Table 1. Observations of selected animals (per 100 hours hunting) by cooperating archery hunters from 5 October to 15 November 2019 statewide, east (EBR) and west (WBR) of the Blue Ridge Mountains, and on private and public lands in Virginia.

Animal	Total Seen	Animals Seen/100 hrs. ± SE				
		State	EBR	WBR	Private Land	Public Land
Deer (antlered)	1,949	15.99 ± 1.18	13.82 ± 1.15	20.90 ± 2.61	17.37 ± 1.30	5.98 ± 0.79
Deer (doe)	4,873	39.98 ± 4.33	33.08 ± 2.24	55.58 ± 12.89	42.97 ± 4.89	18.22 ± 3.16
Deer (fawn)	1,800	14.77 ± 1.36	13.08 ± 1.31	18.60 ± 3.17	15.79 ± 1.51	7.34 ± 2.29
Deer (unknown)	1,114	9.14 ± 0.65	8.08 ± 0.75	11.53 ± 1.17	9.62 ± 0.71	5.64 ± 1.49
Gray Squirrel	12,399	101.73 ± 5.77	110.73 ± 7.82	81.38 ± 6.14	104.36 ± 6.06	82.60 ± 16.26
Fox Squirrel	627	5.14 ± 0.89	1.30 ± 0.40	13.84 ± 2.38	5.55 ± 0.99	2.18 ± 1.03
Turkey (bearded)	484	3.97 ± 0.68	3.19 ± 0.59	5.73 ± 1.75	3.81 ± 0.74	5.17 ± 1.52
Turkey (no beard)	1,751	14.37 ± 2.03	15.08 ± 2.55	12.77 ± 3.21	14.05 ± 1.87	16.66 ± 9.62
Turkey (unknown)	860	7.06 ± 1.09	8.01 ± 1.47	4.90 ± 1.19	7.74 ± 1.22	2.11 ± 0.95
Turkey (total)	3,095	25.39 ± 2.56	26.28 ± 3.18	23.39 ± 4.20	25.6 ± 2.54	23.93 ± 10.35
Grouse	8	0.07 ± 0.03	0.00 ± 0.00	0.21 ± 0.08	0.05 ± 0.02	0.20 ± 0.15
Bear (adult)	90	0.74 ± 0.14	0.43 ± 0.12	1.45 ± 0.34	0.72 ± 0.15	0.88 ± 0.31
Bear (cub)	27	0.22 ± 0.07	0.19 ± 0.09	0.29 ± 0.11	0.24 ± 0.08	0.07 ± 0.07
Bear (total)	117	0.96 ± 0.18	0.62 ± 0.18	1.74 ± 0.37	0.96 ± 0.20	0.95 ± 0.35
Red Fox	195	1.60 ± 0.26	2.06 ± 0.36	0.56 ± 0.18	1.74 ± 0.29	0.61 ± 0.31
Gray Fox	36	0.30 ± 0.12	0.40 ± 0.18	0.05 ± 0.04	0.29 ± 0.13	0.34 ± 0.28
Coyote	126	1.03 ± 0.26	0.72 ± 0.14	1.74 ± 0.77	0.91 ± 0.19	1.97 ± 0.95
Bobcat	28	0.23 ± 0.06	0.22 ± 0.07	0.24 ± 0.09	0.26 ± 0.06	0.00 ± 0.00
Raccoon	197	1.62 ± 0.19	1.74 ± 0.24	1.34 ± 0.33	1.72 ± 0.21	0.88 ± 0.39
Opossum	33	0.27 ± 0.07	0.32 ± 0.09	0.16 ± 0.09	0.29 ± 0.08	0.14 ± 0.09
Striped Skunk	31	0.25 ± 0.06	0.22 ± 0.06	0.32 ± 0.16	0.29 ± 0.07	0.00 ± 0.00
Elk	0	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Feral Hog	0	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Dog	142	1.17 ± 0.35	1.29 ± 0.45	0.88 ± 0.51	0.89 ± 0.23	3.20 ± 2.38
House Cat	109	0.89 ± 0.17	0.76 ± 0.20	1.20 ± 0.31	0.95 ± 0.18	0.48 ± 0.48
Hunter	335	2.75 ± 0.48	2.54 ± 0.53	3.21 ± 0.96	2.36 ± 0.48	5.57 ± 1.97
Total Hunters		269	187	100	255	47
Total Hunts		2,857	1,975	882	2,588	269
Total Hours		12,188	8,451	3,737	10,717	1,471
Avg. Hrs. Per Hunt		4.27 ± 0.05	4.28 ± 0.05	4.24 ± 0.08	4.14 ± 0.05	5.47 ± 0.16

