

2015 SUMMER ROADSIDE SURVEY

PERFORMANCE REPORT STATEWIDE WILDLIFE RESEARCH AND SURVEYS

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Secretary

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2015 Summer Roadside Survey

Prepared by Matt Peek, Furbearer Biologist

Each year since 1980, conservation officers, district biologists, public lands and parks employees, and other selected Kansas Department of Wildlife, Parks, and Tourism personnel have been asked to participate in the Summer Roadside Survey. The survey takes place between the fourth week of July and the last week of September. Participants are asked to record all furbearers observed (dead or alive) while driving during their regular duties. Observations and mileage are recorded weekly (**Appendix 1**), and a Roadside Index (the number of animals observed per 1000 miles traveled) is calculated.

From 1980-1985, only raccoon observations were recorded, but both procedures and classes of personnel involved have remained similar since 1986. In 2015, 68 department employees returned usable surveys. Total miles driven and number of each species observed since 1980 are shown in **Table 1**. Annual Roadside Indices calculated from this data and their associated trend lines are presented in **Figure 1** for the seven furbearer species most commonly observed. Caution should be exercised in drawing conclusions about species with small sample sizes (i.e. - low indices) such as bobcat and red fox. **Figure 2** shows a relative comparison of annual Roadside Indices for several groups of furbearers. Again, caution must be used in interpreting this data. This figure is not meant to be a comparison of population levels, but rather a comparison of the relative change in indices over time.

Mean 2015 Roadside Indices by KDWPT region are presented in **Table 2**. Personnel with statewide responsibilities who participate in the survey are classified under the region in which they are stationed. Duncan's Multiple Range Test (SAS GLM procedure) was used to compare indices among regions ($\alpha = 0.05$). In 2011, raccoon, opossum, striped skunk, coyote, and badger had enough observations to show statistically significant regional variation. A comparison of annual regional indices for each of these species is presented in **Figure 3**.

Comments:

Coyote and raccoon indices continue to rise, both surpassing previous recorded highs.

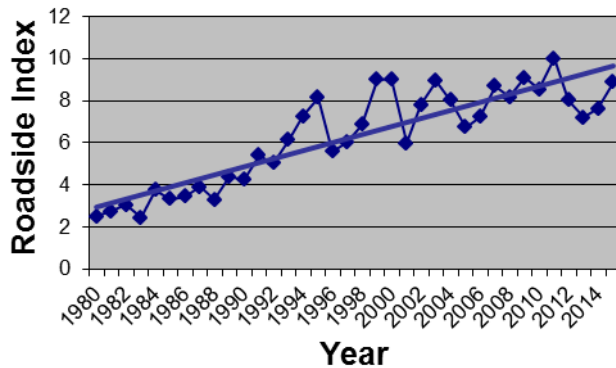
The bobcat index increased for just the second time in the past 8 years. Harvest averaged over 6000 for the first 5 years of this span, and just over 3600 for the 3 most recent years.

KDWPT regions 3 and 4 cover southwest and southcentral Kansas, respectively. Much of this area was affected by severe drought during 2011. Roadside indices representing the five furbearer species most often observed during this survey all declined from last year in both of these regions, with the exception of the coyote index in region 3 (see figures 3a-e).

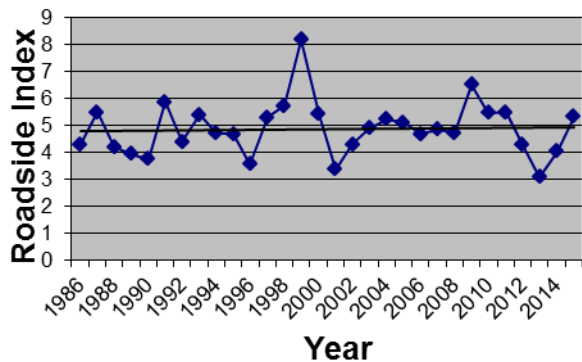
Table 1. Roadside Survey participation, mileage, and species observations since 1980.

