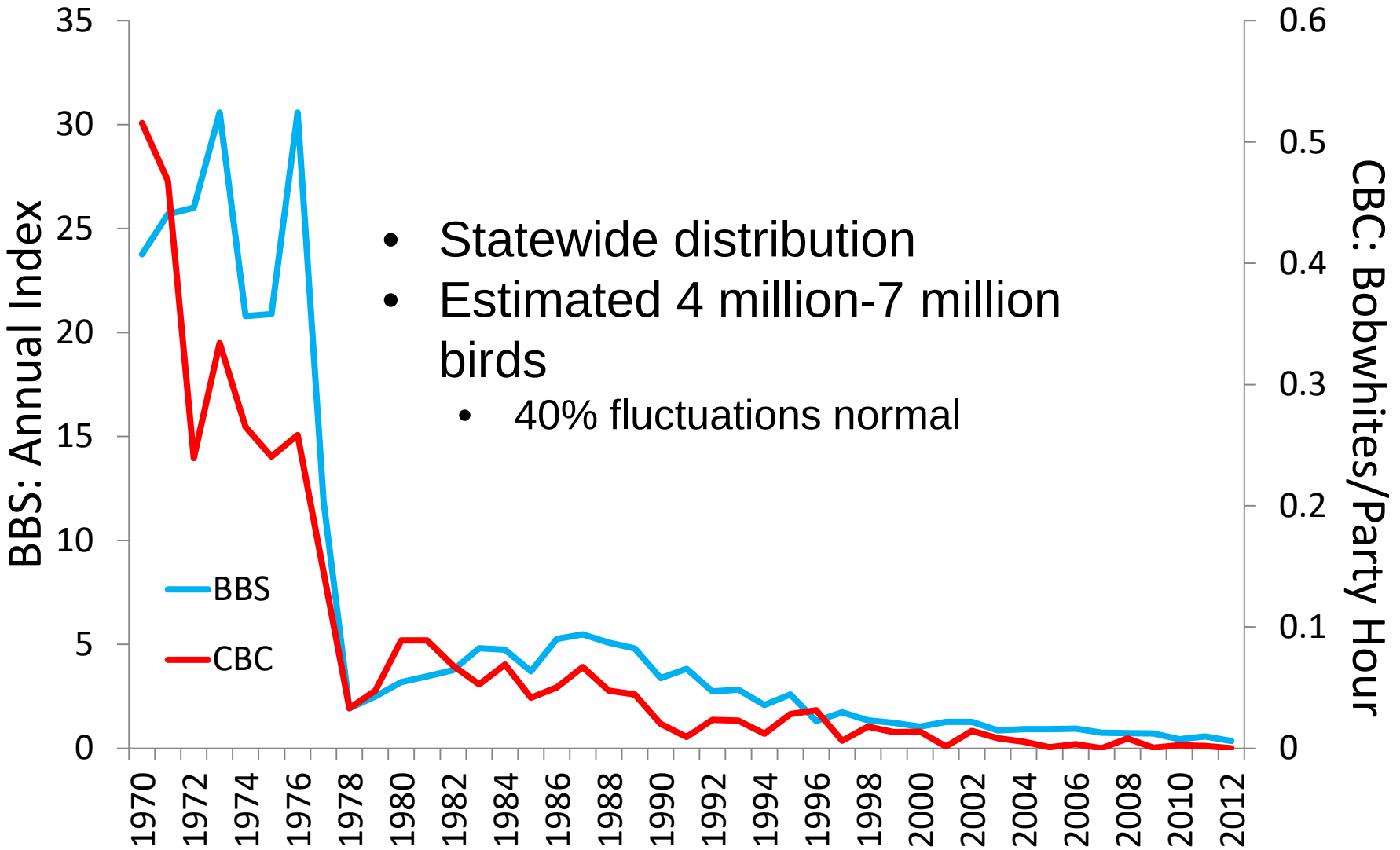
# Prior to 1977



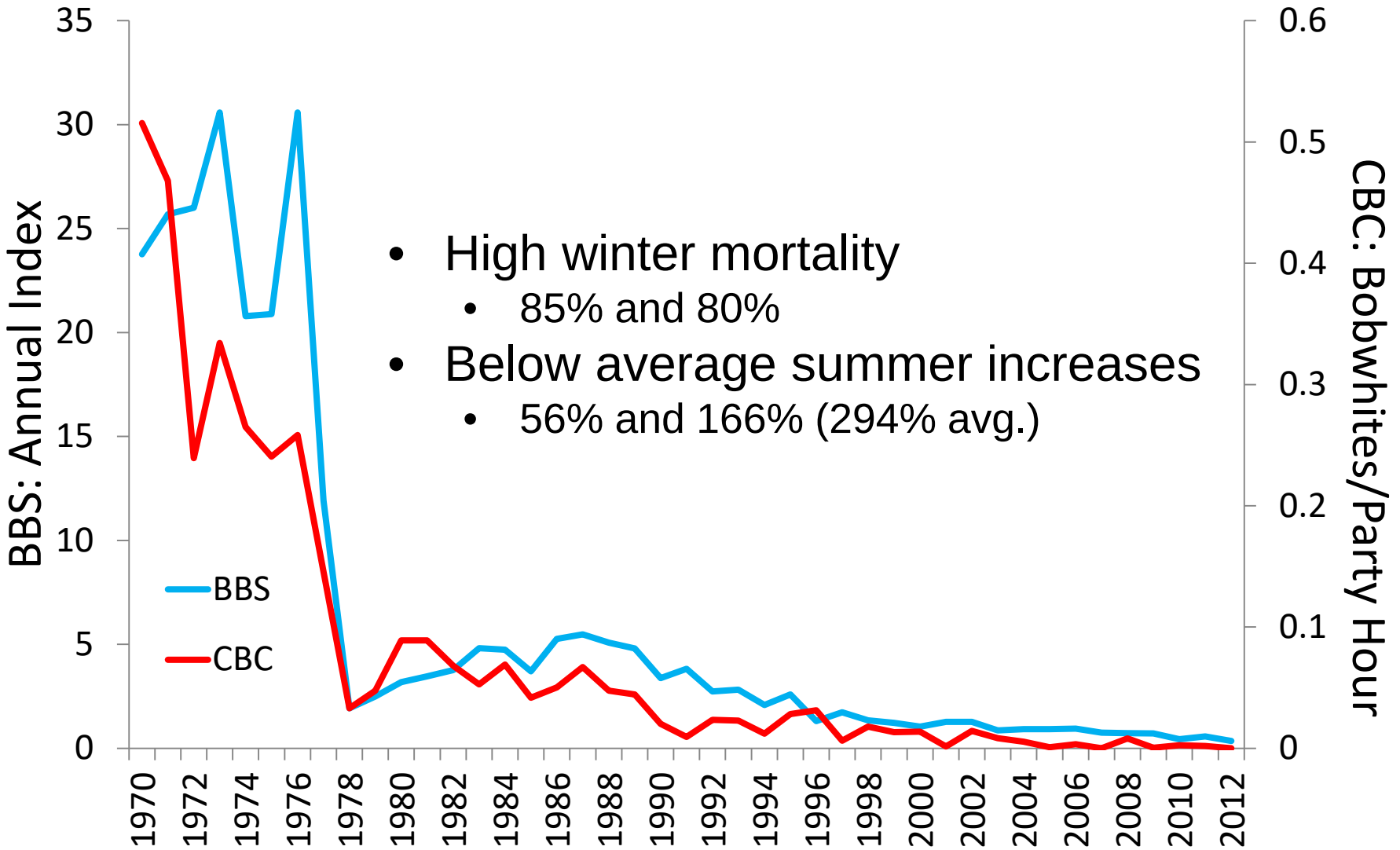

- Statewide distribution
- Estimated 4 million-7 million birds
  - 40% fluctuations normal

# 1977-1978


Marion Co. Ohio, 1978
Photo courtesy of Marion Historical Society

BBS: Annual Index
CBC: Bobwhites/Party Hour
BBS
CBC
35
30
25
20
15
10
5
0
0.6
0.5
0.4
0.3
0.2
0.1
0
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012

