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| 980 | Title A summary assessment of the 2005-2008 fall turkey hunting seasons. | 8/27/2009 |

Abstract: Harvest data from 4 seasons of fall turkey hunting (2005-2008) were summarized as an assessment of potential impacts on subsequent spring harvests, fall hunter participation, and relative hunter success in Indiana. As expected, fall harvests were relatively low and hunter participation declined after the initial implementation, with a slight increase related to expansion of the fall hunting range in 2008. The proportion of the fall to spring harvest was consistently around 5% statewide while individual county fall:spring harvest ratios ranged from 0-18%. The majority (77%) of the fall harvest occurred during the combined archery-firearm portion of the season with 38% occurring on the last weekend of the combined archery-firearm portion. Hunters who specifically bought a fall turkey license (resident & nonresident) accounted for approximately 23% of the annual fall harvests. Approximately 15,000 hunters participated in the 2006 fall turkey season; 68% hunting during the archery only portion and 57% hunting the 5-day combined archery/shotgun portion. Hunter success in 2006 was estimated at 1.7% for archers and 5.6% for shotgun hunters.

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The original assessment of fall turkey options for Indiana (Backs 1994) was used for developing and implementing a fall turkey season in Indiana. In 2005, a very conservative fall season structure was adopted using criteria pertaining to spring harvest levels, percent forest cover, restoration status, and individual county proximity to other counties meeting the criteria. Additional restrictions limited the bag limit to one bird either sex, season length, and equipment used (archery or shotgun). One objective of implementing a conservative harvest strategy was to conduct a 3-5 year assessment of fall harvests, potential impacts on subsequent spring harvests, hunter participation, and relative hunter success under our permit structure while monitoring trends in wild turkey population indices. Four years of fall turkey hunting (2005-2008) provided data under the license structure, turkey population levels, landscape and other competing fall recreation traditions in Indiana.

The fall season structure included an archery portion (14-18 days) that extended from October 1 up to the first Wednesday after October 14 followed by a 5-day combined archery-firearm (shotgun only) portion of the season. The bag limit was 1 bird of either sex per hunter per fall season regardless of what portion hunted or hunting equipment used. Counties open to archery-only and archery-firearm were determined annually based on prior the prior springs' harvests and designated annually by temporary administrative rule. Harvest results for the 2005 to 2008 fall turkey seasons were summarized by hunting equipment used, portion of the season (archery/firearms), day of the season, permit type, sex and age structure, and individual county harvests (Backs 2006, 2007, 2008a, 2009a). Fall hunting participation by permit type, portion of season hunted, and hunter success were estimated for the 2006 fall season through the 2007 turkey hunter questionnaire (Backs 2009b). A summation of the 2005-2008 harvests with 4-season mean values is presented in **Table 1; Figures 1, 2, and 3.**

As expected, fall harvests were relatively low and hunter participation declined after the initial implementation, with a slight increase related to expansion of the fall hunting range in 2008 (e.g., resident fall permit trends). The proportion of the fall to spring harvest was consistently around 5% statewide, 10x's lower than the theoretical maximum 50% ratio based on harvest/population simulation modeling studies conducted by researchers in other states. The individual county fall:spring harvest proportions ranged as high as 18% but this generally occurred in archery only counties where spring harvests were low (< 10 birds) and the fall harvest was equally low (< 1 bird); e.g., 2007 Huntington Co., fall archery harvest 3 birds to 17 birds taken in the spring equals 17.6%.

The majority (77%) of the fall harvest occurred during the combined archery/firearm portion of the season with 38% occurring on the last weekend of the combined archery/firearm portion. Shotgun hunters accounted for 67% of the

total harvest with 33% taken by archers. The sex and age structure was skewed strongly towards adults of both sexes (75%) and gobblers (44%) which is not normally expected based on results of other states, except when summer production is low. Coincidental to the implementation of fall hunting in Indiana, summer production levels dropped from record high production in 2004 to a record low in 2005 and have remained below average since 2005 (Bucks 2008b). Another suspected factor was hunter selection for larger adult and/or male birds. Despite the low production during 2005-2008, spring harvests continued to remain high and spring hunter success remained at 21-22% (Bucks 2009c). Hunters who specifically bought a fall turkey license (resident & nonresident) accounted for approximately 23% of the annual fall harvests.

Based on 2007 turkey hunter questionnaire (Bucks 2009b; Table 1), approximately 15,000 hunters participated in the 2006 fall turkey season; 68% hunting during the archery only portion (17 days) and 57% hunting the 5-day combined archery/shotgun portion. Lifetime licensees accounted for 58% of the fall turkey hunters, resident fall turkey licensees 22%, youth 10%, exempt landowner/military 9%, and non-residents < 0.5%. The estimated archery hunter success was 1.7% (ibid; Table 2) and falls in line with the general $\leq 3\%$ reported by other states. The estimated shotgun hunter success was 5.6% (ibid; Table 3) which is lower than the 15-20% reported by other states, but was likely influenced by the short 5-day firearm's portion and general lack of Indiana hunter experience with fall hunting techniques.

The relatively low harvests, hunter participation, and hunter success under the current conservative fall season structure suggest the hunting range and the days of hunting opportunity could be expanded for both archery and firearms (shotgun) portions of the fall turkey season.