Table 2. Observations of selected animals (per 100 hours hunting) by cooperating archery hunters from 5 October to 15 November 2019 on private and public lands east (EBR) and west (WBR) of the Blue Ridge Mountains in Virginia.

	Animals Seen/100 hrs. ± SE			
	EBR		WBR	
Animal	Private Land	Public Land	Private Land	Public Land
Deer (antlered)	14.65 ± 1.24	5.17 ± 0.97	24.36 ± 2.97	6.80 ± 1.25
Deer (doe)	34.45 ± 2.42	18.77 ± 5.34	64.88 ± 15.7	17.67 ± 3.42
Deer (fawn)	13.44 ± 1.40	9.25 ± 3.53	21.83 ± 3.74	5.44 ± 2.60
Deer (unknown)	8.58 ± 0.80	2.86 ± 1.35	12.30 ± 1.37	8.43 ± 2.19
Gray Squirrel	111.51 ± 7.97	102.55 ± 31.33	85.97 ± 6.75	62.66 ± 11.94
Fox Squirrel	1.35 ± 0.43	0.82 ± 0.64	16.36 ± 2.80	3.53 ± 1.88
Turkey (bearded)	2.86 ± 0.59	6.66 ± 2.45	6.23 ± 2.14	3.67 ± 1.63
Turkey (no beard)	13.67 ± 2.10	29.79 ± 16.63	15.03 ± 3.95	3.53 ± 1.53
Turkey (unknown)	8.55 ± 1.59	2.31 ± 1.33	5.63 ± 1.44	1.90 ± 1.39
Turkey (total)	25.09 ± 2.91	38.76 ± 17.76	26.89 ± 5.17	9.11 ± 2.02
Grouse	0.00 ± 0.00	0.00 ± 0.00	0.17 ± 0.07	0.41 ± 0.29
Bear (adult)	0.41 ± 0.13	0.54 ± 0.34	1.50 ± 0.40	1.22 ± 0.48
Bear (cub)	0.21 ± 0.09	0.00 ± 0.00	0.33 ± 0.13	0.14 ± 0.13
Bear (total)	0.62 ± 0.20	0.54 ± 0.34	1.83 ± 0.44	1.36 ± 0.57
Red Fox	2.14 ± 0.39	1.22 ± 0.62	0.70 ± 0.22	0.00 ± 0.00
Gray Fox	0.38 ± 0.19	0.68 ± 0.58	0.07 ± 0.05	0.00 ± 0.00
Coyote	0.74 ± 0.15	0.54 ± 0.26	1.33 ± 0.56	3.40 ± 1.90
Bobcat	0.25 ± 0.08	0.00 ± 0.00	0.30 ± 0.11	0.00 ± 0.00
Raccoon	1.78 ± 0.25	1.36 ± 0.78	1.57 ± 0.40	0.41 ± 0.26
Opossum	0.35 ± 0.10	0.00 ± 0.00	0.13 ± 0.10	0.27 ± 0.18
Striped Skunk	0.25 ± 0.07	0.00 ± 0.00	0.40 ± 0.19	0.00 ± 0.00
Elk	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Feral Hog	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Dog	1.02 ± 0.30	4.08 ± 4.33	0.53 ± 0.28	2.31 ± 2.33
House Cat	0.83 ± 0.22	0.00 ± 0.00	1.27 ± 0.31	0.95 ± 0.96
Hunter	2.16 ± 0.54	6.53 ± 2.65	2.87 ± 0.94	4.62 ± 3.10
Total Hunters	179	22	88	26
Total Hunts	1,852	123	736	146
Total Hours	7,716	735	3,001	736
Avg. Hrs. Per Hunt	4.17 ± 0.05	5.98 ± 0.24	4.08 ± 0.08	5.04 ± 0.21

Table 3. Observations of selected animals (per 100 hours hunting) by cooperating archery hunters from 5 October to 15 November 2019 within geographic regions of Virginia.

