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Species Snapshot: American Kestrel (*Falco sparverius*)

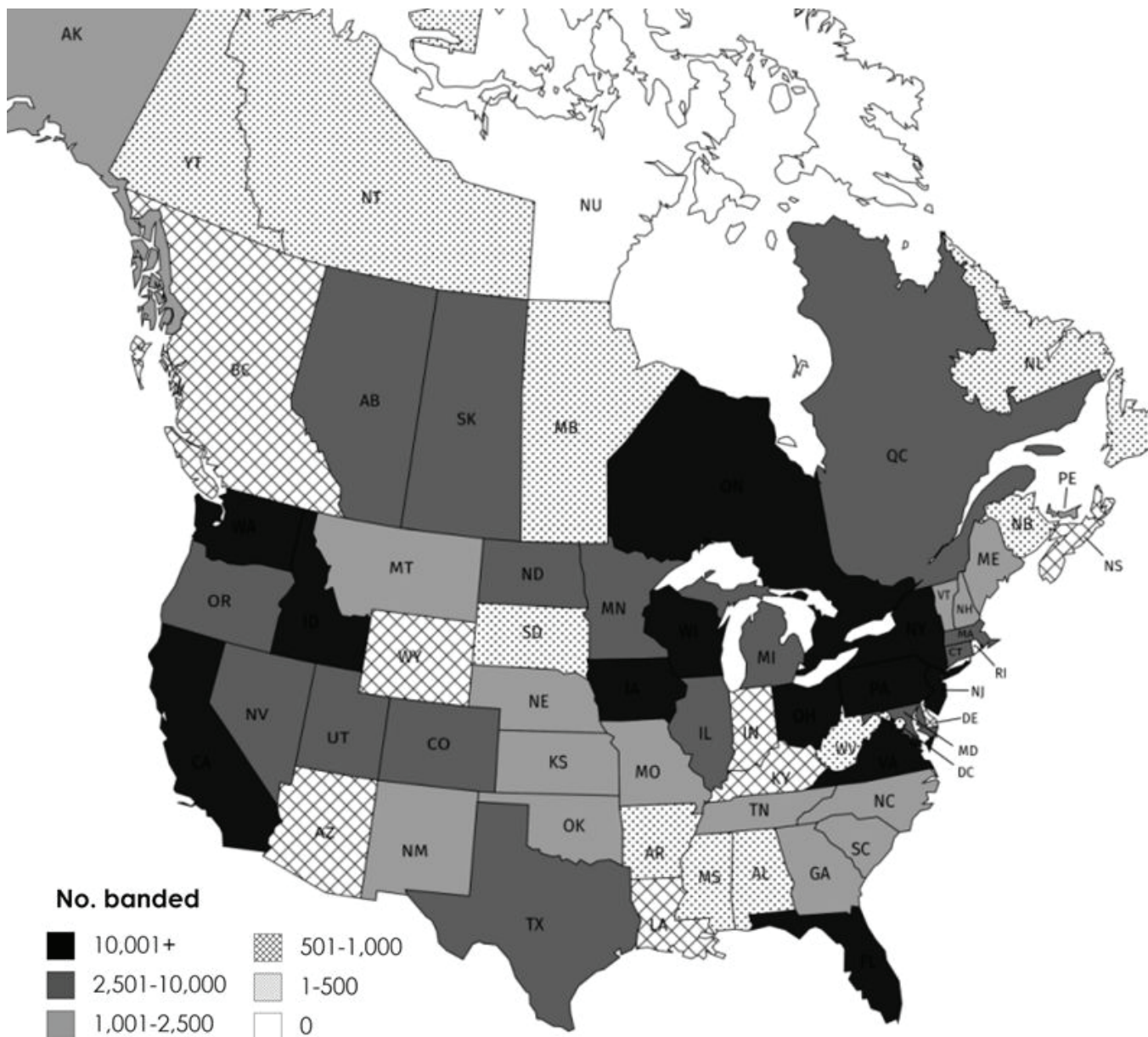


Fig. 1. Geographic distribution of banding locations of American Kestrels in the United States and Canada between 1960 and June 2019. See text for numbers of birds banded in Mexico and the Caribbean.

