

RHODE ISLAND WILDLIFE INVESTIGATIONS

**WILD TURKEY STATUS REPORT and
SPRING TURKEY HUNTER SURVEY 2015**



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Division of Fish and Wildlife**

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2015 Rhode Island Wild Turkey Status Report

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Introduction

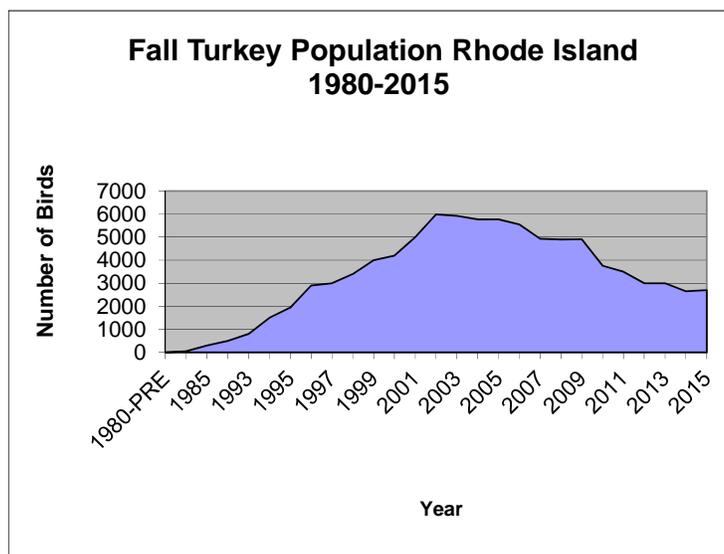
The return of the wild turkey from near extinction in the early 1900's is one of the most significant success stories in the history of wildlife management. Management of the wild turkey population is the responsibility of the RIDEM Division of Fish and Wildlife. The Department's objective for wild turkey 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 the spring turkey hunter survey, which support management decisions for wild turkey hunting in Rhode Island. I would like to thank and acknowledge all cooperators and the public 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 statewide with a current estimated population of 2700 birds. The turkey population has declined since 2001 when it was estimated at nearly 6000 birds. Hunting harvest has declined by 51% as well, since 2006. Poor brood production has been observed in annual summer brood surveys for many of the last 10 years resulting in lower young per adult ratios and apparently low recruitment. The brood production index of poults per adult (all hens reported) during this 10-year period ranged from a low of 1.5 to 5.1 and in 6 of the last 10 years the index was below the long term average of 3.3 poults per adult hen. The summer of 2015 proved to be a banner year for turkey production and brood survival. In the 2015 brood survey, 100% of all hens observed during August had broods compared to 96% in the 2014 survey; and the calculated brood index was 5.1 poults per hen. This higher production estimate combined with an abundant acorn crop and a mild fall to produce many large flocks of turkeys across the state.

Other factors impacting the wild turkey population in Rhode Island may be acting in unison to impact the turkey population, including disease, high predation rates and poor habitat conditions. Lymphoproliferative Disease (LPDV) is a viral disease similar to avian pox, causing skin lesions on the bird's head and feet. This disease has been documented in the state and was found in 33% of adult birds tested. Surveillance studies have not determined the prevalence in turkey poults or the population impacts resulting from the disease affecting poult survival. Predation rates in Rhode Island may also be high, given the highly fragmented landscape where turkey's live, which favors generalist predators such as coyote, fox, skunk, and raccoons. Field observations and call count surveys in areas of prime turkey habitat on public lands suggest that turkey populations are decreasing in these areas. Habitat conditions will have to be evaluated to determine if a key component, such as brood habitat is lacking. There has been an observed shift in population distribution towards urban-suburban residential areas with flocks increasing in number, and resulting in nuisance complaints. Feeding activities carried out by the well intentioned public can result in attracting turkeys away from suitable natural foods and habitats. Declines in turkey populations have been observed in many northeastern states and has resulted in a regional cooperative research evaluation to attempt to determine the possible cause(s).

Restoration of the wild turkey in Rhode Island was officially completed in 1996 and birds are presently found in all suitable habitats in the state. Populations are below carrying capacity in many 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.



Harvest

Spring Season: The 2015 Rhode Island spring turkey season was held April 29 to May 24, 2015. Turkey hunters reported harvesting 114 birds, a 1% increase from a harvest of 113 birds taken during the 2014 season (table 1, figure 2). The harvest includes 3 birds taken during the early junior hunter and paraplegic hunter seasons held April 25 and 26. The hunter success rate was 13% (figure 3). The harvest consisted of 29 juveniles (25% of harvest) and 85 adults (75% of harvest), a 0.3 to 1 juvenile to adult ratio in harvested birds. Mandatory harvest reporting is required using pre-paid kill report post cards distributed with the hunting permits. The 2015 spring gobbler season was a safe season with no hunting accidents occurring.

