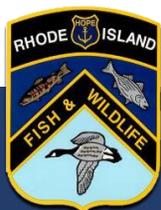


State of Rhode Island Department of Environmental Management Division of Fish & Wildlife

2021 Wild Turkey Program Summary



Acknowledgements

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January 2022



THIS PROJECT WAS SUPPORTED by Wildlife Restoration Grants administered by the U.S. Fish and Wildlife Service, Wildlife and Sport Fish Restoration Program: *Partnering to fund conservation and connect people with nature.*

Federal Aid Project funded by your purchase of hunting equipment.

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Introduction

The wild turkey is an important game bird in Rhode Island; however, they were not always as abundant as they are today. A combination of forest clearing, overharvest, and harsh weather conditions eliminated the wild turkey from Rhode Island in the early 1800's.

The Rhode Island Division of Fish and Wildlife (DFW) along with the National Wild Turkey Federation (NWTF) began a wild turkey restoration project on February 8th, 1980. Twenty-nine wild turkeys trapped and transferred from Vermont were released into the town of Exeter. Population growth was assisted by the migration of birds released in 1983 and 1984 by the Connecticut Department of Environmental Protection (DEP) along the border of Rhode Island and Connecticut. Additional trap and transfer efforts occurred in 1994 and in 1995 DFW was able to begin its first ever in-state trap and transfer program. Trap and transfer efforts continued into 1996.

Since 1985 the Division of Fish and Wildlife has conducted various surveys to monitor wild turkey population trends over time. Annual surveys include gobble call counts, summer brood surveys, fall flock surveys, mast surveys, and statewide sighting reports as well as the analysis of hunter harvest data. The state has taken a conservative approach toward managing the turkey flock with the goal of preserving a quality spring hunt and a healthy, self-sustaining population. Today wild turkey occur throughout Rhode Island and their comeback is hailed as one of the true wildlife

success stories. The DFW continues to collect turkey population data to ensure proper management of the wild turkey resource for future generations.

This report presents a summary of the 2021 spring and fall turkey season results, the 2021 spring hunter survey, the 2021 wild turkey brood survey and the 2021 spring gobbler call count survey.

Regulation Changes

Regulations remained consistent from 2020 to 2021. Prior changes to regulations included an increased bag limit during the 2019 spring turkey season from 1 to 2 birds (1 of which may be taken on state land) as well as the implementation of the online licensing system in 2018. Hunters may now buy their turkey permits and report their harvest directly online. The 2019 fall archery season was extended from 14 days to one month (October 1st – 31st, 2019) with a one bird bag (either sex).

2021 Spring Turkey Season

Highlights

The 36th annual state-wide spring turkey season was held from April 28th to May 22th, 2021. Turkey hunters reported harvesting 282 birds, a 5.2% increase in harvest from the 268 birds taken during the 2020 season (Figure 1). Harvest remained relatively stable between 2020 and 2021 despite increased outdoor recreation during the COVID-19 pandemic. Resident hunters accounted for the majority, 71% (200 birds), of the spring harvest. Turkeys harvested by non-resident hunters made up 29% (82 birds) of the total harvest and hunters came from as far away as Texas, Montana, Arizona, and Ohio to hunt turkey in Rhode Island. Most out-of-state hunters reside in Massachusetts (n = 28). 79% of the total birds harvested during the spring of 2021 occurred before 9:00am and 52% of the total birds harvested occurred within the first seven days of the season (excluding youth season; Figure 2). The youth and paraplegic hunt occurred on April 23rd and 24th and resulted in the harvest of eleven birds.