This is the ninth installment in our regular feature presenting a brief synopsis of the banding and encounter records submitted to the Bird Banding Lab for a particular species. Each installment will feature a new species; suggestions for species to be covered or data to be presented are welcome (swgabrey@gmail.com). Space limitations of **NABB** prohibit any in-depth analysis of the data and these notes are not meant to show any trends in population parameters such as population density or growth rate, geographic distribution, etc. and should not be viewed as a definitive analysis of the status of the species. Although the banding program began in the 1920s, the currently available digital records for banding data include only those records from 1960 to the present (pre-1960 banding data are available in other formats, however). All encounters, including those of birds banded before 1960, are available in digital format. The following summary includes only those birds banded and encountered from 1960

through Jun 2019 in the United States, Canada, Central America, and the Caribbean.

Banded birds

Numbers and Age and Sex Categories. – Since 1960, 346,069 American Kestrels have been banded in the United States, Canada, Mexico, and the Caribbean (Table 1). Sex was identified (either at banding or upon encounter) for 91% (n = 316,470); of these, 48% (n = 150,972) were males and 52% were females (n = 165,498). Of those banded as males, 26% (n = 39,844) were aged as AHY, SY, ASY, TY, or ATY compared to 66% (n = 102,798) aged as HY or L, and 6% (n = 8,330) aged as U. Of those banded as females, 29% (n = 48,501) were aged as AHY, SY, ASY, TY, or ATY compared to 61% (n = 101,451) aged as HY or L, and 9% (n = 15,546) aged as U. Of the 29,599 kestrels for which sex was not identified, 1% (n = 426) were aged as AHY, SY, ASY, TY, or ATY compared to 98% (n = 28,893) aged as HY or L, and <1% (n = 280) aged as U.

Age code	Banded birds				Encountered birds			
	Male	Female	Unknown	Total	Male	Female	Unknown	Total
HY	39,811	37,986	1,290	79,087	519	512	11	1042
L	62,987	63,456	27,603	154,055	812	875	279	1966
AHY	35,721	41,468	411	77,600	728	874	14	1616
SY	2,406	4,927	9	7,342	52	75	0	127
ASY	1,700	2,088	6	3,794	20	30	0	50
TY	8	11	0	19	0	0	0	0
ATY	9	7	0	16	0	0	0	0
Unknown	8,330	15,546	280	24,156	171	225	13	409
Total	150,972	165,498	29,599	346,069	2,302	2,591	317	5,210

Table 1. Number of American Kestrels banded and encountered in the United States, Canada, Mexico, and the Caribbean between 1960 and Jun 2019 by age at banding and sex (either sex at banding or sex updated upon encounter).

Country	May - Aug	Sep - Oct	Nov - Feb	Mar - Apr	Total
United States	175,923	47,785	39,682	27,184	290,574
Canada	30,748	21,213	1,047	2,229	55,237
Mexico	0	105	87	0	192
Caribbean	32	17	9	6	64
Total	206,703	69,120	40,825	29,419	346,067

Table 2. Number and seasonal distribution of American Kestrels banded in the United States Canada, Mexico, and the Caribbean between 1960 and Jun 2019. US total does not include 1 kestrel with no banding month recorded. Grand total does not include 1 kestrel banded “at sea” in Oct 1979 nor the US kestrel with no month.

Geographic distribution. – American Kestrels have been banded in all US states except Hawaii (n = 290,575); all Canadian provinces and territories except Nunavet (n = 55,237); in Mexico (n = 192); in 11 Caribbean islands (Puerto Rico, n = 17; British Virgin Islands, n = 12; Guadalupe, n = 9; US Virgin Islands, n = 8; Hispaniola, n = 6; Montserrat, n = 5; Cuba, n = 4; and Belize, Bermuda, and Jamaica, n = 1 each); and “at sea” (n = 1). At least 10,000 kestrels were banded in each of 11 states and in 1 province (Figure 1). The top 7 states (New Jersey, n = 29,681; Pennsylvania, n = 23,297; Idaho, n = 20,325; California, n = 19,687; Virginia, n = 15,631; Iowa, n = 15,469; and New York, n = 15,056) accounted for 48% of all kestrels banded in the United States. One province (Ontario, n = 35,199) accounted for 64% of all kestrels banded in Canada.