The restoration of the wild turkey has been a major success story in R.I. with turkey hunters enjoying excellent hunting opportunities. This year's reported harvest total is a slight increase from the number of birds reported in 2014. The 2015 season was preceded by a cold winter with heavy deep snow persistent during the months of February and March. The harsh weather may have impacted turkey survival and the breeding condition of some females. Turkeys were harvested in 22 of 39 towns from around the state. The top five towns in harvest this year were Tiverton (16), Exeter (15), Coventry (9), South Kingstown (8) and West Greenwich (8). Private land accounted for a majority of the harvested birds (80%); however, 22 birds were taken on seven different state wildlife management areas. Arcadia Management Area in Exeter was the top producing state land area. The first week of the season accounted for 42% of the harvest (44 birds), 22% (23 birds) were taken during second week, 21% (22 birds) during the third week and 15% (14 birds) were taken during the last week.

The average live weight for a juvenile turkey is 15 pounds and the average live weight for adults is 20 pounds in Rhode Island. The official state record is a 25.5-pound gobbler taken in 2001 in Exeter. Resident hunters took 88% (100 birds) compared to 12% (14 birds) for non-resident hunters.

Fall Season: The state fall archery season took place October 1 – October 31, 2015 and resulted in hunters harvesting two (2) birds. The participation rate remains low, estimated at fewer than 10% of the total number of permits sold (1,284). Many hunters who purchase tags for the fall season in Rhode Island are hopeful of an opportunistic encounter with a turkey while bow-hunting for deer. The fall season bag limit was one either sex turkey, separate from the spring permit when one bearded bird is allowed.

The general interest in fall archery turkey hunting is low, similar other northeastern states. There is some interest in hunting turkey with crossbow, which under current law is allowed only for deer hunting with a special permit and would require a rules change. The current trend in spring harvest in R.I. is down and the kill per square mile (0.18) (figure 4) is well below the recommended threshold for the establishment of a fall either sex gun season. The quality of the hunting experienced with the current spring season format is most important to Rhode Island turkey hunters. A fall either sex gun season is unwarranted and unwise at this time. We intend to retain the limited fall bow season format so to retain quality gobbler hunting in the spring season. Legislation to authorize crossbow to hunt turkey was introduced in 2016, and if approved could impact the fall archery season.

Special seasons: A youth hunt, termed a Junior Turkey Hunting Weekend, was held prior to the 2015 regular season. During this special season, youth and paraplegic hunters harvested a combined 3 birds. 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 is open to junior hunters, age 12 through 15 years, with a valid license accompanied by at least one adult who is a legal resident and holds a valid hunting license. The first youth/paraplegic hunt took place in 2004 and 5 birds were taken. The overall impact of the youth season can be best measured in the opportunity it provides to these two hunter groups. Our participation rates are low and it is unlikely that this hunting affects the regular season in any significant way; however, the ability to attract and retain new hunters is the most important benefit from this season.

Research and Management Activities

Brood Survey: A brood survey is conducted annually between June 1 and August 31 to obtain production information on turkeys. Brood reports are sought statewide from cooperators, which include Agency staff and the general public and can be submitted to the wildlife division via telephone or email. The brood index is calculated as the average number of young per adult for June, July and August, for all hens reported. The 2015 brood index was 5.1 young per adult for all hens observed (449 total reports) (table 2, figure 5). The results are an index to productivity that can be compared among years. Cooperators reported seeing 648 hens, 587 (91%) with broods and 61 (9%) without broods and 3294 poults during this year's survey. The 2015 brood index was 59% above the 10 year average (3.3 poults/hen). Cooperators are members of the

general public who report seeing wild turkey hens with or without broods during the summer survey period, with reports submitted via email to Fish and Wildlife offices.

Turkey brood production (index) has been below the 10-year average (3.3 poults per hen) during 6 of the last 10 years (figure 5). The 2015 brood index of 5.1 poults per hen was exceptional by recent benchmarks and was 59% over the 10-year average. A mild winter (2015-2016) and abundant food supplies (acorns) should aid turkey survival and condition this winter. Recently declines in productivity have been observed and suggest a population that may be declining as a result of predation, disease or low poult survival. The causes of these declines are not clear; however, a regional evaluation of data from the northeastern states is currently underway and attempting to determine patterns and possible causes. Turkey habitat and food supply appear adequate in RI; however, the influence of environmental related factors such as weather or predators may be underestimated. Continuous monitoring of these trends is important to preserve the sustainability of the state's turkey flock.

Mast Survey: Mast (acorns and nuts) 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. To survey acorns, we permanently mark 25 trees each of the red oak group and white oak group and survey the same trees each year. We conduct surveys at three sites on Rhode Island wildlife management areas and report our results to a Northeast Regional Mast database maintained in cooperation with the Smithsonian. An index is calculated from the percentage of trees within each group where mast is present or absent during a 30 second scan with binoculars. The survey method also estimates of the percent of the tree crown with acorns, in 5% increments. Surveys were conducted at Carolina/Great Swamp, Arcadia and Durfee Hill Management Areas.

