

RHODE ISLAND WILDLIFE INVESTIGATIONS

WILD TURKEY STATUS REPORT and

SPRING TURKEY HUNTER SURVEY 2006



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2006 Rhode Island Wild Turkey Status Report

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Introduction:

The return of the wild turkey from near extinction in the early 1900's is one of the most significant success stories in the history of wildlife management. Management of the wild turkey population is the responsibility of the RIDEM Division of Fish and Wildlife. The Department's objective for wild turkey management is to provide for sufficient populations to sustain a quality turkey-hunting season and otherwise provide turkey populations for the satisfaction and enjoyment of the general public. Effective management of this dynamic resource is dependent upon the availability of sound and reliable information to base management decisions on. This status report discusses the biological data gathered annually and spring turkey hunter survey results that support management decisions for the wild turkey hunting in Rhode Island. I would like to thank and acknowledge the wildlife staff and cooperators who have contributed to the data presented in the report and to the turkey hunters who record and report survey information during the season.

Population Status:

Rhode Island began its wild turkey restoration efforts in 1980 and today birds are found all over the state with a current fall population estimate of 6000 birds. As a result of trap and transfer activities during the mid-1990's our turkey population grew rapidly and benefited from favorable reproductive conditions that resulted in excellent recruitment from 1997 to 2001. Poor or below average brood production occurred during summers from 2002 to 2005 resulting in lower young per adult ratios and lower recruitment of young birds. Factors affecting reproduction during this period include wet weather and low temperatures during the early June brooding period (2003, 2004 and 2005) and poor or failed oak mast production potentially affecting hen reproductive condition. This year's 2006 brood production index of 2.8 young per adult was 26% lower than last year and 35% below the 10-year average. The recent declines in recruitment observed would seem due to environmental factors affecting reproduction and not from a population that has reached carrying capacity.

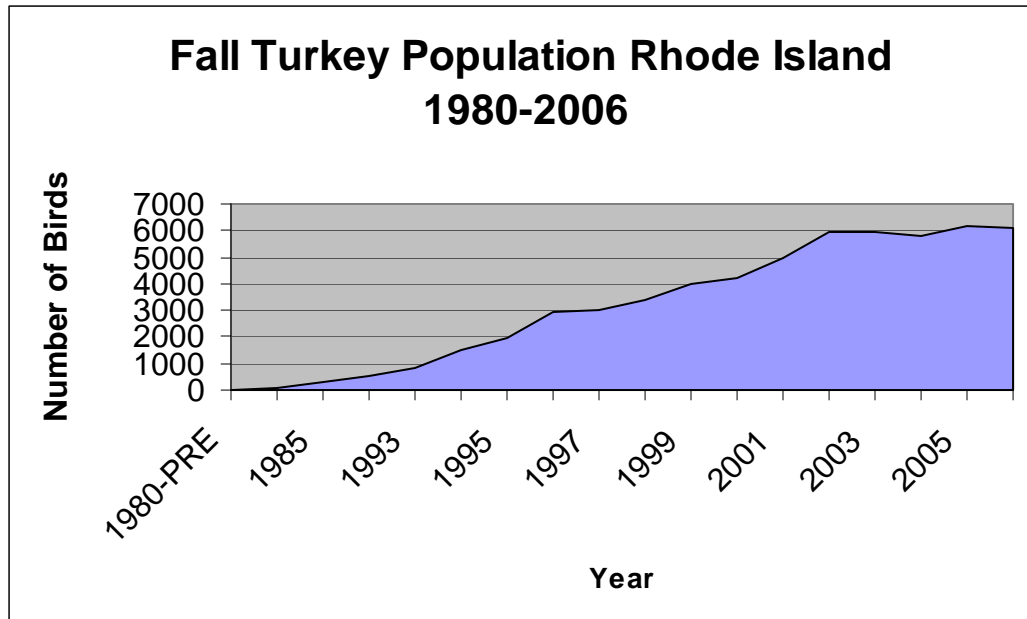


Figure 1

Restoration of the wild turkey in Rhode Island was completed in 1996 and birds are presently found in all suitable habitats in the state. Populations are below carrying capacity in most areas and there is available habitat and areas for expansion in the flock. Potential turkey habitats also exist on Conanicut Island and Prudence Island in Narragansett Bay and Block Island offshore; however, there are no immediate plans to re-populate these island habitats.