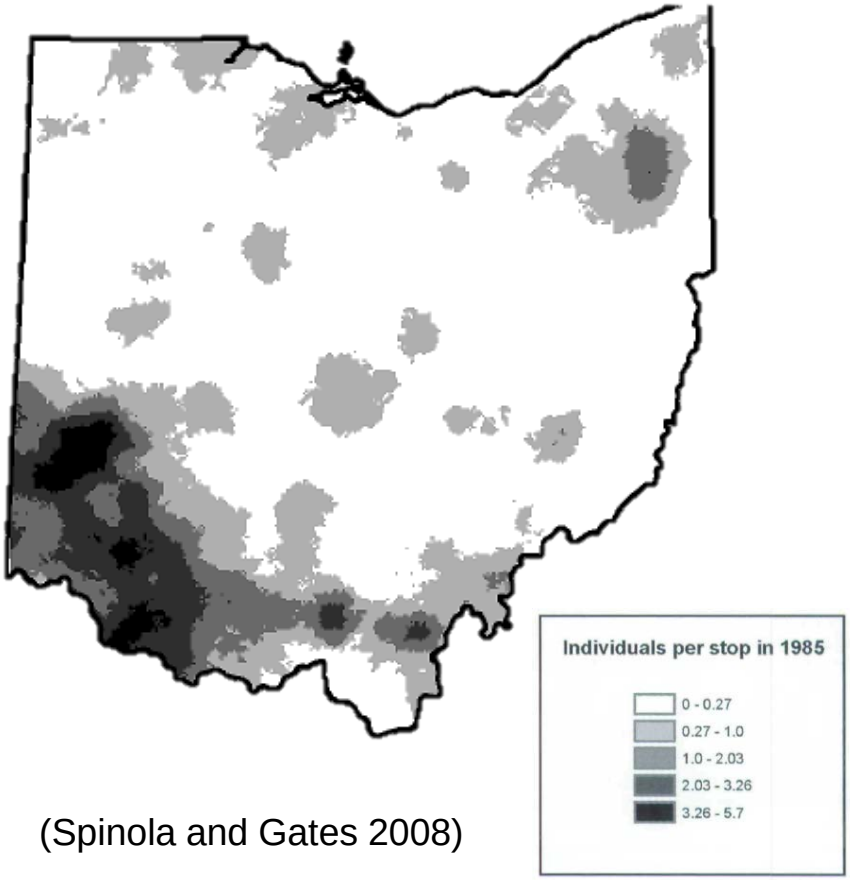
# 1977-1978




- High winter mortality
  - 85% and 80%
- Below average summer increases
  - 56% and 166% (294% avg.)

# Fall 1978

- Estimated 430,000 birds
  - 90% below 17-year mean
  - Severe losses in northern counties
- Sufficient habitat for 4 million birds
- 20-30 years for recovery without intervention
- Hunting season closed
- Develop strategy to expedite recovery




(Spinola and Gates 2008)

# Fall 1978

- Wild translocation preferred
  - Economic and logistic impracticality
- F1 propagation
  - Produced in large quantities
  - Near-wild
    - Innately determined attributes
  - F1 survive longer than commercial stock
    - 41 days compared to 8 days (Backs 1982)