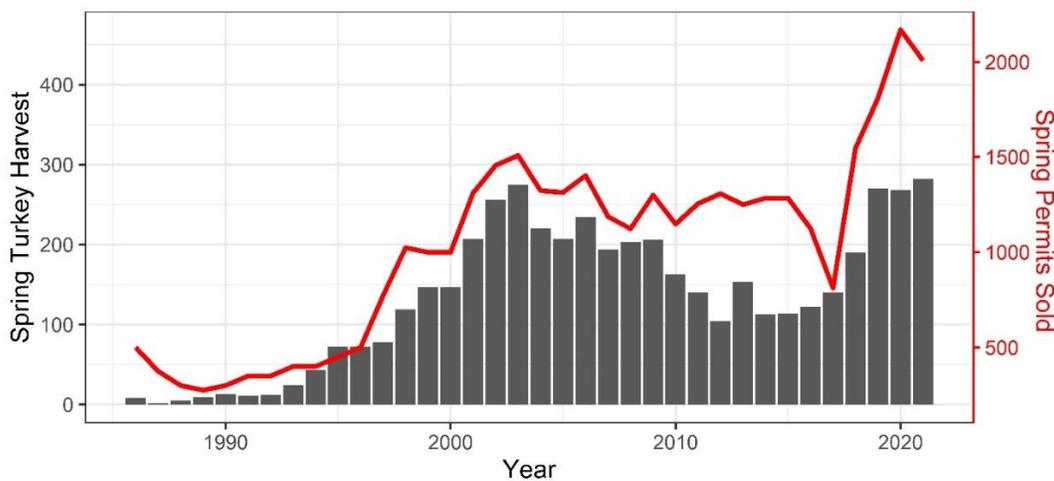


Figure 1. Spring wild turkey harvest from 1986 to 2021 in Rhode Island. The wild turkey harvest (gray bars) correspond to the left y-axis and the number of permits sold (red polyline) correspond to the right y-axis.

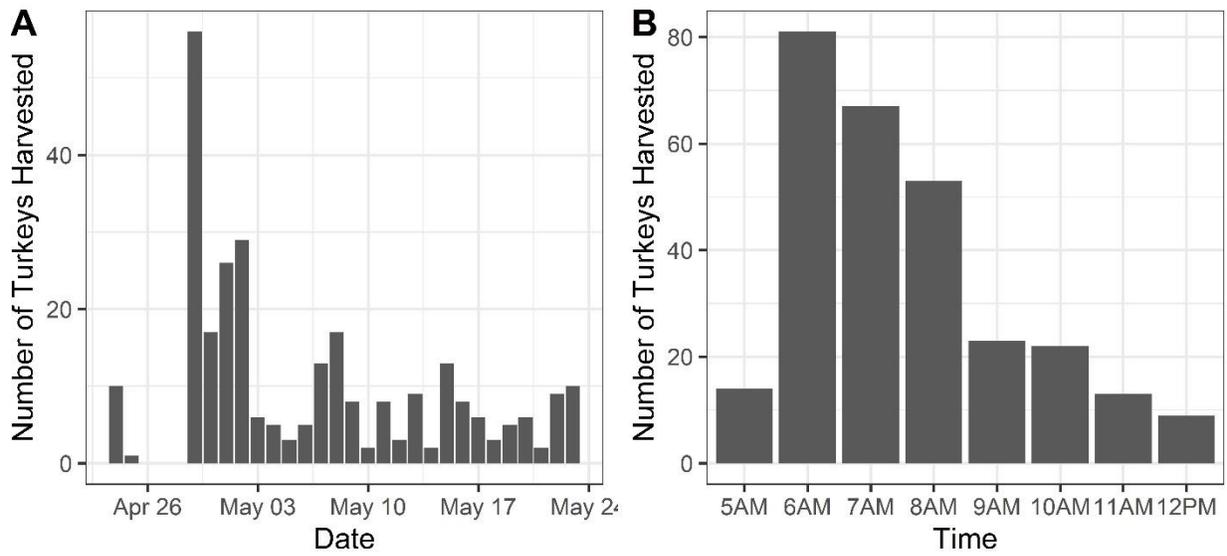


Figure 2. Distribution of the spring 2021 wild turkey harvests by date (A) and time (B) as reported via the online licensing system in Rhode Island.

Spring Harvest Composition and Trends

The 2021 spring turkey harvest consisted of 54 juveniles (jakes; 19%), and 228 adult toms (81%); a 0.23 to 1 juvenile to adult ratio (Table 1). During the 2021 spring turkey hunting season, hunters harvested seven more turkeys than in any other spring season. The previous record harvest was 275 turkeys harvested in 2003 and declined to a low of 104 birds in 2011; the lowest harvest had been since 1997 (Figure 1). Recent harvests (2019-2021) have remained high and are comparable to the high harvests in the early 2000's. The proportion of young males to adult males has generally fluctuated between 13-24 percent between 2018 to 2021 (Table 1). The percentage of jakes harvested is comparable to other New England states and can be an indicator of the previous year's reproductive success. Overall, the trend in harvest is positive from 1986 to 2021 despite fluctuations from year to year.