Hard mast production has been average to below average in R.I. over the past two years, which means that the production of important food items for turkeys, deer and other wildlife have been variable or scarce. In 2015 conditions were improved and the acorn crop was abundant and widespread in red oak trees throughout the state but scarce and/or failed in white oak trees (table 3). The end result was a bumper crop of acorns in red oaks and acorn failure in white oaks. Overall in the fall-winter 2015-2016, acorns were available everywhere, providing a stable and abundant food source for wild turkeys.

Gobble Call Count: The Division conducts gobble call count survey routes to monitor distribution and trends in gobbler activity prior to the hunting season. The 2015 survey showed some increases in gobbling activity compared to prior years (table 4). Some of this was presumed attributable to a prevalence of 2 and 3 year old adult gobblers surviving from an above average 2013 brood production.

Table 1 Rhode Island Spring Turkey Season Results													
Town	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	30-Year total	
	4/29-5/24	4/30-5/25	4/25-5/21	4/26-5/22	4/28-5/24	4/24-5/25	4/25-5/26	4/30-5/26	4/26-5-28	4/27-5/29	4/28-5/26	1986-2015	
Burrillville	6	12	6	3	8	4	13	11	12	20	14	269	
Charlestown	1	2	4	4	9	10	9	7	14	7	8	166	
Coventry	9	8	21	10	5	6	13	15	8	16	12	231	
Cranston	2	2	8	2	2	3	4	2	2	2	2	49	
Cumberland	0	0	1	1	0	1	0	0	0	0	0	3	
E. Greenwich	2	4	0	0	2	1	3	0	5	3	1	28	
E. Providence	1	0	0	0	0	0	0	1	0	0	0	2	
Exeter	15	5	9	10	24	23	29	20	25	30	28	527	
Foster	3	6	9	9	7	3	6	14	9	10	10	173	
Glocester	7	6	12	6	10	15	13	20	17	18	17	253	
Hopkinton	3	3	4	8	7	6	11	9	14	15	15	191	
Johnston	1	1	2	3	0	1	0	2	3	7	3	38	
Little Compton	4	5	3	3	2	2	0	1	0	0	1	21	
Lincoln	1	0	0	0	0	0	0	1	0	0	0	2	
Middletown	0	0	0	0	0	0	2					2	
Narragansett	1	0	0	0	1	0	0	1	0	0	0	3	
N. Kingstown	4	3	4	0	10	7	15	9	10	15	6	115	
N. Smithfield	7	4	7	6	9	10	13	10	9	4	6	129	
Richmond	5	5	15	10	14	13	13	11	9	17	17	315	
Scituate	7	8	13	7	8	11	15	11	7	19	18	248	
S. Kingstown	8	13	8	5	11	11	10	21	17	14	18	186	
Smithfield	3	3	2	5	8	12	17	15	11	7	8	161	
Tiverton	16	15	11	5	3	7	7	5	4	4	3	83	
Warren	0	1	0	0	0	0	0	0	0	0	0	1	
Westerly	0	2	3	2	0	9	2	6	5	12	2	76	
Woonsocket	0	2	0	0	0	0	0	0	0	0	0	2	
W. Greenwich	8	3	11	5	11	8	11	11	13	14	18	245	
TOTAL	114	113	153	104	151	163	206	203	194	234	207	3519	

Figure 2.

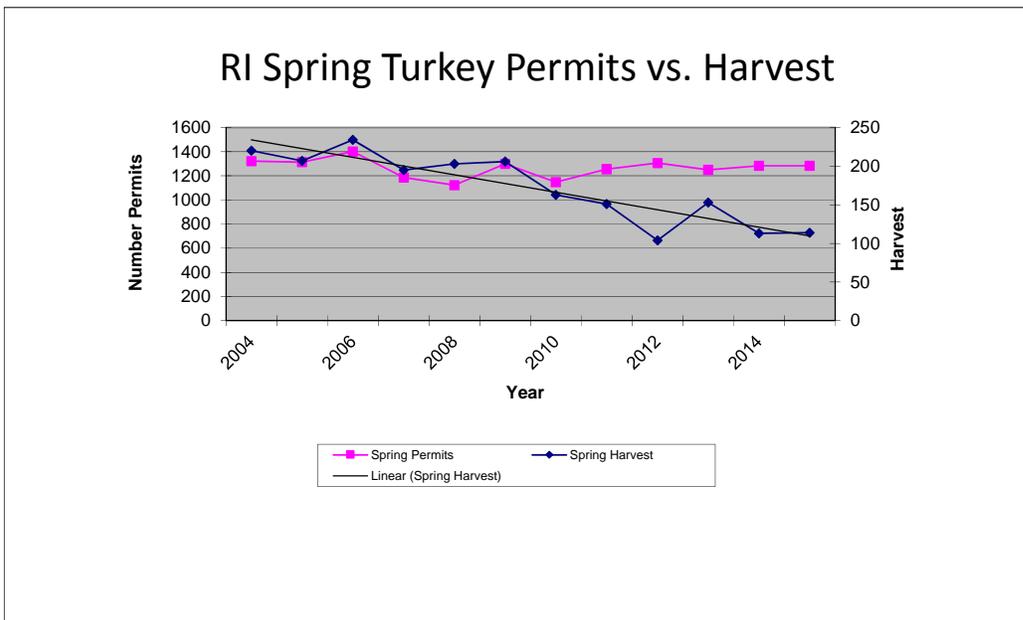


Figure 3.