Year	(n)	Miles	Raccoon	Opossum	Striped Skunk	Coyote	Badger	Bobcat	Red Fox	Gray Fox	Swift Fox	Beaver	Mink	Muskrat	River Otter	Spotted Skunk	Weasel	Armadillo	Woodchuck	Porcupine
1980	80	241752	606																	
1981	76	302309	829																	
1982	84	324956	991																	
1983	73	359309	876																	
1984	76	271213	1018																	
1985	77	293312	971																	
1986	81	313547	1078	1348	1109	146	70	12	14	1	12	0	11		0	1	0	2	1	0
1987	79	305812	1192	1680	1237	149	87	9	19	0	11	1	10		0	1	0	2	2	0
1988	81	301140	989	1264	931	204	78	17	21	0	9	6	10		0	0	0	2	6	0
1989	98	359834	1580	1415	1168	217	67	8	20	0	17	9	3		0	0	0	6	2	2
1990	82	300465	1276	1122	922	128	70	14	34	3	5	5	11		0	1	0	8	3	0
1991	102	352063	1904	2063	1556	246	136	16	44	1	10	3	19		0	0	2	13	4	2
1992	103	377202	1898	1655	1301	235	94	27	52	0	23	6	10		0	0	2	21	12	2
1993	107	374677	2290	2023	1463	241	100	26	49	0	15	18	36		0	0	0	77	10	5
1994	99	353089	2562	1661	1198	245	92	30	55	2	26	8	7		0	0	1	62	7	0
1995	106	390159	3174	1826	1457	287	110	51	62	1	10	9	11		0	3	1	88	8	2
1996	94	384811	2142	1369	1159	195	87	48	81	0	1	3	10	7	0	0	0	134	10	0
1997	71	325653	1965	1726	1405	262	145	49	86	1	2	4	10	5	0	0	0	285	7	3
1998	94	385924	2648	2204	1719	393	187	60	71	6	5	6	14	15	0	0	1	260	18	3
1999	74	300904	2703	2459	1699	330	102	42	64	1	3	3	8	11	0	0	0	242	25	8
2000	84	364139	3288	1974	1820	480	133	85	64	11	1	12	13	24	1	0	0	453	13	2
2001	67	287980	1719	967	1032	284	71	57	42	0	6	4	7	6	1	0	0	257	18	8
2002	76	321335	2511	1383	1449	404	107	51	86	2	6	13	4	6	0	0	0	597	13	15
2003	90	368408	3289	1804	1819	469	167	82	82	1	22	11	6	2	1	0	0	820	12	5
2004	90	353245	2836	1845	1776	439	152	52	144	2	39	0	5	2	0	0	0	860	20	11
2005	100	388468	2615	1985	1439	481	152	55	82	3	11	6	5	1	0	0	1	816	25	9
2006	89	344109	2483	1611	1213	481	110	39	67	2	11	4	11	6	0	0	2	696	20	8
2007	97	413668	3597	2002	1674	438	155	38	118	1	13	6	3	2	0	0	0	622	18	9
2008	90	342780	2799	1619	1550	446	189	43	57	0	8	7	8	1	0	0	1	504	19	4
2009	87	341709	3105	2226	1848	473	149	38	63	1	7	8	7	7	0	0	0	587	15	5
2010	72	263043	2242	1438	1084	319	100	22	52	1	9	2	13	13	0	0	0	391	9	6
2011	76	285394	2849	1565	1223	472	94	35	36	0	14	3	5	13	0	0	0	128	11	6
2012	81	301497	2420	1290	1239	584	107	28	52	3	3	11	5	5	0	0	0	n/a	12	3
2013	77	285402	2049	880	943	422	67	24	34	0	0	5	3	0	0	0	0	n/a	3	1
2014	75	275638	2097	1108	1063	437	76	26	47	0	9	4	4	0	0	0	0	n/a	4	1
2015	68	249345	2214	1324	926	389	85	15	28	0	7	2	6	2	0	0	0	n/a	3	0