Table 1. Age and sex breakdown of spring harvested wild turkeys in Rhode Island, 2018-2021. The fall 2018-2021 wild turkey harvest summary is in table 6.

Age and Sex of Harvested Bird	2021	2020	2019	2018
<i>Number Harvested</i>				
Adult Male (Tom or Gobbler)	228	232	216	144
Young Male (Jake)	54	35	54	45
Bearded Hen	0	1	0	1
Total	282	268	270	190
<i>Harvest Proportion</i>				
Adult Male (Tom or Gobbler)	0.81	0.87	0.80	0.76
Young Male (Jake)	0.19	0.13	0.20	0.24
Bearded Hen	0.00	0.00	0.00	0.01
Total	1.00	1.00	1.00	1.00

Private and State Land Hunting

Private land accounted for most of the harvested birds (n = 250; 89%); however, 32 birds were taken on 13 different state wildlife management areas (Table 2). Arcadia Management Area had the highest harvest (14), followed by Rockville Management Area (3), Black Hut Management Area (2), Simmons Mill Management Area (2), Nicholas Farm Management Area (2), Durfee Hill Management Area (2), Big River Management Area (1), Burlingame Management Area (1), Eight Rod Farm Management Area (1), George Washington Management Area (1), Lake Road Management Area (1), and South Shore Management Area (1). Turkey harvest over the past three years has predominately occurred on private land, with only 10-11% of the harvest occurring public lands (Table 2).

Table 2. The proportion of spring harvested wild turkey on both private and state land in Rhode Island between 2019 to 2021.

Land Type	2019	2020	2021	Mean
Private Land	0.89	0.90	0.89	0.89
State Land	0.11	0.10	0.11	0.11
Total	270	268	282	273

Harvest by Town

Turkeys were harvested in 26 of the 39 towns in the state (Table 3). The following five towns had the highest harvests during the 2021 spring season: Burrillville (29), Exeter (23), Glocester (23), Coventry (21) and Foster (21). (Figure 3).

Table 3. Wild turkey harvest by town during the 2019-2021 spring seasons in Rhode Island.

Town of Harvest	Number of Birds		
	2021	2020	2019
Bristol	1	3	0
Burrillville	35	29	28
Charlestown	11	12	8
Coventry	22	21	19
Cranston	2	1	1
Cumberland	3	4	5
E. Greenwich	1	1	4
E. Providence	0	0	0
Exeter	30	23	18
Foster	14	21	22
Glocester	21	23	13
Hopkinton	16	5	13
Johnston	2	0	1
Little Compton	14	6	7
Lincoln	1	0	0
Middletown	0	4	1
Narragansett	0	0	3
N. Kingstown	4	12	5
N. Providence	1	0	0
N. Smithfield	12	8	15
Portsmouth	0	1	1
Richmond	21	12	18
Scituate	16	18	25
Smithfield	9	13	11
S. Kingstown	15	19	14
Tiverton	11	18	21
Warren	3	1	0
W. Greenwich	10	9	6
Westerly	3	4	7
Woonsocket	4	0	4
TOTAL	282	268	270

Special Hunt Opportunities

A youth hunt, termed a Junior Turkey Hunting Weekend, occurred prior to the 2021 regular season. During this special season, youth and paraplegic hunters harvested a combined eleven 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 12-15 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 resulted in the harvest of five birds. The overall impact of the youth season can be best measured in the opportunity it provides to attract and retain new hunters. The small number of participating hunters make it unlikely that youth/paraplegic hunts affect the regular season in any significant way.