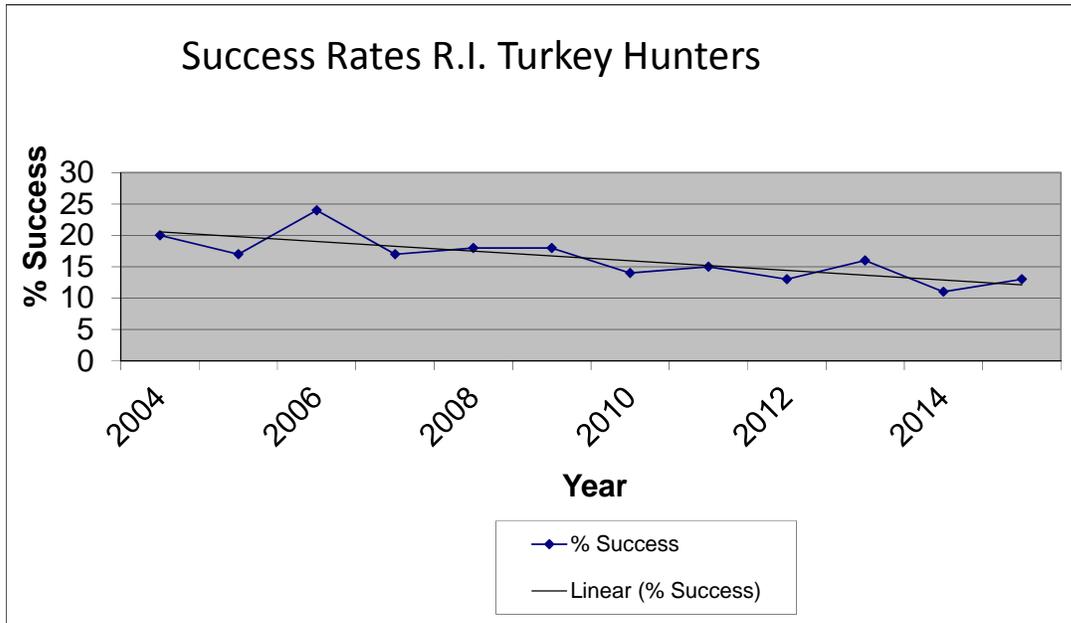


Figure 4.

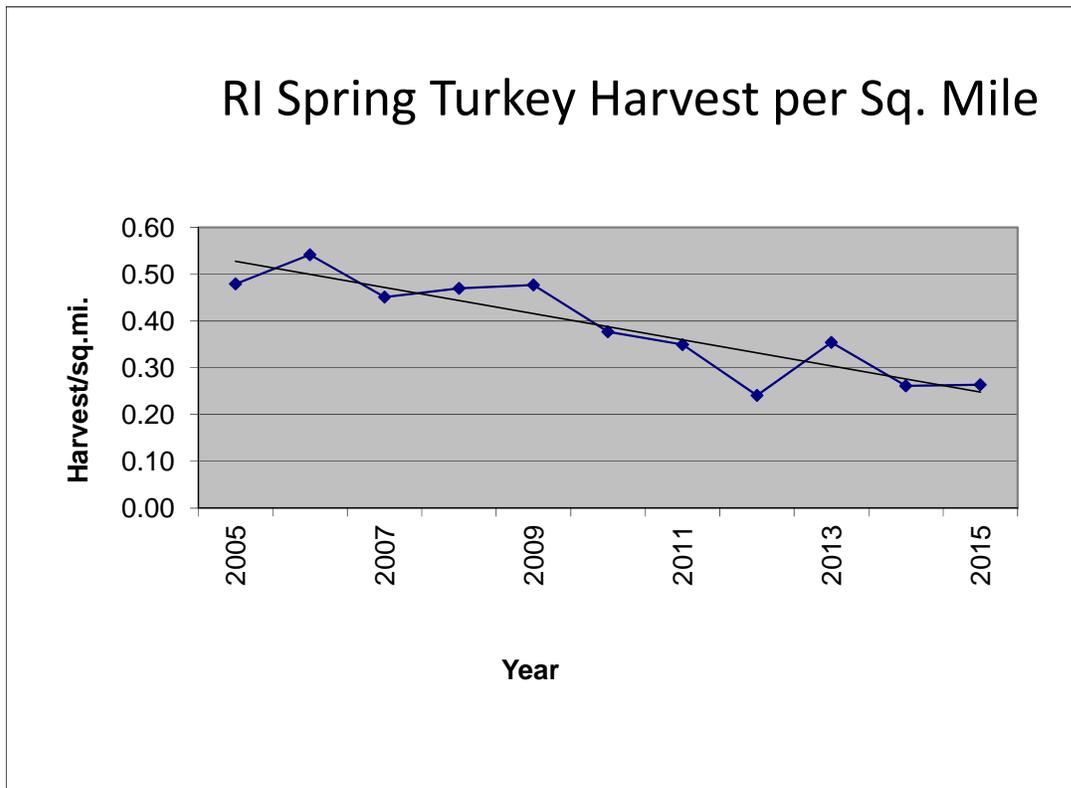


Figure 5.