Hunting Seasons:

Spring: The 2006 Rhode Island spring turkey season was held April 27 to May 29 and was the State’s twenty-first season since the spring season was initiated in 1986. Turkey hunters harvested 234 birds, a 13% increase over a harvest of 207 birds taken during the 2005 season (table 1). One thousand and eighty permits (1080) were sold, an 18% decline from the 2005 season; however, the harvest surpassed both the 2004 and 2005 seasons (figure 2). The hunter success rate was 24% the highest ever recorded (figure 3). The harvest included 6 birds taken during the early junior hunter and paraplegic hunter seasons and 228 birds during the regular season. The age structure of the harvest consisted of 82 juveniles (35% of harvest) and 152 adults (65% of harvest), a 0.54 to 1 juvenile to adult ratio in harvested birds. The 2006 season was a safe season with no hunting accidents occurring.

The restoration of the wild turkey continues to be a major success story in R.I. with turkey hunters enjoying excellent hunting opportunities. This year's increase in harvest follows two consecutive years of decline from a record high of 275 birds taken during the 2003 season. Turkeys were harvested in 20 of 39 towns around the state. The top five towns in harvest were Exeter (30), Burrillville (20), Scituate (19), Glocester (18) and Richmond (17). Private lands accounted for a majority of the harvested birds (87%); however, 27 birds were also taken on twelve different state wildlife management areas. Arcadia WMA in Exeter and Carolina WMA in Richmond were the top producing state land areas. The first week of the season accounted for 53% of the harvest (125 birds), 20% were taken during second week, 10% during the third week and 9% were taken during the fourth week. The spring harvest per square mile of available habitat (0.54) is below the recommended threshold for establishing a fall gun hunting season (figure 4).

Several large gobblers were harvested during the season including 71 birds that weighed in at over 20 pounds. The average live weight juvenile was 14.5 pounds and the average live weight for adults was 21.4 pounds. The largest bird weighed was a three-year old 24.5-pound gobblers with 1-inch spurs and 11-inch beard harvested on private land in Coventry. The state record is a 25.5-pound gobbler taken in 2001 in Exeter. Seven multi-bearded birds were harvested all double-bearded. Resident hunters took 92% (216) of the birds compared to 8% (17 birds) for non-resident hunters. Overall, hunting success during the 2006 spring gobbler season was outstanding.

Fall Season: The second state fall archery season took place October 1 – 29 and resulted in 184 hunters harvesting six (6) birds. The birds harvested consisted of 4 adults and 2 juveniles; 3 males and 3 females. The success rate was 3.3%. In the first fall season held last year, 3 birds were harvested. Participation this year, measured by the number of permits sold, increased by 56%. The fall season bag limit was one either sex turkey, separate from the spring permit when one bearded bird is allowed. This year, the season dates were changed to coincide with the opening of the archery deer season and season length was increased from one to four weeks.

Youth Hunt: A youth hunt, termed a Junior Turkey Hunting Weekend, was held again in 2006. The format of the season is a two-day hunt on the weekend prior to the statewide opening day. The youth hunt days are combined with the special two-day season for paraplegic hunters. The youth hunt was open to junior hunters, age 12 through 14 years, with a valid license accompanied

by at least one adult who is a legal resident and holds a valid hunting license. There were only 162 eligible junior hunting licenses sold in 2005, making the potential participation in the youth hunt very low. The first youth hunt took place in 2004 and 3 birds were taken while paraplegic hunters harvested 2 birds. In 2005, 5 birds were taken during the combined season and in 2006, six (6) birds were harvested during the season, 5 by youth hunters.