	Animals Seen/ 100 hrs. ± SE				
Animal	Tidewater	S. Piedmont	N. Piedmont	S. Mountain	N. Mountain
Deer (antlered)	12.18 ± 1.43	14.52 ± 2.65	14.67 ± 1.85	19.90 ± 4.03	22.31 ± 2.80
Deer (doe)	26.66 ± 2.99	35.38 ± 4.16	36.76 ± 4.24	57.49 ± 20.44	52.91 ± 12.03
Deer (fawn)	11.49 ± 2.16	15.01 ± 2.67	12.95 ± 2.07	17.70 ± 4.78	19.86 ± 3.70
Deer (unknown)	6.82 ± 1.21	7.73 ± 1.37	9.41 ± 1.35	10.18 ± 1.50	13.44 ± 1.76
Gray Squirrel	79.70 ± 7.75	94.97 ± 12.20	148.83 ± 14.16	72.99 ± 8.35	93.15 ± 8.91
Fox Squirrel	0.04 ± 0.04	1.95 ± 0.96	1.88 ± 0.70	10.54 ± 1.82	18.45 ± 4.97
Turkey (bearded)	4.85 ± 1.39	2.81 ± 0.68	2.09 ± 0.70	6.05 ± 2.31	5.27 ± 2.76
Turkey (no beard)	19.66 ± 5.60	12.69 ± 3.29	13.01 ± 3.56	9.03 ± 2.72	18.00 ± 6.61
Turkey (unknown)	6.68 ± 1.75	6.47 ± 1.66	10.31 ± 3.15	5.78 ± 1.92	3.66 ± 1.06
Turkey (total)	31.19 ± 6.61	21.96 ± 3.98	25.41 ± 4.89	20.86 ± 4.83	26.94 ± 7.38
Grouse	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.23 ± 0.12	0.19 ± 0.11
Bear (adult)	0.00 ± 0.00	0.94 ± 0.32	0.40 ± 0.20	1.05 ± 0.34	1.99 ± 0.62
Bear (cub)	0.00 ± 0.00	0.49 ± 0.26	0.12 ± 0.09	0.23 ± 0.14	0.39 ± 0.16
Bear (total)	0.00 ± 0.00	1.42 ± 0.54	0.52 ± 0.21	1.28 ± 0.40	2.38 ± 0.65
Red Fox	0.88 ± 0.33	0.61 ± 0.29	4.15 ± 0.78	0.09 ± 0.07	1.22 ± 0.38
Gray Fox	0.98 ± 0.54	0.04 ± 0.04	0.18 ± 0.07	0.09 ± 0.07	0.00 ± 0.00
Coyote	0.66 ± 0.19	0.24 ± 0.15	1.14 ± 0.30	2.20 ± 1.27	1.09 ± 0.51
Bobcat	0.22 ± 0.12	0.16 ± 0.08	0.28 ± 0.14	0.32 ± 0.14	0.13 ± 0.09
Raccoon	2.55 ± 0.50	0.73 ± 0.20	1.81 ± 0.41	1.05 ± 0.29	1.74 ± 0.67
Opossum	0.66 ± 0.24	0.08 ± 0.06	0.22 ± 0.10	0.23 ± 0.15	0.06 ± 0.07
Striped Skunk	0.18 ± 0.09	0.28 ± 0.12	0.22 ± 0.11	0.46 ± 0.25	0.13 ± 0.09
Elk	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Feral Hog	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Dog	0.95 ± 0.64	1.38 ± 0.53	1.51 ± 0.97	1.47 ± 0.87	0.06 ± 0.06
House Cat	0.51 ± 0.30	0.73 ± 0.33	0.98 ± 0.39	1.19 ± 0.46	1.22 ± 0.38
Hunter	1.42 ± 0.53	1.55 ± 0.64	4.25 ± 1.17	3.48 ± 1.28	2.83 ± 1.47
Total Hunters	61	59	83	54	46
Total Hunts	581	606	788	480	402
Total Hours	2,742	2,459	3,251	2,181	1,556
Avg. Hrs. Per Hunt	4.72 ± 0.10	4.06 ± 0.09	4.13 ± 0.08	4.54 ± 0.11	3.87 ± 0.10

Table 4. Observations of selected animals (per 100 hours hunting) by cooperating archery hunters by week from 5 October to 15 November 2019 in Virginia.

