

estimates. Long-term (1992-2003) positive trends (10 df; $p < 0.01$) occurred for bobcat ($r = 0.93$), deer ($r = 0.92$), raccoon ($r = 0.82$), and turkey ($r = 0.95$). Long-term negative trends occurred for red fox ($r = -0.87$) and gray fox ($r = -0.84$). No long-term trends were apparent for squirrel ($r = 0.58$) or coyote ($r = 0.63$).

Table 1. Number of sampling units and mean number of hours hunted per trip by wildlife management unit for the 2003 Archery Deer Hunter Survey using hunter-location method of analysis.

Sample area	Number of sampling units	Mean number of hours hunted per trip
Central sand prairie	81	2.88
Grand prairie	497	2.80
Mississippi border (N)	101	2.74
Mississippi border (S)	266	2.92
Northeast moraine	75	2.76
Northwest hills	173	2.85
Shawnee hills	115	2.94
Southern plain	369	2.81
Wabash border	102	2.86
Western prairie forest	233	2.88
Statewide	2,012	2.84

DISCUSSION

Current sample sizes are adequate for detecting large changes in the relative abundance of several wildlife species at the statewide scale. Results for individual wildlife management units must be interpreted cautiously because of differences in sample sizes (i.e., small units tend to have fewer observers and greater confidence intervals) and land use (i.e., geographic and land use characteristics that distinguish units might also affect hunters' abilities to detect wildlife).

Timing of the crop harvest probably affects the behavior of individual animals and hunter's abilities to detect them.

Relationships between percentages of the corn crop harvested annually by 19 October and ADHS indices (1992–2003) were positive (10 df; $p < 0.01$) for raccoon and

neutral for remaining species.

RECOMMENDATIONS

The ADHS provides valuable information for management activities consistent with the Department's statutory responsibilities (520 ILCS 5/1.10) and its strategic plan (Goal 1.12, Natural and Cultural Resource Protection). The survey should be continued. New observers should be recruited as needed to maintain a base of approximately 2,000 cooperators; this level of participation appears to provide a reasonable trade-off between the costs of administering the survey and the precision of estimates obtained from it.

LITERATURE CITED

- Hamilton, D. A., T. G. Kulowiac and D. Erickson. 1989. Archer's index to upland furbearer populations and sign station indices - a comparison. Proceedings of the Seventh Midwest and Third Southeast Furbearer Workshop, Potosi, Missouri, USA.
- Ver Steeg, B. and R. E. Warner. 1997. Red fox studies, 1991-1997. Final P-R Project Report, W-111-R. Illinois Department of Natural Resources, Springfield, Illinois, USA.

Table 2. Trends in statewide Archery Deer Hunter Survey sighting index in Illinois, 1992-2003, using hunter-location method of analysis.

Year	Species							
	Bobcat	Coyote	Deer	Gray fox	Raccoon	Red fox	Squirrel	Turkey
1992 (1,239) ^a	0.53 (0.29) ^b	27.09 (3.16)	655.29 (33.09)	2.50 (1.11)	30.14 (3.47)	9.25 (2.00)	972.66 (34.53)	93.41 (20.25)
1993 (2,877)	0.65 (0.27)	29.68 (2.82)	611.17 (17.21)	1.90 (0.41)	49.35 (3.19)	8.06 (0.99)	1017.30 (24.83)	123.85 (16.17)
1994 (1,814)	0.40 (0.17)	28.44 (3.34)	586.54 (19.69)	1.68 (0.51)	46.74 (3.61)	5.67 (0.92)	1089.03 (32.35)	146.25 (20.15)
1995 (2,278)	0.81 (0.28)	30.57 (2.59)	696.88 (21.99)	1.61 (0.49)	52.53 (3.66)	6.64 (0.95)	995.29 (26.28)	138.17 (16.13)
1996 (1,458)	0.80 (0.33)	27.50 (3.20)	662.87 (27.05)	1.18 (0.51)	45.73 (3.98)	4.68 (0.89)	938.52 (31.63)	144.45 (19.59)
1997 (1,411)	1.34 (0.77)	26.48 (2.93)	661.98 (27.14)	0.64 (0.33)	47.16 (4.68)	5.45 (0.96)	981.15 (33.60)	139.24 (19.59)
1998 (2,052)	1.10 (0.38)	30.82 (2.82)	736.18 (23.46)	0.80 (0.28)	49.18 (3.54)	6.02 (1.22)	928.99 (28.31)	201.51 (20.92)
1999 (1,931)	1.37 (0.44)	32.26 (2.75)	729.16 (23.59)	1.39 (0.99)	63.02 (4.53)	3.51 (0.65)	988.98 (28.81)	241.48 (23.26)
2000 (1,854)	1.10 (0.40)	30.56 (2.49)	853.55 (26.68)	0.68 (0.31)	65.90 (5.36)	4.11 (0.81)	1087.00 (32.30)	272.55 (34.52)
2001 (1,366)	1.57 (0.83)	32.35 (3.35)	918.72 (33.57)	0.76 (0.50)	66.64 (5.89)	4.42 (1.02)	1266.34 (40.58)	311.16 (35.32)
2002 (1,780)	2.00 (0.66)	34.47 (3.11)	995.25 (32.67)	0.60 (0.26)	55.07 (3.96)	3.74 (0.65)	1081.09 (35.79)	348.07 (31.68)
2003 (1,569)	2.10 (0.59)	29.75 (2.85)	1033.49 (34.47)	0.81 (0.36)	65.72 (5.05)	3.53 (0.67)	1177.41 (34.69)	308.02 (28.65)

^aNumber of observers in parentheses following year.

^b95% confidence limit is in parentheses following the number of sightings per 1,000 hours.