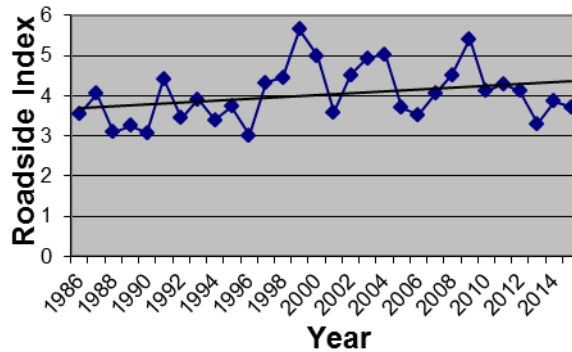
a) Raccoon



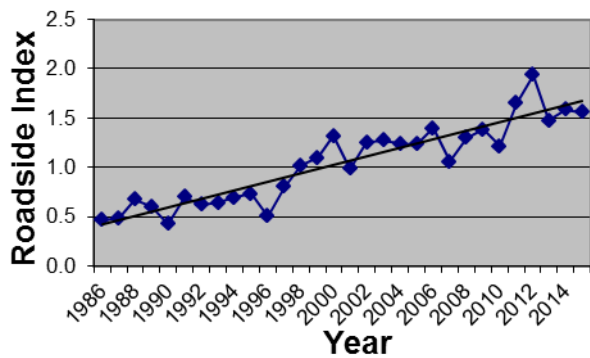
b) Opossum



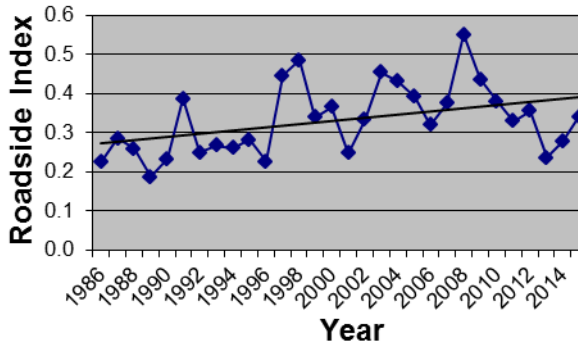
c) Skunk



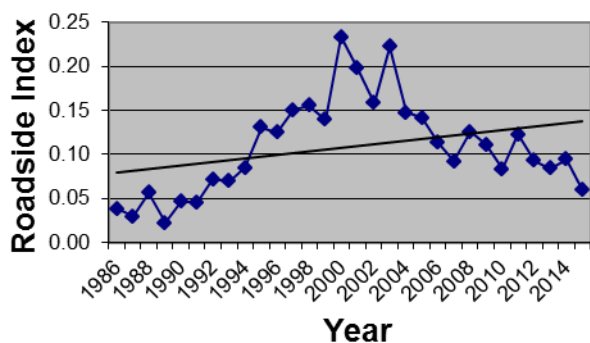
d) Coyote



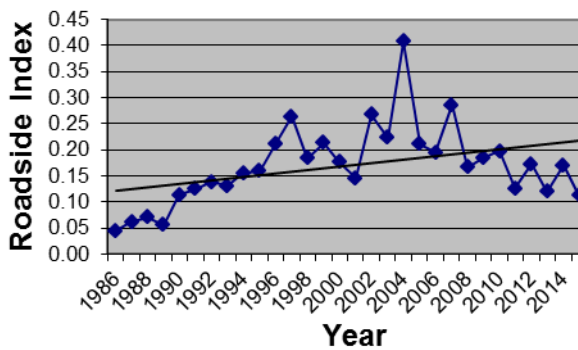
e) Badger



f) Bobcat



g) Red Fox



Figures 1a-g. Population trend of various furbearer species based on annual Roadside Indices.