	Animals Seen/100 hrs. + SE						
Animal	Day 1 (10/5)	Week 1 (10/6-12)	Week 2 (10/13-19)	Week 3 (10/20-26)	Week 4 (10/27-11/2)	Week 5 (11/3-9)	Week 6 (11/10-15)
Deer (antlered)	15.03 ± 1.99	11.61 ± 1.14	14.38 ± 1.41	13.67 ± 1.60	17.47 ± 2.16	21.86 ± 2.19	18.12 ± 1.67
Deer (doe)	40.29 ± 4.38	39.46 ± 3.33	43.95 ± 5.72	36.93 ± 4.85	40.94 ± 6.76	42.90 ± 8.27	34.76 ± 3.89
Deer (fawn)	15.57 ± 2.09	14.62 ± 1.61	17.30 ± 1.84	14.75 ± 1.99	14.06 ± 2.45	15.67 ± 2.60	11.28 ± 1.77
Deer (unknown)	9.47 ± 1.48	9.67 ± 1.16	9.82 ± 1.17	10.30 ± 1.58	8.29 ± 1.25	8.32 ± 1.34	8.07 ± 1.11
Gray Squirrel	107.16 ± 7.59	101.60 ± 8.14	98.89 ± 6.21	108.19 ± 6.86	114.65 ± 9.14	93.15 ± 8.81	91.03 ± 9.57
Fox Squirrel	4.03 ± 1.37	3.98 ± 1.08	4.99 ± 1.28	4.61 ± 1.09	4.98 ± 1.17	6.54 ± 1.45	6.59 ± 1.92
Turkey (bearded)	4.36 ± 1.30	4.49 ± 1.10	2.92 ± 0.70	2.93 ± 0.91	4.26 ± 1.78	3.80 ± 1.17	5.36 ± 2.15
Turkey (no beard)	11.33 ± 3.14	14.67 ± 3.28	14.60 ± 3.64	15.46 ± 5.20	18.15 ± 5.22	13.64 ± 2.73	10.91 ± 2.92
Turkey (unknown)	9.15 ± 3.53	5.32 ± 1.56	8.28 ± 2.48	9.87 ± 2.31	6.10 ± 1.75	5.83 ± 1.75	6.10 ± 1.77
Turkey (total)	24.83 ± 5.17	24.47 ± 4.17	25.80 ± 4.69	28.25 ± 6.18	28.51 ± 6.03	23.28 ± 3.81	22.37 ± 4.36
Grouse	0.00 ± 0.00	0.05 ± 0.05	0.11 ± 0.07	0.11 ± 0.08	0.06 ± 0.06	0.05 ± 0.05	0.06 ± 0.06
Bear (adult)	1.96 ± 0.57	0.69 ± 0.20	0.80 ± 0.24	0.49 ± 0.19	0.62 ± 0.21	0.61 ± 0.30	0.62 ± 0.28
Bear (cub)	0.54 ± 0.28	0.32 ± 0.15	0.21 ± 0.15	0.22 ± 0.13	0.17 ± 0.13	0.15 ± 0.11	0.06 ± 0.06
Bear (total)	2.50 ± 0.76	1.02 ± 0.27	1.01 ± 0.32	0.70 ± 0.25	0.78 ± 0.29	0.76 ± 0.33	0.68 ± 0.30
Red Fox	2.07 ± 0.65	0.93 ± 0.23	1.70 ± 0.44	1.30 ± 0.31	1.85 ± 0.53	1.93 ± 0.47	1.79 ± 0.55
Gray Fox	0.33 ± 0.24	0.23 ± 0.10	0.05 ± 0.05	0.00 ± 0.00	0.22 ± 0.14	0.81 ± 0.62	0.43 ± 0.32
Coyote	0.98 ± 0.42	1.02 ± 0.43	0.42 ± 0.24	1.74 ± 0.65	1.74 ± 0.64	0.86 ± 0.24	0.43 ± 0.22
Bobcat	0.11 ± 0.11	0.42 ± 0.15	0.21 ± 0.11	0.16 ± 0.09	0.11 ± 0.08	0.46 ± 0.15	0.00 ± 0.00

Table 4 (continued). Observations of selected animals (per 100 hours of hunting) by cooperating archery hunters by week from 5 October to 15 November 2019 in Virginia.