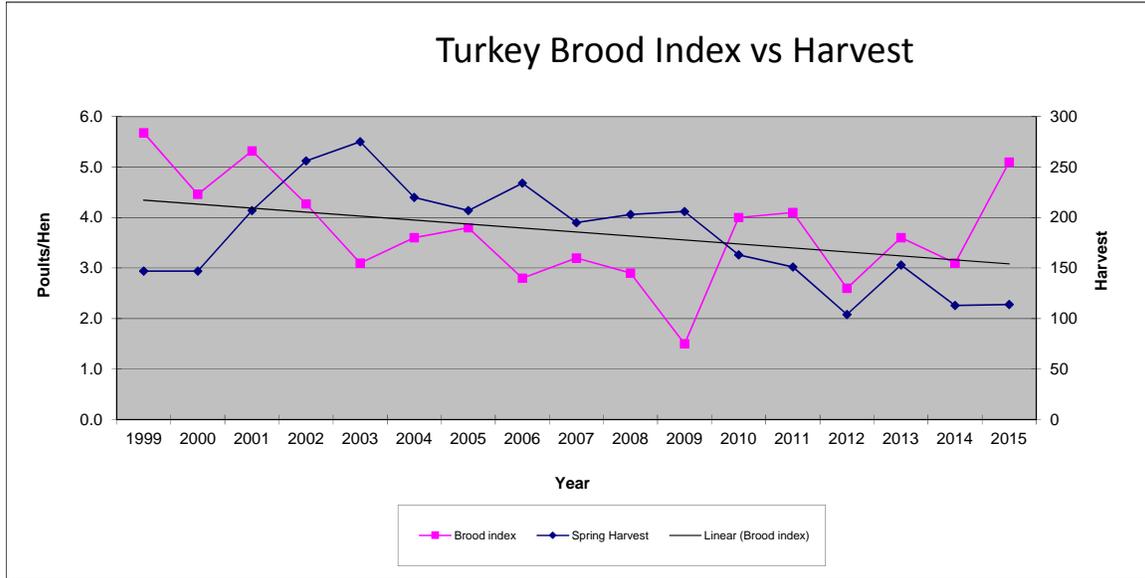


Table 2. Wild Turkey Brood Survey Data Rhode Island.

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
2007	290	920	1210	44	3.2	158
2008	102	299	401	42	2.9	64
2009	1016	1537	2553	231	1.5	514
2010	1321	5256	6577	106	4.0	685
2011	664	2730	3394	72	4.1	333
2012	562	1484	2046	138	2.6	242
2013	502	1816	2318	33	3.6	286
2014	281	867	1148	22	3.1	142
2015	648	3294	3942	61	5.1	449
			10-yr Average		3.3	

Table 3. Regional Mast Survey Rhode Island 2015		
Site 1: Carolina WMA (A) and Great Swamp WMA (B)		
	White Oak	Red Oak
Mast present (n/25)	6 of 25	25 of 25
Percent producing	24%	100%
Average Crown with acorns	4%	61%
Site 2: Arcadia WMA		
	White Oak	Red Oak
Mast present (n/25)	2 fo 25	25 of 25
Percent producing	8%	100%
Average Crown	0.4%	81%
Site 3: Durfee Hill WMA		
	White Oak	Red Oak
Mast present (n/24)	2 Of 25	22 of 25
Percent producing	8.0%	88%
Average Crown	0.4%	43%
Totals by Tree Group:		
Site #	White Oak	Red Oak
1 (no. trees per site producing nuts)	6	25
2 (no. trees per site producing nuts)	2	25
3 (no. trees per site producing nuts)	2	22
Total number of trees producing acorns	10	72
% Trees Producing	13.3%	96.0%
%Crown	1.7%	61.6%

Table 4 . Rhode Island Call Count Survey Index			
Year	% Stops Active (a)	Activity Index (b)	Gobble Index (c)
1993	3.3%	0.04	2.8
1994	9.3%	0.12	3.8
1995	10.4%	0.13	4.4
1996	8.2%	0.10	3.0
1997	14.1%	0.19	3.6
1998	15.5%	0.25	3.6
1999	10.1%	0.14	5.6
2000	12.5%	0.24	4.8
2001	14.6%	0.26	4.4
2002	15.5%	0.25	5.3
2003	15.7%	0.24	14.3
2004	10.9%	0.28	5.4
2005	17.3%	0.27	4.4
2006	16.2%	0.20	6.7
2007	13.7%	0.19	5.4
2008	12.7%	0.21	4.7
2009	15.4%	0.20	3.9
2010	16.7%	0.23	3.8
2011	12.7%	0.19	3.6
2012	21.4%	0.33	4.8
2013	20.0%	0.42	4.3
2014	8.0%	0.19	2.7
2015	21.0%	0.29	2.9
		10 year Average	4.3
(a) # stops with active gobbler/ total stops (100)			
(b) total # gobblers active/ total stops			
(c)total calls / total # gobblers active			

SPRING TURKEY HUNTER SURVEY 2015

A mandatory hunter survey questionnaire was issued to all hunters in the 2015 hunting season with instructions to return the survey whether or not they hunted (see appendix). An estimated 1,150 hunters purchased turkey permits during the spring hunting season. In the survey 91% who obtained permits actually hunted spring turkeys (9% did not hunt). Two hundred twenty five (225) surveys were returned, a 20% return rate.

