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Species Snapshot: Yellow Warbler (*Setophaga petechia*)

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Species Snapshot: Yellow Warbler (*Setophaga petechia*)

This is the fifth 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. 163 Yellow Warblers banded before 1960 were encountered; however, to conserve space, they are not included in the following summary of banding or encounter data. Consequently, the following summary includes those warblers banded and encountered from 1960 through 11 Dec 2017. In addition, I did not include banding or encounter records of birds banded in Central America or the Caribbean. Therefore, the summary only covers those warblers banded in the United States and Canada.

Banded birds: Numbers Age, and Sex Categories

Since 1960, 313,015 Yellow Warblers have been banded in the US and Canada (Table 1). Sex was identified (either at banding or upon encounter) for 69% (n = 215,198); of these, 56% (n = 120,534) were males and 44% (n = 94,664) were females. Of those banded as males, 79% (n = 95,601) were aged as SY, ASY, or AHY compared to 20% (n = 24,101) aged as L or HY, and 1% (n = 832) aged as U. Of those banded as females, 78% (n = 73,657) were aged as SY, ASY, or AHY compared to 21% (n = 20,127) aged as L or HY, and 1% (n = 880) as U. Of the 97,817 warblers for which sex was not identified, 13% (n = 12,261) were aged as SY,

ASY, or AHY compared to 79% (n = 77,449) aged as L or HY, and 8% (n = 8,107) aged as U.

Geographic Distribution

Since 1960, Yellow Warblers have been banded in every state except Hawaii (n = 250,230) and all Canadian provinces and territories (n = 62,785). Nearly half of the warblers banded in the US were from just five states: New York (n = 31,348), Ohio (n = 29,226), California (n = 27,401), Alaska (n = 18,836), and Michigan (n = 12,350). Over 60% of the warblers banded in Canada were from two provinces: Ontario (n = 27,683) and Manitoba (n = 10,581).

Seasonal Distribution

Over 88% (n = 275,561) of all Yellow Warblers banded in the US and Canada were banded between May and August (approximate breeding season) compared to 11% (n = 33,236) banded between September and October (approximate fall migration season), 1% (n = 4,192) banded between March and April (approximate spring migration season), and less than 1% (n = 25) banded between November and February (approximate overwintering season) (Table 2). 95% (n = 77,484) of the warblers banded in Alaska and Canada were banded between May and August. Similarly, 86% (n = 198,077) of the warblers banded in the 48 contiguous states were banded between May and August.

Encounters, Numbers and Age-Sex Categories

There have been 3,262 encounters representing 1,942 Yellow Warblers banded in the US and Canada between 1960 and Dec 2017. Fifty-six encounter records representing 27 warblers were removed because they occurred on the same day as the bird was banded or because they had invalid or mismatched encounter location, sex, age, or species data. Consequently, there were 3,206 encounters of 1,915 warblers with valid location, age, sex, and species data, of these 538 warblers were encountered on more than one occasion; the following summary is based on only the most recent encounter. Sex was identified for 86% of the warblers (n = 1,632) encountered; 63% were males and 27% females (Table 1). 86% of each sex (n = 890 for males and 517 for females) were banded as AHY, SY, or AHY compared to about 14% (n = 138 for males and 84 for females) banded as HY

or L and <1% (n = 4 for males and 0 for females) banded as U. Of the 283 warblers for which sex was not recorded, 83% (n = 235) were aged as HY or L compared to 11% (n = 32) banded as AHY, SY, or AHY and 6% (n = 16) banded as U.

The oldest warbler encountered was banded as an AHY-F in Jun 2001 in New York and encountered about 2 mi away in Jun 2010 (minimum age at encounter 11 yr 0 mon). The second-oldest warbler, and the oldest male, was banded as AHY in May 1970 in New York and encountered about 8 mi away in May 1980 (minimum age at encounter 10 yr 11 mon). Of the 13 oldest warblers encountered (minimum age 9 yr 0 mon), 5 were banded as AHY-M, 3 as AHY-F, 2 as HY-U, and 1 each as SY-M, SY-F, and AHY-U. Ten of these 13 were encountered within 15 mi of their banding locations. The remaining 3 included an AHY-F banded in Colorado Aug 1993 and encountered 217 mi away in Nebraska in May 2002, an AHY-F banded in Alberta in Aug 1999 and encountered 584 mi away in North Dakota in Aug 2007, and an AHY-U banded in California in Sep 2000 and encountered 2,479 mi away in Pennsylvania in June 2008 (this distance is the fifth greatest distance between band and encounter locations; see below for details on distance records).