Seasonal distribution . – Overall, 60% (n = 206,703) of all American Kestrels were banded between May and Aug, 20% (n = 69,120) between Sep and Oct, 12% (n = 40,825) between Nov and Feb, and 8% (n = 29,419) between Mar and Apr (Table 2). Of the kestrels banded in the United States, 61% (n = 175,923) were banded between May and Aug compared to 16% (n = 47,785) between Sep and Oct, 14% (n = 39,682) between Nov and Feb, and 9% (n = 27,184) between Mar and Apr. Of the kestrels banded in Canada, 56% (n = 30,748) were banded between May and Aug, 38% (n = 21,213) between Sep and Oct, 2% (n = 1,047) between Nov and Feb, and 4% (n = 2,229) between Mar and Apr. All kestrels banded in Mexico were banded between September and February. Half of the kestrels banded in the Caribbean were banded between May and August.

Encounters

Numbers and Sex and Age Categories. – There have been 5,386 encounters representing 5,210 American Kestrels banded in the United States, Canada, Mexico, and the Caribbean between 1960 and Jun 2019. No encounter records had invalid or mismatched sex, age, or species data. No kestrels were encountered on the day they were banded. One hundred fifteen kestrels were encountered twice, 22 were encountered 3 times, 4

were encountered 4 times, and 1 was encountered 6 times. The following summary is based on only the most recent encounter for those birds with multiple encounters.

Sex was identified for 94% of the kestrels (n = 4,892) encountered; 44% of these were males and 56% were females (Table 1). Fifty-eight percent (n = 1,331) of the males encountered were aged as HY or L compared to 35% (n = 800) aged as AHY, SY, or ASY and 7% (n = 171) aged as U. Fifty-four percent (n = 1,387) of the females were aged as HY or L compared to 34% (n = 979) aged as AHY, SY, or ASY and 8% (n = 225) aged as U. Of the 317 kestrels for which sex was not identified, 91% (n = 290) were aged as HY or L compared to 4% (n = 14) aged as AHY, SY or ASY and 4% (n = 13) aged as U.

Less than 1% percent (n = 18) of the kestrels encountered were 9 yr 0 mo or older when encountered: 6 AHY-M, 6 AHY-F, 1 HY-M, 1 HY-F, 3 L-M and 1 L-U. Five percent (n = 258) were between 5 yr 0 mo and 8 yr 11 mo, 48% (n = 2,499) were between 1 yr 0 mo and 4 yr 11 mo, and 48% (n = 2,435) were less than 11 mo or had no minimum age recorded.

The oldest kestrel encountered (minimum age at encounter 14 yr 11 mo) was an HY-M banded in New York in Aug 1973 and shot (how obtained code 1) in May 1988 in South Carolina, 1112 km from its banding location. This was also the longest elapsed time between banding and encounter. The oldest female (minimum age at encounter 13 yr 7 mo, 3rd oldest overall) was an AHY-F banded in California in Jan 1985 and found dead (how obtained code 0) in Jan 1998, 22.5 km from its banding location. The oldest kestrel aged as L to be encountered (minimum age at encounter 11 yr 1 mo, 4th oldest overall) was a male banded in Wisconsin in Jun 1995 and found dead in Illinois in Aug 2006, 629 km from its banding location. The oldest female aged as L to be encountered (minimum age at encounter 8 yr 11 mo, 18th oldest overall) was banded in Wisconsin in Jun 1981 and encountered in Sep 1990 during normal banding operations (how obtained code 66), 19 km from its banding location.

Bandring Region	Encounter Region													MEXICO	Caribbean	Americas	Total																					
	PACIFIC			CENTRAL				MISSISSIPPI			ATLANTIC																											
Flyway	AK, YK, BC	WA ID	OR	CA UT AZ NV	NT, AB, SK	ND, WY	CO	NE, KS, OK, TX	NU, MB	ON MI, MN, WI, IA, IL	MO, IN, KY, OH	AR, LA, TN, MS, AL	OC, NJ, ME, RI, NH, VT	MA NY, NJ, MD, PA, DE, DC, VA, GA, FL	WV, NC, SC																							
PACIFIC	21	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
AK, YK, BC	85	2	4	3	4	1	1	1	1	1	1	1	1	1	1	1	1	1																				
WA	249	4	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1																				
ID	66	8	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
OR	284	2	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1																				
CA	100	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
UT	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
AZ NV																																						
CENTRAL																																						
NT, AB, SK	38	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
MT, SD, ND, WY	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
CO	110	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
NE, KS, OK	55	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
NM, TX	43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
MISSISSIPPI																																						
NU, MB	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
ON	284	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
MI, MN	136	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
WI	233	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
IA	101	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
IL	93	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
MO, IN, KY	43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
OH	148	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
AR, LA, TN, MS, AL	27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
ATLANTIC																																						
OC, NJ, ME, RI, NH, VT	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
MA	30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
CT	50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
NY	149	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
NJ	182	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
MD	123	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
PA	372	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
DE, DC	10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
VA	215	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
WV, NC, SC, GA	36	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
FL	96	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1																				
TOTAL	3584	4	14	6	6	10	1	11	4	6	3	29	59	7	19	49	9	10	24	56	27	123	78	87	39	59	98	160	49	81	27	71	185	125	64	5	9	5198