Research and Management Activities

Brood Survey: The 2006 brood index, calculated from the annual brood survey, was 2.8 young per adult for all hens observed with 109 broods reported (table 2). Cooperators reported seeing 192 hens, 140 with broods and 52 (27%) without broods. Cooperators reported 128 broods during the 2005 survey. The brood survey index for 2005 was 3.8 young per adult (all hens). Fewer broods have been reported during the last two years and this has corresponded with the declining reproductive output observed. Turkey brood production has declined in 2 of the last 4 years and is below the 10 year average during all four years (figures 5 and 6). The number of broods reported by cooperators each year during the four-year period also declined. Both trends may be temporary; however, the instability suggests that population may be leveling off or reaching carrying capacity. During the season hunters were asked to report nests and broods encountered. Three hunters reported flushing hens off a nest, the earliest date reported was April 28, followed by May 12 and May 20.

Mast Survey: Mast conditions vary considerably from year to year and can have a major influence on fall and winter food supply for turkey and other species that rely on it significantly including deer, grouse and squirrel. Mast production was very poor and considered a failure during both of the last two years (2004 and 2005). We utilize a method to calculate mast conditions in RI that relies on observers to rate mast as abundant, common or scarce according to the method that results in an index by tree species described by Uhlig and Wilson (1952) (table 3). This year we also participated in a regional mast survey in accordance with a proposed regional protocol for the northeast. The Northeast Regional Mast Survey involved permanently marking 25 mast trees each of the red oak group, white oak group and American beech. An index was then calculated from the percentage of trees within each group where mast is present or absent during a 30 second scan with binoculars. Using this method we found that 85% of the red oak's had mast present, 36 % of the white oak's had mast and 68% of the beech trees (table 4). The quantity of red oak acorns was dramatic in most areas of the state such that red oak production would be considered a "bumper crop".

Gobble Count: The Division conducts gobble count routes to monitor distribution and trends in gobbler activity prior to the hunting season. The 2006 gobble count survey showed a slight decrease in gobbling activity when compared to the 2005 survey results (table 5). The activity index has been high during the last two years and is reflects of the number of males active and gobbling along survey routes prior to the hunting season. The gobble index represents the intensity of gobbling along the survey routes.

Table 1 Rhode Island Spring Turkey Season Results

Town	2006	2005	2004	2003	2002	2001	21-Year total
	4/27-5/29)	(4/28-5/26)	(4/29-5/27	(4/30-5/26)	(4/25-5/24)	(4/26-5/22)	1986-2006
Burrillville	20	14	19	20	24	11	194
Charlestown	7	8	14	11	16	15	106
Coventry	16	12	15	11	15	20	136
Cranston	2	2	0	4	3	8	22
E. Greenwich	3	1	0	1	2	2	11
Exeter	30	28	39	44	43	34	367
Foster	10	10	9	17	12	10	107
Glocester	18	17	20	24	14	10	147
Hopkinton	15	15	9	16	20	12	126
Johnston	7	3	2	7	0	3	25
Little Compton	0	1	0	0	0	0	1
N. Kingstown	15	6	6	11	7	4	53
N. Smithfield	4	6	13	8	10	3	54
Richmond	17	17	9	26	18	27	220
Scituate	19	18	18	20	23	14	161
S. Kingstown	14	18	13	10	14	5	82
Smithfield	7	8	12	12	19	11	85
Tiverton	4	3	0	2	0	1	10
Westerly	12	2	6	6	7	6	47
W. Greenwich	14	18	16	25	9	11	164
TOTAL	234	207	220	275	256	207	2118