Geographic Distribution

Of the 1,915 unique Yellow Warblers encountered, 52% (n = 980) were banded in the US and 48% (n = 935) in Canada. Just over half of the encounters (n = 987) occurred in the US (Table 3). Five encounters occurred outside of the US and Canada: an Alaska bird encountered in Costa Rica, a Nevada bird in Mexico, a North Dakota bird in Honduras, a Massachusetts bird in Panama, and an Alberta bird in El Salvador. Most (n = 1,701) of the encounters of warblers with valid sex and age data occurred within 10 mi of the bird's banding location, 166 between 11 and 500 mi, 29 between 501 and 1,000 mi, and 18 > 1,001 mi. The greatest distance between band and encounter locations was 5,165 mi for a U-U banded in Alaska in Aug 1973 and encountered in Costa Rica the following March. The second greatest distance was 2,995 mi for another U-U banded in July 1991 and encountered in El Salvador in Nov 1994. The greatest dis-

tance for a known-sex female was 2,534 mi for a female banded as AHY in North Carolina in Aug 1964 and encountered in Honduras the following January. The greatest distance for a known-sex male was 2,508 mi for a male banded as ASY in Texas in May 2009 and encountered in Yukon Territory the following September.

Other Interesting encounters

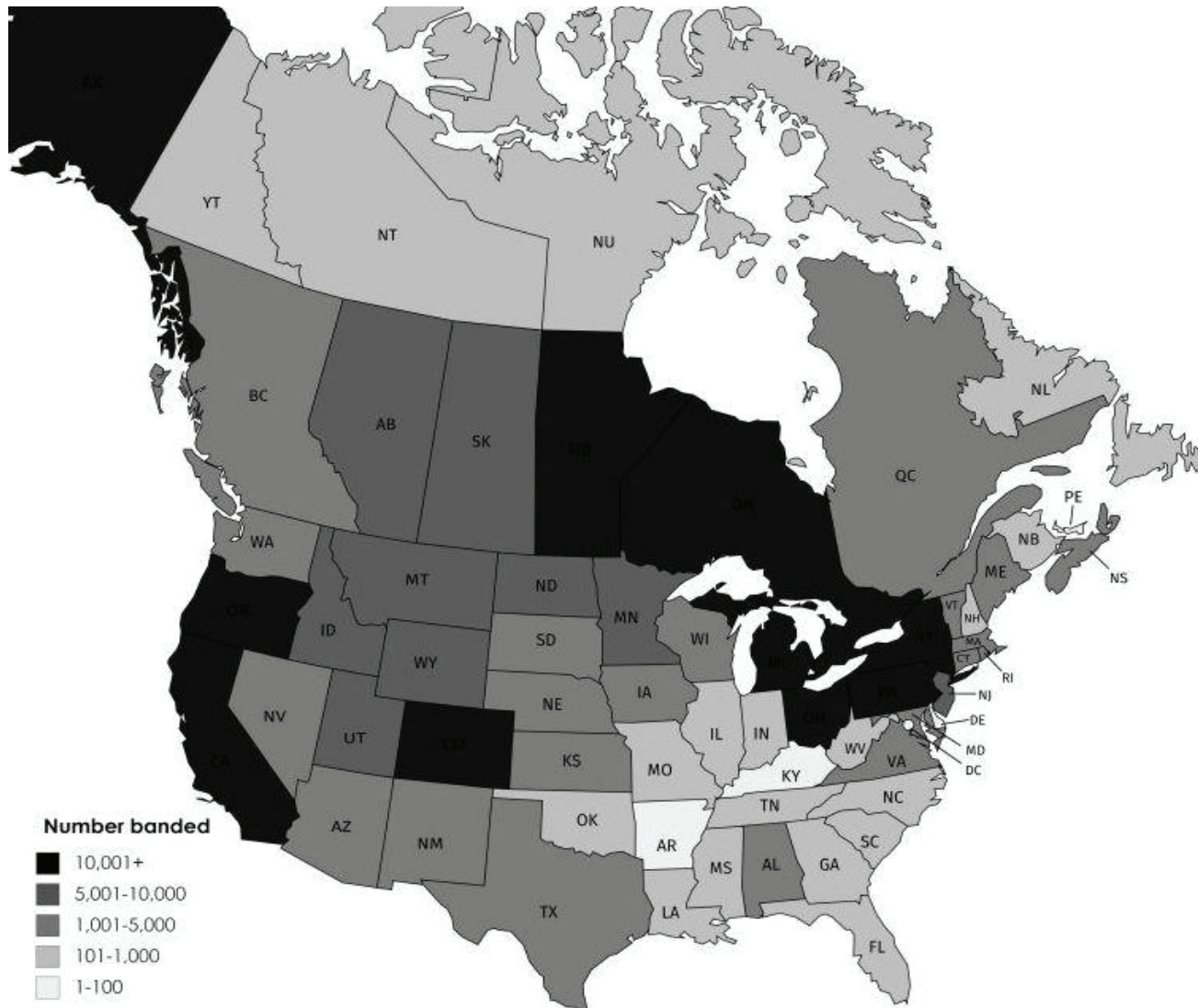
Four Yellow Warblers encountered were banded as L-U; 3 of these were encountered within 4 weeks of banding at, or within 5 mi of, their banding location. The fourth was banded in Wisconsin in Jun 1965 and encountered about 200 mi away in Michigan in May 1967. The record for most number of times an individual was encountered is 22 for an AHY-M banded at McGill Bird Observatory in Quebec in Aug 2008 and encountered twice that same month, 10 times in May and Jun 2009, 6 times in May, Jun and Aug 2010 and 4 times in May 2011, all at the same location. The record for females is 19 times for a SY banded in May 2005, also at McGill BO. This individual was encountered twice in May 2005, 8 times in May 2006, 4 times in May 2008, and 5 times in May 2009, all at the same location. The record for consecutive years with at least one encounter is 8 for an AHY-M banded at McGill BO in Quebec in Aug 2005 and encountered at least once each year (15 encounters total) from 2006 to 2013; all encounters were at the banding location. Most warblers that were encountered multiple times were encountered at or within 10 mi of their banding location; very few are encountered multiple times at multiple locations. A male banded as SY in Ontario in May 2003 was encountered 20 mi from its banding location less than a week later and then encountered again 305 mi from its banding location in Aug 2004; both encounter locations were in Ontario.