Spring Turkey Hunter Survey Results

The spring turkey hunter survey was once again emailed out to anyone who purchased a turkey permit and had a valid email address within the Online Licensing system. The survey provides insight into perceived population trends, the economic value of turkey hunting, recreational benefits, and hunter effort. This survey has varied over the years, but the goal remains the same; to understand the dynamics of the spring turkey hunt and the preferences of the RI spring turkey hunters. The spring turkey hunter survey was emailed out to a total of 2,078 email addresses of hunters who purchased a spring 2021 turkey permit. Of the 2,078 hunters, 19% responded (387) to the survey and of those 25% (95) purchased a permit but did not hunt during the spring 2021 season.

A total of 2,111 spring wild turkey permits were sold, with 86% of permits (1815) being sold to Rhode Island residents (Table 4). This is a decrease from the 2,167 spring permits sold in 2020, but is still slightly higher than the typically number of spring turkey hunting permits sold in Rhode Island. Eleven percent of hunters that responded (32) indicated they mentored a junior hunter during the 2021 spring youth turkey hunt (Table 4).

Table 4. Summary of Rhode Island spring turkey hunter survey from 2019 to 2021.

Hunter Profile	2021	2020	2019
Number of Permits Issued	2111	2167	1812
Estimated Number of Active Turkey Hunters*	1583	1712	1013
Rate of Participation in Hunt	75%	79%	82%
Average Number of Years Hunter Spent Turkey Hunting	12.5	N/A	N/A
Average Number of Days per Hunter/Season	5.5	6.1	5.7
Hunter Success Rate	17.81%	15.65%	26%
Participation Rate in Youth Turkey Hunt	11%	N/A	N/A

*Estimated number of active turkey hunters was derived based on the total number of permits issued and the percentage of hunters surveyed that indicated they actively hunted during the 2021 spring season.

The 2021 survey indicated that Rhode Island spring turkey hunters spent most of their time hunting on private land. Two-hundred and eighty respondents provided insight with 48% (135) spending 100% of their time hunting on private land, 27% (77) on both private and public lands, and 24% (68) hunting only on state land. Hunters that were relatively new to turkey hunting, were more likely to hunt on state land than private land, indicating the importance of state land for new turkey hunters (Table 5). Hunter effort across both state and private land during the spring 2021 season was 5.5 days on average with a range of 1 to 25 days per hunter Table 4).

Table 5. The proportion of 2021 Rhode Island spring turkey hunters that hunt on private and state land, subdivided by experience.

Land Type	All hunters	Hunters with ≤ 5 years experience	Hunters with ≤ 1 year experience
State land	24% (68)	33% (35)	53% (19)
Private land	48% (135)	43% (45)	31% (11)
Both private and state land	28% (77)	24% (25)	16% (6)
Total hunters	100% (280)	100% (105)	100% (36)

The Rhode Island spring turkey season bag limits have remained conservative across the years allowing for ample opportunity and enjoyable hunts. Overall, 55% of survey respondents were either satisfied or very satisfied with the spring 2021 wild turkey season. Hunter satisfaction has remained consistent and high between 2019 - 2021. Twenty-nine percent of the survey respondents did not have an opinion and 16% responded as unsatisfied or very unsatisfied.

When asked about interference from other hunters while turkey hunting, most hunters (78%) reported they had not experienced interference during the spring 2021 season. Of the 22% of respondents that experienced interference 29% experienced interference on private land, 57% experienced interference on state land and 14% reported interference on both state and private land.

2021 Fall Archery Turkey Season Summary

The fall 2021 wild turkey archery season ran from October 1st to October 31st, 2021. The 2021 season resulted in a harvest of three birds (Table 6). This is a decrease from the five birds harvested during the 2020 fall season. One of the three birds harvested was taken on state land. The fall archery season continues to have low harvest, with more female than male turkeys being harvested between 2018 to 2021 (Table 6).

Table 6. Composition of fall harvested wild turkey in Rhode Island, 2018- 2021.