Figure 2

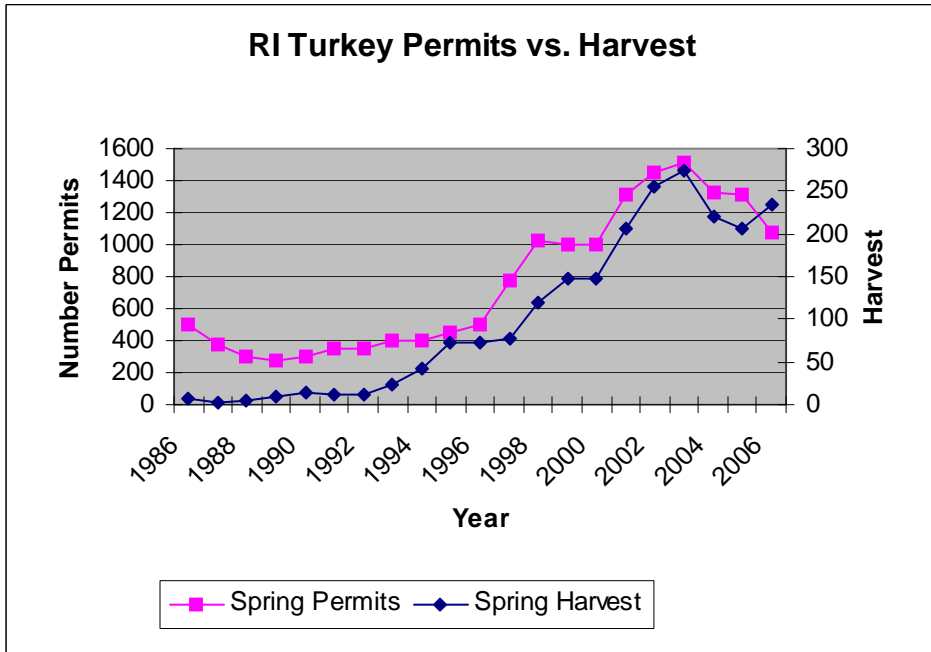


Figure 3

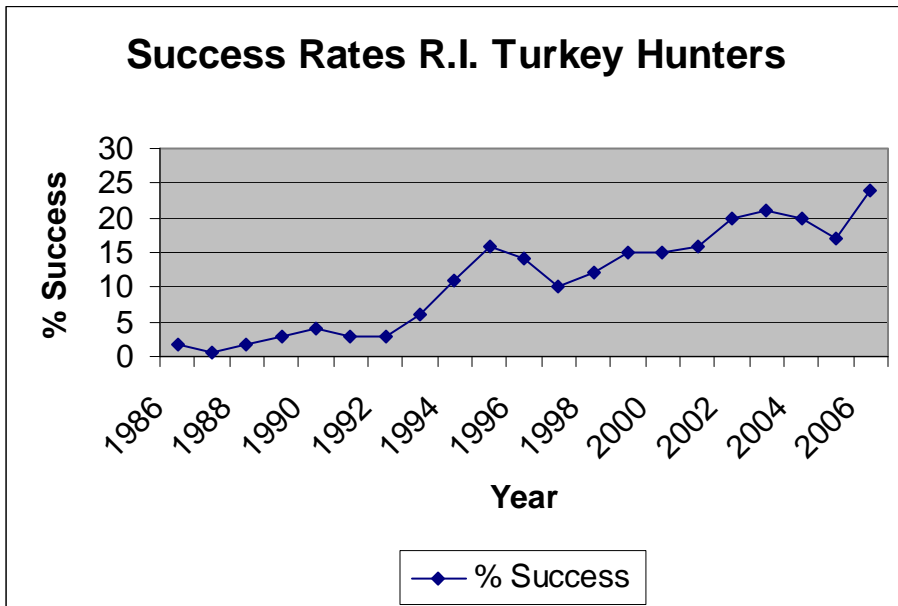


Figure 4

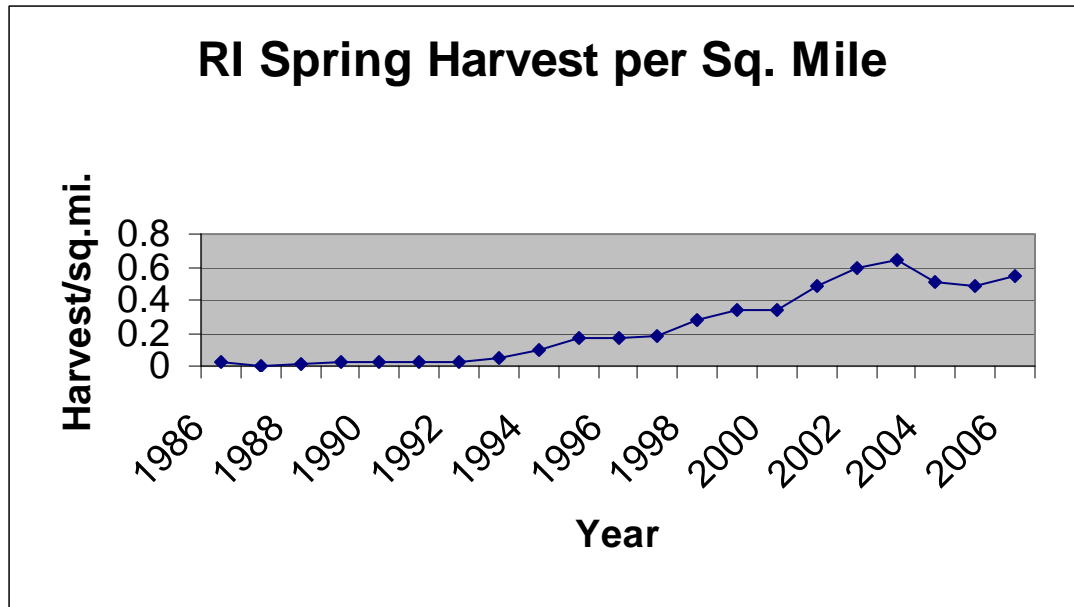


Figure 5

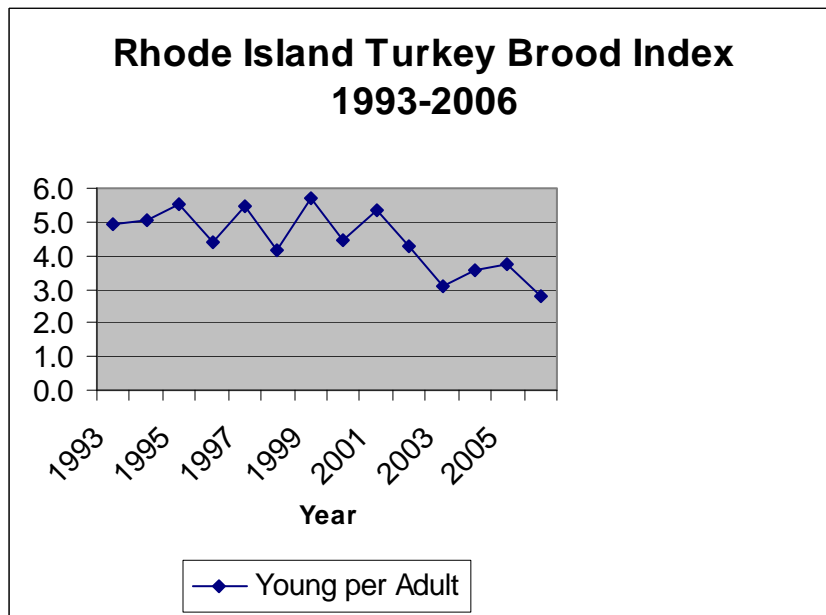


Figure 6

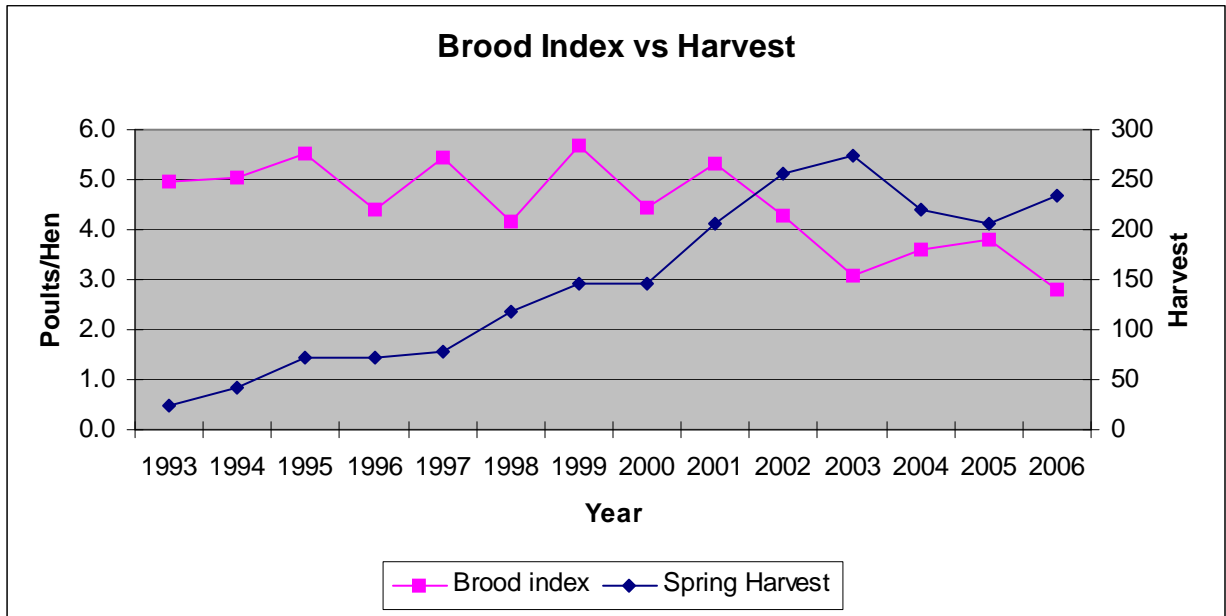


Table 2. Wild Turkey Brood Survey Data Rhode Island.

Year	Total Adults	Total Young	Total Adults + Young	Adults without young	Young per Adult	Number Reports
1993	23	114	137		5.0	11
1994	62	313	375		5.0	45
1995	80	442	522		5.5	55
1996	53	233	286		4.4	33
1997	83	452	535		5.4	54