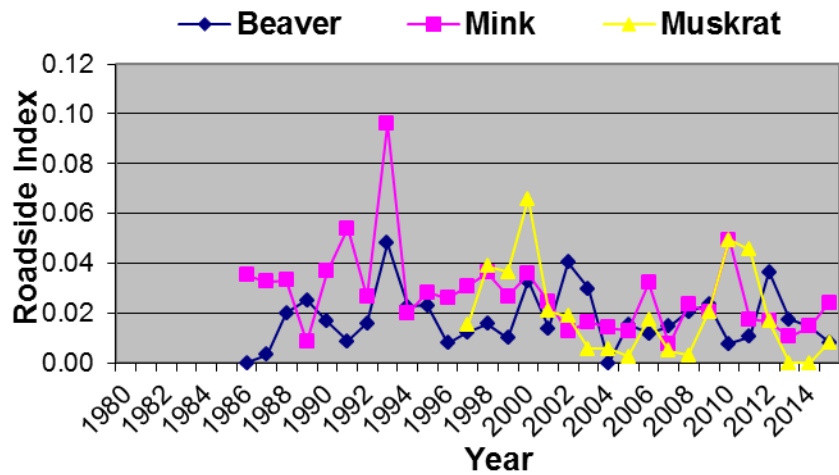
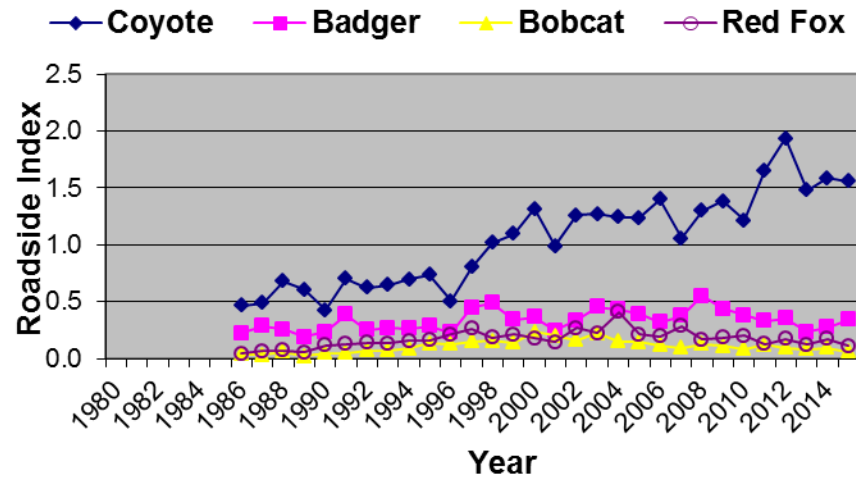
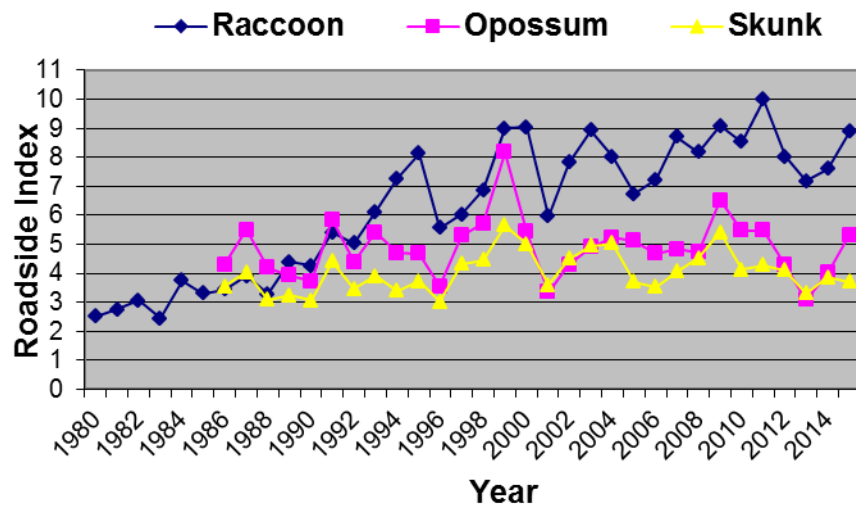


Figure 2a-c. Relative annual Roadside Indices of select furbearer species groups.

Table 2. Mean 2015 Roadside Index of selected furbearer species by KDWPT region.

Region	Raccoon	Opossum	Skunk	Coyote	Badger
1	6.27 bc	2.75 bc	4.34 a	1.44 ab	0.61 ab
2	14.38 a	7.81 a	4.19 a	1.21 ab	0.25 b
3	3.44 c	1.32 c	3.40 a	1.64 ab	0.91 a
4	7.09 bc	5.86 ab	5.13 a	0.90 b	0.08 b
5	13.22 ab	6.78 ab	4.70 a	2.10 a	0.22 b
STWD	9.98	5.48	4.29	1.65	0.33

Means with the same subscript are not significantly different (Duncan's Multiple Range Test)