	2021	2020	2019	2018
<i>Male</i>				
Adult (Tom or Gobbler)	--	1	4	--
Juvenile (Jake)	--	--	--	--
<i>Female</i>				
Adult (Hen)	2	2	4	--
Juvenile (Jenny)	1	2	1	1
Total	3	5	9	1

2021 Wild Turkey Brood Survey

Observations of wild turkey hens (adult females) with their young (poults) have been recorded in Rhode Island since 1995. Typically, observations occur between the months of June and August and can be an indicator of fall recruitment. In 2019, the survey analysis changed to follow the standardized protocol for conducting wild turkey brood surveys prepared by the National Wild Turkey Federation Technical Committee. This standardized approach will help facilitate comparison of brood indexes across states within the Northeast and across the US. Major changes to the survey analysis include: the exclusion of June observations (only July and August observations used); and standardized filtering that reduces bias in observations.

We estimated the 2021 brood index to be 3.42 (CI= 3.13, 3.74) poults per hen gathered from 268 observations (Figure 6). The brood index fluctuates from year to year and likely reflects the impacts of weather and rainfall on brood success and survival in any given year. The average number of poults per brood was 3.96 (CI= 3.68, 4.28) resulting from 231 observations. Eighty-two percent of hen observations had a brood (268) and the male to female ratio was estimated to be 0.17 males per female (n= 284). Overall, the brood index depicts good survival during the spring of 2021 and is similar to the ten-year average (3.3 poults/hen). Long term trends (1993-

2020) in the brood index show a decline since the start of the brood survey in 1993. This decline is likely in part due to high reproduction at low population densities following reintroduction and translocations in the 1990's, and lower per hen reproduction as the population reached carrying capacity. The number of turkey brood reports has grown from ~40 in the early 90's to almost 300 in 2021! Most recently, the ten-year average brood index (2012 - 2021), indicates a stable index of 3.3poults/hen (Figure 6).

The Rhode Island Division of Fish and Wildlife relies on observations of poults and hens from the public. Members of the public can report their observations via an online form (<http://www.dem.ri.gov/programs/bnatres/fishwild/pdf/wild-turkey-brood-packet.pdf>) as well as by submitting hard copies of the forms to the division's wildlife office.