Table 3. Banding and encounter regions of American Kestrels encounters between 1960 and Jun 2019 (n = 5,198). Not included in the table are 1 banded in NY encountered "at sea," 1 banded in Mexico encountered in Michigan, 1 banded in Mexico encountered in Mexico, 1 banded in Cuba encountered in Cuba, and 8 with an unspecified encounter region. Neighboring states and provinces are grouped if there were fewer than 50 total encounters and arranged by flyway from north to south.

Geographic distribution. – About two-thirds (n = 3,566) of the encounters of American Kestrels occurred in the state or province in which the bird was banded (Table 3). Nineteen kestrels were encountered more than 3200 km from their banding location. Ten of these were aged as L at banding (5 M, 3 F, and 2 U), 5 were aged as HY (3 M, 2 F), 2 were aged as AHY (both F), and 2 were aged as U (both M). Two hundred forty of the remaining kestrels were encountered between 1600 3200 km, 392 between 800 and 1600 km, 785 between 160 and 800 km, 768 between 40 and 160 km, and 2,982 within 40 km of their banding location. Twenty-four records had no encounter location.

The greatest distance between banding and encounter locations was 4600 km for an L-M banded in Saskatchewan in Jul 1989 and shot in Guatemala on an unknown date in 1990. The greatest distance for a female (and the 2nd greatest distance overall) was 4365 km for an L-F banded in Jul 1991 in Saskatchewan and found dead in Guatemala in Jul 1992. The greatest distance for a kestrel banded as other than HY, L, or U (and the 7th greatest overall) was 4036 km for an AHY-F banded in North Dakota in Apr 1968 and shot in Nicaragua in Oct 1968. The greatest distance for a male banded as other than HY, L or U (and the 28th greatest overall) was 2964 km for an AHY-M banded in Feb 1964 in Mississippi and found dead in Jul 1966 in Quebec.

Other interesting encounters. – One American Kestrel was encountered 6 times. This AHY-F was banded and wing-tagged in Newton, NJ, in

Jun 2014 and saw or photographed (how obtained code 29) in Oct and Dec 2014, Jan and Nov 2015, and Jan and Feb 2016. All encounters were at the Blackwater NWR in Maryland, about 314 km south southwest of the banding location. Four kestrels were encountered 4 times each. Three of the 4 were banded at the same location by the same bander in Wisconsin. Two of these were banded as L-F 4 days apart in Jun 2007. One of these was then encountered in Jun 2008 and May 2009, 2010, and 2011; the other was encountered in May 2009, 2010, 2011, and 2012. The third Wisconsin bird was banded as an AHY-F in Jul 2005 and then encountered in Jun 2008 and May 2010, 2011, and 2012. The fourth kestrel to be encountered 4 times was banded as AHY-F in Iowa in Jun 1987 and encountered in Jul 1988 and May 1989, 1990, and 1991. All encounters of these 4 birds were within 24 km of their banding locations and occurred during normal banding operations. A kestrel banded as a U-M at Atlantic Beach, Nassau County, NY, in Oct 1971 was “captured by hand” (how obtained code 28) 319 km south of its banding location “at sea” (encounter region 94) in Mar 1972.

Acknowledgements. – I thank the more than 2,100 permit holders who have banded American Kestrels over the decades, all the individuals who reported encounters, and staff at the Bird Banding Lab for supplying the data.

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IBBA’s Annual Meeting scheduled in October 2020 has been cancelled due to the COVID-19 pandemic.

However the good news is - the 2021 IBBA Annual Meeting will be held in Springfield, IL on October 8-10, 2021! More information later! Please check out the IBBA website: www.ibbainfo.org for news of the 2021 IBBA Annual Meeting.

If you have any questions or concerns, please contact Linda Tossing, IBBA President at, ltossing@att.net.