LITERATURE CITED

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Table 1. Indiana fall wild turkey season summary 2005 to 2008.

| | YEAR | | | | 4-Yr Means |
|---|--------|--------|--------|--------|------------|
| | 2005 | 2006 | 2007 | 2008 * | |
| Harvests | | | | | |
| Annual Harvest | 716 | 646 | 585 | 610 | 639 |
| Statewide Fall/Spring Harvest Ratio in % | 6% | 5% | 5% | 5% | 5% |
| County F:S Harvest Ratios (range of values) † | 0-15% | 0-17% | 0-18% | 0-11% | 0-18% |
| Chronology of Harvest | | | | | |
| Archery Only | 19% | 26% | 26% | 22% | 23% |
| Combined Archery-Firearm | 81% | 74% | 74% | 78% | 77% |
| All Weekends | 50% | 50% | 46% | 44% | 47% |
| Last Weekend (Archery-Firearm) | 40% | 37% | 36% | 38% | 38% |
| Hunting Equipment Used | | | | | |
| Archery | 24% | 36% | 35% | 28% | 31% |
| Crossbow | 2% | 2% | 2% | 4% | 3% |
| Shotgun (includes muzzleloader SG's) | 73% | 62% | 64% | 67% | 67% |
| Age Structure | | | | | |
| Juvenile:Adult | 1:3 | 1:4 | 1:3 | 1:3 | 1:3+ |
| % Adults both Sex | 79% | 74% | 73% | 75% | 75% |
| Adult Gobblers % | 40% | 32% | 31% | 28% | 33% |
| Juvenile Gobblers % | 12% | 9% | 18% | 8% | 12% |
| Gobblers % | 51% | 40% | 49% | 36% | 44% |
| Adult Hens % | 34% | 48% | 42% | 47% | 43% |
| Juvenile Hens % | 15% | 12% | 9% | 17% | 13% |
| Hens % | 49% | 60% | 51% | 64% | 56% |
| Harvest by Permit ‡ | | | | | |
| Resident Fall | 22% | 23% | 22% | 23% | 23% |
| No. Resident Fall Licenses Sold | 2,225 | 1,682 | 1,557 | 1,689 | 1,788 |
| Non-Resident Fall | 0% | 0% | 1% | 1% | ≤ 0.5% |
| NR Licenses Sold | 20 | 2 | 8 | 13 | 11 |
| Comprehensive Lifetime | 62% | 53% | 49% | 48% | 53% |
| Potential Lifetime | 43,028 | 43,028 | 43,028 | 43,028 | 43,028 |
| Youth | 5% | 7% | 9% | 12% | 8% |
| Youth Licenses Sold | 19,195 | 22,947 | 23,674 | 37,192 | 25,752 |
| Landowner | 11% | 10% | 9% | 12% | 11% |
| Total No Additional Annual permit | 78% | 70% | 67% | 72% | 72% |

Estimated Hunter Participation & Success for 2006 fall season from 2007 hunter questionnaire.

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|---|--------------|
| Estimated 2006 fall turkey hunters | 14,952 |
| Estimated hunters hunting archery only (%) | 10,168 (68%) |
| Estimated hunters hunting bow/gun portion (%) | 8,523 (32%) |
| Estimated archery success | 1.7% |
| Estimated firearm success | 5.6% |

* Gun range expanded to west central Indiana in 2008.

† High side of range related to low kill spring counties with archery only hunting, e.g., 1 fall /6 spring

‡ Estimated from check station and 2007 turkey hunter questionnaire data.

Fig. 1. Fall Wild Turkey Harvests

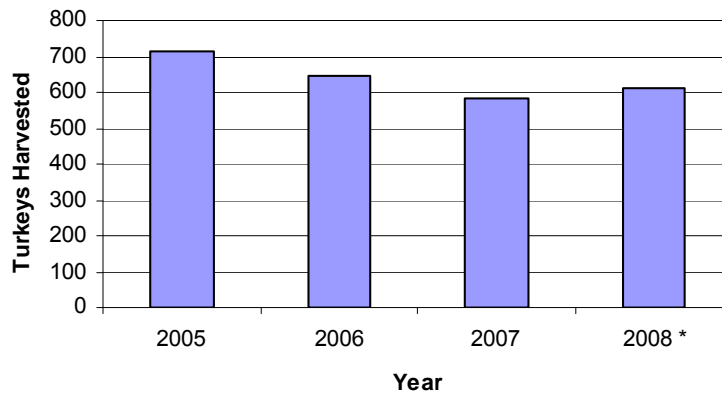


Fig 2. Resident Fall Turkey Licenses Sold

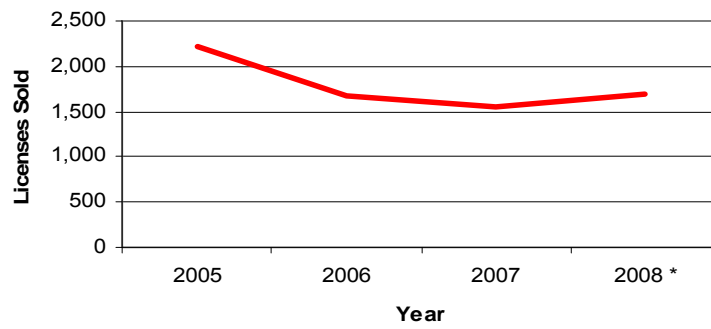


Fig. 3. Fall Harvest by Permit Type