	Animals Seen/100 hrs. + SE						
Animal	Day 1 (10/4)	Week 1 (10/5-11)	Week 2 (10/12-18)	Week 3 (10/19-25)	Week 4 (10/26-11/1)	Week 5 (11/2-8)	Week 6 (11/9-14)
Raccoon	1.96 ± 0.66	2.04 ± 0.50	2.55 ± 0.51	2.11 ± 0.61	0.95 ± 0.28	0.61 ± 0.18	1.17 ± 0.34
Opossum	0.54 ± 0.24	0.32 ± 0.15	0.48 ± 0.23	0.22 ± 0.17	0.11 ± 0.08	0.25 ± 0.11	0.06 ± 0.06
Striped Skunk	0.44 ± 0.22	0.23 ± 0.10	0.11 ± 0.08	0.22 ± 0.11	0.06 ± 0.06	0.35 ± 0.15	0.49 ± 0.27
Elk	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Feral Hog	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00	0.00 ± 0.00
Dog	1.09 ± 0.72	1.02 ± 0.47	0.69 ± 0.30	2.17 ± 1.67	0.67 ± 0.29	0.91 ± 0.35	1.66 ± 0.64
House Cat	1.31 ± 0.43	0.74 ± 0.26	0.69 ± 0.24	0.70 ± 0.25	1.06 ± 0.35	1.01 ± 0.39	0.99 ± 0.30
Hunter	4.79 ± 1.11	2.41 ± 0.67	1.91 ± 0.47	2.82 ± 0.89	2.69 ± 0.69	3.14 ± 0.76	2.53 ± 0.72
Total Hunters	173	211	208	197	180	149	136
Total Hunts	177	522	480	476	416	439	347
Total Hours	918	2,162	1,884	1,844	1,786	1,972	1,623
Avg. Hrs. Per Hunt	5.19 ± 0.17	4.14 ± 0.09	3.93 ± 0.09	3.87 ± 0.09	4.29 ± 0.12	4.49 ± 0.13	4.68 ± 0.15

Table 5. Doe-buck and fawn-doe ratio estimates (a) east and west of the Blue Ridge Mountains, (b) by land ownership, (c) by region, and (d) by week of survey season based on cooperating archery hunter observations in Virginia from 5 October to 15 November 2019.

(a)

Ratio	Statewide	East of BR	West of BR
Doe: Buck	2.50	2.39	2.66
Fawn: Doe	0.37	0.40	0.33

(b)

Ratio	Private	Public
Doe: Buck	2.47	3.05
Fawn: Doe	0.37	0.40

(c)

Ratio	Tidewater	S. Piedmont	N. Piedmont	S. Mountain	N. Mountain
Doe: Buck	2.19	2.44	2.51	2.89	2.37
Fawn: Doe	0.43	0.42	0.35	0.31	0.38

(d)

Ratio	Day 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Doe: Buck	2.68	3.40	3.06	2.70	2.34	1.96	1.92
Fawn: Doe	0.39	0.37	0.39	0.40	0.34	0.37	0.32

Table 6. Statewide total observations and total observations per 100 hunts of miscellaneous animals by cooperating archery hunters 5 October to 15 November 2019 in Virginia.