The following tables summarize the results of the 2015 spring turkey hunter survey.

Table 5. Summary of hunting effort and a profile of turkey hunters during spring gobbler season.

Hunter Effort and Hunter Profile	2009	2010	2011	2012	2013	2014	2015
Number of Permits Issued	1300	1085	1130	1177	1106	1156	1150
Rate of Participation in Hunt	90%	90%	90%	96%	91%	90%	91%
Number of Hunting Trips	803	574	662	725	770	537	631
Total hours hunted in survey	2760	2085	2303	2635	2856	1769	2098
Number hours per trip	3.4	3.6	3.5	3.6	3.7	3.3	3.3
Number trips per hunter / season	2.9	2.8	3.4	3.2	3.3	1.9	2.8
Total hunter days per season	3393	2734	3458	3612	3650	1976	2928
Total hunter hours	11,536	9,848	12,102	13,006	13,504	6521	9665
Hunter success rate	17%	14%	15%	13%	16%	11%	13%
Average \$ expenditure per hunter	\$119	\$114	\$109	\$109	\$122	\$141	\$112
Total Spent by hunters/season	\$139,362	\$111,828	\$110,853	\$123,061	\$134,932	\$146,640	\$117,152

Table 6. Gobbler and Hunter Activity During Spring Seasons

	2009	2010	2011	2012	2013	2014	2015
Number of gobblers heard	1216	894	1060	1552	1396	880	1144
Number gobblers heard per trip	1.5	1.6	1.6	2.1	1.8	1.6	1.8
Number gobblers heard per hour	0.4	0.4	0.5	0.6	0.5	0.5	0.5
Gobblers heard per 100 hours	40	40	50	60	50	50	50
Number gobblers killed	206	163	151	104	153	113	114
Number gobblers seen	787	471	758	920	731	656	691
Number gobblers seen per trip	1.0	1.2	1.1	1.3	0.9	1.2	1.1
Number gobblers called in	471	284	449	540	515	369	473
Number crippled and lost	5	0	2	5	7	6	4
Number missed	32	18	24	22	14	13	13
Number turkeys (either sex) seen	2227	969	1951	1748	1457	1397	1552
Number hens seen	1011	498	891	828	726	741	861
Number turkey seen per trip	2.7	1.7	2.9	2.4	1.9	2.6	2.5

Figure 6.