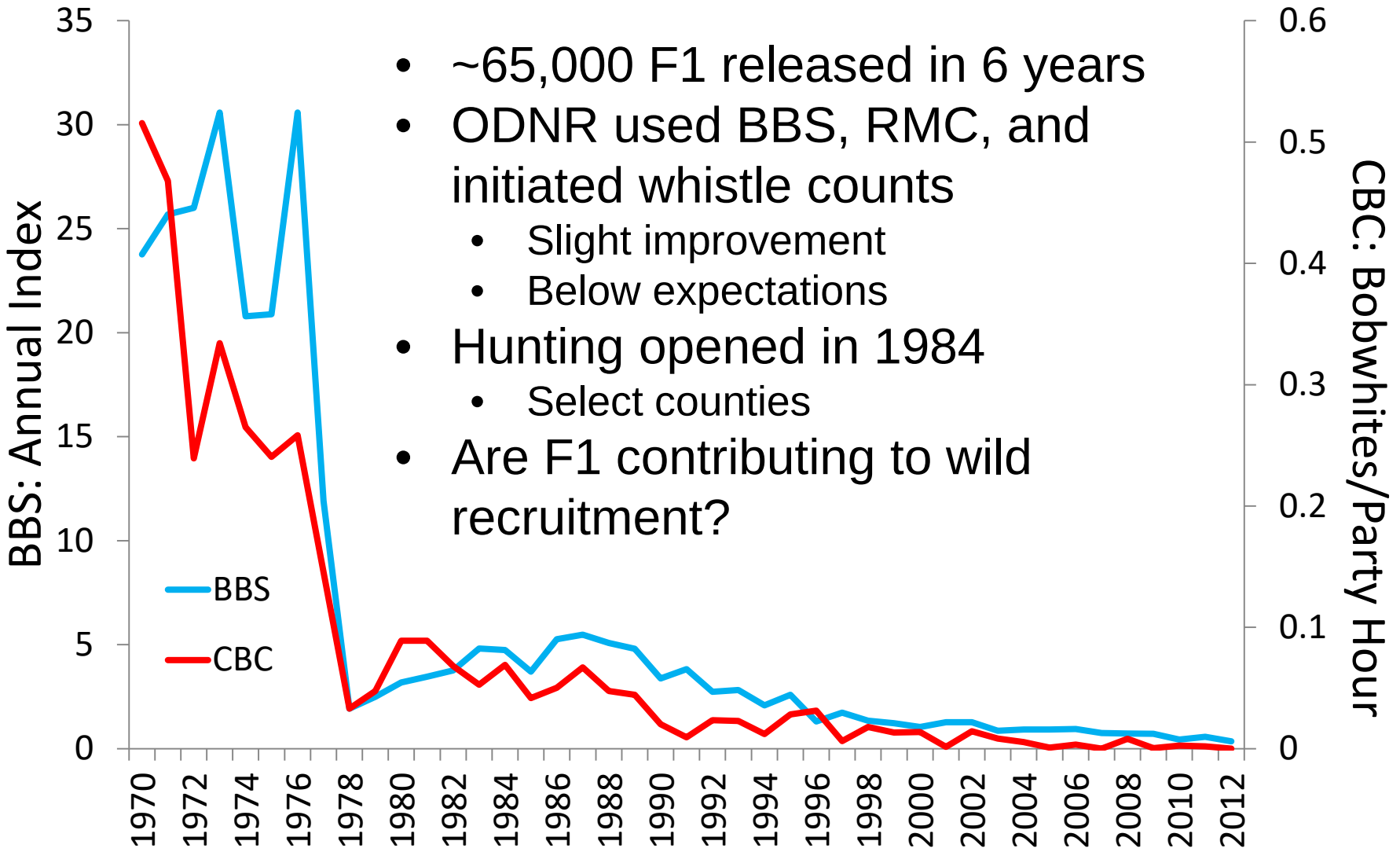
# Winter 1978, F1 Project

- 378 wild bobwhite caught
  - Supplemented in later years
- Laying stimulated with lights
- Hatched in incubator
- Chicks in brood pens to 4 weeks
- Outdoor flight-conditioning pens at 10 weeks
- Human contact minimized

# 1979-1985, F1 Project

- Produced ~10,000 F1 annually
- Released in late-winter
  - Surplus birds in fall
- 20-bird groups
  - 1:1 sex ratio
- All 88 counties
  - Areas with suitable habitat

# 1979-1985, F1 Project




- ~65,000 F1 released in 6 years
- ODNR used BBS, RMC, and initiated whistle counts
  - Slight improvement
  - Below expectations
- Hunting opened in 1984
  - Select counties
- Are F1 contributing to wild recruitment?