Animal	Total Observations	Observations / 100 Hunts
Bats	7	0.25
Beaver	3	0.11
Buzzard	7	0.25
Chipmunk	80	2.80
Crow	107	3.75
Doves	9	0.32
Ducks	46	1.61
Eagle	22	0.77
Falcon	0	0.00
Fisher	0	0.00
Flying Squirrels	0	0.00
Geese	282	9.87
Groundhog	45	1.58
Hawk	73	2.56
Herons	12	0.42
Mink	3	0.11
Mouse	0	0.00
Muskrat	0	0.00
Miscellaneous Birds	36	1.26
Nutria	0	0.00
Otter	1	0.04
Owl	21	0.74
Pheasant	1	0.04
Quail	7	0.25
Rabbit	60	2.10
Red Squirrel	0	0.00
Shrew	0	0.00
Sika & Other Deer	8	0.28
Snake	0	0.00
Snipe	4	0.14
Turtles	2	0.07
Weasel	0	0.00
Woodcock	6	0.21

Figure 1. Geographic regions used for analyses in this report.

Figure 2. Antlered deer observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 3. Antlered deer observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 4. Doe deer observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 5. Doe deer observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 6. Fawns observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 7. Fawns observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 8. Gray squirrels observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 9. Gray squirrels observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 10. Fox squirrels observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 11. Fox squirrels observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 12. Wild turkeys observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 13. Wild turkeys observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 14. Ruffed grouse observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 15. Ruffed grouse observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 16. Black bears observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 17. Black bears observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 18. Red foxes observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 19. Red foxes observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 20. Gray foxes observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 21. Gray foxes observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 22. Coyotes observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 23. Coyotes observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 24. Bobcats observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 25. Bobcats observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 26. Raccoons observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 27. Raccoons observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 28. Opossums observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 29. Opossums observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 30. Dogs observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 31. Dogs observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 32. House cats observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 33. House cats observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

Figure 34. Hunters observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 east and west of the Blue Ridge Mountains and statewide in Virginia.

Figure 35. Hunters observed (per 100 hours of hunting) by cooperating early archery hunters from 1997-2019 by land ownership and statewide in Virginia.

2019 Bowhunter Observation Record

Virginia Department of Game and Inland Fisheries

Please see instructions on back of form.

Name: _____
Address: _____
City and Zip Code: _____

* Acorn Crop and Weather Codes:

Acorn Crop:	1) none	2) light	3) moderate	4) heavy
Precipitation:	1) none	2) drizzle	3) moderate	4) heavy
Wind:	1) none	2) light	3) breezy	4) strong
Temperature:	1) <40° F	2) 40-70° F	3) >70° F	

Date	Number of Hours Hunted	County	Public Owned Land? (Yes or No)	Deer (antlered)	Deer (does)	Deer (fawns)	Deer (unknown)	Gray Squirrel	Fox Squirrel	Turkey (bearded)	Turkey (no beard)	Turkey (unknown)	Grouse	Bear (adult)	Bear (cub)	Red Fox	Gray Fox	Coyote	Bobcat	Raccoon	Opossum	Striped Skunk	Elk	Feral Hog	Dog	House Cat	Hunter	Other Animals & Number Seen	Acorn Crop*	Precipitation*	Wind*	Temperature*
Oct 3	*4 ½*	*Example*	*Yes*		1	2													1									*Eagle:1*	3	2	1	2

Appendix 1. Survey instrument for 2019 Virginia Bowhunter Survey.

INSTRUCTIONS

1. If you wish to participate in next years survey, and do not wish to maintain your confidentiality, please fill in your name and address at the top of the form and in the return address box below.
2. Enter *number of hours* for each *date* you hunted **between Oct. 5 and Nov. 15** (early season) **only.** Do not separate morning and evening hunts on different lines (combine data from both hunts).
3. Write in the *county* where you hunted. If you hunted in more than one county on a single day, record different counties on different lines of the form.
4. Report whether or not you were hunting on *public owned land* (state or federal).
5. Enter the *number* of animals and other hunters you observed while hunting. Begin observations upon leaving your vehicle and end observations when you return to your vehicle.
6. If you saw a species *not listed* at the top of the chart, enter the *name* and *number* of animals in the "Other Animals" column near the right side of the form.
7. On the last four columns of the chart, record *acorn abundance* and *average weather* conditions for the time period hunted. Use the *number codes* at the top right corner of the form.
8. *Fold* this form along the lines below so that our address shows, and *tape* it together.
9. Please *mail* this form to us by **January 1, 2020**. *No postage is needed.*

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 3 VERONA VA
POSTAGE WILL BE PAID BY ADDRESSEE

BOWHUNTER SURVEY
VA DEPT OF GAME & INLAND FISHERIES
PO BOX 996
VERONA VA 24482-9901

Name: _____
Address: _____
City/Town: _____

If you wish to continue to participate in the Virginia Bowhunter Survey, and do not wish to maintain confidentiality, please enter your name and address in the return address box. Thank you.