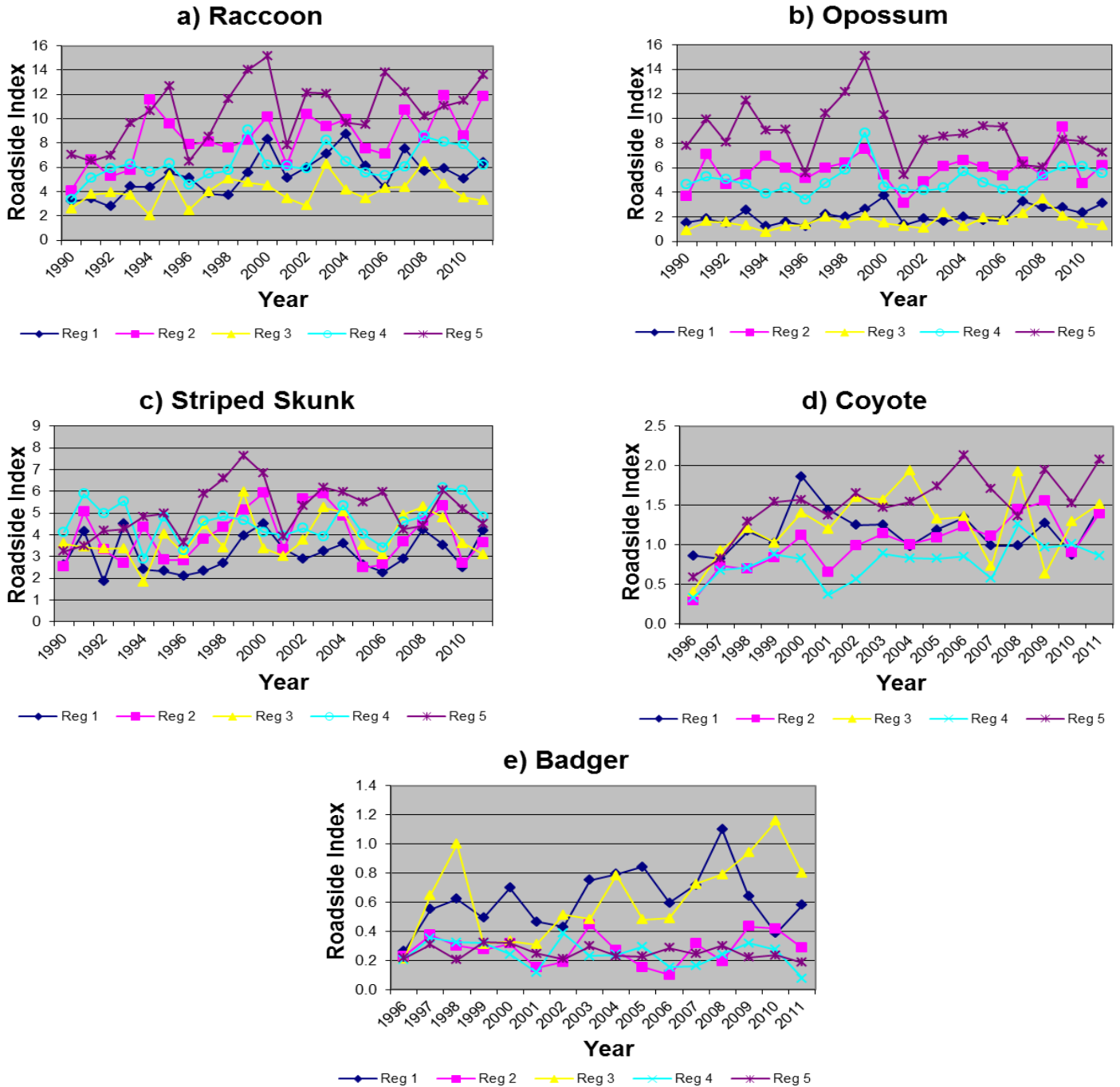


Figure 3a-e. Comparison of mean annual Roadside Indices of selected furbearer species by KDWPT region.

APPENDIX 1

2015 SUMMER ROADSIDE SURVEY OF FURBEARERS AND OTHER MAMMALS

WEEK	RACCOON	OPOSSUM	STRIPED SKUNK	Coyote	Badger	Bobcat	Fox (specify: red, gray or swift)	Beaver	Mink	OTHER (SPECIFY)	Miles Driven
July 19 – 25											
July 26 – Aug 1											
Aug 2 – 8											
Aug 9 – 15											
Aug 16 – 22											
Aug 23 – 29											
Aug 30 – Sept 5											
Sept 6 – 12											
Sept 13 – 19											
Sept 20 – 26											

NAME (please print) _____ **REGION:** _____ **Counties used most:** _____ **Circle one:** NRO DB/tech PL Other

Comments: _____

Return to Matt Peek, KDWPT, P.O. Box 1525, Emporia, KS 66801, by **October 7**.