1998	104	433	537		4.2	59
1999	168	955	1123		5.7	100
2000	156	696	852		4.5	95
2001	148	787	935		5.3	89
2002	124	530	654		4.3	71
2003	456	1413	1869	50	3.1	239
2004	440	1570	2010	91	3.6	233
2005	208	782	990	28	3.8	157
2006	192	533	725	52	2.8	109
10-yr Average					4.3	

Table 3. Statewide mast survey index for Rhode Island (Uhlig and Wilson 1952)

Year	WhiteOak	Red Oak	Beech	Sumac	Grape	Greenbriar	Apple
1996	8	22	12	18	18	6	32
1997	10	18	n/a	n/a	n/a	n/a	n/a
1998	52	69	18	18	21	31	24
1999	15	17	0	3	17	7	13
2000	10	13	4	13	8	17	15
2001	26	33	5	12	14	12	12
2002	16	21	2	3	3	14	0
2003	17	33	7	2	29	14	24
2004	4	17	2	4	11	2	9
2005	2	4	2	4	9	2	11
2006	19	56	11	6	14	8	11
Average Index	16	28	6	8	14	11	15

Table 4. Regional Mast Survey Results for Rhode Island 2006. Results show percent of 25 permanently marked trees of each species that produced mast in State wildlife management areas.

Site	White Oak	Red Oak	Beech
Carolina WMA, Richmond	12	23	9
Arcadia WMA, Exeter	3	21	25
Durfee Hill WMA, Gloucester	12	20	n/a
Total trees producing	27	64	34
Percent Trees Producing Mast	36%	85%	68%