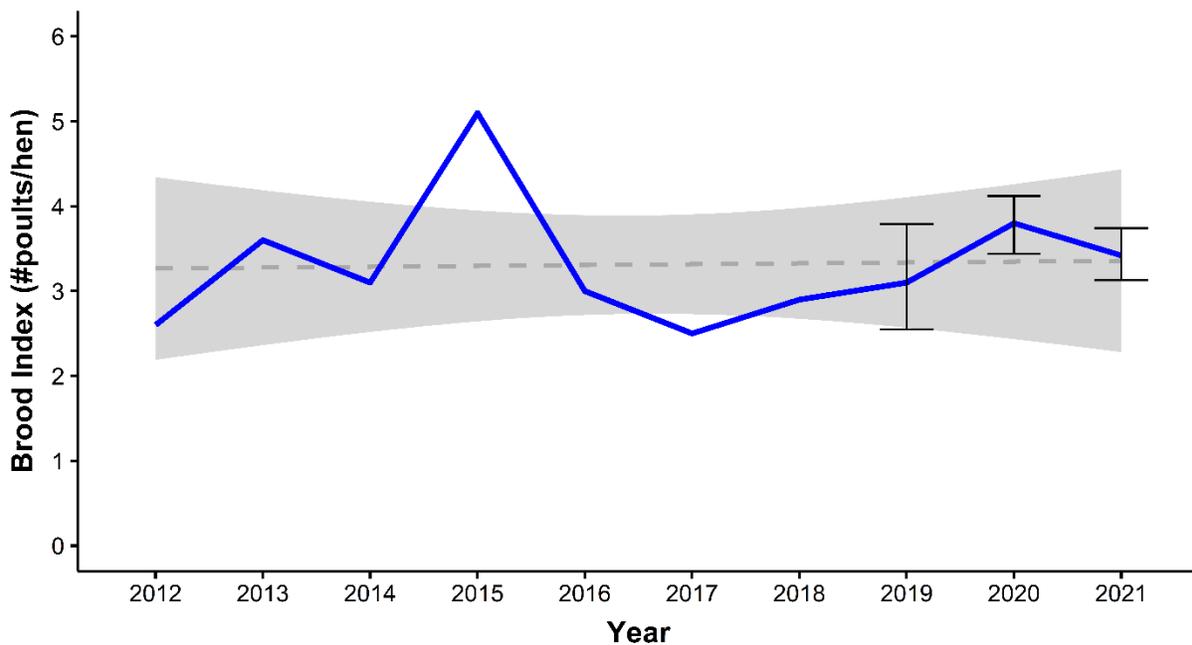


Figure 6. Rhode Island 10-year average brood index (# poults/hen) collected from public and biologist observations between 2012 to 2021. Ninety-five percent confidence intervals could only be calculated for surveys in 2019 or later due to updated survey methods. The trendline indicates a 0.01 increase in the brood index between 2012 to 2021, but the trend is not significant ($p = 0.91$).

2021 Wild Turkey Gobble Call Count Survey

The wild turkey gobble call count survey was re-instated during the spring of 2020 and conducted again during 2021. Three weeks prior to the opening of the turkey season, volunteers and biologists conducted call counts on 12 routes throughout Rhode Island. Each driving route

contained 12 stops, each 1 mile apart, for which the observer would stop and listen for turkey gobbles for four minutes. During that time, the observer would record the total number of gobbles heard, the number of turkeys gobbling, and the number of turkeys visually observed at each stop. Routes were run twice per week, alternating driving directions, for a duration of three weeks. Effort was made to conduct surveys on good weather days whenever possible. During the 2021 gobbler survey 17.2% of the total stops were active with an activity index of 0.33 and a gobble index of 4.1 (Table 7). Gobbler activity and the percent of stops that were active has increased over time (Figure 7) while the gobble index remains relatively stable over time.

Table 7. Summary of the spring turkey gobble call count survey results from 1993-2021 in Rhode Island.

Year	% Stops Active	Activity Index	Gobble Index
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
2016	N/A	N/A	N/A
2017	18.0%	0.42	3.6
2018	18.0%	0.36	6.2
2019	N/A	N/A	N/A
2020	19.0%	0.38	3.9
2021	17.2%	0.33	4.1
Average	14.2%	0.24	4.7