# 1984-1986, F1 Evaluation

- Henry and Shipley (1989) initiated a 2-year telemetry study of wild and F1 hens released fall and spring
  - Found no difference in movement
  - High post-release mortality for F1 and fall-released wild (~50%)
  - Low post-release mortality for spring-released wild (20%)
  - Nest initiation only in spring-released hens
  - Only spring-released wild hens successfully raised broods
  - F1 were less wary, easily approached, short escape flights followed by vocalization for ~3 weeks post-release
- Concluded late spring translocation of wild bobwhite holds greatest potential for success
- Minimum stocking rates?

# 1989-1997, Stocking Rates

- Henry (1993) used stochastic modeling to estimate minimum stocking rate
  - Used survival and reproductive parameters determined by Henry and Shipley (1989)
  - Suggested >80 birds (1:1 sex ratio)
- Henry initiated a study with releases of 40, 80, and 120
  - Insufficient numbers captured 1995-1997
  - 170 bobwhites translocated
  - Whistle count data is incomplete, but no evidence of successful establishment
- Given difficulties trapping within Ohio, Traylor (1997) suggested ODNR seek out-of-state sources

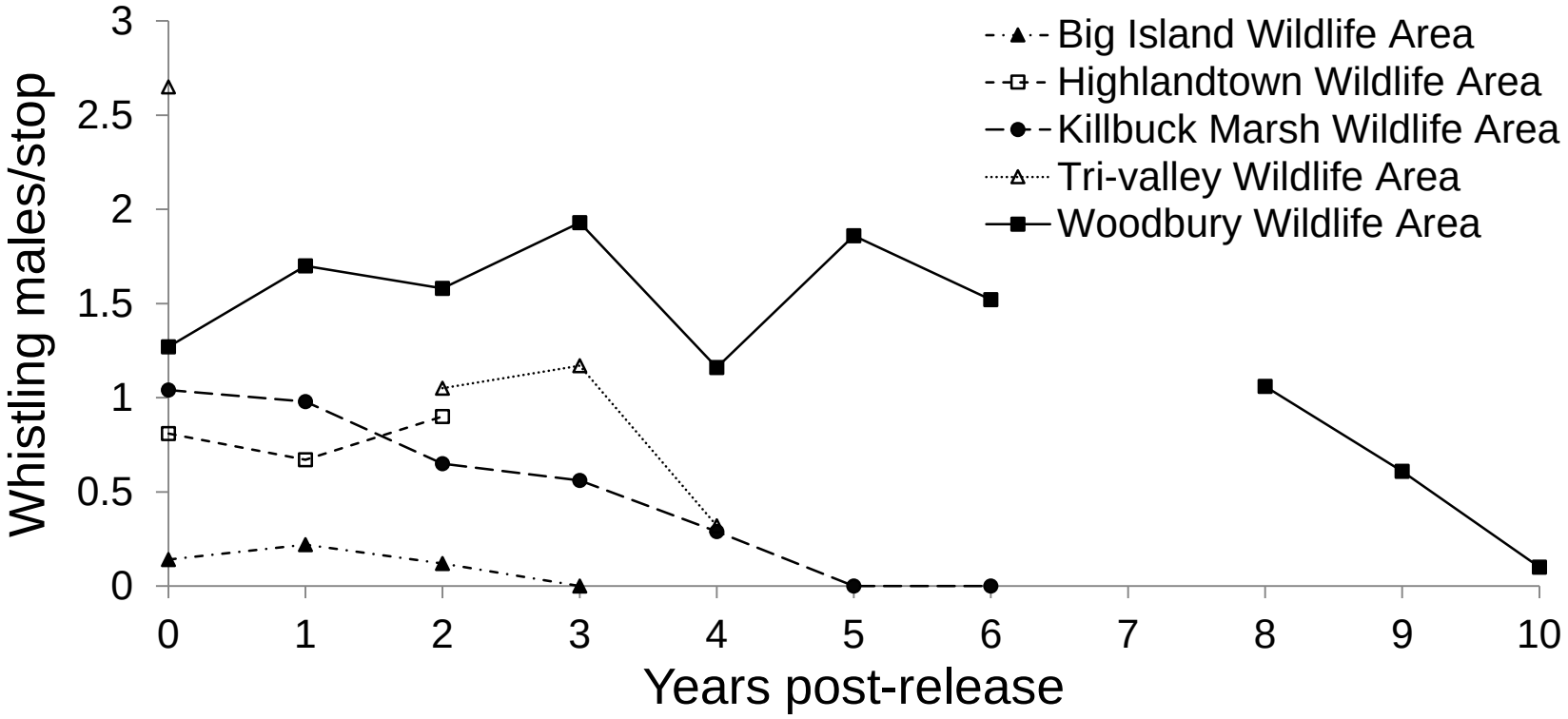
# 1997-2012, Kansas Translocation

- Kansas Dept. of Wildlife and Parks (KDWP) agreed to supply ODNR with 250 wild bobwhites annually during 1998-2000 and 2005-2008
  - Winter trapping for late-winter release
  - Birds were held for up to 4 weeks until sufficient numbers caught
  - Flown to Ohio for release on State Wildlife Areas

| Year | Release Site | Area (ha) | No. released |
|---|---|---|---|
| 1998 | Woodbury | 7,789 | 155 |
| 1999 | Big Island | 2,376 | 180 |
| 2000 | Killbuck Marsh | 2,295 | 163 |
| 2005, 2006 | Tri-Valley | 6,144 | ~250 |
| 2007, 2009 | Highlandtown | 917 | ~200 |

# 1997-2012, Kansas Translocation

- Whistle counts and brood surveys established
  - Initial results positive
    - Reproduction and expansion
  - Declines occurred beyond year 3
    - Often associated with moderately severe winters