Table 5. Rhode Island Call Count Survey Index

Year	% Stops Active (A)	Activity Index (B)	Gobble Index (C)
1993	3.3%	0.04	2.81
1994	9.3%	0.12	3.82
1995	10.4%	0.13	4.44
1996	8.2%	0.10	3.02
1997	14.1%	0.19	3.55
1998	15.5%	0.25	3.64
1999	10.1%	0.14	5.56
2000	12.5%	0.24	4.83
2001	14.6%	0.26	4.43
2002	15.5%	0.25	5.34
2003	15.7%	0.24	14.29
2004	10.9%	0.28	5.36
2005	17.3%	0.27	4.39
2006	16.2%	0.20	6.74
Average			5.16

(a) # stops where a gobbler was heard/ total stops

(b) total # gobblers active/ total stops

(c) total calls / total # gobblers active

SPRING TURKEY HUNTER SURVEY 2006

A mandatory hunter survey questionnaire was issued to all hunters in the 2006 hunting season with instructions to return the survey whether or not they hunted (see appendix). In the survey 88% who obtained permits actually hunted. Permits were purchased by 1080 hunters during the 2006 spring season. Three hundred thirty six (336) surveys were returned, a 31% return rate. The survey response rate also was 31% in 2005.

The following tables summarize the results of the 2006 spring turkey hunter survey.

Table 6. Summary of hunting effort and a profile of turkey hunters during spring gobbler season.

Hunter Effort and Hunter Profile	2001	2002	2003	2004	2005	2006
Number of Permits Issued	1311	1456	1508	1323	1314	1080
Rate of Participation in Hunt	89%	85%	84%	83%	83%	88%
Number of Hunting Trips	3448	3562	1800	1413	1200	1006
Total hours hunted in survey	11,666	12,802	6369	4825	4368	3393
Number hours per trip	3.4	3.6	3.5	3.4	3.6	3.4
Number trips per season	2.9	2.9	3.4	3.6	3.0	3.0
Total hunter days per season	3399	3590	4304	3953	3273	2851
Total hunter hours	11556	12920	15065	13440	11783	9694
Hunter success rate	16%	20%	21%	20%	17%	24%
Years Experience < 1 year:	8%	5%	6%	<1%	5%	3%
1 year	17%	21%	21%	11%	11%	13%
2 year	17%	22%	16%	12%	11%	9%
3 year	12%	15%	16%	13%	14%	10%
4 year	6%	8%	9%	8%	11%	9%
5 year	7%	8%	9%	10%	11%	9%
> 5 years	33%	18%	24%	26%	32%	29%
Average \$ expenditure per hunter	\$93	\$111	\$107	\$96	\$88	\$89
Total Spent by hunters/season	\$108,827	\$137,856	\$134,737	\$105,408	\$95,524	\$84,585

*** 1-5 years experience**

Table 7. Gobbling activity, hunting activity and turkeys seen during spring seasons

Gobbling Activity	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Number of gobblers heard	537	1995	2551	3256	4430	5058	2679	1944	1530	1462
Number gobblers heard per trip	0.85	1.01	1.12	1.3	1.3	1.4	1.5	1.4	1.3	1.5
Number gobblers heard per hour	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Gobblers heard per 100 hours	22	26	32	37	38	40	40	40	40	40
Number gobblers killed	78	119	147	147	207	256	275	220	207	234
Number gobblers seen	202	1061	1289	1782	2203	3124	1669	1065	1138	1011
Number gobblers seen per trip	0.32	0.54	0.57	0.7	0.64	0.88	0.93	0.75	0.95	1.00
Number gobblers called in	146	675	784	1049	1271	1589	900	654	572	647
Number crippled and lost	3	14	4	5	13	36	6	7	6	4
Number missed	n/a	41	45	58	128	143	64	40	30	30
Number turkeys (either sex) seen	475	2706	2749	4529	5305	7557	3518	2647	2787	2571
Number hens seen	273	1645	1460	2747	3102	4433	1849	1582	1649	1560
Number turkey seen per trip	0.75	1.4	1.2	1.8	1.5	2.1	2.0	1.9	2.3	2.6

Figure 7.