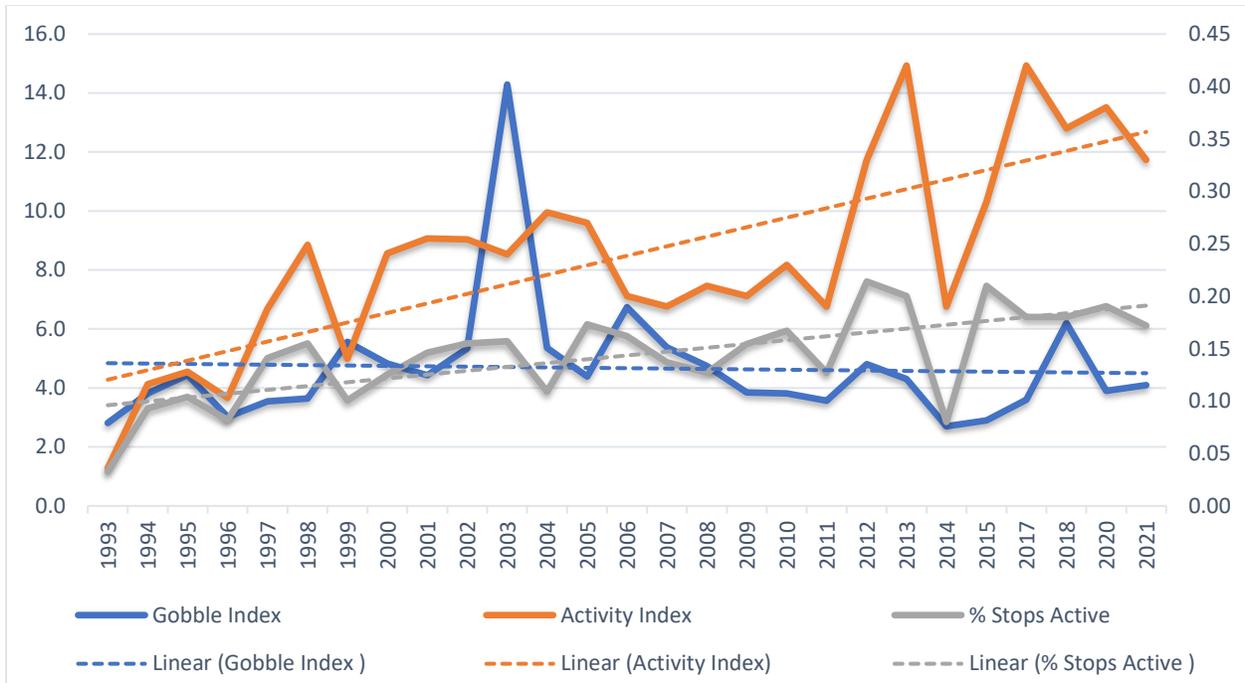


Figure 7. Trends in the gobble index, activity index and percent of active stops from 1993 to 2021 collected during the spring wild turkey gobble call count survey (survey not conducted in 2016 or 2019).

Conclusion

The wild turkey is a highly adaptable species capable of flourishing in an array of habitat types. Once locally extirpated, the wild turkey now occupies most of the state. Recent changes to the bag limits have increased hunting opportunity resulting in an increased turkey harvest for the springs of 2019 to 2021. While fluctuations in the harvest occur, long term trends are positive. Rhode Island turkey hunters indicate that they are satisfied with the spring bag limits and the hunting opportunity provided to them. Like harvest trends, brood index estimates fluctuate from year to year. The 2021 brood index estimate is good, above the 10-year average, and has not changed significantly over the past 16 years. RI DEM Fish and Wildlife will continue to monitor turkey populations and encourages public participation in the yearly brood survey, gobbler survey, and the spring turkey hunter survey.

I encourage you to provide feedback about this report by emailing Alex.Fish@dem.ri.gov



Appendix I

Rhode Island Spring Turkey Harvest by Town from 2010-2021.

Town	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Bristol	1	3	0	0	1	0	0	0	0	0	0	0
Burrillville	35	29	28	21	13	8	6	12	6	3	0	4
Charlestown	11	12	8	6	7	3	1	2	4	4	8	10
Coventry	22	21	19	13	8	11	9	8	21	10	9	6
Cranston	2	1	1	1	2	1	2	2	8	2	5	3
Cumberland	3	4	5	4	3	1	0	0	1	1	2	1
E. Greenwich	1	1	4	0	0	0	2	4	0	0	0	1
E. Providence	0	0	0	0	0	1	1	0	0	0	2	0
Exeter	30	23	18	15	15	9	15	5	9	10	0	23
Foster	14	21	22	11	6	10	3	6	9	9	24	3
Glocester	21	23	13	11	8	6	7	6	12	6	7	15
Hopkinton	16	5	13	19	7	6	3	3	4	8	10	6
Johnston	2	0	1	0	0	1	1	1	2	3	7	1
Little Compton	14	6	7	3	4	6	4	5	3	3	0	2
Lincoln	1	0	0	0	1	1	1	0	0	0	2	0
Middletown	0	4	1	0	0	0	0	0	0	0	0	0
Narragansett	0	0	3	1	0	0	1	0	0	0	0	0
N. Kingstown	4	12	5	8	5	6	4	3	4	0	1	7
N. Providence	1	0	0	0	0	0	0	0	0	0	0	0
N. Smithfield	12	8	15	13	7	6	7	4	7	6	10	10
Portsmouth	0	1	1	0	1	0	0	0	0	0	0	0
Richmond	21	12	18	11	9	9	5	5	15	10	9	13
Scituate	16	18	25	13	8	6	7	8	13	7	14	11
S. Kingstown	15	19	14	13	8	3	8	13	8	5	8	11
Smithfield	9	13	11	3	7	3	3	3	2	5	11	12
Tiverton	11	18	21	12	12	13	16	15	11	5	8	7
Warren	3	1	0	1	0	0	0	1	0	0	0	0
Westerly	3	4	7	4	1	5	0	2	3	2	3	9
Woonsocket	4	0	4	1	0	0	0	2	0	0	0	0
W. Greenwich	10	9	6	6	7	7	8	3	11	5	0	8
TOTAL	282	268	270	190	140	122	114	113	153	104	140	163