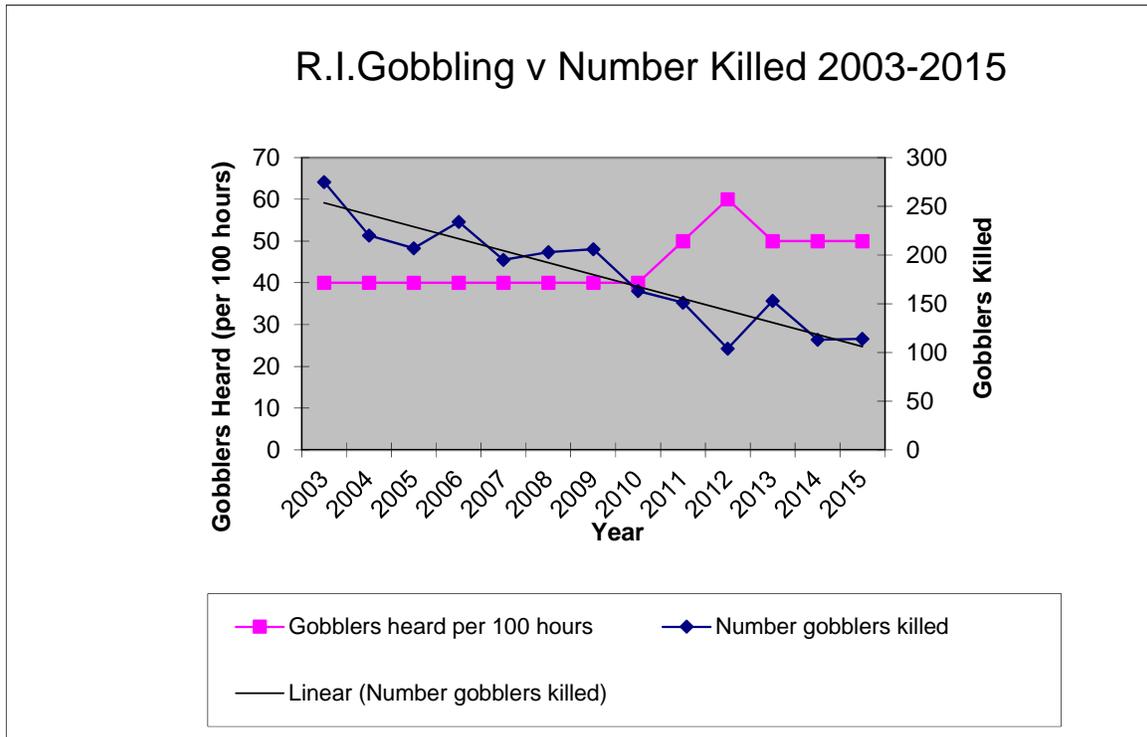


Figure 7.

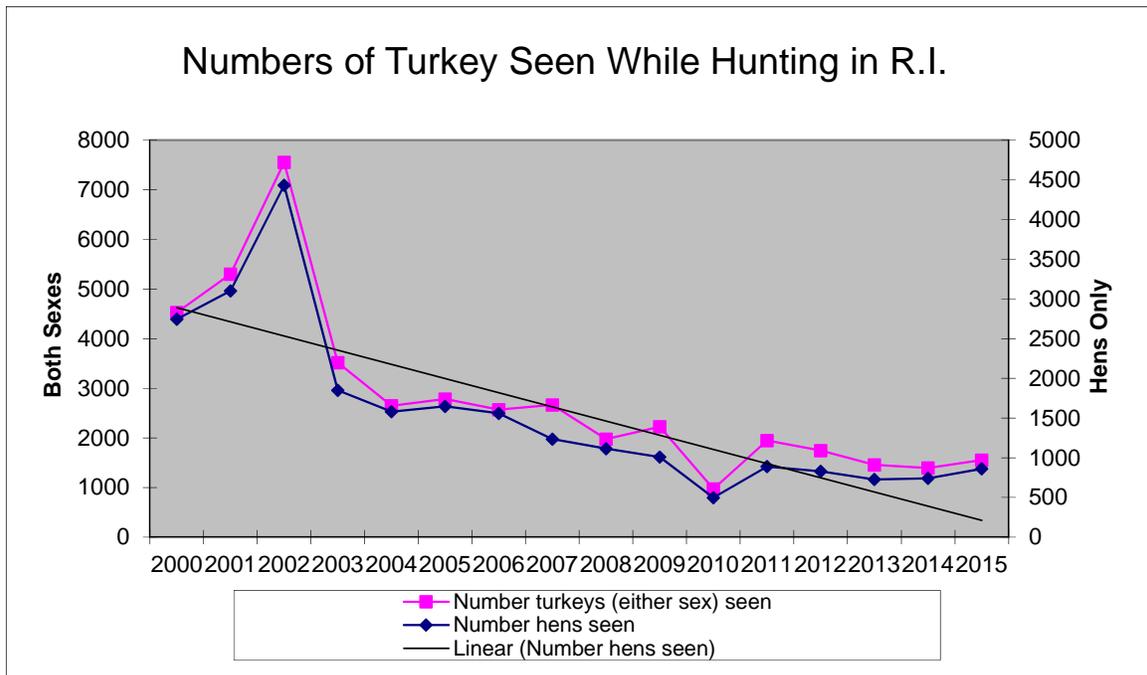


Figure 8.