# 2002-2012, In-state Translocation

- Initial success of KS birds prompted in-state effort
- Wild bobwhites trapped in SW
  - Winter trapping for late-winter release
  - Held in captivity until sufficient number caught
- >795 birds total
  - >90 bobwhites per site
- 9 private release sites met habitat criteria
- Whistle counts and brood observations

# 2002-2012, In-state Translocation

- Initial releases in Shelby and Darke counties showed positive results
  - Whistling increased, broods observed
- Results on other sites were poor
- No detections in 2011
- Surveys discontinued in 2012 (KS and D5)

Table 1. Mean number of whistling northern bobwhite males heard per stop at release sites in years following initial release of wild-caught northern bobwhite from southern Ohio, USA, 2002–2012. '—' indicates route was not run.

| Release site | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SHEL1 | 0.70 | 1.30 | 2.41 | 3.26 | 2.25 | 0.86 | 2.17 | 2.73 | 1.80 | 0.00 | 0.00 |
| DARK1 | | 0.33 | 0.63 | 0.40 | 1.27 | 0.70 | 0.78 | 0.56 | 0.27 | — | 0.02 |
| MIAM1 | | | 0.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| SHEL2 | | | | 0.42 | 0.25 | 0.14 | 0.12 | 0.06 | 0.03 | — | 0.00 |
| CLAR1 | | | | | 0.70 | 0.48 | 0.11 | 0.04 | 0.07 | 0.00 | 0.00 |
| CLAR2 | | | | | | 0.30 | 0.04 | 0.07 | 0.00 | 0.00 | 0.00 |
| DARK2 | | | | | | | 1.00 | 0.13 | 0.00 | — | 0.00 |
| SHEL3 | | | | | | | | | 0.00 | 0.00 | 0.00 |
| MIAM2 | | | | | | | | | | 0.00 | 0.03 |

# Summary

- No evidence F1 or translocated bobwhites persist
- Efforts likely produced small, isolated populations
  - Vulnerable
    - Inclement weather
  - Emigration a concern
- Wild translocation offers the greatest potential for success
  - Minimum stocking?
  - Supplemental stocking?
- Population monitoring for >10 years

# Literature Cited


- Backs, S. E. 1982. An evaluation of releasing first generation (F1) bobwhite quail produced from wild stock. Pittman Robertson Bulletin 14, Indiana Department of Natural Resources. Indianapolis, IN
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