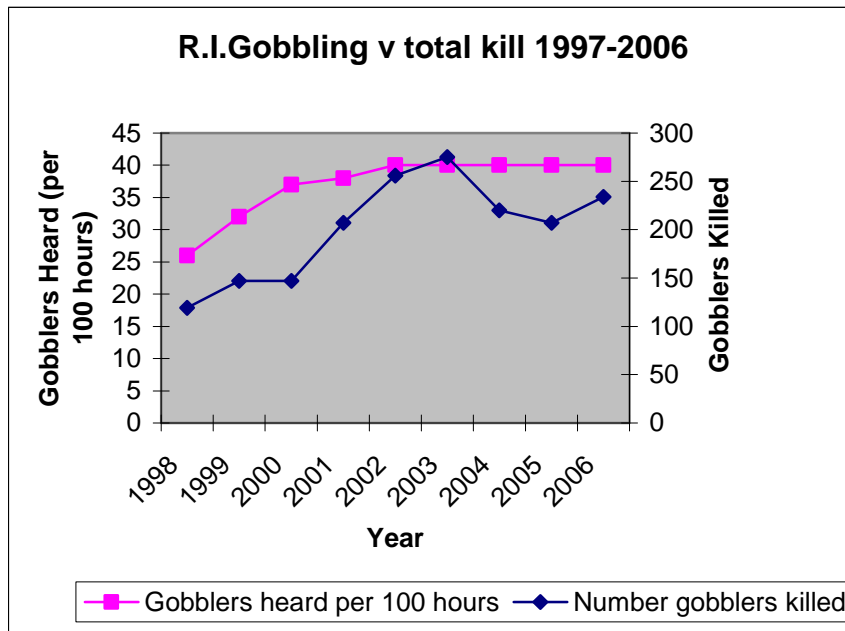


Figure 8.

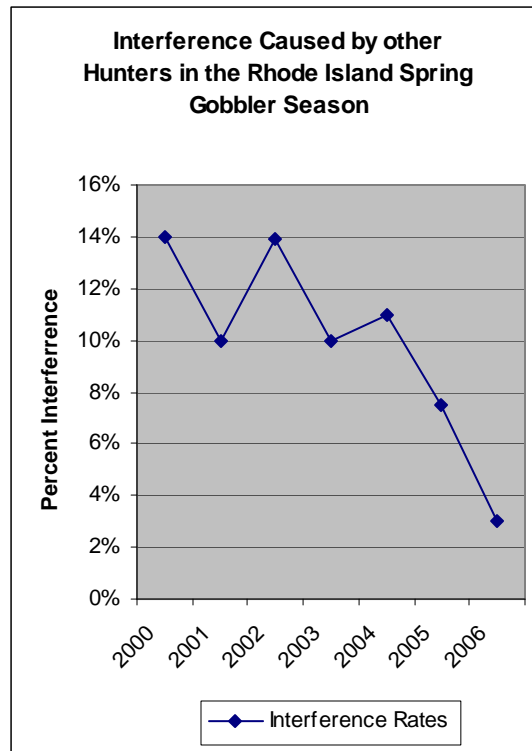


Table 8. Firearm choice and shot size used during spring gobbler seasons.

Weapon and Shot Size	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Bow and Arrow	8.0%	8.5%	6.0%	9.6%	2.6%	2.6%	2.0%	2%	3%	2%
Shotgun and Bow/Arrow					4.5%	7.6%	3.3	5%	6%	6%
Shotgun	92%	92%	94%	90%	93%	90%	90%	75%	87%	72%
Did not answer								18%	4%	20%
Shot Size Preferred										
#2	3%	3%								
#4	37%	35%								
#5	14%	13%								
#6	16%	20%								
#7 1/2	0	<1%								

Table 9. What one type of land do you do most of your hunting.

Type	2000	2001	2003	2004	2005	2006
Public land	35%	37%	31%	24%	26%	21%
Private not posted land	32%	28%	28%	31%	32%	27%
Private posted land	33%	35%	26%	28%	28%	25%
Combinations			5%		7%	3%
Did Not Answer			10%	17%	7%	24%
	100%	100%	100%	100%	100%	100%

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APPENDIX