RETURN ADDRESS (OPTIONAL).

DO YOU KNOW OF OTHER HUNTERS WHO WOULD LIKE TO PARTICIPATE IN THE BOWHUNTER SURVEY? IF SO, PLEASE ENTER THEIR NAMES AND ADDRESSES BELOW:

Name: _____
Address: _____
City/Town: _____

Name: _____
Address: _____
City/Town: _____

THANK YOU FOR PARTICIPATING!!

Tape Here

Appendix 2. Instructions for 2019 Virginia Bowhunter Survey Form.

Appendix 3. Virginia counties hunted, hunts per county, and percentage of total state hunts per county by cooperating archery hunters 5 October to 15 November 2019 in Virginia.

County	No. Hunts	% of Hunts	County	No. Hunts	% of Hunts
Accomack	33	1.16	King William	23	0.81
Albemarle	120	4.20	Lancaster	57	2.00
Alleghany	15	0.53	Lee	0	0.00
Amelia	7	0.25	Loudoun	38	1.33
Amherst	62	2.17	Louisa	19	0.67
Appomattox	3	0.11	Lunenburg	47	1.65
Augusta	45	1.58	Madison	54	1.89
Bath	13	0.46	Mathews	20	0.70
Bedford	106	3.71	Mecklenburg	0	0.00
Bland	12	0.42	Middlesex	10	0.35
Botetourt	54	1.89	Montgomery	54	1.89
Brunswick	46	1.61	Nelson	57	2.00
Buchanan	8	0.28	New Kent	33	1.16
Buckingham	20	0.70	Northampton	0	0.00
Campbell	0	0.00	Northumberland	16	0.56
Caroline	4	0.14	Nottoway	18	0.63
Carroll	11	0.39	Orange	38	1.33
Charles City	15	0.53	Page	9	0.32
Charlotte	3	0.11	Patrick	4	0.14
Chesapeake	9	0.32	Pittsylvania	72	2.52
Chesterfield	14	0.49	Powhatan	37	1.30
Clarke	27	0.95	Prince Edward	7	0.25
Craig	17	0.60	Prince George	79	2.77
Culpeper	39	1.37	Prince William	46	1.61
Cumberland	33	1.16	Pulaski	4	0.14
Dickenson	42	1.47	Rappahannock	50	1.75
Dinwiddie	11	0.39	Richmond	0	0.00
Essex	7	0.25	Roanoke	23	0.81
Fairfax	59	2.07	Rockbridge	53	1.86
Fauquier	94	3.29	Rockingham	84	2.94
Floyd	32	1.12	Russell	17	0.60
Fluvanna	39	1.37	Scott	6	0.21
Franklin	58	2.03	Shenandoah	119	4.17
Frederick	12	0.42	Smyth	26	0.91
Giles	20	0.70	Southampton	41	1.44
Gloucester	15	0.53	Spotsylvania	6	0.21
Goochland	28	0.98	Stafford	38	1.33
Grayson	45	1.58	Suffolk	12	0.42
Greene	7	0.25	Surry	34	1.19
Greensville	19	0.67	Sussex	37	1.30
Halifax	37	1.30	Tazewell	14	0.49
Hanover	34	1.19	Virginia Beach	8	0.28
Henrico	24	0.84	Warren	11	0.39
Henry	15	0.53	N. News / Hampton	0	0.00
Highland	14	0.49	Washington	37	1.30
Isle of Wight	16	0.56	Westmoreland	42	1.47
James City	33	1.16	Wise	0	0.00
King & Queen	8	0.28	Wythe	58	2.03
King George	2	0.07	York	12	0.42