Acknowledgements

I thank the more than 250 permit holders who have banded Yellow Warblers over the decades, all the individuals who reported encounters, and staff at the Bird Banding Lab for supplying the data.

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	Nov - Feb	Mar - Apr	May - Aug	Sep - Oct	
Country/region					Total
Canada/Alaska	0	66	77,484	4,071	81,621
Contiguous US	25	4,126	198,077	29,165	231,403
Total	25	4,129	275,561	33,236	313,014



	Banded birds					Encountered birds			
Age code	Male	Female	Unknown	Total		Male	Female	Unknown	Total
AHY	53,292	42,784	11,223	107,299		359	241	23	623
HY	24,065	20,113	74,019	118,197		138	84	231	453
L	36	14	3,430	3,480		0	0	4	4
SY	22,462	19,275	879	42,616		269	164	9	442
ASY	19,847	11,598	159	31,604		262	112	0	374
Unknown	832	880	8,107	9,819		3	0	16	19
Total	120,534	94,664	97,817	313,015		1,031	601	283	1,915

Band	Encounter region:																									
Region	BC	AB	SK	MB	ON	QC	NB	NS	NL	AL	CA	CO	CT	GA	LA	MD	MI	MN	NE	NY	ND	OH	OR	PA	WA	WI
BC	219										3												1			1
AB		148	2							1		1										1				
SK			46	1	1														1							
MB				169															1	1		1				
ON					264	2							1	1	2	1	1			5		2		4		2
QC						133																				
NB							6																			
NS								57	1																	
NL									7																	

Band Region	Encounter region																																		Canada
	AK	AZ	CA	CO	CT	ID	IL	IN	IA	KY	LA	ME	MD	MA	MI	MN	MT	NE	NV	NJ	NM	NY	ND	OH	OR	PA	SD	UT	VT	VA	WA	WI	WY		
AK	28		2																																1
AZ		15																																	1
CA		1	18																																1
CO				50																1															
CT					1																														
ID						2																													
IL							5																												
IA								3																											
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MD												1																							
MA														13																					
MI											1				36																				2
MN																16																			2
MT																	9																		
NV																		25																	
NJ																				9															2
NM																	1																		
NY															2																				5
ND																				1															5
OH																					49														5
OR																					4														4
PA			1																																1
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