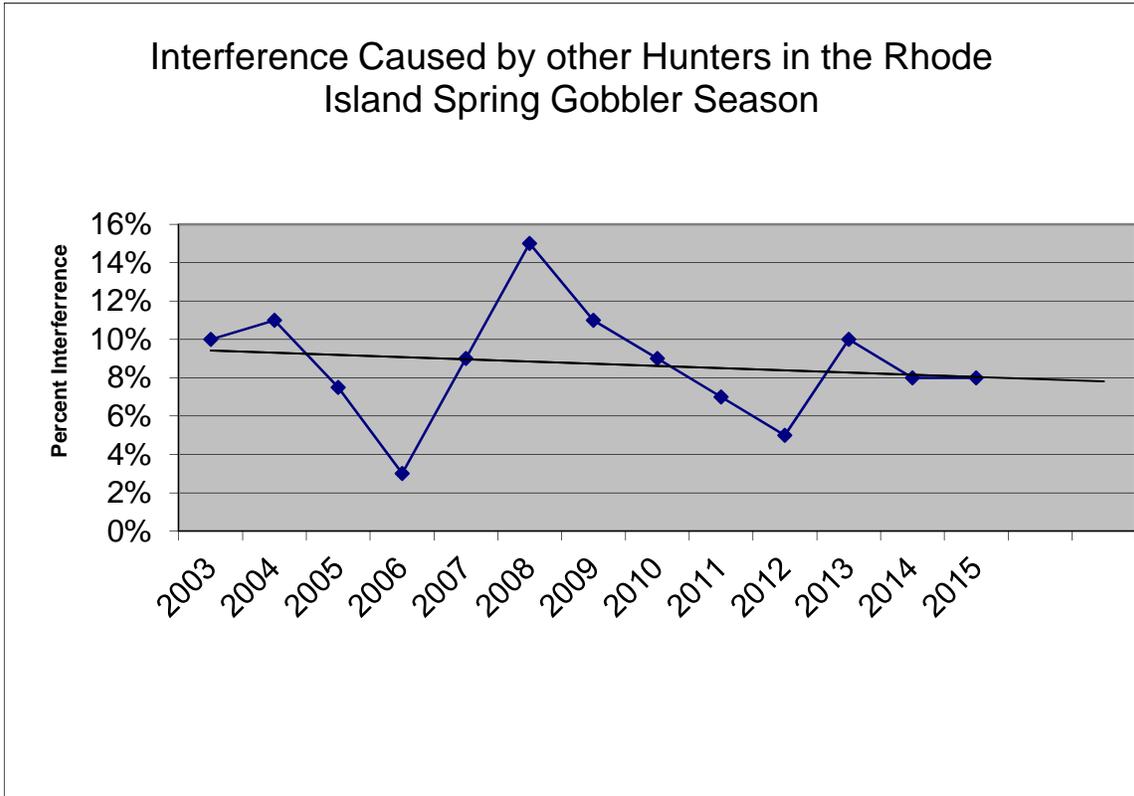
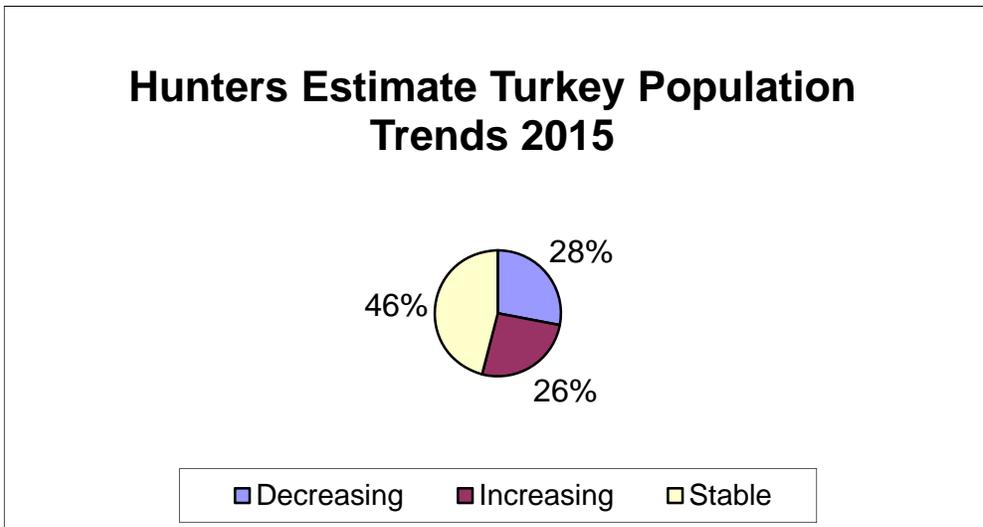


Figure 9.



Acknowledgement: Naomi Andrews provided assistance with the compilation of data from the 2015 hunting season survey. I also wish to acknowledge the careful and competent observations made by the Rhode Island turkey hunters who returned surveys and in doing so contribute immensely to the knowledge and management of the Rhode Island wild turkey population.

RHODE ISLAND TURKEY HUNTER SURVEY

Must be returned by end of season, **WHETHER YOU HUNT OR NOT**. R.I. License Number: _____

Name _____ Street Address _____

Town _____ State/Zip _____

1. How many years have you hunted turkeys in R.I. _____
2. Did you hunt turkey in R.I. this year. yes _____ no _____
3. What type of sportingarm do you use for turkey hunting. shotgun _____ bow/arrow _____
4. How many turkey hunters, other than those in your party, did you see or hear while hunting? _____
5. On what one type of area do you do most of your hunting?
 Public land _____ Private-posted land _____ Private not posted land _____
6. Did you experience interference by another hunter. yes _____ no _____
7. Did you flush a hen off a nest during the season? yes _____ no _____
 if yes, provide date of hen on nest _____
8. Did you observe any hens with broods during this season? yes _____ no _____;
 if yes # hens _____ # poults _____
9. Did you observe any illegal hunting during the season? yes _____ no _____
10. What illegal hunting did you observe? baiting _____ trespassing _____
 shooting before/after hours _____ over-bagging _____ shooting before season _____
11. How much did you spend on R.I. Turkey season (travel, ammo, gun; not license fees). \$ _____

Fill out one line for each day hunted. If more than one town was hunted in one day, fill out a separate line for each town.

FOLD HERE											
Outings	Town Hunted	Date (day)	No. hours hunted	No. Gobblers heard	No. Gobblers called in	No. Gobblers seen	No. Gobblers crippled	No. Gobblers missed	Gobblers killed	No. hens seen	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

Comments/observations: _____

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